

PREVENTION OF TEENAGE PREGNANCIES IN SOSHANGUVE, SOUTH AFRICA: USING THE JOHNSON BEHAVIOURAL SYSTEM MODEL

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ABSTRACT

This study explored teenagers' knowledge and perceptions regarding teenage pregnancy by using the Johnson Behavioural System Model. The increase in the termination of pregnancies in the study area, and the lack of guidelines for registered professional nurses to prevent teenage pregnancies, were reasons for undertaking this study. The research design was contextual, exploratory and qualitative in nature. The study participants were female teenagers using the participating primary healthcare (PHC) clinic's services. Semi-structured interviews were conducted with 30 teenagers. The findings indicated that most teenagers' sexuality education occurred at school and at home but on a very superficial and non-specific level. Although schools offered sexuality education, some teenagers became sexually active before they received any such education. Teenagers had unprotected sexual intercourse despite their awareness of contraceptives to prevent pregnancy. Most pregnant participants regarded their pregnancies as mistakes and the lack of communication about sexual issues with their parents presented problems. Recommendations and guidelines, addressing factors contributing to teenage pregnancies, are provided. These focus on the four chosen subsystems of the Johnson Behavioural System Model including the attachment system, dependency subsystem, achievement subsystem and sexual subsystem and guide the registered nurse to assess the drive, set and choices the teenager has and not just the observable behaviour, the pregnancy. If the registered nurse does not understand the drive underpinning the behaviour of the teenager, her counselling might focus only on the behaviour and be ineffective.

KEYWORDS: Johnson Behavioural System Model, prevention of teenage pregnancies, guidelines for preventing teenage pregnancies, teenage pregnancies in South Africa

INTRODUCTION

Teenage pregnancy remains a major multi-factor problem in many countries, requiring multi-factor solutions (Kluge, 2006). Earlier maturation and increased sexual activities amongst teenagers contribute to the high rates of teenage pregnancies amongst 13 to 19 year olds in many countries (Kalil & Kunz, 2002:1149). Teenage pregnancy contributes 11% of global births and seven countries, Bangladesh, Brazil, the Democratic Republic of the Congo, Ethiopia, India, Nigeria and the United States of America, account for half of all teenage births (Braine, 2009:410).

Most teenage pregnancies are unintended and teenagers are not equipped for responsible parenthood. The prevention of teenage pregnancy, through effective and appropriate services for teenagers, is essential and a national health priority. There are schools in South Africa where 60.0% to 70.0% of pupils are reportedly pregnant. In one particular township in Gauteng Province, 71.0% of female pupils were pregnant at a specific school (Integrated Regional Research Networks, Africa, 2011). The South African Department of Health (2007) reported that 7% of teenage pregnancies occurred amongst 15 to 16 year olds with 93% in the 17 to 19 year age group.

BACKGROUND TO THE STUDY

The motivation for conducting this study was twofold, the increase in terminations of pregnancies in the Soshanguve area and the lack of guidelines for health professionals to prevent teenage pregnancies. The number of pregnancies amongst teenagers in Soshanguve schools and in these environments concerned parents, teachers, health professionals and community leaders.

Therefore the research questions of the study were:

Using the Johnson Behavioural System Model as the basis, what are the:

- perspectives and knowledge of teenagers, living in Soshanguve, with regard to teenage pregnancy
- the prevention or termination of teenage pregnancy and
- what guidelines can be developed to assist health professionals to prevent unwanted teenage pregnancies?

PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of the study was to reduce the number of unwanted teenage pregnancies by empowering health professionals to assist with the prevention of unplanned teenage pregnancies. The study had three specific objectives based on Johnson's Behavioural Systems Model, which were to:

- explore the knowledge and perceptions of teenagers regarding teenage pregnancy
- explore the knowledge and perceptions of teenagers regarding the prevention or termination of pregnancy and
- provide guidelines to prevent unwanted teenage pregnancies based on the evidence generated in the study as well as national and international research reports.

