AFRICA UNIVERSITY

(A United Methodist- Related Institution)

FACTORS ASSOCIATED WITH THE OCCURRENCE OF TEENAGE PREGNACY IN MABUTSANE; SOUTHERN DISTRICT; BOTSWANA

BY

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Abstract

Despite the availability of ASRH services, teenage pregnancy is still an issue of Public Health concern in Mabutsane Sub District, Southern District, Botswana. The study was conducted in nine villages of Mabutsane Sub District, Sothern District, Botswana. A significant number of teenage pregnancies were reported in the sub district, accounting for 17% of the total ANC attendances in 2017, 2019 and 2020. This raised a question as to whether there were factors accountable for the phenomenon. The aim of the study was to explore factors associated with the occurrence of teenage pregnancy and to find ways of preventing the problem. A quantitative approach using the analytic cross sectional deign was followed. The study was conducted between November 2021 and March 2022 in nine villages of Mabutsane Sub District. A total of 262 female adolescents aged 13 to 19 years and 9 key informants were recruited into the study. Stratified random sampling was applied for teenage girls while key informants were purposively sampled. Structured interviews with the aid of a questionnaire were used for data collection. Results were presented in bar graphs, histograms, pie charts and tables. Analysis was done through descriptive and inferential statistics using the Statistical Package for Social Sciences (SPSS). Even though a majority of respondents 176 (67.2%) have completed secondary school, education was the strongest predictor of teenage pregnancy with an odds ratio of 1.843 indicating that respondents with lower education were twice more likely to fall pregnant than their educated counterparts. Marital status (odds ratio 7.845) and income (odds ratio 2.349) were sufficient and likely predicted association with teenage pregnancy. One hundred and seventy (67.7%) respondents reported awareness of the risks associated with unprotected sex. The distance from home to the clinic negatively affected access to information and services. Two hundred and eighteen (83.3%) believed there was privacy at the clinics, 35 (13.5%) revealed that there was no privacy. The odds ratio for privacy at the clinic (4.834) descriptively implied that provision of privacy at the clinic was 5 times likely to enhance access to information and services at 95% CI for odds ratio .518 lower and 45.078 upper bound. Obtaining informed consent to access ASRHS was negatively significantly associated as a barrier to utilization of services. Two hundred and one (78.8%) respondents felt that health professionals do not uphold confidentiality. Above half (55.6%) of them are not trained to deal with youths. One hundred and seventy nine (69.4%) respondents suggested strengthening of sex education in schools while others (13.2%) advocated for improvement in parent- adolescent communication. Addressing poverty and reflecting youth concerns across SDGs through youth involvement as recommended by the UN (2014) could help control the situation. Sexual and Reproductive Health policies should be revised in consultation with all stakeholders to ensure that they address the needs of adolescents and communities.

Key words: adolescents; factors; occurrence; teenage pregnancy

Declaration Page

I declare that this dissertation is my original work except where sources have been cited and acknowledged. The work has never been submitted, nor will it ever be submitted to another university for the award of a degree.

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List of Acronyms and Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ANC	Ante- natal Care
ASRH	Adolescent Sexual and Reproductive Health
ASRHS	Adolescent Sexual and Reproductive Health Services
DHMT	District Health Management Team
HIV	Human Immunodeficiency Virus
ICPD	International Conference on Population and Development
MCH/FP	Maternal and Child Care/ Family Planning
MOHW	Ministry of Health and Wellness
STI	Sexually Transmitted Infections
UN	United Nations
YFS	Youth Friendly Services
WHO	World Health Organisation

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CHAPTER 1: INTRODUCTION

1.1 Introduction

According to Hardley (2017), teenage pregnancy occurs while a woman is still a teenager. Vincent & Alemu (2016), define teenage pregnancy as any pregnancy that ends before the age of 20 years. Mann, Baleson & Black (2020), view it as a global challenge more especially in developing countries. Cartes & Araya (2012), described teenage pregnancy as a social problem that has not been resolved both in developed and developing countries despite being a health indicator of a country's development. Salvi (2019), views teenage pregnancy as a serious problem as well as an obstacle to personal and national development, responsible for gender disparities in education as well as increasing the financial burden on poor families

Loredo- Abdala et al. (2017), explain that teenage pregnancy is often unplanned and very difficult to come to terms with for the prospective mother. According to Chandra- Mouli (2013), factors associated with teenage pregnancy include lack of sexuality education, early marriage, lack of educational opportunities, lack of contraception and coerced sex. Cartes & Araya (2012), highlighted incomplete education, difficulties in maternal role, abandonment by partner, lack of employment, poor socio economic status and low social advancement as some of the consequences of teenage pregnancy.

According to Chandra- Mouli (2013), teenage pregnancy is mainly prevalent in low and middle income countries with marginalized communities bearing the highest burden. This is exacerbated by poverty, lack of education and employment opportunities, pressure to marry and bear children. According to Mkhwananzi & Odimegwu (2015), teenage pregnancy is a major Public Health problem in Sub-Saharan Africa with half of all birth in the region occurring in teenage mothers. In Botswana, prevalence of teenage pregnancy is attributed to socio- cultural perceptions of pregnancy, fertility, pregnancy and marriage. Teenage mothers continue with their life without being stigmatized (Kgosiemang & Motzafi- Haller, 2021).

An analytic cross sectional study was conducted to explore factors associated with the occurrence of teenage pregnancy in Mabutsane Sub- District to generate relevant solutions to the problem.

1.2 Background information

Salvi (2019), observed that although teenage pregnancy rates were declining in most countries, it is linked to a number of outcomes such as poverty, decreased educational achievement and mortality during child birth. According to Mann, Baleson & Black (2020), these outcomes have a potential to become intergenerational. According to Flores- Valencia et al. (2017), WHO considers teenage pregnancy as a Public Health issue of concern because of its physical, psychological and social impact on the mother of the child with maternal complications being the leading cause of mortality among teenage girls in most countries.

WHO (2021), estimates that 12 million girls aged 15 to 19 years and at least 777000 girls under the age of 15 years give birth each year in developing countries, and least 10 million unintended pregnancies are reported each year among adolescent girls aged 15 to 19 years. WHO (2021), further raises a concern on the negative correlation between the global fertility rate and the number of child births among adolescents. The same author notes that while the global fertility rate has dropped, the number of child births among adolescents has not, with the highest rates reported in Eastern Asia and Western Africa due to early marriages. Vincent & Alemu (2016), however highlight that the highest teenage pregnancies associated with early marriage are in Sub Saharan Africa where 1 in 4 girls has had a child by the age of 18 years. Statistics show that in developing countries, 18% of girls marry by the age of 18 years while 12% marry by the age of 15 (Chandra- Mouli, 2013).

According to Loredo- Abdala et al. (2017), teenage pregnancy affects the physical and emotional health, education and economic status of prospective parents. Its consequences represent a major Public Health challenge especially in low to middle income countries (Chandra- Mouli, 2013). Teenage pregnancy is associated with increased risk of difficulty pregnancy with complications such as hypertensive disorders, anaemia and iodine deficiency being of major concern (Salvi, 2019).According to WHO (2020), adolescent mothers are at higher risk of eclampsia, puerperal endometriosis and systemic infections than women aged 20 to 24 years. Complications are not limited to teenage mothers as their babies face higher risks of low birth weight, preterm delivery and severe neonatal conditions. Complications during child birth are the leading cause of deaths among girls aged between 15 and 19

years globally (WHO, 2020). In Ethiopia, the Demographic and Health Survey (2011), reported that 22% of female deaths were related to maternal causes and of these, 1.3% occurred among teenage girls (Baranu et al., 2019). Other complications include fistula cases and unsafe abortion. Baranu et al. (2019), further notes that babies born to mothers aged less than 18 years have a 6 % chance of dying in their first year of life. The authors emphasize the importance of knowledge about the predictors of teenage pregnancy in order to prevent its medical, social and economic impact.

Gunawardena, Fantaye &Yay (2019), assert that Sub- Saharan Africa has the highest prevalence of teenage pregnancy in the world with a lot of socio- economic challenges for teenage mothers. The prevalence of teenage pregnancy in the region is 101 births per 1000 women aged 15 to 19 years with education and socio- economic status identified as major determinants. In addition to these determinants, a study by Yakubu & Salisu (2018), pointed out the role of socio cultural and environmental factors, individual factors and health service factors in the occurrence of teenage pregnancy. Jewkes, Morrell & Christofides (2017), highlighted reducing teenage pregnancy rates as an intervention that could facilitate meeting most of the Millennium Development Goals.

1.3 Statement of the problem

According to the MOHW (2020), Mabutsane Sub- District recorded seventeen percent of the total ANC attendances among teenagers in 2017, 2019, and 2020. In 2018, cases were higher at 19%. According to (Donna et al., 2015), teenage

pregnancy continues to be a major public health concern in Sub Saharan Africa. Data from five countries in the region suggests that coverage rates for ASRH services are low with sixty eight percent (68%) of adolescents having unmet needs for contraception. Kgosiemang & Motzafi- Haller (2020), highlighted that in Botswana, the neglect of ASRH in favour of MCH/FP has led to incidences of unprotected sex among adolescents, resulting in premature parenting, high rates of STIs and HIV/AIDS, interrupted education, diminished production and reduced life expectancy.

1.4 Purpose of the study

The purpose of the study was to explore factors associated with the occurrence of teenage pregnancy in Mabutsane Sub- District and how the problem can be averted.

