

**KNOWLEDGE, PERCEPTIONS AND ATTITUDES
REGARDING CONTRACEPTION AMONG SECONDARY
SCHOOL LEARNERS IN THE LIMPOPO PROVINCE**

by

ML MAÑENA-NETSHIKWETA

submitted in accordance with the requirements

for the degree of

DOCTOR OF LITERATURE AND PHILOSOPHY

in the subject

HEALTH STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

PROMOTER: PROF VJ EHLERS

JOINT PROMOTER: DR DM VAN DER WAL

NOVEMBER 2007

Student number: 632-011-2

DECLARATION

I declare that **KNOWLEDGE, PERCEPTIONS AND ATTITUDES REGARDING CONTRACEPTION AMONG SECONDARY SCHOOL LEARNERS IN THE LIMPOPO PROVINCE** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

.....

SIGNATURE

(ML Mañena-Netshikweta)

DATE: 30 November 2007

KNOWLEDGE, PERCEPTIONS AND ATTITUDES REGARDING CONTRACEPTION AMONG SECONDARY SCHOOL LEARNERS IN THE LIMPOPO PROVINCE

STUDENT NUMBER: 632-011-2
STUDENT: ML MAÑENA-NETSHIKWETA
DEGREE: DOCTOR OF LITERATURE AND PHILOSOPHY
DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA
PROMOTER: DR VJ EHLERS
JOINT PROMOTER: DR DM VAN DER WAL

ABSTRACT

This study explored knowledge, perceptions and attitudes regarding contraception and contraceptive practices among secondary school learners in the Limpopo Province. Self-administered questionnaires were completed by 612 Grade 8 and 332 Grade 12 learners from 24 randomly selected secondary schools. The study found that permissive attitudes prevailed towards sex, characterised by casual sexual activities commencing at 12 years of age.

The availability of contraceptive and termination of pregnancy (TOP) services did not enable learners to utilise them, because of social, cultural, financial and service barriers. Most learners were sexually active without being knowledgeable about contraceptives, emergency contraceptives and TOP services.

Two workshops conducted with learners produced similar results to those obtained from the completed questionnaires. Semi-structured interviews conducted with nurses, providing contraceptive and TOP services in the Limpopo Province, also substantiated the findings from the questionnaires.

Secondary school learners in the Limpopo Province require more knowledge about and ready access to contraceptives to enable them to delay child bearing until they are emotionally, financially and physically ready for these responsibilities. Nurses and teachers in this province can enhance the learners' contraceptive knowledge and utilisation to help learners make better informed decisions about their own and their future children's lives.

KEY CONCEPTS

Adolescence, adolescent pregnancies, contraception, contraceptive practices, emergency contraceptives, Limpopo Province, secondary school learners, sexuality, sex education, termination of pregnancy services

ACKNOWLEDGEMENTS

I thank the never changing God, my Creator for granting me the strength and the divine health during the period of this study, and courage to complete this thesis.

I wish to express my gratitude and sincere appreciation to:

- My promoter, Dr VJ Ehlers, for her wise counsel, valuable guidance, constructive evaluation and sustained support and encouragement during this research
- My joint promoter, Dr DM van der Wal, for his guidance and continuous support

In addition, I would like to acknowledge with gratitude the contribution of the following:

- All the respondents who completed questionnaires and spent time to make valuable contributions to the completion of this study
- The directors and heads of secondary schools in the Limpopo Province, for their cooperation and positive contributions
- My husband, Caledon, for his unconditional love, constant support, forbearance and patience and my loving children for their encouragement and support
- My colleagues and friends, for their support and encouragement during difficult times.
- A special thanks to Professor LB Khoza, for her constant advice, endless support and friendship during this period.
- Professor Steffens, previously from Unisa's Department of Statistics, for his advice and the statistical analysis of the data
- Mrs Iauma Cooper, for editing the manuscript
- Mrs Talana Burger, Unisa's subject reference librarian, for helping me trace the necessary literature for this study
- The University of Venda, for financial assistance
- The Democratic Nursing Organisation of South Africa, for their financial assistance
- The Strata-South Africa, for their financial assistance.

Dedication

I dedicate this thesis to:

*My late dear mom and dad, Mr MP Mañena and Mrs MJ Mañena
who did not live to witness the completion of this thesis.*

*Their interests and enthusiasm in the education of
all their children is greatly cherished and appreciated.*

*My loving husband, Caledon and my lovely daughters, Londani, Livhuwani and
Mulalo
with love.*

CHAPTER 1

ORIENTATION TO AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION

Despite government strategies to reduce the number of unintended and unplanned pregnancies, such as making contraception a human right basic to human dignity, the number of adolescent pregnancies in the RSA continues to rise. The government further promulgated the Choice on Termination of Pregnancy Act (CTOP) Act, 92 of 1996 (South Africa 1996c), which was implemented in February 1997, to encourage every potentially fertile woman to exercise her right in deciding whether to keep the pregnancy or not (Fathalla 1997:68). Controlled reproduction "is necessary to ensure the continued existence of any species. Conversely, uncontrolled, excessive population growth may not only lead to poverty in all its forms, but when all the available natural resources have been exhausted, the very continuation of the species may be threatened" (Dreyer, Hattingh & Lock 1997:60). In any society where a large percentage of adolescents are sexually active, the risk of pregnancy is high (Osborne & De Oris 1999:28; Rankin 2003:440; Visser 2000:19).

In various countries, including the Republic of South Africa (RSA), sexual maturation and initiation of sexual activities are occurring at younger ages than in the past. The annual number of babies born to adolescents younger than 16 in the RSA is estimated at 17 000 (Nwaba 2000:30). This does not only have demographic implications because of increased fertility, but also adversely affect adolescents' reproductive health as a result of exposure to premature pregnancies as well as various sexually transmitted diseases (STDs). This is especially relevant because of the unfolding spectre of acquired immuno-deficiency syndrome (AIDS). As a result of their risk-taking behaviours, secondary school learners might engage in unsafe sexual practices and be vulnerable to STDs, including the human immuno virus (HIV) infection, and thus AIDS, as well as unplanned pregnancies.

Macleod (1999:14) found that 1:15 mothers aged 19 or younger, had a significantly higher probability of dying from obstetric causes than adult women in the RSA. According to the World Health Organization (WHO 1998a:27), for every maternal death, about 10 to 15 surviving women suffer illness or severe disability. In Sub-Saharan Africa (SSA), the majority of women aged 19 and younger fall in the high-risk category of poor pregnancy outcomes. The risk tends to increase with each successive pregnancy, especially among adolescents (Mahmood & Ringheim 1997:126; Pillay 1992:18; Rees 1995:27). In a project on women's nutrition and its consequences for child survival and reproductive health in Africa, Baker, Martin and Piwoz (1996:9) found that the most common obstetric risk factors were adolescent pregnancies, followed by unsafe abortions and sepsis. Therefore, every potentially fertile person should use

contraceptives consistently to prevent the consequences of unintended pregnancies, especially during adolescence when unplanned pregnancies could jeopardise the women's chances of improving their qualifications and career prospects for the rest of their lives.

Fertility varies from one segment of a population to another. One demographic measure commonly used to determine fertility is the total fertility rate (TFR). In the RSA, for example, because of differing attitudes about reproduction and family sizes, as well as differing levels of knowledge about and access to safe and effective contraceptives, there are significant fertility differences between the four population groups. The estimated TFRs for the four South African population groups are: Asians (2,4); Blacks (4,5); Coloureds (2,7) and Whites 1,7 (Popenoe, Cunningham & Boulton 1998:403; Rasch, Muhammad, Uric & Bergstrom 2000:207). Table 1.1 portrays the average number of children per woman by age and racial group in South Africa in 1993.

Table 1.1 Average number of children per woman of reproductive age in South Africa, by age and racial group in 1993

RACIAL GROUPS				
AGE GROUP	BLACKS	COLOUREDS	ASIANS	WHITES
15-19	0,2	0,1	0,0	0,0
20-24	0,9	0,5	0,4	0,3
25-29	1,8	1,5	1,2	1,0
30-34	2,8	2,6	2,3	1,7
35-39	3,7	3,1	2,5	2,4
40-44	4,4	3,8	2,8	2,3
45-49	5,0	4,2	3,0	2,5

Source: Dreyer et al (1997:6)








Of the 20 590 mothers who delivered their babies at Sebokeng Hospital and Paarl Hospital from the beginning of 1993 to the end of 2001, adolescents (19 years and younger) numbered 6 284 or 30,51% and about 9,5% of all the mothers were 15 years or younger (Olivier 1998:8). The USA has the highest adolescent pregnancy rates of any Western nation, with a 95 per 1 000 estimated incidence. More than one million USA adolescents become pregnant annually, of whom approximately 40,0% obtain abortions, almost 47,0% give birth and 13,0% opt for illegal abortions, resulting in various complications (Birdthistle & Vince-Whitman 1997:211).

In Cape Town and in the Ciskei region of the RSA, Kunene (1995:50) found that by the age of 19 years, 49,0% of adolescents had had their first pregnancy and the average number of pregnancies were 3. In the rural Transkei, Buga, Amoko and Ncayiyana (1996:526) found that adolescents constituted 26,0% of the 1 255 patients who delivered babies in a hospital in 1996.

Fifty school girls interviewed by Buga et al (1996:525) admitted that their pregnancies were unplanned, they had insufficient sexual information, ignored contraceptive options and did not recognise the implications of intercourse and pregnancy for themselves or for their infants .

Wood, Maepa and Jewkes (1997:27) reported that adolescents are sexually active and contraceptive options are ignored resulting in many pregnancies in the Limpopo Province (LP), previously known as the Northern Province (NP).

In an attempt to restrain high fertility, the Population Development Programme (PDP) (South Africa 1994:24) highlights the importance of socio-economic development programmes aimed at

-  improved standard of living of all people
-  economic development and growth
-  acceleration of development in education, primary health care, training of resources, housing and nature conservation
-  vigorous promotion of contraceptive services and the use of contraceptives
-  changed fertility perceptions of society to become more receptive to small family norms
-  improving the status of women and their integration into the formal economic sector
-  decreased infant and child mortality rates

The Reconstruction and Development Programme (RDP) (ANC 1994:46) endorses these aspects as priorities in an effort to curb the population growth by preventing unplanned pregnancies and the demographic implications of overpopulation, such as greater demands on the economy, education, social and health care services with a concomitant shortage of qualified personnel to care for the needs of the population in all spheres. A more equitable distribution of social resources in all provinces of the RSA was also planned (ANC 1994:46).

Ehlers, Maja, Sellers and Gololo (2000:44) found increasing pregnancy rates in the Gauteng Province (GP) of the RSA in spite of free contraceptive and reproductive health services. Given the escalating birth rate among adolescents, Ehlers et al (2000:44) questioned the accessibility of reproductive health, contraceptive, emergency contraceptive and termination of pregnancy (TOP) services for adolescents. This might necessitate offering these services over weekends or during evenings when school girls could attend without fear of meeting their mothers, aunts or teachers at these clinics . Magwentshu (2000:100) as well as Ross (2001:14) found that many health services tended to neglect the needs of adolescents in favour of those of other age groups. This increased the problem of ignorance on the part of adolescents about contraception.

The WHO (1995:10) emphasised adolescent reproductive health needs at the 1994 International Conference on Population and Development in Cairo and at the fourth World Conference on Women in Beijing in 1995. The WHO and other international, intergovernmental and bilateral

organisations pledged their commitment to the principles of promoting reproductive health and women's health through appropriate services and programmes which provide information and counselling. The following aspects of reproductive health were endorsed at the Cairo Conference (Somers & Fahlman 2001:194):

- ✎ TOP should not be promoted as a contraceptive method.
- ✎ Recourse to TOP should be reduced through expanded and improved contraceptive services.
- ✎ Prevention of unwanted pregnancies must always be given the highest priority and every effort should be made to eliminate the need for the termination of pregnancies.
- ✎ Women who have unwanted pregnancies should have ready access to available information and compassionate counselling.
- ✎ In countries where TOP is legalised, women should have access to these safe services.

In most developed and developing countries, adolescent sexual activity indicates a generally accepted behavioural pattern (Kelly, Morgan-Kidd 2001:487; Nehring 2001:415). Adolescent reproductive health needs and the extent to which the available adolescent reproductive health services (ARHS) are able to meet them in the LP and elsewhere urgently need to be addressed. Adolescent health programmes should be related to adolescent expectations, their understanding of risk factors, sexual behaviours and their views of the programme if it is to meet adolescents' needs and problems effectively. The Reconstruction and Development Programme (RDP), announced by former president, Mr Nelson Mandela on 30 April 1994 in parliament, endorsed

- ✎ a change in the fertility perceptions of society so that the South African society could become more receptive to small sized families
- ✎ a decrease in the infant and child mortality rates (South Africa 1994:24)

These aspects are priorities in efforts to reduce population growth rates by preventing unplanned pregnancies, especially among secondary school learners aged 19 or younger.

1.2 BACKGROUND INFORMATION

The 1996 SA Census indicated that out of a population of 37 859 million, 46,4% were younger than 19 years of age (Central Statistical Services 1997:2). Dickson-Tetteh, Rees and Duncan (1999:4) estimated that 21,0% (8,8 million) of South Africans were aged between 10 and 19 years. Dickson-Tetteh et al (1999:4) and Ehlers et al (2000:44) found further that the majority of their respondents could not access contraceptive, emergency contraceptive and/or TOP services in spite of these services being available throughout the RSA, free of charge. The fact that these statistics continue when contraceptives are freely available, and accessible to most people, including secondary school learners, could be due to ignorance. This indicates a critical need to

promote adolescent sexual reproductive health, in particular, of boys and girls aged between 15 and 19. Accordingly, this study wished to identify reasons for the failure of secondary school learners in the LP to use contraceptives.

Feldman, O'Hara, Babeo and Chitale (1997:462), Richter (1996:16) as well as Silberschmidt and Rasch (2001:1817) found that many young people continued to engage in risky sexual behaviours despite evidence suggesting widespread awareness of STDs and high pregnancy rates with the life-long negative consequences thereof. Harvey (1998:16) found that in the Umlazi area of KwaZulu-Natal, 75,0% of the respondents were sexually active at the age of 13 years, and the average age at menarche was 12 years. This implied that sexually active 13 year old school girls could become adolescent mothers.

Dreyer et al (1997:61) found that negative restrictive laws, traditions and attitudes of certain cultural groups played a major role in contraceptive practices and in delaying sexual intercourse among adolescents.

1.2.1 Cultural practices and sexual activities

Cultural practices relevant to gender norms, impact on the cultural acceptance of behaviours and practices that could jeopardise reproductive health. Dreyer et al (1997:61) found that negative restrictive laws made sex a taboo subject for generations in many African cultures. According to the traditional customs among the Vha-Venda, Shangaan and Pedi, sexual intercourse was supposedly postponed until after marriage (Mashau 2001:19). These ethnic groups recognised the attainment of adulthood by following prescribed puberty rites during initiation ceremonies. At the initiation schools, young men and women are educated about sexual behaviour before and after marriage. Traditional Zulus, for instance, had adequate social institutions and practices for coping with the sexual needs of unmarried youth. By the time the traditional Zulu young man reached the age where he could begin thinking about marriage, a great deal about sex has been taught to him by the older adolescents. This was reinforced by the elders of the tribe at the initiation school. The same holds true for Venda, Shangaan and Pedi boys (Bodibe 1994:16; Mashau 2001:20; Rich & Kim 1999:816).

The Vha-Venda and Shangaan tribes practise initiation ceremonies for boys and girls in many areas of rural Venda and Giyani (SABC TV news on 2 July 2004 at 17:00). In 2002, the researcher interviewed Vele Mulea, an elderly member of the community at Musekwa village of Nzhelele Valley, who indicated that the presence or absence of adolescent initiation ceremonies played a vital role in the sexual expression of these tribes. An adolescent girl had to be married before she could conceive. Junod (1988:98) found that among the Pedi, sexual intercourse before marriage was strictly prohibited and premarital pregnancy was considered to be a disgrace.

Mashau (2001:17) emphasises that with the change in social structures and the gradual disintegration and collapse of traditional values and practices, adolescent females and males mingle freely. Moreover, some of the social control measures among the indigenous people were replaced by activities such as dating and coitus, associated with ignorance about contraceptives.

Modern society is characterised by children who mature physically and sexually much earlier than previously. A younger age at menarche would seem to be an outcome of social changes in life style, sexual attitudes and practices (Netshikweta & Ehlers 2002:79; Spelzer, Muller & Amegee 2001:182). Adolescents today live in socio-cultural environments, that are markedly different from those in which the older generations lived. The adolescents' world is shaped by what they learn from their peers, television, radio and popular magazines.

Cooksey and Guilkey (1996:11) as well as Pearton (1999:25) warn that unless adolescents receive effective sex education, and unless the number of unplanned pregnancies can be reduced, the population of the RSA might reach 70 million by 2020 and could escalate to 100 million by 2050, with far-reaching deleterious consequences for the environment. In Dar-es-Salaam, Silberschmidt and Rasch (2001:1823) found the modal age at which the first pregnancy occurred was 12 years. This implies that changes have occurred in the traditional social structures in general and in the traditional family structures in particular. The attitudes and reactions towards sexual permissiveness are apparently not strict enough to discourage adolescent girls from becoming pregnant.

Stressing that children are the future of any country, Dickson-Tetteh et al (1999:5) encourage understanding of and care for children's sexual needs at the various stages of their development to increase their sexual knowledge and curb the population growth. Furthermore, the HIV pandemic and STD infections could be reduced by the effective use of condoms (Dickson-Tetteh et al 1999:5).

The National Department of Health (DOH 2000:5) recognises the importance of promoting healthy lifestyles for adolescents to become healthy and responsible adults and the need to provide adolescent-friendly services in the RSA (DOH 1998b:5). Franklin and Corcoran (2000:51); Greening, Stoppelbein and Jackson (2001:257) as well as Tiltson and Maharaj (2001:92) emphasise that unless sex education is effectively disseminated to adolescents, unsafe abortions will continue to claim the lives of many women. If contraceptives are used effectively and supplied in therapeutic environments throughout the RSA, including the most remote areas of the LP, fewer unplanned babies would be born and fewer women would require TOPS. The RSA would benefit from adequate, effective and consistent use of contraceptives by women, including adolescents, who

might choose to do so.



1.2.2 Adolescents and their future

Adolescents should be seen as parents of the future and their health as a determinant of the health of their future families and generations. Moreover, the behavioural patterns and attitudes developed during adolescence would influence their capacity to guide their own children. However, if they gave birth to children before they were sufficiently mature, they might jeopardise their own and their children's health and well-being (Greening et al 2001:258).

Strategies adopted by the SA government in 1996, included TOP services as well as contraceptive services (free of charge) and making the dissemination of information on contraceptive use and prevention of pregnancy under the age of 16, one of the targets for the National Health Service (NHS) (Goosen & Klugman 1996a:236). However, to make an informed choice, adolescents need knowledge and access to contraceptive services. In the USA, the Department of Social Services proposed requiring females younger than 18 years of age, who were receiving financial aid, to prove that they were using contraceptives in order to continue receiving financial aid (Stycos 1998:30; Smith & Maurer 1995:582). In the RSA, however, proof of contraceptive use is not required from adolescents receiving social support.

Efforts to cater for these adolescents include the sexual health programme introduced in the RSA in 1984 to provide sexuality education and contraceptive services to sexually active adolescents, both male and female, where needed (MacPhail & Campbell 2001:1614). This programme forms part of the country's preventive and promotive health services and is incorporated into the primary health care (PHC) services. This was effected in line with the DOH's policy indicating that mother, child and women's health (MCWH), including adolescents, should form an integral part of PHC services. Accordingly, accessible reproductive health services should be based on PHC criteria such as equity, accessibility, affordability, availability, effectiveness and efficiency (Dennill, King, Lock & Swanepoel 1995:6).

The WHO (1998a:1) emphasises that adolescent-friendly reproductive health (RH) programmes should be

-  acceptable to potential users and responsive to cultural and social norms such as preferences for privacy, confidentiality and care by female health care workers
-  staffed by workers who provide respectful and non-judgmental care, being responsive to adolescents' needs

From table 1.2, it would appear that adolescents were not attracted by these programmes, as

indicated by the number of adolescent pregnancies and deliveries. This could perhaps be because they could meet their mothers, aunts and teachers at the clinics providing services to women of all ages.

Although these programmes have been offered for more than two decades, adolescents in the RSA still do not appear to be practising safe sex. Tables 1.2 and 1.3 reflect the increasing pregnancy rate and the sexually-related health problems among adolescents aged 19 or younger, in one of the hospitals in one of the districts of the LP.

1.2.2.1 Adolescent pregnancies

Table 1.2 Hospital A: One of the districts the LP – teenage deliveries, 1999-2003

YEAR	TOTAL NUMBER OF DELIVERIES	TEENAGE DELIVERIES, 19 YEARS AND YOUNGER	%
1999	6 004	1 520	25,31
2000	6 310	1 305	20,68
2001	6 482	1 596	24,02
2002	6840	2513	36,73
2003	6981	2710	38,81

Source: Hospital A: Maternity Register Records, 1999-2003

Table 1.2 shows that adolescent deliveries comprised at least 20,0% of all deliveries between 1999 and 2003 in one of the hospitals in one of the districts of the LP. A girl aged 12 years delivered a baby in September 2000, implying that girls younger than 12 were sexually active and could bear children with serious consequences for these young mothers and their babies (Mafarah, Wood & Jewkes 1997:80).

1.2.2.2 Adolescents with HIV- positive blood tests at the antenatal clinic (ANC) of hospital A

Table 1.3 Adolescents with HIV-positive blood tests in ANC of hospital A in the LP

YEAR	ADOLESCENTS 13-19 HIV POSITIVE		YOUTH 20-24 HIV POSITIVE	
	Number	%	Number	%
1999	2	3,4	5	13,3
2000	9	7,9	18	13,9
2001	29	12,0	28	11,4

2002	36	15,0	52	21,2
2003	44	17,1	53	21,9

Source: Hospital A: Antenatal Register and Records of ANC, 1999 to 2003







The statistics of HIV/AIDS among the adolescents and young people in the RSA could be attributed to the lack of condom use protecting individuals from infections as well as unplanned pregnancies. According to Heber and George (1999:43); Rollins (1996:960) as well as Kirby (2001:37), the pandemic of HIV/AIDS among adolescents in developing countries could be reduced by the effective use of condoms. The DOH (1997a:108) reported that approximately 1,8 million people in the RSA were HIV positive with more than 700 new infections occurring every day. The urgent implementation of multi-sectoral control strategies was necessary to prevent the situation from getting out of control. Information about sexual behaviour and safe sex might not be widespread in many rural communities, data on community-based sexual practices and perceptions about HIV/AIDS, STDs, adolescent pregnancies and TOPs are not readily available from the RSA's national statistics (DOH 1997a:109).

Adanlawo and Moodley (1999:99) found that many women in the RSA exercised their rights in terms of the 1996 CTOP Act to avoid unintended births. However, Ehlers et al (2000:44) found that 27,9% of the adolescent respondents lacked knowledge about contraception and TOP services. In a survey of pregnant student nurses in the LP, Netshikweta (1999:64) found that 66,6% lacked knowledge about contraception, TOP and emergency contraceptives.

The problem of poor knowledge of contraceptive use, TOP services, emergency contraceptives and adolescent pregnancies became an important focus for the government, teachers and researchers through concern over the costs incurred by adolescent parents and their families (Borvin, Schinke & Orlando 1995:168; WHO 1998b:8;). In the RSA, government expenditure on welfare and medical costs for adolescent mothers in 1999 totalled R65 billion, increasing to R80 billion in 2000 (Klugman 2000:3). Adolescent women and their dependent children remain on welfare programmes for longer than other welfare applicants thereby increasing government expenditure annually. Every adolescent mother in the RSA can apply for welfare assistance. Every child whose mother applies for a child grant receives R170,00 per month until the child reaches 14 years of age (Mashau 2001:56). Hence, it can be argued that adolescents might engage in unprotected sex, despite the advantages of contraceptives, for the sake of remaining on welfare programmes for a long time. Factors impacting on the life of an adolescent female due to an unplanned pregnancy and unintended motherhood, include curtailed education opportunities and limited future career prospects. In terms of section 3 of the South African Schools Act, 84 of 1996, a learner who is pregnant may not be prevented from attending school (South Africa 1996c:19). A pregnant girl may be

referred to a hospital school for pregnant girls. No such hospital schools exist in the LP, making the implementation of this Act impossible in this province.

However, this practice, being a reaction to already existing pregnancies rather than a preventive strategy, did not help to provide equal educational opportunities for girls and boys. Between 1998 and 2000, adolescent pregnancies ending in births increased from 25,5% to 88,3% in the Gauteng Province of the RSA (Magwentshu 2000:128). According to Modungwa, Poggenpoel and Gmeiner (2000:62), the increase in adolescent pregnancies could be due to various factors, including:

-  adolescent fathers who were mostly unemployed
-  child grants offered by the government to all adolescent mothers as a social relief measure
-  adolescent mothers' ignorance about contraceptives probably because they wanted to give birth to a number of children who would make them benefit from child grants
-  a need for love and acceptance
-  increased public acceptance of unmarried mothers
-  peer pressure

Learners might not realise the full impact pregnancy and parenthood would have on their lives. There remains a need for improved education for learners in all areas, including reproductive health issues. Although these subjects might be addressed in secondary schools, there is a need to inform adolescents as early as possible during their primary school years, especially in the rural areas of the LP. Sex information has rarely been a comfortable topic for parent-child communication. Many obstacles might prevent open communication between parents and children about sexual issues, such as different cultural attitudes towards reproduction and family size (Crosby & Yarber 2004:418; Ndubani & Höjer 2001:108). Although the government has made substantial efforts for youth to obtain free contraceptives from health centres, it is still a question whether the availability of contraceptives encourages secondary school learners to actually use them.

The LP, located in the far northern region of the RSA (see figure 1.1), is the second poorest province in the RSA. It is divided into six districts (see figure 1.2). The LP is bordered by Botswana in the north-west, Zimbabwe in the north and Mozambique in the north-east. The LP has cultural and other barriers, such as long distances to clinics, lack of transport to health centres, clinic hours coinciding with school hours, that could impact negatively on the effective use of contraceptives. In view of these circumstances, secondary school learners' lack of knowledge regarding contraception could impact on the number of adolescent pregnancies. Behavioural patterns and inadequate knowledge might pose risks to learners' health. Realistic

health programmes need to incorporate these aspects into their planning, implementing and evaluating strategies to address the escalating number of adolescent pregnancies in the LP.

Popenoe et al (1998:403) maintain that the RSA cannot support more than 80 million people and that the zero growth rate, that is two children per family, should be reached by 2020 in order not to exceed that number. This can only be achieved by effective contraceptive practices, enhanced sex education programmes in schools and consistent dissemination of sex information to secondary school learners.

Figure 1.1

Figure 1.2

1.3 RATIONALE FOR THE STUDY

In the RSA, as in many other countries, secondary school learners engage in frequent sexual activity, use contraceptives ineffectively or not at all, and the pregnancy rates are high especially in the rural areas, where the use of contraceptives might still be associated with taboos (Bodibe 1994:32). The adolescent pregnancy rate does not appear to have changed significantly since the early 1990s. In 1992 among adolescents 13 to 16 years of age, the pregnancy rate was 28,3 per 1 000 compared to 67,4 per 1 000 for those 17 to 19 years old (MacPhail & Campbell 2001:1615). A variety of school-based sex education programmes have been developed in the USA and the RSA, in an effort to reduce secondary school learners' unintended pregnancy rates (Bell & Millward 1999:608; MacPhail & Campbell 2001:1622).

Although youth empowerment with sex information has been widely discussed and is accepted as a fundamental principle in health promotion practices in the RSA, its practical application is still subject to debate. Boulay and Valente (1999:116) point out that the focus is on the problems of schoolgirls when they have conceived rather than on the dissemination of sex information to reduce the occurrence of pregnancies and STDs. In Zambia, Ndubani and H^onger (2001:109) found that sex education programmes increased the use of contraceptives and condoms from 19,5% to 39,0%. Effective sex education programmes might produce similar results in the RSA.

1.4 STATEMENT OF THE PROBLEM

Secondary school learners' pregnancies pose major public health problems in the developed and developing countries, including the RSA. These pregnancies are mostly unplanned and unintended, and many are terminated either legally or illegally (Klima 1998:483). Between 30,0% and 50,0% of women presenting for CTOP were not using contraceptives at the time of conception, and similar numbers of pregnancies were unplanned and unwanted (Bongaarts 1997:273). Learners' pregnancies are associated with far-reaching effects, such as jeopardising adolescents' educational progress and future careers. Learners' pregnancies further drain public funds. In a study among adolescents in north-east Brazil, Bailey, Bruno, Bezerra, Queiroz, Oliveira and Chen-Mok (2001a:231) found that adolescent pregnancies had both short- and long-term effects on the national economy, economic development and growth, education, human resource training and providing housing.








Since 1998, the SA government has implemented an outreach programme providing social welfare financial aid to support adolescents' children in all nine provinces. These costs could have been reduced by R8 million per year if adolescents had sufficient knowledge about preventing pregnancies and used contraceptives consistently and effectively (Klugman 2000:3).

Efforts to combat adolescent pregnancies have met with limited success. Section 2 (1) (a) of the

CTOP Act, 92 of 1996 protects the right of persons to make decisions concerning reproduction and security as well as control over their bodies. The Act also makes provision for access to reproductive health care services, including contraception, TOP, sexuality education, and counselling programmes and services. It is stressed that TOP is not a form of contraception or population control.

Despite the SA government's efforts to prevent pregnancies among girls aged 15 or younger in the RSA, the number of adolescents requesting TOPs increases annually. As contraceptives are available free of charge, there is a discrepancy between the current (large numbers of adolescent pregnancies and requests for TOPS) and the ideal situation (unplanned pregnancies avoided by the effective utilisation of contraceptives) (Guttmacher, Kapadia, Naude & De Pinho 1998:192). Thus there seems to be a great need for improved sexuality education for secondary school learners and all adolescents in the RSA, including the LP. The Minister of Health (MOH) in the RSA recognised the importance of promoting healthy life-styles for these learners if they are to become healthy and responsible citizens (South Africa 1999:17).

The researcher wished to answer the following questions:

-  What knowledge, attitudes and perceptions do secondary school learners in the LP have about contraceptives?
-  From whom do secondary school learners in the LP learn about sexuality, pregnancy and contraceptives?
-  What strategies could enhance learners' utilisation of reproductive health services in the LP?
-  Why do secondary school learners in the LP use or fail to use contraceptives?
-  What barriers do secondary school learners in the LP encounter in accessing contraceptives?
-  What reproductive health services do secondary school learners in the LP use?
-  What reproductive health services do secondary school learners in the LP need?

1.5 PURPOSE OF THE STUDY

The purpose of the study was to explore the knowledge and perceptions of and attitudes regarding contraception and contraceptive practices of secondary school learners in the LP. The intention was to provide a basis for appropriate intervention as well as for creating opportunities for secondary schools to produce sex education policies and programmes taught by responsible persons. Furthermore, information and strategies generated could be used by professionals and learners to reduce the number of unintended pregnancies in the LP.

1.6 OBJECTIVES

The objectives of the study were to

- ✎ explore the knowledge and perceptions of and attitudes regarding contraception and contraceptive practices among secondary school learners in the LP
- ✎ assess the sources providing sexual knowledge to secondary school learners in the Limpopo Province
- ✎ identify strategies to enhance the utilisation of reproductive health services by secondary school learners in the LP
- ✎ identify factors that influence the utilisation/non-utilisation of contraceptives by learners in the LP
- ✎ identify secondary school learners' perceived barriers to the accessibility of contraceptives in the LP
- ✎ identify which reproductive health services secondary school learners in the LP need

1.7 SIGNIFICANCE OF THE STUDY

The findings of this study could provide a basis for reviewing the current health behaviour

programme offered in schools, clinics and hospitals in the LP. This, in turn, could enable the development of a more reality-based integrated programme to meet the total health needs of secondary school learners and adolescents in the LP, with special emphasis on safe sexual practice or delayed sexual practices. Furthermore, the results of the study could lead to the development of programmes to revitalise sex education, sensitisation, mobilisation and motivation for health as well as the redirection, strengthening and provision of sexual information to sustain the motivation of the secondary school health programmes in the LP. The provisional draft National Health Bill (South Africa 1996a:7) made provision for the development of a district health system that would transform national policies into reality-based programmes to meet the needs of the local communities and sustain these programmes.

1.8 THEORETICAL FRAMEWORK

The researcher utilised the Health Belief Model (HBM) as the theoretical framework for the study. The HBM was used to explain why secondary school learners used or failed to use contraceptives. Figure 2.1 illustrates the major principles underlying the HBM (see section 2). The HBM was identified as the ideal framework for the study as contraceptive practices should

be seen as a reflection of the health belief system (HBS) of the individual learner and the society as a whole (Werner 2003:786).

The HBM is a value-expectancy theory (Hanson & Benedict 2002:25). Value-expectancy concepts, reformulated in the context of health-related behaviours, could be interpreted such that the desire to avoid pregnancy, STIs and HIV/AIDS or to remain well, and the belief that a specific health actions (contraceptives) available to a person would prevent illness (unplanned pregnancies). The HBM assumes that a course of action (say, effective utilisation of contraceptives) available to adolescents would be beneficial in reducing either their susceptibility to or the severity of (repeated) unplanned pregnancies, STDs and HIV/AIDS. However, if adolescents' perceptions that anticipated barriers to taking the actions (to utilise contraceptives effectively), such as travelling long distances to reproductive health services and/or coping with unfriendly clinic staff, then these perceived barriers would outweigh the perceived benefits contributing to the non-utilisation of contraceptives among adolescents (Lux & Petosa 1994:488). The six concepts of the HBM used in this study are: perceived susceptibility, perceived barriers, benefits, perceived cost, efficiency and cues to action (see section 2.2.2.1.3.5).

1.9 THEORETICAL BASIS OF THE STUDY

“Assumptions, equivalent to axioms in geometry, are self-evident truths, the *sine qua non* of research” (Leedy 1997:7). The assumptions underlying this study influenced the questions, data collected, data-collection techniques used, interpretations of the findings, conclusions and recommendations (Burns & Grove 2001:56).

1.9.1 Meta-theoretical assumptions

The HBM was identified as the theoretical framework for this study, as contraceptive practice is a reflection of the health belief system of the individual learner and of society at large. Six components of the HBM were used in this study: perceived susceptibility, perceived benefits, perceived barriers, perceived cost, efficacy and cues to action (Clarke, Lovegrove, Williams & MacPherson 2000:273; Glanz, Rimer & Lewis 2002:118).

1.9.2 Theoretical assumptions

Nursing care and health care practices should be congruent with the socio-cultural background of the learners. Both health care providers and learners are products of a culture that influences their behaviours and practices (Mikhail 2001:163). Thus this study was based on the following theoretical assumptions:

- ✎ Secondary school learners' knowledge, perceptions and understanding of safe sex is a factor contributing to the failure to use contraceptives.
- ✎ Secondary school learners acquired sex information from their peers, rather than from their parents.
- ✎ Peer group pressures promoted sexual activities among secondary learners.
- ✎ Secondary school learners should receive sex information and counselling at schools and at adolescent reproductive health services, if their needs were to be met.
- ✎ Programmes offered at the adolescent reproductive health services were not adolescent-friendly.
- ✎ Religious practices and cultural beliefs contributed to the non-use of contraceptives among secondary school learners in the LP.

1.10 DEFINITIONS OF KEY TERMS

An operational definition is "a strategy through which a set of characteristics essential to the connotative meaning of a concept is identified" (Burns & Grove 2001:133). This helps the researcher to describe what is to be studied and how it will be investigated. Burns and Grove (2001:133) further define a concept as "a term that abstractly describes and names the object, thereby giving it a separate identity or meaning". In this study, the following terms are used within the contents described in this section.

✎ Adolescence

The WHO (1996a:4) defines adolescence as "a period of life extending from 10 to 19 years of age". In this study an adolescent was a male or female person in the age group 10 to 19 years attending a secondary school in the LP, and in Grade 8 or Grade 12.

✎ Adolescent mother

An adolescent mother is "any mother aged 19 or younger at the time of the delivery of her baby, irrespective of the pregnancy outcome, and irrespective of her marital status" (Jaqananen 1999:75).

✎ Adolescent pregnancy

Adolescent pregnancy refers to a conception involving a girl aged 19 or younger.

Contraception

Mosby's Medical Nursing and Allied Health Dictionary (2002:300) defines contraception as "a process or technique for the prevention of pregnancy by means of a medication, device, or

method that blocks or alters one or more of the processes of reproduction in such a way that sexual union

can occur without conception". Foy, Gabriel, Cindi & Dickson-Tetteh (2001:2) define contraception as "the prevention of conception by either temporary or permanent means". While *Collins English Dictionary* (1991:347) explains that contraception is "the intentional prevention of conception by artificial or natural means".

Contraceptives

Contraceptives are agents used to temporarily prevent the occurrence of conception, including oral pills, condoms, intrauterine devices, diaphragms and injections (Ketting & Visser 1994:161; Kirby 2001:56). *Collins English Dictionary* (1991:347) defines a contraceptive as "any device that prevents or tends to prevent conception".

Contraceptive methods

Mosby's Medical Nursing and Allied Health Dictionary (2002:302) defines a contraceptive method as "any act, device, or medication for avoiding conception or a viable pregnancy", such as "cervical cap, condom, diaphragm, intrauterine device, natural family-planning method, oral contraceptive, spermicide, sterilization". Contraceptive methods include "hormonal contraceptives (injectables, pills and implants), barriers (male and female condoms and cervical caps), intrauterine contraceptive devices (IUCDS), emergency contraceptives (EC), voluntary surgical sterilisation (VSS), natural family planning (NFP) and traditional methods of family planning" (Foy et al 2001:2). According to Cochrane (1997:20), a contraceptive method is "a means of ensuring that each child comes to a family and world at a time when it is wanted by the family that will have the responsibility of nurturing it". It is against the Cochrane standpoint that emergency contraceptives and TOPs are included under "contraceptive methods" in this study. For the purpose of this study, contraceptive methods shall include natural and scientific birth control measures and be described as modern, emergency and TOP services.

Culture

Collins' English Dictionary (1991:387) defines culture as "the total of the inherited ideas, beliefs, values, and knowledge, which constitute the shared bases of social action; the total range of activities and ideas of a group of people with shared traditions, which are transmitted and reinforced by members of the group". Culture represents non-physical traits such as values, beliefs, attitudes and customs shared by a group of people and passed on from one generation to

the next (Perry & Potter 2001:98). For the purpose of this study, culture refers to cultural beliefs and practices in relation to contraception, contraceptive practices and parental involvement in the dissemination of knowledge of sexuality and contraception to their children.

Emergency contraception

Emergency contraception prevents pregnancy from occurring "by preventing implantation of the fertilised ovum in the uterine wall by using copper-containing intrauterine devices (IUD) within five days of unprotected coitus, or by altering the woman's hormone levels to inhibit ovulation, ovum transportation and/or endometrial growth by using specific 'morning after' pills or by using precalculated high doses of oral contraceptives" (Ehlers et al 2000:46).

Family planning

The lay term "family planning" may be used interchangeably with the medical or scientific term "contraception". In this study the latter term is used wherever feasible.

Family planning methods

The lay term "family planning methods" is equivalent to the medical term "contraceptives" which will be used wherever feasible in this study.

Fertility

Fertility describes "the frequency with which births occur in a population and depends on such biological factors as the number and general health of childbearing women in a population" (Popenoe et al 1998:414).

Modern contraceptive methods

Modern contraceptive methods (listed under "contraceptive methods") refer to contraceptives which are frequently used in the post modern era and may be prescribed by medical practitioners, nurses and pharmacists (Erasmus & Bekker 1996:39; Sokutu 2005:22). Condoms are also available from some public centres.

Health care providers

Mosby's Medical Nursing and Allied Health Dictionary (2002:506) defines a health professional as "any person who has completed a course of study in a field of health, such as a registered

nurse, physical therapist, or physician. The person is usually licensed by a government agency or certified by a professional organization." For the purposes of this study, health care providers are defined as professionals who are capable of giving appropriate health information, sexual information and contraceptive information, enabling secondary school learners to make an informed decision. Health care providers diagnose and treat clients in an attempt to cure or improve their condition (Lundy & Jones 2003:34).

Limpopo Province (LP)

The LP is the province located in the far northern region of the RSA (Central Statistics Services 1997:2). The LP was formerly known as the Northern Province (NP). This study focused on secondary school learners in randomly sampled secondary schools in this province (see figures 1.1 and 1.2).

Population growth rate

Population growth rate refers to "the increase or decrease of population numbers expressed as a figure per 1 000 of the total population per annum" (Dreyer et al 1997:60).

Reproductive health (RH)

Reproductive health (RH) is a vital part of general health. It is a reflection of health during adolescence and adulthood, and lays a foundation for health beyond the reproductive years for both females and males and has major inter-generational effects (WHO 1995:3). Reproductive health is

defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive health systems, its functions and process" (Birdthistle & Vince-Whitman 1997:1; WHO 1995:3).

Safer sex

For the purposes of this study, the term "safer sex" is used to refer to adopted sexual behaviours recommended by health educators to reduce the risk of HIV and STD transmission. It is mainly based on abstinence from sex, being faithful to one partner and the use of condoms to avoid the exchange of body fluids during sexual intercourse. The term "safer sex" is used in this study as it could be debated whether sex could ever be regarded as "safe" with the ever-present possibility of contracting HIV/AIDS even with a single sex partner (who might be HIV positive without knowing it) and with the use of condoms (which could break, slip or be used incorrectly).

Sexual experience

A sexually experienced adolescent is an adolescent who has had sexual intercourse at least once (Crouch 2002:83).

Sexuality and sex

Sexuality and sex are two distinct yet interrelated terms.

Mosby's Medical Nursing and Allied Health Dictionary (2002:980) defines sex as "a classification of male or female based on many criteria, among them anatomic and chromosomal characteristics; is "the sum of the physical, functional, and psychologic attributes that are expressed by one's gender identity and sexual behavior, whether or not related to the sex organs or to procreation; the genital characteristics that distinguish male from female".

Yeh (2002:73) describes sex as relating to "the anatomical and physiological aspects of reproduction. It is a narrow term focussing on the genetic characteristics of male and female reproductive systems."

Sexuality is a broad term and encompassing physical, emotional, social and intellectual aspects of an individual's personality expressing the person's maleness or femaleness. For the purpose of this study, the broader term *sexuality* is used.



Sexuality education

Kelly and Morgan-Kidd (2001:486) describe sexuality education as a "socialising process, formal and informal, which includes instruction and training in all aspects which may help to form normal and wholesome attitudes, values and ideals in relation to sex".

Sexuality education is "a comprehensive programme that does not only teach the physical aspects of sexual orientation but also looks at all aspects of human development" (Stotland 1997:682). According to Mashau (2001:99), the Department of Health's life skills and HIV/AIDS education programme should provide completely honest information about the physical, social, emotional aspects of human sexual development from conception to old age, to enable people to develop a positive acceptance of their own sexuality, thus increasing their self-value and self-esteem and promoting responsible sexual behaviours. While Jegede and Odumosu (2003:66) warn that sexuality education should include the nature of love, personal relationships and family life.

According to Ibeh and Ikechebelu (2002:105), sex education means education related to the

anatomy and physiology of reproductive systems, conception and contraception, including emergency contraception, pregnancy, TOP and STDs.

Sexually transmitted diseases




The term "sexually transmitted diseases (STDs)" is used for all infections transmitted from person to person through sexual contact. Most STDs affect the genital parts of both males and females (Ballard 1999:89). Other STDs can cross the placental barrier and infect the unborn baby, or be transmitted to the baby during the process of birth. Some STDs can affect other parts of the body, such as the eyes, mouth, nerves, heart or urinary tract. HIV/AIDS is also mainly transmitted through sexual contact and is classified as an STD (DOH 1996b:12).

Termination of pregnancy (TOP)

TOP refers to "the act of bringing a pregnancy to a final end, preventing the birth of a live baby. One legally approved method used to terminate pregnancies in the RSA is known as the manual vacuum aspiration technique"(Dickson-Tetteh et al 1999:20). Termination of pregnancy refers to the abortion of a live foetus of a woman with the intent to kill such a foetus.

TOP was illegal in the RSA under the Abortion and Sterilisation Act, 2 of 1975, unless severely stringent conditions could be met. This made it impossible for the majority of South African women to access legal TOP services. The Act made no provision for what gestational period was liable for TOP or for women to request TOP if they did not want to carry the pregnancy to term. Women's social circumstances were not considered when they requested TOP services (DePinho & Hoffman 1998:22).

Since 1 February 1997, women in South Africa can undergo safe hygienic, accessible and legal TOPs under the CTOP Act (92 of 1996). The success of achieving these objectives is dependent upon the following three factors (DePinho & Hoffman 1998:27):

-  the provision of accessible, effective and acceptable services
-  health service providers who are familiar with the details of the law
-  women choosing to undergo TOPs being familiar with their rights

Pro-termination of pregnancy

Pro-TOP, or pro-abortion, or pro-choice activities believe it is each woman's right to decide whether to carry a pregnancy to term or not.

The Choice on Termination of Pregnancy Act, 92 of 1996

The CTOP Act makes provision for TOP upon the woman's request up to and including 12 weeks of gestation, and under certain defined conditions from 13 to 20 weeks but in rare cases even beyond 20 weeks' gestation. The Act affords every woman the right to choose whether to have an early, safe

and legal termination of a pregnancy according to her individual beliefs (Dickson-Tetteh et al 1999:20) Furthermore, in accordance with the Act, TOP services should include the counselling of women before and after the TOP procedures, should be able to manage incomplete abortions, should provide contraceptive services after TOPs, and should link TOP services to other related RH services (Dickson-Tetteh et al 1999:20).

Total fertility rate (TFR)

The DOH (1999:glossary) defines the total fertility rate as "the number of children a woman will have, assuming the current age specific birth rate remains constant throughout her childbearing years (\pm 15 or younger to 49 years)".

Unplanned pregnancy

Unplanned pregnancy refers to "a pregnancy that may not have been planned, and that may be unintentional and/or unwelcome by the pregnant woman. Such a pregnancy may occur as a result of contraceptive failure or non-use of contraceptives, and may continue as a result of the non-utilisation of emergency contraceptives or CTOP services" (Maja 2002:21).

1.11 RESEARCH METHODOLOGY

The research methodology adopted to study the Grade 8 and Grade 12 learners' knowledge, attitudes, and perceptions of contraceptives in the LP will be discussed in detail in Chapter 3. Based on an in-depth literature review separate questionnaires were designed for male and female learners. Twenty-four senior secondary schools were randomly drawn to participate in the study. Permission to conduct the study was obtained from the Research and Ethics Committee of the Department of Health Studies, University of South Africa (Unisa), the LP's Department of Education and from the principal of each participating school.

All the Grade 8 and Grade 12 learners who happened to be at specific participating school on the day when the researcher and research assistants visited that school were invited to complete questionnaires. Learners decided independently whether or not to complete questionnaires. No remuneration was paid and no learner was discriminated against in any way whatsoever for refusing to participate. A total of 952 learners completed questionnaires.

1.12 ORGANISATION OF THE THESIS

Chapter 1 discusses the purpose, objectives, significance and assumptions of the study, and defines key terms used.

Chapter 2 discusses the literature review undertaken on the phenomenon under study.

Chapter 3 covers the research methodology, including the research design, population, sample and sampling methods, validity and reliability of the research instrument, ethical considerations, data collection and analysis.

Chapter 4 presents the analysis and discusses the data obtained from both the questionnaires completed by the grade 8 and grade 12 learners as well as the data obtained from the structured interviews conducted with grade 8 and grade 12 learners.

Chapter 5 presents the conclusions and limitations of the study and makes recommendations for further research.

1.13 CONCLUSION






This chapter described the research problem, the rationale for, purpose, significance and underlying assumptions of the study, defined terms used and outlined the study. Chapter 2 will discuss the literature review undertaken for the study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discusses the literature reviewed by the researcher on the contraceptive knowledge, perceptions, attitudes and practices of female and male adolescents. The overall purpose of a literature review "is to develop a knowledge base for the conduct of research" (LoBiondo-Wood & Haber 2002:79; Sparks 1999:51). A literature review "is not only a key step in the study, but is also used in all steps of the process of the study" (Brink 1999:68). Fitzpatrick, Stevenson and Polis (1998:167) as well as LoBiondo-Wood and Haber (2002:79) state that a critical review of the literature

-  uncovers conceptual and data-based knowledge related to a particular subject, concept, or clinical problem and is used in all aspects of the research process
-  provides new knowledge that can lead to the development, validation, or refinement of theories
-  reveals research questions for the discipline
-  provides the latest knowledge for education
-  uncovers research findings that support evidenced-based practice.

2.1.1 Key words for the literature review

The researcher used the following key words to search for relevant literature: adolescent pregnancy, adolescent perceptions on contraception, adolescent reproductive health, adolescent contraceptive practices, contraceptive services, culture and contraception, and contraceptive beliefs.

2.1.2 Rationale for the study





The study was motivated by a desire to design interventions to change the prevalence of certain behaviours and improve adolescents' health status as well as to better understand why adolescents adhered to specific behaviours.

Frank (2000:46); Maes and Louis (2003:512) as well as Smith (1998:93) emphasise that health behaviours can vary from enhancing or protective behaviours (such as health screening clinic attendance, condom use in response to the threat of HIV/AIDS and contraceptive use to prevent unintended pregnancies) to avoidance of health-harming behaviours (such as non-use of contraceptives by adolescents) which could have immediate and long-term effects on the

adolescents' health, education and general well-being.

Through the literature review the researcher wished to identify potential contraceptive practices by adolescents in the LP. The literature review covered the HBM and personal health behaviours of adolescents to understand why individuals did or did not engage in certain health-related preventive actions. In this study, three major components of the HBM, namely individual perceptions, modifying factors, and variables affecting the likelihood of initiating actions are discussed and applied (see section 2.2.1). A broad distinction can be made between factors intrinsic to adolescents, such as social support and socio-demographic factors, and extrinsic factors, such as age at menarche and culture of the adolescent, which could influence the initiation of sexual intercourse and the use of contraceptives (Chimere-Dan 1996:5; Klein, Eber, Crosby, Selka & Hoffman 1999:113; Sanfilippo 2000:406; Zagumny & Brady 1998:176).

The literature study covered relevant literature retrieved from the Internet, WHO manuals, the WHO Reproductive Health Library CD-ROM, conferences and discussions with experts in the reproductive health fields in the LP. The University of South Africa's library consulted the following databases:

-  Oasis library catalogue (accessed via the Unisa web site: <http://www.unisa.ac.za>)
-  Computerised Index of Nursing and Allied Health Literature (CINAHL)
-  Social Science Index
-  MEDLINE express

The University of Venda's library identified relevant literature with the aid of the SABINET computer-assisted database of references to South African materials, references, journals, articles and books through interlibrary loans as well as theses/dissertations.

The literature review revealed that considerable research has been done on sexuality, teenage pregnancy and health-related problems. No previous studies on secondary school learners' knowledge, perceptions, and attitudes regarding contraception and contraceptive practices in the LP could be traced. There was limited information on the knowledge of contraception and contraceptive practices among secondary school learners in the RSA. Information about the prevention of pregnancy, teenage and adolescent pregnancy therefore formed the literature basis for this study.

The literature revealed that a substantial proportion of unmarried young adolescents in the RSA and other countries were sexually active without perceiving themselves to be susceptible to pregnancy as they did not use contraceptives (Leach 2002:107; Martin 1997:161). Many pregnancies among adolescents and young adults in the USA, the UK, SSA and the RSA were unwanted and unintended (Maja 2002:58; Mpshe, Gmeiner & Van Wyk 2002:79; Miller,



Forehand & Kotchick 1999:321). Many unintended pregnancies were terminated either legally or illegally. Jurgens (2002:34) reported that 80 873 TOPs were performed on women younger than 18 years of age in SA hospitals and clinics in 2001. In a study on adolescent contraceptive use in the USA, Moore and Burton (1999:143) found that among adolescents aged 14 to 17, 83,0% of the respondents were not using contraceptives. Of these, 75,0% had already given birth to a child and indicated that their pregnancies were not planned.

The US Centre for Disease Control (CDC) (1999:14) reported that SSA has the lowest rate of contraceptive use in the world, ranging from 4,0% in Nigeria to 48,0% in Zimbabwe. Several intrinsic and extrinsic factors contributed to these low rates, including difficulties in obtaining contraceptive supplies, limited clinic services and attitudes of the clinic staff (Stein 1997:2). In the RSA, Rakel (1999:65) as well as Tiltson and Maharaj (2001:98) found that between 40,0% and 70,0% of women presenting for CTOP were not using contraceptives at the time of conception, and that similar numbers of pregnancies were unplanned. Thus low rates of contraceptive use prevail in the RSA as well. The researcher found no specific studies on the prevalence of contraceptive use in the LP.

In Kenya, 88,0% of females had sexual intercourse by the time they were 15 and in Nigeria 69,0% of all female adolescents were sexually active by the time they were 15. These adolescents might not practise safe sex and might have inadequate knowledge about contraceptives (Day 1999:39; Netshikweta 1999:67; Pistole 1999:94; Silberschmidt 1999:18; Theron & Grobler 1998:18). In the USA, Unger and Molina (2000:239) found that young people aged 15 to 18 used effective methods of contraceptives sporadically or incorrectly. According to Unger and Molina (2000:239), 13,0% reported periodic abstinence without accurate knowledge of reproductive physiology and the timing of ovulation while 46,0% reported that at their first visits to contraceptive clinics, they were already pregnant.

Improving adolescent RH in the RSA requires reducing unintended pregnancy and childbearing rates and the incidence of STDs among adolescents. In order to reduce these negative health outcomes, it is important to examine antecedents of these sexual behaviours (Meadows, Sadler & Rertmeyer 2000:226). The value of population control in the RSA by using contraceptives effectively is widely acknowledged as a vital requirement for the achievement of optimal health for all (Dreyer et al 1997:60).

According to Tiltson and Maharaj (2001:93), the following positive RH behaviours are necessary to reduce the numbers of unintended pregnancies if adolescent RH is to be improved in the RSA:

-  Delay the timing of first sexual encounters (also termed “sexual experience, first sex or sexual debut”).
-  Reduce sexual activity among sexually experienced adolescents, including the incidence

of multiple sexual partners.

- ✎ Improve the effectiveness of contraceptive use for pregnancy and/or disease prevention.