Theoretical basis of the study

The theory used in this study was the Johnson Behavioural System Model (Johnson, 1990) which is based on the notion that nurses should use the behavioural system as their knowledge base, comparable to the biological system that physicians use as their knowledge base. According to Johnson, nursing care facilitates the client's maintenance of a state of equilibrium and clients are stressed by a stimulus of an internal or external nature. Johnson categorised all human behaviour into seven subsystems, with the idea that all the patterned, repetitive, purposeful ways of behaving, which characterise each person's life, produce an organised and integrated whole or system, which can be predicted and ordered. Each subsystem is composed of a set of behavioural responses or tendencies, which share a common goal and a lack of balance in the requirements of the seven subsystems leads to poor health. The seven systems are attachment and affiliation, dependency, elimination, sexuality, ingestion, aggression and achievement.

According to Lobo (2002:158), Johnson developed four assumptions about the structure and function of each subsystem:

- Drive. The drive is inferred from the form the behaviour takes and the consequences it achieves. The ultimate goal of each subsystem is the same for all individuals but the methods used may differ.
- Set. Every individual has a predisposition to achieve a goal, in certain ways rather than in other ways. Johnson explains that each individual will rate the available options and choose the most desirable one.
- Choices. Each subsystem has a number of possible choices. Choices develop as the individual matures and so the more mature an individual, the more options will be available. Johnson emphasises that the actions which the individual chooses to achieve his/her goal might not be acceptable or might not meet society's norms.
- Observable behaviour. The subsystems produce observable outcomes, which are the individual's behaviour, which allows the outsider (the registered nurse) to note the actions the individual is taking to reach a goal.

Each subsystem has three functional requirements namely - protection, nurturing and stimulation. The role of the registered nurse may be described in terms of these functional requirements. The subsystems must be protected from harmful influences and must be nurtured through appropriate inputs from the environment. The subsystem

must be stimulated to facilitate growth and prevent stagnation and if these requirements are met, the subsystems are regarded as being self-maintaining and self-perpetuating. An imbalance in any of the behavioural subsystems results in disequilibrium and it is therefore the health professional's role to assist the individual to return to a state of equilibrium (Lobo, 2002:168). For this study, the sexual, achievement, aggressive and dependency subsystems were used.

RESEARCH METHODS AND DESIGN

Research setting

The study was based in Soshanguve, a township situated approximately 45 kilometres north of Tshwane, in the Gauteng Province of South Africa. According to Statistics South Africa (2001), the population of Soshanguve was approximately 311 000 people, with the highest proportion being the 20 to 29 year age group (22.2%), followed by the 10 to 19 year age group (21.3%).

Research design

The design of the study was qualitative exploratory (Polit & Beck, 2008) with a quantitative component to survey the demographic data of the sample.

Population, sample and sampling method

The target population for this study comprised female teenagers in the primary healthcare (PHC) catchment area of a specific PHC clinic in the study area. Teenagers who attended the clinic for ante or post-natal care, family planning services or termination of pregnancy services were invited to participate in the study. The sampling method for the study was purposive. The inclusion criteria for the study were female teenagers aged 14-19, willing to participate, pregnant or had babies, had used termination of pregnancy services, were using contraception and using a specific PHC clinic in the study area. The sample size was determined by saturation of data which was realised when 30 participants had been interviewed; 25 interviews were analysed with new categories and five interviews analysed without new categories emerging.

Data collection

Due to the qualitative nature of the data, semi-structured interviews were conducted as a self-report technique. An interview schedule was developed based on the chosen four subsystems of the Johnson's Behavioural Systems Model and demographic information of the participants.

Data analysis

A combination of three qualitative data analysis methods were used, including a template analysis style combined with open coding (Creswell, 2003) and quasi-statistics (Polit & Beck, 2008). The template analysis style was chosen to accommodate the interview themes based on the theoretical foundation for the study. The quantitative data were analysed with descriptive statistics.

