

**FACTORS INFLUENCING THE ADOLESCENT PREGNANCY RATE IN THE
GREATER GIYANI MUNICIPALITY, LIMPOPO PROVINCE**

by

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Dedication

This study is dedicated to

*Elías, my husband, for his unconditional support, and Nkhensani,
Xivono and Nkavelo, my children,
for their understanding and support*

Student number: 3162-245-3

DECLARATION

I declare that **Factors influencing the adolescent pregnancy rate in the Greater Giyani Municipality, 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

Lenny Tina Mushwana

DATE

ACKNOWLEDGEMENTS

My thanks and praise to God, my Creator and Father, without whose grace and blessing I would not have completed this study.

There is an African saying, *Motho ke motho ka batho babang* (A person is a person because of other people). A dissertation is also not the work of the writer alone, therefore my thanks and appreciation to the following:

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ABSTRACT

This quantitative, explorative and descriptive survey attempted to determine factors that influence the adolescent pregnancy rate in the Greater Giyani Municipality. Data were gathered from adolescent girls attending four selected high schools. Non-probability convenient sample of 147 respondents was used with 100% return rate. Data was collected using a questionnaire which had a reliability of 0.65. Data were analysed using the SAS/Basic computer program, version 9.2. Findings indicated that 56.34% of respondents reported key psychosocial variables such as peer pressure and 58.90% of them changed values as contributory to high pregnancy rates. Health services were reported as not freely available and relationships with nurses significantly cited as poor by 72.41% respondents with regard to maintenance of confidentiality. Recommendations were made to improve school health services, reproductive education and future research.

Key words

Adolescent, factors, influencing, pregnancy rate

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List of abbreviations

ABC	-	Abstain, Be faithful, Condomise
AIDS	-	Acquired Immunodeficiency Syndrome
ANC	-	African National Congress
ANC	-	Antenatal visit
CRC	-	Convention on the Rights of Children
CTOP	-	Choice on Termination of Pregnancy
DOH		Department of Health
EC	-	Emergency contraceptives
ECPs	-	Emergency contraceptives pills
FGM	-	Female Genital Mutilation
HCP		Health Care Provider
HIV	-	Human Immunodeficiency Syndrome
HPV	-	Human Papilloma virus
LO	-	Life Orientation
NAFCI	-	National Adolescent Friendly Clinic Initiative
PHC	-	Primary Health Care
SA	-	South Africa
SABC	-	South African Broadcasting Cooperation
SAS	-	Statistical Analysis System
STIs	-	Sexually Transmitted Infections
STDs		Sexually Transmitted Diseases
TOP	-	Termination of Pregnancy
USA		United States of America
VCT	-	Voluntary Counselling and Testing
WHO	-	World Health Organization

List of annexures

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CHAPTER 1

Orientation to the study

1.1 INTRODUCTION

Adolescent pregnancy brings change to adolescents' lives and, in most instances, in a negative way. The World Health Organization (WHO) (cited in Foy & Dickson-Tetteh 2001:28) defines adolescents as persons between the ages of 10 and 19 years. Adolescence is characterised by rapid physical growth and development, with notable emotional and social changes (Foy & Dickson-Tetteh 2001:28). A great challenge in this stage of development is that new feelings emerge, friends assume greater importance, and interest in the opposite sex increases (Foy & Dickson-Tetteh 2001:28). According to Erikson's theory of psychosocial development, children from 12 into their teenage years face a psychosocial crisis known as identity versus role confusion, and adolescent pregnancy often results. Superego has less power to control society's moral rules such as engaging in sexual issues before marriage. The reason for this is that during this stage there is sexual attraction towards a person of opposite sex (Shaffer & Kipp 2007:45).

Adolescent pregnancy has risen at an alarming rate in South African society (Dommissie 2007:1). In 2006, 5 868 pupils in KwaZulu-Natal, about 5 000 in Limpopo, 2 542 in Gauteng and 1 748 in the Free State fell pregnant (Dommissie 2007:1). According to the Department of Education, more than 72 000 female learners did not attend school in 2006 due to pregnancy (Ramcharan 2007:1).

Limpopo province had the second highest rate in adolescent pregnancy. At the same time, it should be noted that while Kwazulu-Natal had a higher rate, Kwazulu-Natal is bigger than Limpopo province. The researcher therefore, considered it necessary to undertake a study to identify factors influencing adolescent pregnancy rates in Limpopo.

1.2 BACKGROUND TO THE PROBLEM

A research problem is “an enigmatic, perplexing, or troubling condition. The research problem is identified within a broad topic area of interest. The purpose of research is to solve the problem or to contribute to its solution by accumulating relevant information (Polit & Beck 2008:81).

Research topics originate with researchers’ interest and clinical experience, nursing literature, social issues, theories, and suggestions from others might fuel researchers’ curiosity (Polit & Beck 2008:82). Brink, Van Der Walt and Van Rensburg (2006:59) as well as Burns and Grove (2009:70) point out those research problems develop from sources such as clinical practice, literature, theory and interactions with colleagues.

The researcher is a nurse educator who frequently accompanies students to different clinical areas. During accompaniment of students, the researcher noted with concern that several of the women visiting the antenatal clinics were adolescents. This prompted the researcher to undertake a literature search on adolescent pregnancy in Limpopo province. Khoza (2004:6) found an alarming incidence of teenage pregnancy among school-going adolescents in the Greater Tzaneen municipality area. Matlala (2009:6) reports that the number of adolescent pregnancies in Limpopo provincial schools had doubled in a short time and by November 2008, three out of 10 girls in one school in the province were pregnant. This information on adolescents’ pregnancy further prompted the researcher to engage in a study in the Greater Giyani municipality area.

Adolescent pregnancy implies that adolescent girls enter into motherhood early. Besides entering into early motherhood, various negative social consequences frequently also accompany adolescent pregnancy. Cunningham and Boulton (1996:2) found that the main social consequences of teenage pregnancy are school dropout or interrupted education; vulnerability to criminal activity; abortion; social ostracism; child neglect and abandonment; lack of social security; poverty; repeat pregnancies before age 20, and negative effects on domestic life.

In 1994, the African National Congress (ANC) government (ANC 1994:9) introduced a national health plan for South Africa. Adolescent pregnancy hinders national health

through the negative consequences of contracting sexually transmitted infections (STIs) such as pelvic inflammatory diseases, gonorrhoea and Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS), a disease that can lead to death (Pregnancy period 2009:1).

Maluleke (2003:65) points out that the sexuality education, gender and health issues related to puberty rites for girls cover the most important aspects in the prevention of HIV/AIDS. Although this sexuality education and the emphasis on abstinence may bring about some positive change in adolescents' lifestyle, many adolescents still fall pregnant.

Adolescent pregnancy is a worldwide problem. Stepp (2009:1) found that America, New Zealand and Britain have high adolescent pregnancy rates while Venezuela, Mexico, Argentina and South Africa have rates that are between two and four times higher than the United States. South Africa is counted among the lesser developed countries (Stepp 2009:1). Teenage pregnancy is a serious problem in Taiwan as well (Wang, Wang & Hsu 2003:33).

Adolescent pregnancy continues to be a problem despite the availability of different contraceptive methods. In a study in Gauteng Province, South Africa, Maja and Ehlers (2004:46) found that most of the respondents indicated they knew about contraceptive methods and their availability. At the same time, however, a minority did not use contraceptives, despite having regular sex, because of lack of knowledge (Maja & Ehlers 2004:48). In a study to identify factors influencing mothers' non-utilisation of contraceptives, Mbambo, Ehlers and Monareng (2006:26) found that most of the respondents believed that contraceptives prevented pregnancy; some believed that condoms prevented both pregnancy and sexually transmitted infections (STIs), and one believed that contraceptives caused weight gain. Out of the adolescent respondents some had used condoms, injections and contraceptive pills. None had used intrauterine contraceptive devices. Only a few of the respondents indicated that they had used traditional medicines or tying a rope around the waist to prevent conception. Mbambo, Ehlers and Monareng (2006:26) found that underutilisation of contraceptives was a contributory factor in adolescent pregnancy.

Matlala (2009:6) found that the rise in the number of adolescent pregnancies in Limpopo schools was compounded by the fact that some of the pupils were made pregnant by their teachers in exchange for better marks. In 2008 three out of 10 girls in one school in the province were pregnant and the majority of those were in Grade 10 and 12 and between the ages of 16 and 19 Matlala (2009:6). Moreover, the majority of the pupils who were pregnant were from impoverished backgrounds.

In 2009, Munghana reported on the FM radio programme “Current affairs *tiko a xi etleri*” that teenage pregnancy is a grave problem in schools. Of particular concern were two pregnant adolescents who were 12 and 13 years old and in Grade 6 and 7, respectively, in the Tzaneen area. In addition, an adolescent in Grade 8 finished writing exams on a Friday and gave birth to a baby on the following Saturday (Munghana Lonene, 13 November 2009, 18:00).

The Greater Giyani Municipality bi-annual report, 2010-2011 indicated the number of pregnant adolescents treated at the local health care facilities (see table 1.1 and 1.2).

Table 1.1 Number of adolescent pregnancies for greater Giyani municipality, 2010

Month	Local Hospital TOPs	Giyani local area	Kremetart local area	Dzumeri local area	Basani local area	Total
July	7	4	1	6	2	20
August	7	10	3	7	3	30
September	5	5	3	14	12	39
October	-	6	1	30	2	39
November	7	5	2	11	3	28
December	3	13	7	24	4	51
TOTAL	29	43	17	92	26	207

Table 1.2 Number of adolescent pregnancies for greater Giyani municipality 2011

Month	Giyani local area	Kremetart local area	Dzumeri local area	Basani local area	Total
January	4	4	6	4	18
February	4	2	5	4	15
March	7	5	4	4	20
April	14	6	9	9	38
May	4	5	5	7	21
June	8	2	2	5	17
July	5	1	6	4	16
August	5	2	8	1	16
September	7	2	7	3	19
October	4	6	7	5	22
November	3	2	6	4	15
December	3	4	7	2	16
Total	72	52	41	68	233

Table 1.1 and 1.2 reflect the number of adolescents treated at the antenatal clinics from January to June, 2010 and January to December, 2011. The numbers reflected under the local hospital indicated terminated pregnancies performed at the hospital in terms of the *Choice on Termination of Pregnancy (CTOP) Act, 92 of 1996* for each month. The primary health care (PHC) consists of four local areas. Under each local area are clinics and health centres. Figures under each local area indicate the number of adolescent pregnancies for each month from different clinics and health centres in that area. A total 114 of 207 adolescent pregnancies were reported for the areas in 2010 for a period of six months and however, only 233 in 2011 for the whole year period. Although there was an evident discrepancy in the statistics with an evident decrease in pregnancy rate in 2011, it could be due to various reasons because of the difference in time period when these statistics were compiled. This picture needs a follow up through research to identify circumstances or conditions that contribute to such an occurrence.

Besides entering into early motherhood, various negative social consequences accompany adolescent pregnancy (Cunningham & Boulton 1996:2), including

- school dropout or interrupted education due to pregnancy
- vulnerability to criminal activity for financial support

- abortion due to fear of lack of financial support for the baby.
- social ostracism from friends and other community members as a result of falling pregnant at an early age
- child neglect and abandonment due to fear of becoming a mother at early stage.
- school adjustment difficulties for the adolescents' children
- lack of social security in cases where parental psychological and social support is absent
- poverty
- repeat pregnancies before age 20, in case the adolescent was comfortable with the pregnancy

In 2001, the Department of Health (DOH) introduced *Policy guidelines for youth and adolescent health* aimed at preventing unwanted teenage pregnancies. The strategies (DOH 2001:40) include:

- Creating a safe and supportive environment by promoting delayed child bearing.
- Encouraging public debate on sexual and reproductive health, among other things, and providing information through multimedia methods.
- Building skills relevant to sexual health and counselling with a focus on peer counselling programmes for in- and out-of-school adolescents.
- Improving access to health services and the integration of sexual and reproductive health services.

These intervention strategies are available at youth clinics in Mopani district, where the main focus is on adolescent pregnancy, HIV/AIDS and STIs (DOH 2001). The intervention settings for adolescent health are home, school, health facilities, workplace, street, community-based organisations and residential centres. The PHC services presently focus on schools and health facilities in Mopani district. Despite government efforts to promote health, however, adolescent pregnancy remains a problem in the Mopani district.

1.3 STATEMENT OF THE PROBLEM

Teachers in high schools report that learners do not come to school or leave school early to go and collect child support grants, and many become pregnant so that they can collect child support grants as well. Many adolescents who drop out of school due to pregnancy are eventually forced into marriage. Amongst the dropouts some will manage to return to school while others will be dropouts for life (Brink, Van der Walt & Van Rensburg 2008:5).

As a community member in the Greater Giyani municipality and a nurse educator who frequently accompanies students to different clinical areas, the researcher observed with concern the number of adolescents attending antenatal clinics.

1.4 PURPOSE OF THE STUDY

The purpose of the study was to identify issues, reasons or circumstances that contribute to high pregnancy rates especially among school-going adolescents in the Greater Giyani municipality.

1.4.1 Research question

In order to achieve the purpose, the study wished to answer the following research question:

What factors influence adolescent pregnancy rates in Greater Giyani municipality?

1.4.2 Research objectives

The objectives of the study were to:

- Explore and describe factors, issues, reasons and circumstances that contribute to high pregnancy rates among adolescents.
- Develop a research poster for dissemination of results to interested groups.

1.5 SIGNIFICANCE OF THE STUDY

The results of the study will provide information that will assist in creating awareness amongst teenagers about the phenomenon. The results will assist with appropriate content to improve health education and health promotion programmes on sexuality education in schools. This education should include cost-effective and effective counselling by health care providers. Information could be disseminated to health care providers through in-service education.

The information will be forwarded to PHC clinics as well as neighbouring colleges, so that it may form part of clinic and school health promotion programmes. The findings may be utilised to develop related information brochures and pamphlets for schools, health centres and clinics.

1.6 THEORETICAL FRAMEWORK OF THE STUDY

Theories and conceptual models in research attempt to make research findings meaningful and generalisable. They stimulate research and extension of knowledge by providing both direction and impetus. Theories and conceptual models form the foundation or springboard for advancing knowledge and accumulation of evidence for practice (Polit & Beck 2008:144-145). Theory in a study can be in the form of a theoretical or conceptual framework.

In quantitative research researchers can use formal theory, a model or a conceptual framework as the basis of the study. Polit and Beck (2008:142) refer to a framework as “the conceptual underpinnings of a study, often called a theoretical framework which may also be a formal theory, a model, or a conceptual framework”. Burns and Grove (2009:126) define a framework as “an abstract, logical structure of meaning. A framework guides the development of the study and enables a person to link the findings to the body of knowledge used in nursing.”

This study was based on Bandura’s (2001:1-26) social cognitive theory because the aim of this study was to explore and describe factors that influence adolescent pregnancy rates in order to contribute to the improvement of quality of life for

adolescents. Social cognitive theory addresses concepts such as environment, situation, behavioural capability, self-control, expectancies, observational learning, and self-efficacy.

Bandura (2001:1) defines *environment* as factors that can affect a person's behaviour. The environment can be social or physical. The social environment includes family members, friends and colleagues. The type of environment relevant to the study is social because adolescents are in constant interaction with family members, friends and peers at school. Behavioural capability means that if a person is to perform behaviour that person must know what the behaviour is and have the skills to perform it. Expectancies refer to the values that the person places on a given outcome, incentives, and present outcomes of change that have functional meaning. Observational learning occurs when a person watches another's actions and the reinforcement that the person receives. Self-efficacy refers to the person's confidence in performing a particular behaviour (Bandura 2001:6; Resource Centre for Adolescent Pregnancy Prevention 2011:2).

Peer group pressure and pressure from older friends impact on adolescents' behaviour negatively, thereby changing the expected behaviour by parents and community. Social cognitive theory could assist in modifying adolescents' behaviour because it hypothesizes that a reduction in risk-taking behaviour is possible depending on the action taken to reduce the behaviour (Resource Centre for Adolescent Pregnancy Prevention 2012:2).

The theoretical framework is based on meta-theoretical assumptions about the environment, situation, behavioural capability, self-control, expectancies, observational learning, and self-efficacy.

1.6.1 Meta-theoretical assumptions

Assumptions are "basic principles that are believed to be true without proof or verification" (Polit & Beck 2008:14). Burns and Grove (2009:40) describe assumptions as "statements that are taken for granted or are considered to be true, even though they have not been scientifically tested". Sources of assumptions include universally

accepted truths, theories, previous research, and nursing practice. In research, assumptions are embedded in the philosophical base of the framework (Burns & Grove 2009:40). Assumptions influence the logic of the study, and their recognition provides rigorous development of the study.

Quantitative research is based on the positivist paradigm hence the assumptions are ontological, epistemological, and methodological (Polit & Beck 2008:15).

1.6.1.1 *Ontological*

Ontological assumptions include assumptions about human nature, society, the nature of history, the status of mental entities, observable and material phenomena, and causality and intentionality in human action behaviour (Mouton 1994:124). This study was based on the following ontological assumptions (Resource Centre for Adolescent Pregnancy Prevention 2011:1):

- Their social and physical environment affects adolescents' behaviour given the situation that they find themselves in.
- Adolescents learn either positive or negative behaviours from the social environment which impacts their lives either negatively or positively.
- Adolescents' behaviour capability depends on the impact of their observational learning.

1.6.1.2 *Epistemological*

Epistemological assumptions are assumptions about the nature of knowledge and science or the content of truth and related ideas (Mouton 1994:123). This study was based on the epistemological assumptions that adolescents are (Burns & Grove 2009:41):

- Human beings who are in constant interaction with their environment.
- Human beings who are sexually active and whose reactions to sexual desires or choices may lead to adolescence pregnancy.
- Aware of the experiences that mostly affect their life choices.

1.6.1.3 Methodological

Mouton (1994:124) states that assumptions are “assumptions about the nature of the research process and the most appropriate methods to be used; about the relative worth of quantitative and qualitative methods; about interpretation versus explanation, and about the ideal of universal statements versus specific and local generalisations”.

The study followed a quantitative approach with an explorative descriptive design:

- Quantitative research is most often associated with precise measurement of phenomena and quantifications, often involving controlling designs (Polit & Beck 2008:763).
- Quantitative studies allow for generalisability of the results.
- Quantitative research employs deductive reasoning strategies which move from the general premise to a particular situation or conclusion (Burns & Grove 2007:17).
- Explorative and descriptive research designs aim at portraying and exploring people’s views and knowledge of a particular phenomenon accurately.
- Quantitative studies are based on theoretical or conceptual frameworks.

1.7 RESEARCH DESIGN

A research design refers to those “groups of small, worked-out formulas from which prospective quantitative researchers can select one that is suitable to their specific research questions and objectives” (Fouché & De Vos 2005:133). The quantitative approach was used to conduct a survey on the phenomenon of interest. A non-experimental, exploratory and descriptive research design was used to identify and describe the factors that contribute to or influence the high rates of pregnancy among adolescents in the Greater Giyani municipality.

LoBiondo-Wood and Haber (2006:240) describe exploratory, descriptive, and comparative surveys as designs where there is collection of detailed descriptions of existing variables. Data is used to justify and assess current conditions and practices or to make more plans for improving health care practices.

The study was conducted in three phases as evidenced in figure 1.1

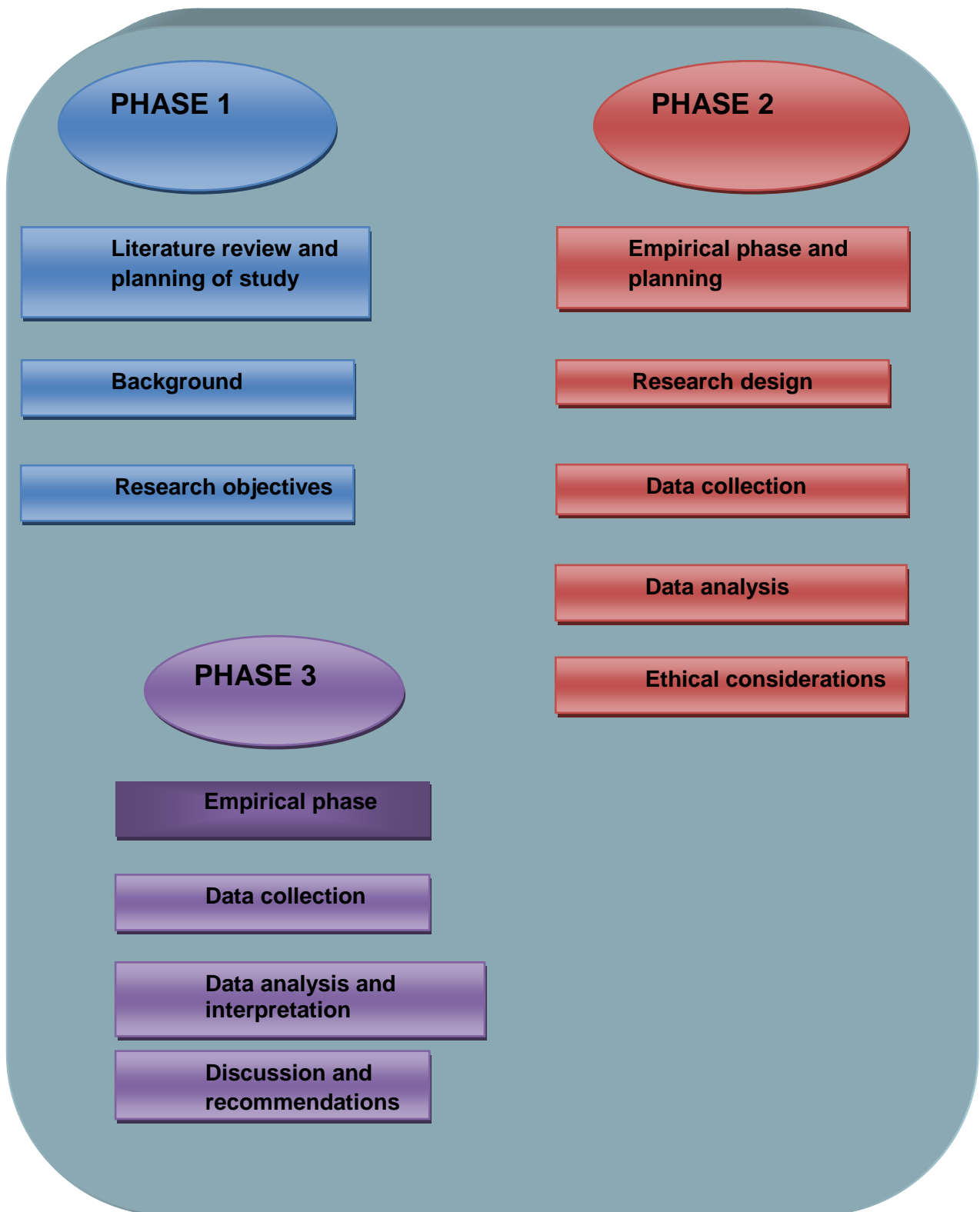


Figure 1.1 Phases of the research

The research phases were planned in such a way that phases 1 focused on background reading through literature review and formulation of the research question and objectives. The second research phase was an engagement with the initial processes of data collection and analysis. Maintaining validity and reliability as well as ensuring ethical considerations in relation to the rights of study context, respondents and scientific integrity. Phase 3 entailed the final empirical steps of data collection, analysis and discussion of results with relevant recommendations.

1.8 RESEARCH METHODOLOGY

Research methods are “the steps, procedures, and strategies for gathering and analysing data in the study” (Polit & Beck 2008:758). Research methodology is “the process or plan for conducting the specific steps of the study” (Burns & Grove 2009:719). The research methodology includes the population, sampling and technique, sample, and data collection and analysis (Brink et al 2006:191).

1.8.1 Population and sample

The population for this study included all the adolescent girls who were registered learners in local high schools in the Greater Giyani municipality. In the Greater Giyani municipality, high schools are under the control of five school circuits. Each school circuit has schools under its control and supervision. The sample was taken from four high schools in three designated school circuits. A sample comprised adolescents from four high schools of each designated school circuits (see table 4.1). Convenience or accidental sampling was used to select respondents. Convenience/accidental is described by Polit and Beck (2008:341) as the totality of persons, events, organisation unit, case records or other sampling units with which the research problem is concerned and is readily available.

1.8.2 Data collection

Data was collected by means of a structured questionnaire (see chapter 3).

1.8.3 Data analysis

Descriptive and inferential statistics were used for data analysis. Descriptive statistics describe and summarise the data so as to give meaning to the data collected. Inferential statistics estimate how reliable predictions and inferences can be made (LoBiondo-Wood & Haber 2006:358). A statistician analysed the data with the use of the SAS/Basic and SAS/STAT computer program (Polit & Beck 2008: 642).

1.9 VALIDITY AND RELIABILITY

Validity is the degree to which an instrument measures what it is supposed to measure (Polit & Beck 2008:457). The validity of the questionnaire was ensured by focusing on face, content, construct, internal, and external validity. The questionnaire was submitted to the study supervisor as well as experienced school health nurses working with the local schools to ensure that the content of the questionnaire represented the study phenomenon (LoBiondo-Wood & Haber 2006:338). Most of the items on the questionnaire were derived from authentic discipline literature and the suggested theoretical framework of Bandura (2001:9-21)

Reliability is the degree of consistency or dependability with which the instrument measures the attribute it is designed to measure. If the instrument is reliable, the results will be the same each time the test is repeated (Polit & Hungler 1997:308). Cronbach's alpha co-efficient was used to establish the reliability of the instrument. The scale of reliability testing and Cronbach alpha values were in the region of 0.65 which could be regarded as an indicator of internal reliability. However, Polit and Beck (2008:455) argue that the index of internal consistency should range between .00 and 1.00. The higher the reliability coefficient, the more accurate the measurement tool.

1.10 SCOPE AND LIMITATIONS OF THE STUDY

The study focused specifically on adolescents who were high school learners in the local high schools of Greater Giyani Municipality. The sample was small consequently no generalisation of results was possible as the area was contextualised so the findings cannot be applied to other areas. The instrument was newly developed and used for the

first time. Although the scale of reliability testing and Cronbach alpha values were in the region of greater than 0.65 which, according to the statistician, could be regarded as indicators of internal reliability however its reliability was a question in point as indicated by the statistician (Polit & Hungler 1999:418).

1.11 ETHICAL CONSIDERATIONS

Ethics deals with matters of right and wrong. *Collins English Dictionary* (1991:533) defines ethics as “a social, religious, or civil code of behaviour considered correct, esp. that of a particular group, profession, or individual”.

1.11.1 Permission

The researcher obtained written permission from the Department of Health in Limpopo province, the Department of Education District Manager who oversees educational matters in Mopani district, and the Research and Ethics Committee of the University of South Africa at the Department of Health Studies to conduct the study (Polit & Hunger 1999:147) (see annexure A).

1.11.2 Protecting the rights of the participants

The researcher protected the participants' right to confidentiality, anonymity and privacy, and informed consent (Polit & Beck 2008:172). No information could be linked to the respondents. The respondents and their parents/guardians were informed of the purpose and significance of the study. The researcher emphasised that participation was voluntary and that respondents could withdraw from the study at any time should they wish to do so. Both the respondents and their parents/guardians then signed informed consent (Polit & Beck 2008:174).

1.11.3 Scientific integrity of the research

The researcher protected the body of scientific knowledge by ensuring that all information appearing in the study was correctly referenced and sources acknowledged (Brink et al 2006:40).

1.12 DEFINITIONS OF TERMS

For the purposes of this study, the following terms were used as defined below.

- **Adolescent.** Freshwater and Maslin-Prothero (2005:15) define an adolescent as “a person in the developmental stage between childhood and adulthood, who has reached puberty but has not fully matured; usually referred to as a teenager”. According to Gumbiner (2003:18), adolescence is “a stage of life between puberty and maturity that terminates legally at the age of maturity”. In this study *adolescent* referred to girls aged between 10 and 19 years who were developing from childhood into adulthood and who attended the local schools under study.
- **Influence.** *Influence* is the “effect that somebody or something has on the way a person thinks or behaves or on the way that something works or develops” (*Oxford Advanced Learners Dictionary* 2001:614). Chandler and Munday (2011:207) define influence as “the capability to persuade; being able to affect people’s attitudes, values, and/or behaviour due to power, status, knowledge, contacts and/or wealth”. In this study *influence* means factors that influence an adolescent to engage in sexual behaviour which leads to unplanned or planned pregnancy occurring between 10 and 19 years of age.
- **Factor.** A *factor* is something that “contributes to the production of a result, e.g. an agent, constituent, ingredient” (Freshwater and Maslin-Prothero 2005:224). *Collins English Dictionary* (1991:403) defines a *factor* as an element or cause that contributes to a result”. In this study *factor* means a particular situation, condition in the life of a girl between the ages of 10 and 19, such as peer pressure or unfavourable home conditions, which could contribute to adolescent pregnancy.
- **Pregnancy.** Freshwater and Maslin-Prothero (2005:476) defines *pregnancy* as “the state of having a developing embryo or foetus within the body of a woman or adolescent developing inside the body; the state from conception to delivery of the foetus. The normal duration is 280 days (forty weeks or nine months and 7 days) counted from the first day of the last menstrual period.” *Collins English*

Dictionary (1991:1228) defines *pregnancy* as “the state or condition of being pregnant” and *pregnant* as “carrying a foetus or foetuses within the womb”.

In this study *pregnancy* means the state of a high school adolescent between 10 and 19 years of age carrying an unborn child.

- **Rate.** Weller (2009:340) defines *rate* as “speed or frequency with which an event or circumstance occurs per unit of time, population, or other standard of comparison”. *Collins English Dictionary* (1991:1286) defines *rate* as “a quantity or amount considered in relation to or measured against another quantity or amount”.

In this study *rate* means the number of pregnancies of adolescent girls that occurred during the period of the study without considering whether there were too many or few pregnancies for that period.

1.13 OUTLINE OF THE STUDY

Chapter 1 introduced the study, briefly describing the problem, purpose and significance of the study, and the research design and methodology.

Chapter 2 discusses the literature review conducted for the study.

Chapter 3 describes the research design and methodology.

Chapter 4 covers the data analysis and interpretation.

Chapter 5 concludes the study and makes recommendations for practice and further research.

1.14 CONCLUSION

This chapter briefly discussed the research problem, purpose of the study, research design and methodology, assumptions underlying the study, defined key terms and outlined the study.

Chapter 2 discusses the literature review conducted for the study.

CHAPTER 2

Literature review

2.1 INTRODUCTION

A literature review is “an organised critique of the important scholarly literature that supports a study and a key step in the research process” (LoBiondo-Wood & Haber 2006:79). According to LoBiondo-Wood and Haber (2006:80), the major goal of a literature review is to develop a strong knowledge base to carry out research and other scholarly educational and clinical practice activities. A literature review is aimed at “contributing to a clearer understanding of the nature and meaning of the problem that has been identified” (Fouche & Delport 2005:127). According to Stommel and Wills (2004:339), the key sources of a literature review include published literature, such as journal articles, reviewed articles, text books, reports, web sites, other media, and personal communications and other unpublished data. Stommel and Wills (2004:339) state that the purpose of a literature review is “to obtain an adequate understanding of the state of knowledge about a given topic”.

The purpose of the literature review in this study was to explore and describe issues related to pregnancy among high school adolescents for the researcher to acquire a better understanding of the research problem. It was part of the first phase that assisted the researcher to conceptualise the study phenomena.

2.2 THEORIES OFGROWTH AND DEVELOPMENT

Theories play a crucial role in developmental psychology because they describe and explain human development based on a particular view of humankind (Louw, Van Ede & Louw 1998:41). In this study, the researcher focused on theories of development with special emphasis on the stages of development.

2.2.1 Freud's psychosexual theory of development

Freud's psychosexual theory of development comprises personality and the stages of life span (Louw et al 1998:44). The personality concerns the id, ego, and superego as well as the sexual drive, which comprises oral, anal, phallic, latent and genital stages. According to Berk (2007:15), Freud's psychosexual development focuses on sexual impulses. Freud believed that during childhood, sexual impulses shift their focus from the oral to the anal to the genital regions of the body (Berk 2007:15).

2.2.1.1 Freud's theory of the personality

Freud's theory of development includes two elements, namely the development of the structure of the personality and changes in the sexual drive (Louw et al 1998:44). Freud states that the id functions in a primitive way, according to the pleasure principle (Louw et al 1998:44). The ego is a manager to the id, and uses more effective methods to satisfy drives. The superego demands that the ego obey society's morals and rules. The id is present at birth. The ego begins to develop during the first year of life and the superego also begins to develop during the first year of life and by age four or five it reaches the final stage (Louw et al 1998:44). By the time a child enters the adolescent stage, the superego has already been established. However, at a certain stage, the superego has less power to impose society's moral rules such as engaging in sexual issues before marriage. The reason for this is that during this stage there is sexual attraction towards the opposite sex (Louw et al 1998:400).

According to Freud, personality comprises three parts, namely the id, ego and superego. The id is the source of basic biological needs and desires. The ego emerges in early infancy to redirect the id's impulses so that they are discharged in appropriate objects at acceptable times and places. Between 3 and 6 years of age, the superego develops through interaction with the parents, who insists that children conform to the values of the society (Beck 2007:15).