1.5 Research objectives

The objectives of the study were to;

1. Determine factors associated with teenage pregnancy in Mabutsane Sub-District, 2021-2022
2. determine the level of awareness among teenage girls on risks associated with teenage pregnancy in Mabutsane Sub-District, 2021-2022
3. identify barriers to access and utilization of SRH services among teenage girls in Mabutsane Sub- District, 2021-2022
4. explore the possible interventions to reduce the occurrence of teenage pregnancy in Mabutsane Sub- District, 2021-2022

1.6 Research questions

The study attempted to answer the following questions;

1. What are the factors associated with teenage pregnancy in Mabutsane Sub-District?
2. What is the level of awareness on risks associated with teenage pregnancy among teenage girls in Mabutsane Sub District?
3. What are the barriers to access and utilization of SRH services among adolescents in Mabutsane Sub- District?
4. What interventions can be implemented to reduce the occurrence of teenage pregnancy in Mabutsane Sub- District?

1.7 Significance of the study

Despite the availability of ASRH services in all health facilities in Mabutsane, the district is reporting high numbers of teenage pregnancies, STI/HIV/AIDS and school drop outs. The study identified factors associated with the occurrence of teenage pregnancy and ways of addressing the challenge. The immediate beneficiaries of the study are teenage girls who will be protected from factors exposing them to teenage pregnancy. The study will contribute to the identification of root causes and possible solutions by all stakeholders in Mabutsane Sub-District. The findings may facilitate policy review and designing interventions that may improve the delivery of services

to adolescents. The information gathered will also facilitate further research to address the problem.

1.8 Delimitations of the study

Study focused on exploring factors associated with teenage pregnancy. The study population were teenage girls in Mabutsane Sub- District, including both those who have been pregnant and those who have never been pregnant as well as nurses providing ASRH services in the district. The quantitative approach was used to conduct the research. The study was conducted between 2021 and 2022.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on what has been researched by other scholars on factors associated with the occurrence of teenage pregnancy. It will review literature on teenage girls' knowledge on the risks associated with teenage pregnancy, their access to SRH information and services, the barriers faced in SRHS utilization and possible interventions to reduce the occurrence of teenage pregnancy.

2.2 Conceptual Framework

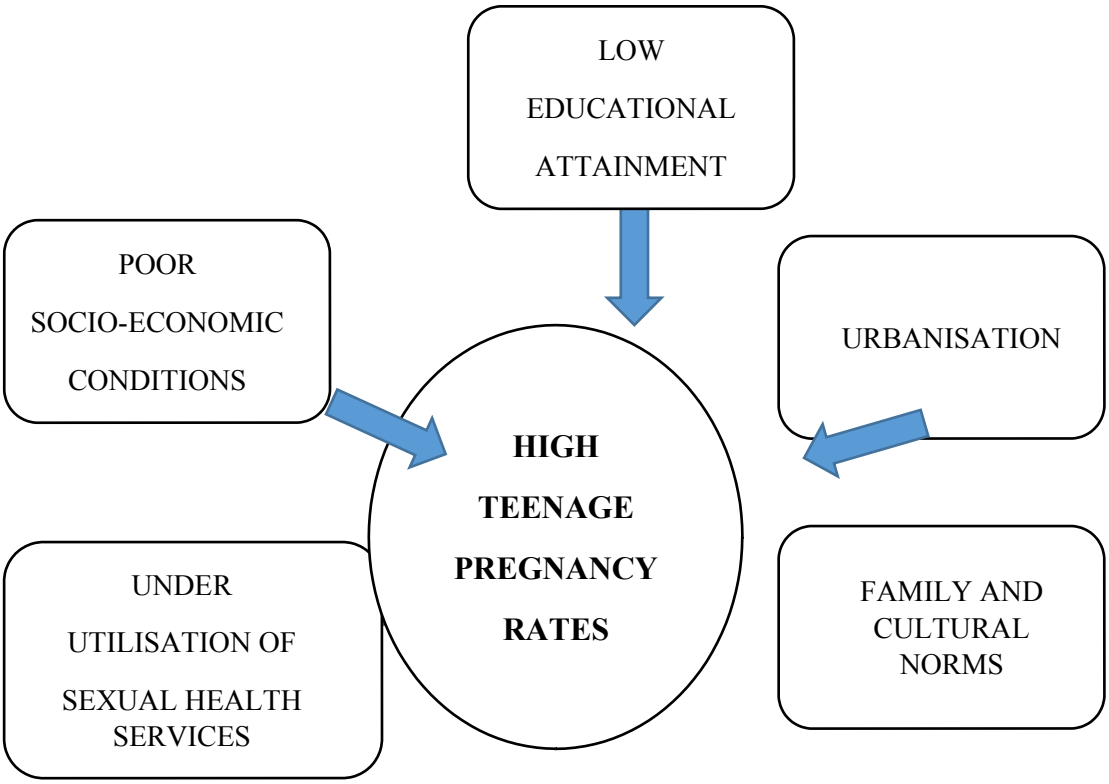

Figure 2.1 Conceptual framework for factors associated with teenage pregnancy

Adapted from Opeyemi & Bellingham- Young (2016)

2.3 Relevance of the conceptual framework

According to Opeyemi & Bellingham- Young (2016), socio economic factors such as underutilisation of SRH services, poor socio economic conditions, low educational status, urbanisation and cultural norms account for high rates of teenage pregnancy in Africa. Chanrda- Mouli (2013), identify socio economic factors such as poverty, lack of education and employment opportunities and pressure to marry as major contributors to the problem. Addressing these factors is likely to lower these rates as suggested by evidence from countries with better education and employment opportunities for women (Opeyemi & Bellingham- Young (2016). According to Kgosiemang & Motzafi- Haller (2020), in addition to factors already discussed, one of the major contributing factors to teenage pregnancy in Botswana is the socio cultural perception on fertility, pregnancy and marriage. Health services should be culturally sensitive in order to address these issues.

2.4 Awareness of risks associated with teenage pregnancy

According to Cartes (2012), lack of awareness about teenage sexuality and reproduction among parents, teachers and adolescents increases early initiation of sexual relations and unplanned pregnancies. Yakubu & Salisa (2018), agree that inadequate sexual knowledge and risk perceptions as well as lake of safe sex

negotiation skills are linked to high adolescent pregnancies. Community sensitization, sex education and ensuring girls finish their education can help to alleviate the problem (Yakubu & Salisu (2018). Vincent & Alemu (2016), blame high rates of teenage pregnancy on teenagers' irresponsible and risky behaviours which in turn lead to stigma, family rejection, abuse and dropping out of school. A study that was conducted in Ghana revealed that peer pressure, poor parenting and poverty were some of the major contributors to the high prevalence of teenage pregnancy (Gyan, 2013). The study also revealed that most pregnant teens dropped out of school. The study recommended supporting teenage mothers in their psycho- social and skills development. In view of these challenges, Loreto-Abdala etal. (2017), suggest the development of preventive strategies aimed at reducing the risk of teenage pregnancy. These programs should be appropriate and relevant for teens, family or schools.

Although teenage pregnancy has declined in the last 2 decades, it remains a major Public Health problem (Manzi et al., (2018). Six hundred thousand teens become pregnant every year and 3 in 10 become pregnant before the age of 20. With an estimated 70 000 deaths linked to teenage pregnancy annually, researchers have identified lack of guidance by parents and lack of understanding on SRH issues as major causes of teenage pregnancy (Manzi et al., 2018).Early marriages also contribute to the problem. In Uganda, the high prevalence of teenage pregnancy is a result of early onset of sexual activity and lack of adequate knowledge on SRH yet teenagers consider themselves as mature enough to have sex (Manzi et al., 2018.Cartes (2012), identifies postnatal depression, school dropout and poor socio-economic status as some of the risks associated with teenage pregnancy. Risks on the

baby include the risk of prematurity, low birth weight as well as development delays and behavior disorders. According to Loredo et al. (2017), teenage pregnancy has a negative impact on physical and emotional well- being and is complicated for the teen mother who, very often finds herself without any support from the partner. The teenager may become overwhelmed and engage in unsafe abortion or drug addiction as a coping mechanism.

According to Areo- Gomez & Campos Vazquez (2014), teenage pregnancy significantly contributes to poverty which can be transmitted across generations. Teenagers who become pregnant are likely to be socio- economically disadvantaged and to have experienced unstable housing arrangements. It lowers the educational attainment of teenage girls. Its social and health implications include exposure to domestic violence, mental health disorders, substance use and homelessness (Mann, Bateson & Black, 2020). A study conducted in Mexico reveled that households of females who had their first child as teenagers had a lower income. Manzi et al. (2018), concur that teenage pregnancy has adverse socio- economic and psychological outcomes for the teenager, her child and siblings. It is also associated with physical effects such as medical complications and STIs. Yakubu & Salisu (2018), observed that teenage pregnancy denies brilliant girls opportunities to finish their education leading to negative consequences on their growth and development including that of their children.

2.5 Access to information and services for prevention of teenage pregnancy

According to Pourkazemi et al. (2020), reproductive health is an essential component of human health to women and girls. Adolescence is a period in which teenagers develop secondary sexual characteristics and biological changes that result in sexual urges and exploration that leads them to explore with sex resulting in teenage pregnancy and infection with STI/HIV/AIDS. (Tilahun, Bekuma & Getachew, 2021). According to Pandey, Seale & Razee (2019), the fact that an estimated half of teenage pregnancies are unintended suggests that these are a result of unmet SRH needs for contraception. A number of studies have shown that unmarried adolescents are becoming more sexually active and the likelihood of non-use of contraception among them high among them. To improve access to SRH services, the ICPD (1994), recognized adolescent friendly reproductive services as an ideal intervention to address SRH needs of teenagers (Pandey, Seale & Razee 2019). It is therefore to ensure access to quality service that are non- discriminative and non-coercive. This should be based on understanding the needs of young people in society and not what service providers believe they need, respect for realities of young people's reproductive lives, awareness of difficulties faced by adolescents in accessing SRH services and legal or policy hurdles.