Trustworthiness

Trustworthiness in this study was established according to the strategies promoted by Lincoln and Guba, (1985) which included gaining trust and creating rapport, triangulation of data gathering methods, analysis and member checking. To reduce bias during data analysis, an independent coder was used.

Ethical considerations

The Research Ethics Committee of Tshwane University of Technology, Gauteng Department of Health and the Facility Manager of the PHC clinic approved the study. Each participant's rights were explained and informed consent and assent (for participants younger than 18 years) were obtained, as well as permission to use an audio recorder. To ensure privacy during the interview, a private room at the clinic was used. All the participants were interviewed within a period of three months (August to October 2009).

FINDINGS OF THE STUDY

Demographic profile

As many as 22 participants were pregnant previously or pregnant at the time of data gathering, eight participants had never been pregnant as they were using contraceptives and were sexually active. Of the 22 participants who were or had been pregnant, 12 decided not to abort the pregnancy with 10 deciding to use termination of pregnancy services. Most of the participants (77.0%; n = 23) were aged 18 to 19 with 6.0 % (n = 6) being between 16 and 17 years of age. The majority of participants were single (84.0 %; n = 26) but 23.0% (n = 7) already had one child, although most participants (83.0 %; n = 25) had no personal monthly incomes.

Qualitative findings

The findings of the study are presented according to the main themes and initial categories.

Table 1: Main themes and categories generated from the data

Main themes	Categories
Family background	Residence Family stability Socio-economic situation
Family and partner’s attitude towards pregnancy	Disclosure of pregnancy Family reaction towards pregnancy Partner’s reaction towards pregnancy
Sexual development and relationship history	Age at menarche Sexuality education and source of knowledge Perceptions about sexual intercourse Age of sexual debuts and reasons for sexual relationships Frequency of sexual intercourse Experience of sexual abuse
High risk behaviour	Number of sexual partners History of unprotected sexual intercourse History of smoking and alcohol use
Prevention of pregnancy	Knowledge of contraceptives and sources of such knowledge Contraceptive use and barriers
Pregnancy history	Reason for getting pregnant Reactions towards pregnancy Number of pregnancies Reason for keeping the pregnancy
Termination of pregnancy	Knowledge about the termination of pregnancies Reasons for terminating a pregnancy Perceptions about terminations of pregnancies Pregnancy terminations: decision and history
Dependence and achievement	Source of sustenance Self-rated academic abilities and future aspirations Hope of attaining an academic degree

Each theme is described with a summary of the categories.

Family background

The majority (90.0 %; n = 28) of the participants lived with their families, either with a single or both parents, siblings or grandparents. Just less than half (43.0 %; n = 14) of the participants had one parent who was employed.

Family and partner’s attitude towards the pregnancy

Most of the pregnant teenage (16 out of 22) participants disclosed the pregnancy first to their boyfriends, while three confided in their sisters and friends. One participant explained:

“I informed my boyfriend first because I want to abort the pregnancy so my parents are not aware, not even my sister. You see my family is so spiritual, if they know they are going to give me stress.”

Almost half of the parents (10 out of 22) were unaware of their daughters’ pregnancies, while seven parents were disappointed. In terms of the partner, half (11 out of 22) were angry:

“I first informed my boyfriend about my pregnancy but he was very angry, he said I should have used tablets, he is not ready to father a child now.”

Sexual development and relationship history

Almost half of the participants (43.0 %; n = 13) had their menarche between the ages of 15 and 16, with 37.0% (n = 10) at 13 to 14 years of age. Frequent sources of sexual education were school and home. However, the content focused on menstruation as a sign of womanhood, ‘sleeping (playing) with a boy,’ HIV and AIDS. One participant explained:

“My parents told me that if I sleep with a man I can get pregnant, when I was 14 years. I was also taught during my Grade 10 about pregnancy, condom and other things but that was when I have already had a child.” Not all were taught however: “At home nobody talks to me about sex even at school I was not taught.”

The lack of communication about sexuality by parents presented problems.