2.2.1.2 Stages of life span

Freud divides the individual's life span into the oral, anal, phallic, latent, and genital stages (Louw et al 1998:44). Adolescents fall into the genital stage. The adolescent stage is identified or recognised by the reliving of the phallic stage where girls envy their father and are jealous of their mother. Girls cope with the experience by identification with their mother, whereas boys develop an Oedipus complex whereby they desire their mother (Louw et al 1998:44). In this stage, however, the adolescent has established a variety of social relationships and is thus able to cope well with reference to ego and superego (Louw et al 1998:43). According to Craig and Baucum (2002:44), the oral stage centres on the lips and mouth. During the anal stage the erogenous zone (area of the body that produces intense gratification) shifts to the region around the anus, and during which toilet training typically occurs in most cultures. Then comes the phallic stage, during which the erogenous zone shifts to the genitals, where it remains for life. After that there is a latency stage during middle childhood when sexual urges become dormant, and finally the true genital stage, which begins at puberty when sexual feelings again become prominent (Craig & Baucum 2001:44).

2.2.2 Erikson's theory

Erikson viewed humans differently from Freud and human development from a modern person-oriented viewpoint (Louw et al 1998:49). According to Erikson, the conscious and the ego are seen as the most important stimulus to development rather than the id and its drives. Erikson also ignored the Oedipus complex and believed that healthy relationships are possible between parents and children (Louw et al 1998:49).

2.2.2.1 Stages of life span

Erikson divides the life span into eight stages. Each stage is characterised by crisis which is a situation in which an individual should orientate self according to two opposing poles, that is opposing interaction between the adolescent and society (Louw et al 1998:51). Each crisis is brought about by interaction between the individual and society. Adolescents fall into the stage of identity versus role confusion. According to Erikson, adolescents have the task of acquiring a feeling of identity. This feeling consists of three components: certainty about one's own characteristics, social identity,

as well as one's own values and ideas. In order to solve the identity crisis, adolescents experiment with various possibilities. Sometimes they revert to earlier identification, sometimes form new identities, or are sometimes inclined to hero worship others, and even sometimes rebel against the norms of society (Louw et al 1998:51).

2.3 ADOLESCENCE

The terms *adolescents* or *teenagers* are used interchangeably throughout the study. Adolescence is a journey from the world of the child to the world of the adult. Foy and Dickson-Tetteth (2001:28) refer to the WHO's (2002) definition of adolescents as "persons between the ages of 10 and 19 years". *Blackwell's Nursing Dictionary* (2005:15) defines an adolescent as "a person in the developmental stage between childhood and adulthood, who has reached puberty but has not fully matured; usually referred to as a teenager". About one fifth of the world's population are adolescents. Four out of five adolescents live in developing countries. According to the WHO (2002:4), adolescence is a time of physical and emotional change as the body matures and the mind becomes more questioning and independent. Adolescents are no longer children but at the same time are not yet adults, and this period of change is full of paradox. Adolescents can look old and mature, but need adult support. Adolescents can put themselves at risk without thinking about the consequences. Biologically they can become fathers and mothers without being ready for responsibility. They feel a growing sense of independence, but depend on adults for their material needs. As they change so their needs change with them (WHO 2002:4).

2.3.1 Sexual maturation

Sexual maturation, which occurs at puberty, is one of the dramatic events in human development (Louw et al 1998:390). According to Louw et al (1998:390), this is an important facet of development and starts during adolescence. There are differences in adolescents' sexual maturation. Some adolescents have bodies that look mature at the early age of 12 and 13 years while others look like 10-year-old children. With regard to sexual maturation, Berk (2007:365) states that rapid body growth is accompanied by changes in physical features related to sexual functioning. Some are called primary sexual characteristics and others are secondary sexual characteristics.

2.3.2 Sexual maturity in girls

Puberty, which denotes sexual maturation in girls, begins when the primary sex characteristics begin to enlarge. At the same time the secondary sex characteristics start to develop. In girls, the appearance of the breast buds is usually the first external sign of sexual maturation, followed by the breast, and the hips starting to broaden. Slight deepening or lowering of the voice and changes in the texture of the skin also occur. The most dramatic and symbolic sign of maturation in girls is the menarche, which is the first menstruation. Menarche usually appears late in comparison with other signs of sexual maturation (Louw et al 1998:390). Craig and Baucum (2002:386) state that menarche, which is the most dramatic and symbolic sign of the girl's changing status, occurs late in the sequence after the peak of the growth spurt. Gaudineau, Ehlinger, Vayssiere, Jouret, Arnaud and Godeau (2010:2) argue that early pubertal development could result in affiliation with older adolescents who often experience increased deviance and substance use. Early matured girls may therefore face pressure to engage in risky behaviours appropriate to their appearance rather than their experience, coping, or cognitive abilities. Adolescents who initiate health risk behaviours at an early age appear to be at greater risk for negative consequences later in life (Gaudineau et al 2010:3).

2.3.3 Adolescent sexuality

During puberty adolescents become aware of their sexuality due to the extensive physical development. Adolescents' newly developed sexuality forms part of their interpersonal relationship. They discover that there is some form of sexual attraction to individuals of the opposite sex. This attraction provides adolescents with an opportunity for a certain degree of sexual gratification and to develop their identity as sexual beings. In a relatively minority group, sexual attraction is focused on members of the same sex (Louw et al 1998:400). Heidi (2008:86) found that many adolescents reported desire, sexual attraction, and a need to be loved or cared about as central to their decision to enter into a sexual relationship.

2.3.4 Adolescent sexual attitudes and behaviour

Adolescent sexual behaviour includes masturbation and sexual activities associated with intimate relationships with persons of the opposite sex. This intimate relationship can be demonstrated by holding hands, kissing, necking, petting and ultimately sexual intercourse (Louw et al 1998:403).

Adolescents are more sexually active (i.e., have sexual intercourse) and are becoming sexually active at a younger age (Louw et al 1998:403). In a study to evaluate sexual activity and contraceptive use among secondary-school students in Slovenia, Pinter, Verdenik, Grebenc and Ceh (2009:128) found that 92% of the respondents were already in love; 87% had kissed; 82% had been on a date; 78% had experienced caressing, and 61% had tried petting. Moreover, 53% had had coitus, and 21% had their first sexual intercourse before the age of 16 (Pinter, Verdenik, Grebenc & Ceh 2009:128). There are various reasons for engaging in sexual relationships at an early age. Early sexual maturity is one of the reasons because adolescents become mature at an earlier age. Peer pressure also forces adolescents to engage in early sexual activity because of fear of rejection by the group. Changed values, attitudes and the mass media also have an influence on early engagement in sexual activity. With regard to media, the music content is also influential (Early sexual exposure 2006:1019).

In a study to determine whether sexual content in music, movies, television and magazines had an influence on early sexual activity in North Carolina, USA, (Early sexual exposure 2006:1019) findings indicated that exposure to sexual content in music, movies, television and magazines accelerated white adolescents' risk of engaging in early sexual intercourse. Black teens appeared more influenced by perceptions of their parents' expectations and behaviour than what they saw and heard in the media (Early sexual exposure 2006:1019). Gaudineau et al (2010:128) found that among sexually active students, 71% indicated they were under the influence of alcohol or drugs; 44% indicated love for their partner as the reason for their first sexual intercourse; 27% indicated the first coitus happened by chance; 12% decided to have sex out of curiosity; 6% considered themselves mature enough to become sexually active, and 4% did it for other reasons. Louw et al (1998:403) found that among South African adolescents the main reasons for indulging in sexual activity were seeking physical pleasure; trying to prove that they were normal; to prove their love for

someone, and getting carried away by passion. Sexual behaviour between adolescent couples usually progresses from holding hands and kissing to embracing, petting which is intimate love making or sexual intercourse. Adolescents seem to become more involved as their relationship becomes more serious (Louw et al 1998:403).

In sub-Saharan Africa, adolescents become sexually active before the age of 18, while around 43% of women have had pre-marital sex by the time they turn 20. In South Africa, 70% of women had their first sexual intercourse by the age of 20; 46% had intercourse by the age of 18, and 8% first had intercourse before 15 (Van Rensburg 2004:234).

In a study on risky sexual behaviours among Hispanic young adults in South Florida, Weiss and Tillman (2009:207) found that sexual activity was influenced by nativity, age at immigration and gender differences. Many of the respondents had engaged in sexual behaviours associated with high risk of STDs, unintended pregnancies and substance abuse. Foreign birth was generally associated with lower levels of risky sexual behaviours, and these associations were more pronounced among young females than young males. Most women regardless of their nativity were sexually experienced by early adulthood (Weiss & Tillman 2009:207).

2.3.4.1 Masturbation

Masturbation or sexual self-stimulation is often the first sexual experience for most adolescents. Although masturbation occurs universally in both sexes, it was initially regarded as immoral and harmful. Most people experienced guilt and anxiety because of masturbation. Today because of changed attitudes and knowledge, masturbation is regarded as normal behaviour. It is seen as a way of satisfying sexual needs especially when individuals are not ready for a sexual relationship. Although today's adolescents are less anxious about this activity, some still experience anxiety and guilt feelings (Louw et al 1998:403). Craig and Baucum (2002:391) state that with regard to masturbation, girls spend more time fantasising about romance as an outlet for their sexual impulses while boys are more likely to masturbate.

2.3.4.2 Teenage pregnancy

Teenage pregnancy is a cause of great public concern because of its significant effect on communities. Many teenagers who become pregnant are caught in a cycle of poverty, school failure or dropout, and limited life options even in ideal circumstances of adequate finances (Aretakis 2008:768). An increase in adolescent pregnancies is a worldwide problem. In South Africa and other developing countries, the problem is assuming critical proportions. In a study to evaluate the national adolescent-friendly clinic initiative (NAFCI) programme in the greater Tzaneen sub-district in Limpopo, Baloyi (2007:39) found that some parents and churches prohibited adolescents from participating in the programme, and this contributed to the increasing rate of teenage pregnancy due to lack of adequate information. Aretakis (2008:770) states that in the United States, 800,000 to 900,000 teens become pregnant, and more than half of them go on to have babies.

Teenage pregnancies are on the increase as a result of early sexual intercourse, high-risk sexual behaviour, poor parental control, family disintegration, inadequate sexuality education, and a tendency not to use contraceptives (Louw et al 1998:407). Many adolescent girls mistakenly believe that under no circumstances will they fall pregnant and further that they will only fall pregnant when they want to have a baby. Many adolescents are unaware of the connection between menstruation, fertility, coitus and contraception. Adolescents' knowledge regarding sexuality, birth control and STIs generally seems inadequate (Louw et al 1998:407). In a study to clarify sexual decision-making in adolescence, Heidi (2008:86) found that many adolescents did not believe that they were at risk for pregnancy or disease and were not personally susceptible to pregnancy or health risk.

2.3.5 Reasons for and consequences of adolescent pregnancy

There are several reasons for and consequences of adolescent pregnancy. In a study among single adolescent mothers in Lesotho, Yako and Yako (2007:77) found that 48% of the respondents reported a lack of knowledge of contraceptives as the reason for their pregnancy; 10% indicated that they did not plan to have sex; 8% indicated that their friends told them that contraceptives made people sick; 8% indicated that their boyfriends disapproved of using contraceptives; 8% were afraid of their parents; 4%

gave moral reasons for not using contraceptives (viz., the church did not approve of contraceptives); 8% reported failure of contraceptives, and 6% did not take early childbearing seriously. They engaged in sex without thinking of the consequences (Yako & Yako 2007:77). The findings indicated a lack of joy and financial problems as reasons for adolescent pregnancy. The respondents indicated that their babies still did not bring joy to their lives. The majority perceived their babies as burdens as they depended on their families and/or relatives for physical, emotional and financial support. The respondents also reported feeling abandoned by their boyfriends and loneliness from dropping out of school with the result of losing contact with friends (Yako & Yako 2007:78).

2.3.6 Risk factors of adolescent pregnancy

The teen and adolescent years herald the start of autonomy and self-reliance that are often expressed through risky behaviour (Redelinghuys & Van Rensburg 2004:234). In a study to identify the protective factors that buffer against adolescent pregnancy in the presence of family and peers, East, Khoo and Reyes (2006:188) found that girls raised in single-mother households were at risk of teenage pregnancy. The relationship between mothers' single parenting and daughters' early pregnancy persisted even after controlling for family factors associated with father absence and low standard of living (East et al 2006:189).

Furthermore, having a mother or sister who was a teenage parent is strongly associated with the adolescent becoming pregnant (East et al 2006:188). With regard to peer pressure, for every high-risk friend who was sexually active or pregnant, girls' risk of pregnancy increased. Peer risks refer to girls who had intercourse because of pressure from a friend (East et al 2006:189). Goicolea, Wuff, Ohman and Sebastian (2009:224) found that the most important risk factors linked to early pregnancy are sexual abuse, parental absence, and poverty. These factors depend more on societal structure, social circumstances and cultural forces than on the will of the individual girl.

According to Goicolea et al (2009:225), there is a link between past and current sexual abuse and adolescent pregnancy. Aretakis (2008:772) contends that teenage pregnancy is associated with sexual abuse. According to Aretakis (2008:772), pregnant adolescents have a greater likelihood of having been sexually abused during their

lifetime, with rates as high as 60% to 70%. Poverty increases girls' risk of experiencing pregnancy during adolescence. In Ecuador, Goicolea et al (2009:225) found that 28.0% of poor adolescents compared to 11% of wealthy adolescents fell pregnant. Poverty is a risk factor beyond the control of the adolescent girl. It is also a reflection of how social, political and economic factors influence issues as intimate as the sexuality and reproductive life of young women (Goicolea et al 2009:225). Parental absence as a main indicator for early pregnancy may be the result of unavoidable circumstances such as migration due to economic hardship or lack of social services, or non-traditional work hours that require leaving adolescent girls in other people's care. In addition, pregnancy risk increased only for adolescents who experienced the absence of both parents (Goicolea et al 2009:225).

2.4 SOCIAL AND PSYCHOLOGICAL SUPPORT FOR ADOLESCENTS

Social support is consistent with better post-partum adjustment for adolescent mothers (Gee & Rodes 2007:87). Enkin, Keirse, Neilson, Crowther, Duley, Hodnett and Hofmeyer (2000:19) emphasise that pregnant women face substantial social, psychological and physical problems and health care providers should be aware of this. Social and psychological support should be an integral element of all care provided for pregnant women. Yako and Yako (2007:79) add that health care workers need to give social support to adolescents who use contraceptives or become pregnant outside of marriage. According to DeVitto (2007:16), social support is a critical element and a strong factor in the positive adjustment of adolescent mothers and serves a variety of functions such as guidance, social reinforcement, and tangible assistance. The main function of social support is to promote psychosocial development and help negotiate developmental tasks. Psychological support is most effective when tailored to meet an adolescent's specific needs. In addition, social support might be the key to relationships within the social network. The adolescent's relationship with her mother may be the most powerful of the possible support systems available to her and may have the most positive influence to parent her newborn and prevent further pregnancies (DeVitto 2007:16).

In a study on social support from their mother and the newborn's father, DeVitto (2007:20) found that all of the participants identified their own mothers as one of their primary sources of social support, while 77% identified the fathers of the newborns as

such. DeVito (2007:20) indicates further that a significant positive relationship was found between self-perception of parenting and the emotional support received from the adolescent's mother.

With specific reference to disorganised attachment relationship with their children and factors that can enhance positive outcomes in adolescent mothers, Long (2009:630) found that there is a need for professionals to realise that not all young mothers are the same and that it is vital to support the individual needs of each young mother. Social support is a protective factor. Family therapy or meetings can help the adolescent female build positive relationship with family members. The non-clinical degree of behaviour problems reported by the pregnant and parenting adolescents was attributed to lack of support. Adolescent parents need support for coping with their mental health problems, their ability to engage in quality interaction with their children and take care of their health and developmental needs. Supporters often available are family members, partners, friends, as well as health professionals (Long 2009:631).

2.5 HEALTH SERVICES FOR ADOLESCENTS

Schools are faced with the challenge of developing sexuality education programmes that empower adolescents on health-related issues. Coordinated school health programmes with the local clinics and school health nurses are recommended for improving learners' health and learning in schools (Coordinated school health 2012:1). Health education and promotion should focus on aspects such as existing health problems and health services needed; reproductive health, contraceptives, and termination of pregnancy. The aim should be to equip teenagers with the knowledge that will enable them to make the right choices and decisions related to sexual issues (Coordinated school health 2012:1).

Yako and Yako (2007:79) point out that one of the reasons for adolescent pregnancy is lack of knowledge. Adolescents complete their physical, emotional and psychological journey to adulthood in a changing world that contains both opportunities and dangers (WHO 2002:3). The developmental needs of adolescents are a matter for the whole of civil society. Therefore health services in both public and private schools play a role in preventing health problems and responding to them by educating learners. At the same

time, many changes are needed in high schools and local health services in order for health services to become adolescent friendly (WHO 2002:4).

2.6 HEALTH PROBLEMS FACING ADOLESCENTS

Contemporary adolescents are affected by various problems that threaten their well being and even survival. Some of the major problems affecting adolescents are health problems such as HIV/AIDS, problems of violence, psychological problems, economic and social problems (Problems facing contemporary adolescents 2010:1). The WHO (2002:9) identifies malnutrition, general health problems, menstrual problems, female genital mutilation, early and unprotected sex, sexual abuse, depression and suicide as health problems facing adolescents.

2.6.1 Malnutrition

Early adolescence is marked by periods of growth spurts (Louw et al 1998:388). Caloric needs increase with periods of increased growth. Capable of selecting and preparing their own meals, adolescents may be faced with an increased occurrence of eating disorders such as anorexia nervosa, bulimia nervosa and pica which is persistent eating of non-nutritive substances. These are eating disorders that are considered to be an indication of inadequate or inappropriate nutrition related to body image (Stanhope & Lancaster 2000:536). Inadequate inappropriate nutrition can delay or impair healthy development. Stunted growth can occur in childhood or adolescence. In some cultures, girls are fed last and least. In girls poor nutrition can delay puberty and lead to the development of a small pelvis. Malnourished adolescents who have babies are unable to withstand complications because their bodies are not yet mature or strong enough. Maternal mortality is higher in anaemic women. Poorly nourished women are more likely to give birth to low birth weight babies (WHO 2002:9).

2.6.2 General health problems

Like any other group, adolescents are subject to any illness. However, the difference is that adolescents are less likely to recognise symptoms and are more likely to underestimate their importance. At times they do not know where to go for help. As a result they are not likely to go for early diagnosis and treatment. They may live with a

disease because they are afraid of the outcome, worried about the stigma or do not believe that they will be treated well at the clinic (WHO 2002:10).

2.6.3 Menstrual problems

Girls need support as they begin to menstruate. Without support by a more knowledgeable person, an adolescent girl may not know what is normal or how to recognise menstrual problems or how to deal with them (WHO 2002:10).

2.6.4 Female genital mutilation (FGM)

The WHO (2002:11) estimates that 130 million women and girls have undergone female circumcision or female genital mutilation (FGM) and 2 million girls usually undergo this procedure each year. FGM is carried out on girls from 4 years old but is sometimes done on adolescents before marriage. Girls and young women need protection from FGM which has a harmful effect on their sexual health and is an assault on their human rights (WHO 2002:11).

2.6.5 Early and unprotected sex

Adolescents are affected by the risks associated with early and unprotected sex. In many instances engaging in sex is the result of peer pressure. Conflict and forced migration put adolescents at risk. In a war or extreme economic hardship, girls, and sometimes boys may be exposed to desperate situations, where they are coerced into sex for survival. Young adolescent married girls have little control over the use of contraceptives and are expected to take part in unprotected sex. Girls who become pregnant at an early age are at risk of dying during childbirth (WHO 2002:11).

In a study to determine whether middle school a preventive programme could reduce the risk of youth beginning sexual activity by Grade 9, Doskoch (2010:138) found that by the ninth grade, 30% of students in schools with no prevention programme had had vaginal, oral, or anal sex, compared with 23% students whose schools provided the prevention programme. Adolescents are also at risk of infection, infertility and even death due to abortion performed by unskilled individuals. STIs affect one in 20 young

people every year, and although curable, most are left untreated. HIV/AIDS is a worldwide pandemic which affects young people the most (WHO 2002:11).

2.6.6 Sexual abuse

Across the world, a huge number of children and adolescents are abused sexually. Most at risk are girls, aged 11 to16, but boys are at risk, too. Sexual abuse rarely takes place in isolation from other forms of oppression. Much sexual abuse takes place at home. Adolescents who are homeless are at high risk, too. Young women may trade sex for the protection of their families or for essential material goods to keep their families alive (WHO 2002:16). In exploring sexual risk among Latino adolescents in the context of migration, Larson (2009:160) found a 13-year-old Latina participant who had been a victim of sexual abuse and she explained that in a family without a father girls are facing sexual risk. Children in all institutions are at risk, including adolescents in prison and adolescents with disabilities in institutional care (WHO 2002:16).

2.6.7 Depression and suicide

Almost 90 000 young people commit suicide each year across the world. Mental health problems usually make themselves felt in this age group (WHO 2002:17). Major depressive disorder is a common problem for adolescents. It has a wide array of symptoms affecting somatic, cognitive, and social processes. Academic failure, poor peer relationships, behaviour problems, conflict with parents and other authoritative figures, and substance abuse are some of the consequences of major depressive disorder in this group (Hauentein 2006:239).

Depression is common especially in adolescents with low self-esteem. They may feel that they do not have a future or are useless. Depression reduces the quality of the young person's life at the time of being full of optimism and hope. Young people who see no future are more likely to take risks with their health (WHO 2002:17). According to Apter (2010:271), in China, Southern India, and Singapore, young females are more at risk for suicide than males. In these young females, mental illness is a minor factor, and most fatalities are due to pesticide ingestion. Furthermore, Apter (2010:271) states that adolescent suicidal behaviour is related to just about all types of serious psychiatric disorders, including eating disorders, schizophrenia and all forms of depression,

especially bipolar disorder. Social risk factors for adolescent suicide include parental separation, divorce, family discord, and child abuse (Apter 2010:271).

2.7 EXISTING HEALTH SERVICES FOR ADOLESCENTS

Existing health services for adolescents have been found to be not easily accessible to adolescents because of various barriers. In some schools, school health services are not available (WHO 2002:23). Adolescents lack knowledge to discern between conditions that go away of their own accord and those that need treatment. Reproductive services such as family planning or abortion are often restricted. Local clinics and hospitals may be a long way from where they live, study or work. The quality of health care may be poor because service providers are poorly trained or motivated, or because a facility has run out of medicines, medical supplies or other necessary resources. The WHO (2002:23) states that adolescents may regard services as unwelcoming because they are sensitive to issues of privacy and confidentiality. They may find it difficult to adapt to long waiting times in clinics and administrative procedures, and unfriendly health care providers such as school health nurses may not listen or teachers may be judgmental (WHO 2002:23).

Health workers should not show negative attitudes towards adolescents who use contraceptives or to those who become pregnant outside marriage. These negative attitudes deter adolescents from using the school health service. In a study to determine whether students knew and used mental health services, Yorgason, Linville and Zitzman (2008:175) found that 37% of respondents indicated that they were not given adequate information to enable them to contact mental health services; 38% had heard of the services but knew nothing about them, and 30% had never heard of such services. In Uganda, efforts to reduce adolescent reproductive health problems such as unwanted pregnancy at schools include the promotion of youth-friendly services to encourage teenagers to seek help and advice. However, most health services whether at school or outside are not youth friendly. The services offered are not accessible due to lack of confidentiality, rudeness among health service providers, ignorance about the existence of these services and fear of embarrassment (Matthews 2008:3).

Harper, Henderson, Schalet, Becker, Strautton and Raine (2010:127) state that in the United States, health care providers reported delivering abstinence message in schools

as part of protective behaviour. Protective methods such as condoms and contraceptives were discussed together with abstinence. Harper et al (2010:127) found that providers spent more time with teenagers and taught anatomy, safe behaviours, and disease risk because of HIV/AIDS. In a study to evaluate the NAFCI programme, Baloyi (2007:36) found that the NAFCI programme provided the following:

- Management and treatment of STIs including information on prevention of STIs and partner notification.
- Provision of VCT (Voluntary Counselling and Treatment) services, including information on HIV/AIDS, distribution and use of condoms.
- Antenatal, childbirth and prenatal services for teenagers.
- Management of minor ailments.
- Contraceptives services including termination of pregnancy.

Baloyi (2007:36) also indicated that 46% of the respondents reported that they were given information and counselling on contraceptives methods and were allowed to make informed choices. Information was received in the form of health education and pamphlets at school. Such information assisted adolescents to know more about how to live positively and prevent teenage pregnancy.

The WHO (2002:22) states that in many countries a culture of shame discourages adults and children from talking about their bodies or sexual activity. This can inhibit parents from discussing sensitive issues with their children and make young people reluctant to use sexual or reproductive health services. Some barriers are especially associated with the gender of the adolescent. Adolescent girls are very reluctant to be examined by males while young males find it difficult to discuss intimate symptoms with female health care providers. Peer pressure is another barrier in which adolescents consult their friends with regard to health matters where a group of adolescents may be wrongly influenced or informed (WHO 2002:21).

2.8 HEALTH SERVICES NEEDED BY ADOLESCENTS

According to the WHO (2002:18), adolescents indicated that they wanted school health services or local clinics to be welcoming facilities, where they could be attended to quickly with respect and dignity; privacy and confidentiality; did not want to seek

parental permission before they attended; wanted services in a convenient place and time and that was free or at least affordable. They wanted staff to treat them with respect and not judge them. They also wanted a range of services and not to be asked to come back or be referred somewhere else for other health care needs (WHO 2002:18). Therefore, well-coordinated school health programs are recommended in liaison with local health facilities and professionals.

2.9 ADOLESCENT REPRODUCTIVE HEALTH

Reproductive health deals with the reproductive processes, functions and systems at all stages of life. Reproductive health is a crucial part of general health and a central feature of human development. It is a reflection of health during childhood, and crucial during adolescence and adulthood (Guidelines on Reproductive Health 2010:2).

2.9.1 Sexual reproductive health care

Access to sexual and reproductive health services is a human right based on the equality of women and men. The WHO 1994 International Conference on Population and Development specifically backed the rights of adolescents to reproductive health care (WHO 2002:8). Information and services should be made available to adolescents that can make them understand their sexuality and protect them from unwanted pregnancies, STIs and subsequent risk of infertility (WHO 2002:8). Despite the WHO's objective to ensure access to sexual and reproductive health services, adolescents still face various health-related problems. In a study on coerced first intercourse and reproductive health among 15-24 year-old Uganda women, Koenig, Zablotska, Lutalo, Nalugoda, Wagman and Gray (2004:156) found that 14% of the respondents reported that their first sexual intercourse was coerced and less likely to have used contraceptives. Their current or most recent pregnancies were unintended and genital tract symptoms were also reported. In a study on negative subjective norms and peer pressure, Selikow, Ahmed, Flisher, Matthews and Mukoma (2009:107) found some of the respondents recognised that peer pressure to engage in high risk sex is unhealthy and needs to be challenged.

Selikow, Ahmed, Flisher, Matthews and Mukoma (2009:107) reported a number of unhealthy norms among a group of young males and females in Cape Town, South

Africa. These norms undermine the *Abstain, Be faithful and Condomise (ABC)* message of HIV/AIDS prevention initiatives. In a study in North Carolina, USA, on immigrants concerning sexual risk in the context of immigration, Larson (2009:166) found that parents moved to cities in search of work and this caused young girls to enter the adult world of sexual relationships at an early age with the expectation of marriage and childbearing.

In 1999, the Secretary General of the WHO reported to a United Nations Special session on Population and Development that adolescent reproductive health care needs were still consistently not being met (WHO 2002:8). In many countries, restrictive laws and regulations impede implementation of the programme of action in areas such as sexuality education and adolescent access to reproductive health services. Where adolescent health programmes do exist in schools, they often lack wide coverage, especially in rural areas. They are sometimes too narrowly focused and often do not engage young people in their design or implementation. Where information, education and communication programmes for young people do exist, they are often not linked to reproductive health services. The WHO Director General (2002:8) states that young adults need adult assistance to deal with the thoughts, feelings, and experience that accompany physical maturity.

2.9.2 Contraception for adolescents

Pregnancy and child birth pose health risks to women of all ages. One in every 16 women in Africa risks dying from complications of pregnancy and childbirth in her lifetime. Each pregnancy presents health risks for the woman. The risks of pregnancy and childbirth are greatest for different categories of women, including those that are too young to be healthy mothers especially those below 19 years of age. The dangers of pregnancy and childbirth for young women are both physical and emotional hence contraceptive use is of the utmost importance to high school teenage girls (Pregnancy Period 2009:3).

Regarding contraceptive use and pregnancy among 15-24 year old South African (SA) women, MacPhail, Pettifor, Pascoe and Rees (2007:5) report that by the age of 24, over two thirds of young South African women reported being sexually experienced and 50% had been pregnant, yet only half of them reported using contraception. MacPhail et al

(2007:5) state further that international studies have highlighted the negative consequences of pregnancy for adolescent women, their babies and extended families. Among young South African women, contraceptive use was associated with having previously been pregnant. A lack of contraceptive use is often the result of social stigma or lack of knowledge. It is only after the first pregnancy that young women are educated about and subsequently offered contraceptive services, with preference being given to hormonal methods (MacPhail et al 2007:5).

In South Africa, Redelinguys and Van Rensburg (2004:235) found that 53% of 15-16 year-old females used contraceptives, but only 19% had used a condom at their last sexual encounter. This is an indication of the powerlessness of women, and especially younger women, to negotiate for safe sex. Adolescents seem not to be aware of the emergency pill as a form of preventing unwanted pregnancy. Maharaj and Rogan (2008:351) state that emergency contraception (EC) is rated as a core contraceptive option in SA and is recognised as an especially useful method for young people because, in this age group, sexual activity is often unplanned, sporadic and thus may be unprotected. EC can provide a backup for barrier methods of contraception. It can prevent unwanted pregnancies for adolescents who do not use, or have no continuous access to a particular contraceptive method. However, the level of awareness of EC is fairly low, especially among public sector clients and few people have even heard of it (Maharaj & Rogan 2008:351).

A study of adolescent mothers in South Africa found that approximate emergency contraceptive pills (ECPs) could be taken to prevent pregnancy after unprotected intercourse (Maharaj & Rogan 2008:352). Maharaj and Rogan (2008:354) indicate that studies conducted with different types of health care workers suggest that knowledge of EC is low among health care providers. This limited knowledge, in turn, prevents them from discussing it with clients (Maharaj & Rogan 2008:354). The implementation of EC is influenced by the attitudes of health care providers. Under-utilisation of EC is not contributed to lack of knowledge only but health care providers' attitude also plays a role. Service providers often impose age restrictions that prevent young women from accessing contraceptive methods (Maharaj & Rogan 2008:356).

2.9.3 Adolescents and termination of pregnancy

In November 1996 the *Choice on Termination of Pregnancy Act, 92 of 1996* was promulgated. According to the Choice on Termination Act, females from the age of twelve years may decide to terminate their pregnancies before twelve weeks of gestation without parental or other permission (Poggenpoel & Myburgh 2006:3). Termination of pregnancy is a choice that adolescents may be compelled to opt for. Some adolescent girls are compelled to engage in termination of pregnancy due to factors such as fear of parents and shame, inability to provide child care due to financial constraints and attending school (Ratlaba, Makofane, Jali & MPhil 2007:29). Adolescents not only have abortions done in designated areas in accordance with the Act, but some have unsafe abortions. According to Grimes, Benson, Singh, Romero, Ganatra, Okonofua and Shah (2006:1909), unsafe abortions vary substantially by age across regions. Adolescents aged 15 to 19 years account for 25% for all unsafe abortions in Africa, whereas the percentage in Asia, and Latin America, and the Caribbean is much lower. Unwanted pregnancies among adolescents are frequently due a lack of knowledge regarding TOP (Grimes et al 2006:1909).

According to Ratlaba et al (2007:30), adolescents in general do not have the necessary and accurate information about the health legislation either from the life skills programme offered at schools or parents and relatives. They are not well informed about new developments in the health sector such as the existence of the *Choice on Termination of Pregnancy Act, 92 of 1996* (CTOP). Ekstrand, Tyden, Darl and Larson (2009:173) report that in Sweden, teenage pregnancy is low, but when pregnancy does occur, termination is the primary choice. About 75% to 90% of known pregnancies end in abortion indicating an intense desire among young women to avoid pregnancy during the teenage years. Currently, a higher proportion of teenage pregnancies in Sweden than any other Nordic country end in abortion. In 2006, the abortion rate per 1 000 women aged 15-19 was 14.0, 16,3 and 16.7 in Finland, Norway and Denmark respectively, compared with 24.6 in Sweden (Ekstrand et al 2009:173).

2.9.4 Health risks associated with adolescent sexual behaviour

Earlier initiation of sex exposes adolescents to some disturbing risks early in their lives. Giving birth at an early age itself increases the risk of maternal mortality, as younger

women are susceptible to complications during pregnancy and giving birth. Maternal mortality among 15-19 year-olds is twice that of women in their twenties. The percentage of women dying as a result of maternal factors in South Africa is higher among women younger than 24 than for older women (Redelinghuys & Van Rensburg 2004:235). According to Stevens (2009:42), maternal mortality is doubled in adolescents aged 15 to 19 and is at least five times higher in those under 15. Maternal morbidity, including obstetric fistula, is also more prevalent. Furthermore, newborn mortality constitutes 37% of childhood deaths under age 5, and when maternal death occurs, child mortality is doubled (Stevens 2009:42).

