

FACTORS CONTRIBUTING TO PREGNANCIES AMONG STUDENT NURSES AT A NURSING COLLEGE IN MPUMALANGA PROVINCE, SOUTH AFRICA

Zungu L.I. (PhD)
University South Africa
Department of Health Studies
Email : zunguli@unisa.ac.za – **Corresponding author**

Manyisa Z.M. (MPH)
University of Limpopo, Medunsa Campus
Department of Nursing

ABSTRACT

In South Africa, unplanned pregnancies, especially in black communities remain a challenge. This survey was conducted at a nursing college in South Africa to identify and describe factors that contributed to pregnancies among student nurses enrolled at this college. A quantitative descriptive survey was done by using self-administered questionnaires. Seventy-seven female students of the targeted nursing college enrolled for the year 2006, completed questionnaires but only 75 of the returned questionnaires were usable.

Of the respondents, 90.7% (n=68) were sexually active and 61.3% (n=46) had already experienced pregnancies and parenting due to ignorance, contraception failure, non-utilisation of contraceptives and the desire to have children. The effective use of contraceptive methods could reduce the rate of unplanned pregnancies among female student nurses enrolled at this college. Early sexual debuts and the contraceptives used were the main factors that contributed to pregnancies among students at the targeted nursing college.

KEYWORDS: Student nurse, nursing college, contraception, South Africa, unplanned pregnancies.

INTRODUCTION

Teenage pregnancy in South Africa, especially in the black communities, remains a challenge. Studies conducted in South Africa indicated that rural adolescents tend to start childbearing earlier than urban adolescents (National Department of Health, 2002). The increase in sexual activity among adolescents and the failure to use effective contraception result in large numbers of pregnancies among young females (Zimmerman, 2003).

In South Africa the incidence of teenage pregnancy is escalating and a third of all pregnancies occurred in women under the age of nineteen years (Department of Health, 2002). According to a study conducted by Kaufman, De Wet and Stadler (2001), 30–40% of 19 year old girls in South Africa had given birth at least once. It has been estimated that about 60% of all unplanned pregnancies globally, occur among women between the ages of 15-29 years (WHO, 2002).

BACKGROUND TO THE PROBLEM

Like any other students at tertiary institutions, student nurses also engage in self-destructive behaviours such as alcohol abuse, drug abuse, multiple sexual partners and unprotected sexual intercourse, which might lead to sexually transmitted infections, HIV and unplanned pregnancies. Schools and tertiary education institutions are ideal settings for offering health promotion programmes like family planning in order to influence the youth (students) to adopt healthy lifestyle behaviours.

Despite the availability of various methods of contraception which include emergency contraceptives, and which are offered free of charge at all public clinics and hospitals, and also the availability of the legal termination of pregnancy (TOP) services in South Africa, unplanned pregnancies remain a problem among student nurses at the college under study. The results of a prospective intervention study conducted in the two largest hospitals in Zimbabwe revealed that unplanned pregnancies could be reduced through post abortion contraception (Johnson, Ndlovu & Chipato, 2002).

In South Africa most pregnant student nurses encountered academic problems as a result of their pregnancies, and they also delayed seeking antenatal care services which predisposed them to pregnancy-related complications (Netshikweta & Ehlers, 2002). The authors recognised the need to promote the utilisation of reproductive health services by student nurses so that they can promote the availability and utilisation of such services to their clients, and plan their own pregnancies.

Fear of infertility might be associated with a reluctance to use contraceptives due to socio-cultural values related to sexuality and child bearing (Aziken, Okonta & Adedapo, 2003). A number of researchers have reported a high prevalence of unintended pregnancies in the black population of South Africa (Boult & Cunningham, 1996; Garenne, Tollman, Kahn, Collins, & Ngwenya, 2001).

AIM OF THE STUDY

The aim of the study was to identify and describe factors that contributed to pregnancies among student nurses at a targeted nursing college in South Africa.

