

KNOWLEDGE, ATTITUDES AND PERCEPTIONS OF SECONDARY
SCHOOL GOING GIRLS TOWARDS IMPLANON CONTRACEPTIVE AT
BOKAMOSO SECONDARY SCHOOL, POLOKWANE DISTRICT
MUNICIPALITY, LIMPOPO PROVINCE, SOUTH AFRICA.

by

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DEDICATIONS

To my wonderful family that gave me unwavering support. To all my colleagues, who are working in the contraceptive and family planning departments who are assisting our adolescents and youth women with family planning services.

DECLARATIONS

I declare that KNOWLEDGE, ATTITUDE AND PERCEPTION OF SECONDARY SCHOOL GOING GIRLS TOWARDS IMPLANON CONTRACEPTIVE AT BOKAMOSO SECONDARY SCHOOL, POLOKWANE DISTRICT MUNICIPALITY, LIMPOPO PROVINCE, SOUTH AFRICA is my work and that all the sources that I have used or quoted have been acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution

Full names:

Date:

Mkansi Mantsi Annah

06 November 2017



Signature

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	:Acquired Immunodeficiency Syndrome
DoH	:Department of Health
Dr	:Doctor
EC	:Emergency Contraceptive
FDA	:Food and Drug Administration
HIV	:Human Immunodeficiency Virus
HST	:Heath System Trust
IUD	:Intrauterine Device
LARC	:Long-Acting Reversible Contraceptives
LMIC	:Low-and Middle-Income Countries
SA	:South Africa
SADHS	:South African Demographic Survey
SSA	:Sub-Saharan Africa
Stats-SA	:Statistics South Africa
SABC	:South African Broadcasting Commission
STI's	:Sexually Transmitted Infections
US	:United States
WHO	:World Health Organization

ABSTRACT

Background: Contraception is the pillar in reducing teenage pregnancy. Birth control methods are aimed at improving the lives of women and young girls; through minimising unplanned pregnancies and subsequent termination of pregnancy. Teenage pregnancy is a major public health problem worldwide therefore the purpose of the study was to determine knowledge, perceptions and attitudes of secondary school going girls towards implanon contraceptive.

Methodology: The current study was conducted using quantitative study approach and cross-sectional study design. Data collection was done using self-administered questionnaire and data analysis was done using SPSS version 24.0. A total of 404 school going girls from grade 8-11 participated in the study.

Results: The findings of the study showed that majority of participants in the study were from rural area and are black. Nearly quarter of the school girls had menarche between the ages of 12-14 and third of them received health reproductive education from school and parents. Prevalence of teenage pregnancy among study participants was low. Participants had low knowledge, displayed positive attitude and positive perception towards implanon method of contraception.

Discussions: Low knowledge on what an implanon is, how it works and its side effects can serve as a barrier to its usage among teenagers. The common contributory factor to discontinuation and non-use of implanon is fear of side effects. The participants viewed implanon as effective and reliable.

Conclusion: School going girls had insufficient knowledge on implanon, which may lead to non-use and early termination in the use of the method. Participants displayed positive attitude and positive perception towards implanon indicating that proper health education can increase uptake among adolescent girls.

Recommendations: Provision of adolescents and youth friendly services in public health facilities can contribute to school going girls accessing implanon contraceptive method. Health education on the implanon should be strengthened by health care

providers, school programs and educators to empower them and to increase the uptake of implanon.

Keywords: School going girls; Knowledge; Attitude; Perception; Implanon contraceptive

CHAPTER ONE

1.1 INTRODUCTION AND BACKGROUND

Teenage pregnancy is a significant problem and a public health concern in the Low- and Middle-Income Countries (LMIC), with almost 10% of girls becoming mothers by the age of 16. Many girls between 15 and 19 years get pregnant; about 16 million women of this age group give birth each year, which is about 11% of all births worldwide (WHO, 2015). The proportion of births that take place among the teenagers is about 2% in China, 18% in Latin America and the Caribbean and more than 50% in Sub-Saharan Africa (SSA). In SSA the proportion differs according to regions, Rwanda with the rate of 0.3% and Mozambique with 12.2% (WHO, 2015). The latest survey conducted by Statistics South Africa (StatsSA) shows that teenage pregnancy has been on the rise since 2011, where 99 000 teenagers fell pregnant by 2013. More than 13 000 teenage pregnancies have been reported in Limpopo alone in 2013 and other provinces like Kwa-Zulu Natal reporting the highest teenage pregnancy rate with more than 26 000 pregnancies recorded in the same year (Mbali, 2014). Sexual behaviour survey amongst youth and adolescents shows that 37.5% have had sexual intercourse (Reddy et al., 2008).

Contraception is the pillar in reducing teenage pregnancy (MacGregor & Khadr, 2015). Birth control methods are aimed at improving the lives of women and young girls; through minimising unplanned pregnancies and subsequent termination of pregnancy. The number pregnancy terminations performed in 2010 as recorded by Heath System Trust (HST) is 68 736 for South Africa (SA), strengthening of contraceptive services in our public facilities can reduce numbers significantly (HST, 2014), contraceptive services and access to condoms for the prevention of HIV and other STI's are the two largest public health interventions that are directed at adolescents (MacPhail et al., 2007). As a drive to improve women's health, in SA contraceptives are made available for free at all government health institutions; however, despite these efforts the rate of teenage pregnancy continues to rise (Mbali, 2014). Teenage pregnancy in SA is driven by many factors including poverty, poor access to, and inaccurate and inconsistent use of contraceptives and judgemental attitudes of health care workers (Samantha, 2013).

Implanon is a single-rod subcutaneous contraceptive implant. The rod is inserted just under the skin of a woman's upper arm and contains etonogestrel (progestogen only). Implanon is a Long-Acting Reversible Contraceptive (LARC) and the most effective method of birth control (MacGregor & Khadr, 2015). Implanon was first approved for use in Indonesia in 1998, and then approved for use in the United States (US) in 2006. Implanon is now been used by over 11 million women around the globe, it was approved for use in other 60 countries in 2003; Implanon is the most effective form of birth control available. Failure rate of an implanon is 0.05 % for perfect use. It is also stated that in the study that included 2467 women, none of them become pregnant during the period of exposure, failures in its effectiveness are attributed to improper placement of the rod, drug interactions or conception prior to insertion of the method. As compared to other method of contraceptives, it has low rate of failing, tubal sterilisation has 0.5% of failure rate and intrauterine device (IUD) with the rate of 0.2-0.8%. Implanon is completely reversible and require replacement after three years (Chisango, 2015). The implanon contraceptive method was evaluation for its effectiveness beyond the FDA recommended period, serum etonogestrel levels were examined on participants who had an implanon. The study showed that implanon contains adequate hormone for ovulation suppression at the end of both 3 and 4 years of use (McNicholas et al., 2015).

There are three kinds of sub-dermal implants: single rod containing etonogestrel called implanon and is effective for three years, it is now available in SA, two rods containing levonorgestrel called jadelle and sino-plant which are effective for five years and four years respectively, two rods implants are used in many African countries including Zimbabwe and six rod called norplant which is no longer in the market. Implanon does not contain oestrogen, therefore can be suitable to most women (Blumenthal et al., 2010, DoH, 2014).

Most participants in the study on knowledge and attitudes of students on family planning, both females and males were participants and showed that students had knowledge about the male condom, contraceptive pill and Intrauterine device whereas 47% knew about sterilization. There is knowledge gap regarding Emergency Contraceptive (EC) (Stedding et al., 2014). Teenagers are aware of modern methods of contraception and most could describe their general mechanism

of action, contraceptives are perceived as associated with promiscuity and straying. Fear of contraceptive use among them is related to misconception and myths (Ochako et al., 2015), negative attitude towards contraceptives is a barrier to increased uptake. Awareness and knowledge on contraception do not necessarily translate to use and the reasons for non-use include that contraceptives cause infertility; causes damage to the uterus, reduce sexual pleasure and may result in severe diseases of the reproductive organs. Teenagers are uncomfortable to discuss reproductive matters with parents as it is regarded as a taboo in a society (Dangat & Njau., 2013; Jain et al., 2014).

LARC methods (implanon & IUD) are generally underutilized regardless of their safety and efficacy and which is sometime a missing component in contraception programs in SSA. Among the women who participated in the study, half of them had low knowledge on LARC and more than half had negative attitude towards these methods (Selam, 2016, Blumenthal., 2010). The effectiveness of LARC is superior to that of other short-term methods and is not altered in adolescents and young women (Winner et al., 2012). SA has laws, policies and guidelines on contraceptive service provision which are progressive and compressive to promote integrated and rights-based service to adolescents and young women as compared to other African countries. Contraceptive services should be expanded to overcome user and provider barriers to the use of implanon (Hofmeyr et al., 2016).

1.2 THE RESEARCH PROBLEM

Radebe (2015) reported that teenage pregnancy in SA has become a major threat to the future of girls, some end up leaving school to look after their children. It is also indicated that between 2013 and 2014 over 700 primary school pupils fell pregnant and over 20 000 high school pupils were pregnant in the same period. According to the study conducted by Panday et al. (2009), teenage pregnancy undermines the department's efforts to ensure that girl children remain in school, in order to contribute towards a quality of life for all, free of poverty. There is a lot of contraceptive methods available, but according to the study conducted by Ramathuba, Khoza and Netshikweta (2012), shows that adolescents display a negative attitude towards contraceptives stating reasons such as it is immoral according to their religion, fear of parent authority, peer recognition, attitude of nursing staff towards adolescents who come for contraceptives and inability to

engage in discussion with their boyfriends. Despite the benefits of implanon, which include prevention of pregnancy for a longer period, there are reports that there is poor uptake of this contraceptive and also reports that some teenagers return to primary health facilities and reproductive clinics in hospitals to ask for the device to be removed prematurely. It is not clear however, why teenagers want to remove implanon before three years, despite no medical complications reported on the device.

1.3 PURPOSE OF THE STUDY

1.3.1 Aim of the study

The aim of the study is to determine the knowledge, attitude and perception of secondary school going girls towards implanon contraceptive use at Bokamoso Secondary School which is in Polokwane District Municipality of Limpopo Province, South Africa

1.3.2. The objectives of the study

- To determine the knowledge of secondary school going girls about implanon contraceptive use
- To determine the attitudes of secondary school going girls towards implanon contraceptive use
- To determine the perceptions of secondary school going girls towards implanon contraceptive use

1.4 The research questions

- What is the knowledge of implanon use among school going girls?
- What are the attitudes of the school going girls towards using implanon?
- What are the perceptions of secondary school going girls in relation to implanon use?

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Contraception refers to the use of agents, devices, methods, or procedures which diminish the likelihood of or prevent pregnancy (Medical Dictionary, 2013). Contraceptive methods are divided into short-acting reversible contraceptives (pills, injectable and condoms) and LARC (IUD and implanon), (Blumenthal et al., 2011). Teenagers experience negative health consequences of engaging in early and unprotected sexual activity, unintended pregnancy, unsafe abortions, pregnancy related mortality and morbidity and STI's including HIV. Accessibility and availability to contraception programs can be a primary preventative strategy (Chandra-Mouli et al., 2014), In Mali access to modern contraceptive methods was not a problem but the services were considered inaccessible due to distance to the services, young women and adolescents felt that the services were catered principally for married women and the negative attitude of health care providers (Williamson et al., 2009). The most commonly used method of contraception amongst medical students in Argentina was condom, which was chosen by 46.8% of female participants and 67% of males participants. The second used was oral pill (Stedding et al., 2014).

2.2 Knowledge on contraceptives

The study conducted by Joson et al., (2012), in Victoria, Australia, shows that out of 1006 surveys that were analysed, 96% of women reported contraceptive use in the last three months, but amongst the participants it indicates that 37% were found to be at risk of unintended pregnancy due to inappropriate use with 61% reporting inconsistent use, 31% used ineffective methods and 8% were no using any method. The study conducted by Eisenberg et al., (2012), in Washington shows that overall 86% of participants knew that the annual risk of pregnancy is greater than 10% if no contraceptive is used. More than 45% of women overestimate the effectiveness of depo-medroxyprogesterone acetate, pills, the patch, the ring and condoms. After age adjustment, education and contraceptive history, the data showed that women who chose IUD or implant were more likely to identify the effectiveness of their method accurately compared with women who chose pill, patch or ring.

The study was conducted on the knowledge on long lasting reversible contraception among young women and social norm in Liverpool by Madden et al., (2014), shows that participants heard the information about three different methods, most of them believed that the information is correct, irrespective of accuracy. Some participants heard the information on long lasting contraceptives from friends and some from trained health care personnel. The study shows that the information on implanon which was positive included that it is effective, does not hurt, does not affect weight gain or loss, lasts for three years and stops periods or causes less bleeding.

Awareness and practices of contraceptive use among university students in Botswana, the study by Hoque et al., (2013), included both male and female students. The study showed that, overall students had good awareness regarding contraceptive as more than half 58,6% for males and 59,1% for females scored nine or above 90,6% of females knew that using contraceptive irregularly will result in pregnancy. The study found that the overall students had an average awareness level and the majority used some form of contraceptive. No association was found between the awareness level and contraceptive practices. The study concluded that the awareness level was good between both males and females and was satisfactory to sustain adequate contraceptive use in the content of the high unplanned pregnancy rate. Condom was the most popular method used by most respondents, showing that the HIV and AIDS prevention strategy in Botswana is working well in attracting condom use by student population. There is an insufficient contraceptive knowledge and incorrect and inconsistency of contraceptive use (Samantha, 2013). Young women in SA are aware of modern hormonal contraceptive methods but had limited knowledge on how they work and how to use them properly (Williamson et al., 2009).