According to Pourkazemi et al. (2020), adolescents are at risk of behaviours such as substance abuse, alcoholism and engaging in risky sexual behaviours, hence the need for societies to commit to the provision of SRHS to the group. Pandey, Seale & Razee (2019), Birhanu et al, (2018), build on these assertions by recommending that the services should be accessible, acceptable, equitable, appropriate and effective for adolescents. Birhanu, Tushune & Jebena (2018), underscore the importance in the

utilization of SRH services to reduce reproductive health problems among teenagers as it has an impact on the socio- economic development in developing countries where young people account for 30% of the population. Birhanu, Tushune & Jebena (2018), further explain that due to unmet needs for contraception, in addition to early pregnancy, teenagers are at higher risk for STIs and obstetric complications. According to Pandey, Seale & Razee (2019), in order to improve the uptake of ASRH programs, policy makers need to have an understanding of their acceptance and utilization from the perspective of teenagers, health care staff and the community. In view of this recommendation, Pourkazemi etal (2020), emphasise the need to assess the reproductive health needs of adolescent girls, identification of facilitating and inhibiting factors and strategies that can help improve their access to reproductive health services. These strategies include informing, educating and counselling on sex, creation of responsibility in both sexes, treatment of STI, timely and appropriate prevention of complications of abortion, and family planning services.

According to Birhanu, Tushune & Jebena (2018), factors contributing to underutilization of SRH services among teenagers include knowledge and perceptions, socio- cultural factors, poor access, poor quality and ineffective health care delivery systems. The Ethiopian Demographic Survey revealed that utilization of SRH services among adolescents is low despite the fact that 24% of them have started child bearing while 40% were either mothers or pregnant with their first child by the age of 19 years. According to Pozo et al. (2015), barriers to teenagers' access to contraception is their lack of trust in the stated confidentiality of health facility staff.

Health workers feel inadequately trained to deal with adolescents seeking contraceptive counselling because of issues such as legal implications, parental consent and their own moral concerns. The authors further explain that taboos in society are also prohibit sharing of information on SRH among family members. WHO and ICPD underscored the significance of improving the health of young people through provision of accessible, acceptable and affordable SRHS (WHO, 2020).

2.6 Barriers to the utilization of SRH services

Adolescents face a lot of obstacles to access and utilization of SRH services globally, these include inadequate SRH information, early marriage and pregnancy associated with lack of decision making in SRH matters, poor quality services where privacy and confidentiality are compromised (Pandey, Seale & Razee, 2019). Pourkazemi et al. (2020), express concern on the lack of priority in ASRH at political level, especially in developing countries. They give examples of laws and policies that prohibit provision of services to adolescents due to religious beliefs, ethical challenges, economic problems, cultural taboos, and negative social attitudes as well as misunderstanding of ASRH programmes.

Shariati et al. (2014), classify barriers to ASRH into social and cultural, structural and administrative. The authors encourage government leaders and policy makers to prioritise ASRH service provision and to ensure that services provided are consistent with the cultural beliefs of communities. Morris and Rushwan (2015) state that ASRH is of low priority at political level and often with legal restrictions. In many

communities of low to medium income countries, contraceptives are not only unavailable to teenagers, but to adults as well (Chandra- Mouli et al., 2014). At individual level, barriers to access SRH services among teenagers include fear, embarrassment, and lack of knowledge, superstition, stigma, worry and lack of insurance coverage. Pandey, Seale & Razee (2019), attribute these challenges to complex social, environmental, cultural, and economic as well as psycho- social factors. Chandra- Mouli et al. (2014) highlight instances where teenagers may have access to contraceptives, but are overcome by social pressure to conceive in some cultures. Because of these barriers, teenagers then utilize less reliable methods such as withdrawal and traditional remedies. Studies cited above do not take into consideration socio- cultural dynamics, hence may not be relevant to the socio-cultural context in Mabutsane. This study will therefore empower community leaders to make relevant decisions to address teenage pregnancy specifically in Mabutsane.

2.7 Possible solutions to reduce occurrence of teenage pregnancy

After many years of programming to improve ASRH services, it is evident that strengthening the access to services alone is inadequate to improve health outcomes (Chandra-Mouli et al., 2015). A number of factors including socio- cultural, political as well as inequalities, influence access to SRH information and services. It is therefore important to involve stakeholders such as policy makers, parents, and community members to ensure services meet the needs of adolescents. A review of ICPD recommended linking the provision of sexuality education and SRH services, building awareness, accepting and supporting youth friendly SRH education,

addressing gender inequality and targeting the early adolescent period. Further research on how best to design ASRH interventions and how to deliver, should be undertaken to improve ASRH service utilization. According to the UN (2014), the General assembly's Open Working group on Sustainable Development Goals has indicated that youths' concerns need to be reflected across goals and adolescents should be encouraged to take part in shaping and monitoring the agenda.

According to Noe et al. (2018), the occurrence of teenage pregnancies and other SRH problems can be resolved by ensuring access to quality youth friendly integrated services by trained health workers. Noe et al. (2018), further suggest that programme to improve parent- adolescent communication should be put in place in schools and communities in order to improve SRH education. Communication between parents and adolescents is fundamental in reducing adolescents' risky behavior. According to Mann, Bateson & Black (2020), multi-sectoral collaboration in addressing teenage pregnancy should involve schools, health services and the community. Pozo et al. (2020), recommend scaling up the use of social media for sexuality education, health promotion and advocacy. Social media is an indispensable tool for recruiting and mobilizing adolescents to utilize existing Public Health Services to "act as first responders to the questions and doubts that can create barriers to access to health services

According to Mutea etal. (2020), negative health workers' attitudes, distance to health facility and unaffordable cost of services are some of the barriers to ASRH services and information. Governments should support the development of sustainable solutions through multi-sectoral collaboration. In addition to these barriers, a study by Mbeba et al. (2012) in Tanzania revealed that many facilities did not have skilled service providers in ASRH and services were inaccessible due to lack of privacy, confidentiality, lack of equipment as well as negative attitudes by service providers. There should be integration of YFS in health facilities and advocacy for behavior change as well as training of staff on principles such as confidentiality and privacy to improve utilization of SRH services. Vincent & Alemu (2016), highlight enforcement of laws that prohibit early marriage, development of programmes to empower teenagers, making clinics youth friendly, and strengthening parent- teen communications as some of the interventions that can help to reduce the occurrence of teenage pregnancy.

2.8 Chapter summary

Literature has revealed that early initiation of sexual relations among adolescents is a result of lack of awareness about sexuality and reproduction among parents, teachers and adolescents. Teenage pregnancy remains a major Public Health, significantly contributing to poverty. Society and policy makers should commit to providing SRHS to address the needs of adolescents and ensure that the services are acceptable to teenagers. Barriers to ASRH utilisation can be addressed by prioritizing ASRH at

political level in order to improve access to quality ASRHS. The importance of parent- adolescent communication cannot be underestimated.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used to conduct the study. It will focus on the study site, study type, sampling procedure, data collection and ethical considerations. According to Salza et al., (2014), the research design includes an outline of what the researcher did from writing the hypothesis to the final analysis of data.

3.2 Research Design

The study is an analytic cross sectional survey and which used the quantitative approach. The researcher adopted the positivist approach and did not impose his opinions in the process. According to Polit & Beck (2011), the design used deductive reasoning to generate predictions that are tested in the real world, the evidence gathered is rooted in subjective reality and generated directly or indirectly. An analytic cross sectional design was followed.

3.3 Study site

The study was conducted in nine villages of Mabutsane Sub- District namely; Mabutsane, Khakhea, Kokong, Morwamosu, Sekoma, Keng, Khonkwa, Mahotshwane and Itholoke. The site was chosen because of a high incidence of teenage pregnancies averaging 17.5% for the years 2017 to 2020.

3.4 Study population

The study population were adolescent girls aged between 13 to 19 years in Mabutsane Sub- District, including those who have been pregnant and those who have never been pregnant. Key informants were nurses from health facilities who provide ASRH services.

3.5 Inclusion criteria

The study included adolescents aged thirteen (13) to nineteen (19) years who have been pregnant and those who have never been pregnant, residing in Mabutsane Sub-District as well as nurses providing ASRH services in health facilities within the sub-district.

3.6 Exclusion Criteria

Adolescents who fall outside the ages of thirteen (13) to nineteen (19) years and residing outside Mabutsane Sub- District were not included in the study as well as nurses not involved in the provision of ASRH services.

3.7 Sample size

Using the Slovene's formula, assuming 5% margin of error (e), 95% confidence interval (Z = 1.96) and population proportion p = 0.5, the initial sample size, was calculated as follows:

$$n_{0} = ¿ \frac{Z^2 p(1-p)}{e^2} ¿$$

$$= \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$$

$$= 384.16$$

$$= 385$$

The total population of teenage girls, N, in Mabutsane Sub-district is 812. Using the fine population correction factor, the sample size n was,

$$\text{n} = \frac{n_{0N}}{n_0 + (N-1)}$$

$$= \frac{385(812)}{385 + (812-1)}$$

$$= 261.38$$

The appropriate sample size was be 262. It was selected using stratified random sampling from the wards in the district.

Table 3.1 Sample distribution

Village	Target Population	Sample Size	Actual Respondents
Mabutsane	179	59	59
Khakhea	219	70	70
Kokong	68	22	22
Morwamosu	49	15	15
Sekoma	93	31	31
Keng	72	24	24
Khonkhwa	35	11	11
Mahotshwane	62	20	20
Itholoke	35	10	10
Total	**812**	**262**	**262**

Each health facility in each of the villages has one (1) nurse trained in the provision of ASRH services. In addition to the sample of teenage girls, purposive sampling of nurses trained in the provision of ASRH services was done. All nine (9) nurses participated in the study as key informants.