STUDY OBJECTIVES

The objectives of this study were to:

- Identify and describe factors contributing to the occurrence of pregnancies among student nurses at the targeted college.
- Determine the relationship between demographic characteristics, social, contraceptive and personal behaviours as well as institutional factors associated with unplanned pregnancies.

DEFINITION OF KEY CONCEPTS

Pregnancy

Pregnancy refers to a state of carrying a developing embryo or foetus within the female body. It is also defined as a condition from conception to the expulsion of the foetus (Bailliere's Nurses Dictionary, 1996).

Pregnancy lasts for about nine months and is measured from the first date of the woman's last normal menstrual period. It is conventionally divided into three trimesters, each lasting about three months. In this study, pregnancy referred to the condition from conception, the development of the foetus, and the delivery of the new born baby.

Unplanned pregnancy

Unplanned pregnancy refers to a pregnancy that occurred without advanced planning. In this study, an unplanned pregnancy referred to a pregnancy that occurred whilst studying at the targeted nursing college, for the student nurse who did not plan a specific pregnancy in advance.

Student nurse

Student nurse refers to a student in a programme leading to certification or qualification as a registered nurse. In this study, a student nurse referred to a female individual registered with the South African Nursing Council under section 23 of the Nursing Act, No 50 of 1978, as amended, and registered at the targeted nursing college as a student nurse.

Nursing college

Nursing college refers to a post-secondary educational institution, which offers professional nursing education at basic and post-basic levels where such nursing education has been approved in terms of section 15(2) of the Government Notice No R425 (South

Africa Nursing Council, 1985). In this study, a nursing college referred to an institution located in Mpumalanga Province which provides basic nursing education and training.

Contraception

Contraception refers to measures/methods to prevent conception without abstaining from sexual intercourse in order to prevent unplanned pregnancies. This can be in the form of medication (pills/tablets or injections), devices such as intra-uterine devices or barrier methods such as male and female condoms, (Mosby's Medical, Nursing & Allied Health Dictionary, 2002). In this study, contraception referred to techniques or devices that student nurses at the targeted nursing college, could use to prevent unplanned pregnancies.

FACTORS CONTRIBUTING TO UNPLANNED PREGNANCIES

Every year, three million women find themselves with unplanned pregnancies usually at a time that interferes with their careers, settled family lives, new marriages or education. Unplanned pregnancies account for 60% of all pregnancies and they happen to women in various age groups (Lee-Rife, 2004). South Africa has one of the highest rates of adolescent pregnancies in the world. More than 35% of South African adolescents became pregnant before the age of 20 and more than 30% had given birth at least once before they were 20 years old (Lee-Rife, 2004).

Lack of information

Lack of sex education, inadequate access to reliable contraception, poverty, limited education and substance abuse have been identified as factors contributing to the high rate of pregnancy among the youth (Gordon et al., 2000; Department of Health, 2002; Grant & Hallman, 2006). Messages portrayed in cinemas and on television might appear to promote premarital sex without dealing with disease prevention and contraception. Those adolescents who acknowledge their sexual activities and obtain contraception might not be well motivated, and might overestimate the risks associated with oral contraception and therefore use less effective forms of contraception or discontinue its use altogether (Department of Health, 2002).

Studies done in developed countries suggest that young women who are enrolled in school are less likely to be sexually active, less likely to begin childbearing, and more likely to use contraceptives compared to those who leave school earlier. School enrolment could be any protective and structured setting in which young persons receive support and develop their capabilities and knowledge (Grant & Hallman, 2006).

The use of contraceptives is viewed negatively by society because of a belief that the availability of information regarding contraception might encourage sexual activities among young people. However, studies have shown that the availability of contraception neither discourages initiation of sexual activities nor increases the frequency of sexual intercourse among teenagers (Hayes et al., 2000). Delayed marriages combined with early sexual intercourse also contribute to unplanned pregnancies.

Lack of commitment

A study on causes of unplanned pregnancies by Furedi (2004), revealed that a lack of commitment to avoid pregnancies among couples was another cause of unplanned pregnancies. In a situation where there is a lack of commitment to avoid pregnancies, one partner can manipulate risks for accidental pregnancies to occur.