The present study found that in hospital A in the LP (see chapter 1, table 1.1), 392 out of 1 000 deliveries were adolescent mothers aged 17 or younger. At the age of 17, most girls should still be at school which means that becoming mothers at or before the age of 17 caused a disruption in these girls' schooling. It is necessary to understand factors affecting adolescent sexuality so that such factors could be included in health education by contraceptive health providers (Birdthistle & Vince-Whitman 1997:112; Geronimus 1996:592; Weisberg 1997 :29).

2.2 THEORETICAL FRAMEWORK

The theoretical framework guides the study and gives it its structure (Brink & Wood 1998:283). Burns and Grove (2001:200) define a framework as "the abstract logical structure of meaning that guides the development of the study and enables the researcher to link the findings to the body of knowledge that constitutes nursing science and/or health science".

The HBM (see figures 2.1 and 2.2) provided a theoretical base for the study. Brink (1999:25) states that "an existing theory may be used to explain the main variables of a study and their interrelationships".

According to Chinn (1994:75), concern over health behaviour developed in the early 1950s when low levels of public participation in preventive health programmes were observed in the USA, despite the services being provided free of charge or at low cost. Behavioural scientists and health workers wished to know why and under what conditions people took action to prevent, detect and treat diseases. The HBM explains health-related behaviour at the level of individual decision-making (Mikhail 2001:162). The HBM was developed when public and private health sectors were concerned that people were reluctant to be screened for tuberculosis (TB), have pap smears done to detect cervical cancer or take other preventive measures that were either free of charge or available at low cost (Carmel 2000:271). RH services are available throughout the RSA, including the LP. At these clinics, contraceptive services are provided free of charge, which should enable adolescents to use these services should they wish to do so. However, the persistently high rate of adolescent pregnancies in the LP indicate that adolescents fail to use these services effectively.

2.2.1 An overview of the Health Belief Model (HBM)

The HBM was identified as the theoretical framework for this study, as contraceptive practice is a reflection of the health belief system of the individual learner and society at large. Six components of the HBM were used in the study: perceived susceptibility, perceived benefits,

perceived barriers, perceived cost, efficacy, and cues to action (Clarke, Lovegrove, Williams & MacPherson 2000:273; Glanz, Rimer & Lewis 2002:118). Before examining the HBM, aspects of the social psychological theory from which the HBM's variables were adopted should be considered. The Lewinian tradition maintains that the individual exists in a life-space composed of regions. Some of these are positively valued, others are negatively valued, and still others are relatively neutral. A positively valued region has a goal and a negatively valued region has no goal (Mikhail 1981:80). This implies that adolescents who have a goal in life are more likely to pursue their studies until they achieve their goal than ones without a goal (Mogotlane 1993:13).

Figure 2.2 ? Heading?

2.2.1.1 Perceived susceptibility

Frewen, Schomer and Dunne (1994:39) define perceived susceptibility as the "individual's perception of the degree of his/her susceptibility to a health condition".

Wallace, Green and Jaros (2003:38) state that in reproductive health issues, perceived susceptibility to pregnancy would positively influence the use of effective contraception. However, in Boston (in the USA), Hacker, Amare, Strunk and Horst (2000:284) found that amongst the high school adolescents some failed to use contraceptives even though they perceived themselves to be susceptible to pregnancy. Peltzer (2001:55) investigated knowledge and practices regarding the correct use of condoms among university students in the NP of the RSA and found a 29,0% prevalence rate of condom use among male students. This could indicate that the students did not perceive themselves to be susceptible to STDs, including HIV/AIDS. However, female students perceived themselves to be at risk of pregnancy, and 49,0% used female condoms. The present study wished to establish whether secondary school learners in the LP, perceived themselves to be susceptible to pregnancy, STDs and HIV, used contraceptives and condoms and if so, which contraceptive methods they used.

2.2.1.1.1 Perceived severity

Perceived severity is the degree of concern at the thought of disease or problems associated with contraceptives, such as absence of menstruation in clients using Depo Provera injections or nausea and vomiting among some clients due to oral contraceptives (Cromer & McCarthy 2000:292). Nur-isterate injections may be utilised for clients who feel uneasy about Depo-provera (Singh & Darroch 2000:18). Concern over the side-effects and willingness to tolerate them partly determine the attractiveness of different methods. Thus, secondary school learners concerned about side-effects might be more likely to choose spermicides and male and female condoms, which do not have these risks. Subjective-norm factors relate to method of choice. Subjective norms refer to the perceived support of important others for using contraceptives. Stroebe and Stroebe (1995:35) as well as Yanyi and Djamba (2004:264) found that subjective-norm variables were more predictive of behavioural intentions than attitudinal factors, such as the value of discussing contraceptive methods/issues between partners could influence their contraceptive choices. Mitchell, Littlefield and Gutter (1999:20) found that 88,0% of their respondents recognised the need for their partners to communicate with them about sexuality issues. Mitchell et al (1999:22) add that partners' commitment is essential in contraceptive issues; for example, withdrawal and condoms require the cooperation of both partners.

2.2.1.1.2 Perceived threat

Perceived threat depends on two beliefs: perceived susceptibility to illness or health breakdown and anticipated severity of the consequences of such illness (Conner & Norman 1996:25). In this study, the implications of unwanted pregnancy for the health of secondary school learners should be perceived as serious threats to adolescents and their families. Hiltabiddle (1996:63) states that perceived threats to health actions include phobic reactions, physical and psychological barriers, accessibility factors and even personality characteristics. Clarke, Lovegrove, Williams and MacPerson (2000:368) as well as Kidely (2002:36) maintain that perceived threats include those related to the continuity of preventive action taken daily such as using contraceptives accurately; social consequences such as effects of contraceptives on family life, social relations, and medical issues like weight gain.

2.2.1.2 Perceived benefits of contraceptive services

The third component of the HBM is perceived benefits. According to the HBM, belief in the effectiveness of contraceptive methods in preventing pregnancies should correlate positively with their consistent use (Hiltabiddle 1996:63). Hanson and Benedict (2002:25), Nefale (1999:34) as well as Ross (2001:21) found that people are more likely to comply with health recommendations when they believe that these actions will be effective in preventing, detecting, or treating the disease and thus reducing its threat to them.

Partners' willingness to use condoms and parental support for contraceptive use are significant psycho-social factors in consistent condom use. In this study, perceived benefits are beliefs about the effectiveness of recommended preventive health actions, such as the ability of contraceptives to prevent pregnancy, obstetric complications and HIV. These factors are important in planning interventions such as health talks to increase contraceptive use, including condoms, by sexually active secondary school learners in the RSA.

2.2.1.3 Perceived barriers to using contraceptives

Perceived barriers are "possible blocks or hindrances to engage in preventive behaviours, including such factors as cost, inconvenience and unpleasantness" (Agha, Karly & Meekers 2001:149; Laraque, McLean, Brown-Peterside, Ashton & Diamond 1997:319). Sortet and Banks (1997:232) state that perceived barriers to health actions include such items as phobic reactions, physical as well as psychological barriers, accessibility factors and personality characteristics. Monetary cost of transport might also contribute to the negative utilisation of contraceptive services because of the distances from where adolescents live. Tadiar and Robinson (1996:77) found that barriers to contraceptives include a country's laws, the influence of foreign agencies, medical barriers, as well as social, ethical and political issues.

2.2.1.4 Perceived cost

The fourth component of the HBM is perceived cost. An estimated 120 million women, young and old, in developing countries do not use contraception, even though they do not want to conceive. The main reasons for delaying the use of contraceptive methods might be costs in terms of transportation fees, payment for contraceptive consultations and treatment and the time missed from housework, paid work or school work in the case of adolescents (Tadiar & Robinson 1996:79). This does not explain why many women with access to free contraceptives in the RSA also fail to use contraceptives. In a study on the cost of contraceptive services in Mexico, Hubacher, Holtaman, Fuentes, Perez-Palacios and Janowitz (1999:121) warn that if providers lengthened their workdays, increased their counselling time and dispensed more contraceptives during each visit, the overall cost per couple-year of protection would decline from the 1995 level of E273.99 (\$23.2) to E207.86 (\$17.6) (according to the official equivalent rate US\$1 equal E11.81) by 2010". At couples' level, cost reduction might include transport costs and time spent on consultations. Therefore by improving the service delivery system, the Mexican Ministry of Health managed to offer more cost-effective contraceptive services to clients.

The researcher found no similar studies on the LP. However, cost implications might hinder the use of contraceptive practices and services. If so, this would justify the need to persuade the LP Department of Health and Social Welfare to continue offering free contraceptive services and conduct more campaigns in all districts of the LP.

2.2.1.5 Efficacy

Efficacy means that the "effectiveness of a contraceptive method in preventing pregnancy is the standard measure against which other contraceptive methods are compared" (Rees 1995:35). There are two measures of efficacy, namely method effectiveness and user effectiveness. According to Roy and Johnsen (2002:8), method effectiveness is the protection a woman receives when a method is used correctly, while user effectiveness is the success of a method in preventing pregnancy. The WHO (1998a:6) found that 93,0% of women from a wide range of socio-economic and educational levels in five countries were successful in using natural contraceptive methods. The natural contraceptive methods included complete abstinence, periodic abstinence and coitus interruptus. This finding underscores the method efficacy and user effectiveness of natural contraceptive methods.

According to Hatcher, Rinehart, Blackburn, Geller, and Shelton (1997:154, 227), the "effective rate of condom use was 97,0% for beginners, while the effectiveness of oral contraceptives was 100,0% with combined oestrogen-progesterone pills. An estimated 50,0% to 75,0% of women for whom oral pills had been prescribed would consistently use them for a year, while 25,0% to 50,0% would stop using them within the first month of use."

Hatcher et al (1997:342) found that natural contraception "in the form of abstinence was 100.0% effective, but coitus interruptus (withdrawal), when used consistently and correctly, produced an 80.0% efficiency rate". Permanent sterilisation, which includes vasectomy and tubal ligation, was also highly effective. Vasectomy "is not 100.0% effective until all sperm in the reproductive system is ejaculated, which could take up to six weeks. It is essential that sterilised men return to the health care facilities for sperm counts until no sperm is detected in the semen. With regard to tubal ligation, method failure may result in ectopic pregnancies" (Hatcher et al 1997:384). In view of these findings, it is critical that contraceptive providers recommend effective contraceptive methods to their clients, including secondary school learners. This study attempted to establish whether secondary school learners were using efficient contraceptive methods.

2.2.1.6 Cues to action

The HBM includes cues to action. According to Janz and Becker (1998:11), specifically "what constitute cues to action and how they affect behaviour still needs intensive investigation. The use of mass media or other exposure to information from contraceptive providers might be influential in urging people to use a recommended effective contraceptive practice."

Kim, Kols and Mucheke (1998:4) maintain that contraceptive counselling is fundamental to inform clients about various methods for clients to make the right choice. Informed choice emphasises that clients select the method that best satisfies their personal, reproductive and health needs. Kim et al (1998:7) found that providers seldom tailored their discussion about contraceptives to specific clients' reproductive needs or health risks. Cues to action must occur to trigger the appropriate behaviour. Cues might be internal, like perception of bodily states, or external, like interpersonal interaction and the impact of communication media. Katz, West, Doumbia and Kane (1998:109) point out that "the intensity of a cue required to instigate action is presumed to vary with the level of psychological readiness to act". In this study, mass media campaigns, advice from doctors and school nurses and reminders from doctors and nurses were viewed as external stimuli.

2.2.2 Modifying factors

Factors that could modify secondary school learners' choices of contraceptives include demographic, socio-psychological and structural variables.

2.2.2.1 Demographic variables

Demographic variables include age, sex, race and ethnicity, religion and level of education. Demographic variables relate to the use of different methods of contraception. For example, secondary school learners and younger women more frequently use contraceptive pills than older

women (Neff & Crawford 1998:285; Thomas 1995:249). Therefore, learners' age might influence their decision to use contraceptives or not. The nature of a woman's relationship with her partner might influence her use of effective contraceptives. Calnan (1997:827); Condelli (1997:479) as well as Mullen, Hersey and Iverson (1998:977) found that women in stable relationships use contraception more regularly than women in casual relationships. The type of relationship might also affect contraceptive choice, because people in more stable relationships tend to have more frequent sexual encounters (Mullen et al 1998:977). Secondary school learners might not be in stable relationships therefore their choice of methods or the use of contraceptives might be adversely affected. Adolescents who belong to certain social groups or religions might also encounter specific barriers in choosing contraceptive methods.

2.2.2.2 Socio-psychological variables

Socio-psychological variables that could affect learners' decisions to use contraceptives include personality, social class, economic status and peer pressure. Secondary school learners might be influenced positively by peer pressure such as applying preventive measures despite a low individual motivational level. Mattson (1991:240) found general health motivation or readiness to be concerned about health matters an important aspect.

2.2.2.3 Personality factors

Personality factors can be positively or negatively associated with the practice of health behaviours (Murray & McMillan 1998:91).

2.2.2.4 Social class and economic status

Poverty might be a major problem for many secondary school learners in the LP. Even though secondary school learners obtain free treatment at the reproductive health clinics and free contraceptive services, many have to pay transport costs to and from the services. Adolescents from a low socio-economic status might not have the assertiveness to request services and the monetary capabilities to pay alternative providers. Poverty could also be an important factor influencing decisions on whether or not to use contraceptives (MacPhail & Campbell 2001:1620).

2.2.3 Application of the HBM in practice

The usefulness of a theory "is measured by its ability to provide clear directions and guidance for practice and research" (Mikhail 1981:81; Orbell & Sheeran 1998:159). The HBM enables practitioners to enhance clients' health behaviour by assisting them to break down perceived barriers to action (Charron, Serika, Becker, Jacober, Mansfield, White, Hughes, Dean-

McElhinny & Trail 2001:32; Conner & Norman 1996:79; Sutton 1998:1321). Components of the HBM other than beliefs can be manipulated to produce the desired outcome. For example, barriers to action can be minimised by reducing the financial cost of service. In the RSA, for instance, contraceptive services, TOP, and emergency contraceptive services are free of charge for anyone interested. Every client at these services is given a reminder in the form of a postcard as an information brochure in order to trigger the use of these services. School nurses disseminate contraceptive information to most secondary schools in the LP. The HBM is also used in preventive services such as contraceptive services.

One of the main attributes of nurses is an ability to foster good and effective interpersonal relationships with the clients as well as other health care professionals (Bhatti & Fikree 2002:112; Terry & O'Leary 1995:220; Volk & Koopman 2001:502). Understanding behaviour displayed by the client is essential if nurses are to obtain the cooperation and participation of clients in their own care. Burns and Grove (1992:29) and Neff and Crawford (1998:290) as well as Ogden (2003:426) state that the HBM helps to understand health-related behaviour (HRB). This implies that attempts to influence the behaviour of clients should be based on better knowledge of their motives and health beliefs. Nurses have the opportunity at clients' initial assessments to identify patients with potential risk of noncompliance and therefore help them reduce discomfort and inconvenience as well as support them positively. During the initial assessment of clients for contraceptives, nurses may discover inappropriate health beliefs or misconceptions about certain contraceptive methods; for example, that an injectable method makes one fat or infertile. Therefore, the HBM gives nurses the freedom to choose an intervention strategy that is pertinent to a particular client in a particular situation, based on personal judgement and knowledge of the variables that affect HRB. The HBM also alerts health care practitioners to various factors that should be considered in discerning the whys or why nots of preventive health care behaviours. Nurses can play a significant role in helping adolescents implement healthy behaviours. They can explain the relationships of the components of HBM to adolescents and also show clients how to monitor their own health, provide anticipatory guidance and empower clients with knowledge regarding effective practices (see figure 2.2). However, the nurse should be acquainted with the merits and demerits of different intervention strategies in order to make an informed choice.

2.2.4 Educational perspective

The literature review covered the impact of sexual education in various countries and some of the “best practices” available for the purpose of guiding practitioners in their selection of programmes

and interventions, including community-based services such as sport, youth clubs, school-based clinics, comprehensive sex education and skills training, and sex education curricula based on

social learning theory and skills training (Franklin & Corcoran 2000:42; Laraque et al 1997:326). The United Nations Population Fund (UNPF) (1998:10) expressed concern over the education backlog among women in Africa and Asia, stressing that seven years of education, especially for girls, is the critical threshold for a decrease in the total fertility rate (TFR) of any country.

In Brazil, young women with no sex education have an average of 6,5 children, while those with secondary school training have only 2,5 children (UNPF 1998:10). The McMaster Teen Programme, (see Table 2.1) a pregnancy prevention programme for adolescents in Grades 7 and 8 in Canada, helps students avoid unplanned pregnancies by providing them with information on sexuality issues, communication and problem-solving skills, and opportunities to practise avoidance (Thomas, Mitchell, Devlin, Goldsmith, Singer & Watters 1992:52) . The McMaster Teen Programme further introduced the Safer Choices Programme, also a sexuality education programme, in high schools in San Jose, California and Houston, Texas in the USA to encourage abstinence as the safest way to avoid pregnancy or STDs and to encourage condom use among sexually active students (Agha et al 2001:149; Kirby 2001:24; Stout 1997:176). Students received lessons and participated in skill-based and interactive activities in school health protection, curriculum, peer resources and school environment, parent education and school-community linkages (Kirby 2001:28; Van der Pligt, Zeelenberg, Van Dijk, De Vries & Richard 1998:54).

Aarons, Jenkins, Raine, El-Khorazaty, Woodward, Williams, Clark and Wingrove (2000:239) found that female students in the experimental group (who received sex education) were more likely to remain virgins at the six month follow-up than the control group. Sexually experienced female students in the experimental group were also more likely to use contraceptives than sexually experienced female students in the control group. In studying the impact of an HIV/STD prevention curriculum for adolescents, Blake, Ledsky, Lohrmann, Bechhoffer, Nichols, Windsor, Banspach and Jones (2000:13) found that male students in the experimental group who were virgins at the beginning of the programme were more likely to remain virgins in the next year than virgin males in the control group. Moberg and Piper (1998:138) examined the sexual risk behaviour outcomes of a healthy-for-life project and found that males who from the experimental group were more likely to have greater contraceptive efficiency during the next year than males in the control group. Table 2.1 illustrates some of the results of the McMaster Teen Programme in various countries.

Table 2.1 The McMaster Teen Programme

STUDY	INTERVENTION	SAMPLE	KEY FINDINGS
<p>An impact evaluation of Project SNAPP: an AIDS and pregnancy prevention middle school programme (9).</p>	<p>Implementation of a theory-based curriculum to delay the onset of intercourse and increase use of condoms.</p> <p>The intervention employed interactive learning activities, emphasised skill building, and was implemented by well-trained peer educators who were either young HIV-positive males, teenage mothers or other young people.</p> <p>The primary purpose was to evaluate the impact of the project SNAPP on the initiation of intercourse, sexual activity, use of condoms and birth control pills, pregnancy and STDs, and beliefs, attitudes and self-efficacy that may be related to those sexual behaviours.</p> <p>The intervention took place on 8 sessions in a two-week period.</p> <p>Programme characteristics:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Focus on changing sexual behaviours. <input type="checkbox"/> Theory based. <input type="checkbox"/> Teach students in small groups. <input type="checkbox"/> Use interactive methods. <input type="checkbox"/> Provide basic information. <input type="checkbox"/> Address social pressures. <input type="checkbox"/> Address unprotected sex. <input type="checkbox"/> Teach refusal skills. 	<p>Seventh grade classes, their teachers and nearly all students of the 102 classrooms were randomly assigned to receive the existing curriculum (more didactic nature on reproduction, pregnancy prevention, HIV and STDs) or the existing plus the intervention.</p> <p>Mean age: 12,3 years, 46% males, to complete a total of 1 657 students at baseline and 5 months and 17 months follow-up evaluations.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Changes in variables were more apparent at 5 than at 17 months. <input type="checkbox"/> Students in the SNAPP group increased their knowledge to about 10%, after 5 months and 17 months follow-up. <input type="checkbox"/> The greatest impact was on the following items: Parents' permission if under 18 years of age to give birth control or treat for STDs/HIV. Birth control pills do not prevent STDs/HIV. <input type="checkbox"/> Two items measuring beliefs showed statistically significant change (from 0,36 in the experimental group to 0,25 in the control, $p=0,005$) at 5 months follow-up and at 17 months follow-up this change was not statistically significant (0,46 versus 0,35), namely : Willingness to be friends with HIV-positive persons. Friends believed one should always use a condom during sex.

<p>Impact of a school-based AIDS prevention programme on young adolescents' self-efficacy skills (10).</p>	<p>Implementation of a school-based AIDS prevention programme (15 sessions curriculum taught in 7th and 8th grades) to reduce risk behaviours that can lead to the acquisition and transmission of HIV by teaching behavioural skills that enhance adolescents' self-efficacy to resist risk behaviours and adopt AIDS/STDs prevention practices.</p> <p>Intervention characteristics:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Information of HIV infection. <input type="checkbox"/> Information about drug abuse and other risk behaviours. <input type="checkbox"/> Skill building activities to enhance decision-making and to strengthen their ability to resist social pressures and influences to engage in risky behaviours, obtain preventive materials and adopt prevention practices. 	<p>15 school districts were randomly assigned to either the treatment or the delayed treatment/control group.</p> <p>The sample size consisted of 2 318 students (1 418 treatment only and 900 controls). 1 943 were used in the analysis due to dropouts.</p>	<p>The intervention had a significant effect on students' self-efficacy and prevention practices shown by observed discrepancies in both groups in the G2 values (Ratio chi square in a measure of congruence between a model and a data set).</p> <p>Students who received the intervention increased their self-efficacy to obtain condoms and foam as well as their intentions to use both condoms and foam in the future significantly more than students in the control group.</p>
--	---	--	---

Trends in reproductive health knowledge following a health education intervention among adolescents in Zimbabwe (8).

Collection of baseline information.

Implementation of a programme designed to improve knowledge, reproductive behaviour, sexual and reproductive health.

The programmes' characteristics were:

- Male and female reproductive functions, anatomy, sexuality, STDs and AIDS.
- Human sexuality and responsible sexual behaviour.
- Unwanted/unplanned pregnancies and contraception.
- Posters were given to teachers.

A randomised controlled study was undertaken among secondary school pupils in rural and urban areas, in boys only, girls only, co-education, boarding and day schools. A total of 1 689, 1 605 and 1 589 pupils participated in the study at the beginning, 5 months and 9 months follow-up, respectively. Three schools (one urban area and two rural) were chosen to serve as controls.

Mean age of the population: 13,5 years. 48% were males. Of the 1 689 who were enrolled, 1 159 were randomly allocated to the intervention and 530 to the control groups.

- There was an overall increase in knowledge on menstruation in both groups.
- Students from the intervention schools were more likely to have correct knowledge over time on aspects of reproductive biology.
- Knowledge about family planning increased at 9 months follow-up to 51% in the experimental and 32% in the control group.
- A linear increasing trend of pregnancy at first sexual encounter was seen in both groups.
- There was an increasing trend in overall knowledge of STDs of 43% in the experimental and 27% in the control group at 9 months follow-up.

Evaluation of an educational programme to prevent adolescent pregnancies (6).

Implementation of a school-based sex education programme (McMaster Teen Programme) to decrease rates of early sexual intercourse, to improve birth control use (without education concerning contraceptives), and to decrease the incidence of pregnancies among teenagers.

McMaster Teen Programme characteristics:

- Accurate information about female/male reproductive systems and adolescent development.
- Strategies for developing responsible relationships.
- Assist adolescents to communicate their thoughts and feelings.
- Learning to use the systematic problem-solving skills in decision-making related to their sexual activities.
- Enable adolescents to practise and implementing their decisions.

Randomised controlled trial with a four-year follow-up in which students allocated to the experimental group received the McMaster Teen Programme (MTP), while students in the control schools received the conventional sex education programme.

The total number of students in the experimental group was 2 331 students and the control group had 1 843. Selection criteria included students under 17 years of age.

There were no statistically significant differences between groups in time to first sexual activity both in males $X^2(1)=0,50$, $p=0,48$; and time to first pregnancy $X^2(1)=1,90$, $p=0,17$. Significantly more experimental group males reported always using birth control at 1 year (difference 8,9%; 95% confidence interval=0,4, 17,4). Limitations of the programme that may have influenced the results were the exclusion of contraceptive information and its short duration.

No easy answers: research findings on programmes to reduce teen pregnancy.

Research review: effectiveness of five types of teen pregnancy prevention programmes.

Studies reviewed nearly 80 programmes, meeting four criteria:

- Programmes need to address both postponing sex and using contraception. In these high risk populations: prevention initiatives should address such other factors as poverty, lack of opportunity, family dysfunction and social disorganisation.
- At the present time, it is not known whether or not abstinence-only programmes delay the initiation of intercourse. Nevertheless these programmes may be appropriate for junior high and middle school youth.
- Programmes that focus upon sexuality, including sex and HIV education programmes, school-based clinics and condom availability do not increase the frequency of sexual activity.
- Improving clinic protocols, practices, and community outreach can increase adolescents' use of health services.
- Multicomponent programmes: educational components with clear messages about avoiding pregnancy or STDs and the provision of contraceptives may increase use of contraceptives and decrease pregnancy rates.

- Educational programmes: Those that emphasise abstinence only, abstinence + information and a broad range of reproductive health topics and those that focus specifically on STD/HIV prevention.
- Access improvement: to contraception, including family planning services in clinics, school-based health centres and school condom availability.
- Programmes to encourage parent-child communication on sexual topics.
- Multicomponent: including a range of community and media activities.

- Published in a peer reviewed professional journal, report or volume.
- Experimental or quasi experimental designs were used.
- Employed a size of at least 80 youth per programme.
- Measured impact on sexual or contraceptive behaviour or pregnancy or birth rates.

<p>Sexually transmitted diseases, HIV and pregnancy prevention.</p>	<p>Educational programme for the use of prescription contraceptives and condoms to avoid sexually transmitted diseases including HIV.</p> <p>Eight weekly meetings focused on one or more aspects of protection motivation theory. Facts about AIDS, STDs, contraception and human development were also provided.</p> <p>Data about practices were obtained at baseline and 6, 12 and 18 months later, using a culturally and developmentally appropriate risk assessment tool.</p>	<p>Randomised controlled trial. 383 African-American youth aged from 9 to 15 years, 206 in the experimental group and 177 in the control group.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> ¾ of the sexually active youth used some form of contraception in each 6 months round with almost half using combinations of contraceptives. <input type="checkbox"/> Receipt of an AIDS education intervention was associated with the use of more effective contraceptive practices. <input type="checkbox"/> After receiving the intervention, more than 80% of the youth who used oral contraceptives also used condoms. <input type="checkbox"/> Knowledge of AIDS was positively associated with the use of condoms.
---	--	---	--

Source: Adapted from McMaster Teen Programme: Health Education and Behaviour 2001:145-210

2.3 BENEFITS OF PREVENTIVE PROGRAMMES AND EFFECTIVE CONTRACEPTIVE USE

Fathalla (1997:64) found that sexuality programmes could significantly improve the health and status of women in general. They would be able to complete their education, maintain gainful employment, make independent marital decisions and have more choices open to them.

Effective contraceptive use has the following benefits for adolescents:

- ✍ health growth and development
- ✍ protection from early and/or unwanted pregnancies can provide protection from STDs/HIV
- ✍ greater opportunity for education
- ✍ job possibilities
- ✍ prevention of unsafe abortions
- ✍ improved quality of life (Fathalla 1997:64)

Properly planned and effectively implemented sexuality programmes would encourage adolescent health reproductive behaviours in all nine provinces of the RSA, especially the LP which is mainly a rural area. Interventions that focus on early childhood literacy, youth development, community volunteering, and nurse home visiting would complement more traditional sexuality education programmes. Such programmes should be incorporated with an ecological approach and demonstrate that individual, family, school, community, and social policy characteristics are all associated with sexual behaviours, adolescent pregnancies and STDs (Santelli, Lowry, Brener & Robin 2000:1586).

In the USA, Santelli et al (2000:1586) found that young people who receive interventions from infancy through elementary school have a greater likelihood of delaying childbirth in their teenage years. Adolescents involved in community volunteer service learning programmes that include volunteering and classroom activities exhibited a lower likelihood of engaging in sexual activities and becoming pregnant. Similarly, adolescents involved in church volunteer services, and regularly attending church services and church meetings, were less likely to be sexually experienced at a younger age (Gogo 1997:48; Lollis, Johnson & Antoni 1997:559). Adolescent programmes that combine youth development with sexuality education appear to provide a promising approach for delaying sexual initiation and reducing pregnancy and childbearing among adolescents.

2.4 ADOLESCENTS' KNOWLEDGE OF SAFE SEXUAL BEHAVIOUR

A dependence on self-management could influence adolescents to be sexually active without knowledge of contraception and contraceptive use. In the USA, the UK, the RSA and SSA, the

proportion of sexually active adolescent girls, who use contraceptives regularly, is relatively small. Several factors contribute to this low rate, including difficulties in obtaining contraceptive supplies, limited numbers of contraceptive services, and the value that many cultures attach to contraceptive practices (Allen 2001:111). Anecdotal material suggests that the situation is the same or even worse in developing countries. Adolescents may be ignorant about reproductive physiology and the implications of sexual intercourse. Contraception might remain a source of embarrassment to many adolescents (MacPhail & Campbell 2001:1616; Ndubani & Höjer 2001:111).

In their study in the USA, Crosby and Yarber (2004:419) reported that adolescents in rural areas were at greater risk of unintended pregnancies and negative birth outcomes because of limited availability of health services. In a comparison, family planning services in rural and urban areas of the RSA, Erasmus and Bekker (1996:40) as well as Thompson, Frazer and Anderson (1997:64) found that family planning and prenatal services were provided predominantly in urban areas. Furthermore, there was a lack of diversified health services in rural areas, and no planned parenthood clinics or TOP services in these rural areas.

The LP, comprising mainly rural areas, lacks diversified health services, because there are few planned parenthood clinics or TOP services in some areas. Professional nurses and doctors are not always available at remote clinics, therefore adolescents in these areas would not be catered for if they opted for TOPs early in their pregnancies. Clinic hours coincide with school hours (Frank, Loda, Ilene, Speizer, Kerry, Martin, DeCarqueskatrud, Trude & Bennett 1997:160).

According to the WHO (1996a:26), despite the advances in contraceptive technology, adolescents' access to reliable methods of contraception remained underutilised. Factors such as long distances to clinics, lack of transportation, and clinic hours coinciding with school hours, could make adolescents' access to contraceptive services nonexistent or expensive. Adolescents might feel intimidated by meeting their teachers, their parents and other community members at contraceptive services. This could contribute to adolescents' underutilisation of these clinics (Little 1997:44; Wood et al 1998:21).

Adolescents might perceive contraception as a source of embarrassment, resulting in limited knowledge and ineffective utilisation of contraceptives (Frank et al 1997:160).

2.4.1 What is sexuality?

Sexuality means not only sexual practices, but also what people know and believe about sex, particularly what they think is natural, proper and desirable. Sexuality includes people's sexual identities in all their cultural and historical variety. It can be assumed that while sexuality cannot be divorced from the body, it is also socially constructed (Finer, Darroch & Singh 1999:232).

The present study wished to understand the societal normative and cultural contexts in which individuals' knowledge, attitudes and behaviours are constructed. Much research in developing countries has concentrated on sexuality at the level of the individual. Focusing on the individual level assumes that sexual behaviour is the result of rational decision-making based on knowledge (Frank et al 1997:161).

Attitudes to sexual and reproductive behaviour vary considerably between different social and cultural groups and over time. In many traditional societies, child marriages and early pregnancies were fundamental characteristics of the social system, while in others, reproduction during adolescence was viewed as a sign of improper conduct to be condemned. Adolescent sexuality cannot be understood within a purely biological frame of reference, but should be seen as a social category whose composition and implications are liable to change according to interacting traditions, social institutions and values (Dutra, Miller & Forehand 2000:62).

2.4.2 Safe sexual behaviour

A priority for young people is to understand their sexuality as well as their procreative capacity. Until youth can "own" their fertility, they cannot integrate their sexuality with their personality and enhance their level of maturity. In the RSA sexuality education has been prioritised as a solution to a variety of adolescent problems (Van der Akker, Andrew & Murphy 2000:767).

In a study in a South African township to evaluate the impact of sex education on adolescents' knowledge of safe sex and the prevention of pregnancy, MacPhail and Campbell (2001:1613) found that 92,0% of the boys and 79,0% of the girls in Grade 9 had had sexual intercourse. In Grades 7 and 8, at least 47,9% of the girls had already had intercourse (MacPhail & Campbell 2001:1621). Peer influence has far-reaching effects on both male and female adolescents' sexual behaviour. In their study in Zambia, Feldman et al (1997:460) found that the respondents engaged in risky sexual behaviours and two-thirds of them had multiple sexual partners. Many young African men and women seem caught between traditional and modern influences. The traditional belief that a man must be sexually persistent, vigorous and productive still determines sexual behaviours. MacPhail and Campbell (2001:1614) as well as Otoide, Oronsaye and

Okonofua (2001:79) found that although there was widespread awareness of preventing STDs and HIV, the use of condoms did not change.

Muuss (1996:12) as well as Silberschmidt (1999:20) found that adolescent boys boasted of having many girlfriends, encouraging each other to conquer adolescent girls at high school . Frank et al (1997:163) as well as Rycek, Stuhr, McDermott, Benker and Swartz (1998:748) found that young people commenced being sexually active from 11 to 12,5 years, and had unprotected sexual intercourse, fostered negative attitudes towards family planning services, and both male and female adolescents were misinformed on several topics related to contraception.

Adolescents engaging in risky sexual behaviours with multiple sexual partners indicate a need for comprehensive adolescent reproductive health services. These services must be available, user friendly and accessible to adolescents.

2.5 FACTORS THAT INFLUENCE ADOLESCENTS' LEARNING ABOUT SEXUALITY AND CONTRACEPTION

2.5.1 The family

The family is "an entity maintained by the mutual interaction of its members. As a result, what happens to one member affects the others" (Kallen, Stephenson & Doughty 1999:156; Malcolm & Stone 2003:1254; Viljoen 1997:70). The effect depends on the level and nature of the relationship between the different family members. Adolescents' choices about contraception and contraceptive practices are influenced by family relationships but also by aspects such as race, cultural practices and beliefs.

2.5.1.1 Parent-child communication, relationship with parents

The home remains a major source for learning about sexuality. Parents should ensure that children grow up capable of making informed decisions about their sexuality. Parents should not only act as role models, but also communicate freely on sexuality, development and sexual behavioural patterns. Communication is essential for increasing responsible sexual behaviour among adolescents. This parent-child dialogue should begin during primary school as boys and girls often become sexually active before Grade 7. Girls aged 12 have delivered babies in some SA hospitals and in the USA (Lamanna 1999:192; Magagula 1998:3; Manlove , Terry-Human, Papillo, Franzetta, Williams & Ryan 2001:18; Unger & Molina 2000:241).

A sexual health programme for adolescents was introduced in the RSA in 1984 with the main aim of providing education and contraceptive services to sexually active adolescents (males and females). This programme formed part of the preventive and promotive health services for the

country. The failure of this programme was reflected by an increased number of adolescent pregnancies and backstreet abortions (Mayekiso & Twaise 1993:22; Mogotlane 1993:3; Nqxabasi 1997:59).

The SA government attempted to tackle problems associated with adolescent pregnancies by strengthening parents' responsibilities on issues related to adolescent sexuality in the home. Some parents and religious leaders attacked the introduction of sex education in SA Indian schools as a pilot programme in 1993, expressing fears that their children would be corrupted by such knowledge (Tiltson & Maharaj 2001:91). However, parents play a relatively small role in the direct transmission of sex information to their children. Direct intra familial communication about sex might therefore be negligible for three of the parent-child relationships: father-son, father-daughter and mother-son relationship (Nicholas 1998:891). In 1996, the SA government further made the dissemination of information about the prevention of pregnancy and the use of contraceptives for persons younger than 16 one of the NHS targets (DOH 1998a:12).

Parents nevertheless remain minimally involved in the transmission of sex information to their children and encourage misconceptions. For example, children are told not to do something because it is "taboo", without understanding the consequences of their actions (Nicholas 1993:298; Nicholas 1998:892; William & Currie 2000:132).

Parents are the primary sex educators of their children, and need to be encouraged and empowered to provide sex information to their children. There is inadequate communication about sex between parents and children, particularly between fathers and their children (Kasen, Cohen & Brook 1998:69; Kumar, Uduman & Kurran 1997:432). According to Hoffman (1998:238), contraception in the RSA is not a comfortable area for parent-child communication. Richskim (1999:811) contends that when the possibility of sexual activity is broached, parents' anxieties, fears and embarrassments interfere with open, honest discussion. MacPhail (1998:72) found that many obstacles prevent clear communication about sex between parents and children. Nicholas (1998:893) as well as Rogo, Lem, French and Hord (1998:2) found that where parents and adolescents discussed sex topics, parents indicated that certain topics had been discussed, whereas the adolescents felt that the same topics had been neglected.

2.5.1.2 Benefits of parent involvement in sexual issues

In a national sample of minority teenagers in the USA, Miller et al (1999:325) found that generally parent-child communication was associated with a lower frequency of intercourse and fewer sexual partners. In the USA, Bearman and Brückner (1999:18) report that strong parent-adolescent emotional connections and participating in shared activities with parents were associated with later adolescent sexual debuts and a lower likelihood of pregnancy. The benefits of parent-child ties seem to operate even through peer influences. These resulted in higher levels

of satisfaction with mother-adolescent relationships, delayed sexual initiation, increased contraceptive use, less frequent sexual intercourse and a lower likelihood of pregnancy (Dittus & Jaccard 2000:273).

Miller, Levin and Whitaker (1998:1543) found a strong association between parent-child discussions and consistent condom use by adolescents. Romer, Stanton, Galbraith, Freigelmann and Black (1999:1061) found that girls who discussed with their parents how pregnancy occurred had a lower likelihood of becoming adolescent mothers than girls who did not talk to their parents. In 1995 Holtzman and Rubinson (1995:238) examined never married 13 to 19 year-old USA adolescents about their HIV/AIDS knowledge in the USA. The results indicated that students who discussed HIV with their parents were less likely to report multiple sex partners or to have unprotected sexual intercourse. In contrast, students who discussed HIV with their peers were more likely to have multiple sex partners.

Parents in the RSA should be assisted by the government and professional people like teachers, nurses and doctors to realise the importance of open discussions about sexuality with their children. The quality of parent-child relationships has a vital association with adolescent reproductive health. Adolescents in the USA who had close emotional bonds and satisfying relationships with their parents were respectively less likely to engage in sex, more likely to use contraception, and less likely to get pregnant (Heilman 1998:204; Updegraff & Obeidallah 1999:64). In addition, if parents talk to their adolescent children about sex, contraception and STDs, adolescents displayed a higher likelihood of making effective choices about their sexual behaviours (Frank, Papini & Speizer 2003:380).

2.5.1.3 Monitoring

Parents who monitor their children's behaviour can help to delay their sexual debuts (MacPhail & Campbell 2001:1614; Ndubani & Höjer 2001:109). High levels of parental monitoring among African-Americans were associated with a lower likelihood of very early sexual debuts (age 10 or earlier), according to Smith (1997:341) as well as reduced rates of sexual initiation at later ages. In New Zealand, Elliot, Crump, McGuire and Bagshaw (1999:121) found that many adolescents feel that as long as their sexual behaviour is not explicitly brought to their parents' attention, their parents will remain silent and hope that things will take care of themselves. In families sharing sex information, children can make informed decisions. Parents should be included in education programmes. Parent workshops should be considered to encourage breaking down barriers to intra-familial communication about sexual issues.

Kim, Kotchick, Dorsey, Forehand and Ham (1998:218) maintain that adolescents of parents who monitor their behaviours are at lower risk than adolescents who live apart from their parents. Hutchison and Conney (1998:193); Miller et al (1999:321) as well as Taris and Semin (1998:73)

found that adolescents whose parents were alcoholics or drug users were more likely to experience problems in sexual matters.

2.5.2 The school

The role of schools in sex education should not be overemphasised at the expense of what happens at home. Schools should promote partnerships that will increase parental involvement in fostering the social, emotional and academic growth of learners since sex education is only part of the total integrated education for living. The school and the community should cooperate as a unit to provide sexuality and contraceptive education to learners within its boundaries (Jaccard, Ortlus & Gordon 1998:259).

2.5.3 The teacher

School teachers/educators and other members of the community should debate about sex education and the specific content to be offered. However, learners should not progress through adolescence instructed and counselled primarily by their peer groups about their sexuality and contraception. Formal educational approaches to sexuality sometimes consist of presenting a film or a lecture on the dangers of venereal diseases. The school curricula should enhance sex education at secondary schools (Ayaniwura 2004:8; Lunt & Livingston 1996:91; Santelli, Robin, Brener & Lowry 2001:203; Stevens-Simon 1998:411).

Donald, Lazarus and Lolwana (1999:28) as well as Spelzer et al (2001:180) found that school departments support the idea that the school should promote partnerships to increase parental involvement and participation in AIDS prevention. There was opposition from parents and religious leaders, especially in Indian schools, to some sex and AIDS education programmes initiated since 1994. Almost 75,0% of first-year university students were sexually active without acquiring accurate contraceptive information and without maintaining safe sex practices (Lane & Day 2001:38).

Sex education in the US schools increased the probability that adolescents would acquire more accurate information at school than through other means (Guttmacher et al 1998:192). In the RSA and other countries, schools were proposed as optional sites for providing contraceptives to adolescents, but political barriers prevent school-based clinics from providing contraceptives (Department of Education 1994:5). Some school-based clinics in the USA and UK offer pregnancy tests, treat STDs and provide counselling on pregnancy and HIV (Frank et al 1997:162; WHO 1998a:2; WHO 1999:4). School health nurses in the RSA do not provide contraceptive services. School hours coincide with clinic hours, resulting in poor use of contraceptives by sexually active adolescent learners (Ehlers et al 2000:48).

2.5.4 Health education officers (hospital and clinic professionals)

Adolescent pregnancy presents unique risks and special needs for the adolescent mother, her pregnancy, and her infant. The best choice for most young girls would be to delay pregnancy until they are physically and emotionally mature and financially secure (Ehlers et al 2000:49). Pregnant adolescents should have access to counselling, emergency contraceptives and TOP services. Adolescent mothers require adequate prenatal care coupled with long-term postpartum follow-up to enhance the chances of healthy outcomes for both mother and child. Richard (1998:336) as well as Smith and Maurer (1995:595) emphasise that sex education should be integrated into an interdisciplinary programme on health education. The main role of health education officers should be to instigate, plan and evaluate health education, including sex education for schools. Knowledgeable persons should talk to children about sexual issues and facilitate workshops for parents about the information provided, contraceptives and HIV/AIDS.

2.5.5 Peer influence

Peer pressure is a significant factor in the initiation of smoking, drug use and sexual involvement among adolescents. Children spend a lot of time with their peers, who influence them. Joffe (1999:172) examined why adolescents became sexually active and found that peer pressure was a significant factor in teenage sexual behaviour. Marsiglio and Mott (1997:159) maintain that variables such as personality and family relationships determine who has the greater influence, parents or peers. Furthermore, conformity to peer pressure could result from lack of parental attention, interest, warmth and understanding (Marsiglio & Mott 1997:159).

Bekaert (2002:39) emphasises that sexual behaviours are learned, and parents and peers are the two major socialisation agents. Wilson and Williams (2002:255) found signs of tension among adolescents and increased rebellion against authority at home and at school. If family relationships were supported within their families, adolescents' dependence on peers might be reduced (Muyinda, Kengeya, Pool & Whitworth 2001:359; Myers & Midence 1998:20).

2.5.5.1 Sexual information provided by peer groups

Many adolescents entertain the idea that being sexually active is fashionable, and that being sexually inactive is a sign of abnormality. They might, therefore, become sexually active and conceive to be accepted by their peers. The extent to which peer groups influence sexual behaviour can be linked to the extent to which peer groups are used as sources of information on sex-related aspects.

Most adolescents turn to their peers as the principal source of information on sexuality (Bayona

& Kanji-Murangi 1996:7; Beake & Zimbizi 1996:230; Elliot et al 1999:122). Lindsay (1995:19) found that 78,0% of young people aged 11 to 19 years received information on sexuality from school friends. Mayekiso and Twise (1992:22) found that peer groups were the main source of sexual information among adolescents.

2.5.6 Mass media

Television and radio programmes have great potential for disseminating sexual information. Television is not the only source of sexual information available to adolescents, but is an accessible and compelling one. Television can portray human sexuality in a socially responsible manner or as degrading and high-risk behaviours. Television can also make irresponsible sex behaviours appear glamorous or without any negative consequences for the parents and/or children (Briggs & Blinkhorn 2002:57; Morrison 1999:537).

2.6 VARIABLES AFFECTING THE LIKELIHOOD OF ADOLESCENTS' UTILISATION OF REPRODUCTIVE HEALTH SERVICES

Perceived benefits of and barriers to contraceptive services and contraceptive health providers could influence adolescents to utilise reproductive health services if the PHC principles are adhered to.

The WHO (1998d:16) defined PHC at Alma-Ata as “essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community. It is the first level of contact of individuals, the family, and the community with the national health system, bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care service.” In line with the NDOH’s policy in the RSA, mother, child and women’s health (MCWH) (including adolescents) should form an integral part of PHC services. Accordingly, accessible services for adolescents should be based on the following (Dennill et al 1995:98; DOH 1997a:108-118; WHO 2002:4):

Equity. Every adolescent should have equal access to adolescent services.

Accessibility. Services need to be expanded to reach all adolescents in the country including the most remote areas.

Affordability. The level of health care should be in line with what adolescents can afford. No adolescent should be denied reproductive health care because of their inability to pay.

Availability. There should be sufficient and appropriate services to meet the particular health needs of the adolescent.

2.6.1 Utilisation of contraceptive services

The location of the clinic is an important factor for young people. Reliable transportation for routine clinic use becomes even more important in the case of emergency reproductive health issues and for adolescents who live in remote areas. Kunene (1995:50) studied 210 adolescents at two senior secondary schools near Empangeni, in KwaZulu-Natal and found that they were unable to use the health centre because it was too far away, they did not know how to get there, and they needed transport. Although the SA government adopted the Reconstruction and Development Programme (RDP) as a means to built health facilities in various districts, many districts still have inadequate health facilities.

A range of different resources is needed to enable learners to make informed decisions about the outcomes of unplanned pregnancies. An opportunity to discuss the matter with someone outside the family lessens pregnant mothers' sense of isolation (Boult & Cunningham 1992:304; Gillies 1998:21; Goosen & Klugman 1996a:333). When counselling services are provided, issues such as confidentiality, the type of counselling, the amount of space for counselling services and transportation need to be considered (Goosen & Klugman 1996a:333).

Mothers' inability to talk to someone renders them incapable of deciding whether to keep their babies or use CTOP services or not (Makhetha 1996:46; Mkhize 1995:29). Some SA studies of Black adolescent pregnancies failed to address the relationship between the maternal position of hiding the information from everyone else and deciding to use CTOP services (Pearson 1999:58). However, the CTOP decision could be seen as taking responsibility for an unfortunate and undesired event that could have been prevented by using contraceptives or accessing emergency contraceptives (Flisher & Chalton 2002:238; Nyazema 2000:14).

Pregnant adolescent students are usually the last to receive attention while teachers are busy interacting with many students at a time (Somers & Fahlman 2001:193). Counselling is crucial. Through counselling, providers help clients make and carry out their own choices about reproductive health and family planning. Effective counselling could help clients to use contraceptives longer and more successfully.

2.6.2 Consultation

In the RSA, the national provincial departments are required to consult regularly and systematically with all role players involved in the provision and use of all services. Consultation gives citizens a chance to contribute to public service delivery thereby promoting and maintaining cooperative relationships between service providers and clients. Webb (1998:12) found that most of the respondents were particularly concerned about providers'

attitudes, describing service providers as "unkind, rude, brusque, unsympathetic with young people, unco-operative, judgmental and outright hostile". Adolescents' decisions to seek health care or not were influenced by factors such as honesty, respect and confidentiality from the health care providers (Mnyrka, Klep, Kvale & Ole 1997:180; Senderowitz 1997:27) .

Adolescents in the Northern Province (NP) reported unfavourable experiences with clinic nurses (Wood et al 1997:27; Netshikweta 1999:37) . For example, nurses asked irrelevant questions and if they did not reply to these questions, they were scolded. Such behaviour discouraged young people from coming back to the ARHC. In Soweto clinics in the RSA, clinic nurses refused to supply condoms to boys aged 11 and 12, telling the boys they were too young to have sexual intercourse (Kunene 1995:49). These findings indicate that some health professionals have negative attitudes towards young people using ARHC. The present researcher wished to explore whether similar situations deter adolescents in the LP from using ARHC.

2.6.3 Scheduling of clinic hours for adolescents

Clinic hours should be investigated in specific areas, and efforts made to enhance accessibility. The organisation of health services seems to be another significant factor influencing the utilisation of these services. Since 1991, contraceptive services have been integrated with PHC. These PHC services became widespread, especially in rural areas, but many single-purpose clinics for contraceptive services remain in urban centres. In some clinics there was complete integration within the same health care centre delivering all services at all times. In other clinics, there are special days for different services, or all services provided every day by different health care providers. Especially in the rural areas of the LP, almost all clinics are integrated, using a supermarket approach. All services are rendered to clients every day by health care providers. In some of the clinics there are not enough health workers, therefore clients have to wait long for a health care provider.

There is inequity in access to effective contraceptive services, particularly in previously disadvantaged areas as well as in many high density urban and semi-urban areas and informal settlements (UNPF 1998:49). Rigid and relatively short clinic hours for adolescent consultations (generally from Monday to Friday, 08:00 until 13:00 or 16:00) reduce service availability and can contribute to many hours of waiting by adolescents. School-going children cannot attend at these times and cannot wait for many hours. The availability of contraception is further reduced at clinics where contraceptive services have not been fully integrated with PHC services.

In Senegal, Senderowitz (1997:28) found that although a specially designed adolescent clinic was established, it was perceived to be unsuccessful as it was not accessible to adolescents after 16:00. Special hours should be set aside for adolescent services if the reproductive health services are integrated with PHC services (Netshikweta 1999:44; Senderowitz 1997:28; Unger & Molina 2000:239; Webb 1998:17). Special hours or special clinics are important for adolescents

who might hesitate to seek reproductive health services (Crouch 2002:83; Harden & Ogden 1999:143; Wright, MacFarlane & McPherson 2000:102).

The WHO (1995:6) emphasises that family planning, especially condom use among adolescents, should be promoted and ensured in all contraceptive services to prevent unwanted adolescent pregnancies and protect adolescents against STDs. Furthermore, adequate and appropriate equipment and supplies must be maintained and held in stock so that contraceptives can be offered when needed. (WHO 1996a:26). Failure to provide adolescents with methods of their choice or continual contraception because of lack of stock might hamper the utilisation of such health services by adolescents.

Adolescents are attracted to places that feel comfortable, provide privacy and ensure confidentiality (Senderowitz 1997:14, 27; Varke 1999:9; Woods & Theron 1999:151). They want to be attended to by health professionals who express care and concern in regard to their health problems. Adolescents expect warmth, compassion and a willingness to communicate in a straightforward, understandable fashion.

2.6.4 Clinic hours

In the USA, Belfield (1998:30) found that the average waiting time for an initial visit was about an hour due to staff shortages, late arrivals of staff, extended tea and lunch breaks, socialising, inflexible routines, inefficient filing systems, poor client bookings and failure to see clients in proper sequence. Jones (1996:32) found that adolescents hated waiting for long periods for contraceptive service providers to serve them.

2.7 SECONDARY SCHOOL LEARNERS' ATTITUDES AS PERCEIVED BARRIERS TO CONTRACEPTIVE USE

2.7.1 Attitudes towards contraceptives

Adentunji (2000:199) identified embarrassment, time spent in the reproductive health clinics and long waiting times as barriers to adolescents' contraceptive usage. Also a lack of knowledge about contraceptives and non-use of contraceptives contributed to adolescent pregnancies. Low income Black adolescents had more negative attitudes towards birth control and used contraceptives less effectively than their White counterparts (Rhinehart & Gabel 1998:61; Wright 1997:36).

Increased sexual activity among adolescents is not always accompanied by increased knowledge about sexual functions, procreation, or contraceptive use (Mbananga 1999:45; Smith & Maurer 1995:587). Many adolescents believe that a woman cannot fall pregnant during her first

intercourse or without an orgasm but, in fact, several conceive during their first sexual experience or within the first six months of becoming sexually active (Murray, Zabin, Toledo-Dreves & Lvengo-Charath 1998:150). Many adolescents also believe that people cannot contract HIV/AIDS, provided they wash their genitalia soon after intercourse (Agha et al 2001:149; Bankole, Singh & Haas 1998:122). In the USA, Heber and George (1999:28) found that both male and female adolescents were uninformed or misinformed about several topics related to contraception. Adam and Pittman (1999:40) found that:

- ✍ the prevalent onset of adolescent fatherhood among their respondents was between 14 and 18 years
- ✍ 43,0% of the adolescent fathers did not attend school at the time of the conception of their first child
- ✍ 73,0% reported having their first sexual encounters at 13
- ✍ 83,0% reported that they did not use any contraceptives during sexual intercourse because condoms interfered with sexual pleasure
- ✍ 48,3% indicated that contraceptives were the responsibility of the girls, despite the prevalence of STIs

Although knowledgeable about contraceptives, many male adolescents did not use condoms because they interfered with sexual pleasure (Dlamini 2000:273; Ezumah 2000:8; Peltzer 2001:56). Adolescents reported being embarrassed about negotiating contraceptive use with their partners, and about buying contraceptives like condoms over the counter. In their study in the USA, Ginsberg, Slap and Cnaan (1995:916) found that all the respondents had heard about contraception yet the majority stated that they did not know about contraception prior to their pregnancies. Some were informed at the clinics during their pregnancies, some by their mothers, older sisters or relatives during their pregnancies, and the rest had obtained some knowledge about contraceptives from health care professionals during their pregnancies.

Ndubani and Höjer (2001:67) studied low socio-economic black male adolescents' knowledge of condom use and awareness of STDs and HIV in a rural village in Zambia. The respondents became sexually active at an average age of 12,5, had unprotected sexual intercourse and maintained negative attitudes towards family planning services. Their reasons were long distances to reach the clinics and that condoms interfered with sexual pleasure. Goldberg (1997:9) also indicated that adolescents were misinformed and had misconceptions as well as negative attitudes towards contraception, pregnancy and parenting. For example, they believed that using contraceptives made one fat, caused sterility or infertility, interfered with sexual pleasure and girls who used contraceptives were promiscuous. There was also uncertainty about who should use contraceptives, the boy or the girl.

Watt (2001:225) emphasises that both partners should make sure that contraception was in fact

being used, regardless of who actually used contraceptives. This should be regarded as a joint responsibility.