3.8 Sampling procedure

Mabutsane District Health Management Team has a catchment area of nine villages. Registers from Upper Primary Schools, Junior Secondary Schools, teen clubs and the clinics were used for sampling. Stratified random sampling was used to select respondents. The study population was divided into strata representing all the nine villages and comprised adolescents aged 13 to 19 years residing in Mabutsane. To guarantee 95% confidence interval, 5% margin of error and assuming a population proportion of p=0.5, the sample had 262 respondents. After obtaining a sampling frame from each site in a stratum, codes representing names of participants were entered in a random number generator software which identified possible individuals to be sampled. Purposive sampling of key informants who are nurses trained in the

provision of ASRH services was done. All nurses representing nine health facilities in the Sub District were included in the study.

3.9 Data collection instruments

Structured interviews were used with the aid of a self-administered questionnaire comprising questions on demographic data of respondents, factors associated with teenage pregnancy, awareness of risks associated with teenage pregnancy as well as information and services to prevent teenage pregnancy, barriers to SRH service utilization and possible interventions to reduce the occurrence of teenage pregnancy. The instrument was in two versions, English and Setswana, According to Salazar, Crosby, & DiClemente, (2015), the questionnaire enables the researcher to obtain data in less time and reduces biases. Data collection instruments were coded for easy traceability. A register was kept for all questionnaires distributed and returned. They were kept in a dry, lockable cupboard before and after data collection and destroyed after completion of the study.

3.10 Pretesting

The questionnaire was administered to 10 percent of respondents who did not participate in the main study to assess if they understand the questions and to check for its validity and reliability.

3.11 Data collection procedure

Six assistants with a minimum qualification of a Botswana General Certificate of Secondary Education (BGCSE) and experienced in data collection were recruited and trained. The purpose and benefits of the study were explained to participants prior to data collection. A signed consent/ assent/ parental consent was obtained before collecting data. Respondents were informed that they could withdraw from the study at any point if they wished. A self-administered questionnaire was issued to participants who completed and submitted it to a data collection assistant. The questionnaire was completed at a place with adequate privacy. Code numbers were used to ensure anonymity.

3.12 Analysis and organisation of data

Descriptive statistics such as frequencies, percentages, mean and standard deviation were used to organize data. Independent *t* tests were conducted to categorize variables such as age and gender. Exploratory risk factor analysis was done to establish relationships between variables. Data was analyzed using Statistical Package for Social Sciences (SPSS). This assured accuracy of calculations. According to Moule, Aveyard & Goodman (2016), it enables the emphasis of statistical analysis to be placed on appropriate techniques and interpretation of results.

3.13 Ethical considerations

Permission to conduct the study was sought from the Regional Coordinator of the Sothern Region Health Management Team. Ethical clearance to conduct the study was obtained from the Africa University Research Ethics Committee and the

Research Unit in the Ministry of Health and Wellness, Botswana. Only sampled respondents who agreed to participate were interviewed. Data collection assistants read and explained the informed consent to each respondent prior to administering the instrument. The instrument was in two versions, English and Setswana. The informed consent outlined the purpose of the study, voluntary nature of participation, and confidentiality of information given. All respondents gave consent before participating in the study. Those who were below the age of eighteen years gave an assent which was accompanied by parental consent. Those who could not read and write were assisted by data collection assistants who read the questions in the respondents' local language, explained and completed the instruments on their behalf. The concerned respondents indicated their willingness to participate in the study by use of a thumb print on the consent form. Privacy and confidentiality of information given was assured. Respondents who faced stress and challenges related to teenage pregnancy and child support were to be referred to Youth Friendly Centres for counselling as well as to the social worker for child support issues. Respondents were identified by code numbers to ensure anonymity.

3.15 Chapter summary

This is a quantitative, analytic cross- sectional study which was conducted in Mabutsane Sub- District. The sample comprised of two hundred and sixty two (262) teenage girls in Mabutsane. Stratified sampling was used to select participants. The instrument for data collection was pretested among 10% of the sample size who did not participate in the main study to check for validity and reliability. Statistical

Package for Social Sciences was used to organize and analyze data. Permission to conduct the study was sought from the MOHW. Ethical clearance was obtained from the Africa University Research Ethics Committee and the Research Unit under the MOHW, Botswana. Participants signed an informed consent and were informed to be free to with draw from the study at any point.

CHAPTER 4: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter deals with presentation and analysis of data. Data was presented as pie charts, bar graphs and tables. Data analysis was done using the Statistical Package for Social Sciences (SPSS).

4.2 Descriptive analysis of the findings

4.2.1 Socio-demographic characteristics of teenage respondents

A total of 262 female adolescents 13-19 years of age were recruited into the study. The age of the respondents ranged from 13 to 19 years (mean 14.90, SD 1.854 years). The majority 50.4% (132) of respondents were aged 13 years, (18.3 %) were aged 14

years, while 12.2 % and 13% were aged 15 and 16 years respectively. The least number of respondents were aged 18 (7.25%) and 17 years (6.5%) respectively (See Figure 4.1).

Over half of the respondents, 176 (67.2%) have completed form 1-3 (secondary education), 19.1 % had primary education and 6.9 % had never been to formal education (See Figure 4.2). Most of the respondents, 192 (73.3%) were Christian, while 26 % (n=70) of the respondents were distributed in either ATR (8.8%) or other religions (17.9) as reported in Figure 4.3.