Yako and Yako (2007:75) state that the World Bank estimates the maternal mortality ratio at 437 per live births, based on the 2003 statistics. Despite this estimation of maternal mortality, the majority of adolescents in Lesotho risk their own lives by engaging in unprotected sex (Yako & Yako 2007:75). Adolescents are also at risk for contracting STIs, with HIV/AIDS most likely to be contracted. Another area of concern is the relationship between Human Papilloma Virus (HPV) and the incidence of cancer. According to the WHO (2002), the risk of contracting HPV is double for girls who had intercourse at the age of 15 than for girls who had intercourse after 20 years of age (Redelinghuys & Van Rensburg 2004:235).

Based on the reviewed literature, it was noted that high pregnancy rates amongst high school adolescents could possibly be reduced by providing school health and youth health promotion programmes in schools with information related to the health practices.

2.9.5 Reasons for paying special attention to the health of adolescents

Health care services for adolescents aim to reduce death and disease in adolescents. Throughout the world young people aged 10 to 17 die each year mainly from accidents, violence, pregnancy-related problems, or illnesses that are either treatable or preventable. The adolescent stage is the time when sexual habits, choices and decisions about risky behaviours and protection are formed. Adolescents are tomorrow's parents, professionals, and community leaders, and therefore the reason to invest in health for today and tomorrow. The WHO (2002:7) stipulates young people's

right to preventive health care, and calls for specific protection for those in exceptionally difficult conditions or living with disability.

2.10 THEORETICAL FRAMEWORK

According to Burns & Grove (2009:139), a theory consists of an integrated set of defined concepts, existence statements, and relational statements, that can be used to describe, explain, predict, or control phenomenon. Polit and Beck (2008:142) refer to a framework as “the conceptual underpinnings of a study, often called a theoretical framework which may also be a formal theory, a model, or a conceptual framework”. Burns and Grove (2009:126) define a framework as “an abstract, logical structure of meaning. A framework guides the development of the study and enables a person to link the findings to the body of knowledge used in nursing.”

This study is based on Bandura’s (2001:9-21) social cognitive theory which deals with cognitive and emotional aspects of behaviour and understanding of behavioural change. Furthermore, the theory explains how people acquire and maintain certain behavioural patterns or make choices. It also provides a basis for intervention strategies for behavioural change.

2.10.1 Concepts of social cognitive theory

Bandura’s (2001:1-26) social cognitive theory addresses the environment, behavioural capability, expectancies, observational learning and self-efficacy.

2.10.1.1 *Environment*

The environment is among the factors that can affect a person’s behaviour. The environment can be social or physical. The social environment includes family members, friends and colleagues (Bandura 2001:1) the type of environment relevant to the study is social because adolescents are in constant interaction with family members, friends and peers, and teachers at school. The family members especially parents or guardians who do not give attention and social and psychological support to adolescents contribute to negative behaviour mostly displayed by adolescents. According to Erikson’s theory of psychosocial development (Shaffer & Kipp 2007:45),

children who are in late childhood at approximately from 12 to 19 years, face a psychosocial crisis: identity versus role confusion, hence parental support is of greater importance to prevent exposure to unintended sexual activities.

2.10.1.2 Behavioural capability

The psychosocial crisis of identity versus role confusion presents challenges to adolescents whose outcomes may be positive or negative depending on their adjustment (Shaffer & Kipp 2007:45). The behaviour displayed by adolescents especially the negative behaviour ending in adolescent pregnancy is learnt from the social environment. If a person is to perform behaviour, that person must know what the behaviour is and have the skills to perform it (Resource Centre for Adolescent Pregnancy Prevention 2012:1).

2.10.1.3 Expectancies

Expectancies refer to the values that people place on given outcomes, incentives, and present outcomes of change that have functional meaning (Glanz, Rimer & Lewis 2002:176). Adolescents engage in unacceptable sexual behaviours leading to unwanted pregnancies for the sake of belonging to a particular group or maintenance of friendship.

2.10.1.4 Observational (vicarious) learning

Observational or vicarious learning occurs when a person watches the actions of another person and the reinforcement that the person receives. The behaviour learnt by adolescents occurs as a result of observing others engaging in the same behaviour. An adolescent may engage in risky sexually behaviour after observing others ignoring the consequences thereof such as STIs. According to Bandura (2001:1), if one were motivated to learn a particular behaviour, then that particular behaviour would be learned through clear observations. Adolescents spend a lot of time with their peers consequently the learned behaviour tends to be reinforced.

2.10.1.5 Self-efficacy

Self-efficacy refers to a person's confidence in performing a particular behaviour, approaching behavioural change in small steps to ensure success (Glanz, Rimer & Lewis 2002:176). Adolescents may engage in behaviours approved by peers or friends so as please and boost their self-confidence that they are self-efficient.

Social cognitive theory is a learning theory based on the idea that people learn by watching what others do and will not do (Bandura 2001:1). The theory could be used to explore issues, reasons and circumstances which cause adolescents to engage in unsafe behaviours. If well employed, social cognitive theory could assist with recognition of unsafe behaviour. Identification of issues, reasons and/or circumstances could assist by encouraging adolescents to opt for safer choices. Safer choices are based on social cognitive theory, social influences theory and models of school change. Social cognitive and social influence theories hypothesise that in order to reduce risk-taking behaviour, adolescents need to recognise social pressures and anticipated risky situations; establish norms for positive behaviours, and learn and practise skills to act on the information and cope with social pressures (Resource Centre for Adolescent pregnancy prevention 2011:6).

2.11 CONCEPTUAL MODEL

Brink et al (2006:24) state that a conceptual framework is one that the researcher developed through identifying and defining concepts and proposing relationships between these concepts. By developing such a framework within which ideas are organised, the researcher is able to show that the proposed study is a logical extension of current knowledge. Polit and Beck (2008:115) state that conceptual models deal with abstractions (concepts) that are assembled by virtue of their relevance to a common theme. Conceptual models provide a perspective on an interrelated phenomenon. According to Brink et al (2006:23), a model is a symbolic depiction of reality. It provides a schematic representation of certain relationships among phenomena, and uses symbols or diagrams to represent an idea.

In this study a conceptual model emerged as adapted from the theory. Social cognitive theory describes learning in terms of the interrelationships between behaviour,

environment factors and personal factors (Glanz, Rimer & Lewis 2002:176). The environment, people and behaviour constantly influence each other; hence these factors are the main concepts for the proposed model. Therefore the concepts from social cognitive theory relevant to the study are behaviour, environment, behavioural capability self-control, expectancies, observational learning, and self-efficacy. These concepts attempt to explain the relevance of Social cognitive theory to adolescent pregnancy (see figure 2.1).

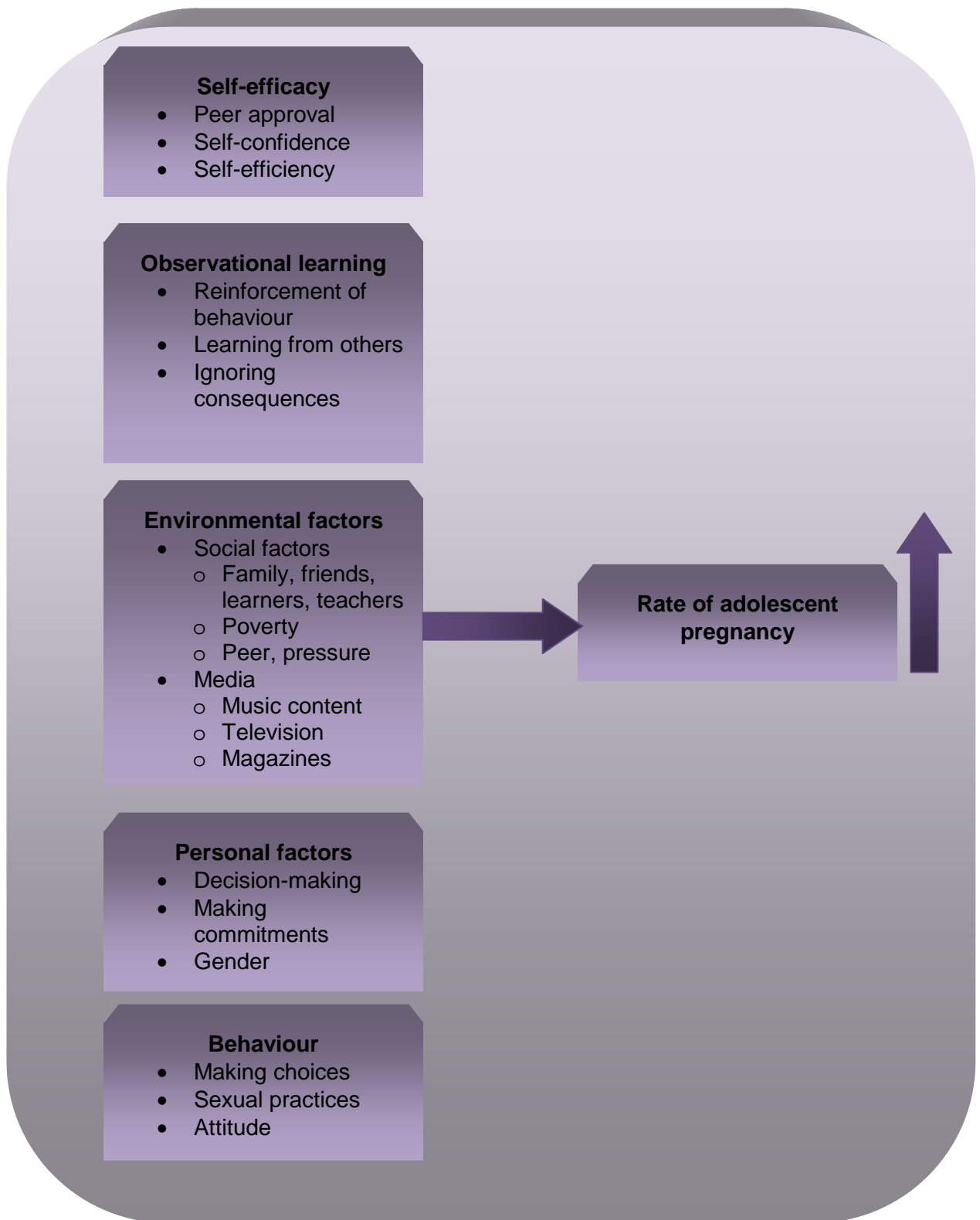


Figure 2.1 Conceptual model

Adapted from Bandura (2001:12)

Figure 2.1 depicts a conceptual model in which the social cognitive theory as postulated by Bandura (2001:9-21) is applied and adapted to give rise to safer practices by adolescents. The model is most appropriate because self-efficacy and observational learning are core concepts of the social cognitive theory and give direction in making choices. Identification of issues, reasons and/or circumstances assist adolescents to opt for safer choices and behavioural patterns. The environment and behaviour interact to influence adolescents' choices on pregnancy.

2.12 CONCLUSION

This chapter discussed the literature review on factors influencing adolescent pregnancy rates.

Chapter 3 describes the research design and methodology.

CHAPTER 3

Research design and methodology

3.1 INTRODUCTION

This chapter describes the research setting, design and methodology based on the second phase of the study. The study was a quantitative, non-experimental study that sought to determine factors that influence adolescent pregnancy rates in the Greater Giyani Municipality, Limpopo province. A quantitative, explorative and descriptive research design was used to guide the study (Burns & Grove 2009:218). The research methodology comprised determining population, sample and sample technique, data collection and data analysis. This process was used to structure and guide the researcher to objectively gather and analyse data relevant to the research question and objectives (Polit & Beck 2008:15). External and internal validity and reliability were ensured with relevant ethical consideration.

3.2.1 Research setting

A research setting is “the physical location and conditions in which data collection takes place” (Polit & Beck 2008:56). Research can be undertaken in a variety of settings, which are specific places where the information is gathered, and can be one or more sites. Furthermore, some studies take place in naturalistic settings - in the field, such as in peoples’ homes or places of work (Polit & Beck 2008:57). Burns and Grove (2009:35) describe natural settings as “uncontrolled, real-life settings where studies are conducted”. This study took place in a natural setting, namely the real-life setting of four of the schools serving under Greater Giyani PHC, in Mopani district, Limpopo province (see figure 3.1).

In the Greater Giyani municipality, high schools are controlled by five school circuits. Each school circuit has schools under its control and supervision. The study took place in four high schools in three designated school circuits.

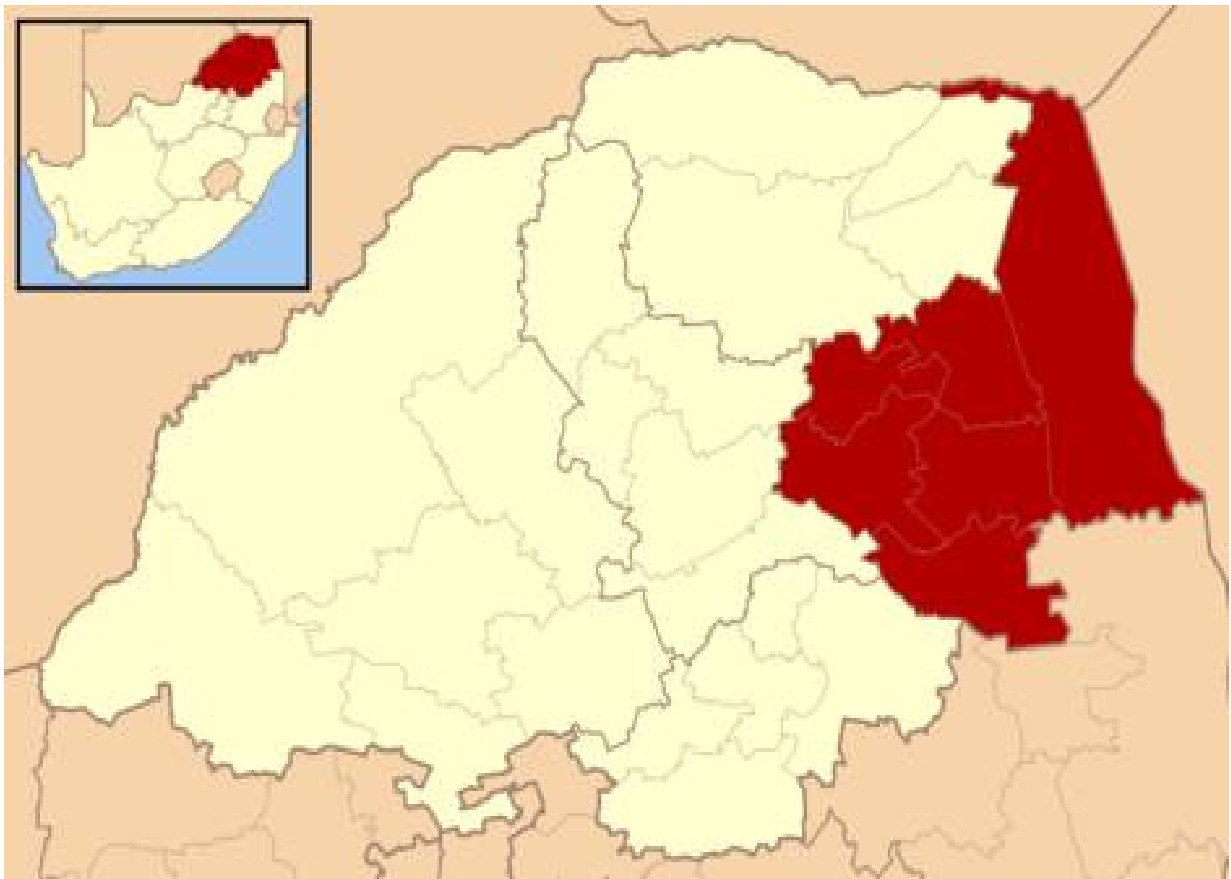


Figure 3.1 Map of Limpopo Province with Mopani district

Source: Mopani District Municipality (2001:1)

Figure 3.1 indicates the map for Limpopo province with Mopani district highlighted. The Greater Giyani PHC is found in Mopani district, one of the six districts constituting Limpopo province.



Figure 3.2 Map of Greater Giyani Municipality

Source: Mopani District Municipality (2001:2)

Figure 3.2 presents a map of Greater Giyani Municipality which is where the study was conducted.

The study took place in more than one site to ensure a larger, more diverse and representative sample and coverage of the stated municipality (Polit & Beck 1999:158). Polit and Beck (1999:158) state that the nature of the setting can influence the way people behave or feel, and their response to questions. However, the research sites were carefully selected to avoid the experience of the hallow effect because most of the respondents are familiar with the researcher who was working at the local clinics during the study period.

Tables 3.1 and 3.2 indicate the number of adolescent pregnancies for Greater Giyani Municipality in July-December, 2010 and January-December, 2011. The tables also indicate the local areas under the auspices of Greater Giyani PHC. The local areas are under the control of assistant managers. There are a number of clinics in each local

area. Although the study took place in schools, table 3.1 and 3.2 depict the number of adolescent pregnancies in the health care settings that serve the local communities in the Greater Giyani Municipality.

Table 3.1 Number of adolescent pregnancies for Greater Giyani Municipality, July to December 2010

	Local Hospital TOPs	Giyani local area	Kremetart local area	Dzumeri local area	Basani local area	Total
July	7	4	1	6	2	20
August	7	10	3	7	3	30
September	5	5	3	14	12	39
October	-	6	1	30	2	39
November	7	5	2	11	3	28
December	3	13	7	24	4	51
TOTAL	29	43	17	92	26	207

Source: Mopani District 2010 Statistics (2010:3)

Table 3.2 Number of adolescent pregnancies for Greater Giyani Municipality, 2011

	Giyani local area	Kremetart local area	Dzumeri local area	Basani local area	Total
January	4	4	6	4	18
February	4	2	5	4	15
March	7	5	4	4	20
April	14	6	9	9	38
May	4	5	5	7	21
June	8	2	2	5	17
July	5	1	6	4	16
August	5	2	8	1	16
September	7	2	7	3	19
October	4	6	7	5	22
November	3	2	6	4	15
December	3	4	7	2	16
Total	72	52	41	68	233

Table 3.1 and 3.2 reflect the number of adolescents who attended the antenatal clinics from July-December 2010 and January-December 2011, respectively. The numbers

under the local hospitals in 2010 indicate termination of pregnancies (TOPs) performed at the hospital for each month. The primary health care (PHC) consists of four local areas, with clinics and health centres in each local area. Figures under each local area indicate the number of adolescent pregnancies for each month from different clinics and health centres in that area. A total of 207 adolescent pregnancies were reported for all the areas for a six-month period in 2010, while the total was 233 for the whole year in 2011.

3.2.2 RESEARCH DESIGN

The researcher used a quantitative approach in this study. Burns and Grove (2006:26) describe quantitative research as “a formal, objective, systematic process in which numerical data are used to obtain information about the world”. Quantitative research can be descriptive, explorative, correlation, quasi experimental or experimental (Burns & Grove 2006:52). This study was explorative and descriptive as it wished to identify issues, reasons or circumstances that contribute to high pregnancy rates especially among school-going adolescents in the Greater Giyani municipality. This type of research design is used to generate new knowledge about concepts or topics on which limited or no research has been conducted.

A research design is the blueprint for conducting a study. It maximizes the researcher’s control over extraneous factors that could interfere with the validity of the findings (Burns & Grove 2009:218). Polit and Beck (2008:66) describe a research design as “the overall plan for obtaining answers to the research questions being studied and for handling some of the difficulties encountered during the research process”. Rossouw (2003:164) defines a research design as “a plan for the collection and analysis of data with the aim of answering the research question”.

The quantitative research paradigm was chosen for the study because it is based on a general set of orderly, disciplined procedures to acquire information (Polit & Beck 2008:16). In a quantitative approach, a structured instrument is used to collect numerical data by means of some type of formal measurement. This approach allows appropriate data analysis with statistical procedures (Polit & Beck 2008:16). The research design of this study was exploratory and descriptive.

3.2.2.1 Quantitative

Quantitative research is a formal, objective, systematic process in which numerical data are used to obtain information about the world (Burns & Grove 2009:22). Bowling (2002:194) states that quantitative research “deals with quantities and relationships between attributes and involves the collection and analysis of highly structured data in a positivist tradition”. Creswell (2010:4) defines quantitative research as a means of testing objective theories by examining the relationships among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analysed using statistical procedures. This approach has both advantages and disadvantages.

Quantitative research has the following advantages:

- Quantitative researchers use deductive reasoning to generate predictions that are tested in the real world (Brink et al 2006:11; Creswell 2010:4; Polit & Beck 2008:16).
- Researchers use mechanisms designed to control the research situation so that biases are minimized and precision and validity are maximized (Creswell 2009:4; Polit & Beck 2008:16).
- Researchers gather empirical evidence that is rooted in objective reality and gathered directly or indirectly through the senses rather than through personal beliefs, hunches or perceptions (Brink et al 2006:11; Polit & Beck 2008:16).

Quantitative research has the following disadvantages:

- The research method cannot be used to answer a moral or ethical question.
- Psychological phenomena, such as morale or self-esteem, cannot be measured.
- The research typically focuses on a relatively small portion of the human experience in a single study (Polit & Beck 2008:17).
- Complexities tend to be narrowed and, if possible, eliminated rather than studied directly. This narrow focus can sometimes obscure insights (Creswell 2009:4; Polit & Beck 2008:17).

- Quantitative research is sometimes criticized for narrowness and inflexibility of vision (Creswell 2009:4; Polit & Beck 2008:17).

A quantitative approach was appropriate for this study because its goal was to employ empirical processes in order to identify factors that contribute to adolescent pregnancy rates through the explorative and descriptive method. This approach would assist the researcher to be objective, remain detached from the study, and not impose any influence with her own values and beliefs about the study phenomenon (Burns & Grove 2009:23). A questionnaire was used as the data-collection instrument to reduce the possibility of bias in the study (Burns & Grove 2009:23).

3.2.2.2 Explorative

LoBiondo-Wood and Haber (2006:240) describe descriptive, exploratory and comparative surveys as designs for the collection of detailed descriptions of existing variables and the use of data to justify and assess current conditions and practices or to develop insight into how to improve health care practices. Polit and Beck (2006:21) describe explorative research as “research that goes beyond observing and describing by investigating the full nature of the phenomenon and other factors to which it is related”. Burns and Grove (2009:350) point out that exploratory studies are not intended for generalisation to large populations. They are designed to increase the body of knowledge of the field of study. In explorative studies, the specific population used may be accidental (Burns & Grove 2009:350). An explorative design was appropriate for this study because the results were not intended for generalisation hence convenience or accidental sampling was used in order to contextualize the findings.

3.2.2.3 Descriptive

Descriptive studies are crafted to gain more information about characteristics within a particular field of study (Burns & Grove 2009:237). Their purpose is to provide a picture of situations as they naturally happen. Brink et al (2006:102) describe descriptive designs as “those designs that are used in studies where more information is required in a particular field through the provision of a picture of the phenomenon as it occurs naturally”. Bowling (2002:195) refers to descriptive designs as descriptive surveys and state that in descriptive surveys, the information is collected from a sample of the

population of interest and descriptive measures are calculated. According to Polit and Beck (2006:236), the purpose of descriptive studies is to observe, describe, and document aspects of situations. Descriptive designs may be used to develop a theory, identify problems in current practice, justify current practice or determine what others in similar situations are doing (Burns & Grove 2009:237). A descriptive design was appropriate in this study in documenting the prevalence and nature of adolescent health-related behaviours. The questionnaire used in the study assisted the researcher to gather a broad spectrum of information from the respondents (Burns & Grove 2007:382).

3.2.2.4 Survey

Rossouw (2003:127) defines a survey as “a method of data collection in which information is obtained directly from the individuals who are selected in order to provide a basis for inferences about a larger population”. According to Bowling (2002:194), a survey is “a method of collecting information from a sample of the population of interest. This can be achieved by engaging in personal interviews, postal or other self-completion questionnaire methods or diaries.” Jackson (2006:16) states that a survey is concerned with questioning individuals on a topic or topics, followed by describing their responses.

Surveys obtain information from a sample of people by means of self-report. Often, surveys focus on what people do or how they feel; what they eat, how they care for their health. Furthermore surveys yield quantitative data (Polit & Beck 2008:322). A survey was appropriate in this study to obtain information about the prevalence, distribution, and interrelatedness of variables within the population of adolescents (Polit & Beck 2008:321).

3.3 RESEARCH METHOD

Brink et al (2006:191) describe research methodology as the research steps and procedures followed to address the research problem and to answer the research questions. Research methodology gives direction with regard to the techniques researchers use to structure a study and to gather and analyse information relevant to the research question and objectives (Polit & Beck 2008:15; Bowling 2002:143).

Research methodology includes the population, sample and sampling, data collection and analysis, ensuring validity and reliability as well as ethical considerations.

3.3.1 Population

A population is all the individuals or objects with common, defining characteristics in which a researcher is interested (Polit & Beck 2008:67). Burns and Grove (2009:42) define a population as “all the elements (individuals, objects, or substances) that meet certain criteria for inclusion in a given universe”. Brink et al (2006:123) describe a population as the entire group of persons or objects that is of interest to the researcher; in other words, that meets the criteria which the researcher is interested in studying. According to Polit and Beck (2006:260), quantitative researchers sample from an accessible population in the hope of generalizing to a target population. The target population is the entire population that the researcher is interested in while the accessible population comprises cases from the target population that are accessible to the researcher as a pool of respondents (Polit & Beck 2006:260).

In this study the population comprised all adolescent or teenage girls in the Greater Giyani Municipality who attended the local high schools and had the potential to become pregnant but are not pres.

In order to be included in the study, the respondents had to meet certain criteria. Polit and Beck (2008:338) define inclusion criteria as the criteria that specify the population characteristics to be included in the study. According to Burns and Grove (2009:344), inclusion criteria are the characteristics that a subject or element must possess to be part of the target population. Polit and Beck (2008:338) add that the researcher must specify the criteria that define who are included in the population.

In this study the respondents had to be

- High school adolescent or teenage girls.
- Between 10 and 19 years old.
- Pregnant for the first time or not pregnant
- In Grade 9 to 12.

Polit and Beck (2009:338) state that in thinking about ways to define the population and delineate eligibility criteria, it is important to consider whether the resulting sample is likely to be a good exemplar of the population in which a researcher is interested..

The researcher also had certain exclusion criteria in regard to possible respondents. Burns and Grove (2009:345) define exclusion criteria as those characteristics that can cause a person or element to be excluded from the target population.

In this study the researcher excluded adolescent girls who were outside the ages indicated and adolescent girls who had once been pregnant.

Adolescents who were once pregnant were excluded because they may have had preconceived ideas about most of the information that the researcher was looking for as this might interfere with the results of the study. Burns and Grove (2009:36) point out that respondents' knowledge of a study could influence their behaviour and response, and possibly alter the research outcome.

3.3.2 Sample and sampling

LoBiondo-Wood and Haber (2006:263) define a sample as “a set of the elements that make up the population”. An element is the most basic unit about which information is collected. A sample is a subset of the population that is selected for a particular study (Burns & Grove 2009:42; Jackson 2006:94). Sampling is the process of selecting a portion of the population to represent the entire population so that inferences about the population can be made (Polit & Beck 2008:339). Polit and Beck (2008:340) clarify that probability sampling involves the random selection of elements whereas in non-probability sampling, elements are selected by non-random methods.

Non-probability sampling was chosen because convenience sampling was the most appropriate technique for the study. Convenience sampling is a non random method. In convenience or accidental sampling, any cases or elements that happen to cross the researcher's path and have anything to do with the phenomenon are included in the sample until the desired number of respondents is obtained (Strydom 2005:202). Jackson (2006:96) describes convenience sampling as a technique that involves getting respondents wherever researchers can find them and typically wherever is convenient.

Rossouw (2003:114) states that in convenience sampling the sample is selected from the respondents who are easily accessible and are in the vicinity.

The researcher selected convenience sampling because it is inexpensive; is less time consuming than other methods, and respondents are easily accessed (Burns & Grove 2009:353; Rossouw 2003:114).

The study aimed at 100 to 150 respondents because quantitative studies require large samples to ensure representativeness of the population. Burns and Grove (2009:345) state that for a sample to be representative, it must be like the target population in as many ways as possible. The sample comprised 147 adolescents from four schools in three of the designated school circuits which were conveniently sampled. In convenience sampling, respondents are included in the study because they happen to be in the right place at the right time (Burns & Grove 2009:353). The researcher simply recruited all the eligible and available respondents until the desired sample size of 147 was reached.

3.3.3 Data collection

Data collection is “the precise, systematic gathering of information relevant to the research purpose or specific objectives, questions or hypothesis of a study” (Polit & Beck 2008:67, 367).

The researcher requested and obtained written permission to conduct the study from the District manager for the Department of Education as well as the circuit managers for the schools of the research setting (see annexure F).

The researcher arranged with the principals of the designated schools to collect data on arranged dates. The researcher and two trained volunteer nurses availed themselves on the specified dates for data collection. On the specified dates, the researcher and volunteers visited the schools during break to avoid class disruption. The respondents were then gathered in classrooms where data was collected through the administration of the questionnaire.

3.3.4 Data-collection instrument

In this study a structured questionnaire with closed questions was used for data collection (see annexure F). Brink et al (2006:146) refer to a questionnaire as a self-report instrument in which respondents respond to questions printed in a document by writing down the answers. LoBiondo-Wood and Haber (2006:325) describe questionnaires as paper-and-pencil instruments designed to gather data from individuals. The researcher developed a structured questionnaire to collect data from the respondents (Polit & Beck 2008:414). The questionnaire was in English as the respondents were familiar with the language.

The researcher selected a questionnaire because:

- It is less costly and requires less time and effort to administer.
- It offers the possibility of complete anonymity, which may be crucial in obtaining information about sensitive issues or embarrassing characteristics of the respondent (Polit & Beck 2008:423; Brink et al 2006:147).
- It is a quick way of obtaining data from a large group of people.
- It is one of the easiest research instruments to test for reliability and validity.
- The format is standard for all the respondents and does not depend on the interviewer's mood (Brink et al 2006:147).

The researcher considered a questionnaire relevant to this study because some of the questions might be embarrassing to respondents if they were interviewed face to face. The questionnaire provided privacy for their opinions. Furthermore, biases were prevented because the respondents did not face an individual but completed the questionnaires themselves (Polit & Beck 2008:424). The questionnaires required less time to complete and this was conducive for the respondents because there was no prolonged exposure to questioning (Polit & Beck 2008:423).

3.3.5 Development of the questionnaire

The researcher developed a questionnaire to collect data on factors that influence the adolescent pregnancy rates in the Greater Giyani Municipality. The literature review and the theoretical framework were the sources from which the questions were

formulated. The questionnaire comprised closed questions with options that the researcher had selected (Burns & Grove 2009:406). Each item in the questionnaire had a set of questions that provided the parameters within which the respondents answered. The response set included specific alternatives from which to select (Burns & Grove 2009:407).

3.3.6 Format of the questionnaire

The questionnaire consisted of six sections and contained closed questions with fixed alternatives (see annexure F).

The respondents were asked to answer by choosing the alternatives that best reflected their opinion about the subject. Table 3.1 depicts the format of the questionnaire.

Table 3.1 Format of the questionnaire

Section A	Respondents' biographical data
Section B	Factors related to sexual attitude and behaviour
Section C	Psychosocial factors related to reasons for early involvement in sexual activities
Section D	Factors related to availability of health services for adolescents
Section E	Knowledge about potential health problems facing adolescents
Section F	Nurses' relationships with adolescents at the clinics

3.3.7 Pre-test

Polit and Beck (2008:380) point out that a newly developed instrument should be subjected to vigorous pre-testing so that it can be evaluated and refined. Existing instruments should be pre-tested as well (Polit & Beck 2008:380). A pre-test is carried out on a small sample to determine whether the proposed study is feasible and refine the items on the instrument, if necessary (Rossouw 2003:140; Burns & Grove 2006:44). The purpose of the pre-test in this study was to determine the time it would take to administer the instrument and whether the questions were clearly worded and covered the relevant areas (Polit & Beck 2008:380).

In this study, the questionnaire was pre-tested with five adolescent girls who attended one of the local high schools. They fulfilled the inclusion criteria but were not included in

the main study. After the pre-test the researcher reformulated and simplified items that the respondents had difficulty with (Polit & Beck 2008:381).

3.3.8 Administration of the questionnaire

Polit and Beck (2008:430) state that the most convenient way to distribute questionnaires is in-person distribution. The researcher and two volunteers, who were trained beforehand on the process of data collection and ethical considerations, administered the questionnaires (Polit & Beck 2008:383). The researcher and the assistants were available throughout data collection to clarify questions that the respondents did not clearly understand. This method of distribution allowed for the full number (147) of completed and returned questionnaires (Polit & Beck 2008:430).

3.3.9 Data analysis

Data analysis is the process of bringing order, structure and meaning to the mass of collected data. Data analysis usually begins when data collection begins. Data analysis is conducted to reduce, organise and give meaning to the data. Polit and Beck (2008:716) describe data analysis as the systematic organisation and synthesis of research data, and the testing of research hypotheses using those data.

A statistician used the SAS version 9.2 statistical package to analyse the data. Descriptive statistics were used to describe and summarise data and the results were presented in the form of percentages, frequencies, tables, histograms and pie diagrams. Inferential statistics were used to estimate how reliable predictions can be made (LoBiondo-Wood & Haber 2006:358).

3.4 VALIDITY AND RELIABILITY

The quality of research and research instruments is determined by their validity and reliability. In this study, the researcher adhered to the principles of reliability and validity.