2.3 Attitudes towards contraceptives

The study conducted by Chimnay et al. (2011) in Australia, on attitudes of adolescents girls towards contraceptive methods. The study involved 500 adolescents girls aged between 15 to 19 years. The results of the study showed that among 500 girls who participated in the study were sexually active. The factors associated to lack of knowledge and misconceptions are less discussion at home or at school about sexuality. The other reasons such as negative beliefs like impotency

after condom use, weakness after sterilisation, fear of becoming obese influenced the reason for choosing a different contraceptive method. The study concluded that there is still a need for reproductive health education in schools.

The study conducted by Cleland et al., (2010), shows that the use of family planning in Western Africa has been dismally low whereby attitudes remained a barrier to access to contraceptives, either from women or healthcare workers. If the trends in the use of contraceptives remain unchanged, the high projections may be exceeded. Secondary school students have a good to average knowledge on contraceptives, which does not translate into increased use. The study shows that the proportion of these students using contraceptives was still very low making them vulnerable to unwanted pregnancies and Sexually Transmitted Infections (STIs) including HIV and AIDS. The study recommended that early age knowledge and access to contraceptive services need to be enhanced.

The study conducted by Nsubuga et al., (2014), on contraceptive use, knowledge, attitude and perceptions and sexual behaviour among female university students in Uganda, shows that a total of 1008 female students participated, 73.3% were of Christian faith. Knowledge on contraceptive methods was universal at 96.6%, but only 22.1% knew about female condoms. Perceived acceptability of contraceptives use in the university was high at 93%. Nearly 70% of participants engaged in sexual intercourse and 62.1% reported sexual intercourse in the last 12 months, 46.6 % reported current use with male condoms being the commonest method. The study concluded that the use of contraceptives in this setting was poor, and there is a high rate of students trying to terminate pregnancy and it is a clear indicator of unintended pregnancies.

Magesa (2014) conducted a study on assessment of the knowledge, attitude and practices of female secondary school on emergency contraceptive in Namibia. The study shows that 47% of participants mentioned taking emergency contraceptive as one of birth control methods that can protect a girl from pregnancy whereas "other" as an option was mentioned by 7.4% of participants. The study indicated that 95.6% of the participants have not heard about an emergency contraceptive.

The study by Kistnasamy et al., (2014) shows that among South African University students, over 77% of participants indicated that they know about an EC method. Only 51% of respondents felt that emergency contraceptive was good form of contraceptive and 27% of the participants indicated that it should not be used at all. 64% of African students said they would use it, compared to 46% Indian, 31% coloured and 52% white students. Over 90% of students knew that emergency did not provide protection from HIV and AIDS and STI's the study concluded that concise information and pre- and post-counselling be provided by health care professionals to empower individual at tertiary institutions to make informed choices with respect to reproduction health.

The study conducted by MacPhail et al., (2007) in South Africa, the study shows thirds of all women having been sexually active and among these 87% were sexually active in the past 12 months. Among women who reported being sexually active, 52.2% reported using contraceptives. There was evidence of association between contraceptive use and being employed, fewer sex partners, type of last sex partner, having talked to last about condom use and having been pregnant. The study concluded that specific emphasis must be placed on encouraging young women to use contraceptives methods that offer protection against pregnancy, STI's and HIV. The consistent finding of an association between discussing condom use with partners and condom use indicates the importance of male partners in women's contraceptive decisions.

The study conducted by Onyesor et al., (2013) on knowledge of, attitude towards and practices of contraception in high school pupils in North West, shows that 87.4% of females and 88.5% of male they had engaged in sexual intercourse. One hundred and thirty pupils were reported to have had a previous pregnancy. Among participants who used contraceptives 43% females used injectable and 77% of males used condoms. A high proportion of participants in the study knew about and had awareness of contraception and STI's, with males of 83% and females 86%. 73.1% of pupils indicated that they used contraceptives when they had sexual intercourse for the first time. The study concluded that knowledge and awareness do not always lead good and proper use with regard to contraceptives.

2.4 Perceptions towards contraceptives

The study conducted by Ramathuba et al., (2012), 49% of adolescents were not using contraceptives and cited a negative perception about contraceptives, 60% preferred condoms whereas 19% preferred injection, and 5% pills. The study also showed that adolescents display a negative attitude towards contraceptives, with lack of communication with their parents which increases risky sexual behaviour.

Teenagers were against use of contraceptives for they believed it had long-term effects on childbearing when used at an early age, whilst acknowledging their benefit of preventing pregnancy. Some were negative for no reason (Mda et al., 2013).

2.5 Prevalence of contraception use

Prevalence of contraception use in Africa amongst women of the age 15 to 45 years is high in some countries and low in some, Western Africa has a prevalence of 13%, 19% in Middle Africa, 26% in Eastern Africa, 58% in Southern Africa and 60% in Northern Africa (WHO, 2012). The countries with the lowest rate of contraceptive use; have the highest maternal, infant and child mortality. South Africa, Botswana and Zimbabwe have successful family planning programs and increased accessibility and availability of contraceptives (Creang et al., 2011). The contraceptive use is a substantial and effective primary prevention strategy to reduce maternal mortality and unintended pregnancies (Ahmed et al., 2012).

2.6 The benefits of contraceptive use

Provision of contraceptives is one of the strategies to prevent unintended pregnancy in teenage girls. Contraceptive methods are safe and effective. LARC methods require no daily use, coital adherence and can be used to avoid the adverse effects and health risks of estrogen- containing contraceptives. Women using implanon will have no delay in returning to fertility on discontinuation (Blumenthal et al., 2011).

2.7 The effects of non-contraceptive use

Non-contraceptive use results in unintended pregnancy, leading to induced abortions. About 16 million teenagers aged 15-19 give birth each year. Complications related to pregnancy and childbirth and are the leading cause of death amongst girls in the low and middle income countries, where approximately 3 million unsafe abortions occur (Chandra-Mouli et al., 2014). Unplanned pregnancy often

disrupts life plans, including educational and professional ambitions and may compromise family's financial status (Blumenthal et al., 2011, Winner et al., 2012).

2.8 Different methods of contraception

There are different used methods for contraception which are the pills, condoms, injections, intrauterine device (IUD), emergency contraceptive and implanon.

2.8.1 A Pill

The first steroidal oral contraceptive (pill) was approved in 1960s because of ease of use and self-empowerment and freedom it gives to women. Pills are user dependant on their effectiveness in preventing pregnancy should be taken every day. The recently approved four-phasic pill containing estradiol valerate and dienogest has favourable results in improving haemostasis and metabolism (Sitruk-Ware et al., 2013).

2.8.2 A Condom

Condom is the mostly used contraceptive method worldwide and provides protection from unintended pregnancy and STI's including HIV. Male and female condoms are available (Chandra-Mouli et al., 2014).

2.8.3 An Injection

Norethisterone and Depo-Provera are the two methods of injectable available which contain progestin and are administered at an interval of 2 and 3 respectively. They were approved by the FDA in 1992 (Blumenthal et al., 2011).

2.8.4 Intrauterine device (IUD)

Intrauterine device (IUD) is a long-acting reversible contraceptive (LARC) that is used by millions of women worldwide and has demonstrated its high effectiveness and efficacy for a period of 5 years and has an additional non-contraceptive benefit in the treatment of heavy bleeding (Sitruk-Ware et al., 2013)

2.8.5 Emergency contraceptive

Emergency Contraceptive (EC) is a contraceptive method containing levonorgestrel and is used after engaging in unprotected sexual activity in the absence of any contraceptive method. It should be administered within 120 hours of exposure. The overall efficacy of EC is 68% (Noé et al., 2011).

2.8.6 Implanon

Implanon is a single rod implant that contains etonogestrel, the active metabolite of progestin and desogestrel (MacGregor & Khadr, 2015). Implanon is a subdermal LARC containing 68 mg of the progestin etonogestrel that is effective for three years (Blumenthal, Gemzell-Danielsson & Marintcheva-Petrova, 2008). The implanon is distinguishable from newer combined hormonal contraceptives (oral, transdermal, and intravaginal) in that it does not require daily, weekly, or monthly dosing and is estrogen free (Darney, Patel, Rosen, Shapiro & Kaunitz, 2009). The implant inhibits ovulation within one day of insertion and provides effective contraception for up to three years. There is no increase in the risk of ectopic pregnancy, fetal malformation, or impaired infant health in pregnancies conceived either during use of the implant or after its removal (Mastor, Khaing & Omar, 2011).

2.8.6.1 Mechanism of action for implanon

The rod slowly releases a female etonogestrel slowly into the bloodstream over a period three years. Implanon works in three ways: temporarily prevents ovulation, thins the lining of the uterus to prevent a fertilised egg from attaching to it and thickens the discharge from the cervix to help prevent sperm cell from going into the uterus (Chisango, 2015).

2.8.6.2 Side effects of implanon

Irregular bleeding and spotting may occur when using implanon. Many women will experience nausea, dizziness, breast tenderness and mood changes. Abdominal pain may result due to enlarged ovarian follicles in some women. Insertion complications, minor side effects related to insertion include the following bruising, skin irritation or pain around insertion site (Patel, 2014). Possible weight loss, some women may experience slight weight gain as it is seen in other methods, studies are

not conclusive as comparison study was never conducted. Some develop ovarian cysts which using disappears without treatment (Chisango, 2015).

2.8.6.3 Contraindications for implanon

Implanon should not be inserted to women with the following conditions: history of breast cancer, overweight, diabetes, high blood pressure, HIV and AIDS, unexplained vaginal bleeding, headaches, TB treatment and allergy to etonogestrel (Chisango, 2015).

2.8.6.4 Implementation of implanon in South Africa

Implanon was introduced in SA in February 2014 and must be inserted by a trained and experienced health care provider, to ensure proper insertion and minimize the risk of nerve damage or misplacement. Insertion should be done using aseptic technique, to reduce the risk of infection; a local anaesthesia is applied to the upper arm around the area before insertion to relieve pain. A needle like applicator is used to insert the rod under the skin. Implanon should be removed by an expert, after three years or can be removed at any time if pregnancy is desired (Radebe, 2015; Patel, 2014). Minister of Health Dr Aaron Motsoaledi was interviewed and he referred an implanon as a “fit and forget hormonal contraceptive”. The national contraception service delivery guidelines of 2003 were revised and updated to accommodate changes in contraceptive technologies (implanon which was not part of contraception program in SA) (DoH, 2014).

2.9 Conclusion

The studies that were reviewed in the investigation of the research topic indicated that LARC are underutilised but not a reflection of their effectiveness and security. Lack of knowledge has been identified by most researchers. Studies on implanon are limited in SA, suggesting that further research is required to explain the sub-optimal use of implanon and continuity on the method among adolescent girls.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology is a plan and an approach for a research study that span the steps from broad assumptions to detailed methods of determining target population and representative sample, data collection, analysis and interpretation to answer formulated research questions. The research design is a plan, structure and strategy used to investigate in order to obtain answers to the research question or problem (Kumar, 1999). Research design is also defined as a blueprint of how a researcher intends to conduct a research study (de Vos, 2005).

3.1.1 The study area

The study was conducted at at Bokamoso Secondary School which is a public school situated at Seshego Zone 2 in Polokwane District Municipality of Capricorn district, Limpopo province, South Africa. The school is approximately 12 km and three km away from Polokwane CBD and Seshego Hospital respectively. The school accommodates both girls and boys; most of the learners are Blacks. It offers Sepedi as a home language and English as an additional language. The school has three classes for grade 8, three classes for grade 9, three for grade 10 and three for grade 11, for grade 12 there are two classes.

3.2 RESEARCH METHOD

The research study was conducted using cross sectional study design following a quantitative research approach among secondary school going girls, aged between 13-19 years from grade 8-12. Quantitative research approach is based on observable facts, which can be drawn from documents and statistics (Meyer et al., 2010). The design describes what exist and may help uncover new facts and meanings (Neuman, 2006). Data were collected at a given point in time and are able to be recorded per individual.

3.3 RESEARCH DESIGN

Cross-sectional study design refers to a survey research or structured observation of the sample at a single point in time (Bryman, 2012). Descriptive design was used to conduct the study. Quantitative research approach is an approach that entails the collection of numerical data and exhibit a view of the relationship between theory and research as deductive (Bryman, 2012).

3.3.1. Study population

Population in a research study is defined as all possible participants who comply with the sampling criteria for inclusion in the research study (Burns & Groove, 2006). The population was all secondary school girls enrolled at Bokamoso Secondary School. The school had a total population of 702 (432 girls and 270 boys) leaners and based on the focus of the study, the target population was girls only.