In Soweto, RSA, Makhetha (1996:31) found that some adolescents and their parents believed that the pill can cause serious side-effects, such as high blood pressure and infertility. Jemmot (1999:12) found that many African-American adolescents were concerned about side-effects of contraceptives. Contraception was also seen as an interruption of the romantic idea because contraceptives were unnatural and made sex seem contrived. According to Bloom and Hall (1999:299) as well as Mukoma (2001:59), most males opposed the use of contraceptives by their female partners, because they believed these could encourage promiscuity among females. Some believed that contraceptives were detrimental to health and reduced libido, and side-effects including skin irritations, weight gain, swollen ovaries, nausea and vomiting.

2.7.1.1 Adolescents' misuse or non-use of contraceptives

Various factors can adversely affect the utilisation of contraceptive services and contraceptives. Etuk, Ikpeme, Kalu, Mkpnam and Oyo-Ita (2004:7) as well as Mayekiso and Twise (1992:21) found that adolescents' contraceptive use was inconsistent, erratic and delayed, especially before the first coitus. Misconceptions include beliefs that the pill caused cancer or made the user fat, and that condoms reduced pleasure during intercourse (Naude, London & Guttmacher 1999:118). In their study in the Carletonville area of the RSA, MacPhail and Campbell (2001:1621) found that some young women no longer went to local clinics after unpleasant experiences with the staff. While they continued to access health care through private doctors, their access to contraceptives and condoms was decreased, as they were not as freely available in doctors' consulting rooms as at clinics. The respondents stated further that social norms encroach on the extent to which young women were prepared to carry condoms and contraceptives with them. The respondents mentioned further that gossip was a constant source of conflict and that women carrying condoms risked being labelled a "bitch" or promiscuous (MacPhail & Campbell 2001:1621). Male participants might not trust young women who carried condoms with them (Akande 1997:336). Adolescents most likely to use contraception have high scholastic achievement levels, are highly motivated to complete their education and have strong religious beliefs supporting virginity (Klima 1998:487).

γ Fear of lack of support by partner

Female adolescents have intercourse without discussing contraception with their partners because it might be difficult to discuss this issue, especially with a new partner (English, Kapphahn, Perkins & Wibbelsman 1998:273). Female adolescents found it difficult to communicate with their partners about contraceptives because they felt awkward and feared appearing immature or unsophisticated; believed that talking about or using contraception would








cause them to lose their partners, and their partners complained when asked to use condoms (Johnson 1995:13; Poggenpoel, Myburgh & Gmeiner 1998:5; Rorke 1997:45).

γ Distribution of contraceptives to adolescents

Several factors associated with the distribution and appropriateness of contraceptive methods contribute to their ineffective use or non-use among adolescents. Richter (2000:79) reported that there was a problem of accessing contraceptive services. The most effective contraceptive methods (pills and intrauterine contraceptive devices) were only available during the week and from 07:00 to 14:30 at most clinics. It might be difficult or impossible for adolescents to access these services during clinic hours. Distances to the reproductive health services might also be an issue, as well as adolescents' parents who might oppose the use of contraceptives (Piccinino & Mosher 1998:7; Webber, Hunter, Johnson & Berenson 1999:244; Williams 1999:89).

Many adolescent mothers did not use contraceptives prior to pregnancy because their mothers considered the use of contraceptives to cause infertility and/or promiscuity (Mogotlane 1993:3).

According to Quinn (1999:40), the following factors influence adolescents' contraceptive use:

-  The service providing contraceptives might not be user-friendly nor adequately equipped to deal with adolescents.
-  Adolescents might feel ambivalent about contraceptive usefulness.
-  Community norms might not approve contraceptive use among adolescents.
-  They might have problems with the contraceptive methods themselves, such as side-effects.
-  Their families might have low socio-economic status.
-  They might have sex sporadically.
-  Their religious affiliation could restrain them from sexual activity.

γ Professional nurses in reproductive health care services

Professional nurses should carefully explore an adolescent's knowledge and correct any misconceptions about contraceptive methods. This should be the first step in providing adolescents with clear, accurate directions regarding the use of contraceptives. Professional nurses working in reproductive health care services can contribute positively or negatively to adolescents' contraceptive use.

In a study on adolescent sex and contraceptive experiences and teenagers' perspectives on clinic nurses in the LP, adolescents stated that "nurses ask them funny questions such as why they have sex so young" and if they did not reply to the questions (Wood et al 1997:27), they were

scolded and not given contraceptives. Kunene (1995:49) as well as Stanback and Twun-Baach (2001:38) reported that some health workers refused to give adolescents contraceptives fearing that this could encourage premarital sexual relationships.

2.7.2 Attitudes towards sex and giving birth

Attitudes to and beliefs about sex can influence the reproductive health behaviours of adolescents in a number of ways. Attitudes favouring postponing the initiation of sexual intercourse could be positively associated with delaying the onset of sexual intercourse. Adolescents with higher sexual abstinence values tended to have better communication with their parents about issues related to sex and sexuality and reduced sexual activity among female but not male adolescents (Miller et al 1998:233; Soet, Dilorio & Dudley 1998:21).

Perceptions that other boys were having sex were significant predictors of engaging in sexual intercourse for males (Racey, Lopez & Schneider 2000:235). Adolescents who had initiated sexual intercourse had lower perceptions about the normative age for initiating sexual intercourse (Hout & Broom 2002:14) than adolescents who were still sexually inexperienced, and reported that most of their "friends" were sexually inexperienced.

Adolescents who believed that most of their peers had had sex were more likely to report an intention of initiating sexual intercourse in the coming year (Hout & Broom 2002:15). Non-White males believed that more students had initiated sexual intercourse by the end of Grade 8 than White male adolescents did and White male adolescents intended to delay sexual debut longer than non-White male, Black female or White female adolescents (Racey et al 2000:236).

2.7.3 Cultural beliefs, values and norms

Mikhail (2001:160) describes culture as "the shared products of a human group including values, language, knowledge and material objects". Dreyer et al (1997:29) found that negative restrictive laws, traditions and attitudes of certain cultural groups play a major role in practices, especially for adolescents. In most African cultures, women need permission from their husbands to use contraceptives. Adolescents are not allowed to get permission from parents because they are regarded as children in the family. If a man disapproves because culturally, women are expected to bear as many children as possible, then the woman has no choice but to accede to such beliefs. Stein (2002:2) as well as Vlok (2000:349) affirmed that in a society geared to believe that to reproduce is a woman's ultimate destiny in life, the urge in a woman to have a baby or prove her fertility becomes even stronger.

Many adolescents in the RSA are ambivalent about contraception because of cultural taboos, and procreation is a function culturally considered a sacred duty. Campbell (1997:188) found that

negative attitudes towards condom use were often based on cultural factors, such as the desire for children and female sexual compliance as a way of getting financial gain from their partners.

2.8 INFLUENCES ON ADOLESCENTS' SEXUAL PRACTICES

Factors that could adversely affect adolescents' sexuality and should be overcome, if proper sexual behaviours are to be achieved for the ultimate benefit of adolescents and the country, can be classified into individual and situational factors.

2.8.1 Individual factors

Adolescent biological factors, such as age at menarche, gender, race, ethnicity, educational engagement, sports, religiosity and knowledge of reproductive health, are all associated with positive reproductive health.

2.8.1.1 Menarche/puberty

Bensussen, Walls and Saewy (2001:430); Boyer, Tschann and Shafer (1999:454) as well as Miller et al (1998:1543) found an association between puberty and early sexual debut among adolescents. An early sexual debut is associated with early onset menarche and the mean age for early onset of menstruation was 11 years (Bugha et al 1996:525; Mayekiso & Twaise 1992:22). Adolescents who looked older than their peers were more likely to have earlier sexual debuts (Whaley 1999:380).

2.8.1.2 Age

Age is an important factor influencing adolescent sexual encounters. As an adolescent's age advances, the likelihood of various sexual behaviours increases, such as frequency of sexual intercourse, the number of lifetime sexual partners and number of sexual partners during the previous year (Miller et al 1999:327; Smith 1997b:341). Ignorance about and non-availability of contraceptives were reasons for low usage of contraceptives by adolescents (Bugha et al 1996:523).

2.8.1.3 Gender

Male adolescents were sexually more experienced, had more sexual partners both in the past year and in their lifetime, and had sex more frequently than female adolescents (Pesa, Turner & Mathews 2001:691). Female adolescents reported higher STD infection rates than males because their diseases were more likely to be detected since they consulted reproductive health care professionally more often than adolescent males (MacPhail & Campbell 2001:1625;

Ndubani & Höjer 2001:111). Female adolescents might also be sexually engaged with older men who would be more likely to be infected with STDs than adolescent males (MacPhail & Campbell 2001:1521; Ndubani & Höjer 2001:109).

2.8.1.4 Race/ethnicity

Race is a significant factor in predicting adolescents' sexual behaviour or health outcomes. Results from nationally representative USA samples of adolescents indicated that Black teenagers were more likely to have ever had sexual intercourse than non-Black teenagers (Fahlman 2001:191; Santelli et al 2000:1578). Black adolescents in the USA were reportedly between two and four times more likely to have lost their virginity by age 12 than non-Hispanic Whites (Wright 1997:53; Winter & Breckenmaker (2000:34). Black adolescents were also more likely to have experienced first sex at earlier ages than both Hispanic and non-Hispanic White adolescents (Smith 1997:341). However, Black adolescents appeared to engage in sex less frequently than non-Black adolescents in the USA (Leaper & Valin 1996:35). In the RSA, Popis (1998:58) found that Black adolescents engaged in risky sexual relationships but ignored contraceptives that their White counterparts used.

2.8.1.5 Educational engagement

A high level of school engagement has an influence on early age sexual debut (Moore & Burton 1999:143). Adolescents in Grades 7 to 12 who reported higher grade point averages in school (Becker, Guenther-Grey & Raj 1998:839) were less likely to have an early sexual debut. Adolescents in higher grades had already sighted their goals, had higher education aspirations, and had more positive reproductive health outcomes. Such adolescents were more likely to use a form of contraception in their first sexual intercourse. In the Gauteng Province in the RSA, Ehlers et al (2000:48) found that adolescents who lacked educational aspirations, were associated with higher risks of pregnancies. Adolescents' educational engagement affects their status, indirectly influences their use of contraception and the control they have over sexual and reproductive issues (Ehlers et al 2000:48).

2.8.1.6 Sport

Sport has an important influence on sexuality among young adolescents. For female adolescents, participation in sport has been shown to have a delaying effect on initiation of first intercourse, lower the frequency of sexual intercourse, and decrease the number of lifetime sexual partners (Miller et al 1999:324). Female adolescents who are highly engaged in sport appear to be more capable of avoiding the severe consequences of unintended pregnancy and the risks of complications if an abortion is induced.

2.8.1.7 Religiosity

Religiosity positively influences adolescent sexual behaviour through its association with decreased likelihood of sexual initiation and adolescent pregnancy and birth. According to Aggleton and Campbell (2000:288) as well as Brattan-Wolff and Portis (2001:581), male and female adolescents who regularly attend church are less likely to be sexually experienced at a younger age, and female adolescents are less likely to have adolescent births. Abouzahr, Vlassoff and Kumar (1996:464) found that adolescents who attend church regularly are more likely to delay sexual initiation than their counterparts who do not attend church. In addition, adolescents who emphasise the importance of religion and prayer are at less risk of early sexual initiation and less likely to have frequent sexual intercourse. However, in their study, Clayton, Ross and Kolbe (1997:59) observed a positive relationship between religiosity and sexual experience. Clayton et al (1997:59) found that adolescent males who value religious and moral beliefs highly were significantly more likely to have had sex in the four weeks prior to the survey interview. Blank, George and London (1999:45) found religious affiliation related to adolescent sexual behaviours.

With regard to the use of contraception, some Christian denominations oppose any form of (artificial) contraception as going against God's law. Islam, with its strong patriarchal history, considers contraceptive use a sin. Some believe that contraceptives are detrimental to health, reduce libido, and have side-effects like skin irritations, weight gain, swollen ovaries, nausea, and vomiting (Cleland & Ferry 1995:26; Zelnick 1998:446).

2.9 SERVICES NEEDED FOR SECONDARY SCHOOL LEARNERS

Population control is a key element in a country's ability to maintain and improve its economic and social welfare. Many governments have established policies or legislation to reduce population growth by means of preventing unintended pregnancies and allowing even minors to seek contraceptive and TOP services, including sexuality programmes (Maja 2002:137).

2.9.1 Termination of pregnancy services (TOPs)

Adolescents' pregnancies and parenting continue to be intensely debated in many countries. It is difficult for governments and communities to remain silent about issues relating to the birth and rearing of children, particularly when the parents in question are very young (Goosen & Klugman 1996b:236). According to the WHO (1998a:6), close to 17 million girls under the age of 18 give birth each year. Most of these pregnancies are unplanned and unintended and it is estimated that as many as 4,4 million abortions are sought by adolescent girls each year.

Induced abortion in most SSA countries has been highly controversial as the heated discussion of

the International Conference on Population and Development in Cairo in 1994 clearly reflected. The issue becomes even more controversial when it concerns adolescent girls (Bateman 2000a:11; Silberschmidt & Rasch 2001:1816). Their early sexual activity is generally attributed to fundamental socio-economic change, the erosion of moral codes, familial control and abandoned rituals, such as initiation ceremonies, which serve to prepare adolescents for their roles and responsibilities as adults (Silberschmidt & Rasch 2001:1816).

Illegal abortions often result in complications which may have negative consequences such as infertility and death. According to the WHO (1998a:8), unsafe abortions performed annually in Africa result in 13,0% of all maternal deaths. In their study in four public hospitals in Dar-es-Salaam, Otoide et al (2001:79) and Rosenzweig (1999:21) found that about one third of women admitted with complications from illegal abortions were adolescents, 41,3% of whom were aged 17 years or younger. Silberschmidt and Rasch (2001:1816) found that the data on the extent of induced abortions are frequently unreliable because community-based surveys tend to produce gross underestimates, and under-reporting constitutes a major problem. Consequently, many aspects of adolescent girls' sexual behaviour and why they have induced abortions are still under-explored. Since 1996 the majority of adolescent girls reporting for CTOPs in RSA had started the procedure with backstreet abortionists, claiming that they could not afford to wait on a long list before they could be attended to (Maja 2002:21).

TOP services have not yet reached many of the adolescent girls in the RSA (Ehlers et al 2000:46). Health personnel should be encouraged to be sensitive to the complexity of the problems that face the adolescent, particularly in social environments where family background, moral climate, and legal institutions impose undue stress on the adolescent girl (Whaley 1999:382).

2.9.1.1 Medical TOP services

The South African Child Care Act, 13 of 1999, as amended (South Africa 1999c:9), makes provision for children over the age of 14 years to consent to their own medical treatment without the permission of a parent or guardian. The term "medical treatment" includes the use of contraceptive and TOP services. Any person over the age of 18 years can consent to surgical procedures being performed on himself/herself without the consent of a parent or guardian.

The Choice on Termination of Pregnancy Act, 92 of 1996 (South Africa 1996c:8) defines a woman as "a female of any age". A female can sign her own consent for TOP. She does not need permission of her parents, guardian or husband to have a TOP service performed on her. This Act allows adolescents to sign their own consent in the event that they request a TOP. The Sterilisation Act, 44 of 1998 (South Africa 1998:5) provides for the sterilisation of any person over the age of 18 years if he or she is capable of consenting.

One of the conditions of the CTOP Act (South Africa 1996c:10) is that TOP should not be used as a contraceptive method, but as a last resort which should be procured at designated facilities. By 2000, 289 hospitals and clinics in the RSA were designated for termination of pregnancy, although only 59 actually had staff trained for this service (Bateman 2000a:11). From 1996 to 1999 between 150 000 and 155 024 legal abortions were performed across the country. From these statistics it could be concluded that

- ✎ women were making informed choices about their reproductive health
- ✎ there is lack of education about reproduction and contraception where both males and females need to be fully informed about the utilisation of contraceptives to avoid unwanted pregnancies

Termination of pregnancy has social and psychological implications which could have long-term consequences for the woman, such as regret, anger, depression, ambivalence, shame and hatred towards parents and partners (Howson, Harrison, Hotra & Law 1996:36; Webb 1998:21). Butler (1996:397) found that many women suffered late psychological sequelae after CTOP, including severe depression, guilt feelings, blame and regret, which affected their daily lives. Health care providers involved with CTOP have been branded murderers and serial killers by colleagues and community members, especially ministers of religion (Poggenpoel et al 1998:5).

2.9.2 Contraceptive services

Dyer and Tiggermann (1996:129) found that many young people are afraid to discuss contraceptive issues with their parents. Some parents feared that information about contraception would lead to their children becoming promiscuous. Some of the adolescents pointed out that their parents had never told them about sex or contraception (Dyer & Tiggermann 1996:131; Jones & Boonstra 2005:458).

Access to and regular use of birth control methods is the goal of contraceptive services for adolescents. A university-organised project in South Carolina, USA, emphasises information about contraceptives, and promotes consistent contraceptive use by sexually active teenagers (McMahon 1995:14; Montessoro & Blixen 1996:34). This programme includes consultation with community leaders, training teachers to provide sex education, mini-courses for parents, church and community leaders, and the implementation of sex education at schools. Many parents provide misinformation about the utilisation of contraceptives, discouraging adolescents from using contraception (Eccles, Early, Fraser, Belansky & McCarthy 1997:267; Nicholas 1998:893).

2.9.3 Life options programmes

Life options programmes attempt to expand adolescents' future goals and expectations by improving their educational and employment prospects. In the RSA, Durham (1999:212), Goosen and Klugman (1996a:240) as well as Heilman (1998:194) found that most future-oriented, goal-directed adolescents were likely to postpone pregnancy to realise other goals first, reducing the rate of adolescent pregnancies. Programmes may be school- or community-based and target risky populations, such as low-income adolescents. Efforts are directed towards reducing social factors associated with increased adolescent pregnancy rates. Fugelsang (1997:1250) and Henshaw and Van Vort (1998:159) state that public enthusiasm and funding are minimal because these programmes are hard to evaluate and costly to maintain, and cannot provide speedy results. However, long-term evaluation is needed to provide realistic information about the impact of such programmes.

2.9.4 School-based prenatal services

In many countries, school-based clinics are seen as a means of providing basic health care. In addition, school-based clinics deal with adolescents' complex health and social problems, particularly unintended pregnancies. These clinics often serve low-income adolescents with limited access to other sources of health care (Goosen & Klugman 1996a:236; Hardy, Gilpin, Stead, Van Ander & Somasumaren 1996:21).

Some adolescents are concerned about using family planning services with their parents and other older people (Goosen & Klugman 1996a:238; Smith & Maurer 1995:591). Bayona and Kanji-Murangi (1996:84) as well as Haram (1995:15) found that most adolescents felt embarrassed at meeting their teachers, parents and any other older person at family planning clinics. Many adolescents complain that health workers disapprove of and are not helpful to adolescents, despite their legal right to get contraceptives from clinics (Battle 2000:34; Goosen & Klugman 1996a:239).

Beake and Zimbizi (1996:241) state that it might be difficult in the RSA to ask for contraceptives if one does not want anyone to know that one is sexually active. In SSA, Brookman (2000:1021) as well as Cleland and Ferry (1995:10) found that young people underutilise contraceptive services for various reasons, including lack of knowledge and stigmatisation that they are sexually active. Young people are embarrassed and reluctant to use contraceptive clinics for fear of the community's reaction towards them. Bateman (2000b:750) as well as Campbell and Williams (1998:61) found that reproductive health services provided to students at universities were highly utilised mainly because students were by themselves without the presence of other members of the community.

In SSA, however, parents and community leaders maintained a hard line and insisted that the supply of contraceptives to adolescents promoted poor attitudes and values towards sex (Bayona

& Kanji-Murangi 1996:8). Family planning and other sex-related topics were rarely discussed among family members in most SSA communities.

Bandura (1997:32) as well as Stephen and Morse (2003:25) are of the opinion that the government, politicians, church leaders and educators should use all available means, such as radio and public ceremonies, to educate all sectors of society including parents about the use of reproductive health services. Parents and health professionals should influence adolescents to make use of sex education programmes by encouraging them and displaying positive attitudes towards sexually active adolescents and the use of contraceptives.

2.10 CONCLUSION

This chapter discussed the theoretical framework (HBM) used in the study and the literature review undertaken by the researcher. The literature review provided insight into the complex and multifaceted dynamics of secondary school learners' knowledge and perceptions of and attitudes to contraception.

Chapter 3 deals with the research methodology used in the study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter 2 described the literature review undertaken for the study. This chapter discusses the research methodology. Research methodology refers to "the entire strategy of the study from problem identification to the final plans for data collection" (Burns & Grove 2001:361). Leedy (1997:104) refers to methodology as "an operational framework within which the data are placed so that their meaning may be seen more clearly".

This chapter outlines the research design and methodology, including the target population from which the sample was drawn, selection criteria, research instrument, ethical considerations and data analysis procedures. The study explored secondary school learners' knowledge and perceptions of and attitudes towards contraception and contraceptive practices. The researcher adopted a quantitative approach. Quantitative studies assign numerical values to objects or events to represent their characteristics (Mouton 1996:32; Woods & Catanzaro 1995:227). Knapp (1998:28) defines quantitative research as "concerned with the quantification or measurement of data". The researcher selected a questionnaire as the data-collection instrument and developed two separate self-administered questionnaires for female and male secondary school learners from Grade 8 and Grade 12. The HBM model provided a framework to structure the items in the questionnaires.

3.2 RESEARCH QUESTIONS

Since the study was descriptive and did not intend to establish a cause-effect relationship, it proceeded without a hypothesis. Mulhall and LeMay (1999:88) state that descriptive studies "may be guided by research questions and/or research objectives rather than by a hypothesis per se". The following research questions, therefore, formed the basis for this study:

- What information do secondary school learners in the LP have about safe sexual behaviours?
- From whom do secondary school learners in the LP learn about sexuality, pregnancy and childbirth?
- What strategies could enhance learners' utilisation of reproductive health services in the LP?
- Why do secondary school learners in the LP use contraceptives or fail to use contraceptives?
- What attitudes do secondary school learners in the LP have towards contraceptive use?
- What reproductive health services do secondary school learners in the LP use?
- What reproductive health services do secondary school learners in the LP need?

3.3 OBJECTIVES OF THE STUDY

The objectives of the study were to

- explore the contraceptive knowledge, perceptions, attitudes and practices among secondary school learners in the LP
- determine the secondary school learners' knowledge and understanding of safer sex
- ascertain whether healthy life style behaviour programmes offered in schools, clinics and hospitals in the LP influenced adolescents to adopt safer sex practices
- assess the extent of parental involvement in the acquisition of adolescents' sexual knowledge in the LP
- identify strategies to enhance the utilisation of reproductive health services by the secondary school learners in the LP
- identify factors that could enhance the use of contraceptives among secondary school learners in the LP
- identify barriers to the accessibility of contraceptive services to secondary school learners in the LP
- identify how these perceived barriers could be overcome

3.4 PURPOSE OF THE STUDY

The purpose of the study was to explore the knowledge, perceptions and attitudes of contraception and contraceptive practices among secondary school learners in the entire LP. The researcher also held informal meetings with contraceptive health providers in order to identify aspects to be covered

in the questionnaires for female and male learners, respectively. Data collection took place from April to August 2003. The long period of data collection was necessary to accommodate travelling long distances to remote schools as four schools were randomly selected from each of the six districts of the LP.

3.5 RESEARCH DESIGN

According to Cormack (1996:11) as well as Morris (2000:74), the research design "represents the major methodological thrust of the study. Thus, being distinctive and specific, the research design selected should be the one which is best suited to answer the research questions." Brink (1999:100) points out that the research questions, the aim and the objectives of the study should influence the selection of the research design.

Burns and Grove (2001:242) refer to the research design as "a blueprint for the conduct of a study maximising control over factors that could interfere with the desired outcomes" and is the end result of researchers' decisions about how the study should be conducted. Elements "central to the study design include the presence or absence of some treatment, number of groups in the sample, number and timing of measurements to be performed, sampling method, the time frame for data collection, planned comparisons and control of extraneous variables" (Babbie & Mouton 2001:221).

A research design is "a set of logical steps taken by the researcher to elicit a response to the research questions and to control variance" (Brink 1999:100; Mateo & Kirchhoff 1999:269). The research design includes "a plan, structure and strategy that will ascertain whether the eventual validity of the research findings is maximised" (Polit, Beck & Hungler 2001:165). The purpose of the research design is "to achieve greater control of the study and to improve the validity of the study in examining the research problem. The research design must therefore be appropriate to the purpose of the study, feasible given realistic constraints and effective in reducing threats to validity" (Burns & Grove 2001:243).

The present study used a quantitative, non-experimental, exploratory, descriptive, and survey research design. The purpose of selecting a non-experimental design was to describe prevailing contraceptive knowledge, perceptions and attitudes regarding contraception as well as contraceptive practices among Grade 8 and Grade 12 secondary school learners in the LP. A survey method was

used to collect data from the convenience sample of Grade 8 and Grade 12 learners at the randomly sampled secondary schools in the LP.

3.5.1 Dimensions/features of the research design

3.5.1.1 Quantitative

Burns and Grove (2001:28) define quantitative research as "a formal, objective, systematic process in which numerical data are utilised to describe information about the phenomenon". Polit et al (2001:168) state that quantitative measurement refers to "the assignment of numerical values to objects to represent the kind or amount of characteristics of those objects or events. This research method is used to describe variables and determine the interactions between variables." Cresswell (1994:2) and Sparks (1999:53) describe quantitative research as "an enquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers, and analysed with statistical procedures, in order to determine whether the predictive generalisations of the theory hold true".

The researcher adopted a quantitative approach to obtain more information about variables affecting learners' contraceptive knowledge and practices and to examine their relationships in order to suggest improved contraceptive practices that could reduce the number of unplanned pregnancies and eliminate perceived barriers in the LP.

3.5.1.2 Non-experimental

Non-experimental research designs "can be classified into two broad categories, namely ex-post facto design and correlation design" (Brink 1999:110). Correlation design "is concerned with describing existing relationships between independent and dependent variables. The descriptive design encompasses the utilisation of different methods within the quantitative research paradigm" (Brink 1999:110). This study used a quantitative descriptive design to identify contraceptive knowledge, perceptions, attitudes and practices existing among Grade 8 and Grade 12 learners in the LP, as well as trends of contraceptive services among both female and male learners. Furthermore, data collected could be used to justify the need to intensify sex education, safer sex and consistent utilisation of contraceptives and make appropriate plans for improving the utilisation of

contraceptive services among school learners in the LP, and possibly also in other provinces. The present study, then, was quantitative, exploratory, descriptive and involved a survey.

3.5.1.3 Exploratory

The aim of an exploratory design is "to establish facts, gather new data and determine whether there are interesting patterns in the data" (Mouton 1996:103). The research design of an exploratory study tends to be open and flexible. Lauver, Steersten, Marten and Halls (1999:311) point out that "exploratory studies are conducted when little is known about the phenomenon of interest". In this study, little was known about the contraceptive knowledge, perceptions, attitudes and practices among secondary school learners in the LP hence the aim was to gather accurate information on these issues. This necessitated an exploratory dimension to the research undertaken.

3.5.1.4 Descriptive

A study is descriptive when "it intends to describe a phenomenon accurately within its specific context and when it is based on collected data. In this instance, the emphasis is on an in-depth description of an individual group, situation or organisation" (Lauver et al 1999:312). In descriptive studies, "a phenomenon is described or the relationship between variables is examined" (Nieswiadomy 1993:127).

According to Cormack (1996:183-184), a descriptive design "may be simple, comparative or exploratory descriptive:

- In a simple descriptive design, the variables of interest have been previously studied, either independently or in conjunction with other variables.
- In an exploratory descriptive design, the variables are partly controlled by the situation, but they are partly controlled by the researcher, who chooses the sample for the study. This design is used to examine the characteristics of a single sample. The researcher explores a particular area to discover what is there, the meaning attached to the discoveries and how these can be organised.
- In a comparative descriptive design is used to examine and describe the variables in two or more groups. This type of study calls for intuition and insight on the part of the researcher.

It calls for a degree of flexibility so that any discovery can lead to a new body of knowledge."

Burns and Grove (2001:243) define the purpose of a descriptive survey as providing "the opinions of respondents regarding the phenomenon studied. Descriptive research provides an accurate portrayal or account of the characteristics of a particular individual, event, determining the frequency with which something occurs and categorises information." According to De Vos, Strydom, Fouche and Delport (2002:274), descriptive research "determines what exists, the frequency with which something occurs and the categories of various aspects. With a descriptive design, the researcher plans either to assemble new information about an unstudied phenomenon or to gain more information about characteristics within a particular field of study, for the purpose of providing a picture of a situation as it naturally happens." A descriptive design was used in this study to describe the prevailing situation regarding contraceptive knowledge, perceptions, attitudes and practices among Grade 8 and 12 learners in the LP during 2003.

3.5.1.5 Survey

A survey was appropriate for this exploratory study as the researcher "gathered data from a portion of a population for the purpose of examining the characteristics, opinions or intentions of that population. Surveys also collect information on people's knowledge, opinions, perceptions, attitudes, and values" (Polit & Hungler 1999:215). In addition, the term "survey means any descriptive or correlational study ... survey tends to mean non-experimental. The survey is used to describe a technique of data collection in which questionnaires were delivered in person by the researcher and the research assistants to collect data from an identified population" (Burns & Grove 2001:256).

As a survey provides data about the present and indicates what people are thinking, planning and doing, it was suitable for this study. This design enabled the researcher to explore and describe the respondents' contraceptive opinions, perceptions, attitudes and practices. The survey was therefore used in this study because

- of its ability to provide accurate data on the learners sampled in the randomly sampled secondary schools in the LP
- large amounts of data could be obtained from Grade 8 and Grade 12 female and male

learners in the randomly sampled secondary schools in the LP on the days that the researcher and the research assistants visited each participating school.

Self-administered questionnaires were distributed to conveniently selected samples of Grade 8 and 12 learners present at the twenty-four selected secondary schools in the LP at specific times during 2003.

3.5.2 Sampling

Researchers can often not study whole populations due to time and cost constraints. Thus, a portion or sample of that population is subjected to research. Leedy (1997:203) emphasises the importance of an appropriately selected sample because the “results of a survey are no more trustworthy than the quality of the population or the representativeness of the sample”.

It was initially difficult to determine the exact number of the population of secondary schools and learners enrolled for the year 2003 in the LP. Through the LP’s Ministry of Education, a list of all secondary schools (census) was obtained. However, no register showed the number of learners registered at each secondary school. This complicated the sampling process as the sample size could not be determined in advance.

3.5.2.1 Population

A population is a complete set of persons or objects, characterised by designated criteria, which the researcher intends studying (Brink 1996:132; Cresswel 1998:231; De Vos et al 2002:248). Polit and Hungler (1999:278) define a population as “the totality of all subjects that conform to a set of specifications”.

Target population and *accessible population* are associated terms. Granziano and Raulin (2000:133) define a target population as "the entire specific aggregate of cases about which the researcher would like to make generalisations". For the purposes of this study, the target or entire population comprised all registered Grade 8 and Grade 12 secondary school learners in the LP (Brink 1996:132). Polit et al (2001:254) define an accessible population as "the aggregate of cases that conform to the designated criteria, and that are accessible to the researcher as a pool of subjects for

the study". In this study, the accessible population comprised the Grade 8 female and male learners and Grade 12 female and male learners from the randomly sampled secondary schools, who were present on the day the researcher and the research assistants visited each school for data collection between April and August 2003. Thus, both study sites (senior secondary schools) and respondents (learners from Grades 8 and 12) were sampled. Table 3.1 summarises the empirical proceeding of sampling during the study.

Table 3.1 Sampling of schools and learners

Sites/Schools		
Period of data collection	April to August 2003	
Number of secondary schools randomly sampled	24	
Number of schools in urban and semi-urban areas	12	
Number of schools in rural areas	12	
<i>Sampling technique:</i> Stratified random sampling (without replacement of selected schools): stratified according to six regions of the LP and each region's schools according to urban or rural areas		
Learners/Respondents		
Number of learners estimated to be present at selected senior secondary schools on data-collection days	2500	N = 2500
Number of Grade 8 learners	1490	59,6%
Number of Grade 12 learners	1010	40,4%
Number of boys (Grades 8 + 12)	1214	48,6%
Number of girls (Grades 8 + 12)	1286	51,4%
<i>Sampling technique:</i> Non-randomised convenience sample because learners at schools and willing to participate comprised sample, purposive because learners had to be in grade 8 or in grade 12 to participate		
Questionnaire administration		
Total number of questionnaires completed	1001	100%
Number of questionnaires discarded	49	5,0%
Number of questionnaires used (N) (Throughout the rest of the dissertation N=952 will represent the total sample.)	952	95,0% of all questionnaires administered

The main motivation for selecting Grade 8 and Grade 12 learners in the LP to explore their contraceptive knowledge, perceptions, attitudes and practices was that they constituted high risk

age groups for unsafe sexual practices, adolescent pregnancies and STDs (Oliver 1998:7). Learners have high rates of STDs, and many between 12 and 16 years of age become pregnant each year due to poor knowledge regarding contraceptives (Jurgens 2002:34; MacPhail & Campbell 2001:1616; Sherr & Lawrence 2000).

3.5.2.2 Theoretical aspects

In this section certain theoretical aspects of samples and sampling as these relate to the present study are discussed (see section 3.5.2.3 for the empirical application of these aspects).

3.5.2.2.1 Definitions

Sampling refers to "the process of selecting a portion from a population in order to gather data in a way that represents the population of interest", *sample* refers to "a portion or subset that is selected to represent the population of interest in a study" and the members of a sample are "the *subjects* or *participants* or *respondents*" (De Vos 1998; Fitzpatrick 1999:49; Polit & Hungler 1999:279). By selecting a sample, the researcher "is able to obtain a reasonably accurate understanding of the aspects being investigated in the study, without having to gather information from the entire population" (De Vos 2001:30; Polit & Hungler 1999:279).

3.5.2.2.2 Sample size, representativeness and randomisation

The "larger the sample, the more representative it is. Smaller samples produce less accurate results because they are likely to be less representative of the population" (LoBiondo-Wood & Haber 1998:263). A sample should be as similar as possible in its characteristics to the population from which it has been selected. To be representative, the sample must be like the population in as many ways as possible (Burns & Grove 2001:30). A sample is considered representative of a given population, if all the members of a population have an equal chance of forming part of the sample (Polit & Hungler 1999:279).

The concept randomness is "central to the process of obtaining a representative section of the population by applying probability sampling techniques" (LoBiondo-Wood & Haber 2002:247). A high level of "both representativeness and randomisation in samples makes for possible

generalisation of research finding. If the researcher is not interested in generalising findings he/she will turn to non-random sampling and non representation. In this instance, non-probability sampling provides no assurance that every element could be included in the a sample" (Polit & Hungler 1999:280; Uys & Basson 1995:89). The degree of representativeness and randomisation attained during sampling depends on the sampling approach which, in turn, is determined by several variables relating to the design, context, and aim of the research.

3.5.2.2.3 Sampling approaches

Sampling can be grouped into two categories, namely probability and non-probability sampling (Polit & Hungler 1999:279). Probability sampling is characterised by an equal chance of inclusion of each element in the sample and in the case of non-probability sampling, this is not the case. During the present study, aspects of probability sampling were reflected by the way in which senior secondary schools were selected. However, participants (Grades 8 and 12 learners) were selected by non-probability sampling, more specifically, convenience and purposive sampling. During convenience sampling a sample is drawn from a section of the population that is easily accessible. In this study, the learners who happened to be at a particular school on a particular day when the researcher collected data comprised the convenient sample. In addition, purposive sampling represents judgmental sampling involving the conscious selection of certain subjects or elements to include in the study (Brink 1999:141). In this study, purposive sampling was used to ensure that only Grade 8 and Grade 12 learners were included in the sample. Purposive sampling involves "the conscious selection by the researcher of certain subjects or typical situations" (Burns & Grove 1997:306).

During convenience sampling, subjects happen to be in the right place at the right time. A convenience sample is the use of readily accessible persons in a study (De Vos 1998:199; LoBiondo-Wood & Haber 1998:253). Any person who happens to cross the researcher's path, and meets the inclusive criteria set for the study, gets included in a convenience sample. The researcher finds it easy to obtain participants, but the risk of bias is greater than in random sampling, because each member of the population does not have an equal chance of being included in the sample. Results obtained from a convenience sample might not be generalisable to the entire population. In this regard, Burns and Grove (1997:303) warn that convenience sampling is considered a poor approach to sampling because it provides little opportunity to control for bias. Accordingly, the

researcher decided to use purposive sampling in identifying respondents for this study. According to LoBiondo-Wood and Haber (1998:240), purposive sampling is appropriate for conducting descriptive surveys that seek to describe lived experiences, such as contraceptive issues among secondary school learners.

3.5.2.2.4 *Empirical aspects*

Consultation

The researcher consulted the Senior Manager assigned by the Directorate of the Ministry of Education in the LP, a statistician from the University of Venda and the teachers responsible for life skills education and biology in the selected secondary schools because they are knowledgeable in their fields.

The LP's Ministry of Education was consulted to identify secondary schools situated within each municipality's geographic boundaries. A list of all secondary schools, provided by the LP's Ministry of Education, indicated whether they were junior or senior secondary schools (see annexure C).

Inclusion criteria

A sample is selected from the population that meets the sampling criteria (Burns & Grove 2001:29).

In the present study, only senior secondary schools were randomly sampled from the available list as the participants were selected from Grades 8 and 12. To be included in the study, the schools had to be

- *senior* secondary schools catering for Grades 8 and 12 learners
- situated in the LP
- under the jurisdiction of the LP provincial authority

Permission for the use of these secondary schools was obtained from the LP's Ministry of Education who also informed the six district managers about the permission granted to conduct the research

Sampling procedure

To reduce bias, the sampling of secondary schools was conducted by one of the research assistants in the presence of the researcher. In this way no sample was selected solely by the researcher. The name of each senior secondary school and its status, whether located in an urban/semi-urban or rural area, were written on a ballot according to the different municipality districts. These were placed into six different containers representing the LP's six districts. The research assistant was requested to draw one piece of paper at a time from the container until the desired number of four secondary schools from each container had been reached.

Twenty-four ($4 \times 6=24$; four schools selected from each of the LP's six regions) secondary schools were thus drawn by means of simple random sampling after the schools had been stratified into the six regions of the LP. As two schools had to be in an urban and two in a rural area in each of the six regions of the LP, the sampling procedure was slightly complicated. The person doing the random selection from each container placed the schools selected from each container into two piles: urban and rural areas, respectively. The first two schools drawn in each region in each category (urban or rural) were included in the sample. Thereafter the person had to repeat the process until two schools from the rural and two schools from the urban areas had been selected for each of the LP's six regions. Time and money were saved by sampling secondary schools in which data should be collected rather than attempting to visit all the secondary schools in the entire LP. To do so would have required immense finances, unlimited time and grave travel risks, particularly in remote areas where transportation by road and rail is prohibitively expensive, unsafe and unreliable.

Liaison with the selected schools

The principal of each randomly selected school granted permission for data to be collected at his/her school on specific predetermined times and dates. An appointment was made telephonically with the headmaster of each school. Senior education managers in all six districts facilitated the handing over of letters from the LP's Ministry of Education granting permission to conduct the research. This facilitated the procurement of appointments with the secondary school principals concerned.

A letter was sent to the districts of all the randomly sampled secondary schools, explaining the objectives of the study and requesting permission to hand out questionnaires to secondary school

learners (see annexure C) . In each school, where Grade 8 and Grade 12 learners were required, head masters/principals were also informed about the date and time on which his/her school would be

visited. Upon the researcher and the research assistants' arrival, a teacher responsible for biology or life skills orientation was assigned to the researcher in order to assist her by preparing venues in which learners could complete the questionnaires.

Learner sampling

The main reason for selecting the Grade 8 and Grade 12 learners in the LP to explore their contraceptive knowledge, perceptions, attitudes and practices, was that they constituted high risk age groups for unsafe sexual practices, adolescent pregnancies and STDs (Nicoll 1997:189; Olivier 1998:7). Grade 8 learners were in their first year at senior secondary school while Grade 12 learners were in their last year at these schools. Comparing the results obtained from these two groups could indicate how learners developed, or failed to develop, contraceptive knowledge and skills.

Eligibility criteria

Polit et al (2001:256) stress that "it is essential to be specific about the criteria for inclusion in the population and the eventual sample". These criteria are referred to as eligibility criteria.. In order to participate in the study, the respondents

- had to be in either Grade 8 or Grade 12
- had to be *registered* learners at one of the randomly sampled secondary schools in the LP during the period of research (1 April to 31 August 2003)
- had to be present at a particular school during data collection
- to participate *voluntarily*
- had to give *informed consent* for participation in the study
- could be female or male learners

Convenience sampling

The data collection was conducted between 1 April and 31 August 2003. The researcher used convenience sampling in selecting participants for the study. The sample potentially comprised 2 500 learners at the 24 randomly selected senior secondary schools on the days that the researcher

and research assistants visited the schools to collect data. The researcher and the research assistants handed out self-administering questionnaires to be voluntarily completed. Of the estimated 2 500 Grades 8 and 12 learners who could have been present at the selected schools on the days visited by the researcher, only 1 001 (40,04%) completed and returned the self-administered questionnaires. A number of these questionnaires were spoiled or incomplete rendering them useless for purposes of data collection. The final number (n) of usable questionnaires was 952, indicating the total number (n = 952; 100%) of learners who participated in the study.

3.5.3 Data-collection instrument

Structured data collection is “an approach to collecting information from subjects, either through self-report or observations, wherein the researcher determines in advance the response categories of interest”(Nicoll 1997:214). In this study, use was made of a questionnaire comprising closed and open-ended items, which were "a type of composite measure of knowledge, attitudes as well as practices of contraceptives that involves summation of responses to a set of items (statements) to which respondents are asked to indicate their agreement or disagreement" (Polit & Hungler 1999:645).

In view of the different types of information required from female and male respondents, two self-administered questionnaires were developed and designed for data collection - one for female and one for male learners. For the purposes of discussion, these two questionnaires will henceforth be referred to as the female and male questionnaire, respectively.

A questionnaire is "a paper-and-pencil self-report instrument, where the participant reflects his or her answers in response to a set of documented questions" (Brink 1996:154; Mateo & Kirchhoff 1999:259). According to De Vos (1998:172) as well as Babbie and Mouton (2001:239), a questionnaire is a set of questions on a form which is completed by the respondents in respect of a research project.

The questionnaire developed for this study ensured that data was collected according to a structured plan that indicated the information to be gathered and the method of collecting data. The developed questionnaire included questions that could be completed quickly and analysed easily, and enabled direct comparison between variables. Open-ended questions were also included for the respondents

to provide information in their own words. Hicks (1996:16) stresses that both fixed and unstructured questions should be used in order to produce rich data. Responses to open-ended questions were grouped into similar categories and subjected to statistical analysis.

3.5.3.1 Content

Both questionnaires contained closed and open-ended questions. Open-ended questions refer to questions which allow respondents to respond to questions in their own words, while closed questions are questions in which the response alternatives are designated by the researcher (Polit & Hungler 1999:214). Details of both instruments are presented below.

3.5.3.1.1 Female questionnaire

This self-administered questionnaire comprised five sections with a total of 75 items. The first section of the questionnaire requested biographical information about respondents' ages, residential, educational, socioeconomic and cultural backgrounds (questions 1 to 16). This information was considered essential to provide a socio-cultural descriptive profile of the respondents which could influence their contraceptive practices, and to contextualise data about their contraceptive knowledge, perceptions, attitudes and practices. According to the HBM, people's cultures have some control over their environments. Culture could act as a perceived barrier denying people access to health care services, including contraceptive services (Kerlinger 2000:114).

The second section of the questionnaire consisted of items on the respondents' sexual behaviours, including their sources of contraceptive information, preferences for specific contraceptives and the reasons for such preferences (questions 17 to 29). Obtaining this information was particularly important to determine how and where learners obtained information on contraceptives.

The third section of the questionnaire consisted of open-ended and closed items on the respondents' reproductive health, contraceptive knowledge and sources of such knowledge (questions 30 to 58). This information was important to determine whether learners influenced other learners' contraceptive practices (Baker & Daigle 2000:22).

The fourth section of the questionnaire consisted of closed questions on counselling and sexuality to

determine parents', teachers' and school counsellors' participation in adolescents' sexuality education (questions 59 to 71). McCall (1997:91) found parental models important in instilling health behaviours early in life.

The fifth part of the questionnaire consisted of items on knowledge, perceptions and the use of emergency contraceptives. This information was required to establish the respondents' knowledge and utilisation of these services (questions 72 to 75).

3.5.3.1.2 Male questionnaire

Items in the male questionnaire were similar to the female questionnaire although there were gender specific differences with regard to contraceptive methods and practices, focusing on condom usage. As questions pertaining to female reproductive aspects, such as menstruation, were excluded, the male questionnaire comprised 70 items.

3.5.3.2 Rationale for a questionnaire

A questionnaire was selected as the most appropriate data-collection instrument for this study as:

- The researcher could obtain data from respondents over a wide geographical area of the LP.
- They could be distributed to a large number of respondents simultaneously.
- Distributing questionnaires presented a standardised stimulus situation in terms of instructions, wording, sequencing of questions and response categories and, as such, learners' responses were not influenced by the interviewer.
- The respondents remained anonymous.
- The respondents could give personal responses to the items with no fear of being identified as the questionnaires were completed anonymously.

3.5.3.4 Advantages of self-administered questionnaires

Researchers should focus on the practicality of the data-collection instrument before considering its reliability and validity (Wright 1997:56). Self-administered questionnaires have the following advantages:

- As some respondents might not return postal questionnaires, self-administered questionnaires impact positively on the response rate, as was the case in this study.
- The response rate could be monitored because the questionnaires were completed by the respondents on the day and at the time of the researcher's visit and collected by the researcher and the research assistants (see table 3.2).
- The researcher and the research assistants could assist respondents should they have any difficulty or queries.

3.5.3.5 Pretesting of the instrument

A pretest is a method used to test the instrument of a proposed study in order to refine the research tool before the main study is executed. Polit and Hungler (1999:259) describe pretesting as "the collection of data prior to the experimental intervention ... the trial administration of a newly developed instrument to identify flaws or assess time requirements". Armstrong and Grace (1994:78) refer to pretesting as "a trial run to determine whether the instrument is clearly worded and free from major biases and that it solicits the type of information it is intended to collect". According to LoBiondo-Wood and Haber (2002:199), the rationale for pretesting the research instrument is to

- assess the relevance, appropriateness, adequacy, comprehensiveness, and suggestive or subjective undertones
- evaluate the questionnaire for clarity of questions, effectiveness of the instructions, completeness of response set, time required to complete the questionnaire
- eliminate bias as far as possible
- assess the appropriateness of the format of the questionnaires
- detect unforeseen problems and flaws
- determine the feasibility of the sampling method
- identify gross inadequacies before embarking on the full scale study
- determine the reliability and validity of the research instrument
- assess the availability of research subjects

The instrument was pretested to ensure that information about all identified issues would be collected. After the two research instruments had been developed, they were submitted to three colleagues and professional nurses working in the reproductive health clinics for comment. A

statistician and a computer analyst from the Department of Computer Services at Univen also critically examined the items in the questionnaires. This was done to establish whether the questionnaires were clearly worded and would be correctly interpreted by the respondents. A pretest was done with ten male and ten female learners (in secondary schools not included in the study) who were not included in the actual research project. After the pretesting and further discussion, problems identified were clarified and corrected to improve comprehension. Questions about traditional contraception were discarded as they appeared to be unknown and irrelevant to the secondary school learners. The questionnaires were further tested for clarity by five other male and female secondary school learners at another secondary school, excluded from the actual study. All the learners who participated in pretesting the instrument were excluded from participating in the actual research.

The researcher and the research assistants were conversant in the languages spoken in the LP and by the learners, namely Tshivenda, Xitsonga and Sepedi. Therefore, they could interpret and explain difficult/foreign terms encountered by the secondary school learners while they were completing the questionnaires. For example, the term “gender” was unfamiliar to some of the learners. The research assistants helped the learners by indicating that the word gender means “*mbeu*” in Tshivenda “*rimbe*” in Xitsonga and “*peo*” in Sepedi. All the respondents attended English-medium schools and were conversant in English. The ability of the researcher and research assistants to communicate in all three local languages obviated the need of translating the questionnaires into these languages, thereby saving time and expense.

Table 3.2 depicts the categories, areas and number of people who participated in pretesting the questionnaires.

Table 3.2 Pretesting/pilot study participants

Categories of persons	Area	Number of questionnaires distributed
Researcher's colleagues	Research capacity building project at the University of Venda (Univen)	3
Professional nurses	Reproductive health centres region 3, LP	5
Statistician	Department of Statistics, Univen	1
Male and female learners	Region 3, LP (20 in the initial phase and 10 in the follow-up phase)	30
Computer analyst	Department of Computer Services, Univen	1
TOTAL		40

3.5.3.6 Reliability and validity

For research findings to be acceptable, the aspects of validity, reliability and bias need to be examined.

3.5.3.6.1 Validity

Validity concerns the accuracy and truthfulness of scientific findings. According to Mulhall and LeMay (1999:155), validity is "concerned with systematic error or constant error, that is attributable to relatively stable characteristics of the research population which may bias their behaviour, and/or cause incorrect instrument calibration". Brooks-Brunn (2000:42) refers to validity as "the degree to which a measure assesses what it purports to measure". A valid study should demonstrate what actually exists and a valid instrument should measure what it purports to measure (Brink & Woods 1998:299). According to Woods and Catanzaro (1995:251), a valid instrument should truly reflect the concept it was intended to measure. According to Polit and Hungler (1999:255), reliability and validity depend on each other and a "measuring device that is not reliable cannot possibly be valid".

The following steps were taken to ensure the validity of this study:

- The respondents were drawn from the six regions (four schools in each region) of the LP and included Grade 8 and Grade 12 female and male adolescents from the randomly sampled secondary schools.
- The literature was examined to identify variables to be delineated (see chapter 2).
- The researcher's promoters examined each item for its appropriateness to the research questions.
- The data-collection instrument was pretested with 40 respondents (see table 3.2) who did not participate in the main study.

Wilson (1993:240) emphasises that validity should be evaluated against four measures: inter-rater, content, concurrent and semantic validity.

In this study, validity was evaluated as follows:

- Impartial expert scrutiny of the questionnaires led the researcher to include additional items that would provide extra pertinent information about the respondents' contraceptive knowledge, perceptions, attitudes and practices. Inter-rater validity was further enhanced by inviting an independent statistician to analyse the research results.
- The concern for content validity of the instruments was pursued with the assistance of five professional nurses working at the reproductive clinics, and three colleagues who reviewed the questionnaires and the research questions independently, and agreed that the items represented the concern of the study. The questionnaires were modified on the advice of these colleagues with expertise in the contraceptive field, thereby enhancing the validity of the instrument (De Vos 1998:84).
- Concurrent validity was ensured by comparing the findings between the male and female respondents as the questions were similar, but gender specific. Nevertheless, similar responses were obtained from the males and the females (see chapter 4).
- Semantic validity was enhanced by categories being mutually exclusive and exhaustive, as judged by the statistician consulted after the questionnaires had been completed.

3.5.3.6.2 Reliability

Reliability is “the degree of consistency or dependability with which an instrument measures the attribute it is designed to measure” (Polit & Hungler 1999:256; Lobiondo-Wood & Haber 2002:220). Reliability is concerned with the consistency, stability and repeatability of informants’ accounts as well as the investigators’ ability to collect and record information accurately. A reliable measure is one that can produce the same results if the behaviour is measured again with the same scale. According to Holmes (1996:38) as well as Martin (1997:160), a reliable measure is "one that maximizes the true score and minimizes the error component". Reliability was enhanced in several ways in this study.

- Questions were pretested and yielded similar findings when compared to the main study.
- Data were collected by three people (the researcher and two research assistants) and in all instances yielded similar findings.
- The researcher explained the instruments to the research assistants prior to the pre-testing phase to eliminate individual variations.
- The research assistants worked with young people at the reproductive health services in the LP.

3.5.3.6.3 Bias

According to Burns and Grove (1997:228), bias means "to slant away from the true or expected". Woods and Catanzaro (1998:319) define bias as "a systematic distortion of responses by the researcher, the respondents or the instrument". Bias is of great concern in the research because of the potential effect on the meaning of the study findings. Any component of the study that deviates or causes a deviation from a true measure leads to distorted findings. In order to minimise bias in this study, the following steps were taken:

- One of the research assistants did the random sampling of the participating secondary schools in the presence of the researcher (see section 3.4.6.3).
- The researcher used the services of two research assistants to reduce the positive impact of one researcher’s potential bias..
- The study was conducted in all six districts of the LP at twenty-four randomly sampled

secondary schools.

Validity, reliability and bias were maximised by conducting a literature study, using an appropriate conceptual framework (the HBM), and establishing congruence between research questions, objectives, findings and recommendations (Carter 1996:39).

3.5.3.7 Selection and training of research assistants

The research assistants, both registered nurses with bachelor's degrees, were trained in the use of the data-collection instruments. One research assistant was a registered master's student and the other a registered honours student at the University of Venda. The research assistants were given a one-day training course prior to the commencement of data collection. Their training covered the following:

- the study, its purpose and significance
- their approach to the respondents on the day and time of data collection
- obtaining informed consent from the respondents
- reviewing the data-collection instruments to clarify content and ensure mutual understanding of the objectives
- systematising the data-collection plan

After training, the research assistants were introduced to the schools.

3.5.3.8 Data collection

Polit and Hungler (1999:267) define data as "information obtained during the course of a study". In this study data were collected by means of self-administered questionnaires completed by conveniently selected male and female Grade 8 and Grade 10 learners at twenty-four randomly selected secondary schools in the LP. The purpose of the study was to explore the respondents' contraceptive knowledge, perceptions, attitudes and practices. Data collection was a time-consuming process lasting from 1 April 2003 to 31 August 2003.

Upon arrival at each school on the appointed day, the researcher and the research assistants reported to the principal's office, to report and explain the purpose of their visit. One teacher was assigned to accompany the researcher/research assistants to the prospective respondents, who were gathered in a pre-arranged venue. The assigned staff member who accompanied the researcher/research assistants and introduced the researcher/research assistants to the prospective respondents. The purpose of the researcher's and research assistants' visit was explained to the respondents.

The researcher then explained the purpose and significance of the study and the time required to complete a questionnaire. Informed consent was also obtained from the respondents by giving them the option of consenting or refusing to participate in the study (De Vos 1998:331). The researcher answered questions that the respondents asked. Participation was voluntary and respondents could discontinue at any stage of the process if they wanted to do so, without incurring any disadvantage by such withdrawal. The respondents were informed that the information would be confidential and that because they could not be identified, they should feel free to express their views and feelings without reservation.