Unplanned pregnancies among those women who have never had children can also occur as a consequence of a woman's insecurity and fears about her own fertility. Women are likely to experience unplanned pregnancies, as they tend to develop irrational beliefs that they might be infertile and stop using contraceptives (Furedi, 2004). Men might deliberately create situations where unprotected sex is likely such as by deliberately 'forgetting' to buy condoms and insisting that if they have sex he will withdraw before ejaculation and then he gets 'carried away' (Furedi, 2004).

Failure and/or incorrect use of contraception

Nearly half of all unplanned pregnancies occur among women who reported using some form of contraception. Inconsistent or incorrect use of contraception is the major cause of such contraception failures. User knowledge, motivation and ability, co-operation of the partner, the cost, comfort, and ease of use of a particular contraceptive method, and individual concerns about side effects or safety are all important determinants of compliance with a chosen method of contraception (Zimmerman, 2003; Lee-Rife, 2004).

Some studies have also revealed that those women who have experienced unplanned pregnancies are at greater risk for subsequent unplanned pregnancies. Clinicians need to counsel these women and help them find a method that works for them and encourage its effective use (WHO, 2002). Attitudes towards and availability of condoms may also affect individuals' effective use of condoms.

Unavailability of emergency contraception pills

According to Brening, Dalve-Endress & Patrick, (2001) college students in the United States revealed that failure to distribute emergency contraception pills in college health

centers was a major factor contributing to unplanned pregnancies. Lack of access to contraceptive services could lead to unplanned pregnancies or unsafely induced abortions, thus increasing the risk of complications among these women (Johnson et al., 2002).

Socio-economic status

Research suggests that sexual risk taking has many non-sexual consequences such as poor academic performance and early school leaving, while unplanned pregnancy is strongly associated with low economic status (Grant & Hallman, 2006).

RESEARCH METHODOLOGY

Study design

A contextual quantitative descriptive survey was conducted in order to identify and describe factors that contributed to pregnancies among student nurses enrolled at the targeted college in 2006. Quantitative surveys allow for precise measurement and quantification of phenomena under study, thus direct questioning can be used to obtain data about activities, beliefs and practices of the study population (Polit & Beck, 2004).

Study population

The study population consisted of all female students of all ages enrolled at the targeted institution for the year 2006. A total of 395 female students were enrolled at this college in 2006 from different levels of study, with 168 students in their first year of study, 71 were second years, 67 third years and 89 fourth years.

Sample

A convenient sampling method was adopted for this study. The inclusion criteria were female student nurses of all age groups, who attended mandatory nursing classes during the period of data collection, and who were pregnant during their training.

Research instrument

A self-administered questionnaire was used to collect data. It was pre-tested on five student nurses who did not participate in the actual study. It comprised six sections requesting demographic information from respondents; focusing on sexual behaviours of respondents that contributed to their pregnancies; addressing the contraceptive methods used by respondents; identifying personal factors that contributed to respondents' preg-

nancies; addressing potential institutional factors that contributed to their pregnancies and identifying any other factors that contributed to their pregnancies.

Data collection procedure

Questionnaires were distributed among participants during their mandatory class attendance at the participating college. It took 30-45 minutes for participants to complete the questionnaires and they handed them back to the researcher immediately upon completion.

Ethical considerations

Permission and approval to conduct the study were sought from the Research Ethics Committee of the University of Limpopo (Medunsa Campus), the Department of Health of the Mpumalanga Province and the principal of the targeted nursing college. Participation was voluntary and informed written consent was obtained from each participant prior to collecting data. Questionnaires were not linked to the signed informed consent in order to maintain anonymity. Human rights, anonymity (students' names were not used) and confidentiality were maintained throughout the study.