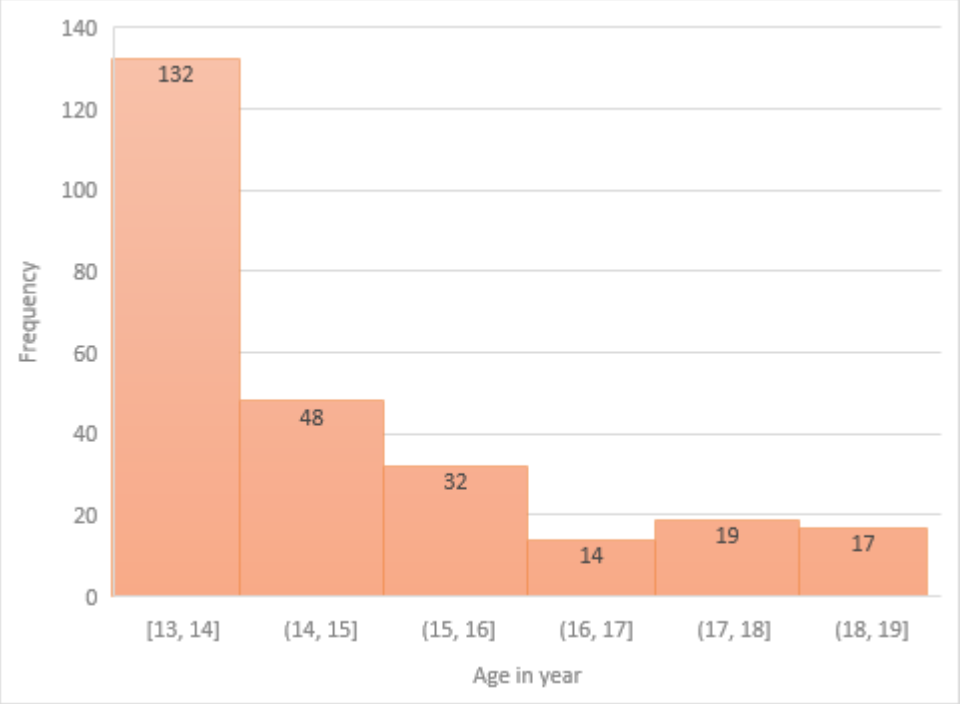

Figure 4.1: Age of teenage respondents

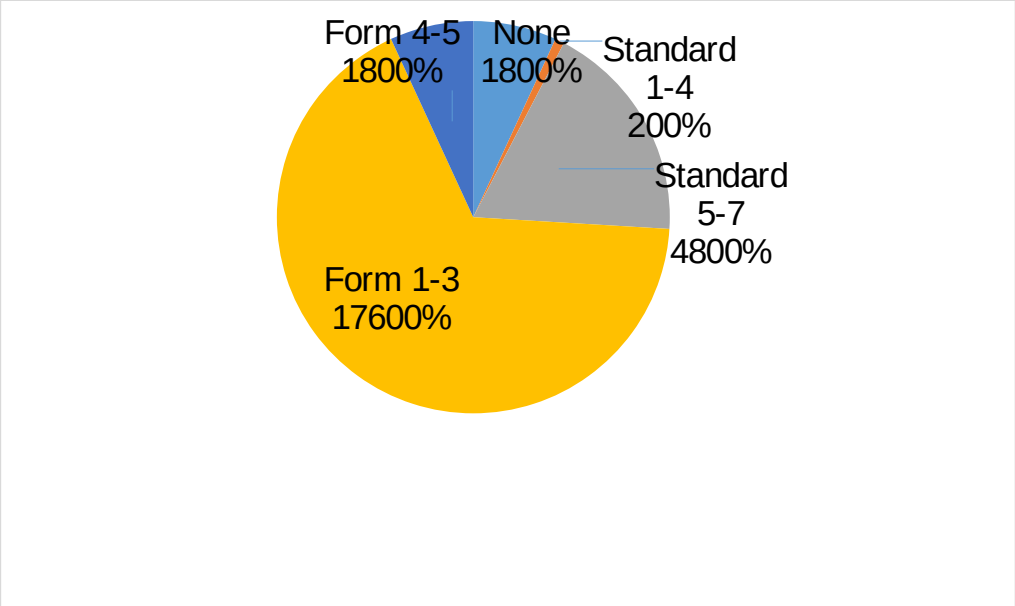

Figure 4.2: Educational level of teenage respondents

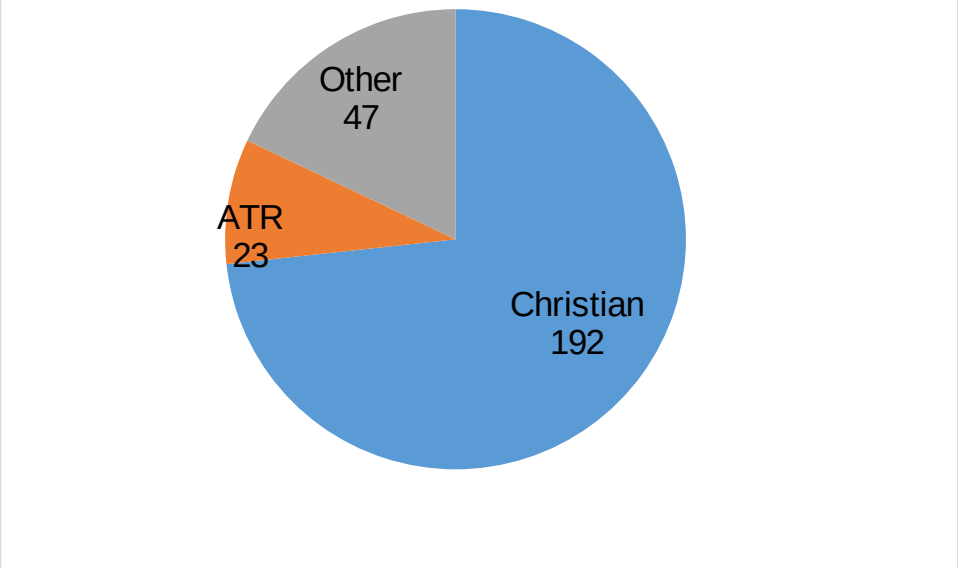

Figure 4.3: Religious affiliation of respondents

As for the residence of the respondents, Khakhea (26.7%) and Mabutsane (22.5%) were most represented, and the remaining half 50.8% were contributed by some

villages being Sekoma (11.8%), Keng (9.2%), Kokong (8.4%), Mahotshwane (7.6%), Morwamosu (5.7%), Khonkhwa (4.2%) and Itholoke (3.8%) respectively (See Figure 4.4). The findings implied that two villages were over-represented while other six villages were underrepresented which may influence the interpretation of the findings.

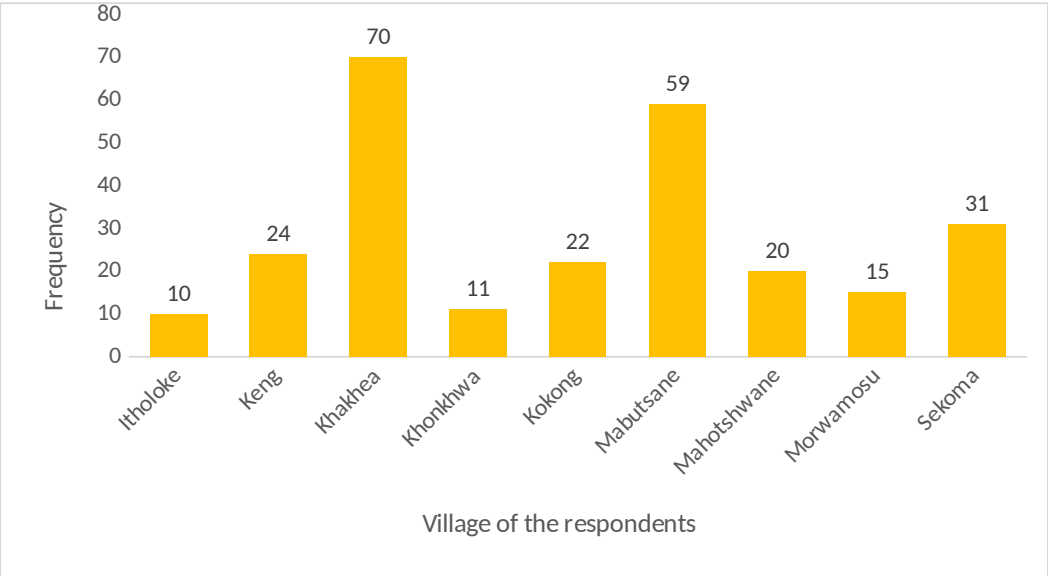

Figure 4.4 Number of respondents per village

The findings further showed that Mabutsane DHMT has a total of three (3) clinics and six (6) health posts. Out of the nine (9) key informants (nurses), the majority of them being six (6) were Principal Registered Nurses while only three (3) were Registered Nurses.

4.2.2 Factors associated with teenage pregnancy

Table 4.1 shows that most of the teenage respondents were single, 239 (93%), and the remaining were either cohabiting (4.7%) or divorced 2.3%. This finding implies 7 % of the respondents were involved in a sexual relationship. The majority has reported being students (n= 203, 77.8%), followed by those who were doing nothing (n= 49, 18.8%) and housewives (n= 9, 3.4%). A total of 200 (92.8%) respondents were living under the custodian of the parents (80%) and boarding schools (12.8%). Only 18 teenage respondents were at high risk of sexual involvement since they lived alone (1.2%) and with their husbands (1.2%). Most of the respondents have a household income of P400-600 and followed by those families which earn less than P400. Only 26.7% of the respondents reported having a household income of more than P1000.00 (See Table 4.1).

Table 4.1 Social Characteristics of the teenage respondents in Mabutsane Sub District

Variables	Frequency	Percent (%)
Marital Status (N =)		
Single	239	93.0
Cohabiting	12	4.7
Divorced	6	2.3
Occupation (N =)		
Student	203	77.8
None	49	18.8
Housewife	9	3.4
Live with (N =)		
Parent	200	80.0
Boarding School	32	12.8
Alone	15	6.0
Husband	3	1.2
Expected household income (N =)		
< P400	71	32.7
P400 – P600	88	40.6
More than 1000	58	26.7

4.2.3 Awareness of risks associated with teenage pregnancy among teenage girls

The sex and reproductive health characteristics of the teenagers' responses were explored. Table 4. 2 shows n=235 (90 %) of the respondent have never fallen pregnant, and 25 of them fell pregnant either once (6.9%) or more than one (2.7%). It implies that the proportion of teenage pregnancy among respondents in the Mabutsane region was (9.6%) with a 95% CI (24.9, 32.5). This finding is a small proportion of teenagers when compared with the total number of respondents who participated in the questionnaire response. Thus, a total of 23 (9 %) teenage mothers were revealed while most of the respondents, 235 (91.1%), reported not having children. This study showed that 216 (86.1%) of the respondents have not had sexual intercourse and for those 34 who were sexually active 23 (67%) started it at age of between 16 and 19 years. Notably, 5 (14.7%) even started to have sexual intercourse at the age of 15 years.

A total of 170 (67.7%) of the respondents reported being aware of the risk of associated unprotected sex and only 81, (32.3%) got limited knowledge. On contraceptives, this study revealed that only 73 (27.9 %) of the respondents were using them while 183, (69.8%) did not. The major reason suggested by 48.9% of the respondents for non-use of contraceptives did not have access, followed by lack of knowledge (n=64, 35.6%), as well as a family influence (n= 24, 13.3%) and those who want to fall pregnant (n= 4, 2.2%). Half of the respondents (n =128, 50.2%) revealed that the use of contraceptives alone is enough, while another half of respondents (n=127, 49.8%) were believed it was not enough to use contraceptives

alone. Overall, most respondents 180 (72.3%) were aware of the danger of pregnancy, and only 27.7% seemed not aware. The findings of the study indicated that the majority of respondents were unhappy, 221 (88%) about becoming pregnant, while others seemed either happy (n= 5, 2.0%) or expressed no feelings (n=25, 10%).

Table 4.2: Descriptive statistics analysis on awareness of risks associated with teenage pregnancy among adolescents

Variables	Frequency	Percent (%)
Pregnancy (N= 260)		
None	235	90.4
One	18	6.9
More than one	7	2.7
Children (N = 258)		
None	235	91.1
One	19	7.4
More than	4	1.6
Ever had sex (N= 251)		
No	216	86.1
Yes	35	13.9
Age at First Sex (N= 34)		
13 – 15	5	14.7
16 – 18	23	67.6
>18	6	17.6
Outcomes of unprotected sex (N = 251)		
No	81	32.3
Yes	170	67.7
Contraceptive Use (N = 256)		
No	183	69.8
Yes	73	27.9
Reason for contraceptive non-use (N = 180)		
Do not have accesses	88	48.9
Do not have knowledge	64	35.6
Family influence	24	13.3

Wants to fall pregnant	4	2.2
Use of Conceptive alone is enough (N = 255)		
No	127	49.8
Yes	128	50.2
Aware of Danger of Pregnancy (N= 249)		
No	69	27.7
Yes	180	72.3
Feeling about the pregnancy (N = 251)		
Nothing	25	10.0
Unhappy	221	88.0
Happy	5	2.0

4.2.4 Information and service to provision as perceived of Teenagers respondents

The sample population responded to seven questions/statements, which were aimed at identifying information and services used to prevent teenage pregnancy. The study indicated that the respondents have visited clinics to access various services within 18 months, in which the majority were for counselling (n= 77, 34.1%), followed by other services and mainly COVID test (n=99, 43.8%), contraceptive/condoms (n=30, 13.3). The remaining number of visits (n=20) to the clinic were distributed for delivery (4%), post-natal care (3.5%), and management of STI/HIV/AIDS (1.3%). A total of 218, (83.3%) respondents believe that there is the privacy provided at the clinic, and only 35 (13.4%) revealed that there is no privacy. The study indicated that the majority of respondents, 200 (76.3%) perceived no restriction for accessing contraceptives while only a quarter of respondents (18.3%) deemed restricted. As for formalities in access to the service, this study revealed that 143 (54.6%) of respondents indicated affirmed having to go through formalities and 102 (38.6%) were indicated otherwise. All the respondents were fairly distributed on a scale of fewer than 10 minutes to more than 30 minutes when asked for waiting time for

service access, which ranged from 22.8% to 29.1%. Further analysis revealed that most respondents, 236 (91.5%) raised concerns with the services offered, and only 8.5%, did not raise any concern. Despite such concern, however, a total of 216 (83.4%) were satisfied with the services, and just a few seemed unsatisfied (n=43, 16.6%). On average, the respondents travel 2 kilometres from home to the clinic and results also revealed that the maximum distance which some respondents travel is 15 kilometres (See Table 4.3).