After the researcher had obtained the necessary consent from the respondents, the researcher and the research assistants distributed the questionnaires to the respondents. The respondents completed the questionnaires in the presence of the researcher and the research assistants in the allocated venues. The respondents were encouraged to ask questions, and any questions from the respondents were answered as they arose. The respondents handed their completed questionnaires to the researcher or research assistants. This process of returning the completed questionnaires ensured a high response rate. However, some of the questionnaires were discarded as they were spoiled or incomplete thus rendering them useless for data analysis purposes. A total of 952 questionnaires could be analysed, comprising the total sample for this study. Results were presented statistically and no names of persons nor institutions were linked to any responses in order to maintain anonymity of results (Brink & Wood 1998:301). It was agreed that the research findings would be reported to the LP's Ministry of Education and Ministry of Health, respectively. No remuneration was paid to any respondent.

3.5.4 Data analysis

Data analysis refers to "the systematic organisation and synthesis of research data, and testing of the

research hypotheses, using the data" (Babbie & Mouton 2001:245; Polit & Hungler 1999:254). Mulhall and LeMay (1999:154) state that the plan for data analysis in quantitative research is "to organise the description of observations in such a way that it becomes manageable. Descriptions are balanced by analysis and lead to interpretation." A statistician from Unisa's Department of Statistics, analysed the data, using the Statistical Package for Social Sciences (SPSS), version 12.

The coding of the closed questions was done during the design of the questionnaires. The researcher coded the open-ended questions using themes, which emerged from the data. Similar themes and content categories were given the same codes. The data was captured on computer and analysed by means of the SPSS computer program by the statistician. The data from the two questionnaires (male and female) were analysed on two files. Descriptive statistics summarised the data into frequencies and percentages where appropriate. The researcher used content analysis to analyse the data obtained from the open-ended questions. Similar responses were categorized according to themes. Chapter 4 presents the results.

3.5.5 Ethical considerations

Ethics is "a system of moral values concerned with the degree to which research procedures adhere to professional, legal and social obligations" (Polit & Hungler 1999:649; Talbot 1995:277). Burns and Grove (2001:261) emphasise that when human beings are used as subjects, researchers should ensure that participants' rights are observed and respected. Research participants should grant permission prior to their participation in any study (Babbie & Mouton 2001:205). Ethical issues considered during this study included obtaining permission from the relevant authorities and the prospective respondents, respectively to conduct the research, anonymity, respect for human dignity, confidentiality, beneficence and justice.

3.5.5.1 Permission to conduct the study

The researcher obtained permission to conduct the study from:

- The Research and Ethics Committee of the Department of Health Studies, Unisa.
- The relevant authorities from the LP's Ministry of Education.
- The headmasters of the randomly sampled senior secondary schools in the LP. They were

- informed telephonically about the aim and objectives of the study and also supplied with copies of the permission granted by the LP's Ministry of Education to conduct the survey.
- Each respondent (Grade 8 and Grade 12 learner) was informed about the purpose, significance and benefits of the study, and the time required to complete the questionnaire. Each respondent received a covering letter together with a questionnaire for completion. In order to maintain confidentiality and anonymity, the respondents were asked NOT to write their names on the questionnaires.

3.5.5.2 Anonymity

Anonymity relates to keeping subjects nameless in relation to their participation in the study (Brink 1996:41). In this study, the questionnaires were taken to the participating schools in the LP by the researcher and research assistants on pre-arranged data-collection days. The letter granting permission from the LP's Ministry of Education had previously been sent to all six senior regional managers of the LP. An explanatory covering letter accompanied each questionnaire (see annexure 4). The respondents were assured that no names of learners or schools would be disclosed and all information received would be treated in the utmost confidentiality at all times. Anonymity was ensured in this study because no participant could be linked to the information on any completed questionnaire. As the respondents could have doubted the anonymity of their responses had they given signed consent, no such consent was required from them.

3.5.5.3 Respect for human dignity

In terms of this principle, human beings are seen as autonomous, that means they have the right to self-determination and this right must be respected (Brink 1996:39; Burns & Grove 2001:265). Approval to conduct this study was sought from and granted by the relevant authorities. Participation by each learner remained voluntary. The researcher respected the principle of self-determination which meant that each learner had the right to decide voluntarily whether or not to participate in the research (Miller, Fisher, Miller, Ndhlovu, Maggwa, Askew, Sanogo & Tapsoba 1997:17; Polit et al 2001:186).

3.5.5.4 Confidentiality

Burns and Grove (1997:204) define confidentiality as the researcher's management of the private information disclosed by the participant. In this study, confidentiality was maintained and confirmed in writing and verbally, and by the following:

- A coding system was used to ensure anonymity of the respondents.
- Neither the respondents' parents nor teachers could gain access to the raw data of the research. For example, upon receipt of the completed questionnaires from the respondents, these questionnaires were placed into sealed boxes, which were handled by the researcher only.
- The respondents were informed that they had the right to withhold information or to discontinue completing the questionnaires at any stage without incurring any negative consequences.
- The respondents were informed prior to participating in the study that the data collected would be used only for the purpose for which it had been approved and collected. Based on the research report, improved contraceptive services and education programmes for learners in the LP could be recommended and instituted.
- No specific person would be mentioned in the research report.
- The completed questionnaires would be kept under lock and key. Only the researcher and the statistician had access to the completed questionnaires. The researcher would destroy them once the research report had been accepted.

3.5.5.5 Beneficence

The principle of beneficence is concerned with maximising benefits and doing no harm, and includes freedom from harm and exploitation and the risk:benefit ratio (Burns & Grove 2001:228; Miller et al 1997:17). With regard to the freedom from harm, the study inflicted no physical harm by participating in the study. Psychological discomfort might have resulted from the nature of the questions asked as was observed from some of the completed questionnaires. For example, some of the sexuality questions, such as frequency of sexual intercourse, remained unanswered in some of the questionnaires, presumably due to psychological discomfort or the respondents' unwillingness to expose their sexual activities.

Freedom from exploitation was observed by not exploiting the respondents' vulnerabilities. Learners who sought contraceptives were regarded as a vulnerable group as they presumably wanted to avoid unwanted pregnancies and/or HIV/AIDS. Accordingly, their right to refuse to participate in the study, and the fact that their participation or refusal to do so would not jeopardise the actual or potential care provided to them in any way whatsoever, was carefully explained to the respondents.

The risk:benefit ratio implied that no psychological discomfort was anticipated to result from answering the questions. The benefit was that the respondents' contraceptive knowledge, perceptions, attitudes and practices would be used to improve policies for providing improved contraceptive services to learners in the LP.

3.5.5.6 Justice

The principle of justice encompasses the right to fair treatment and the right to privacy. According to Miller et al (1997:17), justice requires that the respondents are treated equally and are also beneficiaries. The right to fair treatment included treating the respondents tactfully, respecting their beliefs, culture and lifestyles and giving them the freedom to voice any feeling or ask any question.

The right to privacy was respected because the teachers prepared a neutral venue for the respondents to complete the questionnaires. The completed questionnaires were only accessible to the researcher and the statistician. The respondents were treated equally irrespective of the nature of contraceptive knowledge acquired and the reproductive information already comprehended. It was also explained that the information could help improve contraceptive health services and policies in the LP.

The principle of justice includes the respondents' right to fair selection and privacy (Bowling 1997:158). In this study, the selection of the sample was conducted according to eligibility criteria (see section 3.4.6.2). Privacy is "the right an individual has to determine the time, extent and conditions under which private information will be shared with or withheld from others" (Brink 1996:40). The researcher ensured the respondents' privacy by explaining the purpose, objectives and significance of the study, obtaining their informed consent to voluntarily participate and share private information with the researcher, and assuring them of anonymity and confidentiality.

3.6 PHASE 2: CONDUCTING STRUCTURED INTERVIEWS

Professor Steffens, from the Department of Statistics, Unisa, analysed the data using the SPSS, version 12 computer program. Some inexplicable data discrepancies appeared in the data analysis. At the recommendation of Professor Steffens and the two promoters of the study, 40 structured interviews were conducted, using the questionnaires for females (10 from Grade 8 and 10 from Grade 12) and males (10 from Grade 8 and 10 from Grade 12). The data obtained from these 40 structured interviews were initially presented and discussed in chapter 5 of this thesis. However, as the data obtained from the interviews corresponded with the data obtained from the questionnaires, chapter 5 seemed to reiterate the findings reported in chapter 4. Consequently, data obtained from the structured interviews were incorporated into chapter 4, comparing and contrasting the data obtained from the completed questionnaires with the data obtained from the 40 structured interviews. Thus, although the data were collected in two phases, the report of both sets of data is presented and discussed in chapter 4 of this thesis..

3.7 CONCLUSION

This chapter discussed the research methodology of the study, including the research design, population, sampling, data-collection instrument, pretesting, and ethical considerations.

Chapter 4 presents the data analysis and interpretation, with special reference to the literature reviewed and within the context of the HBM.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

In this study, the researcher used the HBM as a conceptual framework. The data collected enabled the researcher to evaluate the respondents' contraceptive knowledge, perceptions, beliefs and attitudes and also explained why some learners took specific actions to avoid pregnancies, STDs and HIV infections, while others failed to do so. Beliefs about personal susceptibility were consistently associated with the adoption of multiple protective behaviours, suggesting that future intervention efforts should focus more extensively on learners' beliefs and provide education to overcome barriers to contraceptive use.

This chapter discusses the data analysis and interpretation of the respondents' contraceptive knowledge, perceptions, beliefs and practices and sources of information imparting sexual knowledge to learners. The statistical information was derived from a sample of 952 respondents who completed questionnaires. Some of the respondents chose not to complete certain sections of the questionnaires, or certain items within specific sections, presumably because of the personal nature of the questions asked, especially those on sexuality. The percentages were calculated on the number of responses to each item (valid percent), not on the total number of questionnaires received. This was done as a function of the SPSS version 12 program on the advice of Professor F Steffens, from Unisa's Department of Statistics.







Where applicable, differences and comparisons were noted between the Grade 8 and Grade 12 respondents, as well as between males and females and also between rural and urban areas. The latter two were not substantiated as it was not the aim of the study to do gender or rural/urban specific analyses. Demographic information was obtained from both Grade 8 and Grade 12 respondents to contextualise the information about contraception.

The questionnaire layout was as follows:

Twenty-seven items from both female and male questionnaires measured background information (16 items in the female and 11 items in the male questionnaires); 8 items measured past and present sexual activities and pregnancies in both Grade 8 and Grade 12 learners; 70 items assessed contraceptive knowledge, perceptions, attitudes and practices (34 for females and 36 for males); 8 items (4 for females and 4 for males) assessed knowledge of and attitudes towards PHC; 28 items (17 for females and 11 for males) determined the anticipated effects of contraception; 12 items (7 for females and 5 for males) measured parental and school involvement in sexual education of learners; 6 items measured attitudes towards contraception

and some sex-related information received from schools for both Grade 8 and Grade 12 respondents, and one item requested suggestions to improve contraceptive services in the LP. Subsequent to the data analyses according to the questionnaire items, the data were re-organised according to four major sections: biographic data; sexuality issues; knowledge, attitudes and perceptions of contraceptives; and sex education received.

Data analysis was done by Professor F Steffens, a statistician at Unisa, using the SPSS version 12 program. The following statistical tests were applied in the data analysis:

-  Frequency distributions were compiled to arrange data belonging to the same category (Spiegel 1996:36; Valanis 1999:69). Frequencies, percentages and total percentages were used to describe different variables and allow for the clear presentation of data in figures and frequency tables.
-  Observed frequencies (OF) and expected frequencies (EF) were used to describe data. According to Clamp and Gough (1999:84); Daniel (1999:573) as well as Fink (1993:140), frequencies are numbers of subjects or objects in the sample that fall into the various categories of the variable of interest. For example, the number of adolescents using different contraceptives would be the observed frequencies. Expected frequencies are the number of subjects or objects in the sample that one would expect to observe if the null hypothesis about the variable is true, implying that there was no difference between the Grades 8 and Grade 12 learners' responses.
-  Nonparametric tests, also referred to as distribution-free statistical tests, are applied to data where no assumptions are made regarding the normal distribution of the targeted population (Brink 1996:191; Fitzpatrick et al 1998:167). Nonparametric tests were conducted as no assumptions were made about the normal distribution of values in the population from which the sample was selected (Burns & Grove 2001:570; Freedman, Pisani, Purves & Adhikari 1995:135).
-  The Chi-square test was used to determine the statistical significance of the contraceptive knowledge, perceptions, attitudes, practices and other variables at the 0,05 and 0,01 significance levels. For example, if the probability of uncertainty (PC0,05) indicated that the null hypothesis was accepted at 5,0%, the result was accepted as statistically significant and where the P-values were found to be less than 0,1 (PC 0,01), the results were regarded as being highly significant (Clamp & Gough 1999:88; Miles & Huberman 1994:10; Mechanik 1992:110; Spiegel 1996:249).
-  The Phi (P-values) coefficient test was used with the chi-square test to describe the magnitude of the effect of the relationships between two variables. According to Burns and Grove (2001:573), Goodwin (1995:124), Gorbin, Barnes, Mayberry and Gibson (1998:28), Phi values range from -1 to +1, with the magnitude of the relationship decreasing as the coefficient nears zero.
-  Cross-tabulation was used for measuring nominal and ordinal data (Halette 1997:10; McFarlane & Meier 2001:18; Smith 1998:124).

4.2 DISCUSSION OF RESEARCH RESULTS OBTAINED FROM QUESTIONNAIRES

According to Frank et al (2003:379), components of the theory of planned behaviour (TPB), the HBM and the measure of anticipated effect should be assessed with multiple items.

Where applicable, graphical presentations and/or tables were used to show relevant values. Percentages were used, followed by figures, indicating the number (n) of responses to a particular question.

4.2.1 Biographic data

Demographic issues addressed in the self-administered questionnaire included respondents' Grades, marital status, residential area, home languages, religions, number of children borne by the respondents, parental employment status and the respondents' parents' highest educational qualifications.

The items in this section of the questionnaire attempted to obtain personal information about the learners in order to contextualise their responses concerning sexuality issues against this information.

4.2.1.1 Respondents' Grades

Figure 4.1 indicates that out of the 944 respondents who answered this question, 612 (64,8%) were in Grade 8 and 332 (35,2%) were in Grade 12. As most items were categorised according to the learners' Grades, those questionnaires which did not indicate the Grade, could not be considered for some of the statistical analyses, explaining why the total number of responses is sometimes indicated as being 944 (n=944) and not 952.

Figure 4.1
Respondents' grades (missing values: 8)

Of the respondents, 612 (346 or 56,5% females and 266 or 43,5% males) were in Grade 8 and 332 (160 or 48,2% females and 172 or 51,8% males) were in Grade 12. The lower Grade (Grade 8) usually has more learners than the advanced Grades because repeating a year is a distinct possibility as learners progress thus reducing the number of learners in the higher levels. The study concentrated on Grade 8 and Grade 12 since all high schools admit new learners in Grade 8. The researcher wished to determine the contraceptive knowledge that the respondents had acquired in primary (prior to Grade 8) and in secondary school, and also the sexual knowledge they had acquired up to Grade 12. Academic aspirations can influence the delay of sexual involvement and make health education messages more meaningful (Frans et al 2003:385; Morrison 2000:189; Mouton 2001:18). Figure 4.1 indicates that there were more females in grade 8 and more males in grade 12. It could not be established whether this change could be attributed to large numbers of females leaving school prior to completing grade 12. Nor could it be determined whether large numbers of females left school because of pregnancies.

4.2.1.2 *Marital status*

Table 4.1 Respondents' marital status

MARITAL STATUS	FEMALES							MALES					
	GRADE 8		GRADE 12			TOTAL		GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%			
married	274	85,6	144	97,3	418	89,3	236	88,1	166	96,5	402	91,4	
divorced	20	6,3	4	2,7	24	5,1	32	11,9	6	3,5	38	8,6	
separated	10	3,1	0	0,0	10	2,1	0	0,0	0	0,0	0	0,0	
never married	16	5,0	0	0,0	16	3,4	0	0,0	0	0,0	0	0,0	
TOTAL	320	100,0	148	100,0	468	99,9	268	100,0	172	100,0	440	100,0	

Reportedly as many as 52 (8,5%) of the Grade 8 and 10 (3,0%) of the Grade 12 learners were reportedly married. It is known that learners do get married in the LP even while they are still attending school. It was also unexpected that fewer Grade 12 than Grade 8 learners were married, and that 3,2% (n=10) of the Grade 8 females reported themselves be to divorced. As no males were reportedly divorced, these divorced Grade 8 learners might have been married to

males who were not in Grade 8 nor in Grade 12 during the data collection phase. These statistics might indicate a dire need to educate primary school children in the LP about sexuality issues and about contraceptives because 24 grade 8 learners were already married..

Table 4.1 depicts the respondents' marital status and indicates that 20 (6,3%) of the Grade 8 female respondents were married and 10 (3,1%) were divorced, while 32 (11,9%) of the Grade 8 male respondents were married. These findings suggest that some Grade 8s may have compelling social responsibilities beyond their capacity as secondary schools learners, if getting married so soon during their secondary school years (see table 4.1). These responsibilities may hinder their learning progress. Marital status was included in this study to compare the use of contraceptives and marital status (see table 4.12 and table 4.13).

4.2.1.3 Respondents' residential areas

Table 4.2 Respondents' residential areas

AREA OF RESIDENCE	FEMALES							MALES					
	GRADE 8		GRADE 12		TOTAL			GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%			
Urban	40	11,5	12	7,5	52	10,2	24	9,0	2	1,2	26	5,9	
Rural	290	83,3	124	77,5	414	81,5	210	78,4	124	72,1	334	75,9	
City	10	2,9	6	3,8	16	3,1	6	2,2	6	3,5	12	2,7	
Townships	8	2,3	18	11,3	26	5,1	28	10,4	40	23,3	68	15,5	
TOTAL	348	100,0	160	100,1	508	99,9	268	100,0	172	100,1	440	100,0	

Four residential areas were distinguished, where the respondents lived as demonstrated in table 4.2. Out of 948 respondents who answered this question, 40 (11,5%) Grade 8 and 12 (7,5%) Grade 12 females reported residing in an urban area compared to 24 (9,0%) Grade 8 and only 2 (1,2%) Grade 12 males residing in urban areas. Of the respondents, 290 (83,3%) Grade 8 females and 210 (78,4%) Grade 8 males compared to 124 (77,5%) Grade 12 females and 124 (72,1%) Grade 12 males were residing in the rural areas of the LP. Only 10 (2,9%) Grade 8 females and 6 (2,2%) Grade 8 males compared to 6 (3,8%) Grade 12 females and 6(3,5%) Grade 12 males were from the city. The remaining 8 (2,3%) Grade 8 females and 28 (10,4%) Grade 8 males, 18 (11,3%) Grade 12 females and 40 (23,3%) Grade 12 males were residing in townships in the LP.

From table 4.2 it is clear that the minority lived in urban areas, townships and cities, and this could indicate that these respondents accessed transport to contraceptive services more readily than respondents from the rural areas (DOH 2001:14). However, this possibility could neither be supported nor refuted by the available statistics. Four (0,4%) of the respondents did not indicate their area of residence possibly because those who could not select the area of residence did not wish to disclose the location. Some of the rural residential areas are remote where TOP and contraceptive services were not available (item 4.2.5). With regard to contraceptive knowledge and practice, residential area could have influenced accessibility to contraceptive services (see item 4.2.3.8) because some of the respondents reported long distances to contraceptive services as well as judgmental community attitudes towards the use of contraceptive services by youth.

4.2.1.4 Respondents' home languages

Table 4.3 Respondents' home languages

NAME LANGUAGE	FEMALES							MALES				
	GRADE 8		GRADE 12		TOTAL			GRADE 8		GRADE 12		TOTAL
	f	%	f	%	f	%	f	%	f	%		
da	341	97,2	90	56,3	431	84,3	258	96,3	136	79,1	394	89,5
nga	4	1,1	36	22,5	40	7,8	10	3,7	6	3,5	16	3,6
otho	6	1,7	34	21,3	40	7,8	0	0,0	28	16,3	28	6,4
er	0	0,0	0	0,0	0	0,0	0	0,0	2	1,2	2	0,5
TOTAL	351	100,0	160	100,1	511	99,9	268	100,0	172	100,1	440	100,0

The majority of both the Grade 8 and Grade 12 learners were Tshivenda speaking. Home language is an indicator of a respondent's ethnicity and cultural grouping. Of the respondents, 341 (97,2%) Grade 8 females and 258 (96,3%) Grade 8 males compared to 90 (56,3%) Grade 12 females and 136 (79,1%) Grade 12 males were Tshivenda speaking; 4 (1,1%) Grade 8 females and 10(3,7%) Grade 8 males compared to 36 (22,5%) Grade 12 females and 6 (3,5%) Grade 12 males were Tsonga speaking; 6 (1,7%) Grade 8 females and 0 (0,0%) Grade 8 males, 34 (21,3%) Grade 12 females and 28 (16,3%) Grade 12 males were North Sotho speaking, and only 2 (1,2%) Grade 12 males reported speaking other languages (not specified). The respondents' languages were important in this study as an element for communication especially when providing health education about contraceptives.

4.2.1.5 Respondents' religious affiliations

Table 4.4 Religious denominations to which respondents belonged

RELIGION DOMINATION	FEMALES							MALES					
	GRADE 8		GRADE 12			TOTAL		GRADE 8		GRADE 12		TOT AL	
	f	%	f	%	f	%	f	%	f	%			
Africans	114	35,6	22	12,5	136	26,4	138	51,5	41	23,8	179	40,7	
Catholic	10	3,0	26	14,8	36	7,1	4	1,5	36	20,9	40	9,1	
Anglican	8	2,4	6	3,4	14	2,8	4	1,5	13	7,6	17	3,9	
Apostolic	108	32,8	48	27,3	156	30,9	56	20,9	44	25,6	100	22,7	
ZCC	76	23,1	48	27,3	124	24,6	50	18,7	18	10,5	68	15,4	
Other	13	3,9	26	14,7	39	7,7	16	6,0	20	11,6	36	8,2	
TOTAL	329	100,8	176	100,0	505	100,0	268	100,1	172	100,0	440	100,0	

Table 4.4 reveals that the majority of the respondents were from various African Traditional denominations. Of the respondents, 114 (35,6%) Grade 8 females, 138 (51,5%) Grade 8 males, 22 (12,5%) Grade 12 females and 41 (23,8%) Grade 12 males were affiliated to African Traditional (Indigenous) Churches; 108 (32,8%) Grade 8 females, 56 (20,9%) Grade 8 males, 48 (30,8%) Grade 12 females and 44 (25,6%) Grade 12 males belonged to the Apostolic Church; 76 (23,1%) Grade 8 females, 50 (18,7%) Grade 8 males, 48 (27,3%) Grade 12 females and 68 (15,4%) Grade 12 males belonged to the Zionist Christian Churches (ZCC); Catholic churches had minority members with 10 (3,0%) Grade 8 females, 4 (1,5%) Grade 8 males, 26 (14,8%) Grade 12 females and 36 (20,9%), Grade 12 males. Thirteen (3,9%) Grade 8 females, 16 (6,0%) Grade 8 males, 26 (14,8%) Grade 12 females and 20 (11,6%) Grade 12 males indicated that they belonged to "other" churches but did not specify. Some churches, such as the Apostolic and ZCC religions, do not encourage their followers to practise contraception (see item 4.2.5) and some respondents reported not using contraceptives because it was against their religious beliefs (see item 4.38). Similarly, Wood and Jewkes (2000:11) found that teenagers belonging to the ZCC in the Northern Province did not use contraceptives because it was against their religious beliefs. Data related to religious affiliations were further correlated with respondents' ages at first sexual intercourse (see table 4.14).

4.2.1.6 Respondents' number of children

The number of children borne to every young female could influence not only her intentions to bear more children, but also her use or non-use of traditional and/or modern contraceptives. Figure 4.2 illustrates the number of children born to respondents.



Percentage

Figure 4.2
Number of children born to respondents

Out of 506 responses, 42 (12,1%) Grade 8 and 12 (7,6%) Grade 12 respondents reported having two or more children. Despite freely available contraceptives, 15,1% Grade 8 and 39,9% Grade 12 learners had children. These results indicated that the respondents were exposed to unprotected sexual intercourse. Having one child could be challenging while trying to complete one's schooling, but having two or more children might make it almost impossible to complete one's schooling. This finding indicates a dire need to provide education about contraceptives specifically to pregnant and parenting learners in the LP. Dangal (2005:202) as well as Dye (2006:114) found that at the age of 13,5 years in Los Angeles, USA, their respondents already had one, or even more than one child, and further that this could be associated with a lack of contraceptive knowledge, doubts and misconceptions about contraceptive practices or that the contraceptives were not used correctly.

There was an apparent discrepancy in some of the information given by some respondents who indicated that their first sexual encounters were not accidental, they wanted to have babies (see item 4.20). Panchaud, Singh, Feivelson and Darroch (2002:36) warn that younger women who deliver many children were at risk of dying during childbirth. Tsabedze (2002:2) found a 12-year-old in Swaziland who was pregnant. Childbearing at these young ages is not only physically detrimental but could also hamper the young mother's educational achievements, and consequently her economic and social development, enhancing the chances that she and children will face a life of poverty. Females who completed their schooling, and possibly acquired some tertiary education qualification prior to commencing with childbearing, would have a much better chance of raising their children successfully than their peers who became adolescent mothers while at school.

4.2.1.7 Persons who took care of learners' children

Table 4.5 Persons with whom learners' children lived

CHILD LIVES/ CHILDREN LIVE WITH	FEMALES					
	GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%

Mother	124	66,0	46	76,7	170	68,5
Granny	16	8,5	10	16,7	26	10,5
Other	48	25,5	4	6,7	52	21,0
TOTAL	188	100,0	60	100,1	248	100,0

This question appeared on the female questionnaire only. Of the respondents, 124 (66,0%) Grade 8 and 46 (76,7%) Grade 12 learners reported that their mothers took care of their child/children, while 16 (8,5%) Grade 8 and 10 (16,7%) Grade 12 respondents indicated that their grandmothers looked after their child/children. Only 48 (25,5%) Grade 8 and 4 (6,7%) Grade 12 respondents reported “other”. These findings revealed that the majority of Grade 8 and 12 respondents were not taking care of their own children as they were still at school. Many of the respondents' mothers were not working (see figure 4.4). However, it is interesting to note that fewer Grade 8 learners' mothers

and grand mothers took care of their children and that as many as 25,5% of them indicated that “others” took care of their children compared to 6,7% of the Grade 12 learners who used “others” to look after their children. This finding might indicate a trend that fewer grand mothers and mothers might be available to look after their school going daughters' children. Should this be the case, then the need for educating learners in the LP about contraceptives becomes even more important. Few, if any learners, could be able to afford to pay child minders to look after their children while they go to school, possibly contributing to more adolescent mothers' discontinuation of their education, with dire social and economic consequences for themselves and for their children.

4.2.1.8 Social club affiliations

Table 4.6 Respondents' social club affiliations

TYPE OF CLUB	FEMALES							MALES					
	GRADE 8		GRADE 12		TOTAL			GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%			
Belong to a social club													
	20	5,7	10	6,3	30	5,9	10	3,7	14	8,1	24	5,5	
Yes	332	94,3	150	93,8	482	94,1	258	96,3	158	91,9	416	94,5	
No													
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0	
Belong to a sports club													
	78	22,2	30	18,8	108	21,1	196	73,1	102	59,3	298	67,7	
Yes	274	77,8	130	81,3	404	78,9	72	26,9	70	40,7	142	32,3	
No													
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0	
Belong to church youth group													
	226	64,2	115	71,9	341	66,6	82	30,6	92	53,5	174	39,5	
Yes	126	35,8	45	28,1	171	33,4	186	69,4	80	46,5	266	60,5	
No													
TOTAL	352	100,0	160	100,0	512	100,0	268	100,0	172	100,0	440	100,0	
Belong to other group/club													
	18	5,1	0	0,0	18	3,5	4	1,5	6	3,5	10	2,3	
Yes	334	94,9	160	100,0	494	96,5	264	98,5	166	96,5	430	97,7	
No													
TOTAL	352	100,0	160	100,0	512	100,0	268	100,0	172	100,0	440	100,0	

More than 90% of all the respondents did not belong to any social club. This finding could indicate a dire need for the establishment of social clubs for secondary school learners in the LP. Of the respondents, 332 (94,3%) Grade 8 females and 258 (96,3%) Grade 8 males as well as 150 (93,8%) Grade 12 females and 158 (91,9%) Grade 12 males indicated that they did not belong to any social club. Of the respondents, 20 (5,7%) Grade 8 females and 10 (3,7%) Grade 8 males compared to 10 (6,3%) Grade 12 females and 14 (8,1%) Grade 12 males belonged to a social club. In comparison, 298 (67,6%) males belonged to sports clubs and 341 (66,6%) females belonged to church youth groups, and 18 (3,5%) females and 10 (2,3%) males belonged to other clubs that were not specified.

According to these findings, respondents who indicated that they were not affiliated to any social club might be at greater risk of being isolated from other learners. Moreover, because of the lack of recreational facilities, especially in the rural LP, and the number of taverns (houses used as drinking places) and night clubs in the LP, many learners who did not belong to social clubs could find themselves in these places and contract STDs and HIV/AIDS. Durham (1999:214) and Webb

(1998:13) found that social clubs such as church groups are more widely attended by females than males whereas sports clubs are more widely supported by males than females.

4.2.1.9 *Persons with whom learners lived*

Table 4.7 Persons with whom learners lived

PERSONS LIVING WITH RESPONDENTS	FEMALES						MALES						TOTAL
	GRADE 8		GRADE 12		TOTAL		GRADE 8		GRADE 12				
	f	%	f	%	f	%	f	%	f	%			
Other only	140	39,8	42	26,3	182	35,5	136	50,7	60	34,9	196	44,5	
Yes	212	60,2	118	73,8	330	64,5	132	49,3	112	65,1	244	55,5	
No													
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0	
Other only	82	23,3	22	13,8	104	20,3	92	34,3	42	24,4	134	30,5	
Yes	270	76,7	138	86,3	408	79,6	176	65,7	130	75,6	306	69,5	
No													
TOTAL	352	100,0	160	100,1	512	99,9	268	100,0	172	100,0	440	100,0	
Live with Yes	108	30,7	86	53,8	194	37,9	84	31,3	93	54,1	177	40,2	
Both No	244	69,3	74	46,3	318	62,1	184	68,7	79	45,9	263	59,8	
Parents													
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0	
Live with Yes	84	23,9	28	17,5	112	21,9	72	26,9	56	32,6	128	29,1	
Brothers No	268	76,1	132	82,5	400	78,1	196	73,1	116	67,4	312	70,9	
And sisters													
TOTAL	352	100,0	160	100,0	512	100,0	268	100,0	172	100,0	440	100,0	
Live with Yes	76	21,6	10	6,3	86	16,8	54	20,1	56	32,6	110	25,0	
Brothers, No	276	78,4	150	93,8	426	83,2	214	79,9	116	67,4	330	75,0	
Brothers and													
Sisters													
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0	
Live with Yes	32	9,1	34	21,3	66	12,9	16	6,0	30	17,4	46	10,5	
Grand- No	320	90,9	126	78,8	446	87,1	252	94,0	142	82,6	394	89,5	
Parents													
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0	
Live with Yes	2	0,6	0	0	2	0,4	44	16,4	36	20,9	80	18,2	
Other No	350	99,4	160	100,0	510	99,6	224	83,6	136	79,1	360	81,8	
Relatives													
TOTAL	352	100,0	160	100,0	512	100,0	268	100,0	172	100,0	440	100,0	

Table 4.7 shows that 140 (39,8%) Grade 8 females and 136 (50,7%) Grade 8 males compared to 42 (26,3%) Grade 12 females and 60 (34,9%) Grade 12 males lived with their mothers only, while 82 (23,3%) Grade 8 females and 92 (34,3%) Grade 8 males compared to 22 (13,8%) Grade 12 females and 42 (24,4%) Grade 12 males lived with their fathers only. Of the respondents, 108 (30,7%) Grade 8 females and 84 (31,3%) Grade 8 males compared to 86 (53,8%) Grade 12 females and 93 (54,1%) Grade 12 males lived with both parents; 184 (31,3%) Grade 8 females and 72 (26,9%) Grade 8 males compared to 28 (17,5%) Grade 12 females and 56 (32,6%) Grade 12 males lived with both parents; and other siblings and 76 (21,6%) Grade 8 females and 54 (20,1%) Grade 8 males lived with their mothers and other siblings; 32 (9,1%) Grade 8 females and 16 (6,0%) Grade 8 males and 34 (21,3%) Grade 12 females and 30 (17,4%) Grade 12 males lived with their grandparents while 2 (0,6%) Grade 8 females and 44 (16,4%) Grade 8 males and 0 (0,0%) Grade 12 females and 36 (20,9%) Grade 12 males lived with other relatives.

The findings revealed that overall, 581 (60,1%) of the respondents in both Grades did not live with both parents. Many families are female headed in the rural areas of the LP. Furthermore, many of the respondents lived with single parents, mainly mothers.

4.2.1.10 Types of dwellings in which respondents lived

Table 4.8 Respondents' types of dwellings

TYPE OF DWELLING	FEMALES						MALES					
	GRADE 8		GRADE 12		TOTAL		GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%	f	%
Five rooms or more	144	42,6	54	36,0	198	40,6	24	9,0	2	1,2	26	5,9
Four rooms or less	138	40,8	34	22,7	172	35,2	210	78,4	124	72,1	334	75,9
Shack	34	10,1	4	2,7	38	7,8	6	2,2	6	3,5	12	2,7
Other	22	6,5	58	38,7	80	16,4	28	10,4	40	23,7	68	15,5
TOTAL	338	100,0	150	100,1	488	100,0	268	100,0	172	100,5	440	100,0

Table 4.8 reveals that 144 (42,6%) Grade 8 females and 24 (9,0%) Grade 8 males compared to 54 (36,0%) Grade 12 females and 2 (1,2%) Grade 12 males lived in five or more roomed houses; 138 (40,8%) Grade 8 females and 210 (78,4%) Grade 8 males compared to 34 (22,7%) Grade 12 females and 124 (72,1%) Grade 12 males lived in four-roomed and fewer roomed houses, while 22 (6,5%) Grade 8 females and 28 (10,4%) Grade 8 males compared to 58 (38,7%) Grade 12 females and 40 (23,3%) Grade 12 males lived in shacks. These findings were expected since the LP is geographically situated in the far northern part of the RSA. Eighty percent (80,0%) of the province is rural and the majority of the people are not classified as financially independent (Mashau 2001:191).

4.2.1.11 Highest qualifications obtained by learners' fathers

Table 4.9 Respondents' fathers' highest qualifications

FATHERS' HIGHEST QUALIFICATIONS	FEMALES						MALES					
	GRADE 8		GRADE 12		TOTAL		GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%	f	%
Grade 4 or less	8	2,7	8	5,8	16	3,7	72	40,0	4	6,5	76	31,4
Grade 5-6	16	5,4	30	21,7	46	10,6	8	4,4	6	9,7	14	5,8
Grade 7-8	42	14,3	16	11,6	58	13,4	24	13,3	14	22,6	38	15,7
Grade 9-10	26	8,8	10	7,2	36	8,3	22	12,2	4	6,5	26	10,7
Grade 11-12	100	34,0	10	7,2	110	25,5	26	14,4	6	9,7	32	13,2
Diploma	16	5,4	14	10,1	30	6,9	24	13,3	12	19,4	36	14,9
Degree	70	23,8	36	26,1	106	24,5	4	2,2	16	25,8	20	8,3
Other	16	5,4	14	10,1	30	6,9	0	0,0	0	0,0	0	0,0
TOTAL	294	99,8	138	99,8	432	99,8	180	99,8	62	100,2	242	100,0

Table 4.9 shows an analysis of the respondents' fathers' highest qualifications. Out of responses received, 8 (2,7%) Grade 8 females, 72 (40,0%) Grade 8 males, 8 (5,8%) Grade 12 females and 4 (6,5%) Grade 12 males reported that their fathers had attained Grade 4 and lower; 16(5,4%) Grade 8 females and 8 (4,4%) Grade 8 males reported Grade 5 to 6; 42 (14,3%) Grade 8 females, 24 (13,3%) Grade 8 males, 16 (11,6%) Grade 12 females and 14 (22,6%) Grade 12 males reported their fathers to have obtained Grade 7 to 8; 100 (34,0%) Grade 8 females, 26 (14,4%) Grade 8 males, 10 (7,2%) Grade 12 females and 6 (9,7%) Grade 12 males indicated their fathers' developmental level at

Grade 11 to 12; 16 (5,4%) Grade 8 females, 24 (13,3%) Grade 8 males, 14 (10,1%) Grade 12 females and 12 (19,4%) Grade 12 males indicated a diploma, and 70 (23,3%) Grade 8 females, 4 (2,2%) Grade 8 males, 36 (26,1%) Grade 12 females and 16 (25,8%) Grade 12 males indicated that their fathers had obtained degrees.

Mitchell et al (1999:27) found that higher qualifications of parents were associated with higher abstinence from sexual activities. Mitchell et al (1999:27) added that such respondents were an ideal group to form a study population because of their willingness to learn more, to complete the whole questionnaire, than ones whose fathers had lower educational levels because such respondents might lack information about sexuality and contraception. According to Godfrey (1996:21), the parents' educational level is of significance in terms of receptivity, openness to information and imparting knowledge to their children. In Brazil, Galvao, Diaz, Diaz, Osis, Clark and Ellertson (1999:169) found that both parents' educational level was of significance in terms of receptivity to information and imparting sexual knowledge to their children. According to Galvao et al (1999:170), individuals who did not complete their high school education were less likely to talk about sexuality with their children, as discussing sexual matters might be embarrassing.

Item 4.2.1.12 Highest qualifications obtained by learners' mothers

Table 4.10 Respondents' mothers' highest qualifications

MOTHERS' HIGHEST QUALIFICATIONS	FEMALES						MALES					
	GRADE 8		GRADE 12		TOTAL		GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%	f	%
Grade 4 or less	8	2,7	10	6,8	18	4,0	46	28,0	10	8,2	56	19,6
Grade 5-6	24	8,1	40	27,0	64	14,3	30	18,3	38	31,1	68	23,8
Grade 7-8	20	6,7	14	9,5	34	7,6	10	6,1	16	13,1	26	9,1
Grade 9-10	50	16,8	6	4,1	56	12,6	14	8,5	4	3,3	18	6,3
Grade 11-12	108	36,2	14	9,5	122	27,4	22	13,4	2	1,6	24	8,4
Diploma	36	12,1	14	9,5	50	11,2	28	17,1	34	27,9	62	21,7
Degree	40	13,4	32	21,6	72	16,1	14	8,5	18	14,8	32	11,2
Other	12	4,0	18	12,2	30	6,7	0	0,0	0	0,0	0	0,0
TOTAL	298	100,0	148	100,2	446	99,9	164	99,9	122	100,0	286	100,1

Table 4.10 indicates that the respondents' mothers' highest qualifications were similar to those of the fathers. Only 8 (2,7%) Grade 8 females, 46 (28,0%) Grade 8 males, 10 (6,8%) Grade 12 females and 10 (8,2%) Grade 12 males indicated that their mothers' highest qualifications were ranged up to Grade 4; 24 (8,1%) Grade 8 females and 30 (18,3%) Grade 8 males reported Grade 5 to 8; 50 (16,8%) Grade 8 females, 14 (8,5%) Grade 8 males, 6 (4,1%) Grade 12 females and 4 (3,3%) Grade 12 males indicated Grade 9 to 10; 108 (36,2%) Grade 8 females, 22 (13,4%) Grade 8 males, 14 (9,5%) Grade 12 females and 2 (1,6%) Grade 12 males reported Grade 11 to 12; 36 (12,1%) Grade 8 females, 28 (17,1%) Grade 8 males, 14 (9,5%) Grade 12 females and 34 (27,9%) Grade 12 males indicated diplomas; 40 (13,4%) Grade 8 females, 14 (8,5%) Grade 8 males, 32 (21,6%) Grade 12 females and 18 (14,8%) Grade 12 males indicated degrees, while only 12 (4,0%) Grade 8 females and 18 (12,2%) Grade 12 females indicated other, but did not specify what these qualifications were. Mothers' higher qualifications were also seen as significant in terms of imparting sexual knowledge to their children. Proimos (1997:327) as well as Somers and Paulson (2000:641) found that mothers' low educational levels rendered them ignorant and uninformed about contraceptives and sexuality information.

A Chi-Square test was done to determine any relationship between the mothers' highest qualifications and the respondents' contraceptive knowledge and practices. According to Cramer's value of 0,274 contingency coefficient of 0,523, Kendall's tau-b test of -0,039, Phi of 0,613, Chi-Square value of 74,499, *df* of 35 and $P < 0,00$, there was a significant relationship between contraceptive knowledge and practices and the parents' educational achievements in this study.

4.2.1.13 Respondents' fathers' employment status



Percentage

Figure 4.3
Respondents' fathers' employment status

Figure 4.3 shows an analysis of the respondents' fathers' employment status and that the majority of the respondents' fathers were employed.

Of the respondents, the fathers of 228 (65,5%) Grade 8 females, 165 (61,6%) Grade 8 males, 116 (79,5%) Grade 12 females and 124 (75,6%) Grade 12 males were employed. The fathers of 100 (30,5%) Grade 8 females, 103 (38,4%) Grade 8 males, 30 (20,5%) Grade 12 females and 40 (24,4%) Grade 12 males were unemployed. This high percentage of employed fathers was not expected in the LP where unemployment figures are high.

Adolescents' parents without an income were unable to pay transportation costs for their adolescent children to access contraceptive services (Jay & Wilson 1998:522; Jirojwong 2003:240; Rice & Dolgin 2005:110). Parents need financial resources to raise and support their children. Engelbrecht, Pelser, Ngwena and Van Rensburg (2000:14) as well as MacPhail and Campbell (2001:1623) found that poverty was a powerful agent in preventing the purchase of condoms. In this study, 65,5% of Grade 8 and 79,5% of Grade 12 females and 61,6% of Grade 8 and 75,6% Grade 12 males indicated that their fathers were employed compared to the minority of the mothers who were employed formally (see figure 4.4).

4.2.1.14 Respondents' mothers' employment status



Percentage

Figure 4.4
Respondents' mothers' employment status

Figure 4.4 shows that most of the respondents' mothers were unemployed. The DOH (1997b:9) reported that unemployment is the most prevalent among women, especially in rural areas. Although formal education might be central in improving women's health, there could be other

determinants influencing a lack of knowledge, such as insufficient health information or inadequate health care services (Jewkes, Fawcus, Rees, Lombard & Katzenellenbogen 1997:233; Kerker & Rich 1992:205; Winter & Breckenmaker 2000:34). Unless women are in favourable, informative environments, education alone might not guarantee improvement in their health seeking behaviours. Alternatively, if women are not in salaried employment, their low socio-economic status might have a negative impact on their and their adolescents' health seeking behaviours. . Without money, adolescents might risk unprotected sexual intercourse which could result in unintended pregnancy and exposure to HIV/STDs.

Haram (1995:43) in Tanzania, as well as Mahomed, Majoko, Bondelle, Verkyl and Iliff (2000:10) in Zimbabwe, found that a high percentage of women were unemployed and because they could not pay for transportation, they could not seek contraceptive services. Economically disadvantaged women are at greater risk of complications associated with unprotected sex as they cannot afford to pay the transport costs for their adolescents to visit contraceptive services.

4.1.2.1.15 Summary of the respondents' demographic data

Demographic information was considered essential as this information provides a socio-cultural descriptive profile of the respondents' variables that could influence their contraceptive practices. It also contextualises data about respondents' contraceptive knowledge, perceptions, attitudes and practices. A USA study by MacLean (2004:170) among the Grade 7 and Grade 8 respondents respectively, regarding the norm that encourage young adolescents not to have sex nor to use contraceptives, found culture to act as a perceived barrier, denying women or adolescents access to contraceptive services for health (MacLean 2004:170).

4.2.2 Sexuality issues

In this section various questions were asked from both Grade 8 and Grade 12 males and females; with some questions appearing only on the male or only on the female questionnaires. Issues addressed by questionnaire items included respondents' ages at menarche, at first sexual intercourse and when giving birth to a first child.

4.2.2.1 *Female respondents' ages at first menstruation*

Table 4.11 Female respondents' ages at menarche

AGE AT FIRST MEN-STRUATION	FEMALES					
	GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%
Younger than 8 years	14	5,4	2	1,3	16	3,9
9-10 years	24	9,2	28	18,7	52	12,7
11-12 years	48	18,5	60	40,0	108	26,3
13-14 years	154	59,2	56	37,3	210	51,2
Other	20	7,7	4	2,7	24	5,9
TOTAL	260	100,0	150	100,0	410	100,0

Table 4.11 indicates that some of the respondents started menarche early in life: 14 (5,4%) Grade 8 and 2 (1,3%) Grade 12 respondents reported having their menarche (first menstrual period) at ages younger than 8; 24 (9,2%) Grade 8 and 28 (18,7%) Grade 12 respondents reached menarche at 9 to 10 years of age; 48 (18,5%) Grade 8 and 60 (40,0%) Grade 12 respondents at 11 to 12, and 154 (59,2%) Grade 8 and 56 (37,3%) Grade 12 respondents at between 13 and 14 years of age. Katz, Peberdy and Douglas (2000:19); Gueye, Castle and Konate (2001:59); Gupta and Da Costa Leite (1999:129); Goldman and Harlow (2000:213); Green (1998:68) as well as Wood et al (1998:19) reported that the decrease in age at menarche may be related to early sexual encounters.

4.2.2.2 *Female respondents' sexual intercourse experiences*



Percentage

Figure 4.5
Female respondents' experiences of sexual intercourse

Only 479 respondents answered this question. Figure 4.5 indicates that 49 (15,1%) Grade 8 and 90 (58,4%) Grade 12 respondents reported having had sexual intercourse while 276 (84,9%) Grade 8 and 64 (41,6%) Grade 12 respondents stated that they were not sexually active. Of the respondents, 73,5% then indicated that they were sexually active. Brattan-Wolf and Portis (2001:573); Felix-Ortiz, Newcomb and Meyers (1999:106); Under and Molina (2001:286) as well as Updegraff and Obeidallah (1999:64) found that adolescents experimented with premarital sex and required sexual information and contraceptive knowledge during their school years.

4.2.2.3 *Male respondents' initial experiences of sexual intercourse*



Percentage

Figure 4.6
Male respondents' experiences of sexual intercourse

Of the respondents, 430 replied to this question: 218 (83,8%) Grade 8, and 78 (45,9%) Grade 12 respondents indicated that they were not sexually active, while 42 (16,2%%) Grade 8, and 92

(54,1%) Grade 12 respondents indicated that they were sexually active. This finding was expected, namely that more Grade 12 boys would engage in sexual intercourse than Grade 8 boys. This finding further supports the dire need to provide adequate sexuality education and ready access to contraceptives to boys attending secondary schools in the LP.

4.2.2.4 Respondents' ages at first sexual intercourse

Table 4.12 Respondents' ages at first sexual intercourse

AGE AT FIRST SEXUAL INTERCOURSE	FEMALES							MALES					
	GRADE 8		GRADE 12		TOTAL			GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%			
9 years or younger	10	4,5	0	0,0	10	2,9	16	8,5	4	3,6	20	6,7	
10-11 years	10	4,5	10	7,8	20	5,7	8	4,3	4	3,6	12	4,0	
12-13 years	40	18,2	32	25,0	72	20,7	42	22,3	10	8,9	52	17,3	
14-15 years	18	8,2	12	9,4	30	8,6	46	24,5	38	33,9	84	28,0	
16-17 years	78	35,5	30	23,4	108	31,0	38	20,2	30	26,8	68	22,7	
18 years or older	64	29,1	44	34,4	108	31,0	38	20,2	26	23,2	64	21,3	
TOTAL	220	100,0	128	100,0	348	99,9	188	100,0	112	100,0	300	100,0	

Table 4.12 depicts the respondents' ages at the onset of sexual activities. Of the respondents, 648 Grade 8 and 348 Grade 12 females and 300 Grade 8 and Grade 12 males answered this question. Table 4.12 reveals that 10 (4,5%) Grade 8 females and 16 (8,5%) Grade 8 males were 9 years or younger when they had sexual intercourse for the first time. The mean age for the commencement of sexual contact was found to be 12 years. Adolescents tend to engage in sexual intercourse at a younger age and by the time adolescents were 13 years old, many were already sexually active (Adanlawo & Moodley 1999:101; Aggleton & Campbell 2000:293; Akande 1997:329; Dehne & Riedner 2001:11; Gibson 1999:468; Pearson 2000:89; Wood & Jewkes 2000:12). In terms of age at first sexual encounter, the majority of the respondents indicated that they were 11 to 14 and a minority of Grade 8 females reported that they had already had sexual intercourse at 8 to 11 years (see table 4.12). Based on these findings, it can be concluded that the decrease in the age at menarche paralleled early sexual encounters. In a study in KwaZulu-Natal, Ngcobo (2002:97) reported that 87,3% of the sample were sexually active and that the average age of menarche ranged between 11 and 12,5 years.

4.2.2.5 Respondents' reported frequencies of having sexual intercourse

This question was answered by 584 respondents. Of these, 20 (10,8%) Grade 8 females and 34 (21,8%) Grade 8 males and 6 (4,8%) Grade 12 females and 12 (10,3%) Grade 12 males indicated frequency of sexual intercourse to be twice a week. While 50 (26,9%) Grade 8 females and 34 (21,8%) Grade 8 males compared to 6 (5,2%) Grade 12 males reported the frequency of sexual

intercourse to range from once a week to once a month. This finding further supports the necessity for knowledge about and access to contraceptives among secondary school learners in the LP.

4.2.2.6 Reasons for respondents' sexual debuts

Table 4.13 Reasons for engaging in the initial experience of sexual intercourse

HOW DID IT HAPPEN?	FEMALES						MALES					
	GRADE 8		GRADE 12		TOTAL		GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%		
Curiosity	22	11,7	2	1,6	24	7,6	0	0,0	0	0,0	0	0,0
Pressured by friends/peers	0	0,0	0	0,0	0	0,0	46	28,0	10	8,2	56	19,6
Felt like doing it	36	19,1	4	3,1	40	12,7	30	18,3	38	31,1	68	23,8
Partner planned it	20	10,6	24	18,8	44	13,9	10	6,1	16	13,1	26	9,1
Forced by partner	16	8,5	12	9,4	28	8,9	14	8,5	4	3,3	18	6,3
It just happened	28	14,9	46	35,9	74	23,4	28	17,1	34	27,9	62	21,7
Wanted a baby	0	0,0	0	0,0	0	0,0	22	13,4	2	1,6	24	8,4
Accidentally happened	24	12,8	2	1,6	26	8,2	0	0,0	0	0,0	0	0,0
Other	42	22,3	38	29,7	80	25,3	14	8,5	18	14,8	32	11,2
TOTAL	188	99,9	128	100,1	316	100,0	164	99,9	122	100,0	286	100,1

Of the respondents, 602 answered this question. Table 4.13 reveals that 22 (11,7%) Grade 8 females and 2 (1,6%) Grade 12 females engaged in sexual intercourse out of curiosity while no boy reported this to be the case. On the other hand 46 (28,0%) Grade 8 males and 10 (8,2%) Grade 12 males were encouraged by peer pressure to engage in sexual intercourse, but no girl reported engaging in sexual intercourse because of encouragement from peer pressure; 36 (19,1%) Grade 8 and 4 (3,1%) Grade 12 females compared to 30 (18,3%) Grade 8 and 38 (31,1%) Grade 12 males reported that they felt like doing it; 28 (14,9%) Grade 8 and 46 (35,9%) Grade 12 females compared to 28 (17,1%) Grade 8 and 34 (27,9%) Grade 12 males reported that sexual intercourse was not planned, it just happened; 22 (13,4%) Grade 8 and 2 (1,6%) Grade 12 males reported that they wanted to have babies; 16 (8,5%) Grade 8 and 12 (9,4%) Grade 12 females and 14 (8,5%) Grade 8 and 4 (3,3%) Grade 12 males were forced by their partners to have sexual intercourse; 20 (10,6%) Grade 8 females and 10 (6,1%) Grade 8 males as well as 24 (18,8%) Grade 12 females had planned to have sexual intercourse. Table 4.13 revealed that no female respondent wanted a baby while 24 (8,4%) of the male respondents did. This finding emphasises the necessity of providing sexuality and contraceptive education to both boys and girls at secondary schools in the LP.

4.2.2.7 Comparison of female respondents' religious denominations and their ages at their sexual

debuts

Table 4.14 Cross-tabulation: religious denomination and age at first sexual intercourse (female respondents)

RELIGIOUS DENOMINATION	OF vs EF	AGE AT FIRST SEXUAL INTERCOURSE						
		9 YRS AND YOUNGER	10-11 YRS	12-13 YRS	14-15 YRS	16-17 YRS	Other	TOTAL
African traditional religion	OF	6	4	18	6	24	26	84
	EF	2,0	4,4	17,3	7,1	26,2	26,7	84,0
Catholic	OF	0	2	10	0	6	8	26
	EF	0,0	1,4	5,4	2,3	8,1	8,3	26,0
Anglican/Protestant	OF	0	0	2	2	2	0	6
	EF	0,1	0,3	1,2	0,5	1,9	1,9	6,0
ZCC	OF	2	4	16	16	36	38	112
	EF	2,6	5,9	23,1	9,9	34,9	35,6	112,0
Apostolic	OF	0	6	12	2	34	32	86
	EF	2,0	4,6	17,7	7,6	26,8	27,3	86,0
Other	OF	0	2	12	4	4	4	26
	EF	0,6	1,4	5,4	2,3	8,1	8,3	26,0
TOTAL	OF	8	18	70	30	106	108	340
	EF	8,0	18,0	70,0	3,0	106,0	108,0	340,0

OF = Observed frequency

EF = Expected frequency

Table 4.14 reveals that respondents affiliated to Christian churches did not commence with sexual encounters at earlier ages as indicated by an observed frequency of 0 and expected frequency of 6 for Apostolic, Anglican, Catholic and other (unspecified) religious groups.

According to the Chi-square value of 56,231, df 25, Phi 0,407, contingency coefficient 0,277, Cramer's V 0,182, Kendall's tau-b 0,028, and a $P < 0,00$, there was a significant dependency between religious denomination and age at first sexual encounter.