VALIDITY AND RELIABILITY OF THE STUDY

Validity refers "to the degree to which an instrument measures what it is supposed to measure, given the context in which it is applied" (Brink, 1996). In this study validity was ensured by involving the statistician to assess and promote face and content validity of the questionnaire.

Reliability refers to the degree to which a particular technique would yield similar results when repeatedly applied to a similar context (Babbie & Mouton, 2003). In this study, the questionnaire was pre-tested among student nurses from a nursing college in Gauteng province. This was done in order to refine the instrument and to make it more user friendly.

RESEARCH RESULTS

Seventy-seven participants completed questionnaires, but 97.4% (n=75) were usable.

Socio-demographic data

The socio-demographic characteristics of the respondents are illustrated in table 1.

Table 1: Socio-demographic characteristics of respondents (n=75)

Characteristics		Frequency (n)	Percentage (%)
Age Group	19-24 years	37	49.3
	25-30 years	38	50.7
Marital status	Single	63	84.0
	Married	12	16.0
Area where respondents grew up	Urban	28	37.3
	Rural	47	62.7
Ethnicity	Zulu	17	22.7
	Xhosa	1	1.3
	SiSwati	30	40.0
	Ndebele	17	22.7
	South Sotho	1	1.3
	North Sotho	6	8.0
	Tswana	2	2.7
	Other	1	1.3
Level of education	1 st Year	25	33.3
	2 nd Year	33	44.0
	3 rd Year	3	4.0
	4 th Year	14	18.7

As seen in table 1, 50.7% (n=38) of the respondents were between the ages of 25-30 years, 84.0% (n=63) were single and 44.0% (n=33) were second year student nurses, while 33.3% (n=25) were first year student nurses.

Sexual behaviours

Of the respondents 90.7% (n=68) engaged in sexual activities whereas only 9.3% (n=7) indicated that they did not have sexual intercourse. Of the respondents, 44.0% (n=33) had their first sexual experiences when they were between the ages of 19 and 24 years, and 48.0% (n=36) had their first sexual encounters when aged between 25-30 years. However, 2.7% (n=2) reportedly had their sexual debuts when they were younger than 18 years. Table 2 shows what or who influenced them to have sex for the first time.

Seven (9.3%) respondents reportedly never had sex. Reasons included because they wanted to wait until marriage and 4.0% (n=3) did not want to engage in sexual practices because of fears of sexually transmitted infections.

Table 2: Influences regarding sex

Influenced by	Frequency (n)	Percentage (%)
Friends	22	29.3
Brothers and sisters	4	5.3
Video and TV	6	8.0
Other	38	50.7
• It was the right time	10	13.3
• Wanted to have experience	12	16.0
• Physical development and feelings	6	8.0
• Found the right person	8	10.7
• Boy friend's convincing influence	2	2.7

Two respondents (2.7%) indicated that it was against their religion and one (1.3%) indicated that she did not yet meet the right person. Reportedly 36.0% (n=27) of the respondents engaged in sexual intercourse more than ten times during the preceding six months, 20.0% (n=15) had sex between 6-10 times, 18.7 (n=14) had sex 2-5 times, only 6.7% (n=5) had sexual intercourse once, and 4.0% (n=3) never had sex in this period. Most respondents reportedly had only one sex partner during the preceding six months (85.0%; n=57). However, reportedly 11.9% had two sex partners during the preceding twelve months.

Table 3: Number of sexual partners

Number of sexual partners	Last 6 months(n=68)		Last 12 months(n=67)	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1 person	60	88.2	57	85.0
2 persons	4	5.9	8	11.9
More than 4	1	1.5	-	-
Not sure	-	-	1	1.5
Didn't have any sexual partners	3	4.4	1	1.5

Contraceptive behaviours

Only 50.7% (n=38) respondents indicated that they were using one or two contraceptive methods, 40.0% (n=30) did not use any contraceptives and 9.3% (n=7) abstained. When asked about the reasons for not using contraception, 25.3% (n=19) stated they were using condoms, 8.0% (n=6) did not want to use any method of contraception, 4.0% (n=3) wanted to conceive, 2.7% (n=2) did not want to use contraception because of the risk of complications. Of the respondents 37.3% (n=28) declared injections as their choice

of contraception followed by condoms for 30.7% (n=23) and pills for 22.7 % (n=17). Respondents obtained condoms, from the local clinics 38.7% (n=29) or from chemists, shops and friends 61.3% (n=46). Although 58.7% (n=44) of the respondents tried to convince their partners to use condoms, 20.5% (n=9) of them did not succeed.