3.4.1 Validity

Validity is the degree to which an instrument measures what it is supposed to measure (Polit & Beck 2008:457; Brink et al 2006:165). Validity refers broadly to the degree to which an instrument is doing what it is intended to do (Delpont 2005:160). Jackson (2006:70) states that validity refers to whether a measure is truthful or genuine. Polit and Beck (2008:458) add that an instrument cannot validly measure an attribute if it is inconsistent and inaccurate.

In this study, the researcher focused on face, content, construct, internal, and external validity.

- *Face validity* refers to whether the instrument looks as though it is measuring the study construct or not (Polit & Beck 2008:458). According to Brink et al (2006:160), face validity means that the instrument appears to measure what it is supposed to measure, based on an intuitive judgment made by experts in the field. Jackson (2006:70) points out that face validity addresses whether a test looks valid on its surface. Brink et al (2006:160) emphasise that face validity is useful to determine readability and clarity of content when developing a data-collection instrument.
- *Content validity* is an assessment of how well the instrument represents all the components of the variables to be measured (Brink et al 2006:160). According to Polit and Beck (2008:458), content validity concerns the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain. Jackson (2006:70) adds that content validity is a systematic examination of the test content to determine whether it covers a representative sample of the domain to be measured. The instrument was presented to the statistician, study supervisor and experienced nurses who provide school health service, who had firsthand knowledge of adolescent pregnancy, for evaluation of the face and content validity (Brink et al 2006:160; LoBiondo-Wood & Haber 2006:338).
- *Construct validity* refers to the degree to which an instrument measures the construct under study (Brink et al 2006:162). Polit and Beck (2008:287) add that construct validity concerns the degree to which an intervention is a good

representation of the underlying construct that was theorized as having the potential to cause beneficial outcomes. Polit and Beck (2008:287) add further that construct validity is whether the measures of the dependent variable are a good operationalisation of the construct for which they are intended. The statistician was also consulted to assist with ensuring construct validity. The researcher developed the questionnaire based on the literature review and from concepts based on the theoretical framework by Bandura (2001:9-21) to ensure construct validity. The statistician calculated the score of each construct as the mean agreement rating of the subset of questionnaire statements that described a pregnancy prevalence factor. Two way frequency tables, Chi-square tests and Cochran-Armitage trend tests were done to determine issues that describes those prevalent factors based on the perceptions regarding the pregnancy prevalent constructs. Some flaws on constructs were identified and the statistician suggested that they be omitted from further analysis.

- *Internal validity* concerns the validity of inferences that, given the existence of an empirical relationship, it is the independent variable rather than other factors that caused the outcome (Polit & Beck 2008:287).

In this study, internal validity was ensured by collecting data with a structured questionnaire that was refined and validated by experts in designing research instruments. However, internal validity might have been threatened because of the convenience sampling method that was used.

- *External validity* is the validity that inferences about observed relationships will hold over variations in persons, settings, times or measures of the outcome (Polit & Beck 2008:287). Polit and Beck (2008:287) mention that external validity, concerns the generalisability of causal relationships.

In this study, generalisability did not apply since non-probability sampling was the method of choice to collect data and the findings will only be applicable in context.

3.4.2 Reliability

LoBiondo-Wood and Haber (2006:345) define reliability of a research instrument as the extent to which the instrument yields the same results on repeated measures. Reliability refers to the degree of consistency or agreement between two independently derived sets of scores; and the extent to which independent administrations of the same instrument yield the same results under comparable conditions (Delpont2005:168). Jackson (2006:65) defines reliability as “the stability and consistency of a measuring instrument”.

Polit and Beck (2008:452) emphasise that the reliability of a quantitative instrument is a major criterion for assessing its quality and adequacy. Furthermore, reliability also concerns an instrument’s accuracy and it is reliable to the extent that its measures reflect true scores (Polit & Beck 2008:452). Accordingly, Cronbach’s alpha was used in this study to ensure that consistency of the instrument was maintained. A statistician also tested for reliability of the instrument (LoBiondo-wood & Haber 2006:350). Cronbach alpha values in the region of 0.65 were regarded as of internal consistency reliability.

3.5 ETHICAL CONSIDERATIONS

Ethics deals with matters of right and wrong. *Collins English Dictionary* (1991:533) defines ethics as “a social, religious, or civil code of behaviour considered correct, esp. that of a particular group, profession, or individual”. According to Pera and Van Tonder (2005:4), ethics explores the basis on which people, individually or collectively, decide whether actions are right or wrong, and whether something ought to be done, or whether they have the right to do something. Jackson (2006:38) stresses that when conducting research, the researcher is ultimately responsible for the welfare of the respondents. Thus the researcher is responsible for protecting the respondents from physical or psychological harm.

In this study, the researcher upheld the principles of respect for persons, beneficence and justice by observing the right to permission, confidentiality and anonymity, privacy, and informed consent (Brink et al 2006:31, 40).

3.5.1 Permission: protecting the rights of the institution

Pera and Van Tonder (2005:154) point out that when research is undertaken in an institution, permission must be sought from the authority in charge. Accordingly, the researcher sought and obtained permission to conduct the study from the:

- Provincial Department of Health in Limpopo province (see annexure C).
- Research Ethics Committee of the Department of Health Studies, University of South Africa (see annexure A).
- Department of Education District Manager and circuit managers (see annexure D).

3.5.2 Protecting the rights of the participants

Pera and Van Tonder (2005:151) point out that all measures in practising research should be directed towards maintaining the self-respect and dignity of participants. Brink et al (2006:35) add that there are various procedures and mechanisms that a researcher should apply in order to ensure that the participants' rights are protected. These include confidentiality and anonymity, privacy, and informed consent.

3.5.2.1 Confidentiality and anonymity

Burns and Grove (2006:202) state that prospective respondents must be given a statement describing the extent of confidentiality and anonymity that will be maintained. This means that they must know that the information obtained during the study will not be divulged to unauthorized people and their identity will remain anonymous.

In this study, the respondents were assured of confidentiality and anonymity by not having to write their names on the questionnaire. Consequently, information could not be linked to any of the respondents. Anonymity was ensured especially for referral on sexually related issues to the counsellor by making sure that an appointment was made with the counsellor for private consultation outside the research environment.

3.5.2.2 *Privacy and dignity*

In research, the privacy of participants is assured once confidentiality and anonymity, and the nature and degree of invasion have been secured (Pera & Van Tonder 2005:154). Clarification with regard to the extent of disclosure and the general circumstances under which the information will be shared is part of maintaining privacy (Pera & Van Tonder 2005:154).

In this study, the respondents' privacy and dignity were ensured by informing them that the information obtained would only be discussed for appropriate scientific or professional purposes. Discussion and sharing of information would only be done with authorised persons clearly concerned with their care and well being (Jackson 2006:41).

3.5.2.3 *Informed consent*

Informed consent means that respondents have adequate information regarding the research, can comprehend the information, and have the power of free choice (Polit & Beck 2008:176; Brink et al 2006:35; Burns & Grove 2006:201; Pera & Van Tonder 2005:152). The respondents and their parents/guardians were informed of the purpose and significance of the study. The researcher emphasised that participation was voluntary and that respondents could withdraw from the study at any time should they wish to do so. The respondents were given a chance to choose whether to participate or not. They were not unduly influenced or coerced to participate (Brink et al 2006:37). Both the respondents and their parents/guardians then signed informed consent (Polit & Beck 2008:174)

In addition, the researcher arranged for a counsellor at the schools for referral of any respondents who might feel distressed or uncomfortable. Some respondents found some of the questions relating sexual activities offensive and felt stressed by answering the questions. They were referred for counselling accordingly.

3.5.3 Scientific integrity of the research

The researcher protected the body of scientific knowledge by guarding against plagiarism and ensuring that all information appearing in the study was referenced and sources acknowledged (Brink et al 2006:40).

3.6 CONCLUSION

This chapter discussed the research design and methodology, including the population, sample and sampling, and data collection and analysis. The questionnaire used to collect data, as well as the validity and reliability of the instrument, and ethical considerations were also discussed.

Chapter 4 discusses the data analysis and interpretation.

CHAPTER 4

Data analysis and interpretation

4.1 INTRODUCTION

A quantitative, non-experimental explorative and descriptive study was conducted to determine factors influencing the adolescent pregnancy rate in the Greater Giyani Municipality, Limpopo province. This chapter discusses the data analysis and interpretation

4.2 PURPOSE OF THE STUDY

The purpose of the study was to identify issues, reasons or circumstances that contribute to high pregnancy rates especially among school-going adolescents in the Greater Giyani municipality.

The objectives of the study were to:

- Explore and describe factors that influence the adolescent pregnancy rates.
- Identify issues, reasons and circumstances that contribute to high pregnancy rates.
- Develop a research poster for dissemination of findings to interested groups.

In order to achieve the purpose, the study wished to answer the following research question:

What factors influence adolescent pregnancy rates in the Greater Giyani Municipality?

4.3 DATA ANALYSIS

The researcher and two trained volunteers personally administered the questionnaires to the respondents. Polit and Beck (2008:430) state that distribution of questionnaires to a group of respondents has the advantage of maximising the number of completed questionnaires. In this study the return rate of completed questionnaires returned was 100% (n= 147).

Data were analysed using the Statistical Analysis Systems (SAS) computer program, version 9.2 (see annexure G). Descriptive and inferential statistics were used for data analysis. Descriptive statistics describe and summarise the data so as to give meaning to the data collected. Inferential statistics estimate how reliable predictions and inferences can be made (LoBiondo-Wood & Haber 2006:358). Descriptive statistics were also used to present the results in the form of percentages, frequencies, tables, bar graphs and pie diagrams. Descriptive statistics used included two-way frequency distributions, frequency tables and percentages. Inferential statistics such as Chi-square tests and Cochran-Armitage trend tests were used to determine any effect that the respondents' biographical attributes might have had on their perceptions. Table 4.1 represents the distribution and response return of questionnaires.

Table 4.1 Questionnaire distribution and return rate (n= 147)

Schools	Questionnaires distributed	Returned
A	9	9
B	10	10
C	123	123
D	5	5
TOTAL	147	147

Data was collected by means of a structured questionnaire (see chapter 3).

The data-collection instrument (see annexure F) was a questionnaire which consisted of six sections with 56 items.

- Section A Biographical data such as age, marital status, ethnic group, highest grade passed, type of family, position in the family and age at first intercourse.
- Section B Factors related to sexual attitudes and behaviour
- Section C Psychosocial factors related to reasons for early involvement in sexual activities
- Section D Factors related to availability of health services for adolescents
- Section E Knowledge about potential health problems facing adolescents
- Section F Nurses' relationships with adolescents at the clinics

4.3.1 Section A: Biographical data 5

Section A dealt with the respondents' biographical data (see table 4.2).

Table 4.2 Respondents' biographical data (n=147)

Age	Frequency	Percent	Cum Frequency	Cum Percent
Age (missing=1)				
10-15 years	26	17.81	26	17.81
16-20 years	120	82.19	146	100.00
Marital (missing=2)				
Single	136	93.79	136	93.79
Married	5	3.45	141	97.24
Other	4	2.76	145	100.00
Ethnic group				
Tsonga	142	96.60	142	96.60
Venda	1	0.68	143	97.28
Sepedi	2	1.36	145	98.64
Zulu	1	0.68	146	99.32
Other	1	0.68	147	100.00
Highest grade				
Grade 7	57	38.78	57	38.78
Grade 10	54	36.73	111	75.51
Grade 12	24	16.33	135	91.84
Other	12	8.16	147	100.00
Family environment (missing=1)				
Both parents	95	65.07	95	65.07
Single parent	48	32.88	143	97.95
Sibling head	1	0.68	144	98.63
Other	2	1.37	146	100.00

Position in family	Frequency	Percent	Cum Frequency	Cum Percent
Family environment (missing=1)				
First born	49	33.33	49	33.33
2nd born	24	16.33	73	49.66
3rd born	34	23.13	107	72.79
Last born	36	24.49	143	97.28
Other	4	2.72	147	100.00
Age at First intercourse (missing=11)				
11-12 years	6	4.41	6	4.41
13-14 years	11	8.09	17	12.50
15-16 years	62	45.59	79	58.09
17-18+ years	57	41.91	136	100.00

The composite frequency tables represent the respondents' responses to the biographical details and how perceptions of these issues contribute to the various construct scores.

4.3.1.1 Respondents' age (n=146)

The respondents' age was divided into 10-15 and 16-20, respectively. Of the respondents, 82.19% (n=120) were from 16 to 18 years old, and 17.81% (n=26) were between 12 and 15 years old. Age distribution was limited due to the age group deemed suitable for the study and this impacted negatively on the median age which appeared impossible to establish.

Table 4.3 Distribution by age (n=146)

Age groups	Number of respondents	Percentage
10-15	26	17.81
16-20	120	82.19
Total	146	100.00

The possible effect of age as an attribute on perceptions was investigated. Table 4.4 indicates cross-referencing on age and sexual attitudes. A statistical relationship was established between age and sexual attitudes and behaviour. The different age groups (10-15 and 16-20 years) perceive sexual activity during adolescent years differently. The younger respondents disagreed more in their views than the older respondents.

This was evidenced by the response pattern of agree-undecided-disagree items. For the younger respondents, it was 11.5% to 7.69% to 80.7%, and for the older respondents, it was 15.0% to 29.1% to 55.8%. The findings reveal that the younger respondents uphold the norms and values as advised by their parents or guardians. However, table 4.5 depict that the very group of adolescents engage in sex at an early age. There seems to be reasons that lure adolescents into sexual activities despite their parents' or guardians' advice. Heidi (2008:86) found that many adolescents reported desire, sexual attraction and a need to be loved or cared for as central to their decision to enter a sexual relationship. Pinter, Verdenik, Grebenc and Ceh (2009:128) indicated that reasons such as early sexual maturity compel adolescents to engage in sexual activities at an early age.

Table 4.4 Respondents' attitude by age (n=146)

Frequency	10-15 years	16-20years	Total
Agree	3 (11.54)	18 (15.00)	21
Undecided	2 (7.69)	35 (29.17)	37
Disagree	21 (80.77)	67 (55.83)	88
Total	26	120	146
Exact Probability (Chi-sq=6.27)=0.041			
Prob (Cochran-Armitage Trend test, Z=1.42) =0.08			

A statistically significant relationship was established between the respondents' attitudes towards sexual activities and behaviour and their age. This was deduced from the exact probability associated with the value of 16.27 for the Chi-square test statistics conducted on the frequencies exhibited on age range in table 4.3. The probability reported for the test was 0.041 which indicated to a statistical significance at the 5% level of significance. The Cochran Armitage trend test for perception trend over agreement ratings for the two age groups was also statistically significant at the 10% level of significance. The probability of 0.08 is less than a probability of 0.1 which indicated significance at the 10% level of significance. These results imply that the different age groups (10-15 years and 16-20 years) held statistically significantly different views on sexual activities and behaviour during adolescence (see annexure E, section B items). The younger respondents were significantly more conservative, that is, disagreed more in their views, than the older respondents. The pattern of agree-undecided-disagree for the younger respondents was 11.54 to 7.69 to 80.77% whereas the older groups' response pattern was 15.00 to 29.17 to 55.85%.

4.3.1.2 First intercourse encounter by age (N=136)

Of the respondents, 45.59% (n=62) indicated that they were between 15 and 16 years old; 41.91 (n=57) were between 17 and 18; 8.09% (n=11) were between 13 and 14, and 4.41 % (n=6) were between 11 and 12 years old.

Table 4.5 Age at first intercourse (N=136)

Age group	Number of respondents	Percentage
11-12	6	4.41
13-14	11	8.09
15-16	62	45.59
17-18	57	41.91
Total	136	100.00

From table 4.5 it is clear that most of the respondents who participated in the study, engaged in sexual intercourse for the first time between 11 and 12 years of age. With regard to age, the 10-15 year-old respondents held a conservative view with regard to sexual activities and behaviour at a young age. Table 4.5 indicates that most of the respondents engaged in sexual intercourse for the first time between 15 and 16 years of age.

4.3.1.3 Respondents' marital status (n=145)

Of the respondents, 93.79% (n=136) indicated that they were single; 3.45% (n=5) were married, and 2.76% (n=4) indicated "other" but did not elaborate.

Table 4.6 Respondents' marital status (n= 145)

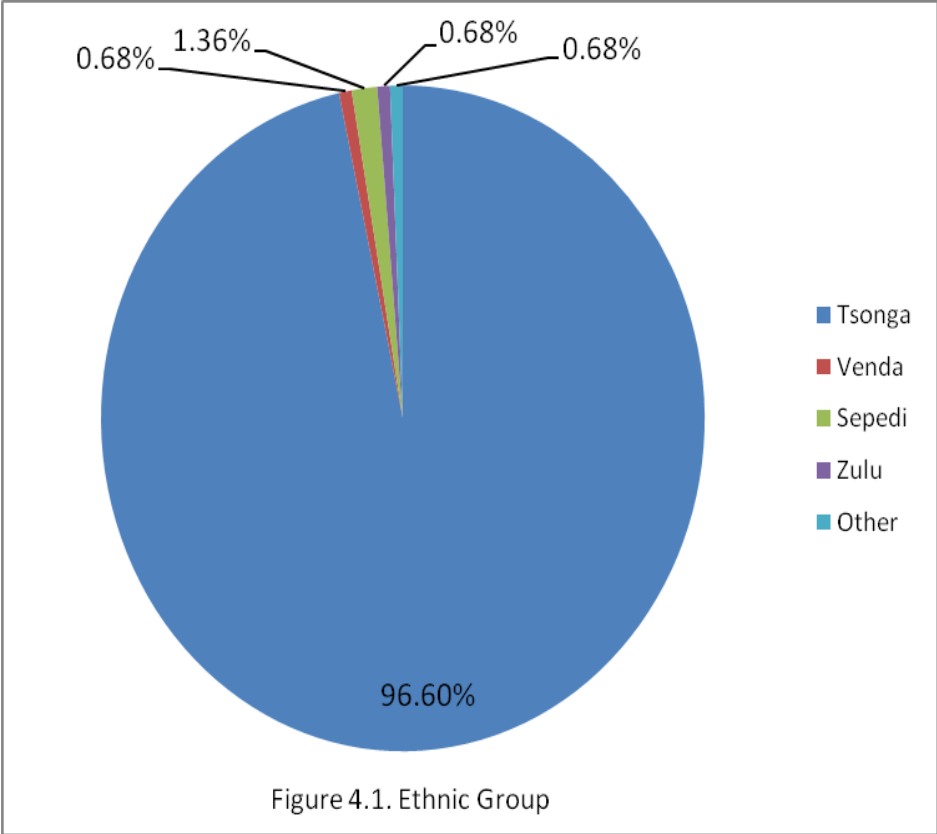
Marital status	Number of respondents	Percentage of respondents
Single	136	93.79
Married	5	3.45
Other	4	2.76
Total	145	100.00

The study found that most (93, 7%; n=136) of the respondents were single, while table 1.1 (see chapter 1) confirmed that adolescent pregnancy does exist in the Greater

Giyani Municipality. Baloyi (2007:39) reports that some parents and churches prohibited their adolescents from participating in the NAFCI programme which indicated that they were opposed to engaging in sexual relationship before marriage. Despite this concern, however, many adolescents fall pregnant while still single before marriage. Only five adolescents were married who may be experiencing challenges because of domestic responsibilities at an early age. Shaffer and Kipp (2007:45) found that children in late childhood, from approximately 12 to 20 years of age, face a psychosocial crisis known as identity versus role confusion. At this stage, they are likely to make choices and decisions that may lead to early engagement in sexual behaviour. Moreover, Louw, Van Ede and Louw (1998:51) indicate that adolescents have the task of acquiring a feeling of identity consisting of three components: certainty about their own characteristics, social identity, and values and ideas.

4.3.1.4 Respondents’ ethnic group (n=146)

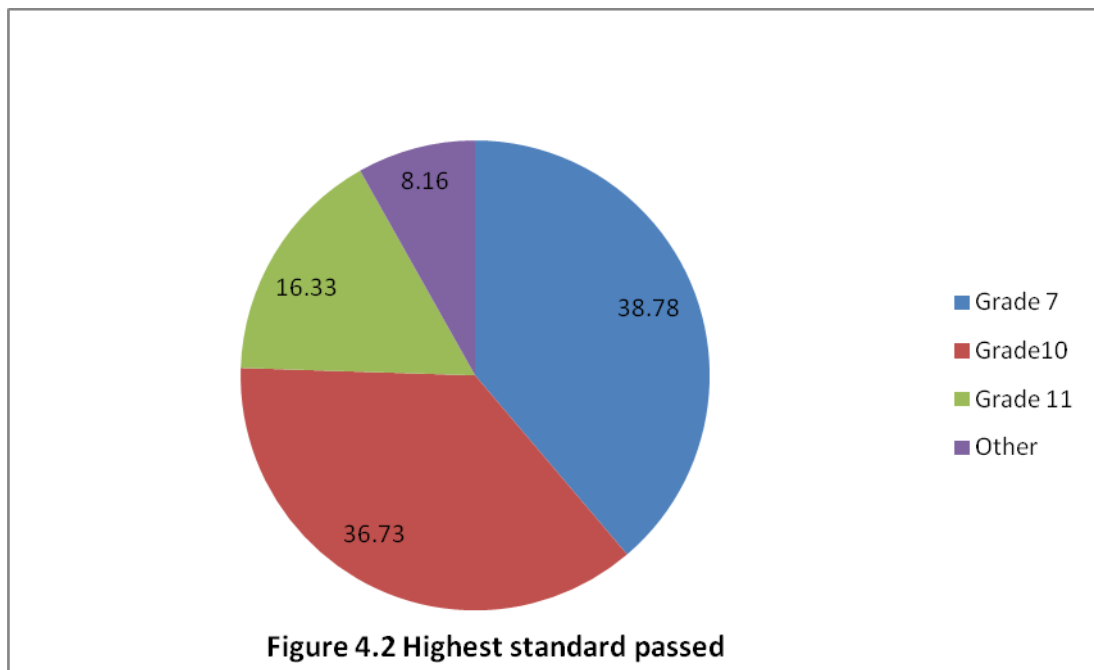
Of the respondents, 96.6% (n=142) indicated that their ethnic group was Tsonga; 68% (n=1) indicated Venda; 1.36% (n=2) indicated Sepedi, 0.68% (n=1) indicated Zulu, and 0.68% (n=1) indicated other (see figure 4.1).



The results indicated that most (96.6%; n=142) of the respondents were Tsongas. Most of them grew up in local villages and were residing at the villages at the time of the study. The other ethnic groups constituted 3.4% of the population. Regarding sexual attitudes and behaviour, the findings revealed that the respondents held conservative views on engaging in sexual relationships at an early age, meaning that they were opposed to it. From this it could be deduced that in relation to the ethnic groups, the Tsonga respondents were restricted from engaging in sexual relationships at an early age as they were the majority and a positive response was elicited to the construct. In the United States, Martyn, Darling-Fisher, Smrtka, Fernandez and Martyn (2006:15) found that cultural background has a positive influence on adolescents' pregnancy, as their study indicated that among Latinas adolescent pregnancy was avoided through a process of family honour. Noone and Young (2010:34) found that a rural environment is conservative with less diversity and exposure to new ideas. Furthermore, rural life influences communication between adolescents because they saw animals having sex (mating) and they spent more time travelling to school therefore they had a chance to talk about sexual issues.

4.3.1.5 Respondents' highest educational qualification (n=147)

Of the respondents, 38.78 % (n=57) indicated that they had passed Grade 7; 36.73% (n=54) had passed Grade 10; 16.33% (n=24) had passed Grade 11, and 8.16 % (n=12) had passed "other" Grades.

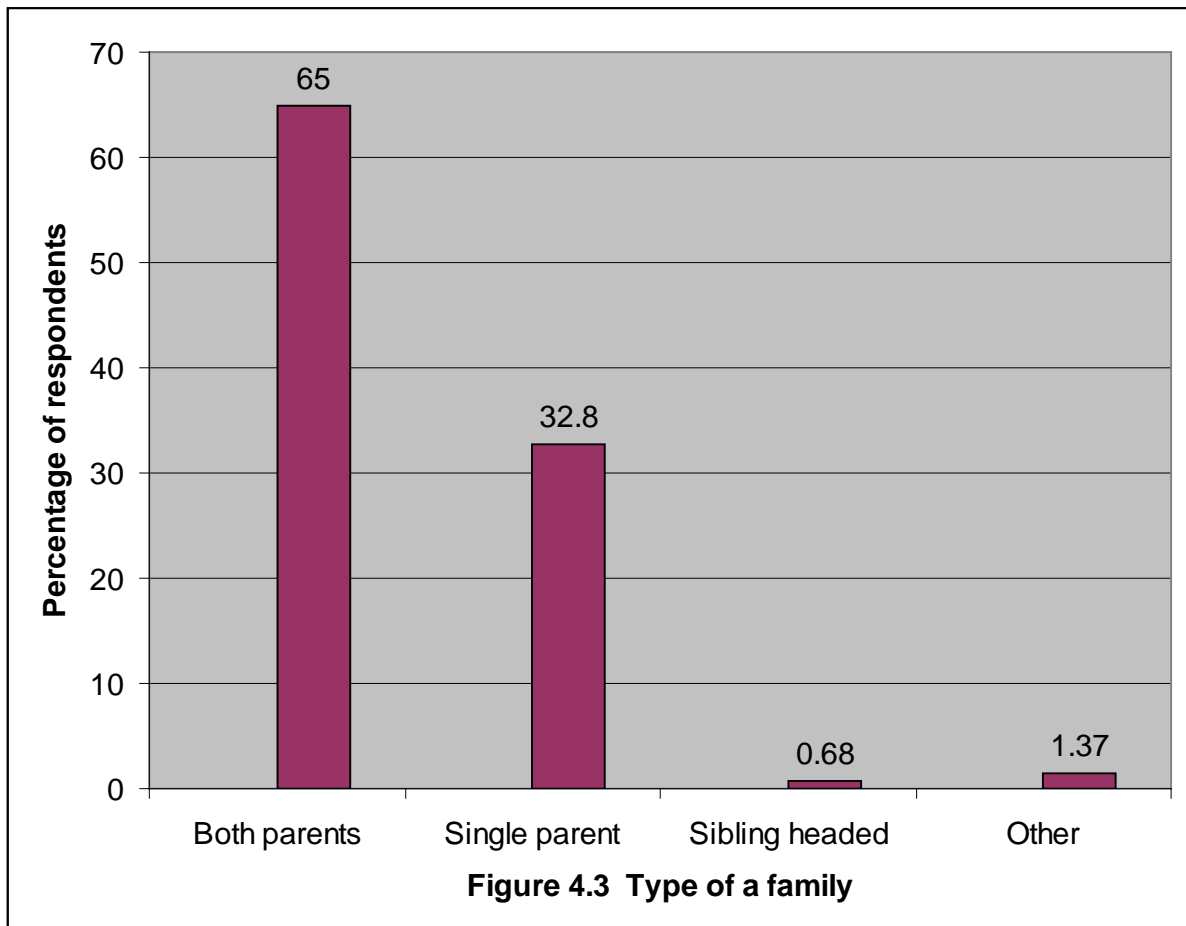


In this study, “Other Grades” referred to high school grades other than those indicated in the pie graph above (e.g. Grade 8). Of the respondents, 16.3% (n=24) indicated Grade 12 as the highest Grade passed. However, these respondents were in Grade 11 at the time of the study which could indicate that they had misunderstood the item.

The findings indicated no possible compounding effect of different Grades on the respondents’ perceptions of the five constructs as influential in the prevalence of teenage pregnancy. Most adolescent pregnancies are found in high schools as opposed to primary schools. Khoza (2004:6) noted with concern that the incidence of teenage pregnancy among school-going adolescents in the Greater Tzaneen municipality was reported to be increasing at an alarming rate. Matlala (2009:6) found that the majority of pregnant adolescents in 2008 were in Grade 10 and 12 and between the ages of 16 and 19. In addition, the number of adolescent pregnancies in Limpopo provincial schools had doubled (Matlala 2009:6). Matlala (2009:6) added further that by November in 2008, three out of 10 girls in one school in the province were pregnant. It is worth noting that in the present study, the majority of the respondents were in Grade 9.

4.3.1.6 Respondents' family environment (n=146)

Of the respondents, 65.07% (n=95) indicated that they were born into families with both parents; 32.88 (n=48) were born into single-parent families; 1.37% (n=2) were born into "other" environments, and 0, 68% (n=1) into a sibling-headed family.



With regard to the respondents' family type, figure 4.3 indicates that the majority came from a family comprising both parents, while the minority came from other types of families. It should be noted that the majority of the respondents came from a family comprising both parents. Families' comprising both parents were assumed to hold values such as discipline and guidance. However, of the respondents who lived with both parents, 65.0% (n=95) perceived health services to be unavailable as opposed to the other respondents. This perception may be attributed to adolescent pregnancy since such respondents may be reluctant to use the reproductive health services.

It is intriguing to note that of the respondents, 65.07% (n=95) raised in a family with both parents seemed to be at risk for teenage pregnancy in spite of the finding that Tsonga teenagers reported to be conservative and adhering to family values. East, Koo, and Reyes (2006:188) found that girls raised in single-mother households were at risk for teenage pregnancy. Goicolea, Wuff, Ohman and Sebastian (2009:225) found that parental absence is the main indicator for early pregnancy. Table 4.7 depicts the effects of the family setup/type of family on the respondents' perceptions of accessibility of teen health services as reason for teenage pregnancies.

Table 4.7 Respondents' family environment and their perceptions of accessibility of adolescent health services (n=146)

Family	Adolescent health services accessibility		
	Agree	Disagree	Total
Both parents	7 8.14	50 58.14	57 66.28
Single parent	7 8.14	22 25.58	29 33.72
Total	14 16.28%	72 83.72	86 100.00
Prob (Cochran-Armitage Trend test, Z=1.41)=0.08			

A statistically significant relationship at the 10% level of significance could be established between family set-up and perceptions of health services available to adolescents. The significance of the relationship was established in a Cochran-Armitage trend test, the probability associated with the Z-score statistic of 1.41 is 0.08, less than 0.1 which indicates significance at the 10% level.

Table 4.7 indicates that the respondents who live with both parents more often perceived health services to be unavailable, than those who live with one parent. These respondents tend to be somewhat less critical about availability of health services, but to a statistical significant extent, this can be deduced by examining the row percentages for the one parent and two parent groups. Table 4.8 depicts the effects of the respondents' family composition on their perceptions of nursing staff/adolescent relationship as a reason for teen pregnancy.

Table 4.8 Respondents' family environment effect on relationship with nurses (n=146)

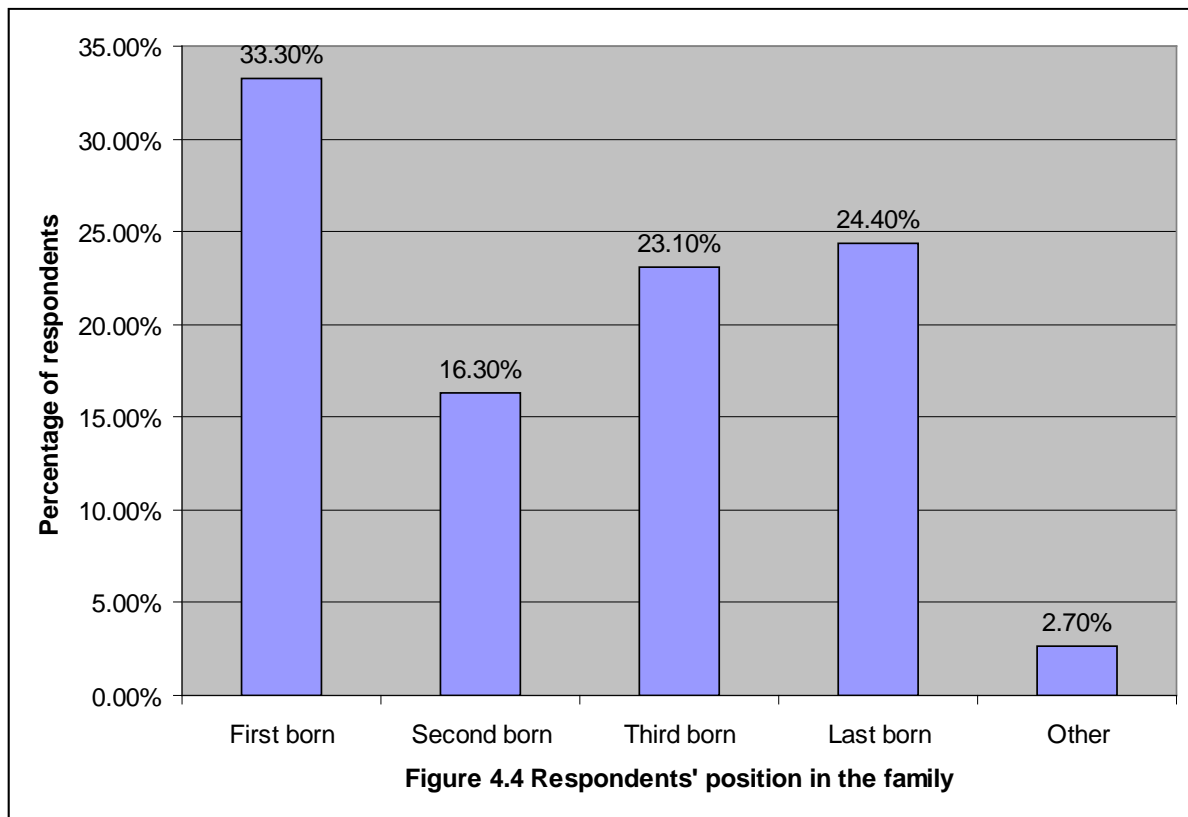
	Family		
Frequency Row Pct Col Pct	Both parents	Single parent	Total
Agree	5 62.50 8.77	3 37.50 10.34	8 9.30
Undecided	15 50.00 26.32	15 50.00 51.72	30 34.88
Disagree	30 75.00 52.63	10 25.00 34.48	40 46.51
Disagree++	7 87.50 12.28	1 12.50 3.45	8 9.30
Total	57 66.28	29 33.72	86 100.00
Prob. (Cochran-Armitage trend test, Z-statistics=2.08)=0.02			

A statistically significant relationship was established at the 5% level of significance between the respondents' family setup and their perceptions of the approachability of staff for teenagers: The significance of the relationship was established in a Cochran-Armitage trend test, the probability associated with the Z-score statistic of 2.08, which is 0.02 – which is less than 0.05 – indicating significance on the 5% level.