4.2.2.8 Comparison of male respondents' religious denominations and their ages at their sexual debuts

Table 4.15 Cross-tabulation: age at first sexual encounter and frequency of sexual intercourse

AGE AT FIRST SEXUAL ENCOUNTER	OF vs EF	FREQUENCY OF SEXUAL ACTIVITY	TOTAL
-------------------------------	----------	------------------------------	-------

		THREE OR MORE TIMES A WEEK	TWICE A WEEK	EVERY THREE WEEKS	AT LEAST EVERY MONTH	OTHER	
9 years or younger	OF	4	4	0	0	2	10
	EF	0,8	1,9	0,7	2,7	4,0	10,0
10-11 years	OF	0	2	2	12	2	18
	EF	1,4	3,3	1,2	4,9	7,2	18,0
12-13 years	OF	16	16	2	24	12	70
	EF	5,6	13,0	4,6	19,0	27,8	70,0
14-15 years	OF	0	8	4	10	6	28
	EF	2,2	5,2	1,9	7,6	11,1	28,0
16-17 years	OF	4	24	10	30	10	78
	EF	6,2	14,5	5,2	21,2	31,0	78,0
Other	OF	0	2	2	6	88	98
	EF	7,8	18,2	6,5	26,6	38,9	98,0
TOTAL	OF	24	56	20	82	120	302
	EF	24,0	56,0	20,0	82,0	120,0	302,0

OF = Observed frequency

EF = Expected frequency

Table 4.15 reveals that some of the Grade 8 respondents indicated that they had sexual intercourse weekly as indicated by OF 4 and EF 0,8. The majority of Grade 8 respondents had sexual intercourse every three weeks as indicated by a count of 16 OF against a count of 13,0 EF. Young adolescents at age 13 indicated frequencies of sexual intercourse as twice a week. Grade 12 female respondents indicated sexual frequency as at least every month as indicated by the observed frequencies of 30 against the expected frequencies of 21.1.

Beresford and Evans (1999:20); Govender (2002:121) as well as Harrison and Ntuli (2001:72) found episodic frequency of sexual intercourse among adolescents in their studies. Wood and Jewkes (2000:21) reported that 57,0% of the adolescents in their sample indicated a monthly frequency of sexual intercourse.

4.2.2.9 *Female respondents' reported number of sexual partners*

Figures 4.7 and 4.8 exhibit female and male respondents' reported numbers of sexual partners.



Percentage



Figure 4.7
Number of partners (female respondents)

Percentage

Figure 4.8
Number of partners (male respondents)

Figures 4.7 and 4.8 reveal that 120 (62,5%) Grade 8 females and 142 (62,8%) Grade 8 males, 116 (81,7%) Grade 12 females and 36 (28,1%) Grade 12 males indicated that they had no sex partners. However, figures 4.5 and figure 4.6 showed that many respondents had indeed had sexual intercourse. It was also found that 18 (9,4%) Grade 8 females, 56 (24,8%) Grade 8 males, 10 (7,0%) Grade 12 females and 32 (25,0%) Grade 12 males had only one partner while 48 (25,0%) Grade 8 females, 25 (12,4%) Grade 8 males, 60 (46,9%) Grade 12 females and respondents had two or more partners. These percentages might indicate the casual nature of the learners' sexual experiences. A cross-tabulation for gender and multiple partners revealed that more males than females had more than one partner. In a study conducted in the Alexandra township, in the RSA, Kimane and Joseph (1996:46) reported that 43,0% male respondents had more than two partners compared to 90,0% females who had only one sexual partner. This indicates that sexual education and health education should be broadened and intensified; initiated during primary school years and sustained throughout learners' secondary school years in the LP.

4.2.2.10 Male respondents' reported previous (last) occurrence of sexual intercourse

This question appeared only on the male questionnaire because males tend to have sexual intercourse more frequently than females as reported by Speizer et al (2002:181). Of the respondents, 54 (38,6%) Grade 8 and 12 (10,7%) Grade 12 males indicated that they had sexual intercourse less than a week ago, 30 (21,4%) Grade 8 and 34 (30,4%) Grade 12 males had had sexual intercourse two weeks ago, and 28 (20,0%) Grade 8 and 28 (23,2%) Grade 12 males had had sexual intercourse a month ago.

4.2.2.11 *Male and female respondents' knowledge that pregnancies could result from their first sexual encounters*

Percentage



Figure 4.9
Knowledge of the possibility of pregnancies resulting from their first sexual encounters

4.2.3.39 Sources of information about TOPs

The respondents indicated various sources of information about TOP. Friends appeared to have played a minimal role as a source of information for legalised TOP. Of the respondents, 96 (44,9%) Grade 8 and 34 (27,0%) Grade 12 females and 84 (32,3%) Grade 8 and 16 (13,6%) Grade 12 males indicated parents and/or grandmothers. Taris and Semin (1998:73) found that most (56,0%) of their respondents had parents who could talk about legalised TOP with their children. In this study, 18 (8,4%) Grade 8 and 18 (14,3%) Grade 12 females compared to 62 (23,8%) Grade 8 and 32 (27,1%) Grade 12 males indicated that doctors/nurses were their source of information; 62 (23,8%) Grade 8 and 46 (39,0%) Grade 12 females and 62 (30,4%) Grade 8 and 18 (14,3%) Grade 12 males indicated friends as their source. Gertholtz and Richter (2002:102; Gillian, Knight and McCarthy (2003:353); Glasier and Baird (1998:3) as well as Mbananga (1999:46) found that most adolescents obtained information about reproduction and contraception from friends and peers.

4.2.3.40 Male respondents' encouragement to a female partner to terminate pregnancy

Of the respondents, 174 (69,6%) Grade 8 and 124 (77,5%) Grade 12 males stated that they would never give permission for the termination of pregnancy while 76 (30,4%) Grade 8 and 36 (22,5%) Grade 12 males would encourage their partners to terminate a pregnancy; 68 (26,6%) Grade 8 and 30 (18,1%) Grade 12 males indicated that the partner had the right to decide whether or not to terminate pregnancy. However, 188 (73,4%) Grade 8 and 136 (81,9%) Grade 12 males indicated that permission had to be sought because it had to be a joint effort; 186 (73,2%) Grade 8 and 118 (81,9%) Grade 12 males indicated that females should also seek approval to terminate pregnancy from their parents, and 68 (26,8%) Grade 8 and 26 (18,1%) Grade 12 males felt that a female partner could go ahead to terminate without parental approval.

4.2.4 Education/information received on sex-related topics

Learners were requested to indicate whether they had received sex education on each of the topics as listed in table 4.26. The information in this table indicates that the respondents had received some information on most of the topics. However, the results could be attributed to the fact that no probing questions were asked as these were all closed questions. Only a general assessment was made to determine whether the respondents had some form of information on certain specific topics. A comparison indicated that the males had more information about almost all the topics than the females.

Table 4.26 Sex-related education/information on the following topics

SEX-RELATED EDUCATION	FEMALES	MALES
--------------------------	---------	-------

	GRADE 8		GRADE 12		TOTAL		GRADE 8		GRADE 12		TOTAL	
	f	%	f	%	f	%	f	%	f	%	f	%
Received information on sex organs	64	18,2	100	62,5	164	32,0	112	41,8	144	83,7	256	58,2
Yes	288	81,8	60	37,5	348	68,0	156	58,2	28	16,3	184	41,8
No												
TOTAL	352	100,0	160	100,0	512	100,0	268	100,0	172	100,0	440	100,0
Sexually transmitted diseases	58	16,5	62	38,8	120	23,4	90	33,6	118	68,6	208	47,3
Yes	294	83,5	98	61,3	392	76,6	178	66,4	54	31,4	232	52,7
No												
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0
Teenage pregnancy	36	10,2	126	78,8	190	37,1	98	36,6	128	74,4	226	51,4
Yes	316	89,8	34	21,3	322	62,9	170	63,4	44	25,6	214	48,6
No												
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0
Homo-sexuality	36	10,2	32	20,0	68	13,3	60	22,4	84	48,8	144	32,7
Yes	316	89,8	128	80,0	444	86,7	208	77,6	88	51,2	296	67,3
No												
TOTAL	352	100,0	160	100,0	512	100,0	268	100,0	172	100,0	440	100,0
HIV and AIDS	88	25,0	126	78,8	214	41,8	134	50,0	152	88,4	286	65,0
Yes	264	75,0	34	21,3	298	58,2	134	50,0	20	11,6	154	35,0
No												
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0
How to say no to sex	94	26,9	96	60,0	190	37,3	154	57,5	110	64,0	264	60,0
Yes	256	73,1	64	40,0	320	62,7	114	42,5	62	36,0	176	40,0
No												
TOTAL	350	100,0	160	100,0	510	100,0	268	100,0	172	100,0	440	100,0
Sexual abuse	56	15,9	74	46,3	130	25,4	72	26,9	114	66,3	186	42,3
Yes	296	84,1	86	53,8	382	74,6	196	73,1	58	33,7	254	57,7
No												
TOTAL	352	100,0	160	100,1	512	100,0	268	100,0	172	100,0	440	100,0

4.2.4.1 Sex organs and their functions

Sixty-four (18,2%) Grade 8 females and 112 (41,8%) Grade 8 males and 100 (62,5%) Grade 12 females and 144 (83,7%) Grade 12 males indicated having received some form of information, while 288 (81,8%) Grade 8 females and 156 (58,2%) Grade 8 males and 60 (37,5%) Grade 12 females and 28 (16,3%) Grade 12 males had received no information.

4.2.4.2 Sexually transmitted diseases

Fifty-eight (16,5%) Grade 8 female 90 (33,6%) Grade 8 male compared to 62 (38,8%) Grade 12 female and 118 (68,6%) male respondents indicated that they had received STD information and 294 (83,5%) Grade 8 female and 178 (66,4%) Grade 8 male against 98 (61,3%) Grade 12 female and 54 (31,4%) Grade 12 male respondents had received no information as indicated by the frequencies. There was a general capacity of knowledge among secondary school learners with regard to STDs and their prevention. The high response to this topic, especially among Grade 8 and 12 male respondents, could be attributed to the fact that they had attended reproductive health clinics. However, 12 (23,4%) Grade 8 and 12 female compared to 208 (47,3%) Grade 8

and 12 male respondents indicated that they had knowledge of STDs.

Lindberg, Ku and Sonestain (2000:221); Mulaudzi (2003:18) and Potelwa (1999:5) emphasised that poor information about STIs and HIV/AIDS has grave implications, the physiological urge for sexual activity accompanied by a sense of invulnerability to harm causes adolescents to believe that STDs, pregnancy and HIV/AIDS will not happen to them. The DOH (1997a:113), (1998:20) and (2000:11) sees the HIV/AIDS life skills programmes for the youth as crucial in dealing with sexuality issues and for preventing the spread of the HIV/AIDS and STDs. However, this programme could be expanded and improved in the LP, as the learners who participated in the current study reportedly lacked the information purported to be conveyed by this programme.

4.2.4.3 Teenage pregnancy

Of the respondents, 64 (18,2%) Grade 8 females and 98 (36,6%) Grade 8 males compared to 126 (78,8%) Grade 12 females and 128 (74,4%) Grade 12 males indicated that they had received some information on teenage pregnancy. However, 288 (81,8%) Grade 8 females and 170 (63,4%) Grade 8 males and 34 (21,3%) Grade females and 44 (25,6%) Grade 12 males stated that they had no information on teenage pregnancy.

4.2.4.4 Homosexuality

This was the least known about topic by both Grade 8 and 12 females and males. Of the respondents,

36 (10,2%) Grade 8 females and 60 (22,4%) Grade 8 males compared to 32 (20,0%) Grade 12 females and 84 (48,8%) Grade 12 males indicated that they had been exposed to some form of information on homosexuality, and 316 (89,9%) Grade 8 females and 208 (77,6%) Grade 8 males and 128 (80,0%) Grade 12 females and 88 (51,2%) Grade 12 males had not.

4.2.4.5 HIV/AIDS

As depicted in table 4.26, 88 (25,0%) Grade 8 females and 134 (50,0%) Grade 8 males compared to 126 (78,8%) Grade 12 females and 152 (88,4%) Grade 12 males reported having received some form of information on HIV/AIDS. This was an expected outcome since the media frequently publish or broadcast information on this pandemic. Health departments at all levels are engaged in awareness campaigns on HIV/AIDS. However, 264 (75,0%) Grade 8 females, 134 (50,0%) Grade 8 males, 34 (21,3%) Grade 12 females and 20 (11,6%) Grade 12 males indicated that they had no information on HIV/AIDS and were unaware of the implications. However, the males knew more about HIV/AIDS than the females.

4.2.4.6 How to say no to sex

Table 4.26 shows that 94 (26,9%) Grade 8 females, 154 (57,5%) Grade 8 males, 96 (60,0%) Grade 12 females and 110 (64,0%) Grade 12 males had received some form of advice on “how to say no to sex”. This is a concept used by the Department of Health and Population Development (see annexure 5) as an approach to teach adolescents how to resist coercion into undesired sexual contacts. Of the respondents, 256 (73,1%) Grade 8 females, 114 (42,5%) Grade 8 males, 64 (4,0%) Grade 12 females and 62 (36,0%) Grade 12 males had received no information about saying “no to sex”.

4.2.4.7 Sexual abuse

Table 4.26 revealed that 56 (15,9%) Grade 8 females, 72 (26,9%) Grade 8 males, 74 (44,3%) Grade 12 females and 114 (66,3%) Grade 12 males had received some form of education on sexual abuse, while 296 (84,1%) Grade 8 females, 196 (73,1%) Grade 8 males, 86 (53,8%) Grade 12 females and 58 (33,7%) Grade 12 males had not been exposed to this topic. These findings were expected as the media frequently report on the extent of sexual abuse among women and children in the RSA as well as the campaigns conducted by the National Department of Health and Population Development, Victim Empowerment Organisation to make people aware of the problem.

4.2.4.8 Comparison: knowledge of HIV/AIDS and areas of residence (males)

Table 4.27 Cross-tabulation: knowledge of HIV/AIDS and areas of residence (males)

AREA OF RESIDENCE	OF vs EF	GRADE 8 MALES			GRADE 12 MALES		
		YES	NO	TOTAL	YES	NO	TOTAL
Urban	OF	18	32	52	10	16	26
	EF	1,5	40,2	52,0	13,4	12,6	26,0
Rural	OF	76	292	368	138	138	276
	EF	81,6	284,8	368,0	142,5	133,5	276,0
City	OF	4	12	16	8	4	12
	EF	3,5	12,4	16,0	6,2	5,0	12,0
Township	OF	4	20	24	34	20	54
	EF	5,3	18,6	24,0	27,9	26,1	54,0
TOTAL	OF	102	356	458	190	178	368
	EF	102,0	356,0	458,0	190,0	178,0	368,0

OF = Observed frequencies

EF = Expected frequencies

Table 4.27 shows that the respondents’ knowledge of HIV/AIDS was not dependent on the area








of residence (Chi-Square value of 5,963, df 3, Phi value of 0,127, Cramer's V 0,127, Contingency Co-efficient 0,126, Kendall's tau-b 0,121, $P > 0,113$). The Chi-Square test shows a P-value of 0,113). Consequently, it was concluded that the knowledge of HIV/AIDS did not depend on the area of residence as there was no statistical significance between these variables since the probability value was greater than 0,05 ($P > 0,05$).

4.2.4.9 *Learners needs to receive organised/formalised sex education*

More than one response was possible to this question. Of the respondents, 46 (17,6%) Grade 8 and 46 (31,1%) Grade 12 females and 86 (33,1%) Grade 8 and 128 (75,3%) Grade 12 males indicated the need for the implementation of formalised sex education programmes which should begin as soon as possible; 44 (16,8%) Grade 8 and 4 (2,7%) Grade 12 females compared to 34 (13,1%) Grade 8 and 5 (3,5%) Grade 12 males strongly disagreed; 120 (45,8%) Grade 8 and 74 (50,0%) Grade 12 females and 94 (36,2%) Grade 8 and 30 (17,6%) Grade 12 males agreed with formalised sex education at school.

4.2.5 **Contraceptive services provided to adolescents in the Limpopo Province**

This was an open-ended question asking for suggestions to improve the services offered to adolescents at the reproductive health clinics. There were a lot of missing frequencies on this question. The reasons could be that respondents did not want to commit themselves or give their true feelings on the reproductive health services. These findings were coded and the following main themes were derived:

-  Nurses should display positive attitudes towards adolescents because nurses' negative attitudes toward adolescents might prevent them from accessing this free source of condoms.
-  I won't go to the clinics if not sick, because nurses shout at you.
-  Clinic hours are contradictory with our school periods, therefore encourage the hospitals and clinics to offer contraceptive services on a week-end basis.
-  Nurses should work faster, and not go to lunch for long hours.
-  Female condoms should be made available in all health centres and public places just like male condoms.
-  Clinics offering contraceptives should be open from 06:00 to enable learners who go to school early to go past the clinic before going to school.
-  Increase the number of nurses and doctors in order to reduce waiting hours for learners.

These findings revealed that public health services were not readily accessible to adolescents because the health care personnel (mostly nurses) were perceived to be unfriendly towards adolescents, require clients to wait in long queues, have insufficient numbers of doctors and

nurses.

4.3 SUMMARY OF RESEARCH RESULTS

This summary is provided according to the four major subdivisions of the research results as presented in this chapter, namely demographic data; sexuality issues; knowledge, attitudes and perceptions of contraceptives; and sex education received.

4.3.1 Demographic data

Of the 944 participants who indicated their grades on their questionnaires, 612 were in Grade 8 and 332 in Grade 12, while 458 were males and 506 females. Reportedly 6,3% of the Grade 8 and 2,7% of the Grade 12 female learners were married, possibly placing extra strain on them to make progress with their school work in addition to their family responsibilities as married women. More than 70,0% of all the participants lived in rural areas, an expected finding as a number of participating secondary schools were situated in rural areas of the LP. Similarly 86,8% of all participants reported their home language to be Venda, another expected finding because the participating schools in the rural areas of the LP are mostly situated within predominantly Venda speaking communities. As the researcher and the research assistants were fluent in both English and Venda, they were capable of answering the learners' questions in their home language (Venda), as indicated in tables 4.1-4.3.

The participants in this study belonged to a variety of religious denominations, but mainly to African (29,0%) , Apostolic (27,1%) and the ZCC (20,3%) churches (see table 4.4). Despite freely available contraceptives in the LP 15,1% of the Grade 8 and 39,9% of the Grade 12 female learners had children (see figure 4.2). Most of these female learners who had children, reported that their mothers (68,5%) or grand mothers (10,5%) looked after their children (see table 4.5). Reportedly 97,5% (n=928) of the participants did not belong to any social club (see table 4.6) indicating a dire need for such facilities in the LP. Of the learners 39,0% (n=371) lived with both their parents while 39,7% (n=378) lived with their mothers only and 25,0% (n=238) lived with their fathers only (see table 4.7), indicating that many learners came from single parent families. While more than 60,0% of the respondents' fathers were reportedly employed (see figure 4.4) the majority of their mothers were unemployed (see figure 4.5).

4.3.2 Sexuality issues

Reportedly as many as 16 (3,9%) female learners experienced their menarche when they were 8 years old or younger, implying that sex education should be provided to female learners in the LP at very young ages. However, the majority (77,6%; n=318) started menstruating between the ages of 11 and 14 (see table 4.11). Out of 479 learners who answered the question concerning

their sexual activity, as many as 73,5% indicated that they were sexually active. Not only did the learners experience their menarche at an early age, some of them (2,9%; n=10) female and 6,7% (n=20) male learners experienced their sexual debuts at the age of 9 or younger. However, by the time they reached the ages of 12-13 more than 30,0% of these learners engaged in sexual intercourse. Although 24 (7,6%) of the females experienced their sexual debuts out of curiosity, no male learner reported this to be the case. Conversely, 56 (19,6%) of the males experienced sexual intercourse the first time because they succumbed to peer pressure, while no female reported this to be the case. Both female (23,4%; n=74) and male (21,7%; n=62) learners reported that their first sexual encounters “just happened”. These findings might indicate a need for focussing on different aspects in providing gender specific sex education to secondary school learners in the LP (see table 4.13). The dire need for such education in the LP is further illustrated by the percentages displayed in tables 4.7 and 4.8, indicating that as many as 46,0% of the Grade 12 males and 28,1% of the Grade 8 males reportedly had two or more sex partners; while these percentages were 7,6% for Grade 12 and 12,1% for Grade 8 female learners. Out of 488 learners who responded to the relevant question, as many as 62,3% (n=318) of the Grade 8 female and male learners did not know that a pregnancy could result from a girl’s first sexual experience. Only 54 (11,1%) of the Grade 12 male and female learners reportedly knew that pregnancy could result from a girl’s first sexual experience (see figure 4.9). These findings indicate that Grade 8 and Grade 12 learners in the LP lacked information about the specific issue.

4.3.3 Learners’ knowledge about and utilisation of contraceptives

It could not be explained why only 46,0% of the Grade 8 and 28,8% of the Grade 12 male learners reported knowing about condoms as a contraceptive method, while 66,3% of the Grade 8 and 88,0% of the Grade 12 female learners knew this to be the case (see figures 4.10a and 4.10b). In addition to male condoms female respondents also knew about contraceptive pills (15,2% Grade 8; 5,9% Grade 12) and contraceptive injections (10,9% Grade 8; 11,8% Grade 12) as reflected in figure 4.10b. As many as 49,3% (n=220) of the female learners indicated that their friends were their sources of information while 30,1% (n=80) male learners indicated this to be the case. Although 47,4% (n=126) of the male learners indicated that they had received contraceptive information from their parents, only 11,7% (n=52) girls indicated that they had received contraceptive information from their parents (see table 4.16). As many as 6 (9,1%) of the female learners were reportedly pregnant when they completed the questionnaires (see figure 4.11).

At the time of participating in this research the majority of these secondary school learners in the LP

(79,0% Grade 8; 89,3% Grade 12) females were not using contraceptives (see figure 4.12).

These learners’ reasons for not using contraceptives included that they

- X were afraid that contraceptives would make them obese (29,6%; n=64 Grade 8 and 7,1%; n=6 Grade 12 females)

- X disliked condoms (29,8%; n=50 Grade 8 and 51,2%; n=44 Grade 12 males)
- X lived far from clinics providing contraceptive services according to 52,0% (n=130) Grade 8 and 48,0% (n=120) Grade 12 female learners
- X “needed” to have babies as reported by 80 (37,0%) Grade 8 and 34 (40,5%) Grade 12 female learners who responded to this question.

Even the few female learners who reportedly used contraceptives, did so incorrectly and ineffectively (see figure 4.13) because only 10,9% of the Grade 8 and 5,9% of the Grade 12 female learners used contraceptives on a daily basis, while as many as 43,6% (n=88) of the Grade 8 females used contraceptives “sometimes”. The majority of the female learners (70,6% Grade 8 and 90,0% Grade 12) had reportedly never seen a female condom, and could thus not use this type of contraceptive.

Unexpectedly some (30,0% Grade 8 and 17,9% Grade 12) male learners indicated that their girl friends used ‘safe periods’ to avoid pregnancies. Of the male respondents, 44,4% (n=110) Grade 8 and 65,0% (n=104) Grade 12 male learners indicated that they would be affected by their girl friends’ pregnancies as they would be expected to provide support for the baby. The anticipated actions that male learners would take should their girl friends become pregnant included that they would get married, would ask their parents or grand parents to take care of the girl friend’s baby, and would look for a job to support the baby. As few as 41,1% (n=90) Grade 8 and 34,9% (n=44) Grade 12 male learners indicated that they would continue with their schooling should their girl friends become pregnant. Discontinuation of schooling due to pregnancies would thus only affect the female but also the male learners - limiting their chances of earning sufficient incomes for themselves and their (future) families.

4.3.3.1 Learners’ knowledge about, access to and utilisation of male condoms

Even though male condoms were available at clinics in the LP, as many as 81,2% (n=112) Grade 12 female and 57,3% (n=86) Grade 12 male learners reported that they could not always obtain male condoms from their clinics. Of the learners as many as 37,9% (n=44) Grade 12 females and 32,1% (n=34) Grade 12 males indicated that contraceptive providers’ negative attitudes towards adolescents made access to free male condoms problematic, in addition to the fact that male condoms were reportedly sometimes out of stock at some of these clinics according to 30,2% (n=32) of the Grade 12 male learners.

Although almost all (94,8%; n=146) Grade 12 male learners knew that male condoms had expiry dates only 35,4% (n=102) Grade 8 females knew this. Lack of knowledge about condoms’ expiry dates might imply that even if male condoms might be used, their effectiveness could be questioned if their expiry dates had passed. In spite of all the HIV/AIDS health education efforts in the LP, as many as 188 (65,3%) Grade 8 female and 46 (27,4%) Grade 12 male learners indicated that they had no idea whether a new condom had to be used each time. In

response to a question as to how often they use condoms when they had sex, 388 male learners indicated that they

- X never used condoms (53,6%; n=208) whether they had sex with their regular or with casual partners
- X always used condoms (21,6%; n=84)
- X sometimes used condoms when having sexual intercourse (12,9%; n=50)

The learners' perceptions of and attitudes towards contraceptives (as reflected in table 4.19) included that using contraceptives would:

- X contribute to infertility according both female (49,5%; n=204) and male (48,4%; n=184) learners
- X make the users fat (51,2%; n=208 females; 46,5%; n=188 males)
- X reduce their pleasure if they used (male) condoms (56,5%; n=192 females; 59,0%; n=196) males
- X make the users sick (43,0%; n=178 females; 51,2%; n=208 males).

4.3.3.2 *Learners' knowledge of contraceptives other than male condoms*

It could not be ascertained why as many as 72,3% (n=120) of the Grade 12 male learners associated surgical sterilisations with complications that could lead to death. Although surgical sterilisations would not be recommended to secondary school learners, knowledge about this possibility later in life might help them to decide to use this option if and when they might decide that their families had been completed. As many as 75,0% (n=108) Grade 12 female learners would never encourage their male partners to undergo surgical sterilisations.

Only a minority (0,8%; n=4 Grade 8 and 3,5%; n=18 Grade 12) of female learners knew about contraceptives' potential side-effects. As many as 77,6% Grade 8 and 80,3% Grade 12 female learners did not know about legalised TOP services. Fewer males (60,9% Grade 8 and 73,1% Grade 12) did not have this knowledge. In both cases more Grade 12 learners lacked knowledge about TOPs than Grade 8 learners. Nurses/doctors were informants about TOP services for 22,8% (n=68) of the female and for 60,1% (n=136) of the male learners. Only 13,3% (n=30) male learners were informed about TOPs by their parents, as many as 28,9% (n=86) females were thus informed by their parents.

4.3.4 Sex education

No males responded to the question as to whether or not they received sex information at their

schools, but only 34 (14,5%) Grade 8 and 16 (25,0%) Grade 12 females had received sexual education from their teachers. Only females were asked whether counselling services were available at their schools in response to which 194 (65,5%) Grade 8 and 116 (79,5%) Grade 12 female learners indicated that no counselling services were available at their schools.

Respondents were requested to indicate whether or not they had received sex education about a number of topics. The responses, for all learners combined who had received some information on the following topics, indicate that these 952 learners required more information about the following topics:

X44,1% received information about sex organs

X34,5% knew about sexually transmitted diseases

X43,6% were informed about teenage pregnancies

X22,3% were aware of homosexuality

Xonly 52,5 % were informed about HIV/AIDS

Xonly 47,7% had information about how to say “no” to sex

X33,2% knew about sexual abuse

Ideally all these secondary school learners should have been knowledgeable about HIV/AIDS (not only 52,5%) and about teenage pregnancies, about which reportedly only 43,6% were informed, and about sexually transmitted diseases about which as few as 34,5% knew.

4.4 CONCLUSION

This chapter presented analysed data obtained from the questionnaires, including cross-tabulations, tables and graphs. The results indicated a lack of knowledge of contraception and contraceptive services, among the respondents. Reference was also made to the literature reviewed, where relevant. The next and final chapter in this thesis will present the conclusions, limitations and recommendations, contextualised within the HBM's major tenets where possible.

CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

5.1 INTRODUCTION

Chapter 5 presents the conclusions, based on the research results, of the study about the knowledge, perceptions and attitudes of contraception and contraceptive practices among Grade 8 and Grade 12 secondary school learners in the LP. Following the analysis and interpretation of data, the objectives and assumptions were correlated with the results to determine relationships among various variables. Limitations were also identified. A number of comments could be made with regard to these secondary school learners' knowledge about, perceptions of and attitudes towards contraception and contraceptive practices.

5.2 PURPOSE OF THE STUDY

The purpose of the study was to explore knowledge about, perceptions of and attitudes towards contraception and contraceptive practices of secondary school learners in the LP. The intention was to provide a basis for appropriate interventions as well as for opportunities for secondary schools to produce sex education policies and programmes taught by responsible persons. Furthermore, information and strategies generated could be used to reduce the number of unintended pregnancies among secondary school learners in the LP. The objectives of this study will be listed in relation to the research results in section 5.3 of this chapter.

5.3 CONCLUSIONS IN RELATION TO THE RESEARCH OBJECTIVES

The research objectives guiding this study are specified in section 1.6 of this thesis as follows:

- To explore the knowledge and perceptions of and attitudes regarding contraception and contraceptive practices among secondary school learners in the LP
- To determine secondary school learners' knowledge and understanding of safe sexual

practices and the healthy life style behavioural programmes offered in schools, clinics and hospitals in the LP.

- To assess the extent of parental involvement in the acquisition of sexual knowledge.
- To identify perceived barriers to the accessibility of contraceptives.

5.3.1 Knowledge and perceptions of and attitudes regarding contraception

The majority of the respondents (89,5%) did not know that emergency contraceptives could prevent unplanned pregnancies if used within 72 hours following unprotected sex. Female and male sterilisations were not understood.

It was revealed that the majority of female respondents (88,0%) reported that they often had intercourse without discussing contraception with their partners. Of the female respondents, 88,1% felt awkward and feared appearing immature and/or losing their male partners should they raise the issue of contraceptives.

As many as 78,5% Grade 8 and 12 females and 70,0% Grade 8 and 12 males believed that contraceptive pills make girls obese. Both Grade 8 and 12 female (78,5%) and male respondents (70,9%) reported that condoms dulled their sensations and reduced their pleasure. As many as 82,2% Grade 8 and 12 male respondents and 75,4% Grade 8 and 12 female respondents would not recommend legalised TOPs to to their partners. In spite of the fact that some learners knew about legalised CTOPs, no respondent had reportedly ever used legalised CTOP services. Male respondents would not support their female partners if they were to opt for legal CTOPs. The learners reported that CTOPs could be associated with complications such as death of the mother.

The majority of the learners would also not consider nor recommend sterilisations. (However, this question about surgical sterilisations might have appeared to be irrelevant to this young target population of high school learners. Nevertheless they should be knowledgeable about this possibility should they opt to decide that their families could be complete in future).

A low level of knowledge regarding contraceptives and their functions resulted in misconceptions.

As many as 82,5% female respondents and 80,0% male respondents were not using contraceptives consistently and accurately. The learners reported that condoms dulled their sensations during intercourse, oral contraceptives caused obesity and cancer and TOPs could lead to the death of a pregnant female.

5.3.2 Safe sexual practices

It was determined that most of the respondents (73,5%; n=479) were sexually active but reportedly the majority (79,0% Grade 8 and 89,3% Grade 12) of the female learners did not use contraceptives. It could not be explained why only 46,0% of the Grade 8 and 28,8% of the Grade 12 male learners reported knowing about condoms as a contraceptive method, while 66,3% of the Grade 8 and 88,0% of the Grade 12 female learners knew this to be the case (see figures 4.10a and 4.10b). Male condoms were not always used, as only 21,6% out of 388 male learners indicated that they always used condoms; only 35,4% (n=102) Grade 8 females knew that male condoms had expiry dates and as many as 188 (65,3%) Grade 8 female and 46 (27,4%) Grade 12 male learners did not know that a new condom had to be used every time. The serendipitous finding that many secondary school learners in the LP did not realise that a condom could only be used once, might have far reaching implications for the health and well-being of these learners and their current and future children. The relatively high reported incidence of sexual activity, and low condom use, suggest that male and female adolescents may be at high risk for adverse consequences of sexual behaviours.

The secondary school learners who participated in this research failed to practise safe sex exposing them unplanned pregnancies, STIs and HIV.

5.3.3 Parental involvement in the sex education of secondary school learners

The majority of the respondents (89,0%) indicated that their parents were not involved in imparting sexual information. As many as 25,5% of the respondents reported that even if they wanted to discuss the subject with their parents, their parents would not discuss it with them.

Although 47,4% (n=126) of the male learners indicated that they had received contraceptive information from their parents, only 11,7% (n=52) girls indicated that they had received such

information from their parents (see table 4.16). Viewed against the demographic finding that the majority of the participants lived with one or both of their parents (see section 4.4.1 of this thesis) the expectation would have been that their parents should have informed the learners about sexuality issues, including contraception and safer sex.

Based on the research results, it can be concluded that the parents of these participating learners in the LP were not sufficiently involved in providing sex education to their children.

5.3.4 Perceived barriers to the accessibility of contraceptives

The study revealed that the following factors impacted negatively on the use of contraceptive services by the respondents in the LP:

A lack of knowledge about the various contraceptive methods (such as emergency contraceptives, CTOPs and female condoms) their actions and effects all contributed to the majority (87.7%) of the respondents' non-utilisation of contraceptives.

The majority of rural residents rarely use contraceptives because services were reportedly geographically inaccessible and/or expensive in terms of travelling to clinics. Clinic hours coincided with school hours, making it difficult to access contraceptives. Clinics were not accessible during evenings or over weekends when the learners did not attend school. Nurses sometimes displayed negative attitudes towards learners who requested contraceptives, including condoms. Clinics did not always have supplies of condoms.

The major barriers which the secondary school learners encountered that impacted negatively on their utilisation of contraceptives were a lack of knowledge, inaccessibility of clinic services, and clinics' inability to supply contraceptives because they ran out of stock or because of the negative attitudes of some contraceptive providers.

5.4 CONCLUSIONS CONTEXTUALISED WITHIN THE MAJOR TENETS OF THE HEALTH BELIEF MODEL

The HBM was used to explore knowledge, perceptions, attitudes regarding contraception and contraceptive practices among secondary school learners in the LP, those who participated in this study. Six components of the HBM were used as discussed in item 2.2.2.2 of this study.

5.4.1 Perceived susceptibility

As many as 50,7% of the Grade 8 and 12 female, and 45,5% Grade 8 and 12 male respondents, agreed that they were susceptible to pregnancies, though very limited numbers (18,9%) were using contraceptives.

5.4.3 Perceived barriers

These barriers included lack of knowledge, incorrect perceptions about the consequences of using contraceptives, inaccessibility of contraceptives due to lack of supplies and/or the negative attitudes of the contraceptive suppliers. Costs in travelling to clinics as well as the fact that clinic hours coincided with school hours were additional barriers that influenced the learners' utilisation of contraceptives negatively.

5.4.4 Efficacy

Efficient contraceptives have to be promoted by reproductive and contraceptive providers (Young 2002:351; Zak-Place & Stren 2004:226).

5.4.5 Cues to action

Open communication in the form of peer education, family education and community education on sexuality and contraceptive services must be encouraged so that learners can acquire more accurate information to make better informed contraceptive decisions. Mass media, especially the radio, could be put to better use to provide appropriate cues to action to learners in the LP (Peterson & Sigman-Grant 1999:180; Pinkerton 2002:19).

5.5 LIMITATIONS

The study was restricted to twenty-four randomly sampled secondary schools. In addition, the researcher only selected learners in Grade 8, first year at secondary school, and Grade 12, final year at secondary school. These limitations therefore restrict the generalisation of the research findings.

Data were collected by using self-completion questionnaires. Although the researcher and two research assistants were available to answer learners' queries, it is possible that some learners might have misinterpreted some questions. Not all learners answered all questions, further limiting the reliability of the research results as it cannot be assumed that those learners who answered specific questions had the same knowledge, attitudes and perceptions about contraception as those who failed to answer the same questions.

The questionnaires were available in English only. Although the researcher and two research assistants were available while the learners completed the questionnaires, English was not these learners' first language, possibly compounding potentially difficult concepts to comprehend, especially by Grade 8 learners. It is possible that the learners might have been too shy to ask for clarifications, especially as many questions related to sexuality issues and their personal sexual behaviours, attitudes and perceptions.

In spite of these limitations, it can be concluded that these learners did not practise safe sex, had inadequate knowledge (and some misconceptions) about contraceptives, did not receive sex education from their parents and encountered barriers which affected their potential utilisation of contraceptives negatively. In order to address these issues, to enhance the effective utilisation of contraceptives among secondary school learners in the LP, the following recommendations are made.

5.6 RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made for facilitating the enhanced utilisation of contraceptives by learners in the LP, and for conducting future research in

this field.

5.6.1 Enhanced utilisation of contraceptives

To overcome secondary school learners' poor contraceptive knowledge, perceptions, attitudes and practices requires the collaboration of all role players: learners, parents, nurses, and schools. Effective utilisation of contraceptives has the potential to improve not only the lives of adolescents, but also the lives of their families and of their (future) children.

- Programmes and workshops should be offered about communication between parents and their children about sexuality, safe sex and contraception.
- The Department of Education should incorporate sex education into the school curriculum/syllabus.
- Education on sexuality should commence at the primary school level.
- Youth centres and/or school-based contraceptive services should be established to provide learner-friendly services and supplies.
- In-service teacher training programmes should be provided and schools should offer not only sexuality education sessions but also counselling services.
- Attitudes of contraceptive providers should not prevent nor discourage adolescents from accessing these services and supplies.
- Mass media campaigns should be promoted to curb unplanned pregnancies and promote the use of contraceptive services among learners.
- Strategies should be devised to ensure that the available human and material resources are utilised to the maximum to avoid long waiting times at PHC centres.
- Ways should be found to supply contraceptive services to learners outside normal school hours, especially over weekends, during lunch times and in the evenings.

5.6.2 Recommendation for future research

As this research was only conducted in one province and involved only Grade 8 and Grade 12 learners who completed questionnaires, it is recommended that future research should:

- be conducted in other parts of South Africa
- future researchers should provide questionnaires in English and in the learners' local language(s) to reduce possible misunderstanding of the questions

- study the challenges faced by learners who become parents and complete their schooling, as well as by those who discontinue their schooling
- focus on learners who use contraceptives successfully
- identify learners who have used contraceptives successfully for a number of years to become peer motivators enhancing the contraceptive utilisation of other learners in their areas
- use qualitative research designs to describe the lived experiences of learners who use contraceptives, who are pregnant, who are parents, who are HIV+ve in order to help other learners to make better informed decisions about their own and their (future) children's future lives.

5.7 CONCLUSION

According to the DOH (1997a:113; WHO 1998c:9), it is envisaged that the life skill programmes will be a component of a broader education programme, which will include other aspects of health and family life education that will equip them with the skills to enable them to develop self-esteem, self-confidence and respond appropriately to the challenges and hurdles they face. Thus authorities and policy-makers are challenged to make contraceptives available free of charge, increase the accessibility of contraceptives to all, including remote areas, and provide the means to enhance school health services. The possibility should also be addressed that school health nurses could supply contraceptives to learners.

If this study succeeds in awakening learners to the necessity of making informed reproductive decisions, then it will have made a major contribution to improving the quality of life not only of these learners but also those of their current and future families. The potential impact of the effective utilisation of contraceptives can hardly be overemphasised. Researchers estimated that in the USA contraceptive utilisation "... averted an estimated 1,65 million pregnancies among the 15-19 year old women in the United States during 1995. If these women had been denied access to both prescription and over-the-counter contraceptive methods, an estimated additional one million pregnancies ... would have occurred. These pregnancies would have led to 480 000 live births, 390 000 abortions, 120 000 miscarriages, 10 000 ectopic pregnancies and 37 maternal deaths" (Kahn, Brindis & Gleib 1999:29). Equally significant estimations might result if more women in general, but female learners specifically, in the LP could use contraceptives effectively to become pregnant only if and when they desire to raise another child. By enhancing learners' knowledge

about and access to contraceptives, a major step could be taken in this direction – as indicated by the research results of this study.

POSTSCRIPT

Subsequent to the analysis and discussion of the data obtained from the questionnaires completed by the secondary school learners, workshops were conducted with some of these learners (see Annexure K for this report). As the results from both the completed questionnaires and the workshops indicated that some learners encountered problems to access contraceptives at the clinics, semi-structured interviews were conducted with the nurses providing contraceptives and/or TOP services in the Limpopo Province. The results from these semi-structured interviews (see Annexure L) supported the findings from the completed questionnaires and those from the workshops. The results obtained from the completed questionnaires, workshops conducted with secondary school learners, and semi-structured interviews conducted with nurses in the Limpopo Province are compared and contrasted in Annexure L. Based on these analyses, guidelines for nurses are suggested for rendering enhanced contraceptive services to learners (see Annexure M) and for teachers to provide more effective education to learners about contraceptive issues (see Annexure N) in the Limpopo Province. A pamphlet with basic contraceptive information for learners has also been designed, based on the research results of this study (see Annexure O).

BIBLIOGRAPHY

- Aarons, SJ, Jenkins, RR, Raine, TR, El-Khorazaty, MN, Woodward, KM, Williams, RL, Clark, MC & Wingrove, BK. 2000. Postponing sexual intercourse among urban junior high school students: a randomized controlled evaluation. *Journal of Adolescent Health* 27(4):236-247.
- Abercrombie, N, Hill, S & Turner, BS. 2000. *Dictionary of Sociology*. 3rd edition. Middlesex: Allen Lane.
- Abdool Karim, SS, Abdool Karim, Q, Preston-Whyte, E & Sankar, N. 1992. Reasons for lack of condom use among high school students. *South African Medical Journal* 82:107-110.
- Abma, JA, Chandra, A, Mosher, W, Peterson, L & Picinino, L. 1997. Fertility, family planning and women's health: national survey of family growth. *Vital and Health Statistics* 23(19):19-29.
- Abood, DA, Black, D & Feral, D. 2003. Nutrition education worksite intervention for university staff: application of health belief model. *Journal of Nutrition Education and Behaviour* 35(5):256-260.
- Abouzahr, C, Vlassoff, C & Kumar, A. 1996. Quality health care for women: a global challenge. *Health Care for Women International* 17(5):449-467.
- Adam, BC & Pittman, EL. 1999. *Reproductive health of young adults contraception, pregnancy and sexual transmitted diseases*. New York: Family Health International.
- Adanlawo, M & Moodley, J. 1999. Demography and social profile of women requesting termination of pregnancy in King Edward the VIII Hospital. *South African Journal of Epidemiology Infections* 14(4):99-102.
- Adentunji, J. 2000. Condom use in marital and non-marital relationships in Zimbabwe. *International Family Planning Perspectives* 26(4):196-200.
- Adler, N & Matthews, K. 1994. Health psychology: why do some people get sick and some stay well? *Annual Review of Psychology* 45(6):229-235.
- African National Congress (ANC). 1994. *A national health plan for South Africa*. Prepared in collaboration with technical support of the WHO and UNICEF. Johannesburg:ANC.
- Aggleton, P & Campbell, C. 2000. Working with young people: towards an agenda for sexual health. *Sex and Relationship Therapy* 15(2):283-296.
- Agha, S, Karly, A & Meekers, D. 2001. The promotion of condom use in non-regular sexual partnerships in Mozambique. *Health Policy and Planning* 16(2):144-151.
- Akande, A. 1997. Black South African adolescents' attitudes towards AIDS precautions. *School Psychology International* 18(11):325-341.
- Ali, BC & Lulsegod, A. 1997. Knowledge and use of contraception in developing countries. *Public Health Nursing* 19(1):240-247.

Allen, L. 2001. Closing sex education's knowledge/practice gap: the reconceptualisation of young people's sexual knowledge. *Journal of Sex Education* 1(2):109-122.

ANC 📌 see African National Congress.

Aten, MJ, Siegel, DM & Roghman, KJ. 1996. Use of health services by urban youth: a school-based survey to assess differences by grade level, gender and risk behaviour. *Journal of Adolescent Health* 19(4):258-266.

Austine, E. 2003. Health beliefs, gendered sexuality and adolescent sexual decision-making. *American Sociological Association* 10(1):20-27.

Ayaniwura, CA. 2004. Attitude of teachers to school-based adolescent reproductive health interventions. *Journal of Community and Primary Health Care* 16(1):4-9.

Babbie, E & Mouton, J. 2001. *The practice of social research*. Cape Town: Oxford University Press.

Bailey, PE, Bruno, ZV, Bezerra, MF, Queiroz, T, Oliveira, CM & Chen-Mok, MA. 2001a. The effect of welfare waivers and community context on the risk of nonmarital birth. *Journal of Adolescent Health* 27(4):230-240.

Bailey, PE, Bruno, ZV, Bezerra, MF, Queiroz, T, Oliveira, CM & Chem-Mok, MA. 2001b. Adolescent pregnancy one year later: the effects of abortion versus motherhood in north-east Brazil. *Journal of Adolescent Health* 29(3):223-232.

Baker, C & Daigle, MC. 2000. Cross cultural hospital care as experienced by Mikmaar clients. *Western Journal of Nursing Research* 22(5):18-28.

Baker, J, Martin, L & Piwoz, E. 1996. *Women's nutrition and its consequences for child survival and reproductive health in Africa: the time to act*. Academy for International Development Project of the Bureau for Africa. US Agency.

Ballard, R. 1999. Syndromic management of STDs. *South African Lessons from Industrial Settings* 10(2):82-95.

Bandura, A. 1997. *Self-efficacy: the exercise of control*. New York: Freeman.

Bankole, A, Singh, S & Haas, T. 1998. Reasons why women have induced abortions: evidence from 27 countries. *International Family Planning Perspectives* 24(3):117-127.

Basford, L & Slevin, O. 2003. *Theory and practice of nursing: an integrated approach to caring practice*. 2nd edition. New York: Ashford.

Bateman, C. 2000a. Abortions - damned if you do or don't. *South African Medical Journal* 90(6):11.

Bateman, C. 2000b. Backstreet abortions on the increase. *South African Medical Journal* 90(8):750.

- Battle, LS & Leonard, VW. 1998. Adolescent mothers four years later: narratives of the self and visions of the future. *Advances of in Nursing Science* 20(3):36-49.
- Battle, LS. 2000. The vulnerabilities of teenage mothers: challenging prevailing assumptions. *Advances in Nursing Science* 23(1):29-40.
- Bayona, B & Kanji-Murangi, I. 1996. *Botswana's primary and community junior secondary schools dropouts: an exploratory survey of the perception of pregnancy*. Nairobi, Kenya: Academy Science.
- Beake, L & Zimbizi, D. 1996. *From girlhood to womanhood in South African women's health*. Cape Town: The Women's Health Project.
- Bearman, P & Brückner, H. 1999. *Power in numbers: peer effects on adolescent girls' sexual debut and pregnancy*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.
- Bekaert, S. 2002. Preventing unwanted teenage pregnancies. *Nursing Times* 97(19):38-39.
- Beeker, C, Guenther-Grey, C & Raj, A. 1998. Community empowerment, paradigm shift and primary prevention of HIV/AIDS. *Sociological Science Medicine* 46(5):831-842.
- Belfield, T. 1998. The future of contraception and you. *Nursing Times* 94(28):26-32.
- Bell, T & Millward, J. 1999. Women's experiences of obtaining emergency contraception: a phenomenological study. *Journal of Clinical Nursing* 8(5):601-609.
- Bensussen, F, Walls, W & Saewy, EM. 2001. Teen-focused care versus adult-focused care for the high-risk pregnant adolescent: an outcomes evaluation. *Journal of Public Health Nursing* 18(6):424-435.
- Beresford, DE & Evans, 1999. *Managing teenage pregnancy: access to abortion services, contraception and sex education*. New York: Praeger.
- Berger, I & White, R. 1999. *Women in Sub-Saharan Africa: restoring women to history*. Bloomington: Indianapolis University Press.
- Bhana, S, Petersen, I, Manson, A, Mahintso, Z, Bell, C & McKay, M. 2004. Children and youth at risk: adaptation and pilot study of the CHAMP. *African Journal of AIDS Research* 3(1):33-41.
- Bhatti, LI & Fikree, FF. 2002. Health-seeking behaviour of Karachi adolescents with reproductive tract infections. *Journal of Social Science and Medicine* 54(3):105-117.
- Birdthistle, I & Vince-Whitman, C. 1997. *Reproductive health programs for young adults: school-based programs focusing on young adults research series*. Washington, DC: New York.
- Blake, SM, Ledsky, R, Lohrmann, D, Bechhoffer, L, Nichols, P, Windsor, R, Banspach, S & Jones, S. 2000. *Overall differential impact of an HIV/STD prevention curriculum for adolescents*. Washington, DC: Academy for Educational Development.

- Blank, RM, George, CC & London, RA. 1999. *State abortion rates: the impact of policies, providers, politics, demographics and economic environment*. Madison: North-Western University Press.
- Bloom, KC & Hall, DS. 1999. Pregnancy wantedness in adolescents presenting for pregnancy testing. *American Journal of Maternity Child Nursing* 24(6):296-300.
- Blum, RW, Beuhring, T & Rinehart, PM. 2000. *Protecting teens: beyond race income and family structure!* Minneapolis, MN: Center for Adolescent Health, University of Michigan.
- Bodibe, RC. 1994. Investigation into sexual knowledge, attitudes and behaviour of black adolescents. Unpublished doctoral thesis. Pretoria: University of South Africa.
- Bongaarts, J. 1997. Trends in unwanted childbearing in the developing world. *Studies in Family Planning* 28(4):267-277.
- Borvin, GJ, Schinke, S & Orlando, MA. 1995. School-based health promotion: substance abuse and sexual behaviour. *Applied and Preventive Psychology* 4(2):162-184.
- Botes, A. 2000. Critical thinking by nurses on ethical issues like the termination of pregnancy. *Curationis* 23(3):26-31.
- Boulay, M & Valente, TW. 1999. The relationship of social affiliation and interpersonal discussion to family planning knowledge, attitudes and practices. *International Family Planning Perspectives* 25(3):112-118.
- Boult, BE & Cunningham, PW. 1992. Black teenage pregnancy: an African perspective. *International Journal of Adolescence and Youth* 3(4):303-309.
- Bowling, A. 1997. *Research methods in health*. Buckingham: Open University Press.
- Boyer, CB, Tschann, JM & Shafer, M. 1999. Predictors of risk for sexually transmitted diseases in ninth grade urban highschool students. *Journal of Adolescent Research* 14(4):448-465.
- Brattan-Wolff, C & Portis, M. 2001. Smoking, acculturation and pregnancy outcome among Mexican Americans. *Health Care for Women International* 17(4):567-584.
- Briggs, LA & Blinkhorn, AS. 2002. Reproductive health knowledge among adolescents in the Port Harcourt local government area of Nigeria: implication for sex education. *International Journal of Health Promotion and Education* 37(2):57-58.
- Brindis, C, Paqliaro, S & Davis, L. 2001. *Protection as prevention: contraception for sexually active teens*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Brink, PJ & Wood, MJ. 1998. *Advanced design in nursing research*. 2nd edition. London: Sage.

- Brink, HIL. 1999. *Research methodology for health care professionals*. Kenwyn: Juta.
- Brink, HIL. 1996. *Fundamentals of research: methodology for health care professionals*. Cape Town: Juta.
- Brook-Brunn, JA. 2000. Risk factors associated with postoperative pulmonary complications following total abdominal hysterectomy. *Clinical Nursing Research* 9(4):27-46.
- Brookman, RR. 2000. Contraceptive technology and practice. *Family Planning Perspectives* 24(2):1016-1023.
- Brown, EJ. 2000. AIDS-related risk behaviour of young college students. *Journal of Adolescent Health* 11(2):37-43.
- Buga, GAB, Amoko, DHA & Ncayiyana, DT. 1996. Sexual behaviour, contraceptive practice and reproductive health among school adolescents in rural Transkei. *South African Medical Journal* 86(5):523-527.
- Burman, S & Preston-Whyte, E. 1992. *Questionable issue: illegitimacy in South Africa*. Cape Town: Juta.
- Burns, N & Grove, SK. 1997. *The practice of nursing research conduct, critique and utilization*. Philadelphia: WB Saunders.
- Burns, N & Grove, SK. 1999. *Understanding nursing research: conduct, critique and utilization*. Philadelphia: WB Saunders.
- Burns, N & Grove, SK. 2001. *The practice of nursing research: conduct, critique and utilization*. 4th edition. Philadelphia: WB Saunders.
- Butler, C. 1996. Late psychological sequelae of abortion: questions from care perspectives. *Journal of Family Practice* 43(4):396-402.
- Caldwell, B, Khuda, BE, Ahmed, S, Nessa, F & Hague, I. 1999. Pregnancy termination in the rural subdistrict of Bangladesh. *International Family Planning Perspectives* 25(1):34-43.
- Callaghan, G. 1997. Abortion: everything you need to know: *Drum* explains how new law affects your family. *Drum* 13:8-9.
- Calnan, M.1997. The Health Belief Model and participation in a programme for the early detection of breast cancer. *Social Science and Medicine* 19(8):823-829.
- Campbell, T. 1997. How can psychological theory help to promote condom use in Sub-Saharan Africa developing countries? *Journal of the Royal Society of Health* 117(2):187-191.
- Campbell, CM & Williams, BG. 1998. Evaluating HIV-prevention programmes: conceptual challenges. *Psychology in Society* 24(4):57-68.
- Carmel, S. 2000. The Health Belief Model in the research of AIDS-related preventive behaviour. *Journal of Public Health Reviews* 18(1):269-278.

Carter, D. 1996. Barriers to the implementation of research findings in practice. *Nurse Researcher* 4(2):30-40.

CDC – see Centres for Disease Control

Central Statistic Services. 1997. *Census of South Africa, 1996*. Pretoria: Government Printer.

Centre for Reproductive Law and Policy. 1999. *Implementing adolescent reproductive rights through the convention on the rights of the child*. Washington, DC: CRP Publications.

Centres for Disease Control. 1999. *Family planning methods and practice: Africa*. 2nd edition. Atlanta: US Department of Health and Human Services.

Charron, PD, Serika, SM, Becker, D, Jacober, S, Mansfield, J, White, NH, Hughes, S, Dean-McElhinny, T & Trail, L. 2001. Reproductive health beliefs and behaviours in teens with diabetes: application of the expanded health belief model. *Pediatric Diabetes* 2(1):30-34.

Chimere-Dan, P. 1996. Contraceptive prevalence in rural South Africa. *International Family Planning Perspectives* 22(1):4-9.

Chinn, PL. 1994. *Developing substance: mid-range theory in nursing*. Aspen: Maryland.

Clamp, CGLS & Gough, S. 1999. *Resources for nursing research: an annotated bibliography*. 3rd edition. London: Sage.

Clarke, VA, Lovegrove, H, Williams, A & MacPherson, M. 2000. Unrealistic optimism and the health belief model. *Journal of Behavioral Medicine* 23(4):367-376.