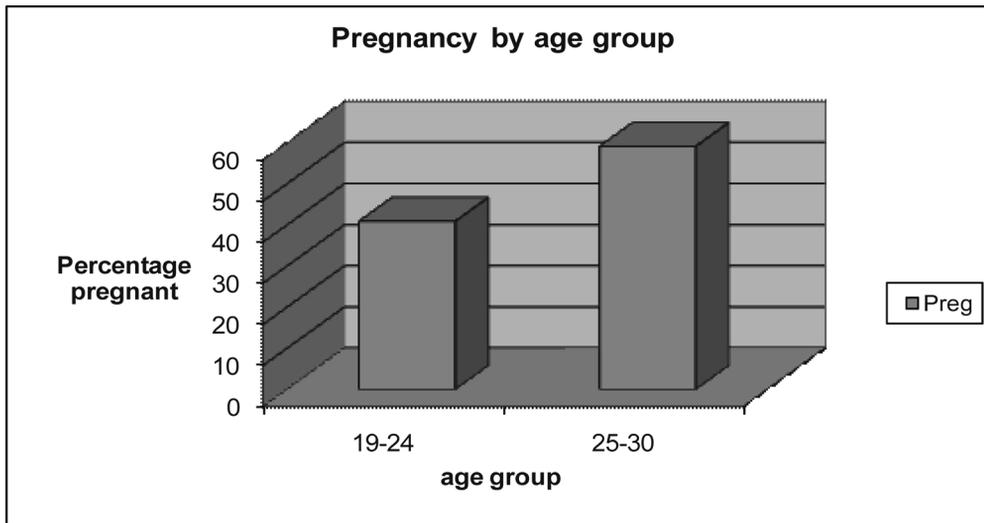
Personal factors

With regard to personal factors, 53.3% (n=40) of the respondents did not receive sexual counselling, only 40.0% (n=30) of them had done so. Of these 30 respondents 33.3% (n=10) were counseled by their parents, 20.0% (n=9) received sex education through radios/televisions, 16.7% (n=5) were offered counseling in schools, 13.3% (n=4) by friends and 13.3% (n=4) received counselling from local clinics. When respondents were asked about the role of their cultures regarding pregnancies before marriage, 41.3% (n=31) indicated that their culture did not accept pregnancy before marriage, 12.0% (n=9) disclosed that in their culture if a girl gets pregnant the boyfriend has to pay for the damages, 6.7% (n=5) stated that the pregnancy brought embarrassment to the family and the girl was isolated. Only 5.3% (n=4) of the respondents declared that their cultural beliefs played no role in this matter while another 5.3% (n=4) indicated that culturally, sex was not allowed before marriage.

Institutional factors

Respondents were asked about the status of counselling and family planning services in their institution with regards to availability, accessibility, adequacy and service efficiency. The majority (76.0%; n=57) stated that there were no family planning or counselling services available in their institution, only 21.3% (n=16) thought that the services were available, accessible, adequate and efficient, while only 2.7%(n=2) failed to answer the question.

Figure 1: Rate of pregnancy by age group



The results as depicted in figure 1 indicate that 58.7% (n=44) of the respondents who experienced pregnancies during their training were aged 25-30 years.