Table 4.3: Descriptive statistics analysis of the access to information and service about SRH in Mabutsane, Southern region, 2022

Variables	Frequency	Percent (%)
Distance from Home to Clinic (256)		
M = 2.00KM, SD= 1.92, Min= 0 and Max= 15		
Service received within 18 months (N = 226)		
Counselling	77	34.1
Contraceptive/condoms	30	13.3
Post-natal care	8	3.5
Delivery	9	4.0
Management STI/HIV/AIDS	3	1.3
Other or None	99	43.8
Privacy at the clinic (N = 253)		
No	35	13.4
Yes	218	83.3
Restriction to Service (N = 248)		
No	200	76.3
Yes	48	18.3
Formalities to Access service (N = 245)		
No	143	54.6
Yes	102	38.9
Waiting time for service (N = 245)		
Less than 10 minutes	74	29.1

10 – 15 minutes	65	25.6
15 – 30 minutes	57	22.4
More than 30 minutes	58	22.8
Concern on the service (N = 258)		
No	22	8.5
Yes	236	91.5
Service satisfaction		
No	43	16.6
Yes	216	83.4

4.2.5 Barriers to Sexual and Reproductive Health from responses of the teenagers

The study explored respondents' perceived barriers through six questions on issues of privacy, and community support for sexual and reproductive health services. Out of the 256 respondents, 150 (58.6%) indicated there were no barriers, and 106 (41.4%) confirmed the existence of barriers, indicating that they need to source informed consent from their parents. The study also indicated that the majority of the respondents, 201 (78.8%) felt that health professionals do not uphold confidentiality when dealing with teenagers while only 54 (21.2%) seemed to disagree.

However, the majority of the respondents, 216 (84.0%) felt satisfied with the privacy and a separate space provided for teenagers, 168 (66.7%) respectively. As for adult and community support, a majority of respondents, 173 (66.0%) acknowledged such support while 32% felt not supported on access to sexual reproductive health services. More than half of the respondents, 130 (51%) felt expressed some challenges with services, and slightly below half of the respondents (49%) had no challenge associated with the services.

Table 4.4: Descriptive statistics analysis of the barrier to SRH service utilization in Mabutsane, Sub District, 2022

Variables	Frequency	Percent (%)
Source consent informed from the parent (N=256)		
No	150	58.6
Yes	106	41.4
Separate space is provided for teenagers (N= 252)		
No	84	33.3
Yes	168	66.7
Health practitioner provides confidentiality (N = 255)		
No	201	78.8
Yes	54	21.2
Teenagers satisfied with privacy (N = 257)		
No	41	16.0
Yes	216	84.0
Community Support for the teenagers' service (N= 258)		
No	85	32.4
Yes	173	66.0
Any challenge service (N = 255)		
No	130	51.0
Yes	125	49.0

4.2.6 Possible Interventions to reduce the occurrence of teenage pregnancy

Respondents were asked to suggest ways of improving the knowledge of teenage girls about the risks of teenage pregnancy. Results indicate that 69.4 % (n=179) of respondents have suggested strengthening sex education in schools, followed by those suggesting improvement of parent-adolescent communication (13.2%) and utilization of social media to mobilize teenagers (12.8%). A total of 12 (12.8%) of the respondents suggested addressing gender inequality as a factor necessary to enhance the knowledge of teenage girls about the risks of teenage pregnancy. The respondents were also asked to suggest an intervention to consider reducing the occurrence of teenage pregnancy. The majority of the respondents in the Mabutsane Sub District, 84 (33.3%) suggested improvement of teenagers' access to information and services. The other important interventions suggested by respondents were the involvement of parents (23.2%), provision of contraceptives in schools (21.3%), and training service

providers on the provision of adolescent sexual reproductive health (18.1%). Addressing gender inequality was considered the least intervention by the respondents, 11(4.3%) (See Table 4.5).

Table 4.5: Descriptive statistics analysis of the possible interventions suggested by teenagers in Mabutsane, Southern region, 2022

Variables	Frequency	Percent (%)
Improvement of Knowledge (N=258)		
Strengthen sex education in schools	179	69.4
Address gender inequality	12	4.7
Improve parent-adolescent communication	34	13.2
Utilize social media to mobilize teenage girls	33	12.8
Improvements to reduce the occurrence of teenage pregnancy (N= 252)		
Improve teenagers' access to information and services	84	33.3
Involve parents and the community	59	23.2
Address gender inequality	11	4.3
Training service providers on the adolescent SRH	46	18.1
Providing contraceptives in schools	54	21.3

4.3 Descriptive analysis of the key informants (nine nurses)

A total of the nine nurses responded to the questionnaire as an attempt to explore awareness among teenage girls on risks associated with teenage pregnancy, access to SRH information and services as well as a barriers to utilization of SRH services. The findings from the nurses were used to augment the teenage girls' results on teenage pregnancy in Mabutsane Sub District.

Table 4.6 shows the descriptive analysis on risks associated with teenage pregnancy as per the nurses' respondents. Six (66.7%) respondents revealed that youths seem to

understand the consequences of teenage pregnancy. The findings of the study indicated the area which needs to be improved to enhance youth understanding, among others include the use of peers in health education (55.6%), involving parents (55.6%) and strengthening health education (55.6%).

Most of the health facilities (88.1%) reported not having peer education/ or counselling programmes. Only one facility (11.1%) had such a programme in place. The study further indicated that the most available educational materials in health facilities were pamphlets (88.9%), followed by posters (4, 44%). Moreover, the majority of the respondents, seven out of nine indicated that they check if teenagers understand the information on the materials. However, only 5 (55.6%) respondents have enough time with teenage clients (See table 4.6).

Table 4.6: Analysis of awareness on the risks associated with teenage pregnancy by nurse respondents

Variables	Frequency	Percent (%)
Youth understand the effect of teenage pregnancy (N = 9)		
No	6	66.7
Yes	3	33.3
Improvement to be made enhance youth understanding		
Use of peer in health education (N=9)	5	55.6
Involving parents (N=9)	5	55.6
Strengthening health education (N=9)	5	55.6
Peer education/counselling programme (N =9)		
No	8	88.9
Yes	1	11.1
Educational Materials available		
Posters (N =9)	4	44.4
Videos (N =9)	1	11.1
Pamphlets (N = 9)	8	88.9
Anatomical model (N=9)	2	22.2
Understanding of the information by teenagers (N=9)		
No	2	22.2
Yes	7	77.8

Spend enough time with teenage client (N=9)		
No	3	33.3
Yes	5	55.6

Table 4.7 describes teenage girls' access to SRH information and services. Only descriptive analysis of the teenage girls' access to SRH information and services is shown in Table 4.7. More than half the respondents 5, (55.6%) felt that health facilities hours were convenient for the youth and most of them 8, (75%) also believed that facilities were conveniently located at youth disposal. The finding indicated that the majority, 7 (77.8%) of the health facilities do not have a separate wing for youth. Most of the respondents, 5 (62.5%) perceived that the youth were supported by the community when seeking SRH services. Moreover, most of the respondents, 5 (62.5%) indicated that the guidelines for providing ASRH services were available in the health facilities.

Table 4.7: Analysis Teenage girls' access to SRH information and services

Variables	Frequency	Percent (%)
Facility hours convenient for the youth (N=9)		
No	4	44.4
Yes	5	55.6
Facility conveniently located for all youth (N= 8)		
No	2	25.0
Yes	6	75.0
Separate attendance (N = 9)		
No	7	77.8
Yes	2	22.2
Community support youth in seeking SRH services (N = 8)		
No	3	37.5
Yes	5	62.5
Guidelines for providing ASRH services (N= 8)		
No	3	37.5
Yes	5	62.5

Table 4.8 indicates barriers to utilization of SRH services and possible solutions as perceived by the nurses. The results indicated that the most significant barriers for utilizing SRH were lack of privacy in the facility (66.7%) and the environment not conducive for youth (75.0%). However, the findings indicated that 8 (88.9) of the health facilities provide adequate confidentiality of information for teenagers. More than half of the respondents, 5 (55.6%) were not trained to work with youth while only 4 (44.4%) are trained. The findings further indicated that the majority of respondents 8 (88.1%) perceived that health staff members and the community are supportive of teenagers seeking ASRHS services.

The study further explored the improvements to be made to reduce the occurrence of teenage pregnancy.

Table 4.8 revealed that most of the respondents, 8 (88.9%) have access to information and services, followed by three shared weighing interventions (77.8%), which were involvement of parents and community, training the service provider and provision of contraceptives in schools. Six (6) out of (nine) 9 (667%) also indicated addressing gender inequality and involvement of teenagers in decision making as important interventions to reduce the occurrence of teenage pregnancy (See Table 4.8).