By examining the column percentages over agreement ratings of the two-parent and single-parent groups, it can be deduced that proportionately (9:26:53:12% and 10:52:34:4%) statistically significantly more two-parent than one-parent respondents indicated disagreement with the nurse approachability.

4.3.1.7 Respondents' position in the family (n=147)

Of the respondents, 33.3% (n=49) indicated that they were the first-born in their family; 16.3% (n=24) were the second-born; 23.1% (n=34) were the third-born; 24.4% (n=36) were the last-born, and 2.7% (n=4) indicated "other".



Of the respondents, the majority (33.3%; n=49) were the first-born in their families. This signifies that most of their parents are young; understand and take into account the changed (and changing) sex values, and hence do address their adolescents about adolescent-related issues. This statement is supported by the construct, Sexual attitudes and behaviour, which found that the respondents held a conservative value about early sexual relationships.

In summary, of the respondents, 94% (n=136) were single; 97% (n=142) spoke Tsonga; 39% (n= 57) and 38% (n=54) were in Grade 7 and Grade 10, respectively; 65% (n=95) lived with both parents; and 46% (n=62) and 42% (n=57) were between the age of 15 and 18 years. The profile of the pregnant adolescent in this study described a typical school-going female which was the relevant sample in the context of the study.

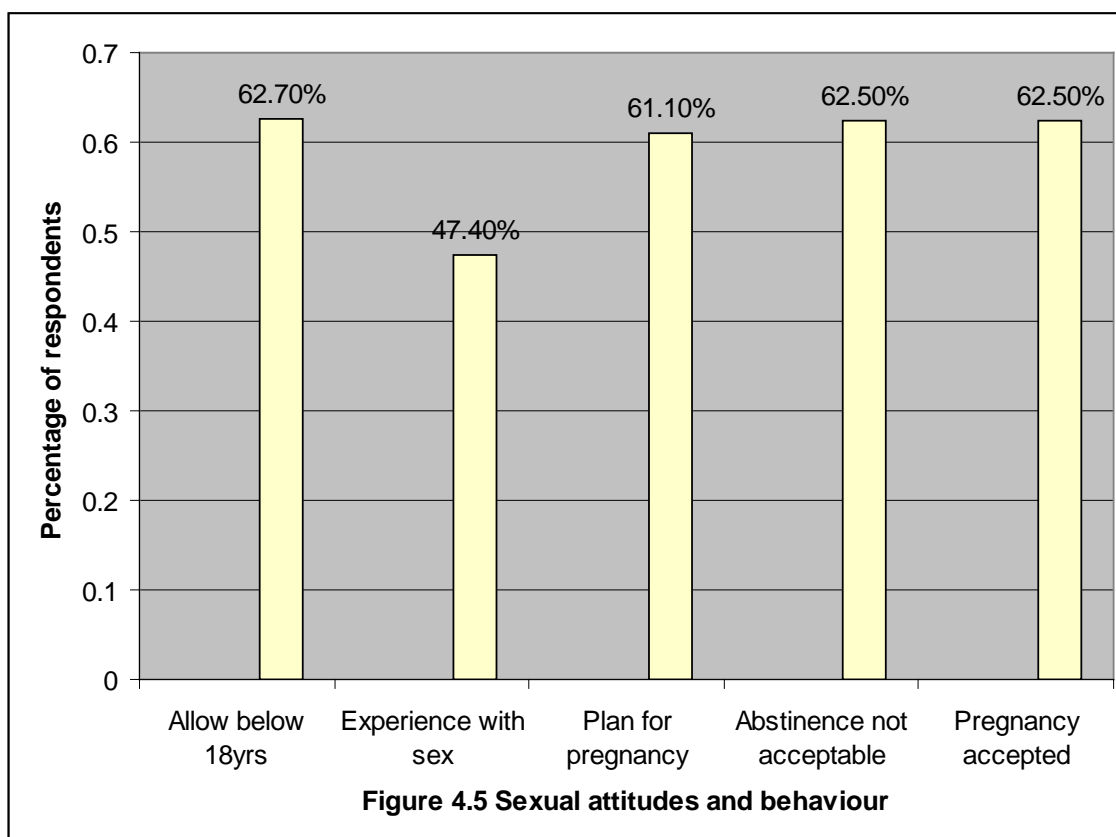
4.3.2 Section B: Respondents' perceptions of sexual attitudes and behaviour

This section dealt with the respondents' perception of sexual attitudes and behaviour. It comprised 5 items on a 5-point Likert scale ranging from strongly agree to strongly disagree. Table 4.9 depicts the respondents' perceptions of the sexual attitudes and behaviour.

Table 4.9 Respondents' perceptions of sexual attitudes and behaviour (n=144)

Sexual attitudes and behaviour	Agree	Undecided	Disagree	Total
Below 18 years sexual involvement is acceptable in the community	43 (17.93)	11 (7.59)	91 (62.76)	145
Adolescents experiment with sexual intercourse	50 (34.48)	26 (17.93)	69 (47.58)	145
Adolescents plan to fall pregnant	37 (25.1)	19 (13.19)	88 (61.11))	144
Abstinence from sex is not acceptable to adolescents	41 (28.47)	13 (19.03)	90 (62.5)	144
Adolescent pregnancy is socially acceptable	41 (28.47)	13 (90.3)	90 (62.5)	144
Total	212	82	428	722

The respondents' perception of sexual attitude and behaviour as a factor that may influence adolescent pregnancy signifies a negative perception or disagreement. The average construct score mean was 3.69. This was also indicated by a total *agree* rating of 29.36% (n=212) (of the grand total) as opposed to a high total *disagree* rating of 59.28% (n=428) (of the grand total). The respondents thus perceived some factors to contribute to teenage pregnancy while others do not. Figure 4.5 depicts some of the main factors on sexual attitudes and behaviour.



Generally, the respondents responded negatively to the items under the construct sexual attitude and behaviour. This signifies that the respondents' still held a conservative value/disagree about engaging in sexual activities at a younger age. The fact that the respondents still held a conservative value could be interpreted as meaning that there are other factors that influence early engagement in sexual activity. In a study in North Carolina, USA, on sexual risk in the context of immigration, Larson (2009:166) found that parents moved to cities in search of work, and this caused young girls to enter into the adult world for sexual relationship at an early age with expectation of marriage and childbearing. In a study on coerced first intercourse and reproductive health among 15 to 24-year-old Ugandan women, Koenig, Zablotska, Lutalo, Nalugoda, Wagman and Gray (2004:156) found that 14% of young women reported that their first sexual intercourse was coerced.

In a study on contraceptive use and pregnancy among South African women, Macphail, Pettifor, Pascoe and Rees (2007:5) found that of the respondents, over two thirds reported being sexually experienced by the age of 24, and 50% reported being pregnant. Heidi (2008:81) found that approximately 47% of high school students in

Grade 9-12 reported being sexually active and over 14% reported having had more than four partners.

4.3.3 Section C: Psychosocial factors related to reasons for early involvement in sexual activity

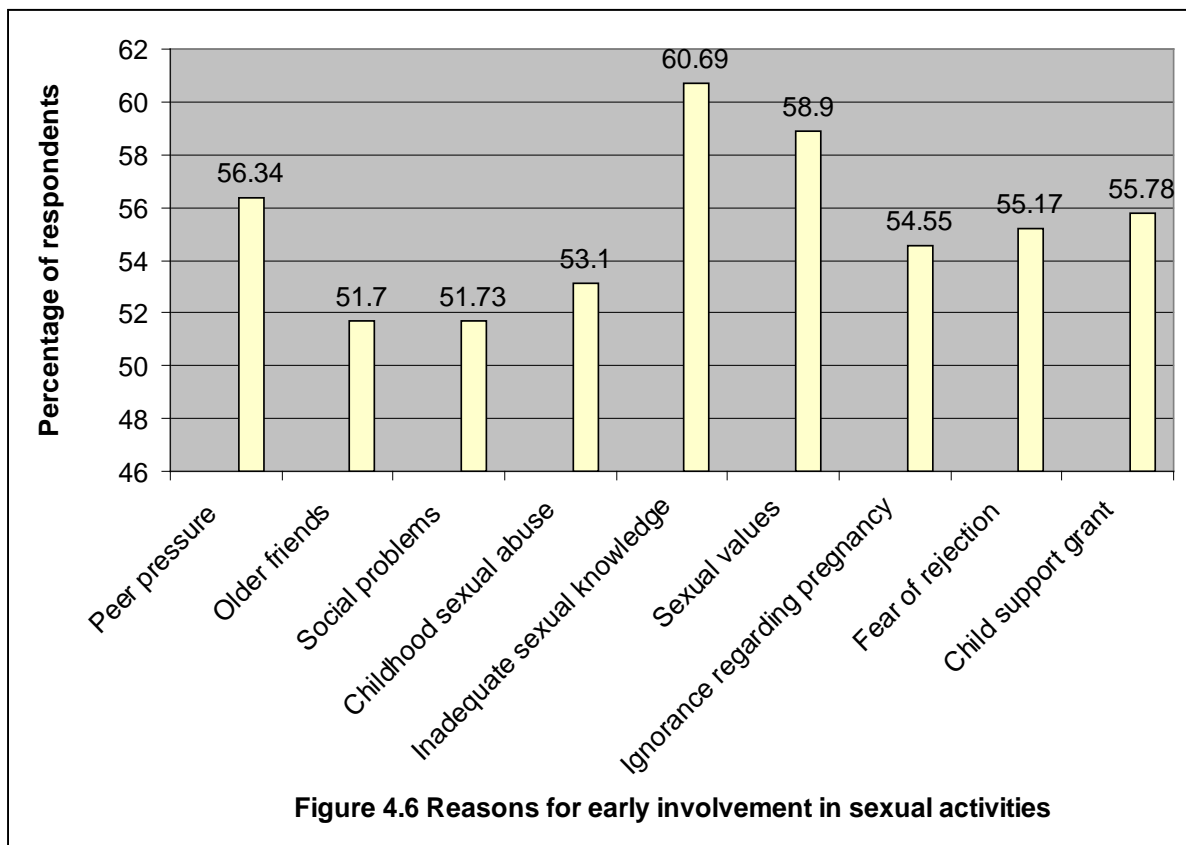
This section dealt with psychosocial factors related to reasons for early involvement in sexual activity. It consisted of 14 items on a 5-point Likert scale (from strongly agree to strongly disagree). Table 4.10 depicts the respondents' perceptions of effects of psychosocial issues on the prevalence of adolescent pregnancies.

Table 4.10 Respondents' perceptions of psychosocial factors related to reasons for early involvement in sexual activity (n=147)

Psychosocial issues	Agree	Undecided	Disagree	Total
Poor parental support for adolescents	20 (13.8)	17 (11.72)	108 (74.49))	145
Peer-group pressure	80 (56.34)	14 (9.86)	8 (33.80)	142
Inclined to prove ability to bear children	54 (30.77)	20 (13.99)	69 (48.25)	143
Influence of media such as TV, magazines and music	14 (9.8)	21 (14.69)	108 (75.52)	143
Friendship with older adolescents who have children	76 (51.7)	17 (11.56)	54 (36.73)	147
Early menarche (first menstruation)	44 (29.17)	21 (14.58)	81 (56.25)	144
Social problems experienced by adolescents	75 (51.73))	10 (6.90)	60 (41.38)	145
Sexual abuse in childhood	77 (53.1)	14 (9.66)	54 (37.24)	145
Lack of adequate knowledge about sexuality	88 (60.69)	20 (13.79)	37 (25.51)	145
Most adolescents become mature at an early age	57 (40.12))	30 (20.83)	57 (39.58)	144

Psychosocial issues	Agree	Undecided	Disagree	Total
Changed values and attitudes towards sexual activity	86 (58.90)	27 (18.49)	33 (27.43)	146
Many adolescent girls mistakenly believe that they are too young to fall pregnant	78 (54.55)	31 (21.68)	34 (23.78)	143
Become pregnant in order to receive a social grant for the baby	82 (55.78)	17 (11.56)	48 (32.65)	147
Fear of rejection by friends	80 (55.17)	17 (11.72)	48 (33.1)	145
Total	911	276	837	2024

With regard to the respondents' perceptions of psychosocial factors related to reasons for early involvement in sexual activity, the respondents were generally indifferent as indicated by the construct mean of 2.93. The respondents perceived some issues as contributing to adolescent pregnancy while others did not. This signifies that the respondents agree with some of the issues and disagree with others, which indicates that they are able to distinguish between issues that affect adolescent pregnancy and those that do not. Figure 4.6 depicts the respondents' negative response to the influence of psychosocial issues on the prevalence of teen pregnancies.

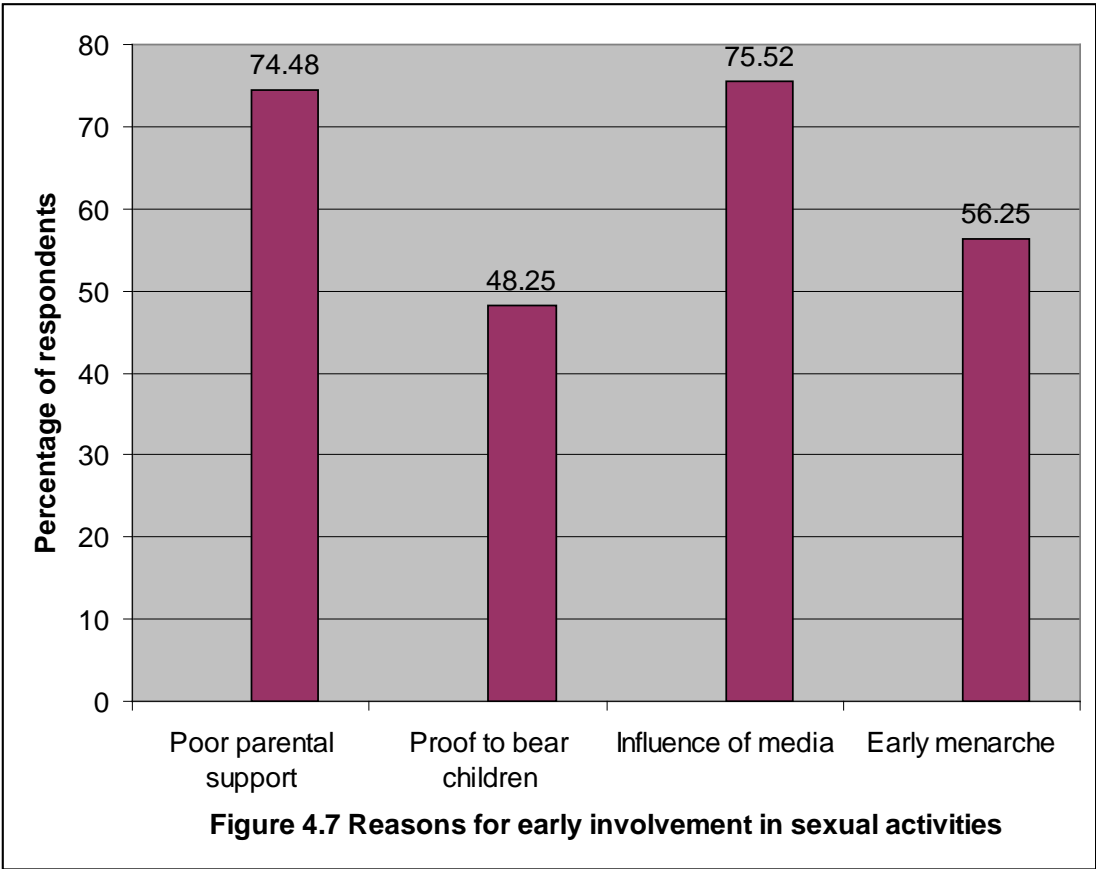


The findings indicate an agreement trend among the respondents on certain issues. Of the respondents, 60.69% (n=88) indicated/agreed that inadequate sexual knowledge is one of the factors exposing them to sexual activity at an early age; 58.9% (n=86) indicated changed sexual values have an impact on engaging in sexual activity at an early age; 56.34% (n=80) indicated that peer pressure forces adolescents to engage in sexual activity; 54.55% (n=78) indicated that ignorance regarding pregnancy age contributes to early exposure to sexual activity; 51.7% (n=76) indicated that adolescents' affiliation with older friends exposes them to early sexual activity as older girls pressurize them to engage in risky behaviours; 53.0% (n=77) indicated that sexual abuse as a child compels adolescents to engage in sexual activity at an early age, and 55.78% (n=82) agreed that child support grants also influenced adolescents to fall pregnant.

The literature review also supported these findings. East, Koo, Reyes (2006:188) concur that peer pressure forces adolescent to engage in sexual activity because for every high-risk friend, girls' risk for pregnancy is increased. Godeau (2010:2) found that adolescents' affiliation with older friends exposes them to early sexual activity as the mature girls pressurize them to engage in risky behaviours. Regarding sexual abuse,

the Who (2002:16) found that across the world a huge number of adolescents are abused sexually and most at risk are girls aged 11 to 16. Yako and Yako (2007:79) concur that lack of knowledge is one of the reasons that adolescents fall pregnant. Furthermore, this problem may be aggravated by health workers' negative attitude towards the use of contraceptives.

The results strongly suggest that psycho-social issues affect the teenage pregnancy rate. Figure 4.7 depicts psychosocial issues on prevalence of teen pregnancies with reference to a positive response.



With regard to poor parental support, most (74.48%; n=108) of the respondents disagreed that it is a possible cause of adolescent pregnancy compared to other disagree responses. The respondents *disagree* response is attested by the fact that in figure 4.5, most of the respondents disagreed that involvement in sexual activities at an early age is acceptable to society. Linking the high *disagree* response to poor parental support and the respondents' perception of early involvement in sexual activity, it can be concluded that adolescent pregnancy is not necessarily linked to poor parental support.

Issues perceived not to affect teen pregnancy on which the majority *disagree* rating responses included poor parental supervision (74.49%; n=108); proof of fertility (48.25%; n=69); influence of the media (75.52%; n=108), and early menarche (56.25%; n=81). The respondents did not perceive them as contributory to high rates of teenage pregnancy.

It was statistically observed that the respondents *agreed* with some of the factors and *disagreed* with others under the same construct. However, the majority of respondents agreed that issues such as peer group pressure, fear of rejection, and influence by older adolescents contribute to adolescent pregnancy. In this regard, the WHO (2002:21) reports that peer pressure has a great influence as adolescents consult their friends, especially on reproductive health matters and are wrongly influenced most of the time. In Cape Town, South Africa, Selikow, Ahmed, Flisher, Matthews and Mukoma (2009:107) found that some respondents recognized that peer pressure to engage in high risk sex is unhealthy and needs to be challenged. This study found that of the respondents, 56.34% (n=80) indicated that peer pressure to engage in sexual activity is experienced by a great number of adolescents and needs to be challenged.

The respondents further agreed that psychosocial factors, such as social problems, sexual abuse as a child and poverty, have an influence. This supports Goicolea, Wuff, Ohman and Sebastian's (2009:224) finding that most risk factors linked to early pregnancy are sexual abuse, parental absence, and poverty.

Of the respondents, 55.1% (n= 80) agreed with fear of rejection by friends compared to all other factors with an *agree* response. The statistics indicate that fear of rejection by friends appears to be a great challenge facing adolescents, and consequently is a major factor contributing to adolescent pregnancy.

Foy and Dickson-Tetteth (2001:28) point out that during the adolescent stage new feelings emerge, friends assume great importance, and interest in the opposite sex increases. Foy and Dickson-Tetteth's (2001:28) findings support Erikson's theory of psychosocial development that proposes that adolescents face a psychosocial crisis which is identity versus role confusion and need affirmation by others.

4.3.4 Section D: Factors related to availability of reproductive health services for adolescents

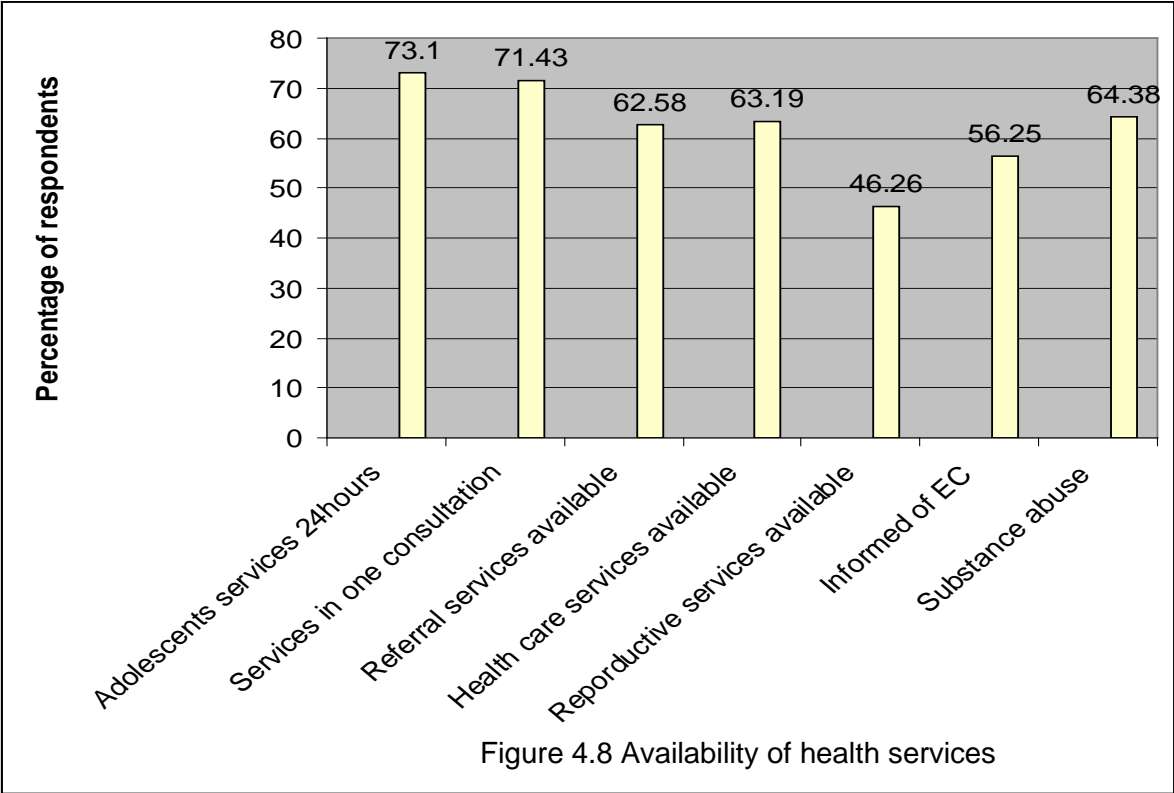
This section dealt with factors related to availability of health services for adolescents. It consisted of 9 items on a 5-point Likert scale (from strongly agree to strongly disagree). Table 4.11 depicts the effects of accessibility of reproductive health services to adolescents on the prevalence of adolescent pregnancy.

Table 4.11 Respondents' perceptions of actors related to availability of reproductive health services (n=147)

Adolescent health services issues	Agree	Undecided	Disagree	Total
Adolescent health services are available for 24 hours	26 (17.93)	13 (8.97)	106 (73.1)	145
Various services in one consultation	26 (17.68)	16 (10.88)	105 (74.33)	147
Referral services are available	33 (22.45)	22 (14.97)	90 (62.58)	147
Health care services are accessible	30 (20.83)	23 (15.97)	91 (63.19)	144
Contraceptives are accessible	57 (38.77)	22 (14.97)	68 (46.24)	147
Adolescents are informed of emergency contraceptives	32 (22.22)	31 (21.53)	81 (56.25)	144
Informed of health matters related to adolescent pregnancy	72 (49.66)	26 (17.93)	47 (32.41)	145
Substance abuse such as alcohol or drugs	33 (22.60)	19 (13.01)	94 (26.71)	146
Adolescents can discuss menstrual problems with nurses	72 (49.66)	25 (17.24)	48 (33.10)	145
Total	381	197	732	1310

With regard to the respondents' perception and response patterns to accessibility of health services as a factor that may influence adolescent pregnancy, the respondents show a *disagree* trend as indicated by the construct mean of 3.48. This signifies a negative value in the respondents' perceptions of the influence of accessibility of health services on the prevalence of adolescent pregnancy, meaning that the adolescent health services are not available as expected. In Jordan, Khalaf, Moghli, and Froelicher (2010:321) found that adolescent services are not readily available as their respondents' knowledge about reproductive health services was limited or inadequate. According to Khalaf et al (2010:321), the respondents identified "unpleasant facilities, unprofessional conduct and ill-informed professional" as barriers to using reproductive

health services. Richardson-Todd (2006:41) found that although sexual health services are provided, not all young people access them. Hence there is a need to provide sexual health services in the school setting (i.e., at schools). In this study, however, of the respondents, 49.66% (n=72) indicated that nurses inform them of adolescent pregnancy matters, and 55.1% (n=80) agreed that health facilities in the local community have a youth clinic. Figure 4.6 depicts the availability of adolescent health services on a negative response



The interpretation of the health services accessibility score mean of 3.48 should also be interpreted in the context of the issues that describe the construct. The response patterns in Table 4.8 on the following health services that underlie the construct all show a *disagree* trend, namely 24-hour availability of services; the variety of services offered during a single consultation; availability of referral services; availability of specifically adolescent healthcare services; reproductive services available; emergency contraceptive services, and substance abuse. The *disagree* response trend in these instances implies that the respondents do not perceive these health services as freely available.

Under this construct, the respondents held a negative value or *disagreed* with most of the factors. From this it could be concluded that the unavailability of these health

services will impact on teen pregnancy rates since the services all concern sexual health services. The *agree* response trend to the issues of whether nurses provide health information related to teenage pregnancy and discussion with regard to menstrual problems indicated that the respondents perceived these services to be available to them. According to the WHO (2002:18), adolescents want a welcoming facility, and insist on privacy and confidentiality. They want a service in a convenient place and time; a range of services at a time, and not to be referred to other health professionals for other health care needs. The respondents' responses that disagree with such factors as services available for 24 hours, variety of services in one consultation, and accessible services, indicates that a negative attribute may be attached to health services. Matthews (2008:3) found that services offered to adolescents are not accessible due to lack of confidentiality, rudeness among health care providers, ignorance and fear of embarrassment. The implication thereof might be that adolescents do not perceive the health services as freely available.

This could imply that the unavailability of these health services will impact on adolescent pregnancy rates since the services concern sexual health services. However respondents agreed that they are informed about adolescent pregnancy-related matters and menstrual problems. This is supported by Harper, Henderson, Schalet, Becker, Strautton and Raine's (2010:127) findings in the USA that health care providers spend more time with adolescents and teach anatomy, safe behaviours and disease risk because of HIV challenges.

4.3.5 Section E: Knowledge about health problems facing adolescents

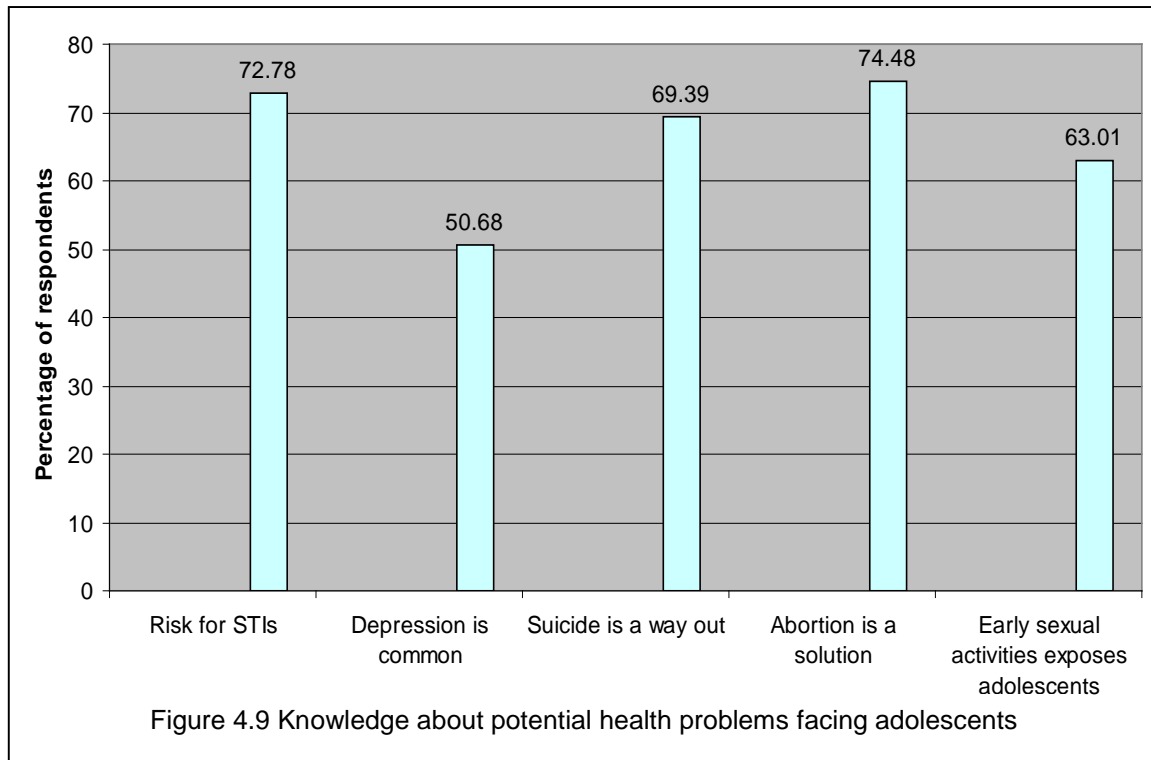
This section dealt with knowledge about health problems facing adolescents. It consisted of 6 items on a 5-point Likert scale (from strongly agree to strongly disagree). Table 4.9 depicts the respondents' perceptions of health problems/risks that possibly impact on the prevalence of adolescent pregnancy.

Table 4.12 Respondents' knowledge about health problems facing adolescents

Health problems/risks	Agree	Undecided	Disagree	Total
Adolescents are at risk of contracting sexually transmitted infections (STIs)	107 (72.78)	11 (74.80)	29 (19.72)	147
Depression is common among adolescents	74 (52.76)	10 (6.85)	62 (42.47)	146
Suicide is one way of handling problems such as unplanned pregnancy	102 (69.39)	9 (6.12)	36 (24.49)	147
Abortion is an acceptable solution to teenage pregnancy	108 (74.16)	21 (14.48)	16 (11.04)	145
Early sexual activity exposes adolescents to teenage pregnancy	92 (63.01)	20 (13.70)	34 (23.29)	146
Prefer not to use contraceptives	41 (28.27)	43 (29.66)	61 (42.17)	145
Total	524	114	238	876

With regard to the respondents' knowledge about health problems that they face, they held a positive perception. However, the strength of the positive response was weakened by the fact that of the respondents, 42.07% (n=61) *disagreed* on the one factor that "adolescents prefer not to use contraceptives". All the other factors were received a positive response. This resulted in the overall neutral mean of 2.49. Generally this signifies that adolescents agree that health problems do exist and that adolescent health problems may impact on the prevalence of adolescent pregnancy.

Most (72.78%; n=107) of the respondents agreed that they are at risk of contracting STIs. This could be interpreted to mean that adolescents are aware of contracting STIs, such as HIV/AIDS, given the fact that this health problem is taught in the subject Life Orientation (LO). Table 4.5 indicates that of the respondents, 4.41% (n=6) indicated that adolescents are exposed to sexual relationships as early as between 11 and 12 years of age, and 8.09% (n=11) indicated an increase between 13 and 14 years old. This indicates a contradiction between the finding that of the respondents, 52.74% (n=77) *disagreed* that HIV/AIDS is a major teen health problem while 72.78% (n=107) *agreed* that they are at risk for contracting STIs. Of the respondents, 41.78% (n=61) also *disagreed* that adolescents suffer birth complications. This may be attributed to limited knowledge about sexual issues. Figure 4.8 depicts the respondents' knowledge about health problems facing adolescents.



According to the findings, the respondents appear to be aware that adolescents face health problems and that these health problems affect the prevalence of adolescent pregnancy. Of the respondents, 69.39% (n=102) agreed that suicide and 50.68% (n=74) agreed that depression are health problems that affect adolescents. According to the WHO (2002:17), depression is common amongst teenagers and almost 90 000 young people commit suicide each year across the world. Apter (2010:271) found that in China, Southern India, and Singapore, young females are more at risk for suicide than males.

Of the respondents, 74.49% (n=108) agreed that abortion is a solution to adolescent pregnancy. However, adolescents may have an abortion due to other factors. Ratlaba, Makofane, Jail and Mphil (2007:29) found that some adolescents engage in termination of pregnancy due to factors such as fear of parents, shame, inability to provide child care, and attending school. However, Grimes, Benson, Singh, Romeo, Ganatra, Okonofua and Shah (2006:1909) maintain that unwanted adolescent pregnancy is often due to a lack of knowledge about contraceptives and termination of pregnancy.