Exploring the perceptions of the participants about sexual intercourse revealed that 43.0 % (n = 13) perceived sexual intercourse as something not good for them. Almost half (47.0 %; n = 14) reported the frequency of their sexual intercourse to be once a week. One participant indicated:

“For now, I don’t think it is good for me to have sex, at first I was enjoying it, I thought I was in heaven but seeing what it has done to me I don’t think it is good.”

High risk behaviour

Only 27.0 % (n = 8) reported a history of having multiple sexual partners, whilst some reported having unprotected sexual intercourse despite their awareness of contraceptives. None of the participants had a prior history of smoking, with 40.0 % (n = 12) using alcohol. Some responses were:

“I have dated more than one boyfriend at a time, you know because of the gifts I am receiving from them like chocolate and money.”

and

“Yes I am having sex without a condom, well I do not know why but maybe it is because I have ended up trusting him, you know when you are dating someone for long it will not be a problem to have sex without condom.”

Reasons for pregnancies

The reasons for becoming pregnant, of participants who were previously or currently pregnant, were explored to understand their reasons. The majority (91.0 %; n = 20) felt being pregnant was a mistake, whilst 59.0 % (n = 13) reported they were sad or upset about their pregnancies. Some narratives were:

“I did not know what was happening, I felt like I was dreaming that it was not happening to me because I did not expect being pregnant at 14 years, it was a big mistake.”

“I was upset because I was not sure that I will fall pregnant because I did not use protection for some time and I did not fall pregnant.”

Termination of pregnancy

All the participants (n = 30) had prior knowledge of termination of pregnancy services. Participants were asked if they would terminate their pregnancies, to explore their acceptance of the procedure. One third of the group (37.0 %; n = 16) indicated that they would terminate a pregnancy. One response was:

“Yes, I can terminate a pregnancy if I do not want it, actually I am presently considering going for it.”

Some of the reasons offered were:

“I have to think of my future, I am still studying I cannot have a baby now.”

“I decided to have an abortion because my boyfriend does not want the baby, he refused to take responsibility. I cannot do it on my own.”

“I decided to have an abortion because I am scared of my parents they may kick me out of the house and I cannot survive that.”

Exploring the teenagers’ perceptions regarding termination, revealed conflicting views:

“I do not think pregnancy termination is a nice thing to do, it is killing another life.”

“I am just fine although I feel a bit guilty that I am killing my own child.”

“I do not think abortion is a good thing because you do not know if this is going to be your last baby and also the risk involved. I think as girls we are risking our lives.”

Out of the 10 participants who decided to terminate their pregnancies, nine made the decision themselves while one adolescent's mother was involved in the decision.

Dependence and achievement

Two-thirds of the sample (n = 20) indicated being dependent on their family for sustenance. When asked to rate their academic and future aspirations, 53.0 % (n = 16) rated themselves to be average or below average:

"I can rate my academic ability as below average."

"No, I am not planning of going back to school."

DISCUSSION

One of the developmental tasks of teenagers is learning sexual behaviour so, being involved in sexual experimentation is not surprising. The teenage period is a time of sexual exploration and development of gender identity. Securing and maintaining sexual relationships is usually important for an individual's self-evaluation. Many teenagers described sexual intercourse as playing or as something to do when no other activities are available or to enjoy during spare time (Jewkes & Christofides, 2008:5).

Teenage pregnancy is still a common occurrence in many developing countries and a child born to a teenager is considered a blessing in some contexts (Whitehead, 2007:148). Teenage pregnancy is, however, not uniformly considered as a blessing in South Africa. Lack of information and the absence of a knowledgeable support system could leave the teenager in an unprotected situation. Johnson (Lobo, 2002:158) listed protection as a functional requirement for the behavioural subsystems. Though some families were disappointed about their daughters' pregnancies, little or no knowledge transfer occurred to protect the teenager from becoming pregnant. Grandmothers, mothers and partners perpetuated misconceptions such as infertility due to contraception or abortion (Jewkes, Vundule, Maforah & Jordaan, 2001:734).