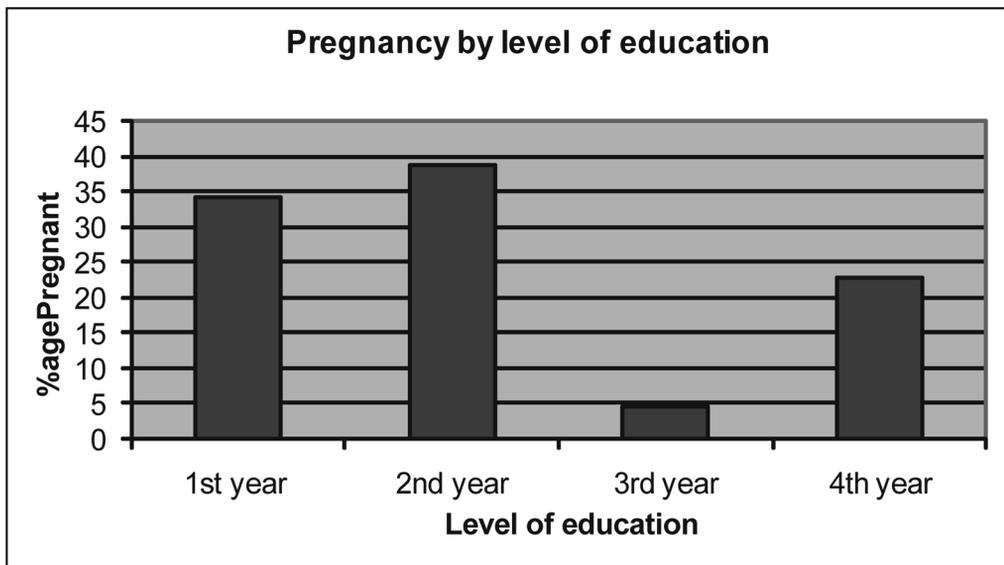


Figure 2: Pregnancy by level of education

As depicted in figure 2, the largest number of pregnancies 38.7% (n=29) occurred among the second year student nurses.

Reactions to and causes of their pregnancies

Out of the 75 respondents, who experienced pregnancies prior to and during their training, 25.3% (n=19) indicated that they were disappointed, 13.3% (n=10) were shocked, 8.0% (n=6) were afraid, and 8.0% (n=6) were glad and 2.7% (n=2) did not know what their reactions were. Reportedly 26.7% (n=20) of the respondents stated that it was due to ignorance on their part, 10.7% (n=8) stated that they did not want to use contraception, another 10.7% (n=8) thought other causes like contraceptive failures, refusal by boyfriends at the last moment to use condoms or breaking of condoms or using expired condoms led to their pregnancies.

DISCUSSION OF FINDINGS

Socio-demographic characteristics

According to the results, respondents were between the ages of 19-30 years; and most were second year student nurses.

Relationship between selected variables and pregnancy

Associations between the various independent variables (sexual debut, method of contraception) and the outcome variable (pregnancy) of the study are shown in table 4.

As shown in table 4, only the following three variables out of eleven were significant:

- Age at first sex meaning the association between age at first sex has a significant association with getting pregnant ($p=0.008$)
- Method of contraception is also significantly associated with getting pregnant ($p=0.001$)
- Using condoms as contraception is also significantly associated with pregnancy ($p=0.038$).

Such findings are coherent with the ones revealed by Furedi (2004) and Brening et al (2001). Also the results of the study conducted in Zambia by Peltzer and Likwa (1993), showed that sexual socialisation, knowledge of and attitudes towards contraception and also socio-economic factors were associated with unplanned pregnancies.