Although adolescent pregnancy is reported to be on the increase, a notably alarming high number of the respondents (74.49%; n=108) indicated that abortion is a solution to adolescent pregnancy. This could imply that the rate of teenage pregnancy being reported cannot be relied upon since most adolescents also use the TOP services. Furthermore, Grimes, Benson, Singh, Romeo, Ganatra, Okonofua and Shah (2006:1909) found a high rate of unsafe adolescent abortions.

The respondents strongly disagreed that they are not against the use of contraceptives, which means that they do use them which might include TOP. In a study in South Africa, Redelinghuys and Van Rensburg (2004:235) found a 53% rate of adolescent contraceptive use. However, Yako and Yako (2007:77) found that 48% of the adolescent mothers reported a lack of knowledge on contraceptives as the reason for their pregnancy.

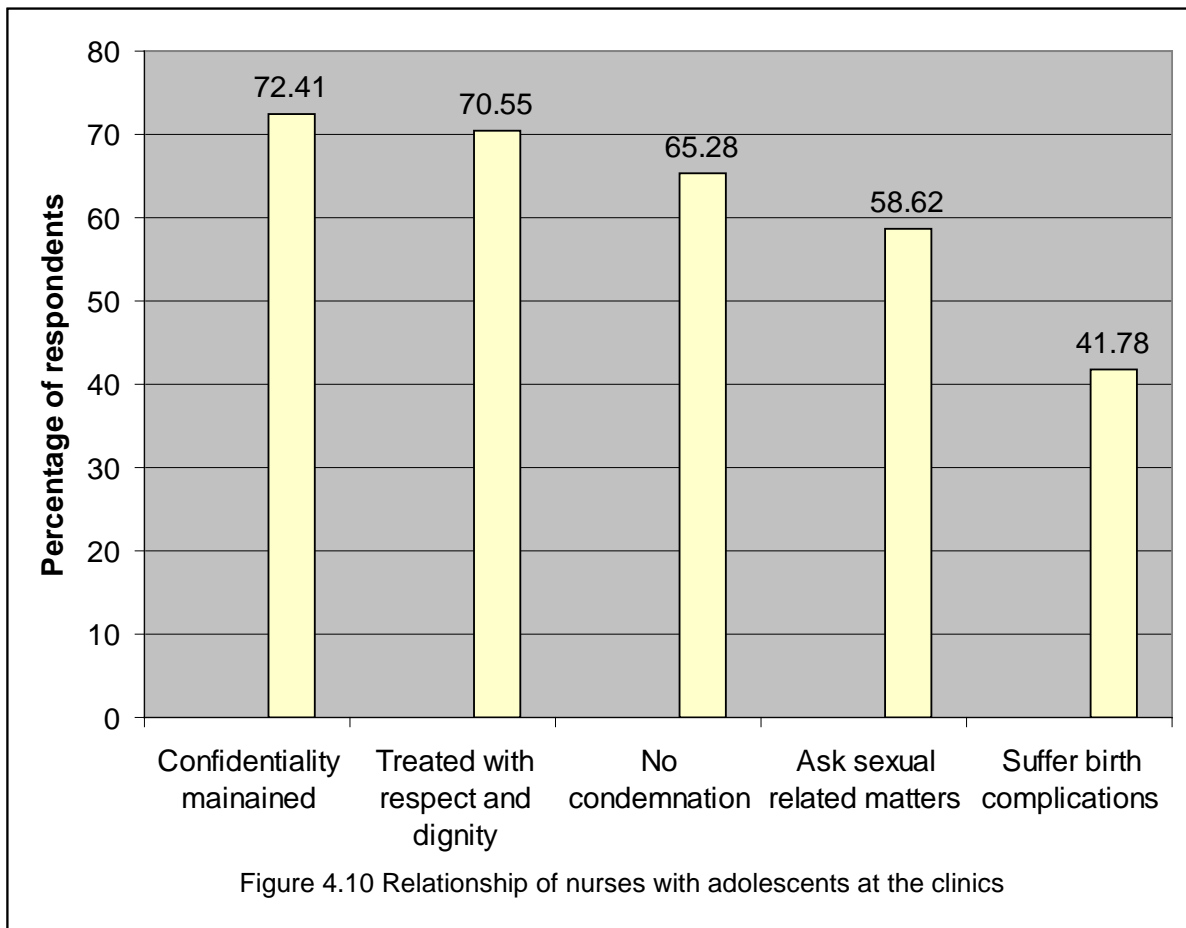
4.3.6 Section F: Relationship of nurses with adolescents at the clinic

This section dealt with relationship of nurses with adolescents at the clinics. It consisted of 7 items on a 5-point Likert scale (from strongly agree to strongly disagree). Table 4.13 depicts the respondents' perceptions of nurses' relationship with adolescents at the local clinics that may possibly affect the prevalence of adolescent pregnancy.

Table 4.13 Respondents' perceptions of relationship of nurses with adolescents at the clinics (n=146)

Relationship issues	Agree	Undecided	Disagree	Total
Nurses at the clinic treat health matters with confidentiality	35 (24.13)	5 (3.45)	105 (72.41)	145
Adolescents are treated with respect and dignity	32 (21.91)	11 (7.53)	103 (70.55)	146
They teach adolescents about different contraceptive methods	66 (46.16)	22 (15.38)	55 (38.47)	143
Nurses discuss sexual matters with adolescents without condemning them	33 (22.98)	17 (11.81)	94 (65.28)	144
You can ask the nurses sexually-related questions without being afraid	38 (26.62)	22 (15.17)	85 (58.62)	145
Adolescents discuss their menstrual problems with nurses at the clinic	72 (49.66)	25 (17.24)	48 (33.10)	145
Some adolescents suffer birth complications	53 (36.99)	31 (21.23)	61 (41.78)	146
Total	330	133	551	1014

With regard to the respondents' perception about relationship of school health nurses and nurses at the clinic with adolescents, they held a negative view about the investigated construct. This is evidenced by the construct score mean of 3.37 which signified that the majority of the factors on this construct received a negative response pattern. The respondents responded positively to one factor only: "adolescents discuss their menstrual problems with nurses at the clinic", with an *agree* response of 49.66% (n=72). This signified that the respondents *disagreed* that nurses had a good relationship with adolescents. As a result, the respondents' overall perception was that the nurse-adolescent relationship is strained. This implies that adolescents may hesitate to take the nurses' advice and this may affect the prevalence rate of adolescent pregnancy.



According to the finding on this construct, the respondents *disagreed* that there is a good relationship between nurses and adolescents on most of the factors. This supports the finding of the WHO (2002:23) that services may be regarded as unwelcoming by adolescents because they are sensitive to issues of privacy and confidentiality. They may find it difficult to adapt to unfriendly health care providers who do not listen or are judgmental about them.

The study found that of the respondents, 72.41% (n=105) disagreed that matters are treated with confidentiality and 70.55% (n=103) disagreed that adolescents are treated with respect and dignity. Confidentiality being the highest is critical because it coupled with privacy forms part of patients' rights. The *Patients' Rights Charter* stipulates that information concerning patients' health, including information concerning treatment, may only be disclosed with their informed consent. In 1997, in an effort to improve the quality and accessibility of all public services, including health care services, the Department of Public Services and Administration (DPSA) introduced the *White Paper for the Transformation of Public Service Delivery*, which included the *Batho Pele*

("Putting people first") Principles, and the Department of Health (DOH) introduced the *White Paper for the Transformation of the Health System in South Africa*. In 1999, the *Patients' Rights Charter* was adopted (DOH 2000:33).

Observation of patients' rights ensures building of trust between health care service providers and patients. Therefore lack of observation towards the rights may impact negatively on adolescent reproductive health. Baloyi (2007:18) stresses that one of the teenage pregnancy prevention approaches is access to contraceptives. Therefore nurses' poor relationship with adolescents may contribute to adolescents' reluctance to utilise the reproductive health services for information, services and support against pregnancy at an early age.

In summary the findings seem to indicate that the respondents still held conservative values regarding sexual activity and behaviour. The psychosocial issues cited in this study affect teenage pregnancy rates. The respondents were able to distinguish between issues that affect teen pregnancy and those that do not, based on their knowledge, insight and world-view. The respondents did not perceive all health services to be freely available and this fact impacts on teen pregnancy rates. Teen health problems exist and influence teens' choices of behaviour which could negatively affect teen pregnancy rates. The respondents' generally perceived nurse-adolescent relationships as strained and impacting on teen pregnancy rates.

4.4 CONCLUSION

This chapter discussed the data analysis and interpretation with the use of composite frequency tables, graphs, descriptive and inferential statistics. The results of the study revealed that the respondents had both positive and negative perceptions of factors influencing adolescent pregnancy.

Chapter 5 concludes the study, discusses its limitations, and makes recommendations for nursing practice and education, and further research.

CHAPTER 5

FINDINGS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter discussed the findings and limitations of the study and makes recommendations for improving nursing practice, education, and further research.

5.2 PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of the study was to identify issues, reasons or circumstances that contribute to high pregnancy rates especially among school-going adolescents in the Greater Giyani municipality.

The objectives were to:

- Explore and describe factors, issues, reasons and circumstances that contribute to high pregnancy rates
- Develop a research poster for dissemination of findings to interested groups.

In order to achieve the purpose, the study wished to answer the following research question:

What factors influence adolescent pregnancy rates in Greater Giyani municipality?

5.3 DATA ANALYSIS AND INTERPRETATION

The researcher conducted a quantitative, descriptive and exploratory study about factors influencing the adolescent pregnancy rate. Data was collected using a self-administered questionnaire. The sample consisted of 147 adolescent girls from four selected high schools in the Greater Giyani Municipality. Data was analysed using

descriptive and inferential statistics. This section provides an integrated summary and interpretation of the findings obtained from the data.

5.3.1 Biographical data

In this study, the respondents were females mostly between ages of 16 and 20 years (82.19%; n=120), which signified a group of young sexually active respondents. Of the respondents, 45.59% (n=62) indicated that their age at first intercourse was between 15 and 16 years of age, which signified that the average age for engaging in sexual intercourse for the first time was at a mean of 15.5 years. In addition, 41.91% (n=) indicated first intercourse at between 17 and 18, which evidenced that by this age adolescents are long exposed to sexual relationship.

Of the respondents, 93.79% (n=136) were single, and 96.60% (n=142) spoke Tsonga, which indicated that the research setting was occupied by Tsonga-speaking people. The majority of the respondents were therefore Tsonga, and dependent on their parents or guardians for sustenance. It was noted that of the respondents, only 2.76% (n=4) indicated that they were neither married nor single. This signified that they were cohabiting as is the trend in some rural areas. Some girls who fall pregnant while still at school relocate to go and stay with boyfriends, while others will do the same even when not pregnant.

Of the respondents, 65, 07% (n=95) indicated that they were born into families with both parents and 33.33% (n=49) were the first-born in the family. Therefore the study indicated that majority of the responds came from families who uphold family values as the families comprised both parents. Larson (2009:160) found that in immigrant single-parent households family values are often compromised because in families without a father girls face sexual risks.

5.3.2 Factors related to sexual attitudes and behaviour

One of the major findings was that the respondents still had a conservative perception of engaging in sexual activity at an early age and adolescent pregnancy as socially acceptable. However despite the perception that involvement in sexual activities at an early age is not acceptable, many adolescents still fall pregnant.

The respondents' *disagree* response generally gave the impression that they were aware that involvement in early sexual activity is not acceptable hence most adolescent pregnancies were a surprise to parents and guardians. Stevens (2009:42) found that maternal morbidity, including obstetric fistula, is doubled in adolescents aged 15 to 19 and is at least five times higher in those under age 15.

Furthermore, the respondents' high *disagree* response signified that parents, guardians and significant others do play their role in guiding adolescents with regard to involvement in sexual activities at an early age. The respondents came from families with both literate and illiterate parents and guardians. Based on the respondents' family background, it was assumed that parents and guardians advise adolescents only to the level of pregnancy and STIs, and not about complications with regard to pregnancy and giving birth. Therefore, there seems to be a need to develop and implement measures to ensure open communication between parents and adolescent girls to combat pregnancy and birth complications.

Of the respondents, 62.5% (n=90) strongly disagreed that abstinence from sex is not acceptable to adolescents. This attitude signifies that the subject Life Orientation (LO) taught at school plays a critical role in informing adolescents about sexuality education. School health services rendered at schools by health care providers (HCP) and services rendered at the clinics also play an important role in informing adolescents on such matters. This raises the question of why adolescents still fall pregnant despite the informative sexuality education that they receive. One reason is that adolescents are rarely stable in carrying out decisions and their action frequently depends on what seems favourable at that moment. Therefore, school and clinics health care providers should be aware of this stage whenever advising or rendering a service to adolescents (George 2002:131)

5.3.3 Psychosocial factors related to reasons for early involvement in sexual activities

The respondents had a twofold response rate in their perceptions of psychosocial factors related to reasons for early involvement in sexual activity. This was supported by

the construct score mean of 2.93, which indicated that the respondents were generally indifferent towards psychosocial issues as reasons for early sexual activity.

The respondents *agreed* and *disagreed* at the same time that psychosocial issues affect adolescent pregnancy rates. An agreement trend was reported on issues such as the effect of peer pressure, older friends that have children, social problems of adolescent, sexual abuse, inadequate sexual knowledge, sexual values that have changed, ignorance regarding pregnancy age, fear of rejection, and child support grant. These results strongly suggest that psychosocial issues do affect teenage pregnancy rate.

The indifference, however, was due to the fact that some issues of the psychosocial construct reflected a majority *disagree* rating resulting in the score mean of 2.93 (see chapter 4, table 4.6). The issues perceived not to affect adolescent pregnancy rates included poor parental supervision; proof of fertility; influence of the media, and early menarche. The high response of 74.49% (n=108) to parental supervision appears to indicate that parents do instil good morals in adolescents, thus take care, and adolescents are aware of the moral values that should be upheld. However, despite the knowledge learned from their parents, guardians and health care providers, many adolescents still fall pregnant.

The deduction made from this construct was that adolescents were able to distinguish between issues that affect adolescent pregnancy and those that do not. The main factors that were perceived to have an influence on adolescent pregnancy were indicated as inadequate sexual knowledge, sexual values that have changed, peer pressure, and fear of rejection by friends.

The inadequate sexual knowledge with an *agree* response of 60.69% (n= 88) attested to insufficient knowledge on the construct. Pera and Van Tonder (2005:21) state that with regard to ethical and caring behaviours, knowing what to do, how to do it, when to do it seem to be powerful in enhancing morally-inclined individual. The sexual knowledge that adolescents receive may be inadequate in that it seems not to address the issue of what to do in case they find themselves in unfavourable conditions of having to make choices that may jeopardise their health and future.

Most (58.9%; n=86) of the respondents *agreed* that sexual values that have changed influence the rate of adolescent pregnancy. In Slovenia, Pinter, Verdenik, Grebenc and Ceh (2009:128) found that changed sexual values more easily expose adolescents to pregnancy.

Of the respondents, 56.34% (n=80) *agreed* that peer pressure and 55.17% (n=80) *agreed* that fear of rejection by friends had an influence on adolescent pregnancy. These two factors appear to be among the unfavourable conditions that adolescents find themselves in. Furthermore, the researcher concluded that so far little attention has been given on how to deal with them. The environment, people and behaviour constantly influence each other. Adolescents spend more time with their friends than with their parents, which also affect their choices and decisions.

5.3.4 Factors related to availability of health services for adolescents

The respondents *agreed* that factors related to availability of health services for adolescents influence adolescent pregnancy. The respondents generally *disagreed* that adolescent health services are available for 24 hours; various services are offered in one consultation; health services are accessible; reproductive services such as contraceptives are available; adolescents are informed of emergency contraceptives (EC), and adolescents are informed of substance abuse as one of the factors that negatively impact on teenage pregnancy.

Of the respondents, 46.26% (n=68) indicated that contraceptives were not accessible. In addition, 73.1% (n=106) indicated that services were not available on a 24-hour basis, which implied that if adolescents missed going for contraceptives during the day, the service was not available in the evening or at night. In a study on contraception use and pregnancy among 15-24 year-old South African women, MacPhil, Pettifor, Pascoe and Rees (2004:5) found that adolescents are educated and subsequently offered contraceptives after the first pregnancy due to social stigma and lack of knowledge on sexuality to prevent pregnancy.

It was noted that of the respondents, 49.66% (n=72) *agreed* that nurses provide health information related to adolescent pregnancy. Adolescents may be given information

about adolescent pregnancy, but the *disagree* response with regard to other factors rendered the information provision weak.

Maharaj and Rogan (2008:351) point out that much of the South African literature suggests a fairly low awareness of EC especially among health care providers. Maharaj and Rogan (2008:354) found little knowledge of EC among health care providers. Furthermore, information given by health care providers should be coupled with availability, accessibility and a warm attitude. Maharaj and Rogan (2008:356) emphasise that lack of a warm attitude contributes to underutilisation of reproductive services, such as EC, by adolescents.

In 1997, in an effort to improve the quality and accessibility of all public services, including health care services, the Department of Public Services and Administration (DPSA) introduced the *White Paper for the Transformation of Public Service Delivery*, which included the *Batho Pele* (“Putting people first”) Principles, and the Department of Health (DOH) introduced the *White Paper for the Transformation of the Health System in South Africa*. In 1999, the *Patients’ Rights Charter* was adopted (DOH 2000:33).

5.3.5 Knowledge about health problems facing adolescents

There was a high *agree* pattern that adolescents face health problems. The respondents *agreed* that adolescents are at risk of contracting sexually transmitted infection and diseases. Depression is common among adolescents and suicide is one way of handling problems such as feeling hopeless. Depression is a condition that often leads to suicide. Many adolescents who are depressed end their lives by committing suicide (WHO 2002:271). The high *agree* response (69.39%; n=102) to the factor, “suicide is a solution to adolescent pregnancy” indicates that some adolescents commit suicide due to adolescent pregnancy.

The respondents *agreed* that early sexual activity exposes adolescents to adolescent pregnancy. The *agree* response with regard to this factor indicated that adolescents continue to engage in early sexual activities with the hope that they will not fall pregnant or that they can/will terminate the pregnancy. Of the respondents, 74.49% (108) *agreed* with the factor, “abortion is an acceptable solution to teenage pregnancy”. Ekstrand, Tyden, Darl and Larson (2009:173) found that about 75%-90% of known pregnancies

end in abortion indicating an intense desire among young women to avoid pregnancy during the teenage years. At the same time, however, although adolescents are generally aware of the availability of the service, many lack sufficient information to access the service. Many adolescents are not aware that legal abortion is done before twelve weeks' gestation. Ratlaba, Makofane, Jali and Mphil (2007:30) found that adolescents lack information with regard to TOP services because they are not well informed about new developments in the health care sector, such as the existence of choice of termination of pregnancy.

The respondents *disagreed* that "Adolescents prefer not to use contraceptives". The respondents' disagree response indicated that adolescents were aware of contraceptives but may not necessarily use them because of the available TOP services. From this the researcher concluded that some of the available health services contradict each other and adolescents may unconsciously be confused and make the wrong choice.

Of the respondents, 72.78% (n=107) *agreed* that adolescents are at risk of contracting STIs. This high response rate signified that they were aware that unprotected sex not only exposes them to pregnancy but they also run the risk of contracting STIs. Life Orientation, which is taught in schools from Grade 5, informs learners of the possibility of contracting STIs, including HIV/AIDS, if/when they engage in sexual relationships. The modes of transmission and protection methods are also taught. "Abstinence, be faithful to one partner, and condomise (ABC)" is a slogan that is emphasised at an early age to combat the spread of STIs. The *agree* response further indicated that adolescents failed to abstain as well as use condoms during intercourse. Abstaining may be difficult for some adolescents, but the question still remains why they do not use condoms to prevent pregnancy and STIs.

5.3.6 Relationship of nurses with adolescents at school and clinics

The majority of the respondents *disagreed* that the relationship between adolescents and nurses is good. They chose a negative response to most factors in this construct. The respondents *disagreed* that nurses at the clinic treat health matters with confidentiality; adolescents are treated with respect and dignity; adolescents are taught

about different contraceptive methods; nurses discuss sexual matters without condemning them, and that adolescents can ask the nurses sexual-related questions without being afraid. The only factor they *agreed* on was that adolescents can discuss menstrual problems with nurses at the clinic.

The inability of nurses to maintain confidentiality may be one of the reasons adolescents do not adequately utilise health care facilities, especially in small communities. For example, matters such as abortion call for strict confidentiality because disclosure of such information may impact negatively on the adolescent. The respondents indicated that adolescents are not treated with respect and dignity. Treatment that lacks respect, dignity, and confidentiality has no value to clients and may have a negative impact on further use of the services.

5.4 SCOPE AND LIMITATIONS OF THE STUDY

The study was conducted in four schools located in Greater Giyani Municipality, Mopani district. Greater Giyani Municipality consists of four school circuits. The study was restricted to four schools in the Greater Giyani Municipality therefore, the findings cannot be generalised to other districts or areas of Limpopo Province or the country.

The sample consisted only of adolescent girls attending the selected high schools. Adolescent girls who do not attend school and adolescent school boys were excluded which could have given a wider perspective of the phenomenon. Some of the constructs and items on the questionnaire were identified by the statistician during analysis as flawed which makes the study to be regarded rather as a pilot study.

5.4 RECOMMENDATIONS

The study findings highlighted some factors influencing the high adolescent pregnancy rates. In addition, the study identified gaps in the quality of adolescent reproductive services that need to be addressed. Based on the findings, therefore, the researcher makes the following recommendations for practice, education, and further research.

5.4.1 Practice

The findings of this study should assist policy-makers, programme planners and practitioners to serve as a knowledge base on which to build strategies for improving adolescent reproductive health services. It is recommended that

- The Department of Health and Department of Education work together to provide youth clinics that cater solely for adolescent health and reproductive services run by trained professional nurses. These clinics could be mobile units that serve several schools in a district.
- Professional nurses should be appointed to act as primary nurses so that adolescents feel free to divulge any information and seek information and advice.
- Sexuality education should be one of the core functions of trained school health nurses and professional nurses offering youth services. Adolescent reproductive programmes should form part of all professional nurse training programmes.

These recommendations will assist to identify other measures that school health services can use to form the basis of sexuality education at schools.

It is further recommended that

- The Department of Health and local authorities should develop and distribute pamphlets to empower adolescents on choice of friends who will enforce positive relationships. Such material should be readily available in areas that are easily accessible to adolescents, such as schools, clinics and shops, including village shops.
- The school health services and youth clinics in conjunction with recreational facility officers assist in sending positive messages in the form of campaigns and sports to the youth, thereby inculcating positive relationships among adolescents.
- Younger professional nurses that adolescents can easily identify with should be assigned to run the youth clinics and undergo training on management and conducting of such a clinic.

5.4.2 Nursing education

Regarding nursing education, the researcher recommends that

- School health nurses, professional nurses and other categories of nursing staff, who work in direct contact with adolescents, should receive in-service education on adolescent reproductive health on a regular basis. They should also receive in-service education on legislation and policy on up-to-date quality health care service provision, especially youth/adolescent health care.

5.4.3 Nursing research

Further research should be undertaken on the following topics:

- An investigation into the factors that influence adolescent pregnancy rates despite the sexuality education they receive at home, schools and health care facilities
- A comparison of factors that contribute to high pregnancy rates among school-going adolescents in urban and township areas
- A qualitative study on registered nurses' and adolescents' perceptions of adolescent reproductive health service delivery
- An exploration of the experience and perceptions of pregnant adolescent dropouts
- The perceptions of male and female adolescents on the use of contraceptives
- Teenagers'/Adolescents' knowledge and understanding of STIs, HIV/AIDS, conception, and contraception

5.5 Information for the design of a research poster

FACTORS INFLUENCING THE ADOLESCENT PREGNANCY RATES IN THE GREATER GIYANI MUNICIPALITY, LIMPOPO PROVINCE

INTRODUCTION AND BACKGROUND: Adolescent pregnancy is an area of life that brings changes to the lives of adolescents. Pregnant adolescents face negative social consequences such as school dropout or interrupted education. Adolescent pregnancy is of concern as it is a world problem and implies that adolescents enter into motherhood before the expected time. Adolescent pregnancy impacts negatively on society, and it is important to note that

environmental factors such as poverty, unemployment, and harsh socio-economic circumstances play a role.

Research question:

What factors influences adolescent pregnancy rates in Greater Giyani municipality?

Research objectives

- Explore and describe factors that influences adolescent pregnancy rates
- Identify issues, reasons and circumstances that contribute towards high pregnancy rates.
- Develop a research poster for dissemination of findings to interested groups.

RESEARCH DESIGN AND METHOD

Quantitative, explorative and descriptive study

Population: Adolescent girls attending selected high schools in the Greater Giyani Municipality.

Sampling method: Convenience sampling

Data-collection method

Group-administered questionnaires: 147 questionnaires were completed and returned to the researcher. Questionnaires were completed as follows:

Table 5.1 Response rate at the schools (n=147)

Schools	Questionnaires distributed	Returned
A	9	9
B	10	10
C	123	123
D	5	5
Total	147	147

Data analysis

A statistician analysed the data using the Statistical Analysis Systems (SAS) software statistical package, version 9.2.

PHASES OF THE STUDY

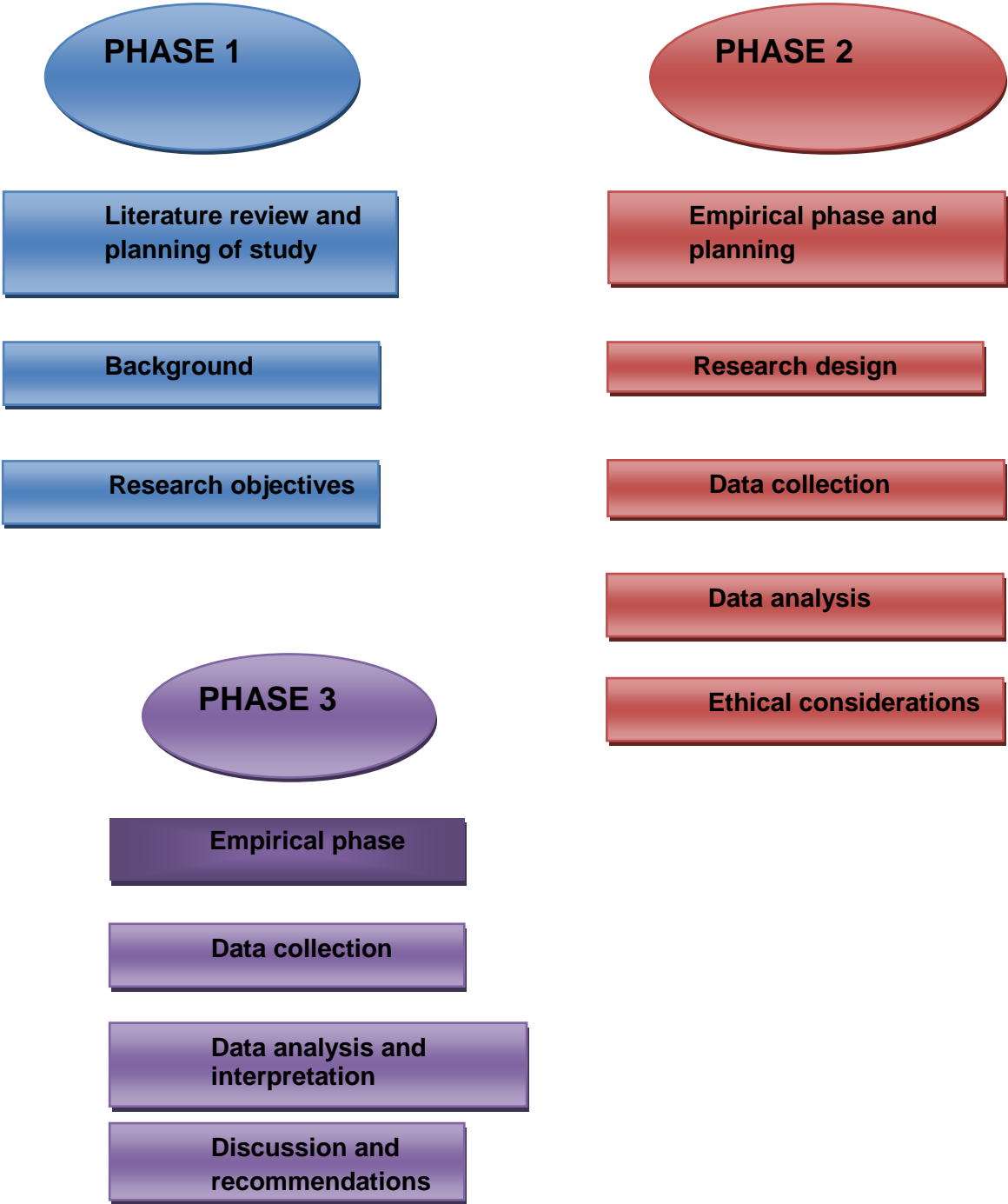


Figure 1.1 Phases of the research

Findings

The respondents responded to five constructs:

Early exposure to sexual activities

Findings revealed that adolescents are aware that early exposure to sexual activity exposes them to teenage pregnancy.

Sexual attitudes and behaviour

In this construct, the respondents were indifferent as indicated by the construct mean of 2.93. That is, they agreed and disagreed that psychosocial factors are the reasons for early involvement in sexual activity.

Availability of health services

Findings revealed that most of the respondents indicated that health services are not freely available for adolescents. However, some of the respondents did indicate that school health nurses and nurses in health facilities inform them of pregnancy-related matters.

Knowledge about health problems facing adolescents

In this construct the respondents indicated that they are aware of existing health problems facing them and that this has an impact on adolescent pregnancy.

Relationship of nurses with adolescents at the clinics

Findings revealed that the respondents' overall perception was that the nurse-adolescent relationship is strained. This implies that adolescents may hesitate to take the nurses' advice and this may affect the adolescent pregnancy rate.

Summary of findings

The respondents still held conservative values regarding sexual activities and behaviour in their adolescent years. Psychosocial issues cited in this study affect teenage pregnancy rate. Adolescents are able to distinguish between issues that affect teen pregnancy and those that do not based on their knowledge, insight and world-view. The respondents do not perceive all health services to be freely available, which impacts on the teen pregnancy rate. Teen health problems exist and influence teens' choices of behaviour which affect the rate of teen pregnancies. The respondents perceive the nurse-adolescent relationship as strained, which can affect the teen pregnancy rate negatively.