Table 4.8: a descriptive analysis on barriers to the utilization of SRH services among teenage girls

Variables	Frequency	Percent (%)
Privacy in the Facility (N=9)		
No	6	66.7
Yes	3	33.3
Environment comfortable for teenagers (N=8)		
No	6	75.0
Yes	2	25.0
Trained to work with youth (9)		
No	5	55.6
Yes	4	44.4

Staff and community support (N = 9)		
No	1	11.1
Yes	8	88.9
Confidentiality of Information (N = 9)		
No	1	11.1
Yes	8	88.9
Improvement to reduce teenage pregnancy		
Access to information and service (N=9)	8	88.9
Involve parents and community (N=9)	7	77.8
Address gender inequality (N=9)	6	66.7
Training the service provider (N=9)	7	77.8
Providing contraceptives in schools (N=9)	7	77.8
Involve teenagers in decision making (N=9)	6	66.7

4.4 Inferential analysis of findings for teenage girl respondents

4.4.1 Analysis of the factors and risks associated with teenage pregnancy

The multinomial logistics regression was performed to assess the factors associated with the likelihood that the respondents would fall pregnant. The model contained seven independent variables (Education level, Religion, marital status, occupation, living with and Household monthly income). The model specification of Table 4.9 was statistically significant X^2 (6, N=202) = 59.718; $p < 0.001$). The whole model explained between 25.6 % (Cox and Snell R square) and 50.4% (Nagelker R squared). From the results of the multinomial logistics regression analysis in the model, Education and occupation were significantly associated with teenage pregnancy. While the remaining independent variables were not significant. The strongest predictor of reporting associated with teenage pregnancy was education, recording an odds ratio of 1.843. This indicated that teenage respondents with low education were 2 times more likely to fall pregnant than those who respondents with higher schooling for all other factors in the model. The odds ratio of .222 for an occupation in which a respondent was involved was less than 1, indicating that every

schooling respondent was .22 times more likely to get pregnant. The odds ratios for marital status (7.845) and monthly income (2.349) were sufficient and likely predicted association with teenage pregnancy even though were not significant, however, the 95% CI lower and upper bound provides some shreds of evidence.

On assessing risk factors associated with teenage pregnancy, the overall model was not significant, X^2 (3 N =5) = 6.730; p < 0.081). Out of eight independent variables, only two (first sexual intercourse and no reason for not using contraceptives) were revealed on the model but not significant. This implies that respondents who were exposed to sexual risk factors were small samples and could not spread on the continuum of variables (Table 4.9).

Table 4.9: Multinomial Logistics Regression predicting the likelihood of Factors and Risk associated with teenage pregnancy

							95% CI for Odds ratio	
	Estimate (B)	SE	Wald	Df	Sig.	Odds ratio	Lower Bound	Upper Bound
Factor Associated								
Intercept	-7.485	3.179	5.544	1	.017			
Education level	.611	.308	3.932	1	.047	1.843	1.007	3.373
Religious affiliation	-.302	.423	.508	1	.476	.739	.323	1.695
Marital status	2.060	1.237	2.775	1	.096	7.845	.695	88.543
Occupation	-1.105	.205	29.103	1	.000	.331	.222	.495
Live with	.071	.280	.063	1	.801	1.073	.620	1.858

Monthly Income	.854	.466	3.354	1	.067	2.349	.942	5.859
Risk Associated								
Intercept	18.156	25823.961	.000	1	.999			
First Sexual Intercourse	-36.304	11577.121	.000	1	.997	1.712	.000	.[c]
No reason for not using co ntraceptive	36.304	11577.121	.000	1	.997	584	.000	.[c]

C= floating-point overflow occurred while computing this statistic. Its value is therefore set to system missing

4.4.2 Analysis of access to information and service to prevent teenage pregnancy

In assessing the association of the information and service to prevent teenage pregnancy, the full model containing eight independent variables was statistically significant, X^2 (8, N =199) = 15.293; $p < 0.04$). The model fit was explained between 7.6 % (Cox and Snell R square) and 14.2 % (Nagelker R squared). From the results of the multinomial logistic regression analysis in the model, the distance between home and clinic affect receiving information, and respondents have been negatively affected on their concern about information and services to prevent teenage pregnancy. While other factors such as services received in the last 18 months, privacy at the clinic, restriction, formalities, waiting times and service satisfaction were not significantly predicted the information and service to prevent teenage pregnancy. However, the odds ratio for privacy at the clinic was 4.834, and descriptively implies that 5 times the likelihood of provision of privacy at the clinic will enhance access the information and services to prevent teenage pregnancy at 95% CI for Odds ratio .518 lower and 45.078 upper bound. Even, the restriction

factor was negatively affected at 95% CI for Odds ratio .089 lower and 2.524 upper bound (See Table 4.10).

Table 4.10: Result of the Multinomial logistic regression on Information and service to prevent teenage pregnancy

	Estimate (B)	SE	Wald	Df	Sig.	Odds ratio	95% CI for Odds ratio Lower Bound	Upper Bound
Intercept	-2.456	1.405	3.054	1	.081			
Distance between Home and Clinic	.263	.116	5.098	1	.024	1.300	1.035	1.633
Service Received 18m	-.173	.091	3.631	1	.057	.841	.703	1.005
Privacy at clinic	1.576	1.139	1.914	1	.167	4.834	.518	45.078
Restriction	-.747	.854	.766	1	.381	.474	.089	2.524
Formalities	-.737	.532	1.919	1	.166	.479	.169	1.357
Waiting time	-.083	.208	.157	1	.692	.921	.612	1.385
Concern on services	-1.648	1.393	1.400	1	.237	.192	.013	2.951
Service Satisfaction	1.364	1.360	1.006	1	.316	3.910	.272	56.166

4.4.3 Analysis of Barriers to the utilization of SRH services

The multinomial logistics regression was performed to assess the barrier to utilization of the sexual reproductive health services by teenagers. The model contained six independent variables (parental consent, separate space in the clinic, breach of confidentiality, satisfaction with privacy, adult and community support and challenges faced when seeking services. The model specification was not statistically

significant X^2 (6, N=237) = 11.561; p < 0.073). The whole model explained between 4.8 % (Cox and Snell R square) and 10.6% (Nagelker R squared). The results of the multinomial logistics regression analysis in the model revealed that seeking parental consent was negatively significantly associated as a barrier to the utilization of SRH services while the remaining independent variables were not significantly predicted. The findings implied that only seeking parental consent was seen by respondents as a possible barrier to SRH service over other factors.

Table 4.11: Results of the Multinomial logistic regression on the barriers to utilizing SRH service to reduce teenage pregnancy

	Estimate (B)	SE	Wald	Df	Sig.	Odds ratio	95% CI for Odds ratio Lower Bound	Upper Bound
Intercept	-2.052	.833	6.078	1	.014			
Parental informed consent	-1.246	.585	4.541	1	.033	.288	.092	.905
Separate space in the clinic	-.461	.500	.849	1	.357	.631	.237	1.681
Breach of confidentiality	-1.640	1.053	2.425	1	.119	.194	.025	1.529

Satisfied privacy	.716	.816	.771	1	.380	2.047	.414	10.131
Adult and Community Support	-.266	.514	.267	1	.605	.767	.280	2.098
Challenge seeking Service	.228	.475	.230	1	.631	1.256	.495	3.186

4.5 Chapter summary

Data analysis has revealed that the level of education and occupation are significantly associated with teenage pregnancy in Mabutsane Sub District. Teenage girls with low educational status are twice likely to fall than their counterparts with higher educational status. Marital status, and monthly income are sufficient and likely associated with teenage pregnancy even though they were not statistically significant. The distance from a health facility negatively affects receiving ASRH information while privacy at a health facility is likely to improve access and prevent teenage pregnancy. Seeking parental consent is viewed as a major barrier in ASRH service utilization.

CHAPTER 5: SUMMARY, CONCLUSIONS AND DISCUSSION

5.1 Introduction

This chapter discusses the findings, conclusions, implications of the study and limitations of the study. It will further discuss recommendations and suggestions for further research. This study explored factors associated with the occurrence of teenage pregnancy in Mabutsane Sub District, Sothern District, Botswana. According

to the MOHW (2021), a significant number of teenage pregnancies were reported in the sub district, accounting for 17%of the total ANC attendances in 2017, 2019 and 2020.

5.2 Discussion

5.2.1 Socio demographic characteristics of respondents and factors associated with teenage pregnancy

The socio demographic characteristics revealed possible factors associated with teenage pregnancy. Typically, seven percent (7%) of respondents were either cohabiting or divorced, implying that they were involved in sexual relations. Eighteen (1.2%) were living alone and another 1.2% with their husbands. Staying alone and cohabiting exposes them to early marriages and abusive relationships and could be a factor accounting for the 1.2% that are either divorced or staying with their husbands. Although marital status and monthly income were not significant in this study, they were, however sufficient and likely predicted association with teenage pregnancy, with odds ratios of 7.845 and 2.349 respectively. The current study findings are in line with those of a study by Chandra- Mouli (2013) which associated poverty, lack of education and pressure to marry as major contributors to teenage pregnancy. Thus, even for this study, only 26% reported having an income of more than P1000 in their households, hence it might influence their behaviour to engage in sexual activities to augment their income. These findings corroborate Gyan's (2013) findings which singled out poverty as a major factor contributing to teenage pregnancy in Ghana. A study by Kgosiemang & Motzafi- Haller (2020), associated socio- cultural

perceptions on fertility, pregnancy and marriage as factors contributing to teenage pregnancy in Botswana.

Descriptive results showed that a majority of respondents (67%) who are sexually active began sexual activity at the ages of 16 and 19 years. Results of multinomial logistic regression analysis revealed that education and employment status were significantly associated with teenage pregnancy with education as the strongest predictor, recording an odds ratio of 1.843. This suggested that teenagers with low education were twice more likely to fall pregnant than their counterparts with higher education. These findings corroborate assertions by Opeyemi et al. (2016), on the relationship between teenage pregnancy and low educational status, suggesting that better education has been found to be associated with low teenage pregnancy rates.

5.2.2 Awareness of risk factors associated with teenage pregnancy

Although a majority of teenage respondents (170) translating to 67.7% reported awareness of risk factors associated with teenage pregnancy, 81 0f the (32.3%) had limited knowledge. Of further concern that even those with knowledge are not using contraceptives evidenced by a high number of 183 (69.8%). Reasons cited for non-use of contraceptives include lack of access, lack of knowledge as well as family influence. The evidence builds on assertions by Cartes (2012) suggesting that lack of awareness about teen sexuality and reproduction among parents, teachers and adolescents increases early initiation in sexual relations. Manzi et al. (2018) add on to this assertion by citing lack of guidance by parents and lack of understanding on ASRH as major causes of teenage pregnancy. In this study, six (66.7%) key

informants revealed that even although youths seem to understand consequences of teenage pregnancy, there was need to strengthen peer education, involve parents and to strengthen health education. Most health facilities in the district (88.1%) reported to be having peer education/ counselling programmes.