3.3.2 Sampling methods

Sampling is the process whereby a sample is selected that is representative of the study participants (Meyer et al., 2010). The stratified random sampling method was used to select participants in the research study. The stratified random method is suitable for heterogeneous populations. The strata in the study were grades. Population size was 432; sample size was 207 according to Krejcie and Morgan (1970), the formula $s = \frac{n}{1 + n(0.05)^2}$, s= sample size and n= population, was used to calculate the sample size, calculated at 95% confidence interval level and five per cent margin of error. Using the formula described above, the sample size per grade are presented in the table 3.1:

Table 3.1: Study sample size

Grade	Population	Sample size
8	113	88
9	112	88
10	86	71
11	70	60
12	51	45

3.3.3 Ethical issues relating to sampling

The ethical clearance was obtained from the University of Limpopo ethics committee called Turfloop Research Ethics Committee (TREC), clearance number TREC/55/2016:PG and participants were given accent form and consent forms asking for permission to participate from parents as some were below the age of 18 and those that had signed consent forms participated in the study. Permission was also obtained from the Department of Education in Limpopo Province and the school principal.

3.3.4 Study sample

404 school girls participated in the study, the learners who were in grade 12 during the time of the study could not participate due to exams and they were replaced by the grade 8 of the following year.

3.3.5 Inclusion and exclusion criteria

School going girls from the age of 13 to 19 years were included in the study. Only those who have signed consent forms from parents were enrolled in the study. All girls who were not studying at Bokamoso Secondary School were excluded from the study. Learners without or with unsigned consent forms, girls below the age of 13 years and above 19 years were not being included in the study.

3.3.6 Data collection

Data collection is a process of gathering on variables of interest in an established and systematic manner to answer the research question.

3.3.6.1 Data collection approach and method

A self-administered questionnaire with closed-ended questions was used. The questionnaire was developed by the researcher with the help from the supervisor to answer research question and it was divided into sections which were: Section A was demographic data of participants, Section B knowledge on sexuality, Section C knowledge on, attitudes and perceptions towards implanon. Questionnaire has an advantage that it is cheap; it does not require as much effort from the researcher as verbal or telephone surveys and often have standardized answers that make it simple to compile data (Burns & Groove, 2006). The school administration had set a

date for administering the questionnaire and this was done after normal school activities with an aim not to disrupt learning process for the learners.

3.3.6.2 Development and testing of the data collection instruction

A pilot study is a smaller trial run of the main study (Meyer et al., 2010). Questionnaire was piloted on 20 secondary school going girls at Mohlakaneng Secondary School at Seshego Zone 1, Polokwane District Municipality in Capricorn District. This helped in determining any problems with the questionnaire and evaluated if the questions would be helpful to answer the research question. The participants who took part in the pilot study were not included in the main study. The findings of the pilot study proved the relevancy of the data collection tool and no adjustments were made.

3.3.6.3 Ethical consideration related to data collection

The researcher introduced herself as a student from the University of Limpopo and assured the participants that they should not write names on the questionnaire and the information given will be used only for the purpose of the study. The respondents could give personal responses to the items with no fear of being identified as the questionnaires were completed anonymously.

3.3.7 Data analysis

Data analysis aims to organize, reduce and give meaning to the data collected (Meyer et al., 2010). Data were analysed using descriptive statistics, determining frequencies and chi square test to determine the relationship between the variables. Data were analysed using a computer software SPSS version 24.0, with the help of University statistician and supervisor. Knowledge was coded into 3 categories, poor when score is less than 50%, good 50-69% and 70-100% excellent, for attitude and perception a 3 point likert scale was used to classify into agree, neutral and disagree. Positive response is allocated 1, neutral allocated 2 and negative responses 3. On attitude the score less than 50% is regarded as negative attitude and greater than 50% illustrate positive attitude. On perception the score less than 50% is interpreted that implanon is not a good method and score greater than 50% interpreted as a good method of birth control. Data were presented in the form of tables and graphs.

3.4 INTERNAL AND EXTERNAL VALIDITY OF THE STUDY

Internal validity refers to the degree at which the researcher is able to successfully eliminate confounding variables within the research study (Meyer et al., 2010). Simple random sampling was used to select study participants to reduce bias and the participants were divided into strata for representation of all grades. External validity refers to the ability of the study to allow its findings to be generalised to the population. The study results that are generalised to the represented population have high external validity (Meyer et al., 2010). The results of the study cannot be generalised to the population as it was conducted in one school. The researcher can confidently conclude that the results of the study or the change in the dependant variable were produced by the independent variable not by external factors.

3.5 CONCLUSION

The study was conducted using quantitative research approach and cross-sectional study design. Questionnaire was used as a method of data collection and analysis was done using computer software SPSS version 24.0.

CHAPTER FOUR PRESENTATION AND DISCUSSION OF THE RESULTS

4.1 INTRODUCTION

This chapter presents data analysis and interpretation of the results of the study; sections covered by the questionnaire were demography, sexual history, knowledge on, attitudes and perceptions towards implanon. The results are presented using figures and tables. The chapter attempts to answer all objectives that were set in earlier chapters.

4.2 DEMOGRAPHIC PROFILE OF THE PARTICIPANTS

Figure 4.1 presents age of the study participants. More than half (52.2%) were in the age group 13-14 years followed by (43.1%) aged 15-17 years and 4.7% aged 18-19 years.

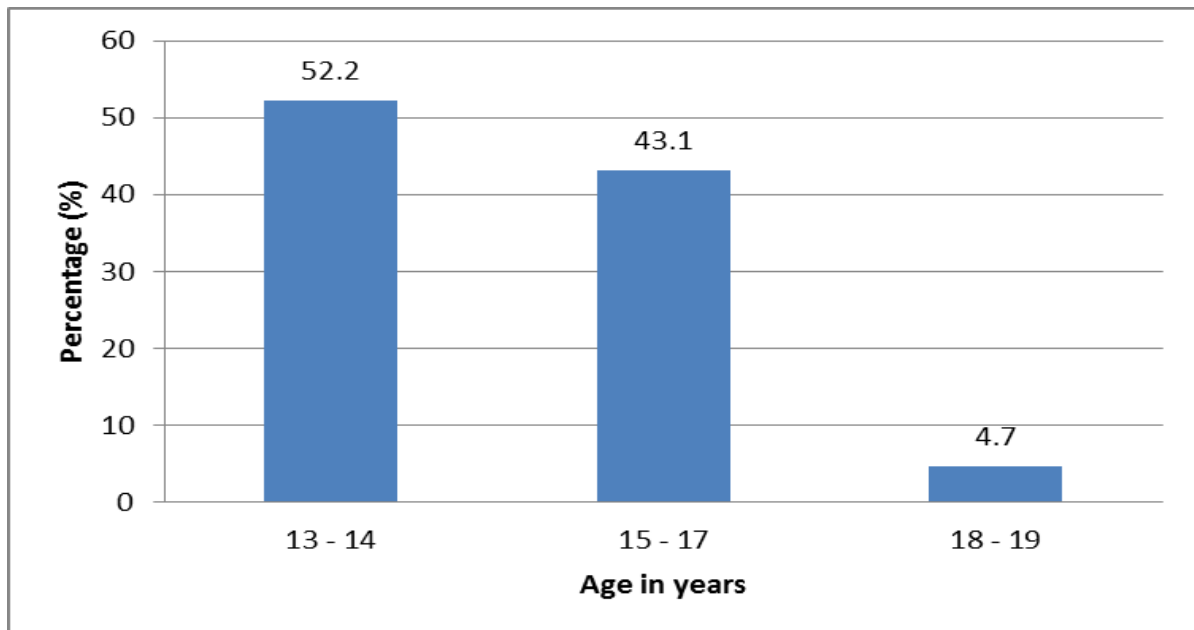


Figure 4.1: Age distribution of participants in years

Figure 4.2 shows that most of participants (45.8%) were in grade 8, followed by 21.8% in grade 9, then grade 10 and 11 with 17.6% and 14.9%, respectively.

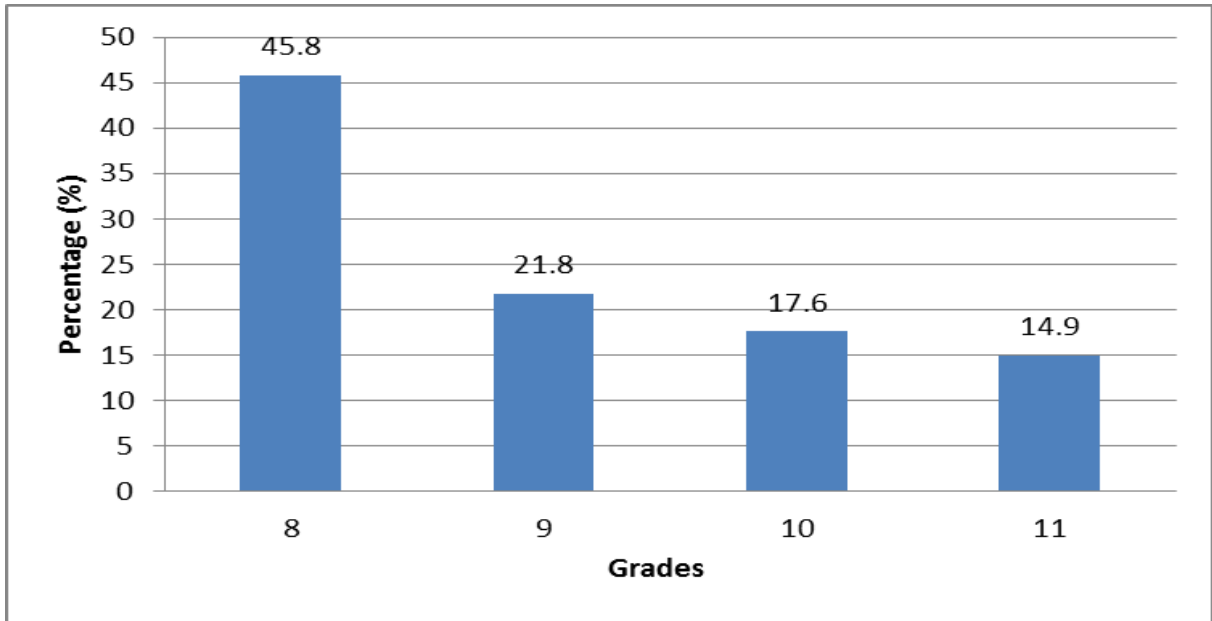


Figure 4.2: Grade of participants

Figure 4.3 shows that the majority 314 (77.7%) of the participants were staying in the townships, whereas those residing at the suburb or town and in the rural area were 42 (10.4%) and 48 (11.9%) respectively.

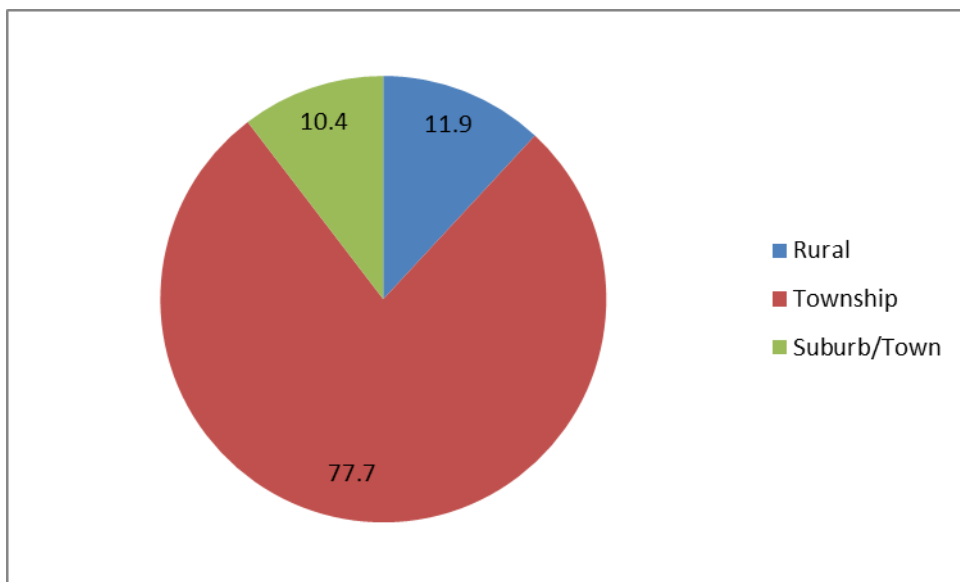


Figure 4.3: Residential area of participants

Figure 4.4 shows that 94.8% of the study participants were Christians, 4.7% not specified and 0.2% was of Hindu and Jewish religion.