Development of the adolescent pregnancy rate model

- Adolescent pregnancy rate
- Self-efficacy loss due to desire for peer approval
- Observational learning resulting in reinforcement of unwanted behaviour which leads to adolescent pregnancy
- Interaction between environmental, personal and behavioural factors results in unwanted behaviour

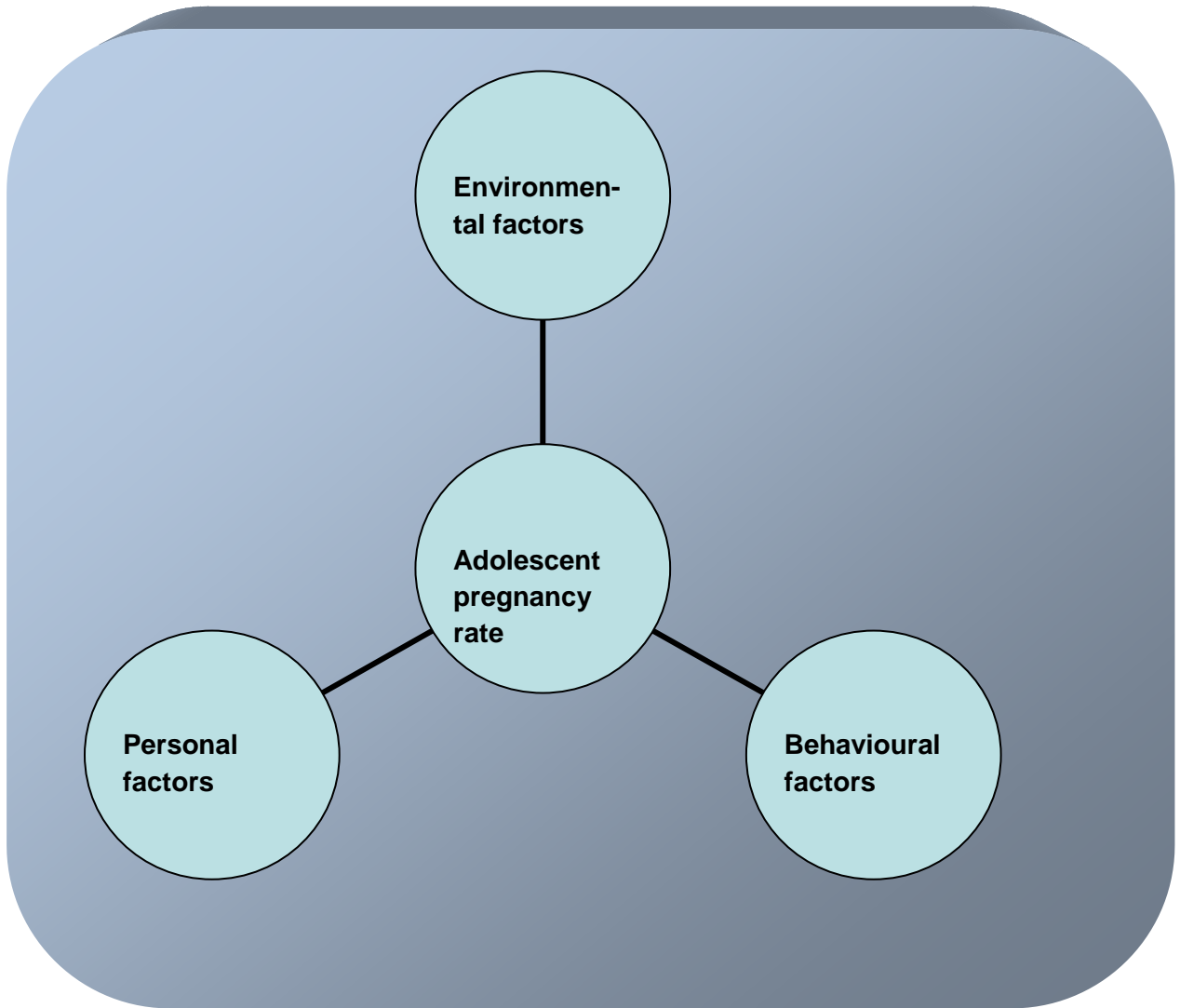


Figure 1.2 Interaction between environmental, personal and behavioural factors

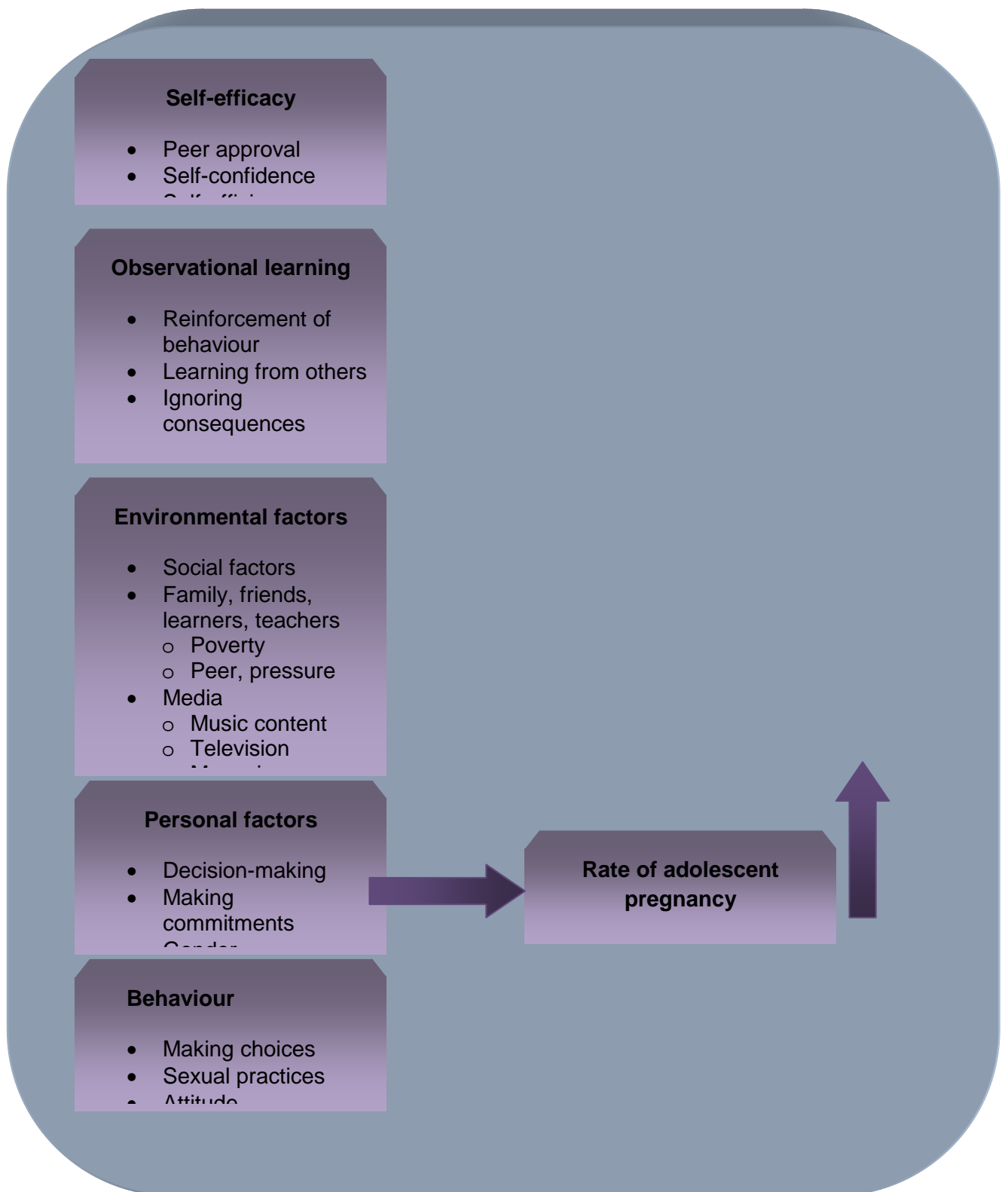


Figure 1.3 Conceptual model

Adapted from: Bandura (2001:1-29)

Conclusion:

The research poster should be used in schools and health care service facilities to disseminate information on adolescent pregnancy.

5.5 CONCLUSION

This study sought to identify and examine the factors that influence the adolescent pregnancy rate in Greater Giyani Municipality. The findings should assist school and nursing education departments in developing curricula and programmes at school, college, and community level.

LIST OF SOURCES

- African National Congress (ANC). 1994. *A national health plan for South Africa*. Maseru: Bahr.
- Apter, A. 2010. Suicidal behaviour in adolescence. *The Canadian Journal of Psychiatry* 55(5):271-273.
- Aretakis, BA. 2008. Issues and approaches in family and individual health, in. Stanhope, MS & Lancaster, J. *Public health nursing, population-centred health care in the community*. 7th edition. Philadelphia: Mosby.
- Baloyi, GO. 2007. The evaluation of the national adolescent-friendly clinic initiative (NAFCI) programme in Greater Tzaneen sub-district, in Limpopo province, South Africa. Unpublished master's (Health Studies) dissertation. Pretoria: University of South Africa.
- Bandura, A. 2001. Social cognitive theory: an agentitive perspective. *Annual Review of Psychology*, 52:1-26.
- Blackwell's Nursing Dictionary. 2005: London: Blackwell.
- Bowling, A. 2002. *Research methods in health: investigating health and health services*. 2nd edition. Berkshire: Open University Press.
- Brink, H, Van der Walt, C & Van Rensburg, G. 2008. *Fundamentals of research methodology for health care professionals*. 2nd edition. Cape Town: Juta.
- Burns, N & Grove, SK. 2007. *Understanding nursing research: building and evidence-based practice*. 4th edition. St Louis: Elsevier/Saunders
- Burns, N & Grove, SK. 2009. *The practice of nursing research: appraisal, synthesis, and generation of evidence*. 6th edition. St Louis: Elsevier/Saunders.
- Chandler, D & Munday, R. 2011. *Oxford Dictionary of Media and Communication*. 1st edition. Mexico: Oxford University Press.
- Collins English Dictionary*. 1991. Third edition. Glasgow: HarperCollins.
- Creswell, JW. 2009. *Research design, qualitative, quantitative, and mixed methods approaches*. 3rd edition. Thousand Oaks, CA: Sage.
- Cunningham, PW & Boulton, EB. 1996. Black teenage pregnancy in South Africa. *Academic Search Premier*, 31(123):1-6.
- Department of Health 2000. *Patients' rights charter*. Pretoria: Government printers.
- Department of Health. 2001. *Policy guidelines for youth and adolescent health*. Pretoria. Government Printer.

Department of Health Studies. 2010. *MA (Health studies): Tutorial Letter MNUALL/301/2010*. Pretoria: University of South Africa.

De Vos, AS, Strydom, H, Fouché, CB & Delport, CSL. 2005. *Research at grass roots: for the social sciences and human service professions*. 3rd edition. Pretoria: Van Schaik Publishers.

DeVitto, J. 2007. Self-perception of parenting among adolescent mothers. *Journal of Perinatal Education* 16(1):16-23.

Dlamini, LS, Van der Merwe, MM & Ehlers, VJ. 2003. Problems encountered by teenage mothers in the Southern Hho-Hho Region of Swaziland. *Health SA Gesondheid* 8(3):74-85.

Dommissie, J. 2007. Teenage pregnancy crime bomb. *Mail & Guardian* online. Available at: <http://www.mg.co.za/article/2007-03-teenage-pregnancy-cim-bomb> (accessed on 08.08.2009).

Doskoch, P. 2010. Middle school prevention program reduces risk that youth will begin sexual activity by ninth grade. *Sexual and Reproductive Health*, 42(42):138-138.

Early sexual exposure and sexy media matter: exposure to sexual content in music, movies, television and magazines. *Paediatrics*, 117(4):1018-1024. Available at: [file://G:Early sexual exposure.htm](file://G:Early%20sexual%20exposure.htm) (accessed on 07.10.2010).

East, PL, Khoo, ST & Reyes, BT. 2006. Risk and protective factors predictive of adolescent pregnancy: a longitudinal prospective study. *Applied Development Science* 10(4):188-199.

Ekstrand, M, Tyden, T, Darj, E & Larsson, M. 2009. An illusion of power: qualitative perspectives on abortion decision-making among teenage women in Sweden. *Perspective on Sexual and Reproductive Health*, 41(3):173-180.

Enkin, M, Keirse, MJN, Neilson, J, Crowther, C, Duley, L, Hodnett, E & Hofmeyr, J. 2000. *A guide to effective care in pregnancy and childbirth*. 3rd edition. New York: Oxford University Press.

Fouche, CB & De Vos, AS 2005: Quantitative research designs, in *Research at Grass roots – For the social sciences and human service professions*, edited by AS De Vos. Pretoria: Van Schaik Publishers.

Foy, D & Dickson-Tetteh, K. 2001. *The national adolescent-friendly clinic initiative handbook of adolescent sexual and reproductive health care*. Johannesburg: Colour Press.

Freshwater, D & Maslin-Prothero, SE (eds). 2005. *Blackwell's Nursing Dictionary*. 2nd edition. Oxford: Blackwell Publishing Ltd.

- Gaudineau, A, Ehlinger, V, Vayssiere, C, Jouret, B, Arnaud, D & Godeau, E. 2010. Factors associated with early menarche: results from the French health behaviour in school-aged children study. *Biomedcentral Public Health*, 10(175):1-7.
- Gee, CB & Rhodes, JE. 2007. A social support and social strain measure for minority adolescent mothers: a confirmatory factor analytic study. *Child Care, Health and Development*, 34(1):87-97.
- George, JB (ed). 2002. *Nursing theories: the base for professional nursing practice*. 5th edition. NJ, Englewood Cliffs: Pearson Education.
- Guidelines on reproductive health. 2010. Reproductive health. From: <http://www.un.org/popin/unfpa/taskforce/guide/iatfreph.gdl.html> (accessed 8 July 2010).
- Gumbiner, J. 2003. *Adolescent assessment*. Englewood Cliffs, NJ: Wiley.
- Grimes, DA, Benson, J, Singh, S, Romero, M, Ganatra, B, Okonofua, FO & Shah, IH. 2006. Unsafe abortion: the preventable pandemic. *Sexual and Reproductive Health* 368:1908-1919.
- Goicolea, I, Wuff, M, Ohman, A & Sebastian, MS. 2009. Risk factors for pregnancy among adolescent girls in Ecuador's Amazon basin: a case-control study. *Public Health* 26(3):221-228.
- Guidelines on reproductive health. 2010. Reproductive health. From: <http://www.un.org/popin/unfpa/taskforce/guide/iatfreph.gdl.html> (accessed 8 July 2010).
- Harper, CC, Henderson, JT, Schalet, A, Becker, D, Strautton, L & Raine, TR. 2010. Abstinence and teenagers: prevention counselling practices of health care providers serving high-risk patients in the United States. *Perspectives on Sexual and Reproductive Health*, 42(2):125-132.
- Hauenstein, EJ. 2006. Depression in adolescence. *Journal of Obstetric, Gynaecologic and Neonatal Nursing*, 32(2):239-148.
- Health Systems Development Unit. 2001. *Primary clinical care. Volume 3*. Sandown: Heinemann.
- Heidi, CF. 2008. Concept analysis: sexual decision-making in adolescence. *Nursing Forum* 45 (2):80-90.
- Jackson, SL. 2006. *Research methods and statistics a critical thinking approach*. 3rd edition. Belmont, CA; Wadsworth.
- Khalaf, I, Moghli, FA & Froelicher, ES. 2010. Youth-friendly reproductive health services in Jordan from the perspective of youth: a descriptive qualitative study. *Scandinavian Journal of Caring Sciences* (24):321-331.
- Khoza, VL, Du Toit, HS & Roos, JH. 2010. Implementation of the *Batho Pele* (People first) Principles in one public hospital in South Africa. *Africa Journal of Nursing and Midwifery* 12(2):58-68.

- Khoza, LB.2004. Adolescent's knowledge, beliefs, experiences regarding sexual practices. *Health SA Gesondheid* 9(3):34-41.
- Koenig, MA, Zablotska, I, Lutalo, T, Nalugoda, F, Wagman, J & Gray, R. 2004. Coerced first intercourse and reproductive health among adolescent women in Rakai, Uganda. *International Family Planning Perspective* 30(4):156-163.
- Kozier, B, Erb, G, Blais, K, Wilkinson, JM & Leuven, KV. *Fundamentals of nursing: concepts, process, and practice*. 5th edition. New York: Addison Wesley.
- Larson, KM. 2009. An ethnographic study of sexual risk among Latino adolescents in North Carolina. *Hispanic Health Care International* 7(3):160-169.
- LoBiondo-Wood, G & Haber, J. 2006. *Nursing research: methods, critical appraisal and utilization*. 6th edition. St Louis: Mosby.
- Long, MS. 2009. Disorganized attachment relationships in infants of adolescent mothers and factors that may augment positive outcomes. *Adolescence* 44(175):622-633.
- Louw, DA, Van Ede, DM & Louw, AE. 1998. *Human development*. 2nd edition. Pretoria: Kagiso.
- MacPhail, C, Pettifor, AC, Pascoe, S & Rees, HV. 2007. Contraception use and pregnancy among 15-24 year old South African women: a nationally representative cross-sectional survey. *BMC Medicines* 5(31):1741-7015.
- Maharaj, P & Rogan, M. 2008. Emergency contraception in South Africa: a literature review. *The European Journal of Contraception and Reproductive Health* 13(4):351-361.
- Maja, TMM & Ehlers, VJ. 2004. Contraceptive practices of women in Northern Tshwane, Gauteng Province. *Health SA Gesondheid* 9(4):42-51.
- Maluleke, T. 2003. Sexuality education, gender and health issues related to puberty rites for girls. *Health SA Gesondheid* 8(3):61-67.
- Map for Greater Giyani Municipality. Mopani district maps. From: Mopani district <http://maps.google.co.za/maps> (accessed 26.08.2010).
- Martyn, KK, Darling-Fisher, C, Smrtka, J, Fernandez, D & Martyn DH. 2006. Honoring family biculturalism: avoidance of adolescent pregnancy among Latinas in the United States. *Hispanic Health Care International* 4(1):15-26.
- Matlala, A. 2009. Teen pregnancies hit schools. *Sowetan*, 12 November: 9.
- Matthews, J. 2010. *Sexual health services for adolescents*. Panos. Available at: <http://www.panos.org.uk/?lid=29386> (accessed 28.06.2010).
- Mbambo, DE, Ehlers, VJ & Monareng LV. 2006. Factors influencing adolescent mothers' non-utilisation of contraceptives in the Mkhondo village. *Health SA Gesondheid* 11(4):22-31.

Minnesota Department of Health. 2004. *Children and adolescent preventing teen pregnancy and sexually transmitted infections*. MHC needs assessment fact sheets. Minnesota Department of Health. Available at <http://www.health.state.mn.us/divs/cfh/na/factsheets/tpsti.html> (Accessed 07.07.2009).

Mopani District Municipality. 2001. Map of Greater Giyani Municipality. *Mopani district maps*. Available at: <http://wapedia.mobil/en/MopaniDistrictMunicipality> (accessed 26.08.2010).

Mouton, J& Marais, HC 1994: Basic Concepts in the methodology of the social sciences. Pretoria: Penrose Book printers.

Mopani District Municipality. 2001. Map of Greater Giyani Municipality. *Mopani district maps*. Available at: [Mopani district http://maps.google.co.za/maps](http://maps.google.co.za/maps) (accessed 26.08.2010).

Munghana Lonene, I. 2009. Current affairs *Tiko a xi etleri*. 13 November 2009, 18:00 (FM Radio).

Noone, J & Young, HM. 2010. Rural mothers' experiences and perceptions of their role in pregnancy prevention for their adolescent daughters. *Journal of obstetric, gynaecological and neonatal nursing* (39):27-39.

Oxford Advanced Learners Dictionary. 2001. 6th edition. Oxford: Oxford University Press.

Patients' rights charter. 2011. Googleusercontent.com. From: <http://webcache.googleusercontent.com> (accessed 08.01.2012).

Pera, SA & Van Tonder, S. 2005. *Ethics in health care*. 2nd edition. Lansdowne: Juta.

Pinter, B, Verdenik, T, Grenbenc, M & Ceh, F. 2009. Sexual activity and contraceptive use among secondary school students in Slovenia. *The European Journal of Contraception and Reproductive Health Care* 14(2):127-133.

Poggenpoel, M & Myburgh, CPH. 2006. Women's experience of termination of a pregnancy. *Curationes* 29(1):3-9.

Polit, DF & Hungler, BP. 1999. *Nursing research: principles and methods*. 6th edition. Philadelphia: Lippincott Williams & Wilkins.

Polit, DF & Beck, CT. 2006. *Essentials of nursing research, appraisal, and utilization*. 6th edition. Philadelphia: Lippincott Williams & Wilkins.

Polit, DF & Beck, CT. 2008. *Nursing research: generating and assessing evidence for nursing practice*. 8th edition. Philadelphia: Lippincott Williams & Wilkins.

Pregnancy period. 2009. Pregnancy-period.com. Available at: <http://www.pregnancy-period.com/teen-pregnancy.htm> (accessed 07.07.2009).

Primary clinical care. 2001. Sandown: Heinemann publisher.

- Problems facing contemporary adolescents. 2010. *Lots of essays*. Available at: <http://www.lots of essays.com/view paper/1691969.html> (accessed 08.07.2010).
- Ramcharan, KP. 2007. *Teenage pregnancy*. News paper archives. Available at: <http://www.satyagraha.org.za/current/index.php?option=com> (accessed 22.05.2009).
- Ratlaba, MD, Makofane, MDM, Jali, MN & Phil, M. 2007. Perceptions of adolescents in low resourced areas towards pregnancy and the choice on termination of pregnancy. *Curations* 301(1):26-31.
- Redelinghuys, N & Van Rensburg, HCT. 2004. Health, morbidity and mortality- the health status of the South African population. Pretoria: Van Schaik.
- Resource Centre for Adolescent Pregnancy Prevention. 2012. Available at: <http://www.etr.org/recapp/index.cfm?fuseaction=pages.ebpDetail &PageID=131> (accessed 10.01.2012).
- Richardson-Todd, B. 2006. Providing a sexual health service for young people in the school setting. *Nursing Standard* 20(24):41-44.
- Rossouw, D (ed). 2003. *Intellectual tools, skills for the human sciences*. 2nd edition. Pretoria: Van Schaik
- Selikow, T, Ahmed, N, Fisher, AJ, Mathews, C & Mukoma, W. 2009. I am not "umqwayito": a qualitative study of peer pressure and sexual risk behaviour among young adolescents in Cape Town, South Africa. *Scandinavian Journal of Public Health* 37(2):107-112.
- Shaffer, DR & Kipp, K. 2007. *Developmental psychology: childhood and adolescence*. 8th edition. Belmont: CA, Wadsworth.
- South Africa. Department of Health. 2001. Policy guidelines for youth and adolescent health. Pretoria. Government Printer.
- South Africa. Department of Health. 2011. National core standards for health establishments in South Africa. Pretoria: Government Printer.
- South Africa (Republic). 1996. *Choice on Termination of Pregnancy Act, 92 of 1996*. Pretoria: Government Printer.
- Stanhope, MS & Lancaster, J. 2008. *Public health nursing, population-centred health care in the community*. 7th edition. Philadelphia: Mosby.
- Stanhope, M & Lancaster, J. 2000. *Community public health nursing*. Philadelphia: Mosby.
- Stepp, G. 2009. *Teen pregnancy: the tangled web*. Vision Organisation. Available at: <http://www.vision.org/visionmedia/article.aspx?id=15432> (accessed 08.08.2009).

- Stevens, M. 2009. Reproductive health a neglected issue: joint statement on adolescent reproductive health and adolescent pregnancy. *Nursing Update* :41-42.
- Stommel, M & Wills, CE. 2004. *Clinical research: concepts and principles for advanced practice nurses*. Philadelphia: Lippincott Williams & Wilkins.
- University of South Africa. Department of Health studies.2010. MA (Health studies): Tutorial letter MNUALL/301/2010. Pretoria.
- Van Rensburg, HCJ (ed). 2004. *Health and health care in South Africa*. Pretoria: Van Schaik.
- Wang, R, Wang, H & Hsu, M. 2003. Factors associated with teenage pregnancy: a sample of Taiwanese female adolescents. *Public Health Nursing* 20(1):33-41.
- Weiss, UK & Tillman, KH. 2009. Risky sexual behaviours among Hispanic young adults in South Florida: nativity, age at migration and gender differences. *Perspective on Sexual and Reproductive Health* 41(4):202-209.
- Weller, BF (ed). 2009. *Baillière's nurses' dictionary for nurses and health care workers*. 25th edition. Beijing: Elsevier.
- World Health Organisation (WHO). 2002. *Adolescent-friendly health services*. Geneva: WHO.
- Yako, EM & Yako, JM. 2007. A descriptive study of the reasons and consequences of pregnancy among single adolescent mothers in Lesotho. *Curations* 30(3):74-81.
- Yorgason, JB, Linville, D & Zitzman, B. 2008. Mental health among college students: Do those who need services know about and use them? *Journal of American Health* 57(2):173-181.

CONSENT FORM

STUDY TITLE: FACTORS INFLUENCING THE ADOLESCENT PREGNANCY RATE IN THE GREATER GIYANI MUNICIPALITY, LIMPOPO PROVINCE

INVESTIGATOR: Ms LT MUSHWANA

Ms LT Mushwana is a registered nurse studying at UNISA as a Masters student at the Department of Health Studies. The topic is about investigating factors that influences adolescent pregnancy rate in Greater Giyani Municipality. The study will assist in creating awareness about the high rate of teenage pregnancy and bring about recommendations on how to improve the situation.

The department of education, Limpopo province, has approved that the study can be conducted in their schools and the facility managers have been notified that such a study will be conducted.

There will be no risk or harm to you during your participation in the study survey. You are expected to respond to the questions in the questionnaire which will take less than 20 minutes to complete. You are free to ask any question if clarity is needed. Your participation in this study is voluntary and you are under no obligation to participate. You have the right to withdraw at anytime during the process of data collection if you feel uncomfortable. However, your participation is highly appreciated and will have no effect on your attendance at school.

Your identity will not be revealed during the study, reporting or publishing. Data will be collected by Ms LT Mushwana and well trained two volunteers who will not share the information with unauthorised people.

On the basis of the provision by the Termination of pregnancy Act, Act no 92 of 1996, there is no other consent required with regard to pregnancy matters other than that of the pregnant woman. Therefore, if you are pregnant you can sign for consent, but if you are a minor and not pregnant, you are to consult your parents or guardian in terms of permission and consent for you to participate in the study.

I have read this consent form and voluntarily consent to participate in this study or my daughter to participate.

Respondent's signature:

Date:

Parents/Guardian's signature:

Date:

I have explained this above information to the above respondent, parents/guardian and have sought their understanding for informed consent.

Investigator's signature:

Date:

QUESTIONNAIRE ON FACTORS INFLUENCING THE ADOLESCENT PREGNANCY RATE IN THE GREATER GIYANI MUNICIPALITY, LIMPOPO PROVINCE

All information herewith provided will be treated confidentially. It is not necessary to indicate your name on this questionnaire

INSTRUCTIONS

1. Answer all questions by providing an “X” in the box corresponding to the chosen alternative
2. Answer all questions as honestly, frankly and objectively as possible
3. Answer according to your own personal opinion, knowledge and experience
4. Hand in the questionnaire to the researcher immediately after completion

Answer the question by placing an “X” in the box corresponding to the alternative which is applicable to you

SECTION A: BIOGRAPHICAL DATA

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Day	Month	Year														
1.	<p>In which age category do you fall?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 30px; text-align: center;">1</td> <td style="width: 100px;">10-15</td> <td style="width: 30px;"></td> </tr> <tr> <td style="text-align: center;">2</td> <td>16-20</td> <td></td> </tr> </table>	1	10-15		2	16-20		<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 100px; height: 20px;"></td> </tr> <tr> <td>10</td> </tr> </table>		10						
1	10-15															
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2.	<p>What is your marital status?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 30px; text-align: center;">1</td> <td style="width: 100px;">Single</td> <td style="width: 30px;"></td> </tr> <tr> <td style="text-align: center;">2</td> <td>Married</td> <td></td> </tr> <tr> <td style="text-align: center;">3</td> <td>Cohabiting</td> <td></td> </tr> <tr> <td style="text-align: center;">4</td> <td>Other</td> <td></td> </tr> </table>	1	Single		2	Married		3	Cohabiting		4	Other		<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 100px; height: 20px;"></td> </tr> <tr> <td>11</td> </tr> </table>		11
1	Single															
2	Married															
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4	Other															
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3	<p>What is your ethnic group?</p> <table border="1" data-bbox="518 283 1027 476"> <tr><td>1</td><td>Tsonga</td><td></td></tr> <tr><td>2</td><td>Venda</td><td></td></tr> <tr><td>3</td><td>Sepedi</td><td></td></tr> <tr><td>4</td><td>Xhosa</td><td></td></tr> <tr><td>5</td><td>Zulu</td><td></td></tr> <tr><td>6</td><td>Other (specify)</td><td></td></tr> </table>	1	Tsonga		2	Venda		3	Sepedi		4	Xhosa		5	Zulu		6	Other (specify)		<div style="border: 1px solid black; width: 100px; height: 15px; margin: 0 auto;"></div> <p style="text-align: center;">12</p>
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1	Grade 7																			
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5	<p>Indicate the type of a family you were brought up in</p> <table border="1" data-bbox="518 961 1027 1092"> <tr><td>1</td><td>Family with both parents</td><td></td></tr> <tr><td>2</td><td>Single parent family</td><td></td></tr> <tr><td>3</td><td>Sibling-headed family</td><td></td></tr> <tr><td>4</td><td>Other (specify)</td><td></td></tr> </table>	1	Family with both parents		2	Single parent family		3	Sibling-headed family		4	Other (specify)		<div style="border: 1px solid black; width: 100px; height: 15px; margin: 0 auto;"></div> <p style="text-align: center;">14</p>						
1	Family with both parents																			
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3	Sibling-headed family																			
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6	<p>What is your position in the family?</p> <table border="1" data-bbox="518 1182 1027 1344"> <tr><td>1</td><td>First born</td><td></td></tr> <tr><td>2</td><td>Second born</td><td></td></tr> <tr><td>3</td><td>Third born</td><td></td></tr> <tr><td>3</td><td>Last born</td><td></td></tr> <tr><td>4</td><td>Other (specify)</td><td></td></tr> </table>	1	First born		2	Second born		3	Third born		3	Last born		4	Other (specify)		<div style="border: 1px solid black; width: 100px; height: 15px; margin: 0 auto;"></div> <p style="text-align: center;">15</p>			
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7	<p>What was your age at first intercourse</p> <table border="1" data-bbox="518 1404 1027 1562"> <tr><td>1</td><td>11-12</td><td></td></tr> <tr><td>2</td><td>13-14</td><td></td></tr> <tr><td>3</td><td>15-16</td><td></td></tr> <tr><td>4</td><td>17-18</td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>	1	11-12		2	13-14		3	15-16		4	17-18					<p style="text-align: center;">16</p> <div style="border: 1px solid black; width: 100px; height: 15px; margin: 0 auto;"></div>			
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1-16

Please comment on the following aspects from B-F by placing an “X” on the choice that best reflects your opinion about the **topic under discussion**

SECTION B: FACTORS RELATED TO SEXUAL ATTITUDES AND BEHAVIOUR

Scoring						
1. SA = strongly agree; 2. A =agree; 3. U = neither agree nor disagree; 4. D = disagree; 5. SD = strongly disagree						
	1 SA	2 A	3 U	4 D	5 SD	Official use
8. Involvement in sexual activities at an age below 18 years is acceptable						
9. Early sexual activities exposes adolescents to teenage pregnancy						
10. Adolescents satisfy their need for acceptance by engaging in sexual intercourse						
11. Adolescents often experiment with sexual Intercourse as part of growth and development						
12. Adolescents usually plan to fall pregnant						
13. Sexual behaviour such as embracing , Kissing and holding hands with a boyfriend leads to intimate love making						
14. Adolescents prove their love for their boyfriends by engaging in sexual intercourse with them						
15. Prefer to use contraceptives						
16. Abstinence from sex is acceptable to teenagers						

17-25

SECTION C: PSYCHOSOCIAL FACTORS RELATED TO REASONS FOR EARLY INVOLVEMENT IN SEXUAL ACTIVITIES

Rate the following statements with regard to psychosocial factors related to reasons that contribute to early involvement in sexual activities

Scoring:						
1. SA=strongly agree; 2. A= agree; 3. U = neither agree nor disagree; 4. D = disagree; 5. SD = strongly disagree						
	1 SA	2 A	3 U	4 D	5 SD	Official use
17. Teenage pregnancy is generally accepted by society						
18. Teenagers receive poor support from parents						
19. Teenagers experience peer-group pressure						
20. Inclined to prove ability to bear children						
21. Influence of media such as TV, magazines and music						
22. Friendship with older adolescents who have children						
23. Early menstruation affects decision for early sexual involvement						
24. Substance abuse such as alcohol or drugs						
25. Social problems experienced by adolescents						
26. Suffered sexual abuse in childhood						
27. Lack of adequate knowledge about sexuality						
28. Most adolescents become mature at an early age						
29. Changed values and attitudes towards sexual activities						
30. Many adolescent girls mistakenly believe that they are too young to fall pregnant						
31. Become pregnant in order to receive a social grant for the baby						
32. Fear of isolation by friends						

26-41

SECTION D: FACTORS RELATED TO AVAILABILITY OF HEALTH SERVICES FOR ADOLESCENTS

Scoring						
1. SA = strongly agree; 2. a = Agree; 3. U = neither agree nor disagree; 4. D = disagree; 5. SD = strongly disagree						
	1 SA	2 A	3 U	4 D	5 SD	Official use
33. Each health facility has a youth clinic						
34. At the clinics, there are consultation rooms available to offer health services for adolescents only						
35. Health services for adolescents are available at any time of the day						
36. Adolescents are offered a wide range of health services in one consultation						
37. Referral services to other health professionals are available where needed						
38. Health care services for adolescents are accessible						
39. Reproductive services such as contraceptives are easily available to adolescents						
40. Adolescents are aware of emergency contraceptives						
41. Nurses provide health education about health matters related to teenage pregnancy						
42. It is acceptable to be examined by a male nurse						
43. Reading material related to sexual health issues is available at the clinic						

41-52

SECTION E: KNOWLEDGE ABOUT POTENTIAL HEALTH PROBLEMS FACING ADOLESCENTS

1. SA = strongly agree; 2. A = agree; 3. U = neither agree nor disagree; 4. D = disagree; 5. SD = strongly disagree						
	1 SA	2 A	3 U	4 D	5 SD	Official use
44. Adolescents are at a high risk of contracting sexually transmitted infections and diseases						
45. HIV/AIDS is one of the major health problems facing adolescents						
46. Depression is common amongst pregnant adolescents						
47. Suicide is one way of handling problems such as unplanned pregnancy						
48. Abortion is an acceptable solution to teenage pregnancy						
49. Some teenagers suffer birth complications						

53-58

SECTION F: RELATIONSHIP OF NURSES WITH ADOLESCENTS AT THE CLINICS

Scoring						
1. SA = strongly agree; 2. a = agree; 3. U = neither agree nor disagree; 4. D = disagree; 5. SD = strongly disagree						
	1 SA	2 A	3 U	4 D	5 SD	Official use
50. Nurses at the clinic treat health matters affecting adolescents with confidentiality						
51. Adolescents are treated with respect and dignity						
52. Nurses are polite and friendly towards adolescents						
53. They teach adolescents about different contraceptive methods						
54. Nurses discuss sexual matters with adolescents without condemning them						
55. You can ask sexually related questions from the nurses without being afraid						
56. Adolescents discuss their menstrual problems with nurses at the clinic						

59-65

THANK YOU FOR YOUR PARTICIPATION

P.O.Box 1245

GIYANI

0826

07 April 2010

THE DISTRICT MANAGER

Department of Education

Mopani District

Sir/Madam

REQUEST FOR A PERMISSION TO CONDUCT RESEARCH AT THE LOCAL
HIGH SCHOOLS UNDER GREATER GIYANI MUNICIPALITY

DISSERTATION TITLE: FACTORS INFLUENCING THE ADOLESCENT
PREGNANCY RATE IN THE GREATER GIYANI MUNICIPALITY, LIMPOPO
PROVINCE.