Clayton, S, Ross, JG & Kolbe, LJ. 1997. Results from the 1995 National College health risk behaviour survey. *Journal of American College Health* 46(2):55-66.

Cleland, J & Ferry, B. 1995. *Sexual behaviour and AIDS in the developing world*. London: Taylor & Francis.

Collins English Dictionary. 1991. Third edition. Glasgow: Harper Collins.

Condelli, L. 1997. Social and attitudinal determinants of contraceptive choice: using the health belief model. *Journal of Sex Research* 22(4):478-491.

Conner, M & Sparks, P. 1996. The theory of planned behaviour and health behaviours: predicting health behaviour. *Research and practice with social cognition models* 21(5):121-162.

Conner, M & Norman, P. 1996. *Predicting health behaviour*. Philadelphia: Open University Press.

Cooksey, EC & Guilkey, DK. 1996. The initiation of adolescent sexual and contraceptive behaviour during changing times. *AIDS Scan* 8(3):10-11.

Cormack, DFS. 1996. *The research process in nursing*. 3rd edition. London: Blackwell Science.

- Cownie, EK & Modisaotsile, TC. 2002. Female adolescent contraceptive use or non-use at first or most recent coitus. *Public Health Nursing* 13(3):14-30.
- Crewe, R. 2002. Clinical health promotion: preventing unwanted teenage pregnancies. *Nursing Standard* 7(38):440-450
- Cresswell, JW. 1994. *Research design: qualitative and quantitative approaches*. London: Sage.
- Cresswell, JW. 1998. *Qualitative inquiry and research design: choosing among five traditions*. London: Sage.
- Cochrane, ME. 1997. Female adolescents' perceptions of benefits of and barriers to using oral contraceptives. *Issues in Comprehensive Pediatric Nursing* 17(1):19-22.
- Cromer, BA & McCarthy, M. 2000. Family planning services in adolescent pregnancy prevention: the views of key informants in four countries. *Family Planning Perspectives* 31(6):287-293.
- Crosby, RA & Yarber, WL. 2004. Perceived versus actual knowledge about correct condom use among US adolescents: results from a national study. *Journal of Adolescent Health* 28(5):415-420.
- Crouch, V. 2002. Teenage pregnancy and sexual health. *Community Practitioner* 75(3):82-84.
- Dangal, G. 2005. An update on teenage pregnancy. *Internet Journal of Gynaecology and Obstetrics* 5(1):205-207.
- Daniel, WW. 1999. *Biostatistics: a foundation for analysis in the health sciences*. 7th edition. Brisbane: Wiley.
- Davis, SM & Harris, MB. 1998. Sexual knowledge, sexual interests and sources of sexual information of rural and urban adolescents from three cultures. *Adolescence* 17(4):57-73.
- Day, P. 1999. School nurses and contraception. *Nursing Times* 90(31):39-40.
- Dehne, KL & Riedner, G. 2001. Adolescence: a dynamic concept. *Reproductive Health Matters* 9(17):9-11.
- Dennill, K, King, L, Lock, M & Swanepoel, T. 1995. *Aspects of primary health care and community health care in Southern Africa*. Halfway House: Southern.
- De Paoli, MM, Manong, R & Klepp, K. 2004. Factors influencing acceptability of voluntary counselling and HIV-testing among pregnant women in Northern Tanzania. *AIDS Care* 16(4):410-414.
- Department of Education. 1994. *Education Act 1994: sex education in schools*. Circular 5(94). Pretoria: Government Printer.
- Department of Health. 1994. *Population Development Programme: working for quality and equity in health*. Pretoria: Government Printer.

- Department of Health. 1995. Fifth national HIV survey on women attending antenatal clinics of the public health service in South Africa. *Epidemiological Comments* 22(5):90-94.
- Department of Health. 1996a. Youth and adolescent health policy guidelines. Pretoria: Government Printer.
- Department of Health. 1996b. *Health of the nation: a strategy for health*. Pretoria: Government Printer.
- Department of Health. 1997a. White Paper on the Transformation of the Health System in South Africa. *Government Gazette* 382(17):108-118. Pretoria: Government Printer.
- Department of Health. 1997b. The epidemic of sexually transmitted diseases in South Africa. *Masiphile* 1(2):19-14.
- Department of Health. 1997c. *A report of the maternal and child health workshop*. Pretoria: Government Printer.
- Department of Health. 1998a. South African demographic and health survey. Pretoria: Government Printer.
- Department of Health. 1998b. *Maternal child health services referral system in South Africa*. Pretoria: Government Printer.
- Department of Health. 1999a. *National framework and guidelines for contraceptive services*. Pretoria: Government Printer.
- Department of Health. 1999b. *White paper on the district health system in Gauteng Province*. Pretoria: Government Printer.
- Department of Health. 2000. *National reproductive health care assessment*. Pretoria: Government Printer.
- Department of Health. 2001. *National contraception policy guidelines*. Pretoria: Government Printer.
- Department of Health 2002. *Planning for equity in health: a sectoral review and policy statement*. Pretoria Government Printer.
- DePinho, A & Hoffman, M. 1998. Termination of pregnancy: understanding the new Act. *Women's Health* 2(1):22-28.
- Deqirmencioqlu, SM, Urberg, KA, Tolson, JAA & Richard, P. 1998. Adolescent friendship networks: continuity and change over the school year. *Merrill-Palmer Quarterly* 44(3):313-337.
- De Vos, AS. 1998. *Research at grassroots*. Pretoria: Van Schaik.
- De Vos, AS. 2001. *Research at grass roots: a primer for the caring professions*. Pretoria: Van Schaik.

De Vos, AS, Strydom, H, Fouche, CB & Delpont, CSL. 2002. *Research at grass roots level*. Pretoria: Van Schaik.

De Wet, M, Ackermann, L & Crichton, A. 2002. Incorrect condom programming in the primary health care setting: a prescription for disaster. *Curationis* 25(2):4-13.

Diale, DM & Roos, SO. 2000. Perceptions of sexually transmitted diseases among teenagers. *Curationis* 23(4):136-141.

Dickson-Tetteh, K, Rees, H & Duncan, J. 1999. *National adolescent-friendly clinic initiative: a love-life initiative in partnership with the Department of Health*. Johannesburg: Reproductive Health Research Unit, Baragwanath Hospital.


DiClemente, J. 2002. *Handbook of HIV prevention*. New York: Kluwer/Plenum.

Dilorio, C, Dudley, WN, Wang, DT, Wasserman, J, Eichler, M, Belcher, L & West-Edwards, C. 2001. Measurement of parenting self-efficacy and outcome expectancy related to discussions about sex. *Journal of Nursing Measurement* 9(2):135-149.

Dittus, PJ & Jaccard, J. 2000. Adolescent perceptions of maternal disapproval of sex: relationship to sexual outcomes. *Journal of Adolescent Health* 26(4):268-278.

Dlamini, L. 2002. Rape case: young people's arrest. *Sowetan*, 14 December:4.

Dlamini, S. 1999. Reaction to patriarchal codes among emaSwati in *Women, society and constraints: a collection of contemporary South African gender studies*, edited by M Malherbe, M Kleijwegt and E Koen. Pretoria: University of South Africa Press.

DOH  see Department of Health.

Donald, D, Lazarus, S & Lolwana, P. 1999. *Educational psychology in social context: challenges of development, social issues and special need in Southern Africa*. Cape Town: Oxford University Press.

Donati, S, Medda, E, Spinelli, A & Gandolfo, ME. 2000. Sex education in secondary schools: an Italian experience. *Journal of Adolescent Health* 26(4):303-308.

Dorroch, JE, Landry, DJ & Singh, S. 2000. Changing emphases in sexuality education in US public secondary schools from 1988 to 1999. *Family Planning Perspectives* 32(5):204-211.

Douglas, KA, Collins, JL, Warren, C, Kann, L, Gold, R, Clayton, S, Ross, JG & Kolbe, LJ. 1997. Results from the 1995 National College health risk behaviour survey. *Journal of American College Health* 46(2):55-66.

Douglas, N, Warwick, I, Kemp, S, Shitly, G & Aggleton, P. 1999. Homophobic bullying in secondary schools in England and Wales: teachers' experiences. *Health Education* 2(5):53-60.

Dreyer, M, Hattingh, S & Lock, M. 1997. *Fundamental aspects in community health nursing*. Halfway House: Southern.

- Drossaert, CHC & Seydel, ER. 2003. Prospective study of the determinants of repeat attendance pattern of breast cancer screening using the theory of behaviour. *Psychology and Health* 18(1):551-565.
- Durham, MG. 1999. Girls' media and the negotiation of sexuality: a study of race, class and gender in adolescent peer groups. *Journalism and Mass Communication Quarterly* 76(2):193-216.
- Dutra, R, Miller, KS & Forehand, R. 2000. The process and content of sexual communication with adolescents in two parent families: associations with sexual risk behaviour. *AIDS and Behaviour* 3(1):59-66.
- Dye, C. 2006. Moderating effects of gender on alcohol use: implications for condom use at first intercourse. *Journal of School Health* 76(3):111-116.
- Dyer, G & Tiggerman, M. 1996. The effect of school environment on body concerns in adolescent women: sex roles. *A Journal of Research* 34(2):127-138.
- Easterby-Smith, M & Fahlman, BH. 2001. *Factors affecting adolescents' use of family planning clinics*. Washington, DC: Population Reference Bureau.
- Eaton, L & Fisher, AJ. 2001. Why do young people engage in unsafe sex? Editorial. *South African Medical Journal* 17(3):55-58.
- Eccles, JS, Early, D, Fraser, K, Belansky, E & McCarthy, K. 1997. The relation of connection, regulation and support for autonomy to adolescents' functioning. *Journal of Adolescent Research* 12(2):263-286.
- Eggleston, E, Jackson, J & Hardee, K. 1999. Sexual attitudes and behaviour among young adolescents in Jamaica. *International Family Planning Perspectives* 25(2):78-91.
- Ehlers, VJ, Maja, T, Sellers, E & Gololo, M. 2000. Adolescent mothers' utilisation of reproductive health services in the Gauteng Province of South Africa. *Curationis* 23(3):43-53.
- Ehlers, VJ & Maja, T. 2001. Adolescent mothers' perceptions of reproductive health services in the Garankuwa area of South Africa. *Africa Journal of Nursing and Midwifery* 3(2):9-12.
- Ehlers, VJ. 2003. Adolescent mothers' knowledge and perceptions of contraceptives in Tshwane, South Africa. *Health SA Gesondheid* 8(1):13-25.
- Eisen, M, Zellman, GL & McAllister, AL. 1992. Health belief model: social learning theory approach to adolescents' fertility control: findings from a controlled field trial. *Health Education Quarterly* 12(2):185-210.
- Elliot, N, Crump, J, McGuire, A & Bagshaw, S. 1999. Knowledge, attitudes and behaviour toward HIV infection among family planning clinic attendees: changes between 1991 and 1997. *New Zealand Medical Journal* 133(5):121-123.
- Engelbrecht, MC, Pelsler, AJ, Ngwena, C & Van Rensburg, HCJ. 2000. The implementation of the Choice on Termination of Pregnancy Act: some empirical findings. *Curationis*, 23(2):4-14.

- English, A, Kapphahn, G, Perkins, J & Wibbelsman, CJ. 1998. Adolescents in managed care: a position paper. *Journal of Adolescent Health* 22(4):271-277.
- Erasmus, PA & Bekker, M. 1996. Contraception: the woman's role in family planning. *South African Journal of Ethnology* 14(7):38-44.
- Etuk, SJ, Ikpeme, BM, Kalu, GN, Mkapanam, NE & Oyo-Ita, AE. 2004. Knowledge of reproductive health issues among secondary school adolescents in Calabar, Nigeria. *Global Journal of Medicine Sciences* 3(12):5-8.
- Ezumah, N. 2000. Perceptions of sexuality among the Igbo: selected findings from Anambia State, Nigeria. *African Gender Institute Newsletter* 7(12):7-9.
- Fahlman, MN. 2002. Promotion of sexual responsibility in adolescents. *Family Practice Recertification* 21(7):190-200.
- Fahlman, MN. 2001. Effectiveness of the 'baby think it over' teen pregnancy prevention program. *Journal of School Health* 71(5):188-191.
- Fathalla, MF. 1997. *From obstetrics and gynaecology to women's health: the road ahead*. New York: Parthenon.
- Fawcett, C. 2001. HIV counselling: it's more than one-on-one. *AIDS Bulletin* 10(2):23-27.
- Feldman, DA, O'Hara, P, Babeo, KS & Chitale, TB. 1997. HIV prevention among Zambian adolescents: developing a value utilization norm-change model. *Social Science and Medicine* 44(10):455-468.
- Felix-Ortiz, M, Newcomb, MD & Meyers, H. 1999. A multidimensional measure of cultural identity for Latino adolescents. *Hispanic Journal of Behavioural Sciences* 16(6):89-118.
- Fennema, JSA, Van Ameijden, FJC, Continho, RA & Van der Hoek, JAR. 1995. Validity of self-reported sexually transmitted diseases in a cohort of drug-using prostitutes in Amsterdam: trends from 1986-1992. *International Journal of Epidemiology* 24(5):1034-1041.
- Fikree, FF, Khan, A, Kadir, MM, Sajan, F & Rahbar, MH. 2001. What influences contraceptive use among young woman in urban squatter settlements of Karachi Pakistan. *International Family Planning Perspective* 27(3):130-136.
- Finer, LB, Darroch, JE & Singh, S. 1999. Sexual partnership patterns as a behavioral risk factor for sexually transmitted diseases. *Family Planning Perspectives* 31(5):228-236.
- Finfgeld, DL, Wongvafunyu, S, Con, VS, Grando, VT & Russell, CL. 2003. Health belief model and reveal theory: a comparative analysis. *Journal of Advanced Nursing* 43(3):282-288.
- Fink, A. 1993. *Evaluation fundamentals: guiding health programme, research and policy*. London: Sage.

- Fisher, AJ, Ziervogel, CF, Charlton, DO, Beger, PH & Robertson, BA. 1993. Risk-taking behaviour of Cape Peninsula high school students. *South African Medical Journal* 83(11):495-497.
- Fitzpatrick, JJ. 1999. *Nursing research digest*. New York: Springer.
- Fitzpatrick, JJ, Stevenson, JS & Polis, NS. 1998. *Nursing research and its utilization*. New York: Springer.
- Flisher, AD & Chalton, DO. 2002. Adolescent contraceptive non-use and co-habitation as risk behaviours. *Journal of Adolescent Health*, 28(3):235-241.
- Forrest, JD & Somara, R. 1996. Impact of publicly funded contraceptive services on unintended pregnancies and implications for medical expenditure. *Family Planning Perspectives* 28(5):188-195.
- Foy, D, Gabriel, M, Cindi, C & Dickson-Tetteh, K. 2001. *Sexual and reproductive health course*. Johannesburg: University of the Witwatersrand (Reproductive Health Research Unit).
- Frank, GR. 2000. Early childbearing: perspectives of Black adolescents on pregnancy, abortion and contraception. Newbury Park: Sage.
- Frank, A, Loda, MD, Ilene, S, Speizer, D, Kerry, L, Martin, MPH, De Carqueskatrud, J, Trude, A & Bennett, PH. 1997. Programs and services to prevent pregnancy, childbearing and poor birth outcomes among adolescents in rural areas of the south-east United States. *Journal of Adolescent Health* 21(8):157-166.
- Frank, A, Papini, DR & Speizer, D. 2003. Substance use and risky sexual behaviour among homeless and runaway youths. *Journal of Adolescent Health* 23(6):378-388.
- Franklin, C & Corcoran, J. 2000. Preventing adolescent pregnancy: a review of programmes and practices. *Journal of Marriage and the Family* 45(1):40-52.
- Freedman, D, Pisani, R, Purves, R & Adhikari, A. 1995. *Statistics*. 2nd edition. London: Norton.
- Frewen, S, Schomer, H & Dunne, T. 1994. The Health Belief Model: interpretation of compliance factors in a weight loss and cardiac rehabilitation programme. *South African Journal of Psychology* 24(1):39-43.
- Fugelsang, M. 1997. Lessons for life: past and present modes of sexuality education in Tanzanian society. *Social Science and Medicine* 44(8):1245-1253.
- Galvao, L, Diaz, J, Diaz, M, Osis, MJ, Clark, S & Ellertson, C. 1999. Emergency contraception: knowledge, attitudes and practices among Brazilian obstetrician-gynaecologists. *International Planning Perspectives* 30(1):168-171.
- Gertholtz, L & Richter, M. 2002. Young women's access to reproductive health care services in the context of HIV. *Agenda* 53(3):99-105.

- Geronimus, AT. 1996. Black/White differences in the relationship of maternal age to birth weight: a population-based test of the weathering hypothesis. *Journal of Social Science Medicine* 42(5):589-597.
- Gibson, JW. 1999. Factors associated with Hispanic teenagers' attitudes toward the importance of birth control. *Child and Adolescent Social Work Journal* 8(1):462-472.
- Gillian, ML, Knight, S & McCarthy, JM. 2003. Importance and knowledge of oral contraceptives in antepartum, low income, African-American adolescents. *Journal of Pediatric and Adolescent Gynaecology* 16(6):350-355.
- Gillies, P. 1998. Effectiveness of alliances and partnerships for health promotion. *Health Promotion International* 13(3):1-21.
- Ginsberg, KR, Slap, GB & Cnaan, A. 1995. Adolescents' perceptions of factors affecting their decisions to seek health care. *Journal of Adolescent Health* 21(3):913-918.
- GIS Resource Centre. 2006. Thohoyandou: University of Venda.
- Glasier, A & Baird, D. 1998. The effect of self-administered emergency contraception. *The New England Journal of Medicine* 339(1):1-4.
- Glanz, K, Rimer, BK & Lewis, FM. 2002. *Health behaviour and health education: theory, research and practice*. San Francisco: Jossey-Bass.
- Gmeiner, AC, Van Wyk, S & Mpshe, WS. 2002. Emotional support for adolescents who opt for termination of pregnancy. *Health Gesondheid* 7(4):14-23.
- Gmeiner, AC, Van Wyk, S, Poggenpoel, M & Myburgh, CPU. 2000. Support for nurses directly involved with women who choose to terminate a pregnancy. *Curationis* 23(1):70-77.
- Gochman, DS. 1977. *Handbook of health behavior research II: provider determinants*. New York: Plenum Press.
- Godfrey, K. 1996. Initiatives to improve family planning education. *Nursing Times* 92(12):20-22.
- Gogo, GB. 1997. Knowledge, attitudes and practice of family planning by senior secondary students. Unpublished master's dissertation. Stellenbosch: University of Stellenbosch.
- Gohel, M, Diamond, JJ & Chambers, CV. 1997. Attitudes towards sexual responsibility and parenting: an exploratory study of young urban males. *Family Planning Perspective* 29(6):280.
- Goldberg, B. 1997. Adolescent reproductive health. *Network Family Health International* 17(3):9.
- Goldman, JA & Harlow, LL. 2000. Self-perception variables that mediate AIDS-preventive behaviour in college students. *Health Psychology* 12(1):209-215.
- Goodwin, CJ. 1995. *Research in psychology: methods and design*. New York: Wiley.

- Goosen, BW & Klugman, B (eds). 1996a. *The South African woman's health book*. Cape Town: Oxford University Press.
- Goosen, BW & Klugman, B. 1996b. *Woman's health: a South African perspective*. Cape Town: The Women's Health Project, University of the Witwatersrand.
- Gorbin, J, Barnes, C, Mayberry, L & Gibson, J. 1998. Recent HIV sero-prevalence levels by country. *Research Notes* 25:25-30.
- Govender, K. 2002. An investigation of ideological-based constructions of sexual risk practices among black adolescents within the context of HIV/AIDS. Unpublished DLitt et Phil thesis. Pretoria: University of South Africa.
- Granziano, EW & Raulin, K. 2000. *Early childbearing: theory and practice*. Newbury Park: Sage.
- Greathead, E, Devenish, C & Funnell, G. 1998. *Responsible teenage sexuality: a manual for teachers, youth leaders and health professionals*. Pretoria: Van Schaik.
- Green, J. 1998. School sex education and education policy in England and Wales: the relationship examined. *Health Education Research* 13(8):67-72.
- Greening, L, Stoppelbein, L & Jackson, M. 2001. Health education programs to prevent teen pregnancy. *Journal of Adolescent Health* 28(4):257-258.
- Grossman, JB & Sipe, CL. 1992. *Summer training and education program: report on long-term impact*. Philadelphia: Private Ventures.
- Gueye, M, Castle, S & Konate, MK. 2001. Timing of first intercourse among Malian adolescents: implications for contraceptive use. *International Family Planning Perspectives* 27(2):56-62.
- Gupta, N & Da Costa Leite, L. 1999. Adolescent fertility behaviour: trends and determinants in north eastern Brazil. *International Family Planning Perspectives* 25(3):125-130.
- Guttmacher, S, Kapadia, F, Naude, JTW & De Pinho, H. 1998. Abortion reform in South Africa: a case study of the 1996 Choice on Termination of Pregnancy Act. *International Family Planning Perspectives* 24(4):91-104.
- Hacker, KA, Amare, Y, Strunk, N & Horst, L. 2000. Listening to the youth: teen perspectives on pregnancy prevention. *Journal of Adolescent Health* 26(4):278-288.
- Hallette, C. 1997. The use of descriptive statistics in nursing research. *Nurse Researcher* 4(4):5-13.
- Hanna, KM. 2000. Oral contraceptives for adolescents: benefit and safety. *International Journal of Gynaecology and Obstetrics* 70(3):401-409.

- Hanson, JA & Benedict, JA. 2002. Use of the Health Belief Model to examine older adults, food-handling behaviour. *Journal of Nutrition Education & Behaviour* 34(2):25-26.
- Haram, L. 1995. *Negotiating sexuality in times of economic want: the young and modern Meru women: young people at risk*. Fighting AIDS in Northern Tanzania. Nairobi: University Press.
- Harden, A & Ogden, J. 1999. Sixteen- to nineteen-year-olds' use of and beliefs about contraceptive services. *British Journal of Family Planning* 21(1):141-144.
- Hardy, W, Gilpin, T, Stead, M, Van Ander P & Somasumaren, A. 1996. Abortion legislation. *South African Medical Journal* 86(11):14-33.
- Harel, Z & Cromer, B. 1999. The use of long-acting contraceptives in adolescents. *Pediatric Clinics of North America* 46(4):719-732.
- Harkim, BC. 2000. *The facts about teenage pregnancies*. London: Cassell.
- Harrison, JA, Mullen, PD & Green, LW. 1992. A meta-analysis of studies of the health belief model with adults. *Health Education Research, Theory and Practice* 7(1):107-116.
- Harrison, A & Ntuli, N. 2001. Understanding young women's risk for HIV/AIDS: adolescent sexuality and vulnerability in rural KwaZulu-Natal. *Society in Transition* 32(1):69-78.
- Harrison, A & Ntuli, N. 1998. Assessment of services for sexually transmitted diseases in the public and private sectors: perspectives of service users and providers. Pretoria: *Medical Research Council* 4:30-34.
- Harvey, CM. 1998. A social psychological model of female adolescents' compliance with contraceptives. *Seminars in Adolescent Medicine* 3(2):121-125.
- Hatcher, RA, Rinehart, W, Blackburn, R, Geller, JS & Shelton, JD. 1997. *The essentials of contraceptive technology: a handbook for clinical staff*. Population information program. Center for Communication, Baltimore: World Health Organization.
- Heber, LF & George, T (eds). 1999. *International perspectives on women's health and culture: a world-wide anthology*. Salisbury: Quay Books.
- Heilman, EE. 1998. The struggle for self: power and identity in adolescent girls. *Youth and Society* 30(2):182-208.
- Henshaw, SK & Van Vort, J. 1998. Abortion services in the United States: each state and metropolitan area. *Family Planning Perspective* 20(5):158-168.
- Herold, ES & Guelph, U. 2004. The Health belief model: can it help us to understand contraceptive use among adolescents? *Journal of School Health* 53(1):19-21.
- Hicks, CM. 1996. *Undertaking midwifery research: a basic guide to design and analysis*. London: Churchill Livingstone.

- Hillier, L, Harrison, L & Warr, D. 1998. When you carry condoms all the boys think that you want it: negotiating competing discourses about safe sex. *Journal of Adolescence* 21(5):15-29.
- Hiltabiddle, SJ. 1996. Adolescent condom use, the Health Belief Model and the prevention of sexually transmitted disease. *Journal of Obstetric, Gynaecologic and Neonatal Nursing* 25(1):61-66.
- Hockbaum, BH & Lorig, PI 1992. Models of health-related behaviour, in *Handbook of health, health care and the health professions* edited by D Mechanic. New York: Free Press.
- Hoffman, SD. 1998. Teenage childbearing is not bad after all ... or is it? A review of the new literature. *Family Planning Perspectives* 30(5):235-239.
- Holtzman, D & Rubinson, R. 1995. Parent and peer communication effects on AIDS-related behaviour among US high school students. *Family Planning Perspective* 27(6):235-240.
- Hospital A. 1999-2003. Register and records of antenatal clinics. Thohoyandou: Department of Health (of the Limpopo Province).
- Hospital A. 1999-2003. Maternity records. Thohoyandou: Department of Health (of the Limpopo Province).
- Hout, HH & Broom, BL. 2002. School-based teen pregnancy prevention programs: a review of the literature. *Journal of School Nursing* 18(1):11-17.
- Howson, PH, Harrison, PF, Hotra, D & Law, M. 1996. *In her lifetime: female mortality and morbidity in Sub-Saharan Africa*. Washington, DC: National Academy Press.
- Hubacher, D, Holtaman, M, Fuentes, M, Perez-Palacios, G & Janowitz, 1999. Increasing efficiency to meet future demand: family planning services provided by the Mexican Ministry of Health. *International Family Planning Perspectives*, 25(3):119-124.
- Hutchson, MKI & Conney, TM. 1998. Patterns of parent-teen sexual risk communication: implications for intervention. *Family Relations* 47(2):185-194.
- Ibeh, CC & Ikechebelu, JI. 2002. Teenage pregnancy: knowledge and attitude of adolescents in South-East Nigeria. *Journal of College of Medicine* 7(2):104-107.
- Iliyasu, Z, Mandara, MU & Mande, AT. 2004. Community leaders' perception of reproductive health issues and programmes in North-eastern Nigeria. *Tropical Journal of Obstetrics and Gynaecology* 21(2):83-87.
- Jaccard, J, Ortlus, PJ & Gordon, VV. 1998. Parent-adolescent congruency in reports of adolescent sexual behaviour and in communication about sexual behaviour. *Child Development* 69(1):247-261.
- Jacobson, BH, Aldana, SG & Beaty, T. 1994. Adolescent sexual behaviour and associated variables. *Journal of Health Education* 1(25):10-12.
- Jali, MN. 2001. Abortion: a philosophical perspective. *Curationis* 24(4):25-31.

- Janz, NB & Becker, MH. 1998. The Health Belief Model: a decade later. *Health Education Quarterly* 11(4):10-13.
- Jagananen, PD. 1999. Adolescent health care: is it a forgotten and a neglected field? Challenges for the twenty-first century: a review of the literature. *Health SA Gesondheid* 4(3):74-78.
- Jay, R & Wilson, W. 1998. Gender differences in adolescent sexual attitudes: the influence of individual and family factors. *Adolescence* 33(131):519-531.
- Jegede, AS & Odumosu, O. 2003. Gender and health analysis of sexual behaviour in South-Western Nigeria. *African Journal of Reproductive Health* 7(1):63-70.
- Jejeebhoy, S. 1997. *Empower women, ensure choices: the safe motherhood action agenda*. New York: Macmillan.
- Jejeebhoy, SJ. 1999. Adolescent sexual and reproductive behaviour: a review of the evidence from India. *Social Science Medicine* 46(10):1275-1290.
- Jemmot, LW. 1999. Saving our children: strategies to empower African-American adolescents to reduce their risk for HIV infection. *Journal of National Black Nurses Association* 11(1):4-14.
- Jewkes, RH, Fawcus, S, Rees, H, Lombard, CJ & Katzenellenbogen, J. 1997. Methods and ethical issues in the South African abortion study. *Studies in Family Planning* 28(3):228-238.
- Jirojwong, S & McKenna, R. 2003. Health beliefs, perceived self-efficacy and breast self-examination among Thai migrants in Brisbane. *Journal of Advanced Nursing* 41(3):232-244.
- Joffe, H. 1999. AIDS research and prevention: a social representational approach. *British Journal of Medical Psychology* 69(4):169-190.
- Johnson, PA. 1995. Teen pregnancy prevention: an Afrocentric developmental framework. *The ABNF Journal* 6(1):11-14.
- Jones, M. 1996. Clients express preference for one-stop sexual health shop. *Nursing Times* 92(21):32-33.
- Jones, RK & Boonstra, H. 2005. The Alan Guttmacher Institute, New York. *Current Opinion in Obstetrics and Gynaecology* 17(5):456-460.
- Junod, J. 1988. Sex counselling of male and female adolescents. *Nursing RSA* 3(9):94-99.
- Jurgens, A. 2002. Children bearing children. *Sunday Times*, 17 November, p 34.
- Justasen, A, Kapiga, SH & Van Asten, HA. 1999. Abortions in a hospital setting: hidden realities in Dar-es-Salaam, Tanzania. *Studies in Family Planning* 23(5):210-218.
- Kahn, JG, Brindis, DD & Gleib, DA. 1999. Pregnancies averted among US teenagers by the use

of contraceptives. *Family Planning Perspectives* 31(1):29-34.

Kallen, DJ, Stephenson, JJ & Doughty, A. 1999. The need to know: recalled adolescent sources of sexual and contraceptive information and sexual behaviour. *Journal of Sex Research* 19(2):149-160.

Kasen, S, Cohen, P & Brook, JS. 1998. Adolescent school experiences and dropout rates: adolescent pregnancy and young adult deviant behavior. *Journal of Adolescent Research* 13(1):49-72.

Katz, J, Peberdy, A & Douglas, J. 2000. *Promoting health: knowledge and practice*. Oxford: Open University Press.

Katz, KR, West, CG, Doumbia, F & Kane, F. 1998. Increasing access to family planning services in rural Mali through community-based distribution. *International Family Planning Perspectives* 24(3):104-110.

Kelly, PJ & Morgan-Kidd, KJ. 2001. Social influences on the sexual behaviours of adolescent girls in at-risk circumstances. *Journal of Obstetric, Gynaecologic and Neonatal Nursing* 30(5):481-489.

Kerker, GK & Rich, S. 1992. Influences on adolescent sexuality in Nigeria and Kenya: findings from recent focus group discussions. *Studies in Family Planning* 23(3):199-210.

Kerlinger, FN. 2000. Foundations of behavioural research. 3rd edition. New York: Holt, Rinehart & Winston.

Ketchell, A. 2000. Addressing the sexual concerns of patients following myocardial infarction. *Nursing in Critical Care* 3(3):122-129.

Ketting, E & Visser, AP. 1994. Contraception in the Netherlands: the low abortion rate explained. *Patient Education and Counselling* 2(31):161-171.

Kidely, M. 2002. Teenage pregnancy: whose problem is it? *Nursing Times*, 98(4):36-37.

Kim, MY, Putjuk, F, Basuki, E & Kols, A. 2000. Self-assessment and peer review: improving Indonesian service providers' communication with clients. *International Family Planning Perspectives* 26(1):4-12.

Kim, S, Kotchick, BA, Dorsey, S, Forehand, R & Ham, A. 1998. Communication about sex: what are parents saying and are their adolescent listening? *Family Planning Perspectives* 30(5):218-222.

Kim, MY, Kols, A & Mucheke, S. 1998. Informed choice and decision-making in family planning counselling in Kenya. *International Family Planning Perspectives*, 42(1):4-11.

Kimane, L & Joseph, D. 1996. *Gender health and development: primary health care service management*. Johannesburg: University of the Witwatersrand.

Kirby, D. 2001. *Emerging answers: research findings on programmes to reduce teen*

- pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Kirigia, JM & Muthuri, LHK. 1999. Predictors of women's decision to ask new partners to use condoms to avoid HIV/AIDS in South Africa. *East Africa Medical Journal* 76(1):484-489.
- Klein, H, Eber, M, Crosby, H, Selka, DA & Hoffman, JF. 1999. The acceptability of the female condom among substance-using women in Washington, DC. *Women and Health* 33(2):97-114.
- Klima, CS. 1998. Unintended pregnancy: consequences and solutions for a worldwide problem. *Journal of Nurse-Midwifery* 43(6):483-491.
- Klugman, B. 2000. The politics of contraception in South Africa: editorial. *Woman's Health Newsletter* 34:3.
- Knapp, TR. 1998. *Quantitative nursing research*. New Delhi: Sage.
- Kozier, BG, Erlo, AJ, Berman, K & Burke, K. 2000. *Fundamentals of nursing: concepts, process and practice*. 6th edition. California: Addison & Wesley.
- Kumar, RM, Uduman, SA & Kurran, AK. 1997. Impact of pregnancy on maternal acquired immune-deficiency syndrome. *Journal of Reproductive Medicine* 42(4):429-434.
- Kunene, PJ. 1995. Teenagers' knowledge of human sexuality and their views on teenage pregnancies. *Curationis* 18(3):48-52.
- Kurth, A. 1998. Promoting sexual health in the age of HIV/AIDS. *Journal of Nurse-Midwifery* 43(3):162-177.
- Lamanna, M. 1999. Living the postmodern dream: adolescent women's discourse on relationships, sexuality and reproduction. *Journal for Family Issues* 20(2):181-217.
- Lane, D & Day, P. 2001. Setting up a sexual health clinic in a school. *Nursing Times* 97(41):38-39.
- Laraque, D, McLean, DE, Brown-Peterside, P, Ashton, D & Diamond, B. 1997. Predictors of reported condom use in central Harlem youth as conceptualized by the Health Belief Model. *Journal of Adolescent Health* 21(5):318-327.
- Lauver, DR, Settersten, L, Marten, S & Halls, J. 1999. Explaining women's intentions and use of hormones with menopause. *Research in Nursing and Health* 22(5):309-320.
- Leach, F. 2002. School-based gender violence in Africa: a risk to adolescent sexual health. *Perspectives in Education* 20(2):99-112.
- Leaper, C & Valin, D. 1996. Predictors of Mexican-American mothers' and fathers' attitudes towards gender equality. *Hispanic Journal of Behavioral Sciences* 18(4):34-35.
- Leedy, PD. 1997. *Practical research: planning and design*. 6th edition. Upper Saddle River, NJ: Prentice Hall.
- Lengane, L. 1999. Fighting for safe sex: her new TV shows aim to change teenagers' sexual

attitudes and save their lives. *Drum* 370(4):10-11.

Lema, VM & Hassan, MA. 1994. Knowledge of sexually transmitted diseases, HIV infection and AIDS among sexually active adolescents in Nairobi, Kenya. *East African Medical Journal* 71(8):122-128.

Lindberg, LD, Ku, L & Sonenstein, F. 2000. Adolescents' reports of reproductive health education. *Family Planning Perspective* 32(5):220-226.

Lindsay, JW. 1995. *School-age parents: the challenge of three generations living together*. Buena Park, CA: Morning Glory Press.

Little, L. 1997. Teenage health education: a public health approach. *Nursing Standard* 11(49):43-46.

Lobiondo-Wood, G & Haber, J. 2002. *Nursing research methods: critical appraisal and utilization* 5th edition. St Louis: CV Mosby.

Lobiondo-Wood, G & Haber, J. 1998. *Nursing research methods: critical appraisal and utilization*. 4th edition. St Louis: CV Mosby.

Lollis, CM, Johnson, EH & Antoni, MH. 1997. The efficacy of the Health Belief Model for predicting condom usage and risky sexual practices in university students. *Behavioral Medicine and Health, Psychology Program, Morehouse School of Medicine* 9(6):551-563.

Luker, K. 1996. *Dubious conceptions: the politics of teenage pregnancy*. Cambridge, Mass: Harvard University Press.

Lundy, KS & Jones, S. 2003. *Essentials of community-based nursing*. Sudburg: Jones & Bartlett.

Lunt, P & Livingston, S. 1996. Rethinking the focus group in media and communications research. *Journal of Communication* 46(5):79-98.

Lux, KM & Petosa, R. 1994. Using the Health Belief Model to predict safer sex intentions of incarcerated youth. *Health Education Quarterly* 21(4):487-490.

MacIntyre, K, Brown, L & Sosler, S. 2001. It's not what you know, but who you knew: examining the relationship between behaviour change and AIDS mortality in Africa. *AIDS Education and Prevention* 13(2):160-174.

MacLean, R. 2004. Norms that encourage young adolescents not to have sex tried to reduced odds of becoming sexuality active. *Perspectives on Sexual and Reproductive Health* 36(4):170-171.

Macleod, C. 1999. The causes of teenage pregnancy: review of South African research. Part 2. *South African Journal of Psychology* 29:8-16.

MacPhail, C. 1998. Adolescents and HIV in developing countries: new research directions. *Psychology in Society* 24(8):69-87.

- MacPhail, C & Campbell, C. 2001. I think condoms are good but I hate those things: condom use among adolescents and young people in a South African township. *Social Science and Medicine* 52(6):1613-1627.
- MacPhail, C & MacPhail, C. 2003. Challenging dominant norms of masculinity for HIV prevention. *African Journal of AIDS Research* 2(2):141-149.
- Maes, CA & Louis, M. 2003. Knowledge of AIDS, perceived risk of AIDS, and at-risk sexual behaviors among older adults. *Journal of the American Academy of Nurse Practitioners* 15(11):509-518.
- Mafarah, F, Wood, K & Jewkes, R. 1997. Backstreet abortions: women's experiences. *Curationis* 20(2):79-82.
- Magagula, MD. 1998. An investigation into the sexual behaviours of adolescents attending sexually transmitted disease clinics in the western district of the Vaal Region. Unpublished master's dissertation. Pretoria: University of South Africa.
- Magwentshu, BM. 2000. Critical analysis of adolescent reproductive health services in Gauteng Province. Unpublished D Litt et Phil. Pretoria: University of South Africa.
- Maharaj, P. 2001. Barriers to HIV/AIDS protective behaviour among African adolescent males in township secondary schools in Durban, South Africa. *Society in Transition* 32(1):83-100.
- Mahmood, N & Ringheim, K. 1997. Knowledge, approval and communication about family planning as correlates of desired fertility among spouses in Parkistan. *International Family Planning Perspectives* 23(3):122-129.
- Mahomed, K, Majoko, F, Bonduelle, M, Verkyl, D & Iliff, P. 2000. *Obstetrics and gynaecology manual: common problems presenting to staff at rural health centres and district hospitals*. Harare: Department of Obstetrics and Gynaecology, University of Zimbabwe Medical School.
- Maja, TMM. 2002. Contraceptive practices in Northern Tshwane, Gauteng Province. Unpublished D Litt et Phil thesis. Pretoria: University of South Africa.
- Makhetha, TE. 1996. Adolescent pregnancy and its birth outcome among adolescents aged 13 to 16 in Soweto. Unpublished master's dissertation. Johannesburg: University of the Witwatersrand.
- Malcolm, SE & Stone, VE. 2003. An examination of HIV/AIDS patients who have excellent adherence to HAART. *AIDS Care* 15(2):248-256.
- Manlove, J, Terry-Human, E, Papillo, AR, Franzetta, K, Williams, S & Ryan, S. 2001. *Background for community-level work on positive reproductive health in adolescence: reviewing the literature on contributing factors*. College Park: University of Maryland.
- Margolis, DR. 1999. Women's work, care giving and two traditions in social welfare. *Mid-American Sociology Review* 16(4):33-49.

- Marsiglio, W & Mott, F. 1997. The impact of sex education on sexual activity, contraceptive use and premarital pregnancy among American teenagers. *Family Planning Perspective* 18(5):151-162.
- Martin, PS.1997. Writing a useful literature review for a quantitative research project. *Applied Nursing Research* 10(5):159-162.
- Mashau, NF. 2001. An investigation into knowledge, attitude and health practices of students towards sexually transmitted diseases: HIV/AIDS at a tertiary institution in the Northern Province. Unpublished master's dissertation. Thohoyandou: University of Venda.
- Mateo, MA & Kirchhoff, KT. 1999. *Using and conducting nursing research in the clinical setting*. 2nd edition. Philadelphia: WB Saunders.
- Mattson, M. 1991. Towards a re-conceptualization of communication cues to action in the Health Belief Model: HIV test. *Communication Monographs* 66(3):240-247.
- Mayekiso, TV & Twise, N. 1992. Assessment of parental involvement in imparting sexual knowledge to adolescents. *South African Journal of Psychology* 23(1):21-23.
- Mbananga, ND. 1999. The use of reproductive health information material in the rural clinics of the Umtata District. *Curationis* (1):42-47.
- Mbananga, ND. 1999. The use of reproductive health information material in the rural clinics of the Umtata district. *Curationis* 21(1):42-47.
- McCall, RB. 1997. *Fundamental statistics for behavioural sciences*. 7th edition. Pacific Grove: Booke-Cole.
- McFarlane, DR & Meier, KJ. 2001. *The politics of fertility control: family planning and abortion policies in the American States*. Boston: Jones & Barlett.
- McGinley, A. 2004. Health beliefs and women's use of hormone replacement therapy. *Holistic Nursing Practice* 18(10):15-19.
- McMahon, M. 1995. *Engendering motherhood: identity and self-transformation in women's lives*. New York: Guilford Press.
- Meadows, M, Sadler, LS & Rertmeyer, GD. 2000. School-based support for urban adolescent mothers. *Journal of Pediatric Health Care* 14(5):221-227.
- Mechanik, D. 1992. *Handbook of health, health care and the health professions* New York: Free Press.
- Meyers, AB & Rhodes, JE. 2000. Oral contraceptive use among African-American adolescents: individual and community influences. *American Journal of Community Psychology* 23(5):99-126.
- Mikhail, BI. 1981. Principles of the Health Belief Model: a review and critical evaluation of the

model, research and practice. *Advanced Nursing Science* 4(1):65-82.

Mikhail, BI. 1994. Toward a reconceptualization of communication cues to action in the Health Belief Model. *Communication Monographs* 66(3):240-266.

Mikhail, BI. 2001. Transcultural adaptation: health belief model scales. *Journal of Nursing Scholarship* 33(2):159-165.

Miles, MB & Huberman, MA. 1994. *An expanded source book: qualitative data analysis*. New York: Sage.

Miller, KS, Levin, ML & Whitaker, DJ. 1998. Patterns of condom use among adolescents: the impact of mother-adolescents communications. *American Journal of Public Health* 88 (4):1542-1544.

Miller, KS, Forehand, R & Kotchick, BA. 1999. Adolescent sexual behaviour in two ethnic minority samples: the role of the family variables. *Journal of Marriage and the Family* 14(2):320-329.

Miller, R, Fisher, A, Miller, K, Ndhlovu, L, Maggwa, BN, Askew, I, Sanogo, D & Tapsoba, P. 1997. *The situational analysis approach to assessing family planning and reproductive health service: a handbook*. Population Council. Africa Operation Research and Technical Assistance Project. Population Reference Bureau.

Miller, KS, Kotchick, BA, Dorsey, S, Forehand, R & Ham, AY. 1998. Demographic and behavioural factors associated with adolescent pregnancy in the USA. *Family Planning Perspective* 28(5):232-235.

Mitchell, MD, Littlefield, J & Gutter, S. 1999. Costing of reproductive health services. *International Family Planning Perspectives* 25(17):21-29.

Mkhize, ZM. 1995. Social needs of teenage mothers in the rural communities of Ongove and Enselen districts. Unpublished master's dissertation. Ulundi: University of Zululand.

Mnyrka, KS, Klep, K, Kvale, G & Ole, KN. 1997. Determinants of high-risk sexual behaviour and condom use among adults in the Arusha region, Tanzania. *International Journal of Sexually Transmitted Diseases and AIDS* 8(3):176-183.

Moberg, DP & Piper, DL. 1998. The healthy for life project: sexual risk behaviour outcomes. *AIDS Education and Prevention* 10(2):128-148.

Modungwa, N, Poggenpoel, M & Gmeiner, A. 2000. The experience of mothers caring for their teenage daughters' young children. *Curationis* 23(2):62-70.

Mogotlane, S. 1993. Teenage pregnancy: an unresolved issue. *Curationis* 16(1):1-4.

Montessoro, AC & Blixen, CE. 1996. Public policy and adolescent pregnancy. *Nursing Outlook* 44(1):3-36.

Moore, JP & Burton, DR. 1999. HIV-I neutralizing antibodies: how full is the bottle? *Nature*

- Medicines* 5:142-144.
- Moronkola, OA & Adio-Moses, R. 2003. Knowledge and attitudes towards sexually transmitted infections among Nigerian female adolescent students. *African Journal of Nursing and Midwifery* 21(1):42-47.
- Morris, SW. 2000. Designing health promotion approaches to high-risk adolescents through formative research with youth and parents. *Public Health Reports* 108:67-77.
- Morrison, DM. 1999. Adolescent contraceptive behaviour: a review. *Psychology Bull* 90(1):522:558.
- Morrison, V. 2000. Contraceptive needs among Cambodian refugees in Khao Phlu Camp. *International Family Planning Perspectives* 26(4):188-192.
- Mosby's Medical & Nursing Dictionary*. 1986. 2nd edition. St Louis: CV Mosby.
- Mosby's Medical, Nursing & Allied Health Dictionary*. 2002. 5th edition. St Louis: CV Mosby.
- Mouton, J. 1996. *Understanding social research*. Pretoria: Van Schaik.
- Mouton, J. 2001. *Basic concepts in the methodology of the social sciences*. Pretoria: Human Sciences Research Council.
- Mpangile, GS, Leshabari, MT & Kihwete, DT. 1993. *Factors associated with induced abortion in public hospitals*. Kenya: University of Nairobi.
- Mpshe, WS, Gmeiner, A & Van Wyk, S. 2002. Experiences of black adolescents who chose to terminate their pregnancies. *Health SA Gesondheid* 7(1):68-81.
- Mukoma, W. 2001. Rethinking school-based HIV/AIDS interventions in South Africa. *Southern African Journal of Child and Adolescent Mental Health* 13(1):55-66.
- Mulaudzi, FM. 2003. Women and sexually transmitted diseases: an exploration of indigenous knowledge and health practices among the Vhavenda. Unpublished doctoral thesis. Pretoria: University of South Africa.
- Munlall, EC & LeMay, F. 1999. Adolescent pregnancy: public health crisis. *Journal of Adolescent Research* 20(5):86-89.
- Mullen, PD, Hersey, JC & Iverson, DC. 1998. Health Behaviour Models compared. *Social Science & Medicine* 24(11):973-981.
- Murray, M & McMillan, C. 1998. Health beliefs, locus of control, emotional control and women's cancer screening behaviour. *British Journal of Clinical Psychology* 32(4):87-100.
- Murray, NJ, Zabin, LS, Toledo-Dreves, V & Lvengo-Charath, X. 1998. Gender differences in the factors influencing first intercourse among urban students in Chile. *International Family Planning Perspectives* 24(3):139-152.
- Muuss, RC. 1996. *Theories of adolescence*. New York: McGraw Hill.

- Muyinda, H, Kengeya, J, Pool, R & Whitworth, J. 2001. Traditional sex counselling and STI/HIV prevention among young women in rural Uganda. *Journal of Culture, Health and Sexuality* 3(3):353-361.
- Myers, LB & Midence, K. 1998. Concepts and issues in adherence. *Academic Reports* 23(5):1-24.
- Naude, JTW, London, L & Guttmacher, S. 1999. Abortion: ethical obligation. *South African Medical Journal* 89(11):117-118.
- Nqco, S. 2002. The Department of Education's life skills, sexuality and HIV/AIDS programme. *Agenda* 53(2):96-98.
- Ndubani, P & Höjer, B. 2001. Sexual behaviour and sexually transmitted diseases among young men in Zambia. *Health Policy and Planning* 16(1):107-112.
- Nefale, MC. 1999. The health belief model and motivations for/against HIV-testing. Unpublished D Litt et Phil thesis. Durban: University of Natal.
- Neff, JA & Crawford, SL. 1998. The health belief model and HIV risk behaviours: a causal model analysis among Anglo-, African- and Mexican-Americans. *Ethnicity and Health* 3(4):283-300.
- Nehring, WM. 2002. Health promotion for children: a meta-analysis examining effects of school sexuality, education programmes on adolescents' sexual knowledge. *Journal of Child and Family Nursing* 4(4):264-265.
- Netshikweta, ML & Ehlers, VJ. 2002. Problems experienced by pregnant student nurses in the Republic of South Africa. *Health Care for Women International* 23(1):71-83.
- Netshikweta, ML. 1999. The problems associated with pregnancy amongst student nurses in the Northern Province. Unpublished master's dissertation. Pretoria: University of South Africa.
- Newman, CB. 1998. Teenage incentive programme: evaluation of health promotion models for adolescent pregnancy prevention. *Journal of Health Education* 28(4):230-238.
- Niccoll, LH. 1997. Perspectives on nursing research theory. 3rd edition. Philadelphia: Lippincott-Raven.
- Nicholas, LD. 1993. Intra-familial communication about contraception: a survey of Black South African freshmen. *International Journal for Advancement of Counselling* 16(1):291-300.
- Nicholas, LJ. 1998. Black South African students' beliefs and attitudes about condoms. *Psychological Reports* 83:891-894.
- Nkosi, J. 1999. Protect yourself from sexually transmitted diseases. *Medscheme Health Care Magazine* 3(4):17-18.
- Noone, J. 2000. Cultural perspectives on contraceptives: a literature review. *Clinical Excellence*

for *Nurse Practice* 4(61):336-340.

Nqxabaza, N. 1997. Mother-daughter interactions concerning sexuality among Black in Umtata. Unpublished Master's dissertation. Bloemfontein: University of the Free State.

Nunes, F. 2000. WHO hosts conference to advance safe abortion within existing laws. *Women's Health Project Newsletter* 36:23.

Nwaba, K. 2000. Perception of teenage pregnancy among South African adolescents. *Health RSA Gesondheid* 5(3):30-34.

Nwoga, IA. 2000. African-American mothers use stories for family sexual education. *American Journal of Maternal Child Nursing* 25(1):31-36.

Nyazema, N. 2000. Human immune-deficiency virus transmissibility and what can be done. *The Financial Gazette* 7(13):13-17.

Odiegwu, CO. 1999. Family planning attitudes and use in Nigeria: a factor analysis. *International Family Planning Perspectives* 25(2):86-91.

O'Donohue, W, Fisher, JE & Hayes, SC. 2003. Cognitive behavior therapy: applying empirically supported techniques in your practice. Hoboken, NJ: Wiley.

Ogden, J. 2003. Some problems with social cognition models: a pragmatic and conceptual analysis. *American Psychological Association* 22(4):424-428.

Olivier, MAJ. 1998. Adolescents' perception of sexuality. *South African Journal of Education* 16(1):5-8.

Orbell, S & Sheeran, P.1998. "Inclined abstainers": a problem for predetermining health-related behaviour. *British Journal of Social Psychology* 37(8):151-165.

Orr, DP. 1995. Behavioral intervention to increase condom use among high-risk female adolescents. *Journal of Pediatrics* 128(2):288-295.

Osborne, S & De Oris, A. 1999. Parent involvement in rural schools: implications for educators. *Rural Educator* 19(2):20-29.

Osei-Hwedie, K & Namutosi, R. 2004. Condom use and HIV/AIDS: precautionary behaviour among Botswana youth. *Social Work* 40(2):193-205.

Otoide, VO, Oronsaye, F & Okonofua, FE. 2001. Why Nigerian adolescents seek abortion rather than contraception: evidence from focus group discussions. *International Family Planning Perspectives* 27(2):77-81.

Otto, MA, Adler, NE, Millstein, SG, Tschann, JM & Ellen, JM. 2002. The trade-off between hormonal contraceptives and condoms among adolescents. *Perspectives on Sexual and Reproductive Health* 34(1):6-9.

Otto, MA & Gahwera, A. 1998. Behavioral intervention to increase condom use among high-risk female adolescents. *Journal of Pediatrics* 128(2):4-6.

Owolabi, AT, Onayade, AA, Ogunlola, IO, Ogunniyi, SO & Kuti, O. 2005. Sexual behaviour of secondary school adolescents in Ilesa, Nigeria: implications for the spread of SITs including HIV/AIDS. *Journal of Obstetrics and Gynaecology* 25(2):174-178.

Oye-Adeniran, BA, Adewole, IF, Umoh, AV, Iwere, N & Gbadegestri, A. 2005. Induced abortion in Nigeria: findings from focus group discussion. *African Journal of Reproductive Health* 9(1):133-141.

Panchaud, C, Singh, S, Feivelson, D & Darroch, JE. 2002. Sexually transmitted diseases among adolescents in developed countries. *Family Planning Perspectives* 32(1):34-45.

Paoli – see De Paoli

Parahoo, K. 1997. *Nursing research: principles, process and issues*. London: MacMillan.

Parikh, S. 2004. Sex, lies and love letters: rethinking condoms and female agency in Uganda. *Agenda* 62(4):12-20.

Pearson, HB. 2000. *Low risk of mortality and morbidity by surgical approach to tubal sterilisation*. Cochrane Library. Issue 4. Oxford: Update Software.

Pearton, AD. 1999. Cognitive competence of adolescents to consent to termination of pregnancy: an ecological perspective. Unpublished doctoral thesis. Port Elizabeth: University of Port Elizabeth.

Peltzer, K. 2001. Knowledge and practice of condom use among first-year students at the University of the North, South Africa. *Curationis* 24(1):53-57.

Pemba, EN. 2002. Parental attitudes towards use of contraceptives by adolescents. Unpublished master's dissertation. Johannesburg: University of the Witwatersrand.

Perry, P & Potter, P. 2001. *Fundamentals of Nursing*. 5th Edition. St Louis: CV Mosby.

Pesa, JA, Turner, LW & Mathews, J. 2001. Sex differences in barriers to contraceptive use among adolescents. *Journal of Pediatrics* 139(5):689-693.

Peterson, S & Sigman-Grant, M. 1999. Impact of adopting lower-fat food choices on energy and nutrient intakes of American adults. *Journal of Diet Association* 99(10):177-183.

Peterson, SJ & Bredow, TS. 2004. Middle range theories: Johannesburg application to nursing research. Philadelphia: JB Lippincott.

Petosa, RJK. 1991. Using the health belief model to predict safer sex intentions among adolescents. *Journal of Nursing Scholarship* 18(4):463-476.

Piccinino, LJ. 1997. Fertility, family planning and women's health. *Vital and Health Statistics Series* 23(19):1-14.

Piccinino, L & Mosher, WD. 1998. Trends in contraceptive use in the United States of

America: 1982-1995. *Family Planning Perspective* 30(1):4-10.