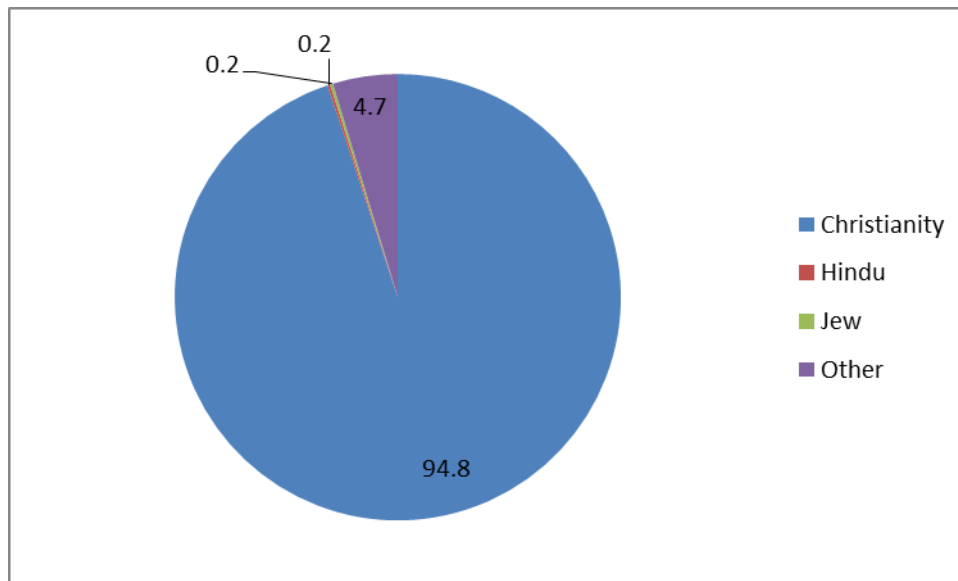


Figure 4.4: Religion of participants

Figure 4.5 presents the race of participants. The majority of participants were Black at 97.5%, followed by Coloured at 2.2% and White at 0.2%, none of the participants was Indian.

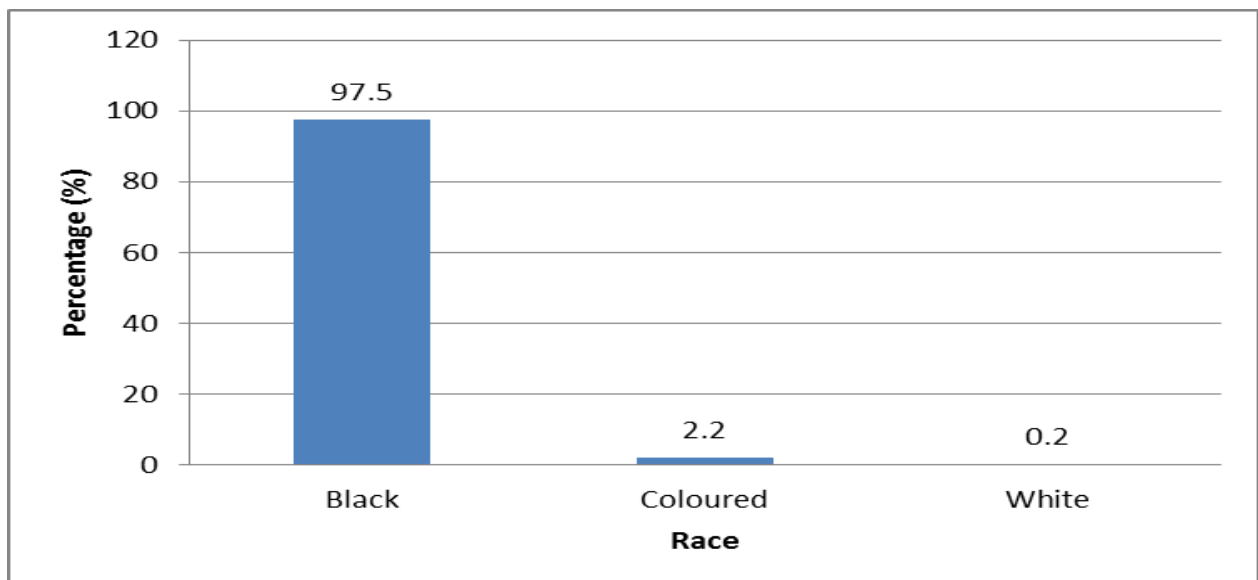


Figure 4.5: Race of participants

Figure 4.6 shows that 61.1%, of participants are staying with both parents; 33.2%, are staying with single parents either the mother or father 3.5% are staying with their grandparents and 2.2% are staying with siblings.

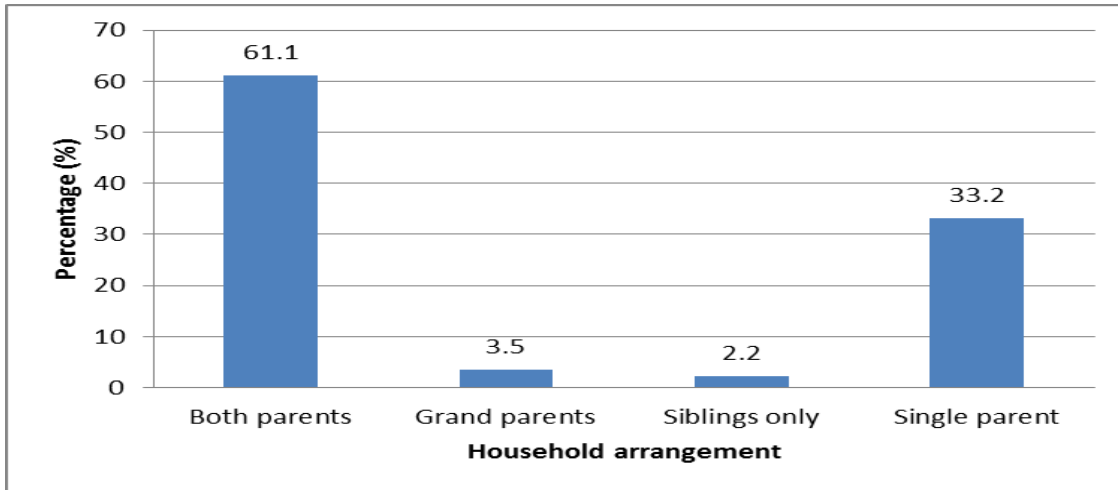


Figure 4.6: The household arrangements for the participants

Figure 4.7 presents the employment status of parents. Close to two thirds of the parents (64.4%) are employed, 18.6% are unemployed, 11.6% are self-employed, 3.5% are pensioners (grandparents), 0.2% one parent is employed and the other self-employed and 1.7% are staying with siblings.

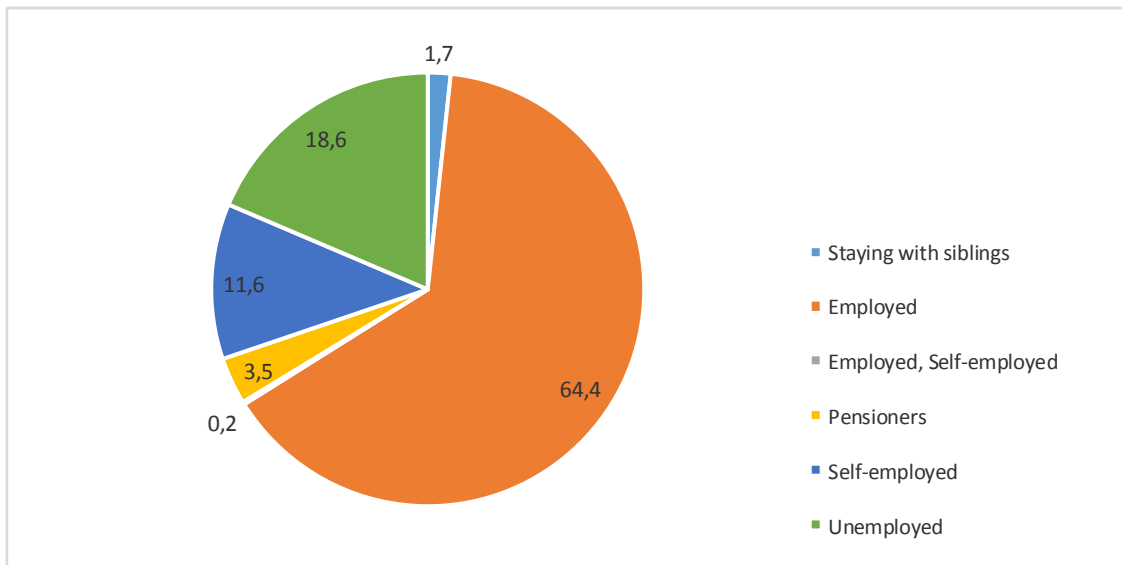


Figure 4.7: Employment status of parents

4.3 Sexual history of participants

Table 4.1 shows that participants started to have their first menstrual period between the ages of 12-14, and 16.8% have not reached menarche stage. Participants were asked if they were in a relationship (having a boyfriend), 65.8% of the girls reported that they are not in a relationship, whereas 34.2% reported that they are. The results

shows 86.3% of those that are in a relationship have not started engaging in sexual activities and 13.6% have started engaging in sexual activities. Of those that started sexual intercourse, 76.3% reported that they started when they were above 15 years of age, 18.1% between the ages of 12- 14, and 5.4% at the age below 12.

Table 4.1: Sexual history of participants (n=404)

		Frequency (n=404)	%
Age of menarche	Never started	68	16.8
	<12 years	30	7.4
	12-14 years	291	72.0
	15+ years	15	3.7
Have a boyfriend	Yes	138	34.2
	No	266	65.8
Started engaging in sexual activities	Yes	55	13.6
	No	349	86.3
Age at which they started engaging in sexual activities	<12 years	3	5.4
	12-14	10	18.1
	15 years+	42	76.3

Table 4.2 and 4.3 shows that the majority (94.0%) of the study participants received sexual or reproductive health education and those that did not receive any education are only 5.9%. Out of the 94% that received education, mentioned different places where they received it, the results show that in all the places girls mentioned school as a primary source of this education, only 33.4% of the participants outlined school only. The secondary source of information pointed out was both school and parents at 24.2%, 18.4% mentioned that they received educated from all the sources on the questionnaire, least of the participants received information from home (parents and other relatives) 0.1% and only 1.5% chose media only. The results also show that parents also play an important role in teaching their children about sex and related topics.

Table 4.2: Where participants received reproductive health education

		Frequency (n=404)	%
Received reproductive education	Yes	380	94.0
	No	24	5.9
Where they received it			
	Media	6	1.5
	Other relatives	4	1.0
	Parents	26	6.8
	Parents, Other relatives	1	0.2
	Parents, Peers, Media	10	2.6
	School	127	33.4
	School, Media, Other relatives	26	6.8
	School, Parents	92	24.2
	School, Parents, Peers, Media, Other relatives	70	18.4
	School, Peers, Other relatives	18	4.7
Total		380	100

Most of the study participants received the education on STI's including HIV and AIDS, sexual organs, pregnancy and contraceptives, and how to say yes or no to sex (all of the above) 64.4%, 3.4% said they received education on STI's including HIV and AIDS only, 6.3% on when to say yes or no to sex and the other participants received education on other topics as presented in the table following.

Table 4.3: Topics from which participants received reproductive health education

Topics	Frequency (n=404)	%
Pregnancy and contraceptives (P & C)	18	4.7
When to say yes or no to sex	24	6.3
Sexual organs, STI's including HIV/AIDS, P & C	10	2.6
P & C, When to say yes or no to sex	4	1.0
Sexual organs	13	3.4
Sexual organs, P & C, When to say yes or no to sex	10	2.6
Sexual organs, STI's including HIV/AIDS, When to say yes or no to sex	13	3.4
STI's including HIV/AIDS	13	3.4
STI's including HIV/AIDS, P & C, When to say yes or no to sex	30	7.8
All of the above	245	64.4
Total	380	100.0

Table 4.4 shows participants' response on their HIV status. From 404 study participants 68.3% know their HIV status and 31.7% did not know. According to the study results prevalence of teenage pregnancy is low in the school, as 98.3% of the participants responded that they were never pregnant and 1.7% is those that have been pregnant. Among 1.7% of the girls who ever got pregnant, 85.7% have been pregnant once and 14.3% twice or more.

Table 4.4: Participants' HIV status and their history of pregnancy,

		Frequency (n=404)	%
Do they know their HIV status	Yes	128	31.7
	No	276	68.3
Ever being pregnant	Yes	7	1.7
	No	397	98.2
Frequency of pregnancy	Once	6	86.7
	Twice or more	1	14.2

4.4 KNOWLEDGE OF PARTICIPANTS ON IMPLANON STRATIFIED BY AGE

Table 4.5 shows the association between age and knowledge of the respondents on what is an implanon. A greater proportion (71.3%) of the participants did not know what an implanon is. Most of the girls between the ages of 13-14 and 15-17 don't know what is an implanon at 40.3% and 29.0% respectively and among the 18-19 years 2.0% mentioned that it is a loop and 0.2% did not know, only 12.1% of the participants knew that it is a rod ($p<0.05$). Overall, 82.7% of the girls were not sure of the length of the implanon. A significant low proportion of the 18-19 (0.2%) thought it is 15 cm as compared to other age groups ($p<0.05$). Also, 71.5% of the participants were not sure of where is the implanon inserted, only 24.5% knew that it is inserted on the upper arm ($p<0.05$). Most of the respondents were not sure who should insert it overall 60.6%, 2.0% said anyone can do it, 1.5% parents, 0.7% friend and 35.1% trained health care worker ($p<0.05$). Majority (81.7%) of the participants were not sure of how is it inserted, lower number said yes it does need operation to insert 5.2%, 3.7% of the 13-14 are the group that said yes as compared to other groups and overall 13.1% said no it does not need an operation ($p<0.05$).