Table 4: Relationship between selected variables and pregnancy

Variables		Pregnancy				P value
		Yes		No		
		(n)	(%)	(n)	(%)	
Age group	19-24	18	48.6	19	51.4	0.082
	25-30	26	68.4	12	31.6	
Level of study	Basic	32	72.7	26	83.9	0.256
	Adv.	10	27.3	5	16.0	
Age at first sex	≤8yrs	25	56.8	8	25.8	0.008*
	19-30 yrs	19	43.2	23	74.2	
Influence to have sex	Peers/video, TV	18	40.9	10	32.3	0.446
	Others	26	59.1	21	67.3	
Sexual encounters in last 6 months	1-5	9	23.7	10	43.5	0.106
	6 and more	29	76.3	13	56.5	
No of sex partners in last 12 months	1	39	88.6	28	90.3	0.816
	More than 1	5	11.4	3	9.7	
Method of contraception	Pills	5	11.9	3	10.0	0.001*
	Injection	14	33.3	0	0	
	IUCD	2	4.8	0	0	
	Others	7	16.7	9	30.0	
Used condom	Yes	11	25.0	6	19.4	.038*
	No	33	75.0	25	80.6	
Received sexual counselling	Yes	21	47.7	14	45.2	.826
	No	23	52.3	17	54.8	
Role of culture	Does not accept sex/ pregnancy before marriage	19	43.2	15	48.4	0.471
	Not significant	25	56.8	16	51.6	
Counselling and family planning services in institution	Available, accessible and adequate	16	23.3	6	20.6	0.741
	No services	33	76.7	24	80.4	

The sign* is placed next to p values ≤ 0.05

Sexual behaviours

The results of this study revealed that 90.7% (n=68) of these student nurses were sexu-

ally active and that 40.0% (n=30) of them were reluctant to use contraception. Furthermore the majority of student nurses in this study engaged in unprotected sex and seldomly used condoms. Early sexual debuts and sexual coercion and exploitation contribute to unplanned pregnancies (Gage, 2000).

Institutional factors

According to the results, institutional factors such as inadequate reproductive health information and lack of family planning services on campus contributed to unplanned pregnancies among student nurses. Such findings concur with those by Gage (2000) which identified the lack of access to appropriate health care services are to be a contributory factor to unplanned pregnancies.

Personal factors

The results revealed that cultural and socio-economic factors made it difficult for respondents to use effective contraceptive. Conversely, Gage (2000) identified the lack of knowledge about reproductive health matters and peer group pressure as factors contributing to unplanned pregnancies among the targeted population.

CONCLUSION

Some obstacles to successful contraceptive use were related to access and some were institutional, personal, psychosocial, socio-cultural, and partner related.

LIMITATIONS OF THE STUDY

This study only concentrated on female student nurses at one college and could not explore the views of male students on the same topic or those of students at other tertiary education institutions.

Most questions focused on issues that related to reproduction and sexuality which might have been sensitive issues for some individuals. Some respondents were not keen to reveal information regarding sexual issues.

The retrieval of completed questionnaires was a serious challenge for the researcher. A total of 77 questionnaires were returned. Some respondents decided not to return the questionnaires while some only returned the signed consent form in the sealed envelope without the questionnaire. Some chose to return the questionnaires without completing them, providing irrelevant answers or providing no answers at all.

RECOMMENDATIONS

A need for support that will reduce the incidence of unplanned pregnancies among student nurses is essential, by implementing the following recommendations:

- User-friendly counselling centres need to be established on the college campus.
- Programmes such as “The Postponing” or “Reducing the Risk” curriculum, which combine sexuality education, delaying sexual involvement, social skills training and practice in applying skills with comprehensive information about contraceptives should be incorporated into the college curriculum at first year level.
- Providing help lines, leaflets, booklets and magazine articles on family planning could help to disseminate information to students.
- Condoms should be available on campus by placing condom dispensing machines in toilets and residences so that those who need them might have easy access to them at convenient times.
- Co-operation with the nearest clinic should be established so that students can have ready access to contraceptives and emergency contraceptives.
- Specific lecturers could volunteer or be assigned to counsel students about contraceptives and emergency contraceptive issues.
- Contraceptive issues should be addressed in the college curriculum during the first “block” period of the students and be re-enforced at regular intervals.
- Encouraging the delay of the first sexual intercourse is important because an older age is positively associated with more stable relationships, fewer partners, and an increased likelihood of contraceptive use. Furthermore, there is a need for future studies to address the issue of emergency contraceptives
- Students who have delivered babies could also be trained to counsel other students about pregnancy and child care issues.

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