I, Lenny Tina Mushwana, a Master's student (3162-245-3) at the University of South Africa, Department of Health Studies, hereby request for a permission to conduct a research at the local high schools in Greater Giyani Municipality.

The purpose of the study is to identify factors that influences adolescent pregnancy rate in the Greater Giyani Municipality.

Yours truly,

Lenny Tina Mushwana

Contact no: 0834205317

Study Supervisor : Dr LV Monareng

Contact no: 0124296059

Statistical report on survey data for study on the factors affecting the teenage pregnancy rate in the greater Giyani municipal area, Limpopo

08-09-2011

Dr L Manoreng, Ms Mushwana

Before the discussion of the statistical analyses is included in Chapter 4 of the thesis it is assumed that the following has been discussed in Chapter 3: (Section quoted in 1.1 to 1.4 was taken from Chapter 3 of the thesis since certain assumptions have to be made when analyzing the data)

1. The Research methodology of the study

1.11 Aims and objectives of the study, and research questions to be addressed

The aim of the study was to identify factors influencing adolescent pregnancy rates among adolescents in the Greater Giyani municipality (Chptr 3). The objective was to collect adolescents' views on teen pregnancies (perceptions on why they fall pregnant at a young age) [The main hypothesis and research question formulated from the abovementioned objective can be formulated as: factors can be identified that affect the prevalence of teenage pregnancy in the Giyani region of South Africa].

To address the research question in more detail, five areas of the adolescent's everyday life were identified which could possibly influence adolescents to become sexually active at a young age and which often result in teenage pregnancies. These identified areas/ factors (identified in a literature study) assisted in structuring the research, measuring instrument and data collection process. The research was structured in the sense that sub research hypotheses - pertaining to the effect of each identified factor on teenage pregnancy were formulated. The development of a measuring instrument/ questionnaire was also structured to address various elements of the factors identified as probable influential effects on teenage pregnancy.

The concepts/ or factors identified included, adolescents' attitude/ or understanding of sexual activities at their age; the psycho-social environment of the environment that affect belief and value systems; availability and accessibility of health services to teenagers; the attitude (and thus accessibility) of health care workers towards adolescents' sexual health problems; health issues / or nursing problems that teenagers face.

[Sub hypotheses can be formulated as:

H₀₁: Adolescents are of the opinion that their attitude towards sexual activities promotes early pregnancy

H₁₁: Adolescents are not of the opinion that their attitude towards sexual activities promotes early pregnancy,

H₀₂:..... etc]

1.12 Research design

Quantitative / mixed model research designetc.

1.13 Questionnaire design, and description of the questionnaire as derived from the aims and objectives of the research

As indicated in Chapter 3, a questionnaire was deemed a suitable perception measuring instrument to collect data from pregnant adolescent woman (Chapter 3). Participants in the study were sampled from adolescents who made their first visit to the clinic.

(Chapter 3) The questionnaire used in this study was a structured instrument. The questionnaire consisted of a section on biographical information of the adolescents (namely, age, standard, family setup,) and five sections with subsets of closed ended questions (... questions), each relating to one of the factors identified in literature as probable causes of teenage pregnancy and which form part of the adolescent's real life environment. These subsets of question statements required responses from the participating adolescents on a five-point agreement Likert rating scale to indicate respondents' perceptions on the issues queried in the statements, and included as mentioned above,

- adolescents attitude/ understanding of sexual activities at their age (q....);
- the psycho-social environment that affect belief and value systems (q....);
- availability and accessibility of health services to teenagers (q....);
- the attitude (and thus accessibility) of health care workers towards adolescents sexual health problems (q.....);
- health / or nursing problems of teenagers (q....)

These subsets of questions are listed in the composite frequency tables, Table 1...-... which presents a detailed listing of the question statements put to respondents.

1.14 Sampling and questionnaire administration

Convenience sampling was used to select participants to the study since (as indicated in Chapter 3) adolescents who were pregnant for the first time and attend antenatal visit on specific dates were approached to participate. Prior arrangements with operational managers at each clinic were made in this regard. On the specific days the pregnant adolescents were requested to complete the questionnaires on pregnancy. Questionnaires were administered to pregnant adolescent who agreed to participate in the privacy of a consulting room. Questionnaire administration was conducted by the researcher and trained volunteers. The volunteers were trained to respect issues such as the right of participants to privacy, confidentiality, and the importance of informed consent. Establishment of a trusting relationship during questionnaire administration was stressed during training (Polit & Beck 2008: 383). ..etc

1.15 Analysis strategy based on research questions to be answered and format of questionnaire

The analysis strategy designed for the study was aimed at addressing the research objectives and hypotheses of the research and included

- Frequency tables on biographical attributes of sampled adolescents (which supplies information on the sample and allows the researcher to describe the sample)
- Scale reliability testing

(The testing is conducted to test a form of reliability of the constructs used in the questionnaire to represent aspects/ factors of pregnancy prevalence. The type of reliability is referred to as internal consistency reliability and tests whether the subsets of questionnaire items which describe an aspect/ or factor of pregnancy prevalence all truly contribute towards explaining the factor or construct.)

- Calculation of construct scores
(Once the internal consistency reliability of a pregnancy prevalence construct has been established and confirmation has thus been obtained that the subsets of questionnaire items truly explain specific aspects/ factors of teenage pregnancy prevalence, a measure of respondents' perception for each pregnancy prevalence construct can be calculated to represent each respondents perception regarding the construct as a probable cause of the prevalence of teenage pregnancy. The measure for each respondent and construct is calculated as the mean agreement rating of the subset of questionnaire statements that describe a pregnancy prevalence factor/ aspect. The calculated measure is referred to as a construct score.). The construct scores of individuals and the construct mean scores for each pregnancy prevalence construct describes respondents' general perceptions regarding each factor of teenage pregnancy prevalence.
- Composite frequency tables on the subsets of questionnaire items that describe each teenage pregnancy factor
Detailed information on the composition of perception trends expressed in the construct scores can be derived from the subset of response frequency distributions on issues that describe each pregnancy prevalence factor.
- Two-way frequency tables, Chi-square tests and Cochran–Armitage trend tests to determine the effect that biographical attributes of respondents might further have on perceptions regarding the pregnancy prevalence constructs

1.16 Analysis results and interpretations

1.16.1 The sampled respondents

Frequency distributions of biographical properties of respondents are presented in Table 1.

Table 1				
Biographical properties of sampled adolescents. One-way frequency distributions				
age	Frequency	Percent	Cum. Frequency	Cum. Percent
Age (missing=1)				
10-15 years	26	17.81	26	17.81
16-20 years	120	82.19	146	100.00
Marital (missing=2)				
single	136	93.79	136	93.79
married	5	3.45	141	97.24
other	4	2.76	145	100.00
Population group				
Tsonga	142	96.60	142	96.60
Venda	1	0.68	143	97.28
Sepedi	2	1.36	145	98.64
Zulu	1	0.68	146	99.32
Other	1	0.68	147	100.00
Highest standard				
Grade 7	57	38.78	57	38.78
Grade 10	54	36.73	111	75.51
Grade 12	24	16.33	135	91.84
Other	12	8.16	147	100.00
Family environment (missing=1)				
Both parents	95	65.07	95	65.07
Single parent	48	32.88	143	97.95
Sibling head	1	0.68	144	98.63
Other	2	1.37	146	100.00
Family environment (missing=1)				
First born	49	33.33	49	33.33
2nd born	24	16.33	73	49.66
3rd born	34	23.13	107	72.79
last born	36	24.49	143	97.28
Other	4	2.72	147	100.00
First intercourse (missing=11)				
11-12 yrs	6	4.41	6	4.41
13-14 yrs	11	8.09	17	12.50
15-16 yrs	62	45.59	79	58.09
17-18+ yrs	57	41.91	136	100.00

Deductions

It can be derived from Table 1 that the sample can be described as pregnant teenage females of the Giyani district of whom the majority (94%) single; spoke Tsonga (97%); were either in Grades 7 or 10 (39% + 38%); lived with both their parents (65%) and were between the ages of 15 to 18 years(46%+42%). The profile of the pregnant adolescents thus described typical school going female youths. This then supplies the context of the study

1.16.2 Scale reliability testing and Cronbach alpha coefficients: Validating the internal consistency reliability of the five constructs investigated as possible causes of teen pregnancy

As listed in the analysis strategy, separate scale reliability testing were conducted on the subsets of questionnaire items describing each pregnancy prevalence factor. The tests were is conducted to confirm internal consistency reliability to establish whether the subsets of questionnaire items truly all contribute towards explaining the relevant aspect/ or factor of pregnancy prevalence.

Table 2 presents the results from these analyses. Each row in the table reports on the results of a separate test. The first column lists the particular construct evaluated; the second column the subset of questionnaire items describing the specific factor; the third column questionnaire items which the test/s indicated as not contributing towards explaining the particular construct; fourth column the indicator of internal consistency reliability, namely a Cronbach alpha coefficient and as discussed in the next section, construct score means describing the general perception of respondent as to whether the specific factor contribute towards the prevalence of teenage pregnancy.

Cronbach alpha values in the region of, or greater than 0.65, can be regarded as indicators of internal consistency reliability.

Constructs	Questionnaire Items included in the construct	Items omitted	Standardised Cronbach alpha	construct score means (Standard deviation)
Attitude of teens engagement in sexual activities	b1, b4, b5, b9, c1	b2 b3 b6-b8	0.66	3.63 (1.01)
Psycho-sociological effect of environment	c3-c7, c9-c16	c1-c2 c8	0.72	2.94 (0.71)
Effect of health service accessibility/ availability	d3-d9, c3, f7	d1-d2 d11-d12	0.66	3.48 (0.69)
Effect of adolescent health/ nursing problems	e1, e3-e5, b2, b8	e2 e6	0.62	2.49 (0.82)
Relationship with nurses; approachability	f1-f2, f4-f7, e6, d10	f3	0.50	3.37 (0.68)
Scale reliability is established for any given construct if the value of the Cronbach alpha coefficient is approximately 0.6-0.7 or greater				

Deductions

The values of all alpha coefficients barring the coefficient for the construct of '*relationship with nurses/ their approachability*' were greater than 0.6 which indicated internal reliability in this first exploratory study. Measures of perceptions for each construct, calculated as mean rating values for each subset of questionnaire item responses, would thus present reliable measures of respondents' individual perceptions of these factors.

The alpha value of 0.50 for the *relationship with nurses/ their approachability* however, indicated that the construct score of respondents on this factor was a somewhat 'dubious measure and should be treated with caution in further analyses. [The construct score on this factor could have/ can be omitted from further analyses, but it was reasoned that this study can be regarded as a pilot study and cautious interpretation of results on this factor could be used as guideline in the development of a more accurate measuring instrument/ questionnaire in further future research]

1.16.3 Calculation of teenage pregnancy construct-scores and construct score means

As indicated in the analysis strategy section pregnancy prevalence respondents' construct-scores for each construct were calculated once internal consistency reliability of the construct were established. The scores measure respondents' perceptions on each pregnancy prevalence construct and are calculated as the mean agreement rating responses of a respondents to the subset of questionnaire statements that describe a pregnancy prevalence factor/ aspect. Since these scores are derived from agreement ranting responses, the scores can be interpreted according to the agreement rating levels specified in the questionnaire, namely '1' indicating *strong agreement*, '2' indicating *agreement*, up to '5' indicating *strong disagreement*.

The average construct score (referred to as the construct score mean) for each pregnancy prevalence factor is calculated from respondent construct scores (as an average) and reflects how respondents in general perceive a factor as contributing towards teenage pregnancy. These construct score means and their standard deviations are reported in the last column of Table 2. [Note; the construct score mean for the last factor, namely *nurses' approachability* should be treated with caution since reliability if this construct is somewhat low]

Deductions:

The construct score means for the pregnancy prevalence constructs of *adolescents' attitude towards sexual activities* (score mean of 3.63), *availability of health services to adolescents* (score mean of 3.48) and *approachability of nurses* (score mean of 3.37) tend towards an agreement score of '4' – which signifies *'disagreement or a negative perception*. The implication of these negative perceptions on the pregnancy prevalence rate should be considered in the context of the issues that constitute each construct. This is discussed in the next section on composite frequency tables that follow. Detailed information on which specific issues constitute each constructs and how perceptions on these issues contribute to the various construct scores are presented in the composite frequency tables]

The scores means for the pregnancy prevalence aspects of *psycho-social influences* (score mean of 2.94) and *health risks and problems* that teenagers face (score mean of 2.49) on the other hand tend towards a rating value of '3' which signifies *indifference* or even '2' which signifies *'agreement*. These findings should also be interpreted in the context of the issues that constitute the constructs and how perception trends on each issue should be iinterpreted as affecting pregnancy rate.

All analysis presented in the chapter was conducted with the SAS version 9.2 statistical package (The acronym SAS stands for Statistical Analysis System)

1.16.4 Composite frequency tables of the five constructs investigated as possible causes of teen pregnancy

As described in the analysis strategy section, detailed information on the composition of perception trends expressed in the construct scores in the previous section, can be derived from the subset of response frequency distributions on issues that describe each pregnancy prevalence factor.

It should be noted that the subsets of questionnaire statements indicated in the reliability analyses as reliable, do not correspond directly with the structure of pregnancy prevalence factors indicated on the questionnaire. Analyses could not prove internal reliability for the questionnaire-structured subsets. In tables 3-7 included below, the frequency distributions of questionnaire items included and excluded in the five pregnancy constructs are reported in two sections of the tables as indicated. In further analyses presented in this chapter, analyses were conducted on construct scores derived from questionnaire item subsets which satisfied internal reliability.

Table 3						
Teens attitude towards sex construct						
Teen attitude re sex issues)	(Agreement rating)					
Frequency Row Pct	agree++	agree	undecided	disagree	disagree++	Total
b1. <18 years sex. involvement, acceptable in community	15 10.34	28 19.31	11 7.59	14 9.66	77 53.10	145
b4. Teens exp. with sex. intercourse	23 15.86	27 18.62	26 17.93	20 13.79	49 33.79	145
b5. Adolescents plan pregnancy	20 13.89	17 11.81	19 13.19	18 12.50	70 48.61	144
b9. Sex abstinence not acceptable	29 20.14	12 8.33	13 9.03	11 7.64	79 54.86	144
c1. Teenage pregnancy soc.acceptable	29 20.14	12 8.33	13 9.03	11 7.64	79 54.86	144
Total	116	96	82	74	354	722
Statements below excluded from attitude of teens towards sex-construct						
b2. Early sex. expose teen pregnancy,	69 47.26	23 15.75	20 13.70	12 8.22	22 15.07	146
b3. Sex. Activity is actually need for acceptance	18 12.33	23 15.75	33 22.60	21 14.38	51 34.93	146
b6. Result sex. behaviour, intercourse	71 49.31	37 25.69	9 6.25	7 4.86	20 13.89	144
b7. Prove love via intercourse	22 15.07	16 10.96	29 19.86	20 13.70	59 40.41	146
b8. Teens prefer no contraceptives	20 13.79	21 14.48	43 29.66	23 15.86	38 26.21	145
Frequency Missing = 18						

Deductions

Respondents overall portrayed a negative perception (disagreement) towards the aspect of sexual activities at their age (score mean of 3.69) – this is also indicated by the total agree ratings of 212 (29.36 of the grand total) in the totals row of Table 3, as opposed to the total disagree ratings of 428 (59.28% of the grand total).

What does the reported negative perception convey? The agree and disagree rating totals consist of responses to statements on engagement in sexual activities at a young age being acceptable in community (52.76% disagree response); teens experimenting with sexual intercourse (33.48% agree, 18% undecided and 46 .58% disagree), planned teen pregnancy (61.11% disagree), sex abstinence not being acceptable to teenagers (61.50% disagree) and the acceptability of teenage pregnancy to society (61.50%). **The reported response rate seems to indicate that adolescents still hold conservative values re sexual activities at a young age.** If this is true, then adolescent pregnancy will be against their general value system.

The question now remains whether adolescents' more conservative attitude towards sexual activity contribute towards teenage pregnancy?

Table 4						
Effect of psycho-social issues on prevalence of teen pregnancies						
Teen psycho-social issues	Agreement rating)					
Frequency Row Pct	agree++	agree	undecided	disagree	disagree++	Total
c2. Poor parental supervision	7 4.83	13 8.97	17 11.72	13 8.97	95 65.52	145
c3. Result of peer pressure	47 33.10	33 23.24	14 9.86	7 4.93	41 28.87	142
c4. Proof of fertility	30 20.98	24 16.78	20 13.99	22 15.38	47 32.87	143
c5. Influence of media	7 4.90	7 4.90	21 14.69	25 17.48	83 58.04	143
c6. Older friends with children	36 24.49	40 27.21	17 11.56	18 12.24	36 24.49	147
c7. Early menarche	20 13.89	22 15.28	21 14.58	27 18.75	54 37.50	144
c9. Adolescent social problems	43 29.66	32 22.07	10 6.90	18 12.41	42 28.97	145
c10. Childhood sex.abuse	45 31.03	32 22.07	14 9.66	15 10.34	39 26.90	145
c11. Inadequate sex.knowledge	48 33.10	40 27.59	20 13.79	15 10.34	22 15.17	145

c12. Maturity level adolescents	15 10.42	42 29.17	30 20.83	28 19.44	29 20.14	144
c13. Changed sex. values	47 32.19	39 26.71	27 18.49	18 12.33	15 10.27	146
c14. Ignorance, pregnancy age	31 21.68	47 32.87	31 21.68	14 9.79	20 13.99	143
c15. To obtain social grant	39 26.53	43 29.25	17 11.56	15 10.20	33 22.45	147
c16. Fear of rejection	55 37.93	25 17.24	17 11.72	9 6.21	39 26.90	145
Total	470	439	276	242	595	2024
Table 4 (continued)						
Statements below excluded from Psycho-social construct						
c1. Teenage pregnancy soc.acceptable	29 20.14	12 8.33	13 9.03	11 7.64	79 54.86	144
c8. Substance abuse	16 10.96	17 11.64	19 13.01	20 13.70	74 50.68	146
Frequency Missing = 38						

Deductions

The construct score mean of 2.93 indicates that adolescence are generally indifferent towards psycho-social issues as reasons for early sexual activity. This is confirmed by the total undecided rating in the totals column of Table 4.

To understand what the reported general *undecided* perceptions conveys with respect to whether psycho-social issues contribute towards the prevalence of teenage pregnancy, the response patterns of issues and the issues describing this construct need to be considered.

An agreement trend was reported on issues such as the effect of peer pressure (56%), older friends that have children (52%), social problems of adolescents (52%), sexual abuse as child (53%), inadequate sexual knowledge (61%), sexual values that have changed (59%), ignorance re pregnancy age (54%), fear of rejection (56%) and child support grants(55%). **These results strongly suggest that psycho-social issues affect teenage pregnancy rate.**

The fact that the frequency distributions of some issues of the psycho-social construct reflected a majority disagree rating from participants explains why the derived score-mean indicated an 'average' undecided rating of 2.93: some issues adolescents perceived to contribute to teenage pregnancy and other issues adolescents perceived as not affecting teen pregnancy rate. The issues perceived not to affect teen pregnancy rate (majority disagree rating responses) include, poor parental supervision (75%), proof of fertility (48%), influence of the media (76%) and early menarche (56%). These findings suggest that adolescents are able to distinguish between issues that affect teen pregnancy and those that do not.

Table 5 Effect of accessibility of health services to adolescents on prevalence of teen pregnancy						
(Teen health service issues)	(Agreement rating)					
Frequency Row Pct	agree++	agree	undecided	disagree	disagree++	Total
d3. Adolescent services 24/7	11 7.59	15 10.34	13 8.97	26 17.93	80 55.17	145
d4. Various services/one consultation	18 12.24	8 5.44	16 10.88	40 27.21	65 44.22	147
d5. Referral services available	9 6.12	24 16.33	22 14.97	39 26.53	53 36.05	147
d6. Health care services, available	16 11.11	14 9.72	23 15.97	43 29.86	48 33.33	144
d7. Reproductive services accessible	17 11.56	40 27.21	22 14.97	28 19.05	40 27.21	147
d8. Informed, emergency contraceptives	12 8.33	20 13.89	31 21.53	34 23.61	47 32.64	144
d9. Nurses inform, teenage pregnancy	37 25.52	35 24.14	26 17.93	26 17.93	21 14.48	145
c8. Substance abuse	16 10.96	17 11.64	19 13.01	20 13.70	74 50.68	146
f7. Can discuss menstrual problems, nurse	33 22.76	39 26.90	25 17.24	25 17.24	23 15.86	145
Total	169	212	197	281	451	1310
Statements listed below excluded from accessibility of teen health services construct						
d1. Health facilities have youth clinics	55 37.93	25 17.24	17 11.72	9 6.21	39 26.90	145
d2. Clinic consult rooms for adolescents	11 7.48	28 19.05	19 12.93	21 14.29	68 46.26	147
d10. Male nurse examination acceptable	30 20.55	34 23.29	20 13.70	26 17.81	36 24.66	146
d11. Sex.health literature available	53 36.05	54 36.73	11 7.48	12 8.16	17 11.56	147
Frequency Missing = 13						

Deductions

The interpretation of the health services accessibility score mean of 3.48 should also be interpreted in the context of the issues that describe the construct. The response patterns in Table 5 on the following health services that underlie the construct all show a *disagree* trend, namely 24/7 availability of services; the variety of services offered during a single consultation; availability of referral services; availability of specifically adolescent health care services; reproductive services availability; emergency contraceptive services and substance abuse. **The disagree response trend in these instances imply that adolescents do not perceive these health services to be freely available. The argument can thus be made out that the**

unavailability of these health services will impact on teen pregnancy rate since the services all concern sexual health services.

The *agreement* response-trend to the issues of whether nurses provide health information related to teenage pregnancy indicate that participants perceive this service to be available to them

Table 6						
Health problems/ or risks that possibly affect the prevalence of teen pregnancy						
(health risk issues)	(Agreement rating)					
Frequency						
Row Pct	agree++	agree	undecided	disagree	disagree++	Total
e1. Teenagers at-risk sex.diseases	53 36.05	54 36.73	11 7.48	12 8.16	17 11.56	147
e3. Pregnant teens often depressed	39 26.71	35 23.97	10 6.85	20 13.70	42 28.77	146
e4. Suicide way out,teen pregnancy	68 46.26	34 23.13	9 6.12	9 6.12	27 18.37	147
e5. Abortion solution teen pregnancy	69 47.59	39 26.90	21 14.48	7 4.83	9 6.21	145
b2. Early sex. expose teen pregnancy,	69 47.26	23 15.75	20 13.70	12 8.22	22 15.07	146
b8. Teens prefer no contraceptives	20 13.79	21 14.48	43 29.66	23 15.86	38 26.21	145
Total	318 (36.31)	206 (23.52)	114 (13.01)	83 (9.47)	155 (17.69)	876
Questionnaire statements listed below excluded from health risk construct						
e2. AIDS major teen health problem	19 13.01	23 15.75	27 18.49	21 14.38	56 38.36	146
e6. Teen suffer birth complications	14 9.59	40 27.40	31 21.23	27 18.49	34 23.29	146
Frequency Missing = 5						

Deductions

The construct score mean of 2.49 indicates that adolescence generally perceive that adolescent health problems exist but feel almost indifferently about it (2.49 falls in the 2-to-3 agreement rating range – *agree-to-neutral*, but somewhat closer to the *agree* rating level). This impression is created by the fact that respondents agreed on all aspects of existing teen health problems, namely teens being at-risk re sexually transmittable diseases; depression amongst pregnant teens; suicidal trends; and the option of abortion to pregnant teens, but not on the statement on teen preference not to use contraceptives which elicited a majority *disagree* response from teens – the disagreement ratings thus tapering down the agreement rating responses and resulting in the almost *neutral* overall response of 2.49.

By examining the individual response patterns as indicated above, **the deduction can be made that adolescents expressed the perception that teen health problems do exist.** The question can then be asked whether teen health problems affect the prevalence rate of adolescents.

The teen health problems/ issues addressed in the questionnaire statements relate to sexually transmitted diseases, emotional state of pregnant teens, suicide amongst pregnant teens, abortion, contraceptives and early sexual activities, which all acknowledge the presence of teen pregnancy: **in this context respondents' perceptions can be seen as indicating that teen health problems affect the prevalence rate of teen pregnancies** (but also visa versa: that teen pregnancies create teen health problems?)

Table 7						
Nursing staff /adolescent relationship (accessibility of the person of the nurse)						
(Relationship issues)	Agreement rating					
Frequency Row Pct	agree++	agree	undecided	disagree	disagree++	Total
f1. Nurses keep teen health confidential	16 11.03	19 13.10	5 3.45	20 13.79	85 58.62	145
f2. Teens treated with respect	19 13.01	13 8.90	11 7.53	26 17.81	77 52.74	146
f4. Nurses inform teens,contraceptives	31 21.68	35 24.48	22 15.38	20 13.99	35 24.48	143
f5. Nurses inform without condemnation	11 7.64	22 15.28	17 11.81	52 36.11	42 29.17	144
f6. Teens can enquire without fear	15 10.34	23 15.86	22 15.17	38 26.21	47 32.41	145
f7. Can discuss menstrual problems, nurse	33 22.76	39 26.90	25 17.24	25 17.24	23 15.86	145
e6. Teen suffer birth complications	14 9.59	40 27.40	31 21.23	27 18.49	34 23.29	146
Total	139 (13.71)	191 (18.84)	133 (13.12)	208 (20.51)	343 (33.82)	1014
Questionnaire statements listed below excluded from nursing staff/adolescent relationship construct						
f3. Nurses polite and friendly	52 35.62	41 28.08	18 12.33	17 11.64	18 12.33	146
Frequency Missing = 15						

Deductions

3.37 The construct score mean of 3.37 for the construct on nurses approachability and relationship with adolescents indicates that adolescence generally perceive nursing staff as not very approachable (3.37 falls within the 3-to-4 agreement rating range – '*neutral-to-disagree*' rating level). By studying perceptions for each issue, majority *disagree* responses were elicited on the statements of confidentiality towards teen health information; respect towards teens; advice without condemnation of teens; and teens ability to enquire from nurses without fear; - which all indicate to a strained nursing staff-teen relationship. However, the perception was also

expressed that nurses did provide info on contraceptives and can discuss menstrual problems with nurses. **The overall perception thus expressed by adolescents is that the nurse-adolescent relationship is strained. A strained relationship would further imply that adolescents would be hesitant to seek advice which could affect the prevalence rate of teen pregnancies.**

In summary the findings of the analyses seems to indicate that

- **respondents still held conservative values re sexual activities in their adolescent years** (The question was asked whether this perception trend could affect the prevalence rate of teen pregnancies?)
- **psycho-social issues affect teenage pregnancy rate** and that adolescents are able to distinguish between issues that affect teen pregnancy and those that do not.
- **adolescents do not perceive all teen health services to be freely available and this fact impacts on teen pregnancy rate**
- **teen health problems exist and that teen health problems affect the prevalence rate of teen pregnancies** (but the question can also be asked whether the effect is two-sided: that teen pregnancies create teen health problems?)
- **the nurse-adolescent relationship is strained and that this perception can affect the prevalence rate of teen pregnancies.**

The question can now be asked whether biographical attributes affect participants' perceptions regarding the constructs discussed in the previous sections?

1.16.5 The possible compounding effect of biographical attributes on adolescents' perceptions of the five constructs as influential in the prevalence rate of teenage pregnancies

In the first section of the questionnaire biographical properties of respondents were probed and included information on age, marital status, ethnicity, schooling, family setup, position within the family and age at first intercourse. The possible effect of these attributes on perceptions were investigated in cross reference tables between an attribute and a set of construct scores on one of the five causes-of-pregnancy-factors probed in the questionnaire. Chi-square tests were conducted on the frequencies of these two-way tables to establish whether the biographical attribute and perception factor cross referenced were statistically dependent (in other words whether the biographical attribute had a statistically significant effect on perceptions regarding the particular construct)

In the results discussed and presented below, only cross-references that proved to be significant are included.

(i) Effect of age of adolescent on attitude towards teen sexual activities:

The first two-way table included investigates the effect that the age of adolescents could possibly have on perceptions regarding early sexual activities between adolescents

Table 8 attitude by age			
rattitude	age		
Frequency Col Pct	10-15 years	16-20 years	Total
agree	3 11.54	18 15.00	21
undecided	2 7.69	35 29.17	37
disagree	21 80.77	67 55.83	88
Total	26	120	146
Frequency Missing = 1 Exact Prob.(Chi-sq=6.27) = 0.041* Prob.(Cochran-Armitage Trend test, Z=1.42) = 0.08#			

Deductions

A statistically significant relationship between perceptions on the construct of the attitude of adolescent re early sexual activities and the age of respondents was established. This can be deduced from the exact probability associated with the value of 16.27 for the chi-square test statistic that was conducted on the frequencies in table 8. The probability reported for the test is 0.041 – which indicates to statistical significance on the 5% level of significance. (The Cochran Armitage trend test – which tests for a perception trend over agreement ratings for the two age groups – was also statistically significant on the 10% level of significance (the probability of 0.08 is less than a probability of 0.1 – which indicates significance on the 10% level of significance).

These results imply that different age groups (10-15 years, and 16-20 years) held statistically significantly different views on sexual activities during adolescent years. Younger respondents were significantly more conservative (disagreed more) in their views that the older respondents. (the pattern of agree-undecided-disagree for younger respondents were 11.54 to 7.69 to 80.77% of the responses where as the older groups repose pattern was 15.00 to 29.17 to 55.85%)

(iii) Effect of family setup on perceptions re accessibility of teen health services as reason for teen pregnancies

Table 9 Effect of family set-up on perceptions re accessibility to health services as factor in prevalence of teen pregnancies.			
family	rhservices		
Frequency Row Pct Col Pct	agree	disagree	Total
Both parents	7	50	57
	8.14	58.14	66.28
	12.28	87.72	
	50.00	69.44	
Single parent	7	22	29
	8.14	25.58	33.72
	24.14	75.86	
	50.00	30.56	
Total	14	72	86
	16.28	83.72	100.00
Frequency Missing = 1 Prob.(Cochran-Armitage Trend test, Z=1.41)=0.08#			

Deductions

A statistically significant relationship on the 10% level of significance could be established between family sep-up and perceptions re the construct of health services availability to adolescents: The significance of the relationship was established in a Cochran-Armitage trend test (the probability associated with the Z-statistic of 1.41 is 0.08 – which is less than 0.1 – which indicates significance on the 10% level).

The frequency table indicates that respondents who live with both parents more often perceive health services to be unavailable, than respondents who live with one parent. These respondents tend to be somewhat less critical about availability of services – but to a statistical significant extent (this can be deduced by examining the row percentages for the one-parent and two-parent groups)

(v) Effect of adolescent’s family composition on perceptions re nursing staff/ teen relationship as reason for teen pregnancies.

Table Family setup by relationship with nurses categories			
nrnurseR	family		
Frequency Row Pct Col Pct	Both parents	Single parent	Total
agree	5 62.50 8.77	3 37.50 10.34	8 9.30
undecided	15 50.00 26.32	15 50.00 51.72	30 34.88
disagree	30 75.00 52.63	10 25.00 34.48	40 46.51
disagree++	7 87.50 12.28	1 12.50 3.45	8 9.30
Total	57 66.28	29 33.72	86 100.00
Frequency Missing = 1 Prob.(Cochran-Armitage trend test, Z-statistic=2.08) = 0.02*			

Conclusions

A statistically significant relationship on the 5% level of significance could be established between family sep-up and perceptions re the construct of approachability of nursing staff for teens: The significance of the relationship was established in a Cochran-Armitage trend test (the probability associated with the Z-statistic of 2.08, which is 0.02 – which is less than 0.05 – indicating significance on the 5% level).

By examining the column percentages over agreement ratings of the two-parent and one-parent groups, it can be deduced that proportionately (9:26:53:12% and 10:52:34:4%) **statistically significantly more both-parent respondents indicated disagreement with the nurse approachability construct than the one parent-group.**

In summary, statistically significant relations could be established between biographical properties and respondent perceptions on certain prevalence of pregnancy constructs probed in the questionnaire, namely:

- **different age groups (10-15 years, and 16-20 years) held statistically significantly different views on sexual activities during adolescent years**
- **respondents who live with both parents more often perceive health services to be unavailable than respondents who live with one parent. These respondents tend to be somewhat less critical about availability of services**
- **both-parent respondents indicated disagreement with the nurse approachability construct that the one parent-group**

1.17 Conclusions

The analysis findings indicated that:

- the questionnaire developed for the study proved to be a reliable measuring instrument in the sense that internal consistency reliability could be established for a couple of constructs formulated to investigate perceptions on aspects of the environment that could affect teenage pregnancy (pregnancy prevalence constructs) such as attitudes, psycho-social environment, availability of health services for teens, approachability of nursing staff, etc. The research objective of a reliable measuring instrument could thus be attained.
- respondents/ perceptions on these pregnancy prevalence constructs could be measured with the aid of the questionnaire and presented as respondent construct scores. The perception score mean of each construct gave a general indication of respondents view of any of the five pregnancy prevalence aspects. Thus addressing the research objective of measuring perceptions
- By examining the perception rating patterns of issues that constitute a construct, the research objective/ research question could be answered as to whether pregnancy prevalence constructs/ concepts affect the teen pregnancy rate
- The sub hypotheses of the research could be answered.

Findings regarding perceptions can be summarized as follows..... (insert summary of findings listed below each section and discuss the implication in the context of the study)