Table 4.5: Knowledge on what is an implanon stratified by age in years

		N=404	13-14 (n=211)	15-17 (n=174)	18-19 (n=19)	P-values
What is an implanon	Rod	49(12.1%)	23(5.7%)	23(5.7%)	3(0.7%)	0.004*
	Loop	67(16.6%)	25(6.2%)	34(8.4%)	8(2.0%)	
	I don't know	288(71.3%)	163(40.3%)	177(29.0%)	8(2.0%)	
How long is it	15 cm ruler	26(6.4%)	15(3.7%)	10(2.5%)	1(0.2%)	0.000*
	Match stick	44(10.9%)	16(4.0%)	19(4.7%)	9(2.2%)	
	Not sure	334(82.7%)	180(44.6%)	145(35.9%)	9(2.2%)	
Where is it inserted	On the bum	7(1.7%)	5(1.2%)	2(0.5%)	0(0.0%)	0.028
	On the thigh	9(2.2%)	8(2.0%)	0(0.0%)	1(0.2%)	
	On the upper arm	99(24.5%)	33(8.3%)	58(14.4%)	8(2.0%)	
	Not sure	289(71.5%)	165(40.8%)	114(28.2%)	10(2.5%)	
Who should insert it	Anyone	8(2.0%)	4(1.0%)	4(1.0%)	0(0.0%)	0.028
	Friend	3(0.7%)	2(0.5%)	1(0.2%)	0(0.0%)	
	Parents	6(1.5%)	4(1.0%)	1(0.2%)	1(0.2%)	
	Trained health care worker	142(35.1%)	57(14.1%)	75(18.6%)	10(2.5%)	
	Not sure	245(60.6%)	144(35.6%)	93(23.0%)	8(2.0%)	
Does it needs operation to insert	No	53(13.1%)	20(5.0%)	24(5.9%)	9(2.2%)	0.000*
	Yes	21(5.2%)	15(3.7%)	4(1.0%)	2(0.5%)	
	Not sure	330(81.7%)	176(43.6%)	146(36.1%)	8(2.0%)	

* indicates statistical significance at 95% CI

Table 4.6 presents knowledge of participants on how an implanon works. Majority of the participants (86.6%) were not sure if an implanon does decrease sex drive or not, greater proportion is in the age group 13-14 (44.1%), 7.7% said no and 5.7% said yes, ($p < 0.05$). Nearly half of the study participants (49.5%) were not sure if an implanon is an effective method to prevent pregnancy, 52(12.9%) think it is an effective method of prevention and 52(12.9%) said it is not among the 13-14 years' age group. Among the 15-17 at 15.1% and 18-19 at 0.2% said yes it is an effective method, however the results are statistically insignificant ($p > 0.05$). On the duration of its effectiveness 77.0% of the participants were not sure, 17.1% said three years, 4.7% said three months and 1.2% said it is effective for two months, ($p < 0.05$). Seventy-six per cent of the participants were not sure if it prevents pregnancy and

HIV/AIDS, 14.6% said no it does not protect and 9.4% said yes, ($p < 0.05$). Implanon prevents pregnancy by stopping the release of an egg cell from the ovaries, 80.2% of the participants were not sure of how it works, 12.1% knew this mode of action and 7.7% did not know ($p > 0.05$).

Table 4.6: Knowledge on how implanon works stratified by age in years

		N=404	13-14 (n=211)	15-17 (n=174)	18-19 (n=19)		P- values
Does an implanon decrease sex drive	No	31(7.7%)	18(4.5%)	9(2.2%)	4(1.0%)		0.006*
	Yes	23(5.7%)	15(3.7%)	5(1.2%)	3(0.7%)		
	Not sure	350(86.6%)	178(44.1%)	160(39.6%)	12(3.0%)		
Do you think it is an effective method of birth control	No	83(20.5%)	52(12.9%)	26(6.4%)	5(1.2%)		0.088
	Yes	121(30.6%)	52(12.9%)	61(15.1%)	8(2.0%)		
	Not sure	200(49.5%)	107(26.5%)	87(21.5%)	6(1.5%)		
How long does it remain effective	Three months	19(4.7%)	6(1.5%)	13(3.2%)	0(0.0%)		0.000*
	Three years	69(17.1%)	24(5.9%)	35(8.7%)	10(2.5%)		
	Two months	5(1.2%)	5(1.2%)	0(0.0%)	0(0.0%)		
	Not sure	311(77.0%)	176(43.6%)	126(31.2%)	9(2.2%)		
Does implanon prevent HIV/AIDS	No	59(14.6%)	18(4.5%)	30(7.4%)	11(2.7%)		0.000*
	Yes	38(9.4%)	22(5.4%)	16(4.0%)	0(0.0%)		
	Not sure	307(76.0%)	171(42.3%)	128(31.7%)	8(2.0%)		
Does an implanon prevent the release of an egg from ovaries	No	31(7.7%)	21(5.2%)	9(2.2%)	1(0.2%)		0.025
	Yes	49(12.1%)	17(4.2%)	27(6.7%)	5(1.2%)		
	Not sure	324(80.2%)	173(42.8%)	138(34.2%)	13(3.2%)		

* indicates statistical significance at 95% CI

Table 4.7 shows knowledge of participants on the side effects of an implanon, 84.9% of the participants were not sure, at least 11.9% said no and only 3.2% said yes it can be used in any medical condition and 0% of the age group 18-19 said yes showing at least 2.0% of them understood that, ($p < 0.05$). Ten per cent of participants responded that being overweight does not affect effectiveness of an implanon, 4.0% said it does affect and 85.9% are not sure of the effect of weight, ($p < 0.05$). Implanon use does not have age restriction, any women eligible for use is allowed to have the

method, 9.9% of the participants said yes it has limitations, 8.4% said it does not have and greater proportion said they are not sure at 81.7%, ($p>0.05$). Eighty comma four per cent of the participants are not sure of the side effects of an implanon, only 3.2% said no to effects such as heavy bleeding and headaches and 16.3% agreed with the effects, ($p>0.05$). Implanon is a progestogen only contraception method and it alters natural menstrual cycle, 85.6% of the participants were not sure, 3.0% said no it does not alter and 11.4% said yes to the statement ($p>0.05$). Majority of participants were not sure if implanon causes cancer or not 345(85.3%), 12.1% said no and 2.5% said yes ($p>0.05$). The study results show that there is low knowledge among school going girls as there is no response above 50%.

Table 4.7: Knowledge on the side effects stratified by age in years

		N=404	13-14 (n=211)	15-17 (n=174)	18-19 (n=19)	P-values
Can an implanon be used if a person has any medical condition	No	48(11.9%)	28(6.9%)	12(3.05)	8(2.0%)	0.000*
	Yes	13(3.2%)	11(2.75)	2(0.5%)	0(0.0%)	
	Not sure	343(84.9%)	172(42.6%)	160(36.6%)	11(2.7%)	
Being overweight affect the effectiveness of an implanon	No	16(4.0%)	11(2.7%)	4(1.0%)	1(0.2%)	0.001*
	Yes	41(10.1%)	20(5.0%)	14(3.5%)	7(1.7%)	
	Not sure	347(85.9%)	180(34.7%)	156(38.6%)	11(2.7%)	
Implanon has age restriction	No	34(8.4%)	14(3.5%)	17(4.2%)	3(0.7%)	0.048
	Yes	40(9.9%)	18(4.5%)	17(4.2%)	5(1.2%)	
	Not sure	330(81.7%)	179(44.3%)	140(34.7%)	11(2.7%)	
Side effects may include heavy bleeding and headaches	No	13(3.2%)	10(2.5%)	3(0.7%)	0(0.0%)	0.024
	Yes	66(16.3%)	28(6.9%)	30(7.4%)	11(2.7%)	
	Not sure	325(80.4%)	173(42.8%)	141(34.9%)	8(2.0%)	
Implanon alters menstrual cycle	No	12(3.0%)	8(2.0%)	4(1.0%)	0(0.0%)	0.041
	Yes	46(11.4%)	19(4.7%)	21(5.2%)	13(3.2%)	
	Not sure	346(85.6%)	184(54.5%)	149(36.9%)	6(1.5%)	
Implanon causes cancer	No	49(12.1%)	32(7.9%)	13(3.2%)	4(1.0%)	0.033
	Yes	10(2.5%)	4(1.0%)	4(1.0%)	2(0.5%)	
	Not sure	345(85.3%)	175(43.3%)	157(38.8%)	13(3.2%)	

* indicates statistical significance at 95% CI

4.5 ATTITUDES OF SCHOOL GOING GIRLS TOWARDS IMPLANON

Table 4.8 below presents attitudes towards implanon by age. The results show that 17.3% of the participants agree with the statement that implanon is the best birth control method against others, 36.9% disagree and 45.8% are neutral, ($p < 0.05$). On the knowledge section participants were asked how long does an implanon remain effective, 17.1% responded three years and on attitude 21.5% agree, 26.7% disagree and 51.7% were neutral though the results are statistically insignificant ($p > 0.05$). Twenty-three comma five per cent agree that implanon does make users fat, 31.2% disagree with the statement and 45.3% are neutral ($p < 0.05$). Participants were asked if an implanon should be inserted to all school going girls 53.7% of the participants disagree, 10.9% of the 13-14, 3.5% of 15-17 and 0.5% of 18-19 agree, majority of the 18-19 in number (14) disagree with the statement and those that answered neutral are 31.4% ($p < 0.05$). Participants who are saying that implanon insertion scar is big and ugly were 11.6%, 37.9% disagree and half of them (50.4%) answered neutral ($p > 0.05$). Fifty-six comma seven per cent were neutral as to whether the insertion is painful and time consuming, 28.5% disagree and only 14.9% agree ($p > 0.05$). Almost quarter (24.8%) of the participants said that contraceptives are not for young girls, 32.4% disagree with the statement which is a percentage higher than those are agreeing since the method does not have age restriction and 42.8% are neutral ($p < 0.05$). At least 64.4% of the participants disagree with the statement that they will not have friends if they have an implanon, 31.4% are neutral and only 4.2% agree ($p < 0.05$). Overall attitude of school going girl's response does not indicate negative attitude as more than 50% of the questions were answered positively and majority are neutral.

Table 4.8: Attitudes stratified by age in years

		N=404	13-14 (n=211)	15-17 (n=174)	18-19 (n=19)	P-values
Implanon is the best method of birth control against others	Agree	70(17.3%)	40(9.9%)	28(6.9%)	2(0.5%)	0.006*
	Disagree	149(36.9%)	90(23.3%)	49(12.1%)	10(2.5%)	
	Neutral	185(45.8%)	81(20.0%)	97(24.0%)	7(1.7%)	
Implanon does remain effective for three years	Agree	87(21.5%)	44(10.9%)	38(9.4%)	5(1.2%)	0.166
	Disagree	108(26.7%)	66(16.3%)	36(8.9%)	6(1.5%)	
	Neutral	209(51.7%)	101(25.0%)	100(24.5%)	8(2.0%)	
Implanon makes users fat	Agree	96(23.5%)	40(9.9%)	50(12.4%)	5(1.2%)	0.001*
	Disagree	126(31.2%)	84(20.8%)	35(8.7%)	7(1.7%)	
	Neutral	183(45.3%)	87(21.5%)	89(22.0%)	7(1.7%)	
Implanon should be inserted to all school going girls	Agree	60(14.9%)	44(10.9%)	14(3.5%)	2(0.5%)	0.001*
	Disagree	217(53.7%)	97(24.0%)	106(26.2%)	14(3.5%)	
	Neutral	127(31.4%)	70(17.3%)	54(13.4%)	3(0.7%)	
Implanon scar is big and ugly	Agree	47(11.6%)	29(7.2%)	15(3.7%)	3(0.7%)	0.239
	Disagree	153(37.9%)	82(20.3%)	61(15.1%)	10(2.5%)	
	Neutral	204(50.4%)	100(24.8%)	98(24.2%)	6(1.5%)	
Implanon insertion is painful and time consuming	Agree	60(14.9%)	36(8.9%)	21(5.2%)	3(0.7%)	0.246
	Disagree	115(28.5%)	66(16.3%)	43(10.6%)	6(1.5%)	
	Neutral	229(56.7%)	109(27.0%)	110(27.2%)	10(2.5%)	
Contraceptives are not for young girls	Agree	100(24.8%)	48(11.9%)	49(12.1%)	3(0.7%)	0.415
	Disagree	131(32.4%)	67(16.6%)	55(13.6%)	9(2.2%)	
	Neutral	173(42.8%)	96(23.8%)	70(17.3%)	7(1.7%)	
I will not have friends when I have an implanon in my body	Agree	17(4.2%)	13(3.2%)	4(1.0%)	0(0.0%)	0.003*
	Disagree	260(64.4%)	124(30.7%)	117(29.0%)	19(4.7%)	
	Neutral	127(31.4%)	74(18.3%)	53(13.1%)	0(0.0%)	

* indicates statistical significance at 95% CI

4.6 PERCEPTIONS OF SCHOOL GOING GIRLS TOWARDS IMPLANON

Table 4.9 present results on perception of school going girls towards implanon. The study results show that 15.8% of the participants agree that implanon causes infertility, 33.7% disagree and 51.5% are neutral, however the results are statistically insignificant ($p>0.05$). Implanon is inserted on the upper arm, 33.4% of the participants disagree that it will move around your body after sometime of use, 14.9% are agreeing and 51.7% are neutral ($p<0.05$). Thirty-eight comma nine per cent of participants agree that implanon can help girls to stay in school without wondering of being pregnant, 23.8% disagree and 37.4% are neutral ($p>0.05$). Implanon does require regular clinic follow up, 28.7% of the participants agree with the statement, 31.2% disagree and 40.1% are neutral. Twenty per cent of the 13-14 years were neutral about the statement, ($p>0.05$). Parents play an important in the sexual and reproductive health of their adolescent girls, 36.1% of the participants said that their parents will not allow them to have an implanon which is high than those who disagree (27.0%) and 36.9% are neutral, ($p<0.05$). There are misconceptions about contraceptives, 97(24.0%) of the participants agree that using this method will alter their body image, 26.2% disagree and 49.8% are neutral, ($p<0.05$). There may be a perception that girls who are using contraceptives are sexually active, the results of the study validate the assumption, 36.6% of the participants agree that they will be viewed as being sexually active, 36.6% are neutral and only 26.7% disagree ($p<0.05$). The results of the study do not indicate negative perception of school going girls towards implanon as they have given positive responses.