Pillay, BJ. 1992. *The relation between health attitudes, values and beliefs and health-seeking behaviour with special reference to a representative sample of Black patients attending a general hospital*. Durban: Department of Psychiatry, University of Natal.

Pillitter, A. 1992. *Maternal and child health nursing: care of the childbearing and childbearing family*. 3rd edition. Philadelphia: JB Lippincott.

Pinkerton, SD. 2002. A relative risk-based, disease-specific definition of sexual abstinence failure rates ... mathematical model. *Health Education and Behaviour* 28(1):10-20.

Pistole, MC. 1999. Preventing teenage pregnancy: contributions from attachment theory. *Journal of Mental Health Counselling* 21(2):93-112.

Poggenpoel, M, Myburgh, CPH & Gmeiner, AC. 1998. One voice regarding the legalisation of abortion: nurses who experience discomfort. *Curationis* 21(3):2-7.

Polit, DF & Hungler, BP. 1995. *Essentials of nursing research: methods, appraisal and utilization*. 2nd edition. Philadelphia: Lippincott.

Polit, DF & Hungler, BP. 1999. *Essentials of nursing research: methods, appraisal and utilization*. 2nd edition. Philadelphia: Lippincott.

Polit, DF, Beck, CT & Hungler, BP. 2001. *Essentials of nursing research: methods, appraisal and utilization*. Philadelphia: JB Lippincott.

Pool, R, Nyanzi, S & Whitworth, JAG. 2001. Attitudes to voluntary counselling and testing for HIV among pregnant women in rural south-west Uganda. *AIDS Care* 13(5):605.

Popenoe, D, Cunningham, P & Boulton, B. 1998. *Sociology*. South African edition. Cape Town: Prentice Hall.

Popis, M. 1998. Contraception: new developments. *South Africa Family Practices* 19(2):58-59.

Potelwa, PT. 1999. The effectiveness of family planning clinics in serving adolescents. *Family Planning Perspectives* 16(5):2-6.

Proimos, J. 1997. Confidentiality issues in the adolescent population. *Current Opinion in Paediatrics* 9(4):325-328.

Prowden, K. 2003. Theoretical approach to understanding black men's health-seeking behaviour. *Journal of Theory Construction and Testing* 7(1):22-2.

Quinn, S. 1999. Emergency contraception: implications for nursing practice. *Nursing Standard* 14(7):38-44.

Racey, BD, Lopez, NL & Schneider, HG. 2000. Sexually assaultive adolescents: cue perception, interpersonal competence and cognitive distortions. *International Journal of Adolescence and Youth* 8(2):229-239.

- Rakel, RE. 1999. *Textbook of family practice*. Philadelphia: WB Saunders.
- Ralph, L, Brindis, C & Shields, W. 2006. Mandating parental involvement in adolescents' abortion: implications of a short-sighted policy. *Contraception* 3(2):211-213.
- Ramalebana, ME. 1995. Problems related to the learning situation of school-girl mothers in Venda secondary schools. Unpublished master's dissertation. Pretoria: University of South Africa.
- Rankin, P. 2003. Sexually transmitted diseases and reproductive health in women. *Journal of Nurse-Midwifery* 43(6):431-444.
- Rasch, V, Muhammad, H, Uric, E & Bergstrom, S. 2000. Self-reports of induced abortion: an empathic setting can improve quality of data. *American Journal of Public Health* 10(2):180-209.
- Rees, H. 1995. Contraception: more complex than just a method. *Agenda* 1(27):27-35.
- Reich, JW, Evdal, KJ & Zautra, AJ. 1997. *Beliefs about control and health behaviours: handbook of health behaviour research: personal and social determinants*. New York: Prenum Press.
- Rhinehart, SN & Gabel, LL. 1998. Teenage: an update on impact of teenage pregnancy and preventive measures. *Family Practice Recertification* 20(11):61-63.
- Rice, KB & Dolgin, S. 2005. Low income African American adolescents who avoid pregnancy: tough girls who rewrite negative scripts. *Qualitative Health Research* 11(2):238-256.
- Rich, LM & Kim, S. 1999. Patterns of later life education among teenage mothers. *Gender Society* 13(4):798-817.
- Richskim, EE. 1999. Sexual behaviour in junior high school: students and the parental involvement on sex education. *Adolescent Health* 85(3):800-813.
- Richter, S. 2000. Accessibility of adolescent health services. *Curationis* 23(2):76-82.
- Richter, LM. 1996. A survey of reproductive health issues among urban Black youth in South Africa. Unpublished report. Pretoria: Medical Research Council.
- Ridel, HPR, Herby, EM & Kopetskie, S. 2001. Psychological behaviourism theory of bipolar disorder. *Psychology Record* 51:507-532.
- Roberts, JR. 1997. Coital and non-coital sexual behaviours of White and Black adolescents. *American Journal of Public Health* 75(6):910-919.
- Roden, J. 2004. Revisiting the health belief model: nurses applying it to young families and their health promotion needs. *Nursing and Health Sciences* 6(1):1-10.
- Rogo, K, Lem, VM, French, B & Hord, CE. 1998. Setting quality standards for post-abortion care in Sub-Saharan Africa. *Ipas Dialogue* 2(2):1-2.

Rogo, KO. 1996. Induced abortion in Sub-Saharan Africa. *African Journal of Fertility, Sexuality and Reproductive Health* 1(1):14-26.

Rollins, JH. 1996. *Women's minds, women's bodies: the psychology of women in a biosocial context*. Englewood Cliffs NJ: Prentice Hall.

Romer, D, Stanton, B, Galbraith, J, Freigelman, S & Black, MM. 1999. Parental influence on adolescent sexual behaviour in high-poverty settings. *Archives of Paediatrics and Adolescent Medicine* 153(10):1055-1062.

Roos, JA & Winfred, WL. 2001. Contraceptive use: intention to use and unmet need during the extended postpartum period. *International Family Planning Perspectives* 27(1):20-27.

Rorke, I. 1997. Cold comfort stories from two women who had abortions. *Tribute* 4(1):43-46.

Rosenzweig, M. 1999. Welfare, marital prospects and non-marital childbearing. *Journal of Political Economy* 107(6):3-32.

Ross, JE. 2001. Developing a new model for cross-cultural research: synthesizing the Health Belief Model and the Theory of Reasoned Action. *Advances in Nursing Science* 23(4):9-15.

Roy, CF & Johnsen, JRM. 2002. Adolescents and emergency contraception. *Journal of Pediatric Health Care* 16(1):3-9.

Rugalema, EW & Khanye, BK. 2000. Explaining female teenagers' sexual behaviour and outcomes. *Journal of Family and Economic Issues* 18(1):106-109.

RRA 📌 see Reproductive Rights Alliance.

RSA 📌 see South Africa (Republic).

Rycek, RF, Stuhr, SL, McDermott, J, Benker, J & Swartz, MD. 1998. Adolescent egocentrism and cognitive functioning during late adolescence. *Adolescence* 33(132):745-749.

SABC TV News: 2 July 2004: 19:00.

Sanfilippo, JS. 2000. Female adolescents' perceptions of benefits and barriers to using oral contraceptives. *International Journal of Fertility* 36(2):400-407.

Santelli, JS, Lowry, R, Brener, ND & Robin, L. 2000. The association of sexual behaviours with socio-economic status, family structure and race/ethnicity among US adolescents. *American Journal of Public Health* 90(10):1582-1588.

Santelli, JS, Robin, L, Brener, ND & Lowry, R. 2001. Timing of alcohol and other drug abuse use and sexual risk behaviours among married adolescents and young adults. *Family Planning Perspectives* 33(5):200-205.

Schoeman, MN. 1990. Sexuality education among black South African teenagers: what can reasonably be expected? *Curationis* 13(3):13-14.

- Schofield, G. 1994. *The youngest mothers! The experience of pregnancy and motherhood among young women of school age*. London: Penguin.
- Seidman, J. 2003. Forget the condom: is he wearing Nikes? *South African Labour Bulletin* 27 (1): 51-53.
- Senderowitz, J. 1997. *Health facility programs on reproductive health for young adults: focus on young adults*. Washington, DC, Connecticut: Appleton & Lange.
- Sherr, L & Lawrence, J. 2000. *Women, health and the mind*. London:Wiley.
- Sibanda, BE. 2001. Adolescent pregnancy and sexual risk-taking among sexually abused girls. *Family Planning Perspectives* 29(5):200-203.
- Silberschmidt, M & Rash, V. 2001. Adolescent girls, illegal abortions and sugar daddies in Dar-es-Salaam: vulnerable victims and active social agents. *Social Sciences and Medicine* 52(10):1815-1826.
- Silberschmidt, M. 1999. *Women forget that men are the masters: gender antagonism and socio-economic change in Kisii district, Kenya*. Stockholm: Nordiska Afrikainstituteit.
- Singh, S & Darroch, JE. 2000. Adolescent pregnancy and childbearing levels and trends in developed countries. *Family Planning Perspectives* 32(1):14-23.
- Smailes, P & Cunningham, P. 1992. Teenage sex education: more needs to be done. *Salus* 15(4):16-17.
- Smith, AB. 1997a. Adolescents' perceptions of sexuality. *South African Journal of Education* 16(1):5-8.
- Smith, AB. 1997b. Factors associated with early sexual activity among urban adolescents. *Social Work* 42(4):334-346.
- Smith, AB. 1998. Adolescents' perceptions of sexuality. *South African Journal of Education* 16(1):93-99.
- Smith, CM & Maurer, FA. 1995. *Community health nursing: theory and practice*. Philadelphia: WB Saunders.
- Smith, P. 1998. *Nursing research: setting new agendas*. London: Arnold.
- Soet, JE, Dilorio, C & Dudley, WN. 1998. Women's self-reported condom use: intra and interpersonal factors. *Women and Health* 27(4):19-31.
- Sokutu, NB. 2005. Factors influencing adolescent mothers' utilisation of contraceptives in the Queenstown area. Unpublished master's dissertation. Pretoria: University of South Africa.
- Somers, CL & Fahlman, MM.2001. Effectiveness of the "Baby: think it over" teen pregnancy prevention program. *Journal of School Health* 71(5):188-195.

- Somers, CL & Paulson, SE. 2000. Students' perceptions of parent-adolescent closeness and communication about sexuality: relationships between sexual knowledge, attitudes and behaviour. *Journal of Adolescence* 23(5):629-644.
- Sortet, JP & Banks, SR. 1997. Health beliefs of rural Appalachian women and the practice of breast self-examination. *Cancer Nursing* 20(6):231-235.
- South Africa (Republic). 1996a. *Constitution of the Republic of South Africa Act, 108 of 1996*. Pretoria: Government Printer.
- South Africa (Republic). 1996b. *South African Schools Act, 84 of 1996*. Pretoria: Government Printer.
- South Africa (Republic). 1996c. *Choice on Termination of Pregnancy Act, 92 of 1996*. Pretoria: Government Printer.
- South Africa (Republic). 1997. *Natural Fathers of Children born out of Wedlock Act, 86 of 1997*. Pretoria: Government Printer.
- South Africa (Republic). 1998. *Sterilisation Act, 44 of 1998*. Pretoria: Government Printer.
- South Africa (Republic). 1999. *Child Care Amendment Act, 13 of 1999*. Pretoria: Government Printer.
- Sparks, SM. 1999. Electronic publishing and nursing research. *Nursing Research* 48(3):50-54.
- Spelzer, IS, Muller, SA & Amegee, K. 2001. Gender differences in adult perspectives on adolescent reproductive behaviours: evidence from Lome, Togo. *International Family Planning Perspectives* 27(4):178-185.
- Spiegel, MR. 1996. *Theory and problems of statistics*. 2nd edition. London: McGraw-Hill.
- Stanback, J & Twun-Baach, W. 2001. Why do family planning providers restrict access to services? An examination in Ghana. *International Family Planning Perspectives* 27(1):37-41.
- Stein, J. 2002. Broadening our focus on prevention. *AIDS Bulletin* 11(1):2.
- Stein, Z. 1997. More choices needed for women. *Sexual and Reproductive Health Bulletin* 6(1):2-5).
- Stephen, A & Morse, B. 2003. *Atlas of sexually transmitted diseases and AIDS*. New York: CV Mosby.
- Stevens-Simon, C. 1998. Providing effective health care and prescribing contraceptives for adolescents. *Pediatrics in Review* 19(12):409-412.
- Stout, AE. 1997. Prenatal care for low income women and the health belief model: a new beginning. *Journal of Community Health Nursing* 4(3):169-180.

Stroebe, W & Stroebe, MS. 1995. *Social psychology and health*. Buckingham: Open University Press.

Strydom, H. 2003. HIV/AIDS and South African adolescents: attitudes and information needs. *Social Work* 39(1):59-72.

Stycos, J. 1998. *Clinics, contraception and communication: evaluation studies of family planning programs in four Latin American countries*. New York: Appleton-Century-Crofts.

Sullivan, KT, Pasch, LA, Cornelius, T & Cirigliano, E. 2004. Predicting participation in premarital prevention programs: the health belief model and social norms. *Family Process* 43(2):170-175.

Sutton, S. 1998. Predicting and explaining intentions and behaviors: how well are we doing? *Journal of Applied Social Psychology* 28(10):1318-1339.

Tadiar, FM & Robinson, ET. 1996. Legal, ethical and regulatory aspects of introducing emergency contraception in the Philippines. *International Family Planning Perspectives* 22(2):76-80.

Talbot, LA. 1995. *Principles and practice of nursing research*. St Louis: CV Mosby.

Taris, TW & Semin, GR. 1998. How mothers' parenting styles affect their children's sexual efficacy and experience. *The Journal of Genetic Psychology* 159(1):68-81.

Taylor, CA. 2002. Risk factors for teenage fatherhood. *Journal of Marriage and the Family* 59:505-510.

Terry, D & O'Leary, JE. 1995. The theory of planned behaviour: the effects of perceived behavioural control and self-efficacy. *British Journal of Social Psychology* 34(5):199-220.

Theron, F & Grobler, F. 1998. *Contraception: theory and practice*. Pretoria: Van Schaik.

Thomas, FM. 1995. A critical feminist perspective of the health belief model: implications for nursing theory, research, practice and education. *Journal of Professional Nursing* 11(4):246-252.

Thomas, B, Mitchell, A, Devlin, M, Goldsmith, C, Singer, J & Walters, D. 1992. Small group sex education at school: the McMaster teen programme preventing adolescent pregnancy. Newbury Park: Sage.

Thompson, B, Fraser, C & Anderson, D. 1997. Sexual relationships?: some aspects of first sexual relationships in females with special reference to those aged under 16. *Health Education Journal* 52(2):63-67.

Tiltson, J & Maharaj, P. 2001. Barriers to HIV/AIDS protective behaviour among African adolescent males in township secondary schools in Durban, South Africa. *Society in Transition* 32(1):83-100.

- Timmreck, TC. 2002. *An introduction to epidemiology*. 3rd edition. Boston: Jones & Bartlett.
- Treece, EW & Treece, JW. 1996. *Elements of research in nursing*. St Louis: CV Mosby.
- Troskie, R & Raliphada-Mulaudzi, FM. 1999. Reproductive health rights of women in rural communities. *Health SA Gesondheid* 4(1):41-47.
- Tsabedze, L. 2002. Twelve-year-old girl abused by her aunt's lover. *Swazi News*, 5 January:2.
- Unger, JB & Molina, GB. 2000. Acculturation and attitudes about contraceptive use among Latino women. *Health Care for Women International* 21(3):235-249.
- Unger, JB & Molina, GB. 2001. Desired family size and son preference among Hispanic women of low socio-economic status. *Family Planning Perspectives* 29(1):284-288.
- United Nations Population Fund. 1998. *Programme review and strategy development report*. Republic of South Africa: United Nations Population Fund.
- UNPF – see United Nations Population Fund
- Updegraff, KA & Obeidallah, DA. 1999. Young adolescents' patterns of involvement with siblings and friends. *Social Development* 8(1):52-69.
- Uys, HHM & Basson, AA. 1995. *Research methodology in nursing*. Pretoria: Kagiso.
- Valanis, B. 1999. *Epidemiology in nursing and health care*. 3rd edition. Stamford: Appleton & Lange.
- Van der Akker, OBA, Andrew, J & Murphy, T. 2000. Adolescent sexual behaviour and knowledge. *British Journal of Midwifery* 7(12):765-769.
- Van der Pligt, J, Zeelenberg, M, van Dijk, WW, de Vries, N & Richard, R. 1998. Affect, attitudes and decision: let's be more specific. *European Journal of Social Psychology* 8(2):33-66.
- Van Dyk, AC & Van Dyk, PJ. 2003b. To know or not to know: service-related barriers to voluntary HIV counselling and testing (VCT) in South Africa. *Curationis* 26(1):4-10.
- Van Dyk, AC & Van Dyk, PJ. 2003a. What is the point of knowing? Psycho-social barriers to HIV/AIDS voluntary counselling and testing programmes in South Africa. *South African Journal of Psychology* 33(2):118-125.
- Varga, CA. 1996. The commercial sex industry in Durba: the symbolism and dynamics of condom use between sex workers and their partners. *AIDS Scan* 8(3):15.
- Varke, SJ. 1999. How far are we in the implementation of the abortion legislation? *Women's Health* (32):9-11.
- Viljoen, PA. 1997. An exploration of the knowledge, attitudes and behaviour of adolescents with regard to AIDS and safe sex practices. Unpublished master's dissertation. Bellville: University

of the Western Cape.

Visser, N. 2000. Family planning: a broad perspective in 2000. *Professional Nursing Today* 4(2):12-18.

Vlok, M. 2000. *Manual of community nursing and communicable diseases*. 2nd edition. Kenwyn: Juta.

Volk, JE & Koopman, C. 2001. Factors associated with condom use in Kenya: a test of the Health Belief Model. *AIDS Education Prevention* 13(6):495-508.

Wallace, HM, Green, G & Jaros, KJ. 2003. Health and welfare for families in the 21st century. Boston: Jones & Bartlett.

Watt, LD. 2001. Pregnancy prevention in primary care for adolescent males. *Journal of Pediatric Health Care* 15(5):223-228.

Webb, S. 1998. *Insights from adolescent project experience*. Watertown: Pathfinder International.

Webber, LS, Hunter, SM, Johnson, CC & Berenson, GS. 1999. Human sexuality in health and illness: effects of lipids during adolescence and young adulthood. *Annals New York Academy of Science* 5(2):238-249.

Weisberg, E. 1997. Choosing an oral contraceptive. *Journal of Clinical Medicine* 22(8):27-32.

Werner, P. 2003. Factors influencing intentions to seek a cognitive status examination: a study based on the Health Belief Model. *International Journal of Geriatric Psychiatry* 18(9):785-787.

Whaley, AL. 1999. Preventing the high-risk sexual behaviour of adolescents: focus on HIV/AIDS transmission: unintended pregnancy or both? *Journal of Adolescent Health* 24(2):376-382.

WHO 📖 see World Health Organization.

Williams, JM & Currie, C. 2000. Self-esteem and physical development in early adolescence: pubertal timing and body image. *Journal of Early Adolescence* 20(2):129-149.

Williams, CW. 1999. *Black teenage mothers: pregnancy and child rearing from their perspective*. Lexington, Mass: Lexington Books.

William, FA & MacPerson, CD. 2000. *Predicting health behaviour: research and practice with social cognition models*. Buckingham, Briston: Open University Press.

Wilson, HS. 1993. *Introducing research in nursing*. 2nd edition. Menlo Park: Addison Wesley.

Wilson, A & Williams, R. 2002. Sexual health services: what do teenagers want? *Ambulatory Child Health* 6(4):253-260.

Winter, L & Breckenmaker, LC. 2000. Tailoring family planning services to the special needs of adolescents. *Family Planning Perspectives* 23(1):30-37.

Wood, K & Jewkes, R. 2000. Blood blockages and scolding nurses: barriers to effective contraceptive use among teenagers in South Africa. *Medical Research Council Technical Reports* 10:1-27.

Wood, K, Maepa, J & Jewkes, R. 1997. *Adolescent sex and contraceptive experience: perspectives of teenagers and clinic nurses in the Northern Province*. Pretoria: Centre for Epidemiological Research on South African Women's Health.

Wood, K, Maepa, J & Jewkes, R. 1998. Adolescent sex and contraceptive experiences. *Nursing News* 23(7):18-22.

Woods, DL & Theron, GB. 1999. The impact of the perinatal education programme on cognitive knowledge in midwives. *South African Medical Journal* 85(3):150-153.

Woods, SS & Catanzaro, M. 1995. *Nursing research: theory and practice*. St Louis: CV Mosby.

Woods, AF & Catanzaro, M. 1988. *Nursing research: theory and practice*. St Louis: CV Mosby.

World Health Organization. (WHO). 1995. *Condom promotion for AIDS prevention*. Geneva: WHO.

World Health Organization. 1996a. *Improving access to quality care in family planning medical eligibility criteria for contraceptive use: family and reproductive health*. Geneva: WHO.

World Health Organization.. 1996b. *Population reports: helping women use the pill*. Population Reports, Series A, 10:1-28. Geneva: WHO.

World Health Organization. 1998a. *World health day: safe motherhood: improve quality of maternal health services*. Geneva: WHO.

World Health Organization.. 1998b. *Almost 20 million unsafe abortions each year*. Geneva: WHO.

World Health Organization.. 1998c. *World health day: safe motherhood: delay childbearing*. Geneva: WHO.

World Health Organization.. 1998d. *Unsafe abortion: global and regional estimates of incidence of and mortality due to unsafe abortion with a listing of available country data*. Geneva: WHO.

World Health Organization.. 1999. *Reduction of maternal mortality: a joint WHO/UNFPA/UNICEF/World Bank statement*. Geneva: WHO.

World Health Organization.. 2000. *Safe motherhood: a newsletter of worldwide activity*. Issue 28. Geneva: WHO.

World Health Organization. 2001. Improving access to quality care in family planning medical eligibility criteria for contraceptive health research. WHO home page at [www.int/dsa/ca98/family8.wtm#reproductive health researchchatWHO](http://www.int/dsa/ca98/family8.wtm#reproductive%20health%20researchchatWHO).

World Health Organization. 2001. *Corporate plan document: international planning and management for health promotion*. Geneva: WHO.

World Health Organization. 2002. *Corporate plan document: international planning and management for health promotion*. Geneva: WHO.

World Health Report. 1998. *Life in the 21st century: a vision for all*. Report of the Director General. Geneva: WHO.

Wright, D. 1997. Does sex education make a difference? *Health Education* 2(3):52-56.

Wright, S. 1997. Perceptions of barriers to implementing research. *Nursing Standard* 1(19):34-37.

Wright, A, MacFarlane, A & McPherson, A. 2000. Which leaflets for adolescents to use in a primary care setting? *British Journal of Family Planning* 23(3):100-103.

Yanyi, FP & Djamba, LW. 2004. Adolescent sexual behaviour and knowledge of contraceptives. *British Journal of Midwifery* 7(12):263-25.

Yeh, C. 2002. Sexual risk-taking among Taiwanese youth. *Public Health Nursing* 19(1):68-75.

Young, DS. 2002. Acculturation and attitudes about contraceptive use among adolescents. *Health Care for Women International* 21(4):340-355.

Zagumny, MJ & Brady, DB. 1998. Development of the AIDS health belief scale. *AIDS Education and Prevention* 10(4):173-179.

Zak-Place, J & Stren, M. 2004. Health belief factors and dispositional optimism as predictors of STD and HIV preventable behavior. *Journal of American College Health* 52(5):223-229.

Zelnick, M. 1998. Sexual activity among adolescents: perspectives of a decade: premature adolescent pregnancy and parenthood. *Family Planning Perspectives* 12(4):440-449.

Zimmer-Gembeck, MJ, Doyle, LS & Daniel, JA. 2001. Contraceptive dispensing and selection in school-based health centers. *Journal of Adolescent Health* 29(3):177-185.

SECTION B

OFFICE USE

SEX BEHAVIOUR AND PREGNANCY

9. Have you ever had sexual intercourse with a girl/female partner?

- Yes
- No

1

10. How old were you when you had sexual intercourse for the first time?

- Younger than 9 years
- 10 – 11 years
- 12 – 13 years
- 14 – 15 years
- 16 – 17 years
- Other (specify).....
-

2

11. At the time you had sexual intercourse, what was the relationship/ what made you to think you should have it?

- Just happened
- Planned to marry her
- Needed for a baby
- Other (specify).....
-
-

3

12. How often do you have sexual intercourse?

- Thrice or more a week
- Twice a week
- At least every three weeks
- At least every month
- Other (specify).....

4

13. When you and your girlfriend had sex the first time did you know that pregnancy could take place?

- Yes
- No

5

14. The first time you had sex, how did it happen?
(Mark the most relevant answer)

- You felt like doing it
- You and your partner planned it
- You were forced by your partner
- It just happened
- Other (specify).....
-

6

15. Did you know about HIV/AIDS ?

- Yes
- No

7

16. If the answer is yes to question 15, from whom did you learn about HIV/AIDS?

- Parents
- Grandparents
- Friends
- Nurses/Doctors
- Teachers
- Public Campaigne/Advertisement
- Other (specify).....
-

8

17. Did you discuss about family planning methods with your partner the first time you had sex with her?

- Yes
- No

9

18. Give reason why didn't you discuss about family planning methods?

- Shyness
- Did not know about it
- Do not like family planning
- Other (specify).....
-

10

19. What did you use?

- Nothing
- Condoms
- My girl is on something
- Other (specify).....
-

11

20. How many sex partners do you have presently?

- None
- One
- More than one

12

21. Which of the following family planning methods is your girlfriend is using presently?

- Did not use anything
- Safe period
- Birth control pill
- Foam, jelly and cream
- IUD (loop)
- Other (specify).....
-

13

22. How often do you have sexual intercourse in a month?	<input type="checkbox"/> More often than one week <input type="checkbox"/> At least once a week <input type="checkbox"/> Twice a week <input type="checkbox"/> At least every three weeks <input type="checkbox"/> At least every month <input type="checkbox"/> Other (specify).....	<input type="checkbox"/> 14
23. When last did you have sexual intercourse?	<input type="checkbox"/> Less than a week <input type="checkbox"/> A week ago <input type="checkbox"/> Two weeks ago <input type="checkbox"/> Other (specify).....	<input type="checkbox"/> 15
24. If you made a girl pregnant before finishing high school, would it interfere with the continuation of your schooling?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure	<input type="checkbox"/> 16
25. If the answer to question 24 is yes, what are you aiming at?	<input type="checkbox"/> To marry her <input type="checkbox"/> Not for marry her <input type="checkbox"/> Other (specify).....	<input type="checkbox"/> 17
26. Are you willing to discuss sex matters openly with the following people?	<input type="checkbox"/> Parents <input type="checkbox"/> Teachers <input type="checkbox"/> Friends <input type="checkbox"/> Girl friend <input type="checkbox"/> Other (specify).....	<input type="checkbox"/> 18
27. Before a girl gets married she must prove that she is fertile (can make a baby)	<input type="checkbox"/> Strongly agree <input type="checkbox"/> Agree <input type="checkbox"/> Disagree	<input type="checkbox"/> 19
28. Sex before marriage is wrong, boys and girls should wait until after marriage, only then can they have sex.	<input type="checkbox"/> Strongly agree <input type="checkbox"/> Agree <input type="checkbox"/> Disagree	<input type="checkbox"/> 20

29. It is a good thing to make sure that your partner uses something to protect herself against pregnancy before you have sex with her.

- Strongly agree
- Agree
- Disagree

30. It is completely wrong for a boy to make a girl pregnant before marriage

- Strongly agree
- Agree
- Disagree

<input type="checkbox"/>	21
<input type="checkbox"/>	22

37. Sexual active teenagers should discuss family planning methods with their parents.

- Yes
- No
- Not sure

38. Would your parents discuss pregnancy and delivery of a baby with you if you wanted to discuss it?

- Yes
- No

39. If the answer to question 36 is No. indicate the reason in the block provided.

- Culturally not acceptable
- Parents are not supposed to talk about sex with children
- Other (specify).....

<input type="checkbox"/>	6
<input type="checkbox"/>	7

SECTION D

INFROMATION AND COUNSELLING

40. Have you ever received education/information on the following topics:

	Yes	No
Sex organs and how they function	<input type="checkbox"/>	<input type="checkbox"/>
Sexually transmitted diseases	<input type="checkbox"/>	<input type="checkbox"/>
Teenage pregnancy	<input type="checkbox"/>	<input type="checkbox"/>
Abortion	<input type="checkbox"/>	<input type="checkbox"/>
HIV and AIDS	<input type="checkbox"/>	<input type="checkbox"/>
Sexual abuse	<input type="checkbox"/>	<input type="checkbox"/>
Homosexuality	<input type="checkbox"/>	<input type="checkbox"/>
How to say NO to sex	<input type="checkbox"/>	<input type="checkbox"/>
Contraceptives pill, injections, condoms	<input type="checkbox"/>	<input type="checkbox"/>

1

41. Sex education should be offered by both parents and the school

Yes
 No

2

42. Both girls and boys should obtain organised (formalised) sexuality education.

Strongly agreed
 Agreed
 Disagree
 Strongly disagree

3

43. Did you discuss with your girlfriend when you had sexual intercourse for the first time about the use of condoms?

Yes
 No

4

44. Please suggest improvements to the services provided at the adolescent reproductive health services

.....
.....
.....
.....

5

ANNEXURE K

WORKSHOPS CONDUCTED ON LEARNERS' KNOWLEDGE, PERCEPTIONS AND ATTITUDES REGARDING CONTRACEPTION AND CONTRACEPTIVE PRACTICES IN THE LIMPOPO PROVINCE

TABLE OF CONTENTS

CONDUCTING A WORKSHOPS

1	INTRODUCTION.....	4
2	PURPOSE AND OBJECTIVES OF CONDUCTING WORKSHOPS	4
3	METHODOLOGY USED TO CONDUCT WORKSHOPS	5
3.1	Target population and sample	6
3.2	Workshop procedures	7
3.3	Topics addressed during workshops	9
4	ANALYSIS AND DISCUSSION OF THE WORKSHOPS' DATA	10
4.1	Learners' contraceptive knowledge	10
4.2	Learners' perceived accessibility of contraceptives	12
4.3	Learners' reported side-effects of using contraceptives	13
5	ANALYSIS OF DATA OBTAINED FROM THE WORKSHOPS ACCORDING TO THE HEALTH BELIEF MODEL'S MAJOR TENETS	14
5.1	Perceived susceptibility	14
5.2	Perceived benefits	15
5.3	Perceived barriers.....	15
5.4	Efficacy	15
5.5	Cues to action	16
6	CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS	16
6.1	Conclusions	17
6.2	Limitations	18
6.3	Recommendations	18
7	LIST OF REFERENCES	20

ABBREVIATIONS USED IN ANNEXURE K

AIDS – Auto Immune Deficiency Syndrome

CTOP – choice on termination of pregnancy

HBM – Health Belief Model

HIV – Human Immune Virus

IUCD – intra uterine contraceptive device

LP – Limpopo Province

STI – sexually transmitted infection

TOP – termination of pregnancy

1 BACKGROUND INFORMATION ABOUT CONDUCTING WORKSHOPS

A workshop is defined as a period of discussion or practical work in which a group of people learn about a particular subject by sharing their knowledge, ideas and experiences (Essential English Dictionary 1998:929). The workshops focused on the Limpopo Province's (LP's) secondary school learners' contraceptive knowledge, perceptions, attitudes and practices. The workshops were conducted as a follow-up phase after the data had been analysed from 944 learners' completed questionnaires, as presented in chapter 4 of this thesis.

2 PURPOSE AND OBJECTIVES OF CONDUCTING WORKSHOPS

The purpose of the workshops was to compare knowledge, perceptions, attitudes and contraceptive practices of secondary school learners in the Limpopo Province, as reflected in the completed questionnaires, with information gathered during the workshops. This approach was suitable since it afforded the researcher an opportunity to confirm or negate the findings (De Vos 2006:264) about secondary school learners' contraceptive knowledge, perceptions, attitudes and practices as described in chapter 4 of this thesis.

The secondary purpose of the workshops was to increase secondary school learners' knowledge about different contraceptive methods, thus enabling them to make better informed contraceptive choices. These workshops also informed

secondary school learners about the importance of dual protection, by using condoms, for preventing both pregnancies and sexually transmitted infections (STIs), including Human Immune Virus (HIV).

At the end of each workshop, the secondary school learners were expected to be able to:

- name different contraceptive methods
- identify the advantages and disadvantages of each contraceptive method
- discuss each contraceptive method's accessibility
- voice main characteristics and concerns related to contraception
- evaluate the most appropriate contraceptive methods for themselves, by considering each method's specific characteristics.

3 METHODOLOGY USED TO CONDUCT WORKSHOPS

The methodology included identifying the target population, randomly selecting six participating schools from Vhembe district and selecting a purposive sample of the learners. The procedure of conducting the workshop and the analysis of the data will also be addressed.

3.1 Target population and sample

The target population for the workshops comprised Grade 8 and Grade 12 secondary school learners, from Vhembe District in the LP. As the geographic distances between the schools were huge, only one district in the LP could participate in the workshops. Six schools were randomly sampled from Vhembe District. Each secondary school's name was written on a separate slip of paper and placed in bowl. Six slips of paper were drawn by a research assistant and these were the six schools randomly selected to participate in the workshops. From each participating school ten learners were selected to participate in the workshops. Selected learners had to be male or female in either grade 8 or grade 12; willing to participate in a workshop on contraceptives, and willing to travel (with transport arranged by the researcher) to the specific school where the workshops would be conducted. Where more than ten learners volunteered to participate at a specific school, selection was done in such a way that equal numbers of boys and girls from grades 8 and 10 participated. In the end 30 boys and 30 girls participated in the two workshops respectively. The sample was purposive since only grade 8 and 12 females and males of the randomly selected secondary schools participated in these workshops.

3.2 Workshop procedures

Prior telephonic arrangements were made with the headmaster of each participating secondary school and with the individual learners who volunteered to participate in the workshops. A suitable venue, free from interruptions, was arranged at a school within reach of all six participating schools. The headmasters agreed that the workshops could commence at 10:00 because these workshops' activities would increase the learners' contraceptive knowledge, and empower them to prevent unplanned pregnancies and STIs including HIV. The researcher arranged transport for the learners to the selected workshop venue. Two workshops were conducted, one with 30 male and the other one with 30 female grade 8 and grade 12 learners.

The researcher and the research assistant introduced themselves to the participants. The researcher explained the purpose and objectives of the workshop. The participants introduced themselves and indicated what they wished to achieve at the end of the workshop. The workshop's ground rules were set, including the switching off of all cell phones, every learner should render his/her active individual contributions, and any questions about contraceptives should be written down. Should these questions still be unanswered at the conclusion of the workshop, the researcher and research assistant would attend to every question within the group context, or individually, if the learner preferred that.

The researcher introduced the purpose of the workshop by explaining that the lack of knowledge about contraceptives contributed to high rates of adolescent pregnancies in Canada, the USA, Swaziland and in South Africa (Riggall 2005:21; Ziyani & Ehlers 2007:6). Participation in the workshop would enable the learners to acquire more knowledge about contraceptives and to make better informed decisions about the utilisation of contraceptives. However, participation remained voluntary. The learners were thanked for their willingness to participate in the workshop and assured that no names would be mentioned in the research report, only facts and statistics would appear in this report.

Each workshop's participants were divided into six groups with five members each. Copies of the questions, as shown in table 1, were given to every group and they had 30 minutes to write down the group's answers to every question, indicating how many members of the group agreed with specific standpoints. One learner was selected to present each group's answers.

The questions that the learners had to answer, included whether the learners

- had been familiar with each of the contraceptive methods (listed in table 1)
- had never heard about specific contraceptive methods
- regarded some contraceptive methods to be more accessible to secondary school learners
- perceived some contraceptive methods to be appropriate for adolescents

- knew which contraceptive methods protected the users against sexually transmitted infections (STIs)

While answering each question, every group was encouraged to discuss their individual perceptions. Each group shared its findings for every column and proceeded to update their contraceptive information during the presentations of the other groups. The researcher used participants' questions and comments to stimulate further discussions or to rephrase and verify statements.

3.4 Topics addressed during the workshops

A number of topics, based on the research findings presented in chapter 4 of this thesis were addressed, including hormonal contraceptives (pills and injections), "barrier" methods, fertility awareness, emergency contraception, abstinence, advantages and disadvantages of each method, dual protection against pregnancies and STIs, female and male attitudes towards contraception, challenges of using contraceptives effectively.

The activities of each workshop included exposing contraceptive knowledge, engaging in discussions about specific contraceptives' advantages and disadvantages and debating contraceptive issues within groups and between groups.

4 ANALYSIS AND DISCUSSION OF THE WORKSHOPS' DATA

The data obtained during the two workshops enabled the researcher to evaluate the learners' contraceptive knowledge, perceptions, beliefs, attitudes and practices.

4.1 Learners' contraceptive knowledge

Most of the participants were informed about pills, injections and condoms as contraceptive methods. No participant knew about intra-uterine contraceptive devices (IUCDs), female condoms, sterilisations, shields, contraceptive creams, Norplant or emergency contraceptives. Norplant is a progestin only contraceptive implant that can be used for up to five years

(<http://www.epigee.org/guide/norplant.html> accessed on 24 February 2008).

Clinics in the LP could not supply Norplant. The information provided by the 60 participants in the two workshops is summarised in table 1.

Table 1: Information provided by the participants during the two workshops (n=60)

Method	Advantages	Disadvantages	Source(s) of information	Availability Sites	Barriers to utilisation
Hormonal methods					
Pills	Known by 33 (55%) participants: effective: pills (with	Known by 27 (45%) participants	Friends and boyfriends (67%; n=40); nurses	Clinics (40%; n=24)	Not allowed culturally (47%; n=38) Attitudes

	perfect compliance can be 99.9%)		(17%; n=10)		nurses (87%; n=52) Fears of relatives (82%; n=49)
Depo Provera (injections)	Known by 11 (18%) participants	Known by 11 (18%) participants	Friends (67%; n=40) Nurses Teachers Parents (33%;n=20)	Clinics How many	Not allowed culturally (47%; n=38) Attitudes nurses (92%; n=55) Fear of relatives (45%; n=27)
Norplant	Not known	Not mentioned	None	None	Not indicated
“Barrier methods”					
Condoms	Mentioned by 78% (n=47) participants	Mentioned mainly by 78% (n=47) participants	Boyfriends (18%; n=11) Parents (7%; n=4)	Clinics (52%; n=31)	Condoms not strong enough (77%; n=46) Questioning by nurses (72%; n=43)
Female condoms	Not known by 55 (92%) participants	Never seen by 57 (95%) participants	None	None Never seen in clinics	None
The diaphragm (cervical cap)	Not known by 20 (33%) participants	Never seen by 13 (22%) participants	None	None	None
Spermicides	Not known by 60 (100%) participants	None	None	None	None
The intra-uterine device	Not known by 60 (100%) participants	Never seen	None	None	None
Fertility awareness methods					
Abstinence	Not mentioned by any participants		Never mentioned	Never mentioned	Never mentioned
Temperature	Not known	Not known	Never	-	-

(rhythm) method			mentioned		
Coitus interruptus	Not preferred by 82% (n=49) But no side effects No cost	Not mentioned by 92% (n=55)	Had no information about this method (17%; n=10)	-	-
Emergency contraception					
Emergency contraceptive pills	Only 11 (18%) participants knew about emergency contraceptive pills		Friends (18%; n=11)	Clinics (18%; n=11)	Nurses never provide these emergency contraceptives (78%; n=47)
Termination of pregnancy services (TOPs)					
CTOP services	Topic not addressed				Nurses informed them about TOPs

4.2 Learners' perceived accessibility of contraceptives

The participants indicated that they were able to access and use male condoms, pills and injections. Norplant, IUCDs, female condoms and emergency contraceptives were not accessible. Twenty (33.3%; n=20) respondents indicated that they found it difficult to access contraceptives at clinics because the nurses were reportedly rude to learners who enquired about contraceptives. Furthermore, the workshop participants indicated that clinic nurses' attitudes made it difficult for them to access contraceptive pills (87%; n=52); Depo Provera injections (92%; n=55) and male condoms (72%; n=43).

As many as 24 (40.0%) participants claimed that it was culturally disallowed for learners to use contraceptives. These findings correspond with the findings of Ziyane and Ehlers (2007:8) where young Swazi women were culturally expected to bear as many children as possible, making it culturally impossible for them to use contraceptives.

Although the participants did not favour the use of modern contraceptives, they blamed nurses for the inadequate distribution of female condoms and for making some contraceptives inaccessible to learners. Nurses were also blamed for not offering health education about different contraceptives. Participants reported that contraceptive services were not user-friendly for learners since clinic hours coincided with school hours. Learners indicated that clinics' use of the supermarket approach, where mother and child, geriatric, and all other health services were rendered at all clinics at all times, did not provide privacy for learners seeking contraceptive services.

4.3 Learners' reported side-effects of using contraceptives

The use of contraceptives was associated with weight gain by both boys and girls. Learners indicated that they preferred using contraceptive pills followed by injections. However, both male and female participants (60%; n=36) maintained that contraceptive injections were associated with infertility. For this reason

contraceptive injections were regarded with some distrust, as one's fertility was regarded as being extremely important within one's family context.

On the other hand, some participants complained that oral contraceptives were inconvenient because they could easily be forgotten, and the learners knew that omitting to take one pill could result in a pregnancy.

5 ANALYSIS OF DATA OBTAINED FROM THE WORKSHOPS ACCORDING TO HEALTH BELIEF MODEL'S MAJOR TENETS

The major assumptions underlying the Health Belief Model (HBM) include that one's probability of initiating and sustaining actions to promote health, and/or to prevent ill health (undesirable consequences; unplanned pregnancies in this study) are influenced by one's perceived susceptibility (to pregnancy in the case of this study); perceived benefits (or using contraceptives); perceived barriers (to access and utilise contraceptives); the efficacy (of contraceptives) and one's cues to action (including one's knowledge about contraceptives and the support received from significant others including parents and nurses).

5.1 Perceived susceptibility

The learners did not portray pregnancy to be a major problem, and 11 (18%) indicated that learners who had children received monthly child grants.

Consequently, having a child and receiving a child grant, was indeed perceived as being desirable.

5.2 Perceived benefits

Perceived benefits are beliefs about the effectiveness of recommended preventive health actions that are taken consistently. Findings of this study suggest poor utilisation of contraceptives by the secondary school learners.

5.3 Perceived barriers

Findings indicate negative attitudes of the professional nurses as judgemental and insensitive to learners' needs. Other perceived barriers included the lack of privacy at the clinics where the "supermarket" approach had been adopted and the fact that the clinic hours coincided with the school hours.

5.4 Efficacy

McAleer (2005:351) warn that efficacy of a specific contraceptive method in pregnancy prevention, should be seen as a standard against which other contraceptives are measured. Some of the contraceptive methods, such as emergency contraceptives, IUCD and CTOP services, were unknown to the secondary school learners who participated in the workshops. Although some

participants knew that contraceptive pills could be 99.9% effective in preventing unplanned pregnancies, it was not culturally acceptable to use contraceptive pills for some learners. Although male condoms were accessible, the learners did not trust the efficacy of this method as the condoms were “not strong enough”. Condoms that tear are useless for preventing unplanned pregnancies.

5.5 Cues to action

It is important for the health care providers and all responsible for the provision of contraceptive and CTOP services, to aim at launching campaigns to give health education to all secondary school learners, but ideally this should commence during primary school years already. Nurses should encourage and support learners who want to use contraceptives. Teachers should emphasise the benefits of using contraceptives during life skills classes.

6 CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

Despite the limitations of the workshops conducted, some conclusions could be reached and recommendations made based on these conclusions.

6.1 Conclusions

The findings reveal a lack of knowledge about emergency contraceptives and legalised TOP services which could help many learners to prevent unplanned pregnancies. Cultural expectations prevented some learners from using contraceptives, as did perceived potential side-effects (obesity and infertility). The reported poor quality of male condoms made the learners regard male condoms' efficiency in preventing unplanned pregnancies (and STIs including HIV) with suspicion and impacted negatively on the regular use of male condoms. Nurses' attitudes and questions posed barriers to most learners' utilisation of contraceptive pills and injections. Nurses did not tell the learners about emergency contraceptives nor about TOP services.

As most workshop participants indicated that nurses' attitudes posed barriers to their access to contraceptives, this possibility should be further researched. (Based on the results of the 944 questionnaires completed by secondary school learners – discussed in chapter 4 of this thesis – and on the results of the workshop, semi-structured interviews were conducted with nurses providing contraceptive services in the LP. The data obtained from these semi-structured interviews is presented in Annexure L).

6.2 Limitations

The major limitation of the workshops is that the findings of the workshops cannot be generalised to secondary school learners in the LP. Only grade 8 and grade 12 learners who volunteered, participated in the workshops. There are no guarantees that those learners who volunteered to participate had contraceptive knowledge and attitudes similar to those who did not volunteer.

6.3 Recommendations

The recommendations will address needs for further research and for the enhanced provision of contraceptive, including emergency contraceptive and TOP, services for secondary school learners in the LP.

Future research should investigate:

- Nurses' attitudes for supplying contraceptives, emergency contraceptive and TOP services to secondary school learners should be investigated (this was done and reported on in Annexure L).
- Cultural taboos to using contraceptives should be investigated and addressed in specific communities.

Contraceptive services for secondary school learners can be enhanced by:

- Revising specific policies for nurses providing contraceptive services and all these nurses should receive in-service education about the implementation of these policies.
- Employing only nurses who are willing to supply contraceptive information and services to secondary school learners at these clinics.
- Providing contraceptive services specifically for learners on Saturday mornings. This will enable learners to visit the clinics outside school hours without fears of meeting their teachers, mothers or aunts at the clinics following the “supermarket” approach.
- Monitoring that good quality male condoms are supplied at the clinics.
- Organising workshops and health education campaigns directed at secondary school learners in the LP to enable them to make better informed decisions as to whether and when they will have children.
- Employing secondary school learners and/or adolescents who have used contraceptives successfully, to work as contraceptive counsellors at clinics, especially on Saturday mornings if these clinics should be for learners/adolescents specifically.
- The Department of Health of the LP, should assign the task of monitoring the provision of contraceptive services to learners/adolescents to a specific person for the entire province, assisted by a monitor in each of the six districts of this province.

CONCLUDING REMARKS

Secondary school learners in the LP require more knowledge about contraceptives, emergency contraceptives and TOP services, but also more ready access to these services, to enable them to decide if and when they will have children.

LIST OF REFERENCES

De Vos, AS (ed). 2006. *Research at grassroots for the social sciences and human services professions*. 3rd edition. Pretoria: Van Schaik.

Essential English Dictionary. 2998. London: Oxford University Press.

<http://www.epigee.org/guide/norplant.html>

Riggat, TF. 2005. *Maternal and child health: progress and policy in public health*. Sudbury: Jones & Bartlett .

Ziyane, IS. & Ehlers, VJ. 2007. Swazi men' s contraceptive knowledge, attitudes and practices. *Journal of Transcultural Nursing*,18(1): 5-11.

ANNEXURE M: GUIDELINES FOR NURSES PROVIDING CONTRACEPTIVE AND TOP SERVICES TO LEARNERS IN THE LIMPOPO PROVINCE

These guidelines are based on the literature and empirical research done on learners' contraceptive knowledge, attitudes and perceptions in the Limpopo Province, two workshops held for 60 learners and semi-structured interviews conducted with 28 nurses who provided contraceptive and TOP services in the LP.

Ideally, there should be separate clinics for learners where they will not have to fear meeting their mothers, aunts or teachers. If this is impossible, strive to provide as much privacy as possible for learners.

If learners have to attend contraceptive clinics during school hours, be sympathetic. Strive to arrange contraceptive clinics on Saturday mornings for learners.

Nurses who are interested in, and believe in learners' rights to use contraceptives, should work at these clinics.

Every learner should be treated with respect and all personal information should be kept confidential.

Be aware that learners' parents might not know about their sexual activities, and that learners might have to pay transport costs to the clinic. Accommodate learners' requests as far as possible. For example, give more than 10 condoms to a learner at a time as it might be financially impossible for the learner to travel to the clinic every time she or he had used the 10 condoms, leading to unprotected sex. Consider giving more than one packet of contraceptive pills to a learner who prefers to use these. Emphasise the importance of keeping appointments for follow-up contraceptive injections. Emphasise that contraceptive pills and injections prevent pregnancies if used effectively, but not HIV/AIDS nor other STIs.

Get clearly formulated provincial policies on the number of packets of contraceptive pills and condoms that can be issued to learners at each visit to the clinic.

Know the stipulations of the Choice on Termination of Pregnancy Act (no 92 of 1996). If a nurse has moral objections to providing TOP services and/or emergency contraceptives and/or contraceptives to learners, she should not be allowed to work at a clinic providing such services.

Where learners have successfully used contraceptives, these learners should be recruited as peer health educators to their fellow learners – after some training. The possibility should be investigated of employing some of these young women to educate women about contraceptives prior to their consultations with nurses, as this could save the nurses' time.

Do regular audits of the adolescents' clinic charts and have follow-up meetings with nurses who fail to complete these charts properly (see Annexure H of this thesis).

The queues at contraceptive clinics could be shortened if one person, even a lay health educator, could sort the women in the queue according to those who came to the clinic for the first time and need a thorough examination, those without problems who require contraceptives, and those with side effects who require consultation prior to getting contraceptives.

Teach every learner that a girl who needs emergency contraceptives or a TOP, needs to use contraceptives effectively and consistently.

Never be judgmental about learners' sexual behaviours. It is useless teaching abstinence to a pregnant learner. Teach them to be responsible for their decisions and to make informed decisions.

Do not deny learners' access to contraceptives, as effective contraception could help them to complete their education and improve the quality of their own and their children's lives.

Strive to establish and maintain mutually respectful relations with learners who use contraceptives. Praise them for their responsible behaviour.

Teach every learner at every visit about the importance of preventing HIV/AIDS for their own sakes, as well as for the sakes of their sex partners and their (future) children.

=====

ANNEXURE N: GUIDELINES FOR TEACHING ABOUT CONTRACEPTIVE ISSUES AT SCHOOLS

The aim of providing sex education at schools is that learners should be sexually informed before they commence sexual intercourse. When reproductive anatomy and physiology is discussed, even at primary school level, sexual development as well as conception and pregnancy should be mentioned.

As soon as conception is understood, the concept of contraception should be introduced, emphasising every person's right to decide when to have children. Self-awareness, personal values and convictions and the ability to say "no" to sexual intercourse should also be addressed. Since abstinence is not universally practiced by young people, they need information about contraception. Where possible, the nurse(s) providing contraceptive services at the local clinic should be invited to tell learners what contraceptives are available at the clinic and about the specific advantages and disadvantages of each method.

Those contraceptive methods that are provided by the local clinics should be emphasised, mostly male condoms, contraceptive pills and injections.

CONDOMS

"We are living in times where we see the deadly results of HIV/AIDS. Therefore the correct use of condoms is important, for both the man's and the woman's health and lives and for the lives of their potential children" (Ehlers 2002:31). The use of a new male condom every time must be emphasised. The safe and correct use of male condoms is discussed in Ehlers (2002: 31-35). Most teaching strategies mentioned in this book (formal lesson, demonstration, group discussion, role play, learning games, simulation games, case histories, case studies, narratives and values clarification) can be used to teach aspects of sex, sexuality, safe(r) sex and the prevention of HIV/AIDS as well as the prevention of unplanned pregnancies.

HORMONAL CONTRACEPTIVES: PILLS AND INJECTIONS

The action of hormonal contraceptives will probably only be understood during secondary school. It might suffice to tell learners initially that these contraceptives prevent the formation of ova (egg cells) and therefore prevent conception, simply because there will be no egg cells to get fertilised by the male sperm cells. However, it must be emphasised that pills only "work" if taken every single day more or less at the same time. If the woman has an upset stomach or uses other medicines (even herbs or traditional medicines) then the action of the pill could be destroyed. This means that even if the woman takes the contraceptive pill but has an upset stomach or takes other medicines she can still fall pregnant. If the woman forgets to take one pill, she can fall pregnant.

Contraceptive injections can be given once per month (Nur-Isterate) which is usually given to young women, or once every three months (Depot Provera) but this one is usually only given to women who have already had children. It is vital that the woman goes for her follow-up injections on the appointment dates. If she goes later, she may fall pregnant.

EMERGENCY CONTRACEPTIVES AND TERMINATION OF PREGNANCY (TOP)

See Annexure O of this thesis for the most important aspects to cover about these two topics.

REFERENCES

By merely visiting <http://www.google.com> and typing in the keyword “contraception” many references will become available. Just make sure that the publication is free before downloading and/or printing it. (Never supply your credit card number as this means that you will be charged for the information downloaded).

Request information from your provincial Department of Health.

Visit the World Health Organization’s website: <http://www.who.int> and then go to the Family Planning and Population Unit. There are many sources available.

Also study Annexure F of this thesis (Department of National Health and Population Development: Adolescent Sexuality Education Programme) and Annexure G (National Youth Commission: National Youth Policy).

The following book provides useful information about contraceptives and/or teaching about sexuality, HIV/AIDS and STIs. Study the bibliography at the back of this book to identify other relevant sources.

Ehlers, V (ed). 2002. *Teaching aspects of health care*. Kenwyn: Juta.

SEMI-STRUCTURED INTERVIEWS CONDUCTED WITH NURSES PROVIDING CONTRACEPTIVE AND TERMINATION OF PREGNANCY SERVICES IN THE LIMPOPO PROVINCE

1 INTRODUCTION

Subsequent to the analysis of the data obtained from the questionnaires administered to secondary school learners (discussed in chapter 4 of this thesis), and the workshops conducted with some of these learners (see Annexure K for this report), it became clear that learners encountered problems accessing contraceptive services at clinics.

2 RESEARCH METHODOLOGY

Learners complained about nurses' attitudes towards those of them who requested contraceptives in the LP. In order to explore these findings qualitatively, from the perspective of the professional nurses, semi-structured interviews were conducted with registered nurses responsible for the provision of contraceptive and CTOP services at six randomly selected clinics in the LP.

2.1 Qualitative research

Cresswell (1994:1) as well as De Vos (2006:264) define qualitative research as an inquiry process of understanding a social or human problems, based on building a complex, holistic picture, formed with words, reporting detailed views of information, and conducted in a natural setting. According to Brink (2005:248) as well as Polit and Hungler (2004:269), qualitative research is an excellent way of obtaining information and exploring a particular phenomenon. The purpose of conducting semi-structured interviews with the nurses, the results of which were qualitatively analysed, was to explore these nurses' attitudes towards learners requesting contraceptives.

2.2 Target population

The population comprised all nurses providing contraceptive and TOP services at all clinics in the LP. However, it would have been logistically impossible to reach all clinics and to conduct interviews with all these nurses.