Family background characteristics of teenagers living in the study area indicated that most came from low socio-economic backgrounds, reported to increase the risk of teenage pregnancies (Jewkes & Christofides, 2008:5). According to the Johnson's Behavioural System Model (Holaday, 2005:83) attachment is the basis for a teenager's social systems. It is associated with the development of interpersonal relationships with significant others such as parents and peers. The need for attachment is the basic reason why teenagers seek sexual relationships in order to establish interpersonal relationships. Attachment also determines a teenager's ability to survive and to enjoy adequate security. Several participants mentioned the gifts they received from their boyfriends

as well as the importance of associating these gifts with romance and in maintaining the relationship. It could be argued, however, that for a teenager with few choices to control her environment, the reception of the gift might be a goal to be obtained through the sexual subsystem, the only system where the teenager has final control. Johnson explains that the affiliative subsystem allows social inclusion and intimacy and if this is the goal of the teenager, she might choose to use her sexuality to achieve her goal.

Johnson highlighted that the behaviour to achieve the goal might be socially unacceptable or not within society's norms (Lobo, 2002:157-158). If the drive of the teenager is to 'fit in' and the most important group to fit into is the peer group, the behavioural norms of that group will displace that of culture and the family. If moving to adulthood includes challenging rules and testing norms, and given the importance of the peer group, the teenager's drive for inclusion and intimacy with very few choices available to achieve the goal, using the sexual subsystem will be an obvious choice.

According to the Johnson's Behavioural System Model (Holaday, 2005:107) the sexual subsystem has to do with behaviours that facilitate understanding the self as a sexual being with the function of procreation which includes several sexual role behaviours as well as fulfilling expectations that has to do with one's sex. Sexual behaviour determines teenagers' ability to develop their self-identity based on gender and recognition of themselves as sexual beings. As a result, they try to establish meaningful relationships in order to obtain sexual gratification and this can result in pregnancy leading to behavioural system imbalance. It is important to know the teenagers' sexual development and relationship history as well as their pregnancy history as these findings will help to provide the type of nursing care interventions that can serve as guidelines (through behavioural system balance restoration) to prevent the occurrence of teenage pregnancies.

Contraceptives are widely available in South Africa, but young teenagers might find it difficult to access contraceptives, as some healthcare providers might be unwilling to provide contraceptives to teenagers, while others might display negative attitudes, actions that could prevent teenagers from using the services. This was confirmed by participants in this study. A teenager's positive previous experience with a healthcare provider can instil confidence and familiarity with the services and will encourage its use in the future. All the participants were knowledgeable about termination of pregnancy services. Although contraceptives are available free of charge throughout South Africa, the number of requests for termination of pregnancy services continues to increase (Mbokane & Ehlers, 2007:43). A possible explanation from the Johnson's Behavioural Systems Model (Lobo, 2002:158) is that the drive or goal of the teenager with the sexual relationship was inclusion and intimacy, not the pregnancy. The pregnancy represents a barrier to her dependency subsystem because if her parents and/or partner did not

approve of the pregnancy, she would lose their support. The partner's goal is frequently the sexual relationship, not a long-term commitment.

In relation to the Johnson's Behavioural System Model (Holaday, 2005:106), attachment is the ability of a teenager to master or control herself and her environment in order to achieve the desired expectation of life, including setting short and long term goals, building up personal strength and being knowledgeable about her weaknesses. A teenager's desire to be in a relationship in order to achieve a sense of belonging can result in an unplanned and unwanted pregnancy and this can affect her ability to achieve her desired expectations in life thus leading to a behavioural system imbalance. In order to help teenagers implement health promoting behaviour that will achieve both their short and long-term goals, it is necessary to understand how they are planning to prevent pregnancies. In the case of an unplanned pregnancy, the objective is to restore the person's behavioural system balance by assisting the teenager to achieve a more optimal level of functioning.