Table 4.9: Perceptions stratified by age in years

		N=404	13-14 (n=211)	15-17 (n=174)	18-19 (n=19)	P-values
Implanon causes infertility	Agree	64(15.8%)	35(8.7%)	26(6.4%)	3(0.7%)	0.148
	Disagree	132(32.7%)	76(18.8%)	47(11.6%)	9(2.2%)	
	Neutral	208(51.5%)	100(24.8%)	101(25.0%)	7(1.7%)	
Implanon will move all around my body after some time of use	Agree	60(14.9%)	36(8.9%)	18(4.5%)	6(1.5%)	0.014*
	Disagree	135(33.4%)	74(18.3%)	53(13.1%)	8(2.0%)	
	Neutral	209(51.7%)	101(25.0%)	103(25.5%)	5(1.5%)	
Implanon can help girls stay in school without wondering of being pregnant	Agree	157(38.9%)	75(18.8%)	70(17.3%)	11(2.7%)	0.158
	Disagree	96(23.8%)	56(13.9%)	35(8.7%)	5(1.2%)	
	Neutral	151(37.4%)	79(19.6%)	69(17.1%)	3(0.7%)	
Implanon is the best method I can use because I will not go to the clinic regularly	Agree	116(28.7%)	59(14.6%)	48(11.9%)	9(2.2%)	0.104
	Disagree	126(31.2%)	71(17.6%)	48(11.9%)	7(1.7%)	
	Neutral	162(40.1%)	81(20.0%)	78(19.3%)	3(0.7%)	
My parents will not allow me to have an implanon	Agree	146(36.1%)	55(13.6%)	82(20.3%)	9(2.2%)	0.000*
	Disagree	109(27.0%)	75(18.6%)	30(7.4%)	4(1.0%)	
	Neutral	149(36.9%)	81(20.0%)	62(15.3%)	6(1.5%)	
Having an implanon will alter my body image	Agree	97(24.0%)	43(10.6%)	44(10.9%)	10(2.5%)	0.003*
	Disagree	106(26.2%)	66(16.3%)	35(8.7%)	5(1.2%)	
	Neutral	201(49.8%)	102(25.2%)	95(23.5%)	4(1.0%)	
People will think I am sexually active when I have an implanon	Agree	148(36.6%)	50(12.4%)	88(21.8%)	10(2.5%)	0.000*
	Disagree	108(26.7%)	80(19.8%)	22(5.4%)	6(1.5%)	
	Neutral	148(36.6%)	81(20.0%)	64(15.8%)	3(0.7%)	

* indicates statistical significance at 95% CI

4.7 CONCLUSION

Graphs and tables were used to present quantitative data. Knowledge, attitudes and perceptions were calculated at 95% confidence interval and five per cent margin of error.

CHAPTER FIVE

DISCUSSION, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

This chapter present the discussion, recommendations, conclusion, and limitations of the research study derived from the results of the study.

5.2 DISSCUSSION OF THE STUDY RESULTS

5.2.1 Introduction

This section provides an overview of the study results presented in the previous chapter. The discussion was focused on the elements of the questionnaire and study objectives.

5.2.2 Demographic profile of participants

Age

The results of this study revealed that just over half of the participants were between the ages of 13-14 years, and the rest were over 14yrs of age. Studies in South Africa show that the sexual debut of girls is as low as 13yrs (Richter et al., 2015). This therefore implies that children engage in sexual activities at a very young age, mostly with older partners. Financial and material exchange as a motivating force underlying sexual relationship is a well-recognised dynamic in the HIV pandemic, particularly in Sub-Saharan Africa (Maokamela, 2016). When adolescents engage in sexual activities at a young age, they have no power to negotiate condom use, and they engage in sex at the stage where they are not clued up on the use of contraception (Okanlawan et al., 2010). Studies show that these girls end up with unwanted pregnancy and adverse pregnancy outcomes or resultant abortions, the adverse effects included preterm labour as a major complication, hypertensive disorders of pregnancy, premature rupture of membranes and complications related to the babies born to teenage mothers were low birth weight, and still births (Yasmin et al., 2014). Currently in SA, the incidence of abortions among adolescents is extremely high, which is an indication that adolescents engage in unprotected sex at a very young age. Also, of concern is the fact that the government institutions offer contraceptives for free, and with the high prevalence of HIV in this country, adolescents who start

engaging in sexual activities at a young age are not likely to be using contraceptives during sexual activity, there is a genuine need for a drive to upscale contraceptive uptake in this age group (Chandra-Mouli et al., 2013, Finer et al., 2013; SADHS, 2016). Adolescents engage in sexual activities at an early age due to socio-economic factors, therefore reproductive education should be introduced early in school to empower them in decision making.

Residence

The results of this study revealed that the majority of participants were from township, with only a tenth of them were residing at a suburb/town and rural area. According to United Nations Population Fund (UNFPA) in the report done by Department of Social Development, contraceptive use among adolescents should be increased in communities particularly the very poor and deep rural communities as non-use is attributed to lack of access, lack of knowledge and awareness of the importance of contraceptives use (DSD, 2015). Studies show that children who reside in townships are more exposed to information on many levels, therefore, they are expected to know more about all forms of contraceptives, including implanon in this study, whereas those residing in the rural areas may not have as much access to sexual and reproductive health information (Seutlwadi et al., 2012; Lebesse et al., 2013; Yidana et al., 2015; Selassie, 2017). In contrast, Okanlawan et al., (2010) reported that when it comes to contraceptive usage, therefore there was no significant difference between urban and rural dwellers; awareness towards contraceptives cannot be translated to usage. However, it is still important to ensure that access to contraceptives is improved in both urban and rural settings, coupled with vigorous drive to persuade young people to increase uptake.

Religion and Race

The results of this study revealed that the majority of participants were from the Christian denomination, and were black. Marrone et al., (2014) found that there was no association between religion and contraceptive use in the study conducted in Ghana. It was also noted that adolescents who are very religious were less likely to engage in sexual activities, irrespective of their religious denomination. Yidana et al., (2015) found that factors such as religion, tradition and education may influence adolescents on making decisions on future fertility preferences e.g. number of kids

and when to have them. This however, may indicate that women are likely to delay sexual debut or falling pregnant due to these factors such as religion. Health care providers should be able to provide contraceptive services to adolescents taking into consideration their beliefs and religious affiliations.

Staying with

In this study, close to two thirds of participants were staying with their parents (mother and father), a third of them were staying with single parents, and a few were staying with their grandparents and were part of child headed families. Furthermore, the study results show that two thirds of the participant's parents were employed, with the rest being unemployed, self-employed, and were pensioners. Among other reported reasons why adolescents engage in early sexual activities are; financial gain or support, parental neglect and low parental supervision (Maokamela, 2016). The term *blesser-blessee* was introduced to explain the transactional relationship that may take place between a young woman and an older man. According to Lebeso et al., (2013) adolescents living without parents or legal guardians are less fortunate to be taught at home how to prevent pregnancy, and the use of contraceptives and sexual health issues. It has also provided evidence that young people living with parents that are close or sharing the same household experience better outcomes with respect to schooling and sexual behaviour than those living with more distantly related heads (Goldberg, 2013). The use of implanon will offer adolescents potential benefit of preventing pregnancy for a longer period as it does not require daily, weekly, or monthly compliance and thus reduces the number of follow up visits to a health facility, therefore they can remain in school. Emphasis should be more on dual protection.

5.2.3 Sexual history of participants.

5.2.3.1 History of menarche and engagement in sexual intercourse

The result of this study revealed that the majority of the participants have started their menstrual cycle between the ages of 12-14 years. The results are concurrent with Ramathuba (2015) who found that 73% of the participants started menstruation at age of 13-14 years. These studies indicate that the girls of that age group are at

risk of unintended pregnancy if they do not have access to contraceptives (WHO, 2016). The results are also supported by the study conducted in India that found that the mean age of menarche among 1100 school girls was 13.51 and 13.6 years (Dambhare et al., 2012). Furthermore, the results of the current study revealed that a third of participants reported that they were in a relationship and, of those with partners; the majority reported that they were not engaging in sexual activities yet, whilst just over tenth of them were engaging in sexual activities. In contrast, a study conducted by MacPhail et al. (2007) in South Africa, revealed that a third of participants reported to be sexually active. These findings imply that reproductive health education need to be conducted as early in an adolescent's life, seeing that their sexual debut is from 12 years of age.

5.2.3.2 Sexual Debut

The results of this study revealed that, a few participants started their sexual debut at the age of 12yrs, with the majority having started at the age of 15yrs. Studies reveal that a third of young women become pregnant before the age of 20 in SA, which indicates that adolescents and young women begin to engage in sexual activity at an early age (Oluwole & Skaal, 2016; Richter et al., 2015). Limited access to sexual and reproductive health services and education to adolescents can place them at a disadvantage of unintended pregnancy, HIV and AIDS and other sexually transmitted infections as they engage in sexual intercourse during puberty stage.

WHO., (2016) revealed that in Malawi 580 000 adolescent girls between the ages of 15-19 were sexually active, in Kenya 1.5 million girls and Zambia more than 70% of the adolescents population are sexually active, with mean age of sexual activity initiation of 16.2, 16.3 and 16.4 years respectively. Okanlawan et al. (2010) reported that amongst the adolescents who were sexually active; the prevalence of contraceptive use was low. Implanon use among adolescents can help them remain in school and without wondering of being pregnant or going to the clinic more often. School health program can assist in health educating school going girls comprehensively on contraceptive methods.

5.2.3.3 Reproductive health education

The results of the study revealed that the majority of the participants reported that they received reproductive health education from different sources. Only a few of them did not receive any reproductive health education. Sexual reproductive health information is being made available through department of health's website Bwisehealth.com to ensure that adolescents and young people have access to reliable and relevant information. Bwisehealth.com site is a well monitored information site where adolescents and youth have to create individual login details in order to access the health information and there is a panel of professionals to answer the questions online. Access to the site is free on any kind of a cell phone, therefore adolescents and youth can be able to understand the information as it is youth friendly (SA, 2015). The results of this study shows that a third of the participants received the reproductive education from school only, compared to other sources such as media and relatives and also, a quarter of the participants reported that they received reproductive health education from both school and parents. The most prominent source of information for the participants in this study is school on topics such as sexual organs and STI's including HIV. The results of study are also supported by Chimney et al. (2011) and Clealand et al. (2015) that adolescents receive education from sources such as parents, peers, media and other relatives. Two thirds of the participants received education on pregnancy and contraceptives (all methods), when to say yes or no to sex, sexual organs and STI's including HIV and AIDS. This study showed that the school going girls had access to information which can assist them in making informed choices pertaining to their sexual and reproductive health to reduce unintended pregnancies and pregnancy related complications.

5.2.3.4 Participants HIV status and history of pregnancy

The results of study show that two thirds of the participants did not know their HIV status which is important in shaping and determining their lifestyle as adolescents, and, only a third of the participants had undertaken an HIV test and knew their status. According to the National DoH HIV Clinical Guidelines for Prevention of mother to child transmission (SA, 2015) all pregnant women should be tested for HIV

when they come for their first antenatal booking and those who test negative will be repeated at every visit, then at 6 weeks postpartum and the every three months through out breastfeeding therefore adolescents girls who are pregnant or ever got pregnant will know their HIV status as mandated by the guidelines, adolescent girls are at higher risk of HIV infection than boys of the same age, there should be routine testing for them and adequate support disclosure for the adolescents and their families (SA, 2016). Teenage pregnancy is a major public health problem and often resulting in unsafe abortions and maternal deaths. Maternal deaths as recorded in SA in 2015 was 138 deaths per 100 000 live births and the target for millennium development goals was 38/100 000, Limpopo contributed 7.6% of deliveries in facilities below the age of 18, (Winner et al., 2012; STATS SA, 2015). The use of implanon among adolescents can reduce the prevalence of pregnancy, abortions and maternal deaths that can occur due to pregnancy-related complications. Teenagers around the ages of 15-19 have begun child bearing with 12% that has already given birth and 3% were pregnant at for the first time when they survey was conducted in SA (SADHS, 2016). Among the participants the prevalence of teenage pregnancy is low, whereas 98.2% never got pregnant. Among those who got pregnant only 14.2% got pregnant more than twice. Hubacher et al., (2008) reported that there were approximately 14 million unintended pregnancies which results in high rate of maternal deaths in SSA. The prevalence of pregnancy among adolescents is escalating in SA, as 99 000 pregnancies were recorded in 2013 alone (Mbali, 2014). According to district health information system (DHIS) monthly report shows that the uptake of LARC is still low as compared to contraceptive pill and injectables. Health education programs on LARC should be strengthened to clear myths and misconceptions related to the methods (DHIS, 2017). Peipert et al., (2012) comparing data from St Louis and Kansas City in the US noted a significant reduction in abortion rates, repeat abortions and unintended pregnancies with the use of LARC (implant) among teenagers. Teenage pregnancy can be reduced by providing intensive health education and increased access to the contraceptive methods. To prevent pregnancy, STI's and HIV; people are encouraged to use dual protection whenever they engage in sexual intercourse, which means using any medical contraceptive with a condom. School going girls need to be encouraged to take HIV tests to their status and encouraged to use contraceptives to prevent unwanted pregnancy and pregnancy related complications.