Consequently the name of each clinic in the LP was written on a slip of paper divided into 6 containers with each container representing one of the six geographical areas of the LP. A nurse educator, not involved with the present study or thesis, was requested to draw one name from each container. The clinic that was drawn, was the one randomly selected for participation in this study, ensuring that all six geographical areas of the LP were presented in the study. Thus the target population comprised all professional nurses who provided contraceptive and CTOP services at the randomly selected clinics in the LP during March and April 2007. At each randomly selected clinic these professional nurses were invited to participate in this study.

2.3 Criteria for inclusion

Inclusion criteria are “characteristics that must be present for participants to be included in the sample” (Burns & Grove 2005:324).

In order to participate in the study, the participants:

- had to be working at one of the randomly selected clinics providing contraceptive services to learners
- had to be a professional nurse working for at least two years, at the randomly selected clinics

Gender was seen as of no consequence during the current study and male and female professional nurses had an equal chance to participate in the study.

2.4 Sample and sampling procedure

The initial idea was to interview the school health nurses providing contraceptive services at the secondary schools in the LP. However, the services of school health nurses had been terminated in the LP. Therefore, the researcher opted to select professional nurses responsible for providing contraceptive and CTOP services at the randomly selected clinics. Since there were two or three professional nurses providing contraceptive services at each randomly selected clinic, all these professional nurses were invited to participate in the study. A total of 36 professional nurses volunteered to participate in the study. However, only 28 were interviewed as eight professional nurses had other commitments on the days when the researcher and the interviewer visited the specific clinics to conduct the semi-structured interviews. Consequently no sampling of the nurses took place, but it amounted to purposive convenient sampling of the nurses working at the randomly selected clinics.

2.5 Semi-structured interview schedule

According to Wilson (1998:336), the choice of a data-collection method is one of the most important steps in the research process. Different instruments can be used, either on their own or in combination (Burns & Grove 2003:285; Pope & Mays 2006:14). A semi-structured interview schedule was designed based on the results of the literature review, the findings derived from 944 completed questionnaires (as presented in chapter 4 of this thesis) and on the information obtained from two workshops in which secondary school learners participated (presented in Annexure K).

A semi-structured interview guide was designed for data collection from the professional nurses providing contraceptive and TOP services. Open-ended questions were developed allowing the nurses to provide the relevant information in their own words. Hicks (1996:16) as well as Latimer (2003:16) assert that open-ended questions should be used in order to produce rich data.

This approach reflects the open and accepting style of interviewing that seeks to elicit the genuine experiences and feelings of participants.

2.6 Pretesting the research instrument

- A pretest is an exercise embarked upon during research to test an instrument prior to the actual study in order to detect possible problems relating to the administration of the instrument and to refine the research instrument (Burns & Grove 2005:379; Pope & Mays 2006:14).

Six professional nurses were recruited to participate in the pretesting of the instrument; three from rural clinics and three from semi-urban clinics. These six nurses were excluded from the actual research.

Questions that appeared ambiguous were modified, and were further tested for clarity by interviewing four additional nurses. An expert facilitator, who holds a masters degree in youth studies and who is skilled in conducting interviews, further guided the refinement of the semi structured questions by probing respondents' answers by relating the responses to the original questions. Once all the semi-structured questions were well managed by the pre-test participants the questions were accepted. Results of the semi-structured interviews were analysed and placed in themes and categories (see table 1).

2.7 The process of conducting semi-structured interviews

De Vos (2006:398) as well as Marshall and Rossman (1998:112) state that the aim of semi-structured interviews is “to actively enter into the world of people and to render those worlds understandable from the standpoint of a theory that is grounded in behaviours, languages, definitions, attitudes and feelings of those studied”. According to Hallette (1999:56), a semi-structured research approach reflects the open and accepting style of interviewing that seeks to elicit the genuine views and feelings of participants; interviews put the researcher in the role of the research instrument, “through which data are

collected” (De Vos (2006:301), making the researcher an important component in the research process (Bloor, Frankland, Thomas & Robson 2001:29; Kvale 1996:89).

2.7.1 Becoming acquainted

As first impressions are usually lasting impressions, this phase determines whether a person will agree to an interview or not. Particulars that attest to the interviewer’s credentials are vital for reassuring interviewees that they are dealing with a bona fide interviewer (De Vos 2006:293).

Practical aspects of the research were explained to each interviewee, such as the use of a tape recorder, the interview venue and the time that can be devoted to each interview as well as the research assistant. The interviewer should strive to establish a cordial atmosphere in which interviewees will feel secure and have confidence to speak about his/her real experiences, perceptions and/or attitudes (De Vos 2006:398). In this study, the researcher began by explaining, that the interview would be tape-recorded, then transcribed verbatim.

2.7.2 Conducting the interviews

The semi-structured interviews were conducted in private rooms, with “please do not disturb” signs on the doors. Interviews were initiated with a broad or general question. During the current study, the participants were asked to talk about themselves and issues relating to the provision of contraceptive services to secondary school learners at their respective clinics.

Once an interview has commenced, the role of the researcher is to encourage the participant to continue talking using techniques such as nodding of the head or giving other signs that indicate interest. The interviewer is obliged to follow up cues during an in-depth interview in order to get the “true” meaning of a phenomenon. In some cases, the participants may be encouraged to

elaborate further on a particular dimension of a topic by using probes (Burns & Grove 2003:285), such as saying “please tell me more about this experience”. Probing encourages interviewees to give more information. Probes should be neutral to avoid influencing the participants’ responses. Specific probing techniques include the following:

- **Open-ended probing questions**

Like initial open-ended questions, probes must also be open ended. Open-ended questions do not need a one-word answer (De Vos 2006:389), but provide interviewees with ample opportunity to express their feelings. Polit and Hungler (2004:349) emphasise that open-ended questions allow participants to respond in their own words.

- **Tracking**

Interviews act like a needle tracking the grooves of a record. Interviewers show interest and encourage interviewees to speak by closely following the content and meaning of their verbal conversations (De Vos 2006:390). This is also referred to as intelligibility, following and remembering what interviewees say.

- **Clarification**

Whenever necessary, the interviewer asks for clarification from the interviewees, for example, “can you please tell me more about your experience of providing contraceptives to secondary school learners”. The researcher can determine whether questions have been misunderstood and can ask the interviewee to expand on any specific aspect. Participants are hereby enabled to reveal relevant information in a natural way; an opportunity to qualify their answers and to explain the meaning of their narrations (Polit & Hungler 2004:246).

2.7.2.1 Role of the interviewee

In this study, semi-structured questions were asked during the interviews. This was meant to put participants at ease as they were not initially bombarded with question, but were asked to talk about issues relating to the study that interested them. Participants were able to reveal relevant information in a natural way and had the opportunity to qualify their answers and explain in depth the underlying meaning of their responses (Polit & Hungler 2004:248).

2.7.2.2 Steps followed during each interview

The following steps were followed regarding the interview sessions. The researcher:

- Made an appointment with each participant at a time which suited him/her
- Prepared a quiet room for conducting the interviews.
- Arranged chairs to enhance face-to-face interviewing
- Prepared an audio tape recorder
- Ensured that field notes were taken
- Ensured that water was available

Prior to the commencement of each interview, the researcher:

- Thanked the participant for her/his willingness to participate in the study
- Reminded the participant about the purpose of the study, namely to identify nurses' attitudes about providing contraceptive services to secondary school learners in the LP
- Explained that the interview was to be semi-structured, implying that the participant can reply to each open-ended question in his/her own words and that there would be no right or wrong answers, but that the participant's own attitudes were of importance to the research project
- Asked permission to record the interview and to take field notes (Marshall & Rossman 1998:112).

After making each participant comfortable, opening remarks were made to introduce the topic and reassure the participant. Each participant was given an opportunity to narrate her experiences and feelings. Other communication techniques included reflecting, paraphrasing and validating to make sure that no issues had been overlooked until a point of saturation had been reached. The researcher and the facilitator recognised the repetition of issues with no additional information, indicating saturation of data pertaining to a specific issue (Marshall & Rossman 1999:212). At the end of each interview session, each participant was once again thanked for her participation in this study. A review of transcripts was done after transcription of the interviews to make sure that each participant was satisfied with the truthfulness of the information. and cross-checked for accuracy (LO-Biondo Wood & Haber 2002:3440).

Each interview lasted for 30–40 minutes, with the facilitator guiding the responses to remain within the focus of the open-ended questions. The facilitator, continued to seek further clarification through probing, where more information was required. Nodding of the head to indicate agreement was done and interest was stimulated throughout each interview session. Each interview was tape-recorded, and field notes were written by the researcher. A review of transcripts was done after transcription of the interviews to make sure that each participant was satisfied with the truthfulness of the information. The information from the audio-tape was later transcribed verbatim (Burns & Grove 2003:479).

2.7.3 Trustworthiness of the data

Trustworthiness is defined by Burns and Grove (2005:389) as the validity and reliability of qualitative data. De Vos (2006:264) noted that the following aspects could enhance the trustworthiness of qualitative data such as truth value, applicability, consistency and neutrality (Krefting 1991:215). Operational techniques to ensure trustworthiness are credibility, transferability, dependability and conformability.

2.7.3.1 Credibility

Credibility is demonstrated when participants recognise the reported research findings as their own experiences (Streubert-Speziale & Carpenter 2003:38). It is the truth of how the participants know and experience the phenomenon (Holloway 2005:8). Credibility includes activities that make it more likely that convincing findings and interpretations will be produced. These activities include prolonged engagement, persistent observation, triangulation, peer debriefing and member checking:

- **Prolonged engagement**

Prolonged engagement is the investment of sufficient time to achieve a specific purpose, learning about the “culture” of the interviewees, testing for misinformation introduced by distortions either by the research or the participants, and the building of trust (Lincoln & Guba 1985:302). During the current study, the researcher worked with the nurse participants, initially as a school nurse and later as lecturer accompanying students in the clinics to which they were allocated for clinical practice experience. The researcher spent time with the professional nurses at the selected clinics, to establish rapport, and to develop trusting relationships (Holloway 2005:175).

- **Persistent observation**

Lincoln and Guba (1985:304) maintain that persistent observation during semi-structured interviews provides depth to an enquiry. The purpose of persistent observation is to identify those characteristics and elements in the situation that are most relevant to the issue being pursued. Focusing on the issue helps sorting out irrelevant matters; issues that do not really relate to the study. The researcher observed the participants’ behaviour during the semi-structured interviews facilitated by an expert. The presence of the researcher during interviews enabled her to observe the reactions of the nurses providing contraceptive services.

- **Triangulation**

Holloway (2005:277) defines triangulation as a method of increasing credibility and research precision by measuring the same quality with multiple techniques. Mertents (1998:183) suggests two modes of triangulation that are useful in naturalistic inductive studies, multiple and different sources for the same information, such as more than one informant providing the same information or verification of responses from one source with another. In this study, simultaneous triangulation was use. Schneider, Elliott, LoBiondo-wood and Haber (2003:32) define it as a combination of qualitative and quantitative methods in one study at the same time. In this study, the researcher began the enquiry by using a quantitative approach whereby 944 learners completed questionnaires, followed by two workshops conducted with 60 learners and semi-structured (qualitative approach) conducted with 28 nurses providing TOP and contraceptive services in the LP.

The researcher assisted by listening, observing and writing field notes on the behaviour, changing moods and gestures of the participants as well as relevant ideas. The use of multiple methods or perspectives to collect data and interpret data about some phenomenon, in order to converge on an accurate representation of reality is recommended by Polit and Hungler (1991:656).

- **Member checks**

The process of member checking was also employed to enhance the authenticity of the research results (Streubert Speziale& Carpenter 1999:210). Member checking is a crucial technique to establish credibility as indicated by Lincoln and Guba (1985:314). During the current study, the tape-recorded interview was played to each participant for his/her comments immediately after the interview. This helped to assess what the participants intended and meant and also gave them the opportunity to

correct errors, confirm individual standpoints, allow participants to cross-check their statements for accuracy.

- **Authority of the researcher**

The authority of the researcher also contributes towards the credibility of research data. With regard to the current research:

- The researcher participated in research methodology workshops and research activities
- This study was supervised by experts in reproductive and family planning issues as well as qualitative research
- The interviewer, during the semi-structured interviews, was an expert in qualitative research, and also a trained counsellor.

- **Transferability**

Streubert-Speziale and Carpenter (2003:39) refer to transferability as the probability that the study findings have meaning to others in situations similar to those where the data had been collected. Lincoln and Guba (1985:316) support that transferability involves transferring research to another similar context or setting, preserving the meaning, interpretations and inferences from the completed research. In this study, the researcher exposed the background information about the informants, shared the findings with colleagues who did not participate in the study and encouraged them to assess how transferable the findings would be. Supervisors of this study were also responsible for examining the set of semi-structured research questions, findings, interpretations, recommendations and attesting that these were supported by the data.

- **Dependability**

Dependability is another criterion used to measure trustworthiness in qualitative research. Dependability is met through securing credibility of

findings (Lincoln & Guba 1985:316; Streubert Speziale and Carpenter 2003:39). It is the stability of data over time and is obtained with a stepwise replication and inquiry audit (Polit & Hungler 2004:38). It is a criterion that is met through obtaining credibility and cannot be present without credibility (Speziale and Carpenter 2003:321).

In this study, dependability was established by using triangulation. The expert interviewer, who is knowledgeable about adolescents' sexuality issues, and who is a skilled interviewer, conducted the semi-structured interviews. The supervisors of this study and the researcher's colleagues examined the data presentations and discussions as well as the conclusions and recommendations in order to attest that they were indeed supported by the data.

- **Conformability**

Conformability is a neutral criterion for measuring the trustworthiness of qualitative research. Should a study demonstrate credibility; the study would also be regarded as possessing conformability (Lincoln & Guba 1985:33; Streubert, Spezial & Carpenter 2003:38). Holloway and Wheeler (2002:236) recommend that the following auditing criteria should be utilised for examining the information:

- Raw data (tape-recorded) were transcribed verbatim and compared with the field notes written by the researcher during the interview. Data were reduced by coding and the products were re-analysed.
- Findings of the study were produced by the analysed data and were not fabricated. The findings are free from bias. In semi-structured interviews, neutrality refers to data neutrality and not the researcher's neutrality (De Vos 1998:331).

Significant statements, themes, codes and categories were constructed.

Table 1 presents a structural outline of the strategies and application of the methods used in the study to enhance trustworthiness.

Table 1 Summary of Strategies employed to enhance trustworthiness

Strategy	Criteria	Application by Researcher
Credibility	<ul style="list-style-type: none"> • Prolonged engagement • Reflexibility • Member checking • Triangulation • Purposeful sample 	<ul style="list-style-type: none"> • Trusting relationships with the participants; visited professional nurses at the clinics in LP • Bracketing and intuiting in each phase of the research process by focusing only on the information provided by the participants, whilst consciously suppressing the researcher's own perceptions and attitudes <p>Analytical categories, interpretations and conclusions tested with members to ensure credibility.</p> <ul style="list-style-type: none"> • Field notes were kept • Sampling was purposeful: only registered nurses with contraceptive knowledge and experience were interviewed
Transferability	<ul style="list-style-type: none"> • Sample • Dense description 	<ul style="list-style-type: none"> • A purposive sample method was used • Data about the participants, research context and setting were provided
Dependability	<ul style="list-style-type: none"> • Inquiry audit • Dense description • Peer evaluation 	<ul style="list-style-type: none"> • Two promoters of the study audited the research process • Full description of research methodology was provided • Checked by colleagues, and supervisors, who are experts in reproductive health and in qualitative research • Agreement of the collected data has been reached between the researcher and independent coder
Conformability	<ul style="list-style-type: none"> • Audit trail 	<ul style="list-style-type: none"> • Researcher audited all phases of the research process under the supervision of the promoters of the study and a colleague who is an expert in interviewing • The enquiry trail contributed to the dependability as well as the conformability

3 QUALITATIVE DATA ANALYSIS

Data analysis is a mechanism for reducing and organising data to produce findings that require interpretation by the researcher (Burns & Grove 2003:479). De Vos (2006:344) warns that data analysis is a challenging and a creative process characterised by an intimate relationships of the researcher with the data generated. Data analysis in qualitative research actually starts when data collection begins. As De Vos (2006:339) indicates, the process requires full commitment of the researcher to understand the actual meaning of the data. Brink (2006:233) concurs that it requires a significant degree of dedication to read, intuiting, analysing, synthesizing and reporting what is discovered.

The actual process of data analysis usually takes the form of clustering similar data. Themes are structural meaning units of data that help the researcher to cluster information and discover the meaning intended in what is observed and heard during interviews. The collected data need to be re-examined for accuracy and completeness (Burns & Grove 2003:382).

Data from semi-structured interviews were analysed using Tesch's model, based on a qualitative approach. The researcher used Tesch's eight general steps in qualitative data analysis, namely:

1. The researcher carefully listened to the tapes, transcribed, read through the transcription and wrote down notes of ideas that came to mind.
2. The researcher selected one interview and read it and tried to attach meaning to the information and wrote down thoughts and ideas that came to mind.
3. After the researcher had completed this task for several participants, the researcher arranged similar topics into groups, using columns labelled major topics, unit topics and *leftovers*.

4. The researcher then abbreviated the topics as codes and wrote the codes next to the appropriate segment of the text. The researcher then observed the organisation of data to check if new categories or codes emerged.
5. The researcher found the most descriptive wording for the topics and converted them into categories. The aim was to reduce the total list of categories by grouping topics together that naturally and semantically related to each other. Lines drawn between the categories indicated interrelationships of categories.
6. A final decision was then made on condensing each category and the codes were arranged alphabetically.
7. The data material belonging to each category was put together
8. The researcher recorded some of the existing data to show the relationships among categories of information. This was done in order to indicate that the answers to each question were individually probed, pursued and perused, and analysed using the outline as provided by Tesch (1992:38).

To maintain trustworthiness, an independent coder who is a qualitative data analysis specialist, was engaged in data analysis and coding of the information gathered. The researcher and the independent coder met to discuss the results of data analysis and reached agreement on the major categories and sub-categories to be displayed in the data presentation.

3.1 Analysis and discussions of qualitative research findings

The data were collected by means of semi-structured interviews, which collected information regarding professional nurses' attitudes and perceptions of and experiences regarding learners' requests for contraceptives. The research objectives for this section of the research were to:

- Assess professionals nurses' perceptions and attitudes regarding learners who wish to use contraceptives.

- Assess professional nurses' perceptions on CTOP for learners
- Describe challenges experienced by professional nurses in providing contraceptives and TOP services to learners in the LP.
- Explain suggestions to improve the supply of contraceptives to learners

3.2 Semi-structured interview schedule

The questions included in the semi-structured interview schedule were arranged in line with the research findings reflected in chapter 4 of this thesis. Biographic questions were asked, and analysed quantitatively, in order to contextualise the qualitative results. The following open-ended questions were asked in the same sequence from every participant.

Biographic information:

- Please tell us about yourself, such as your qualifications, age, marital status as well as the number of children you have.

Nurses' contraceptive knowledge and experience:

- How long have you been working at this clinic? Why?
- Would you prefer to work somewhere else? Why?
- Please describe your most important daily activities at work.
- What training have you received on providing contraceptives and TOP services?
- What training would you like to receive on providing contraceptive to learners?
- What is the policy at your clinic on providing contraceptives to grade 8 (usually aged 13) and grade 12 (usually aged 17-18) secondary school learners at your clinic?

Nurses' attitudes towards providing contraceptive and TOP services to secondary school learners in the LP:

- What do you think would be a good policy for the provision of contraceptives to secondary school learners?
- Do you supply contraceptives to grade 8 and 12 learners at your clinic?
- Which pills do you provide to grade 8 learners?
- Which contraceptive pills do you provide to grade 12 learners?
- Is there a difference between contraceptives provided to grade 8 and grade 12 girls? Please give a reason for your answer.
- What health education do you provide to grade 8 girls requesting contraceptive pills?
- What is the clinic policy about providing contraceptive pills to secondary school learners?
- What do you think would be a good policy in this regard?

Nurses' attitudes towards providing emergency contraceptives to secondary school learners in the LP:

- A grade 8 girl requests emergency contraception after unprotected sex. What advice will you give her?
- What will you offer her as an emergency contraception?
- A grade 12 girl requests emergency contraception after unprotected sex. What advice will you give her?
- What will you offer her as an emergency contraception?
- Would you make any distinction between the health education for a grade 8 girl and a grade 12 girl requesting emergency contraception? Please give a reason for your answer.
- What do you think would be a good policy about providing emergency contraception to secondary school learners (girls)?
- What is your personal view about supplying emergency contraceptives to grade 8 and 12 learners (girls) at your clinic?

Nurses' attitudes towards and practices of rendering choice on termination of pregnancy (CTOP) services to secondary school learners at their clinics in the LP

- A grade 8 girl requests TOP services. What advice will you give her?
- What will you offer her as TOP?

- A grade 12 girl requests TOP what advice will you give her?
- What will you offer her as TOP?
- Would you make any distinction between the health education for a grade 8 and a grade 12 girl about TOPs? Explain the reasons for your answer please.
- What do you think would be a good policy about providing emergency contraception?
- What is your personal view about providing TOP services to grade 8 and 12 learners at your clinic?
- Would you advise you daughter to use TOP services if she wishes to do so? Why or why not?

Nurses' attitudes and practices for supplying male and female condoms to secondary school learners at clinics in the LP

- What health education do you provide to grade 8 boys who request condoms?
- What health education do you provide to grade 12 boys who request condoms?
- Why would you make a difference between the grade 8 and grade 12 boys?
- How many male condoms would you give to a grade 8 boy at each visit?
- How many male condoms would you give to a grade 12 boy at each visit?
- How many female condoms would you give to a grade 8 and a grade 12 learner at each visit? If you would treat grade 8 and grade 12 girls differently, please give reasons for your answer.
- What is the policy about issuing female condoms at your clinic?
- What do you think would be a good policy about issuing female condoms to learners at your clinic?

Professional nurses' perceptions about learners providing sole consent for using contraceptives

- What is your view about a 12 years old learner consenting to any contraception without parental involvement?

- What information would you give to this girl?

Challenges encountered in rendering contraceptive services to secondary school learners in the LP

- What are the major challenges you face in providing contraceptives to secondary school learners?
- What can be done to address these challenges?
- Are nurses at your clinic keen to provide contraceptives to learners? Why or why not?
- How often does your clinic run short of condoms, injections, pills and other contraceptives?
- What do you think could be done to prevent your clinic from running out of supplies of condoms, injections, pills and other contraceptives?

4 RESULTS OF THE SEMI-STRUCTURED INTERVIEWS

Each semi-structured interview with the professional nurses responsible for providing contraceptives lasted between 30-40 minutes. An independent coder was involved in the categorisation of the data. This independent coder then met with the researcher to agree on identified themes and sub-themes. The data were analysed and categorised according to themes and sub-themes emerging from the transcribed verbatim data.

4.1 BIOGRAPHIC DATA

The biographic data about the professional nurses who participated in the semi-structured interviews were derived from their answers to the following open-ended question:

- Please tell us about yourself, such as your qualifications, age, marital status as well as your number of children.

Most of the 28 professional nurses, responsible for providing contraceptive and TOP services in the LP, who participated in the semi-structured interviews, were

at least 36 years old. Only three (10.7%) professional nurses were 35 or younger (see table 2).

All 28 nurses, who participated in the semi-structured interviews, had basic nursing qualifications in general nursing and midwifery. Four participants (14.3%) had degrees with majors in administration and community health.

Some nurses held additional diplomas or certificates, such as Primary Health Care (see table 2 below).

Table 2: Demographic data of professional nurses who participated in semi-structured interviews

AGES OF PARCIPANTS	f	MARITAL STATUS	f	QUALIFICATIONS	f	NUMBER OF CHILDREN	
25-30	2	SINGLE	14	Certificate	20	0-1	2
31-35	3	MARRIED	12	Diploma	28	2-3	8
36-40	20	DIVORCED	2	Degree	10	4-5	14
41-45	2	WIDOW	Nil	Other	-	other	4

4.2 Discussion of findings obtained from semi-structured interviews conducted with professional nurses providing contraceptive and top services in the LP

Findings were broken down into manageable main themes, categories and sub-categories. The categories reflect definite patterns of the contraceptives available in health centres in LP. The themes are derived from the semi-structured interviews conducted with the professional nurses from randomly selected health centres in LP. The themes identified are, contraceptives supplied to learners at clinic, provision of contraceptives and health education, emergency contraceptives given to learners, termination of pregnancy services. Categories and sub-categories are presented in each theme (De Vos 2006:264).

The summary of the main themes and categories is presented in table 3 of Annexure L of this report. The data is then presented step by step by making use of “overview data displays to the themes as seen in table 3. The semi-structured guide was developed to check if there are some differences regarding information provided to the grade 8 and the grade 12 learners by nurses. Findings show that the two groups needed the same information (see table 3).

4.2.1 Data structure and findings

Four levels of abstraction of data were obtained. Level 4, which contains the major themes that emerged, is the most general abstract (Kvale 1996:34). Level one is the lowest and contains the most concrete and pertinent data units (see table 3) (Holloway 2005:356).

Table 3 Major categories and sub-categories

MAIN THEME	CATEGORIES	SUB-CATEGORIES
1: Contraceptives supplied to learners at clinics	<ul style="list-style-type: none"> • Condoms 	<ul style="list-style-type: none"> • Male condoms available • Female condoms not available • Condoms limited to 10 per learner per visit

		<ul style="list-style-type: none"> No difference in the number of condoms given to grade 8 and 12 boys
	<ul style="list-style-type: none"> Pills 	<p>Available types of pills</p> <ul style="list-style-type: none"> Ovral Nordette Triphasil Not all clinics have all these pills in stock
	<ul style="list-style-type: none"> Injections 	<ul style="list-style-type: none"> Depo provera not given to women without children; not given to learners who have no children Nur-isterate preferred for learners
	<ul style="list-style-type: none"> Sterilisation 	<ul style="list-style-type: none"> Male sterilisations – none was done at any clinic Female sterilisation – not done at any clinic Not recommended for secondary school learners
	<ul style="list-style-type: none"> IUCDs 	<ul style="list-style-type: none"> No learners was inserted IUCD IUCD available at few clinics Not recommended for learners
2 Provision of contraceptives and health education	<p>Information about:</p> <ul style="list-style-type: none"> Contraceptives used Side effects <p>Directions for use</p> <ul style="list-style-type: none"> No time to explain in detail Learners are not reporting side effects, due to lack of knowledge 	<p>Poor communication with learners regarding contraceptive information, lead to:</p> <ul style="list-style-type: none"> lack of adequate information regarding contraception improper use of contraceptives by learners
2.1 Challenges experienced by professional nurses in providing	<ul style="list-style-type: none"> Some of the contraceptive methods are not available such as female condoms. 	<p>Shortage of stock results in:</p> <ul style="list-style-type: none"> Overcrowding of learners on the day on which the method is in

<p>contraceptive services to secondary school learners</p>	<ul style="list-style-type: none"> • Shortage of stock at clinics • Uncooperative learners • Poor knowledge regarding certain methods, such as nor-plant 	<p>stock together with adult clients</p> <p>Nurses' knowledge deficits resulted in:</p> <ul style="list-style-type: none"> • Inability and negative attitudes in recommending emergency contraceptives
<p>3. Emergency contraceptives given to learners</p>	<ul style="list-style-type: none"> • No learners ever obtained E-gen-Cs from any clinic, always not on stock. • Learners do not know about emergency contraceptives. 	<p>The only types named are:</p> <ul style="list-style-type: none"> • E-gen-C • Ovral • Learners do not know about emergency contraceptives • Nurses did not know about copper-containing IUCD as emergency contraceptive
<p>3.1 Information and health education given to learners on emergency contraceptives</p>	<ul style="list-style-type: none"> • Information was provided, only to learners who enquired (and thus who already knew) about emergency contraceptives • Information never given to learners who did not know about emergency contraceptives 	<p>Information provided include:</p> <ul style="list-style-type: none"> • Emergency contraceptives to be taken within 72 hours following unprotected coitus. • To be used only in emergency situations • Health education only on pill and return dates if Nur-isterate was given
<p>3.2 Professional nurses' views and perceptions about emergency contraceptives</p>	<p>Positive perceptions:</p> <ul style="list-style-type: none"> • Some were uncertain about TOPs for teenagers <p>Negative perceptions:</p> <ul style="list-style-type: none"> • Emergency contraceptives could be misused by learners 	<p>Positive:</p> <ul style="list-style-type: none"> • Emergency contraception is much better than unwanted pregnancies and babies <p>Negative:</p> <ul style="list-style-type: none"> • Murder reported at some areas due to emergency contraceptives • Very uncertain about emergency contraceptives • Generally disliked emergency contraceptives because

		learners could misuse these as contraceptives
4 Termination of pregnancy services	Provision of TOP services: <ul style="list-style-type: none"> All available hospitals and some health centers are providing TOP services Professional nurses allocated at TOP units some were trained, but some were not trained Some nurses volunteer because of interest 	<ul style="list-style-type: none"> Learners report on their own without parents at the TOP units in these hospitals Clients are referred to these hospitals/centers Only a few professional nurses are trained to render TOP services in each clinic Only a few professional nurses volunteer to work in TOP units
4.1 Professional nurses' perceptions about learners giving consent for TOPs	<ul style="list-style-type: none"> Perceptions were both positive and negative 	Positive perceptions about TOPs <ul style="list-style-type: none"> Is safer than back street abortions No problems with it Negative perceptions about TOPs <ul style="list-style-type: none"> Teenagers will have problems later; infertility Teenagers should be discouraged from using TOPs No limit of number of TOPs per female No limitations of age, girls aged from 12 years request TOPs
4.2 Information and health education given to learners regarding CTOP	Positive: <ul style="list-style-type: none"> Could be performed once Negative <ul style="list-style-type: none"> Teenagers' infertility later in life due to repeated TOPs 	<ul style="list-style-type: none"> CTOP not to be used as a contraceptive method Importance of using contraceptives Advice regarding when to seek TOP Complications
4.3 Challenges regarding CTOP	<ul style="list-style-type: none"> Repeated TOPs by same learners Overcrowding of 	Challenges resulting in: <ul style="list-style-type: none"> shortage of staff with skills of TOP

	<p>health centres</p> <ul style="list-style-type: none"> Professional nurses are labelled as serial killers by colleagues and some members of the communities 	<ul style="list-style-type: none"> poorly informed learners no time to provide quality care Non-compliance with contraceptives use Professional nurses involved feel threatened No support for professional nurses providing TOP because they are being labelled Professional nurses are frustrated by the attitudes of the community members and colleagues
4.4 Policy regarding the supply of contraceptives in various health centres	<ul style="list-style-type: none"> Policy regarding contraceptives Choice of Termination of Pregnancy Act No. 92 of 1996 learners are considered as human being 	<ul style="list-style-type: none"> Any learner coming for contraceptive method from 14 years or even younger No half dose injections given to learners if 12 or younger Counselling regarding CTOP Correct use of contraceptives, mainly adolescents
4.5 Views regarding 12 years old learners giving own concern to contraception by professional nurses	<p>Positive:</p> <ul style="list-style-type: none"> Workshops be to conducted on contraception and the use of contraceptives <p>Negative:</p> <ul style="list-style-type: none"> 12 years old still too young, may not understand nurses' language 	<ul style="list-style-type: none"> Professional nurses have limited time to teach younger children this is ridiculous Could not tell babies about contraceptives
4.6 Suggestions to improve supply of contraceptives to learners	<p>Positive:</p> <ul style="list-style-type: none"> School health services Weekend services <p>Negative:</p> <ul style="list-style-type: none"> Be practiced as child grant day Parents need be 	<ul style="list-style-type: none"> Advice regarding when to come to the clinics Shortage of professional nurses Impossible to work over weekends

	informed	
4.7 Change of clinic hours to increase the use of contraceptives by learners	<p>Positive:</p> <ul style="list-style-type: none"> • Clinic hours could improve the use of contraceptives by teenagers • Working overtime is highly impossible • Learners in particular, are not reporting side effects, due to lack of knowledge 	<ul style="list-style-type: none"> • shortage of professional nurses • increase overcrowding due to shortage of staff • side effects increases • poor utilisation of contraceptives

4.2.1 Contraceptive methods supplied to learners at RHC clinics

The participants reported quite a number of contraceptive methods available at the clinics which included injections, pills, condoms, female sterilisations and IUCDs. Neither professional nurses nor adolescent girls and boys, approved the use of contraceptives, mainly because of misconceptions and fears of possible side-effects, which might affect young persons' fertility. However, a concern was raised regarding unavailability of certain contraceptives which were thought to be of great assistance particularly to learners such as female condoms. As one participant put it:

I felt unprofessional the day one of our learners enquired about female condoms and she needed them. The learner was more informed, but we could not meet the expectations of the learner. She further, indicated that female condoms are so scarce; in this clinic, we don't even have any. Some of the members of staff had no idea what a female condom looks like (10).

With regard to sterilisation one participant was adamant that *“female and male sterilisations can not be communicated to learners, they are rather too young for using such methods. They need to have their own families when grown up (14).*

Another participant stated: *No, I don't encourage learners sterilisation methods, it is not the right method for young children (8).*

Participants were also concerned about the lack of stock at the clinics. Shortages of contraceptives caused overcrowding at clinics when supplies arrived.

4.2.2 Information given to learners regarding contraceptive methods

The importance of educating learners regarding specific contraceptive methods was shown by participants who indicated that they explained every detail regarding the contraceptive methods to learners, though some of the professional nurses cited lack of time as they were short staffed.

The effort some nurses put into educating secondary school learners was verbalised by one participant as follows: *I do explain everything regarding a particular method, especially to new learners (secondary school learners). I tell them about side-effects, and how to follow the packet. I actually demonstrate using a packet of pills how to take the pill from the first day and so on (12). However, problems relating to educating learners was also aired. One informant stated that "problem is that we are short staffed, but enrolled nurses are able to give health talks regarding all these methods (12). This was corroborated by another participant stating that "it is usually not possible to teach every client as we are so short staffed, especially the professional nurses, but I do engage the assistant nurses to explain how to start a packet of pills (19). The delegation of their teaching function to assistant nurses gives further evidence of nurses' commitment to enlighten secondary school learners regarding the contraceptives they use. All the informants were, however, not this positive about educating adolescents on the use of contraceptives. As one informant indicated: *Mmmmh..... I have realized learners don't know anything about certain contraceptives, such as IUCD, educating people who don't know what is happening is a waste of time (3).* Such negative attitudes could have far reaching implications for a lot of learners at the specific clinic.*

4.2.3 Challenges experienced by professional nurses with regard to the provision of contraceptive methods to learners

Professional nurses indicated that poor utilisation of modern contraceptives by adolescents, included a lack of commitment, peer pressure, and negative attitudes associated with contraceptive use. Professional nurses further indicated that female learners often defaulted to come on specific return dates claiming that they did not have time or displayed negative attitudes when questioned. Apparent lack of commitment was verbalised as follows: *Mostly, young girls do not always comply or come on a specific date mmmhh..... and if you ask them, they just become aggressive. When explaining the importance of taking a pill regularly, adolescents just become rude and looked aside ... and the next thing they come back for the TOP when a young girl has fallen pregnancy (20).*

In addition to lack of commitment on the part of the learners, it was also found that younger learners tend to be more difficult to communicate with and thus to be educated. The remark that “Grade 8 and grade 12 learners, are given same health education. The only thing is that, the younger learners do not ask questions when you ask them to ask questions” (7) illustrates this communication problem. Point is, if learners do not ask questions it is rather difficult to assess their understanding.

The current findings are corroborated by Wood and Jewkes (2000:13) who also reported that adolescents in the Northern Province defaulted as a result of disruptive side-effects, such as bleeding and adolescents do not ask questions to clarify what they don't know. Ehlers et al (2000:46) also found that adolescents stopped using contraceptives without informing professional nurses. Seemingly, professional nurses were too busy to teach learners about contraceptives' side-effects.

4.2.4 Resistance of learners to condom use

Professional nurses perceived resistance from both male and female learners pertaining to condom use. They indicated that most learners have wrong conceptions about this contraceptive. Some of the learners' aversion arises from suspicions as to the quality of some condoms. As a participant indicated: *"when giving health talks about correct and consistent use of condoms, both female and male learners, complain about the poor quality of the condoms. Learners alleged that condoms from health care services break easily, slip off and are uncomfortable to use" (8). "There are learners (young people), who actually refuse to use condoms as they don't want their partners to use condoms as they don't feel safe or protected since these condoms are loose and slippery and condoms will be left in the womb (5).*

Nurses were concerned about problems experienced by learners regarding the quality of male condoms. They stated that the government needed to do something to improve the quality of condoms. Learners would not listen to nurses' guidance on how to use condoms consistently to prevent unwanted pregnancies and STIs when condoms' quality is suspect.

Both male and female learners should participate actively and encourage one another in the using of contraceptives effectively. Muller, Bezuidenhout and Jooste (2006:10) as well as WHO (1995:8) maintain that when condoms are used properly, condoms are reportedly 88.0% to 96.0% reliable as a contraceptive method.

4.2.5 Emergency contraceptive methods

Professional nurses were unwilling to tell the learners about emergency contraceptive methods and were only aware of two methods of emergency contraceptive methods namely: Ovral and E-gen-C. The latter was, however, out of stock most of the time contributing towards professional nurses'

unwillingness to tell learners about this special class of contraceptives. The participants indicated that some of the learners, who had been told about EC methods, were up to that point in time, unaware that such methods existed and that these could be used after unprotected sex. They therefore, never requested them from the professional nurses.

In addition to the fact that the available EC's were mostly out of stock, participants were also alert to the possibility of knowledge of EC's on the part of the learners might erode their commitment to taking prescribed contraceptives regularly. One participant stated: *"I never communicated to learners about emergency contraceptive methods as I feel they may default and take some chances by the use of emergency contraceptive methods"* (70). An additional professional moral and ethical angle to the issue is provided by the participant who pointed out that: *"Emergency contraceptive methods are associated with TOP. Learners happen to be aware of these opportunities; they are now misusing the opportunity by repeated TOP from one health care centre to another. This led the learners to improper utilisation of contraceptive methods"* (10). This is also corroborated by yet another informant who stated that: *"School learners never asked about emergency contraceptive methods. I feel that, if learners do not ask me about emergency contraceptives, I prefer not to tell them about it, as they may misuse the opportunity, just like the repetition which is done by learners regarding TOPs. I also have some negative feelings about the methods because I also do not trust these methods"* (9).

These responses from some of the professional nurses indicated that, should clients be informed about emergency contraceptive methods, they might act irresponsibly.

Perceptions about emergency contraception

Negative perceptions (N=10)

Nine professional nurses displayed feelings of discomfort and uncertainty, indicating that they would not encourage learners, especially secondary school learners, in utilising emergency contraceptives, even after unprotected sex. They maintained that emergency contraception is associated with murder as conception might already have taken place. One participant stated: *“What is more important is to promote contraception by educating learners on how to protect themselves from unintended pregnancies by using contraceptives correctly and consistently. Emergency contraception is associated with infertility and murder of an unborn baby and I am not comfortable with the use of this method”* (10).

Some of the professional nurses appeared to be ill informed about emergency contraception. Similarly, Wood and Jewkes (2000:15) reported that their sample of pregnant adolescents in the Northern Province, lacked information about emergency contraceptives. Nurses also indicated that they were not aware that they could use Ovral for emergency contraception and reported that their health care facilities could not afford to supply E-gen-C (Wood & Jewkes 2000:15).

4.2.6 Choice on termination of pregnancy (N=16)

Regarding legalised TOP services, 16 out of 28 professional nurses reported that their institutions offered CTOP services, and pre- and post TOP counselling.

TOP providers felt frustrated when dealing with learners for a number of reasons as indicated by the following evidence. The age of the learners was a problem as: *“I have a big problem with seeing very small girls coming for TOP, I can’t take it you know”* (5). The participants also reflected on their personal lives and projected incidences at the clinics onto their lives stating: *“No, eh., I can’t encourage my daughter for TOP, I can encourage her for pills”* (4)

Failure of ECs to produce the intended result adds to professional nurses' burden as indicated by the following statement: "*Sometimes, ehh, after induction the tablets don't actually work sometimes and you end up doing termination, and become so frustrated because the learner is so young (14 years) (6).* Professional nurses' frustration is further escalated as "*dealing with the learners who are frustrated is difficult. Oh, very much frustrating especially when I have to make a decision. These TOP services are emotionally and psychologically exhausting*" (9).

Participants as shown by their responses, became frustrated by several issues during service delivery. Dondashe (2002:47); Ndlovu 1999:88; Popplestone and Pherson (1998:137) state that some of the registered nurses expressed their frustration as follows: "It is very frustrating when I see a young girl of 12 years or younger signing without parental consent"

As an informant indicated: "*managers should organise eh....hmmm psychologist services for nurses responsible for the provision of TOP (17).* In addition to their own emotional depletion, "*professional nurses consider pre- and post counselling to be very important for CTOP learners to assist them to go through the traumatic process of terminating a pregnancy*"(12) and "*Learners are encouraged to use contraceptives, as TOP is not one of the contraceptive methods, we also add by saying second TOP is not acceptable*" (20).

Various barriers were reported by participants responsible for providing contraceptive and TOP services. The following barriers were experienced by professional nurses providing CTOP services.

4.2.7 Lack of support from colleagues and management at the institutions where CTOP take place

The nurses providing TOP services reported a perceived lack of support from their nursing colleagues and/or their communities, as reflected by the following statements:

“Our colleagues don’t support us regarding CTOP for learners as well as adults (19). I have a concern about uninformed colleagues. Personnel do not have insight regarding termination of pregnancy. As a result learners who wish to terminate their pregnancies are not well treated by our colleagues, and some learners are denied a service because of lack of information (11). The extent of the source of professional friction is attributed to the view that “most of our colleagues are anti-TOP, and they don’t treat us alright, keep on saying we are killing, stuff like that (10).

Lack of resources was also expressed as a concern in clinics providing TOP services. The deficiencies which hampered efficient service delivery were either of extra-personal (environmental) or of personal (human) resources.

During health education regarding CTOP, I usually ask learners to indicate any information they have about CTOP and their sources of information in this regard. Most of the learners, they indicate that they don’t know about CTOP services (23).

Participants expressed concern about the number of repeated CTOPs by the same learners, especially young people (adolescents). It appeared as if the participants are not happy with repeated abortions requested by the same learners. This created quarrels between professional nurses and learners as indicated by the following two responses:

- *A quarrel comes when enquiring about repeated CTOPs, stating that TOP Act does not cover the repeated CTOP as stated that CTOP should not be used as a contraceptive method, at the same time, Act does not state the*

limitations of CTOPs for women, especially adolescents, would not take the advice (19).

- *I have a very serious problems with repeats of CTOPs, if no limits are set, I feel much uncomfortable with such clients (13).*

A study conducted in the RSA by Engelbrecht, Pelsler, Ngwena and Van Rensburg (2000:6), report that some of the health care workers display hostility towards those clients seeking TOP services for the second or third time.

Nurses who worked at clinics that did not offer TOP services, but only contraceptives, were not informed about TOP issues. Dondashe (1999:44) states the importance of training health care workers, particularly those dealing with TOP clients, to understand TOP and related issues.

4.2.8 Professional nurses' views regarding termination of pregnancies

It is evident that TOP entails a variety of controversial issues, causing different opinions among nurses. Despite the mainly negative experiences that TOP providers experienced, participants expressed a variety of positive and negative perceptions towards CTOP.

- **Negative views**

Several views were shared, mainly on the justification of CTOP and the preservation of human life, as well as the religious and moral issues associated with CTOP. One participant put this very strongly stating: *"I want to indicate something very serious here, CTOP is murder. I will never condone persons who are literally killing innocent lives (12).* Another nurse indicated disrespect for the value of life and the rights of the foetus as a human being as the essence of the problem, stating: *"Ehh., you know, people out there, including learners, are lacking respect in one's life. The zygote or foetus became alive soon after the*

fusion of the ovum and the sperm, the beginning of new life, is an alive being, why do people respect their own rights, what about the right of the foetus” (15).

Ose-Hwedie and Namutosi 2005:196) maintain that moral values and belief systems of the professional nurses would not be imposed on clients. However, no professional nurse should be forced to perform or to be part of an abortion process. Nurses responsible for TOP services, have the right to choose by volunteering and not by being forced to work in these services.

4.2.9 Policies regarding contraceptives to adolescents

Almost all the participants indicated that they respected the policies of the institution as well as the constitution of the Republic of South Africa, Act 108 of (1996:8) section 12(1) (a), stating that everyone has the right to bodily and psychological integrity, which includes the right to make decisions concerning reproduction. Professional nurses indicated that they gave contraceptives according to the needs and medical conditions of the learners.

Almost all professional nurses were unaware of the half dose of contraceptives, such as injections that could be given to adolescents. The reasons cited was that there was no policy that stipulated such a procedure regarding contraceptives. Some of the participants reported that they have never seen a policy regarding contraceptives in their clinics. Participants indicated, however, that they provided pre- and post-counselling to all clients including learners, who wished to use contraceptives and/or TOPs. A concern has been raised by most of the participants concerning the high rate of adolescent pregnancies in many communities and other health risks, such as HIV/AIDS, despite freely available contraceptives. One participant stated this firmly: *“Policies require all clients including learners to be counselled pre- and post, and explaining fully especially with adolescents about sexuality, contraception, I feel very discourage to see even the youngest adolescents at age less than 11, such as the case recently reported in the LP, in one of the nearby primary schools around Vhembe*

district, where a 10 year old mother (child) has given birth to a baby through a caesarean. This is an indication that our policies, government and health providers are failing, not doing enough when you see all these mishaps about these younger girls” (3).

Policies regarding contraceptives should be disseminated to all institutions especially primary and secondary schools, and be made known and available to all nurses responsible for the provision of contraceptive and TOP services.

5 COMPARISONS OF SEMI-STRUCTURED INTERVIEWS’ DATA WITH DATA OBTAINED FROM THE SELF-COMPLETION QUESTIONNAIRES AND WORKSHOPS ACCORDING TO THE MAJOR TENETS OF THE HBM

Table 4: Similarities and differences of findings obtained from semi-structured interviews compared to those obtained from completed questionnaires and from the two workshops, categorised according to the major tenets of the Health Belief Model

TENETS OF THE HEALTH BELIF MODEL	RESULTS FROM THE SELF-COMPLETION QUESTIONNAIRES (n-944)	RESULTS FROM THE WORKSHOPS (n=60)	RESULTES FROM THE SEMI-STRUCTURED INTERVIEWS (n=28)
Perceived susceptibility	50,7% grade 8 male and female and 45,5% grade 12 male and female learners, agreed that they were susceptible to pregnancies, only 18,9%used contraceptives.	Learners did not perceive falling pregnant to be a problem	Nurses reported that learners perceived falling pregnant as no problem.
Perceived	Inconsistent	Limited	Poor utilisation of

benefits	contraceptive use: benefits not valued by learners to prevent pregnancies, STIs and HIV/AIDS	contraceptive knowledge resulted in inability to perceive benefits	contraceptive, learners fail to keep clinic appointments
Perceived barriers	Lacked knowledge, feared infertility death and weight gain. Cultural expectations. Clinic hours	Clinic hours. Contraceptive services are not user-friendly	Learners were negative about contraceptives and clinic hours were difficult.
Perceived cost	Travelling long distances to clinics requires transport money	Transport costs	Nurses agreed that clinic hours are user-unfriendly but were unable to work overtime or on Saturdays. Nurses also agreed that some nurses were unfriendly/impolite
Efficacy	Efficient contraceptive use not known nor valued	Emergency contraceptives, IUCDs and TOPs were unknown	Emergency contraceptives, IUCDs and TOPs were not offered to learners by nurses working at clinics
Cues to action	Peer, family and community education: mass media, radio and television should give persistent repeated cues to action to use contraceptives effectively	Health education should begin at the primary school level	Nurses indicated need to give contraceptive education to all learners

5.1 Perceived susceptibility

Nurses were negative about providing emergency contraception and TOPs to learners. According to Anderson, Cox and McKellar (2004:139), perceived susceptibility to pregnancy and its complications influence the behaviours of individuals to use contraceptives effectively. Nurses and other contraceptive providers should intensify health education to make secondary school learners aware that they are susceptible to pregnancies, STIs and HIV/AIDS and that all these can be prevented by using condoms effectively.

5.2 Perceived benefits

Perceived benefits are beliefs about the effectiveness of recommended preventive health actions that are taken consistently. The professional nurses indicated that adolescents were not consistent contraceptive users, and that they did not keep their clinic appointments. Many secondary school learners in the LP had limited knowledge about contraceptives.

5.3 Perceived barriers

Findings from the semi-structured interviews conducted with the nurses, support secondary school learners' reports that some nurses were unfriendly and impolite to learners who requested contraceptives. The nurses reported many barriers that impact negatively on the contraceptive services rendered by them, including the lack of support from management and from nursing colleagues, lack of resources such as female condoms, stock depletions of pills and injections, and shortages of nurses. According to Bonino (2005:44), barriers to contraceptive practices pose challenges for learners' utilisation of contraceptives. Clinic hours, coinciding with school hours, posed a major barrier to many learners to obtain contraceptives, as indicated by data obtained from completed questionnaires, during the workshops with learners and during the semi-structured interviews conducted with nurses in the LP.

5.4 Perceived cost

Travelling long distances to the clinics to obtain contraceptives and the associated costs, was indicated as a barrier to effective utilisation of contraceptives by both nurses and learners.

5.5 Efficacy

Emergency contraceptives, IUCDs and TOPs were not regarded as being efficient pregnancy prevention mechanisms. Most nurses recommended contraceptive pills and injections (but NOT Depot Porvera for nulliparous learners) for the learners.

5.6 Cues to action

In order to initiate and sustain health protective actions, such as using condoms or contraceptives effectively, learners require sufficient knowledge to make informed decisions about their own and their children's lives. Effective knowledge should enable the learners to decide if, when and how often they will bear children. Being knowledgeable about HIV/AIDS might enable learners to use condoms effectively to prevent pregnancies and STIs (including HIV/AIDS) provided that the condoms' quality is of an approved standard. Doubting the quality of free condoms, does not act as a cue to action to use condoms consistently and effectively.

6 CONCLUDING REMARKS

This annexure presented the results of the semi-structured interviews conducted with 28 nurses providing contraceptive and TOP services in the LP. Most nurses would recommend contraceptive injections and pills to learners and would only issue 10 condoms per learner per visit. They did not justify the maximum number of 10 condoms issued. However, both learners and nurses

indicated that many learners had to pay transport costs to get to their nearest clinics to obtain contraceptives (including condoms). With regard to TOPs, some nurses experienced moral problems in providing TOP and emergency contraceptive services, especially to learners. The learners also indicated that the nurses did not inform them about TOPs nor about emergency contraceptives. It appeared as if the clinics did not have clear guidelines about providing contraceptive, emergency contraceptive and TOP services.

7 LIST OF REFERENCES

- Anderson, AS, Cox, DN & McKellar, S. 2005. Barriers to contraceptive use: a critical review of recent literature. *Journal of Psychology* 14(6):133-140.
- Bloor, M, Frankland, J, Thomas, M & Robson, K. 2001. *Focus Groups in social Research*. London: Sage.
- Bonino, S. 2005. *Adolescents and risk: behaviours, functions, and protective factors*. New York: Springer.
- Brink, H. 2006. *Fundamentals of research methodology for health care professionals*. Cape Town: Juta.
- Brink, HIL. 2005. *Research methodology for health care professionals*. Kenwyn: Juta.
- Burns, N & Grove, SK. 2003. *The practice of nursing research: conduct, critique and utilization*. Philadelphia: WB Saunders.
- Burns, N & Grove, SK. 2005. *The practice of nursing research: conduct, critique and utilization*. Philadelphia: WB Saunders.
- De Vos, AS. 2006. *Research at grassroots for the social sciences and human services profession*. 3rd edition. Pretoria: Van Schaik.
- De Vos, AS. 1998. *Research at grassroots for the social sciences and human services profession*. 3rd edition. Pretoria: Van Schaik.
- Dondashe, VL. 2001. *The experiences of registered nurses in the pre-counselling of pregnant women contemplating termination of pregnancy*. Unpublished Masters Dissertation. Port Elizabeth: University of Port Elizabeth.
- Hallette, C. 1997. The use of descriptive statistics in nursing research. *Nurse Researcher* 4(4):5-13.
- Holloway, I & Wheeler, S. 1997. *Qualitative research for nurses*. London: Blackwell Science.
- Holloway, I. 2005. *Qualitative research in health care*. London: Open University Press.
- Krefting, L. 1990. Rigor in qualitative research: the assessment of the trustworthiness. *The American Journal of Occupational Therapy* 45(3).
- Kvale, S. 1996. *Interviews: an introduction to qualitative research interviewing*. London: Sage.

- Lincoln, YS & Guba, EG. 1985. *Naturalistic enquiry*. London: Sage.
- Lobiondo-Wood, G & Harber, J. 2002. *Nursing research methods: critical appraisal and utilization*. 5th edition. St Louis: CV Mosby.
- Marshall, SL & Rossman, GB. 1999. Where nurses stand on abortion. *RN*, 62(3): 44-48.
- Muller, M, Bezuidenhout, M & Jooste, K. 2006. *Health care service management*. Lansdowne: Juta.
- Ndlovu, MP. 1999. *An exploratory study of nurses' experiences in assisting with termination of pregnancy in South Africa & Zambia*. Unpublished Masters Dissertation. Bellville: University of the Western Cape.
- Pherson, HB. 2000. *Low risk of mortality and morbidity by surgical approach to tubal sterilisation*. Cochrane library. Issue 4. Oxford: Update software.
- Polit, DF & Hungler, BP. 2004. *Essentials of nursing research: methods, appraisal and utilization*. 2nd edition. Philadelphia: JB Lippincott.
- Pope, C & Mays, N. 2006. *Qualitative research in health care*: 3rd edition. Oxford: Blackwell Science.
- Schneider, Z, Elliott, D, LoBiondo-Wood, G & Haber, J. 2003. *Nursing research methods: critical appraisal and utilization*. 2nd edition. St Louis: CV Mosby.
- Streubert Speziale, HJ & Carpenter, DR. 2003. *Qualitative research in nursing: advancing the humanistic imperative*. 3rd edition. Philadelphia: JB Lippincott.
- Tesch, R. 1992. *Qualitative research: analysis types and soft tools*. New York: Falmer Press.
- Wilson, HS. 1998. *Research in nursing*. 2nd edition. Pretoria: Kagiso Tertiary.
- Wood, K & Jewkes, R. 2000. Blood blockages and scolding nurses: barriers to effective contraceptive use among teenagers in South Africa. *Medical Research Council Technical Reports*:1-27.
- World Health Organization. 2004. *Antenatal care report of a technical working group on reproductive health and research*. Geneva: WHO.

=====