GUIDELINES TO PREVENT UNWANTED TEENAGE PREGNANCIES

Based on the chosen four subsystems, the following guidelines were generated:

Guidelines developed from the Attachment subsystem:

- The registered nurse should understand that, in terms of teenage pregnancy, the peer group influencing the teenager includes both genders and counselling should include both males and females.
- The maturing teenager may have developed more choices which may be used to focus the teenager's behavioural system to prevent an unwanted pregnancy.

Guidelines developed from the Dependency subsystem:

- Due to the prevalence of low socio-economic backgrounds of pregnant teenagers, the registered nurse should understand the need of the teenager to secure nurturing behaviour (receiving gifts) from others. Teenage counselling should include the possible long-term consequences of this drive in a teenager from a poor socio-economic background.
- The drive underpinning the dependency subsystem is approval and attention. The teenager might not contest unsafe sexual practices if her goal is approval and attention. If the registered nurse does not understand the drive underpinning the behaviour of the teenager, her counselling might focus only on the behaviour and be ineffective.
- Registered professional nurses should highlight the importance of quality parent-child relationships, including educating parents to demonstrate love and affection

to their children, provide adequate information about sexuality matters, serving as good role models and communicating effectively with all persons visiting the clinic.

Guidelines developed from the Sexual subsystem:

- Registered professional nurses should ensure that teenagers visiting the clinic are well informed about their sexuality. The content should include clear information about the risks of unprotected sex, sexually transmitted infections, teenage pregnancies, advantages of effective contraceptive use, dangers of substance abuse and the desirability of sexual abstinence.
- Registered professional nurses need to ensure that education programmes are provided at all times for teenagers at the clinics. There should be a supportive peer group programme in all clinics and teenagers should be encouraged to join the group, with focus on protection, nurturing and stimulation of teenagers to enhance the balance of their different behavioural subsystems.
- Registered nurses, while counselling teenagers, should focus on teenagers' short term gratification of goals and the limited choices available to ensure such gratification. The reality of being pregnant will only be real once it has happened.
- The goal of the sexual subsystem is acceptance and recognition by both the female and male peer group.

Guidelines developed from the Achievement subsystem:

- Registered professional nurses should emphasise the need for the government and all relevant bodies to provide educational scholarship assistance, career skill programmes and other incentives for teenagers from low-income households to enable them to enter self-sustaining futures and possibly to postpone childbearing until they have mastered some skills and/or acquired some education enabling them to live independent lives.
- The goal of the achievement system is to control the environment; the teenager may use the pregnancy as currency to escape from her own environment. If this is her goal, the only choice she might have is her ability to produce a child. She might use the pregnancy to achieve a better socio-economic status for herself. If the registered nurse only focuses on the behavioural outcome, the pregnancy, without understanding the teenager's goal and lack of choices, her counselling might be ineffective.

CONCLUSION

The study provided evidence of the applicability of the Johnson Behavioural Systems Model to the prevention of teenage pregnancies. Without understanding the teenager's drive, set, choice and behavioural outcome, prevention interventions and health education focus only on the outcome, and will be ineffective. The health service should add a choice to the teenager, not pose a barrier for those with limited choices. If the role of the health professional caring for teenagers is based on protection, nurturing and

stimulation, the different departure point might help to provide an alternative outcome to a teenage pregnancy.

RECOMMENDATIONS

Recommendations for nursing practice are as follows:

- Using Johnson's Behavioural Systems Model as basis, the registered nurse must assess the teenagers in terms of their drives, sets, choices and behavioural outcomes when providing counselling to prevent teenage pregnancies. Focusing only on behaviour will result in the teenager feeling misunderstood and rejecting the counselling.
- The registered nurse must mould her nursing practice in terms of the functional requirements of the behavioural subsystems namely protection, nurturing and stimulation.
- Although group education should be done to increase teenagers' knowledge regarding their sexuality, becoming pregnant and preventing pregnancy, they should also receive individual counselling to enable the registered nurse to provide counselling specific to each teenager's situation.

LIMITATION

The limitation of the study is the purposive sample of teenagers (pregnant, previously pregnant or using contraceptives to prevent pregnancies) living in Soshanguve, hence the results are not generalisable to a larger context.

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