5.2.4 Knowledge of participants

5.2.4.1 Knowledge on what an implanon is.

Implanon was introduced in SA as a new technology to the family planning services in February 2014 (DOH, 2012; Patel, 2014). According to the WHO (2015), worldwide trends in contraceptive use report usage shows that SA had 0% rate in implanon (implant) use (WHO, 2015). The report findings are different in that there were as many as 800 000 devices that had been inserted by the end of 2014 (SA, 2015), the uptake and continuation in the use of the method has been hampered by poor data for monitoring adverse effects, such as early removal of the device. (Chersich et al., 2017). Bachorik et al., (2015) posit that implanon is an excellent contraceptive method for girls (adolescents) as it is reliable with both typical and perfect use; implanon is convenient, private and safe.

The results of this study revealed low knowledge on what is an implanon. The majority of participants reported that they did not know what an implanon is; only a few of the participants identified it as a rod. Implanon is a single flexible rod, size of a match stick and it is inserted on the upper arm (MacGregor & Khadr, 2015). The results of the study are consistent with the results of the studies conducted by Nyarko (2015) and Bachorik et al., (2016), that knowledge scores among adolescents was low even among those that have heard about this contraceptive method. The results showed that the majority of the study participants were not sure of the length on an implanon and 1 out of 19 participants, in 18-19 years' group responded that it is 15cm long and the majority were not sure as to where it is inserted. The knowledge or lack of, varied according to age of participants, where it was found that over a third of those aged 13-14 age group were not sure as compared to 2.0% of those between 18-19 age group. Most of participants were not sure as to who should insert the implanon with only 18.6% of the age group 15-17 years were able to identify trained health care provider as a suitable person to offer the service. Implanon insertion does require an operation or an operating room as it is inserted sub dermally using local anaesthesia and it should be palpable after insertion (Sharp & Dohme, 2006, DoH, 2015).

The results of this study showed that the majority of participants were not sure of whether the procedure requires an operation or not, most of 13-14 year olds were not sure and a few of the 18-19 years responded that it requires an operation. It is lack of knowledge that results in early removal of the implanon before expiry date. Health education programs can help address the myths and misconceptions related to contraceptives. The study conducted by Russo et al., (2013) in the US identified the following myths and misconceptions towards LARC among study participants; LARC causes hair loss, causes osteoporosis, worsen acne, causes ectopic pregnancy and abortion, and causes infertility. School going girls do not know what an implanon is, indicating that their ability to choose it as a method of contraception is limited. Samples should be displayed during health education and counselling.

5.2.4.2 Knowledge on how it works

According to Winner et al., (2012) if most of the adolescent's girls use the highly effective LARC, the rate of unintended pregnancy will be decreased and have more of them continuing on the methods, implanon does not have effectiveness in typical use (user's inconsistency in using the method) and perfect use (consistent use). The results of the study show that the majority of the participants from all age groups were not sure of the effect of implanon on the sex drive. The rate of pregnancy in implanon users is 0.05% compared to 0.3% of both injectables and oral contraceptives (Blumenthal et al., 2010). The results of the study show that 12.9% of the participants agree with the results of the study above. Nearly half of the girls were not sure if an implanon is an effective method of birth control and a few also reported that implanon is not an effective contraceptive method. The results of the study show that the majority of the participants were not aware of the duration of effectiveness of the method, a few said three months, and only 17.1% said three years. The results are consistent with the study conducted by Hagan and Buxton (2012) who reported that the knowledge of the girls on the implanon method and its effectiveness was described as inadequate even though majority of them are afraid of being pregnant. The study results also show that a few participants knew that implanon does not prevent pregnancy and HIV/AIDS. Condom use is the only barrier method that offers dual protection for users (DoH, 2012). The Majority of the participants were not sure as to whether implanon protects against HIV/AIDS and

pregnancy or not. The rod releases etonogestrel hormone into the bloodstream over a period of three years. The primary action in preventing pregnancy is to inhibit ovulation (Chisango, 2015). The results of the study show that the majority of the participants were sure of this primary mode of action, most of which were 13-14 years and a few were of the 18-19 years' age group. The study conducted by Eisenberg et al., (2012) showed that there was a significant knowledge gap regarding contraceptive effectiveness. The results are supported by Williamson et al., (2009) who reported that adolescents were aware of modern hormonal methods but had limited knowledge about how they work. The low level of knowledge may result in incorrect and inconsistency in the use of the method (Samantha, 2013). Hormonal contraceptives effect change in body functioning, therefore for proper and consistent use of implanon among adolescent's health care providers need be able to clarify mechanism of action.

5.2.4.3 Knowledge on the side effects

The study participants had low knowledge on the interaction of implanon hormonal contraceptive method with other medical conditions and some treatments. The results show that the majority of the participants were not sure if implanon should be used by a person diagnosed with any medical condition. Implanon can be used by a person who is suitable according to WHO (2016). Medical conditions that are not eligible among others are mental problems on carbamazepine and phenytoin, breast cancer, unexplained vaginal bleeding and liver related conditions (DoH, 2012; Romero et al., 2015; Sharp & Dohme, 2016). The results show that the majority of the participants were not sure if being overweight affects the effectiveness of the method. Implanon may be less effective in an overweight user, aggravated by the use of factors that reduce concentrations of etonogestrel in the bloodstream. The study conducted by Xu et al (2012) in the United State (US) showed different results where it was reported that being overweight or obese does not decrease the effectiveness of an implanon. The results show that the majority of the participants were not sure if an implanon has an age restriction. Contraceptive and fertility planning guidelines show that the method does not have age limitation (DoH, 2012). Side effects of an implanon may include heavy or irregular bleeding, changes in menstrual cycle and headache (Chisango, 2015). The results show that the majority

of the participants of all age groups were not sure of the side effects. The Majority of the participants were not sure that implanon alters menstrual cycle and above half of the 13-14 years' group were not sure. Implanon does not cause cancer of any kind but should not be used in a client diagnosed with or is suspected to be having cancer (Eisenberg et al., 2013; WHO-MEC, 2016). The results show that the majority of the participants were not sure about the effect of an implanon on causation of cancer; only a few reported that it does not contribute or predispose. The study by Williamson et al (2009) showed that side effects experienced by young women, using hormonal contraceptives are the central contributory factor to discontinuation and non-use. Fleming et al., (2014) found that adolescents were reluctant to use LARC because of lack of knowledge on the side effects. The study conducted by Stedding and Nakkin., (2014) show that there are gaps in knowledge, information and practices about family planning. Side effects of contraceptives vary from one woman to another; proper medical screening is required to rule out possibilities of drug interaction. Implanon can never be referred as one size fit all; health education is of great significance in rendering family planning services. Most of school girls remove implant before time because of side effects experienced.

5.2.5 Attitudes of participants towards implanon

The results of the study show that school girls do not have negative attitude towards implanon, the score on analysis show a positive attitude. The study found that 17.3% of the participants agreed that implanon is the best birth control method, with only a third reporting otherwise and the participants gave positive responses. Although they had low knowledge on the method, most were neutral on the effectiveness of an implanon and its effect on weight gain. Half of the participants disagree that implanon should be inserted to all school going girls; therefore, implanon should be used by those who are medically eligible for the method. The participants displayed neutral attitude on how is an implanon scar, also that insertion is painful and time consuming, and that contraceptives are not young girls. Sherpa et al., (2013) found a positive attitude on contraceptive methods and moderate knowledge in the study conducted in India. Quarter of the participants disagreed that they will not have friends when they have an implanon in their body. The results of the study conducted by Ochako et al., (2015) showed that the biggest fear that contributed to non-use or

discontinuation were the myths and misconceptions related with birth control methods including implanon, as it is evidenced by lack of knowledge on how the method works and its side effects. The results are consistent with the findings of the study conducted by Bachorik et al., (2015) in New York City who found that adolescents had positive attitudes towards the implanon method and that they valued it because it is convenient and private method of contraceptive. The results are also supported by Chimnay et al., (2011) who conducted a study in Australia and found that adolescents did not have negative attitude towards contraceptives, it is lack of knowledge and misconceptions that may lead to non-use. Cleland et al., (2010) further emphasized that either attitude from the women receiving contraceptive method or health care can be a barrier to access and usage of the methods. Positive attitude among study participants is an indicator that if the implanon contraceptive method can be thoroughly explained to them, uptake will increase.

5.2.6 Perceptions of participants towards implanon

The results of the study show that participants did not have negative perception towards implanon as a method of contraception, the following statements are their responses that indicate a positive perception toward implanon, half of the girls had neutral perceptions that the implanon method causes infertility, and that it will move all around the body after some time of use. However, over a third agreed that the method can help girls to stay in school without wandering of being pregnant. Most girls were neutral on whether implanon is the best method they can use as they do not have to visit the clinic regularly, and that their parents will not allow them to have an implanon and that the method will alter their body image and an equal number of participants agreed and were neutral on that people will think they are sexually active when use implanon as a method of birth control at 36.6%. Contraceptive use among adolescents is associated with promiscuity and straying which can also be a barrier to use (Ochako et al., 2015; Adeboyejo & Omotayo, 2015). The results of the study are different from the findings of the study conducted by Ramathuba et al., (2012) though the study focused on all methods of contraceptives that half of the adolescents in the study indicated negative perception towards the contraceptive methods. The results are also different from the study conducted by Mda et al.,

(2013) in Eastern Cape who reported that adolescents had negative perceptions towards contraceptives as they perceived them to have long-term effects on childbearing when they are used at an early age. Hagan and Bruxton., (2012) in Ghana indicated that the participants in the study thought that contraceptive use was for married adults only. The results are also supported by Kakaire et al (2014) who reported that women had positive perception towards LARC, the reasons for none use were the myths and misinformation, fear of side effects and lack of knowledge which can be addressed through quality counselling by health care providers. Implanon in the study was perceived as an effective and convenient method of birth control.

5.3 CONCLUSION

There is insufficient knowledge about what an implanon is, how it works and the side effects which may be a contributory factor to non-use and early termination in the use of the method, the results of study show that they do not know what an implanon is, how it works and its side effects. Lack of knowledge can be addressed by thorough health education and contraceptive counselling. Health care providers should be guided by the national contraceptive guidelines in rendering sexual and reproduction health to adolescents. Contraception is seen as a pillar that can help adolescent girls take control of their lives. Lack of knowledge can lead to poor uptake of the method. Implanon is convenient, private and highly effective. Misconception and myth on contraceptive methods is seen as a barrier to access, whereas availability is high in SA. Adolescents have a right to informed consent and access to information.

School going girls in the study displayed positive attitude towards implanon, indicating that if they were offered the method for pregnancy prevention and provided with proper and relevant information, adolescents can remain on the method for the prescribed period of effectiveness. Participants in the study view implanon as the best method of contraception. Correct and non-judgemental attitude of health care providers can increase uptake of LARC. There is a positive perception towards the method. The participants in the study provided responses that indicate that their perception will not serve as a barrier to use implanon. The use of implanon

among adolescents can result in reducing the epidemic of unintended pregnancy among this high risk group and provide protection over a long term.

5.4 RECOMMENDATIONS

- **School health program**

Emphasis should be on method-specific counselling regarding the method by health care providers, to provide relevant information to the adolescents and to increase access to the contraceptive services. Health care providers should be able to address misconceptions and wrong beliefs related to implanon. There is a need for reproductive health education in schools that encompasses implanon as it was recently introduced in SA, to increase the use of modern contraceptive methods among adolescents requires community-wide, multifaceted interventions and the combined provision of information, life skills and support where the community, parents, school and health care providers are involved.

- **Positive health care provider attitude, and adolescents and youth friendly services**

Emphasis should be on method-specific counselling regarding the method by health care providers, to provide relevant information to the adolescents and to increase access to the contraceptive services and promote adolescents sexual and reproductive rights. Health care providers should be able to address misconceptions and wrong beliefs related to implanon and support them to manage associated side effects. Contraceptive counselling should cover method efficacy, use characteristics, side effects, long-term effects including return to fertility, effect on menstruation and benefits of an implanon (both social and educational benefits). Adolescents and youth friendly services which are rendered by friendly and approachable health care providers can increase the access to the reproductive service points, services which are offered at the time suitable to adolescents and youth such as afternoon and weekends, as that they can remain in school and still be able to come to health facilities. Health care provider attitude has been identified as a barrier to access of sexual and reproductive health.

- **Parents and care givers**

Parents should be actively involved in their children's sexual welfare. There should be programs that will help capacitate parents to discuss sexual and reproductive health issues with their children. Some parents are not comfortable to communicate with their children due to illiteracy, culture and religion

5.5 CONTRIBUTIONS OF THE STUDY

The findings of the study will contribute in informing health care providers in bridging a gap of lack of knowledge among the adolescents in the use of long-acting reversible contraceptives including implanon, it is not negative attitude and perception that contributes to non-use but the study confirmed lack of knowledge. Reproductive health education to adolescents should be made part of every consultation. The rate of unintended pregnancy and abortions will be reduced significantly with the use of the method.

5.6 LIMITATIONS OF THE STUDY

The findings of the study cannot be generalised to all school going girls in other schools around Seshego area and Capricorn district as the study included the girls in only one school. The study did not include the views of the grade 12 learners in the school due to end year examination period during data collection and they were replaced by the grade 8's of the following year which lead to the sample size of this group is being high.

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Appendix A: Ethical Clearance from the University of Limpopo Research Ethics Committee



University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2212, Fax: (015) 268 2306, Email:noko.monene@ul.ac.za

**TURFLOOP RESEARCH ETHICS
COMMITTEE CLEARANCE CERTIFICATE**

MEETING: 05 May 2016

PROJECT NUMBER: TREC/55/2016: PG

PROJECT:

Title: Knowledge, attitude and perception of secondary school going girls towards implanon contraceptive at Bokamoso Secondary School, Polokwane District Municipality, Limpopo Province, South Africa

Researcher: Ms MA Mkansi

Supervisor: Dr NJ Ramalivhana

Co-Supervisor: Prof L Skaal

Department: Medical Sciences, Public Health and Health Promotion

School: Health Care Sciences

Degree: Masters in Public Health


PROF TAB MASHEGO
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: REC-0310111-031

Note:

- i) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.
- ii) The budget for the research will be considered separately from the protocol.
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Finding solutions for Africa

Appendix B: Request letter to Limpopo Department of Education to conduct the study

University of Limpopo

Private bag X1106

Sovenga

0727

23 July 2016

The Head of Department

Department of Education Limpopo

Private bag X9489

Polokwane

0700

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY

Dear Sir/Madam

I Mkansi Mantsi Annah, student number 201524139, from the University of Limpopo, Faculty of Health Sciences, would like to request permission to conduct a research study on knowledge, attitude and perception of secondary school going girls towards implanon contraceptive at your school.

The study has been approved from the University Ethics Committee. Consent forms, accent forms and letter of information will be given to participants for voluntary participation.

Hope my request will be considered

Yours faithfully

Mkansi M.A

Appendix C: Permission from Limpopo Provincial Department of Education



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

Ref: 2/2/2 Enq: MC Makola PhD Tel No: 015 290 9448 E-mail: MakolaMC@edu.limpopo.gov.za

Mkansi MA
University of Limpopo
Private bag x1106
Sovenga
0727

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

1. The above bears reference.
2. The Department wishes to inform you that your request to conduct research has been approved. Topic of the research proposal: “KNOWLEDGE ,ATTITUDE AND PERCEPTION OF SECONDARY SCHOOL GOING GIRLS TOWARDS IMPLANON CONTRACEPTIVE AT BOKAMOSO SECONDARY SCHOOL, POLOKWANE DISTRICT MUNICIPALITY ,LIMPOPO PROVINCE .”
3. The following conditions should be considered:
 - 3.1 The research should not have any financial implications for Limpopo Department of Education.
 - 3.2 Arrangements should be made with the Circuit Office and the schools concerned.
 - 3.3 The conduct of research should not anyhow disrupt the academic programs at the schools.
 - 3.4 The research should not be conducted during the time of Examinations especially the fourth term.

Request for permission to Conduct Research: Mkansi MA

A handwritten signature in black ink, appearing to be 'B'.

CONFIDENTIAL

Cnr. 113 Biccard & 24 Excelsior Street, POLOKWANE, 0700, Private Bag X9489, POLOKWANE, 0700
Tel: 015 290 7600, Fax: 015 297 6920/4220/4494


The heartland of southern Africa - development is about people!

- 3.5 During the study, applicable research ethics should be adhered to; in particular the principle of voluntary participation (the people involved should be respected).
- 3.6 Upon completion of research study, the researcher shall share the final product of the research with the Department.
- 4 Furthermore, you are expected to produce this letter at Schools/ Offices where you intend conducting your research as an evidence that you are permitted to conduct the research.
- 5 The department appreciates the contribution that you wish to make and wishes you success in your investigation.

Best wishes.



MUTHEIWANA NB
HEAD OF DEPARTMENT (ACTING)



DATE

Request for permission to Conduct Research: Mkansi MA

CONFIDENTIAL

Appendix D: Request letter to School to conduct the study

University of Limpopo

Private bag X1106

Sovenga

0727

05 August 2016

The principal

Bokamoso Secondary School

P.O Box 5494

Polokwane North

0750

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY

Dear Sir/Madam

I Mkansi Mantsi Annah, student number 201524139, from the University of Limpopo, Faculty of Health Sciences, would like to request permission to conduct a research study on knowledge, attitude and perception of secondary school going girls towards implanon contraceptive at your school.

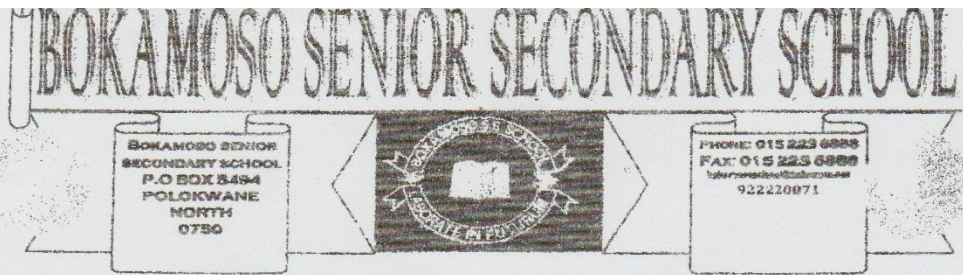
The study has been approved from the University Ethics Committee and from the Department of Education (see attached). Consent forms, accent forms and letter of information will be given to participants for voluntary participation. The information provided by learners will be only used for the purpose of the study.

Hope my request will be considered

Yours faithfully

Mkansi M.A

Appendix E: Permission letter from School to conduct the study



10 August 2016

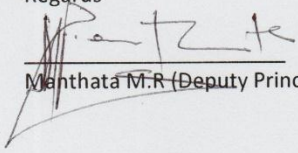
Ms Mkansi M.A
University of Limpopo
Sovenga
0727

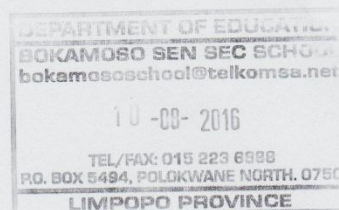
Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH STUDY

1. The above matter refers.
2. You are hereby informed that your request has been granted.
3. The conditions as stipulated by the department of education should be adhered to.
4. We wish you the best in your research and hope that it will yield the required results.

Regards


Menthata M.R. (Deputy Principal)



Appendix F: Data collection tool

RESEARCHER: MKANSI M.A



Knowledge, attitude and perception of secondary school going girls towards implanon at Bokamoso Secondary School, Polokwane District Municipality, Limpopo province, South Africa.

Answer all questions, circle the appropriate answer.

SECTION A

1. Age	<ol style="list-style-type: none">1. 13-142. 15-173. 18-20
2. Grade	<ol style="list-style-type: none">1. 82. 93. 104. 115. 12
3. Residential area	<ol style="list-style-type: none">1. Rural2. Township3. Suburb/Town
4. Religion	<ol style="list-style-type: none">1. Christianity2. Muslim3. Hindu4. Jew5. Other
5. Race	<ol style="list-style-type: none">1. Black2. White3. Coloured4. Indian
6. Home arrangements	<ol style="list-style-type: none">1. Single parent2. Both parents

	<ul style="list-style-type: none"> 3. Siblings only 4. Grandparents
7. Employment status of parents	<ul style="list-style-type: none"> 1. Employed 2. Self-employed 3. Unemployed 4. Pensioners

SECTION B

1. How old were you when you first saw your period/ menstruation?	<ul style="list-style-type: none"> 1. Below 12 2. 12-14 3. Above 15 4. Never started
2. Are you currently in a relationship?	<ul style="list-style-type: none"> 1. Yes 2. No
3. Have you started engaging in sexual activities?	<ul style="list-style-type: none"> 1. Yes 2. No
4. If yes how old were you when you started having sexual intercourse?	<ul style="list-style-type: none"> 1. Below 12 2. 12-14 3. Above 15
5. Have you received reproductive education?	<ul style="list-style-type: none"> 1. Yes 2. No
You can choose more than one answer for question 6 and 7	
6. If yes where did you receive reproductive education from?	<ul style="list-style-type: none"> 1. School 2. Parents 3. Peers 4. Media 5. Other relatives
7. From which topic did you receive education from?	<ul style="list-style-type: none"> 1. Sexual organs 2. Sexually Transmitted Infections including HIV/AIDS 3. Pregnancy and contraceptives 4. How to say yes or no to sex

	5. All of the above
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8. Do you know your HIV status?	1. Yes 2. No
9. Have you ever been pregnant?	1. Yes 2. No
10. If yes, how many times have you been pregnant?	1. Once 2. Twice 3. More than twice

SECTION C

1. What is an implanon?	1. Rod 2. Loop 3. I don't know
2. How long is it?	1. Match stick 2. 15 cm ruler 3. Not sure
3. Where is it inserted?	1. On the upper arm 2. On the thigh 3. On the bum 4. Not sure
4. Who should insert or remove it?	1. Friend 2. Trained health care worker 3. Parents 4. Anyone 5. Not sure
5. Does it need an operation to insert and is it done in theatre?	1. Yes 2. No 3. Not sure
6. Does implanon decrease sex drive?	1. Yes 2. No

	3. Not sure
7. Do you think it is an effective method of birth control?	1. Yes 2. No 3. Not sure
8. How long does it remain effective?	1. Two months 2. Three months 3. Three years 4. Not sure
9. Does implanon prevent pregnancy and HIV/AIDS?	1. Yes 2. No 3. Not sure
10. Does an Implanon prevent the release of an egg cell from the ovaries?	1. Yes 2. No 3. Not sure
11. Can an Implanon be used if a person has any medical condition?	1. Yes 2. No 3. Not sure
12. Being overweight affect the effectiveness of an implanon.	1. Yes 2. No 3. Not sure
13. Implanon has age restriction.	1. Yes 2. No 3. Not sure
14. Side effects may include heavy bleeding and headaches.	1. Yes 2. No 3. Not sure
15. Implanon alters menstrual cycle.	1. Yes 2. No 3. Not sure
16. Implanon causes cancer.	1. Yes 2. No 3. Not sure
17. Implanon is the best birth control	1. Agree

method against others.	2. Neutral 3. Disagree
18. Implanon does remain effective for three years.	1. Agree 2. Neutral 3. Disagree
19. Implanon makes users fat.	1. Agree 2. Neutral 3. Disagree
20. Implanon should be inserted to all school going girls.	1. Agree 2. Neutral 3. Disagree
21. Implanon scar is big and ugly.	1. Agree 2. Neutral 3. Disagree
22. Implanon insertion is painful and time consuming.	1. Agree 2. Neutral 3. Disagree
23. Contraceptives are not for young girls.	1. Agree 2. Neutral 3. Disagree
24. I will not have friends when I have an implanon in my body.	1. Agree 2. Neutral 3. Disagree
25. Implanon causes infertility.	1. Agree 2. Neutral 3. Disagree
26. Implanon will move all around my body after some time of use.	1. Agree 2. Neutral 3. Disagree
27. Implanon can help girls to stay at school without wondering of being pregnant.	1. Agree 2. Neutral 3. Disagree
28. Implanon is the best method I can	1. Agree

use because I will not go to the clinic regularly.	2. Neutral 3. Disagree
29. My parents will not allow me to have an implanon.	1. Agree 2. Neutral 3. Disagree
30. Having an implanon will alter my body image.	1. Agree 2. Neutral 3. Disagree
31. People will think I'm sexually active when I have an implanon.	1. Agree 2. Neutral 3. Disagree

THANK YOU FOR PARTICIPATING

Appendix G: Informed consent form for participants

CONSENT FOR PARTICIPATING IN A RESEARCH STUDY

Researcher: Mkansi M.A

Research topic: Knowledge, attitude and perception of secondary school going girls towards implanon contraceptive use at Bokamoso Secondary School, Polokwane District Municipality, Limpopo province, South Africa.

Aim of the study: is to determine the knowledge, attitude and perceptions of secondary school going girls towards implanon contraceptive.

I.....understand the aim of the study, I freely and voluntarily agree for my daughter to participate in the study. I understand that her participation in the study is anonymous and she can withdraw at any time without giving reasons.

Parent's signature.....

Date.....

Learner's signature.....

Date.....