5.2.3 Access to information and services to prevent teenage pregnancy

Although most respondents travel an average of 2 km to the nearest health facility, others travel up to a maximum of 15km. Results of the multinomial regression analysis revealed that the distance between home and the clinic negatively affects receiving information and services to prevent teenage pregnancy. One hundred and forty- three teenage respondents (54.6%) indicated that they go through formalities in order to access ASRH services. This is an obstacle as privacy and confidentiality may be breached during these formalities, thereby compromising access to services. A total of 218 (83.3%) respondents were none the less satisfied with privacy at the clinics while only 35 (13.4%) revealed that there was no privacy.

The odds ratio for privacy at the clinic was 4.834, descriptively implying that provision of privacy was 5 times likely to enhance access to information and ASRH services. More than half of the of the key informants (55.6%), felt that even though health facilities were conveniently located, most of them (77.8%) did not have separate space for ASRH services thereby compromising the privacy of teenagers seeking services. Most respondents have visited clinics to access services in the last 18 months although 236 (91.5%) raised concerns about the services offered. These findings complement observations by Bekuma & Getachewi (2021) attributing the

high number of unintended teenage pregnancies to unmet ASRH needs. Despite 200 (76.3%) respondents perceiving no restrictions in accessing contraceptives, only 30 (13.3%) have visited health facilities to access them while 18.3% stated that they were restricted. This suggest that ASRH services are under-utilized in Mabutsane. Birhanu et al. (2018) attributes the low uptake of contraceptives by teenagers to lack of knowledge, perceptions and socio cultural factors. This is of major concern considering that 24% of adolescents are child bearing (Ethiopian Demographic Survey cited in Birhanu et al. (2018). Pandy et al. (2019), Birhamu et al. recommend that services should be accessible, acceptable, equitable, appropriate and effective for adolescents.

5.2.4 Barriers to ASRH service utilization

Out of 256 teenage respondents, 150 (58.6%) did not perceive any barriers to ASRH service. Results of multinomial logistic regression analysis however revealed that seeking parental consent was negatively significantly associated as a barrier to ASRH service utilization. A further 201 (78.8%) respondents indicated that health workers were not upholding confidentiality when dealing with teenagers. These findings corroborate assertions by Pozo et al. (2015) suggesting that teenagers lack of trust in the stated confidentiality of health facility staff was a barrier to adolescent contraceptive use. One hundred and thirty (51%) attested to be facing challenges when accessing ASRH services while 49% were satisfied. The majority of key informants (66.7%) confirmed that lack of privacy in health facilities was a challenge. Seventy five percent of them felt that the environment was not conducive for youths.

Furthermore, above half (55.6%) of key informants were not trained to work with youths although they believe they are supportive of teenagers seeking services. Pozo et al. (2020), observes that health workers feel inadequately trained to deal with adolescents seeking contraceptive services because of issues legal implications, parental consent and moral concerns. WHO (2020) highlights the need to improve the health of young people through provision accessible, acceptable and affordable SRH services.

5.2.5 Possible interventions to reduce the occurrence of teenage pregnancy

One hundred and seventy nine teenage respondents (69.4%) suggested strengthening sex education in schools and improvement of parent- child communication. Pozo et al. (2015) agrees with these findings by acknowledging that taboos prohibiting sharing of information on SRH among family members contribute to barriers in SRH service utilization. In order to break these barriers, Noe et al. (2018) recommend training of health workers to offer quality YFS integrated services as well as improving parent- adolescent communication. Eighty four respondents (35.3%) suggested improvement of teenagers' access to information while 23.2% wanted contraceptives to be provided in schools.

In addition to improving access to information and services as well as providing contraceptives in schools, the majority of key informants (88.9%) also recommended involvement of parents and the community while 77.8% recommended training of service providers. Six out of nine (66.7%) felt addressing gender inequality and involving teenagers in decision making could help in reducing the occurrence of

teenage pregnancy. A review of the ICPD recommended linking provision of sexuality education, building awareness, supporting youth friendly SRH education and addressing gender inequality as some of the strategies to reduce teenage pregnancy rates (Chandra- Mouli et al. (2015). According to the same authors, lack of decision making on SRH matters combined with complex social, cultural and psycho social factors lead to teenagers using less reliable methods of contraception. To that effect, the UN (2014) emphasizes the need to reflect youth concerns across SDGs as well as encouraging adolescents to be involved in shaping and monitoring the agenda.

5.3 Conclusions

Major factors associated with the occurrence of teenage pregnancy in Mabutsane include low educational status, lack of employment and early marriage. Although most teenage girls are educated up to Junior Certificate level, a significant number either dropped out at primary school or never attended formal education. Findings from the study suggest that teenagers with low education are five times likely to fall pregnant than their counterparts with higher education. Under- utilization of ASRH services in the district is also attributed to long distances from home to health facilities, lack of confidentiality, lack of privacy, and space for adolescents in health facilities as well as formalities to be followed when accessing ASRH. These factors are deterring adolescents from accessing and utilizing contraceptives. Provision of privacy was found to be five times likely to enhance access to information and ASRH services. Adolescents do not trust health service providers on issues of confidentiality

and most of these professionals do not have any training in working with youths. Although teenagers are aware of risks associated with teenage pregnancy, sexual activity begins between the ages of 16 and 19 years, in most cases with no contraception. Socio cultural perceptions have also been associated with teenage pregnancy in Botswana as a whole with restrictions on utilization of ASRHS and seeking parental consent for contraceptive use negatively affecting access to contraceptives in Mabutsane. Strengthening peer education, involving parents, strengthening sex education in schools as well as training health workers are seen as strategies that can be used to improve access, awareness and utilization of services in collaboration with all stakeholders, including the youth.

5.4 Implications

The study was conducted in response to increasing statistics of teenage pregnancy and school drop outs in Mabutsane Sub District. The purpose was to explore factors associated with teenage pregnancy. It is anticipated that the identification of root causes will drive stakeholders towards relevant solutions such as policy review. Factors that were identified include early marriage, poverty (lack of employment), low educational status, restrictions (parental consent), as well as lack of privacy and untrained service providers. Socio- cultural factors such as lack of parental involvement and taboos associated with discussing sexual issues need to be further investigated and addressed in consultation with the community and traditional leadership. Kgosiemang & Motzafi- Haller (2020) identify socio- cultural perceptions on fertility, pregnancy and early marriage as major determinants of teenage

pregnancy. The tendency to deny that adolescents engage in sexual activity needs to be addressed by key players such as the Ministry of Basic Education by offering sex education in schools. Addressing poverty and reflecting youth concerns across SDGs through youth involvement as recommended by the UN (2014) could help control the situation.

5.5 Limitations of the study

While villages in Mabutsane Sub- District share common geographical characteristics, there may be differences in social and cultural beliefs and practices which may affect the generalizability of results. Targeting teenagers who are going through various challenges related to SRH may have affected the way they responded, however the use of relatively young people to collect data might have alleviated the problem. The study is quantitative and may have missed qualitative data that is essential in assessment of the occurrence of teenage pregnancy. Inconsistencies were noted when interviewing respondents on access to information and ASRH services. While only 13.3 % attested to using contraceptives, 143 (54%) indicated that they go through formalities when accessing the same services. This suggested that respondents were giving socially acceptable answers on questions relating to sexuality thereby potentially affecting findings of the study. There were also time and financial constraints which might have inhibited the extent to which the research was intended.

5.5 Recommendations

In view identified factors, the Ministry of Basic Education in collaboration with MOHW need empower adolescents with education by putting in place programmes that will ensure all children have access to education including those who have dropped out due to teenage pregnancy. Creating awareness of risks associated with teenage pregnancy should be done in schools through sex education as well as in the community. Traditional leadership, health workers and law enforcement agencies should create awareness among parents on the importance of communicating with adolescents on sexual matters including their sexual and reproductive rights. Sexual and gender issues should be discussed by health workers and traditional leaders at public forums such as kgotla meetings in order to get rid of stereotypes and taboos that contribute to teenage pregnancy. Policy makers in the MOHW should revise Sexual and Reproductive Health policies in consultation with all stakeholders to ensure that they address the needs of adolescents and communities. Law enforcement agencies should prosecute perpetrators of teenage pregnancy in line with the laws of the country.

5.6 Suggestions for further research

This study mainly focused on factors associated with the occurrence of teenage pregnancy. Further research on how best to design and deliver ASRH is necessary in order to improve ASRH utilization.

5.7 Data dissemination

A written report of the findings was presented to; the Coordinator of the Southern Region Health Management Team, Head of District Health Management Team in Mabutsane, the District Commissioner, the traditional leadership in the district and the Ministry of Health and Wellness Research Unit.

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APPENDIX 1: INFORMED CONSENT/ASSENT: ENGLISH

Study Title:

Factors associated with the occurrence of teenage pregnancy in Mabutsane Sub-District

Introduction

My name is Nothemba Masuku. I am a Master of Public Health student at Africa University currently on attachment at the Southern Region Health Management Team. I am conducting a study to explore factors associated with the occurrence of teenage pregnancy in Mabutsane Sub District. I am asking you to participate in the study by filling in a questionnaire. Findings from this study will be useful in policy review and prioritizing interventions to address the problem. Information gathered from this interview will be anonymous, private and confidential.

What you should know about the study

You are requested to participate in the study to explore factors associated with the occurrence of teenage pregnancy in Mabutsane Sub- District. Information generated will be utilized to identify gaps and address sexual and reproductive health challenges faced by teenage girls in Mabutsane.

Choice to withdraw or leave the study

Participation is voluntary. You may withdraw at any stage of the study. There will be no penalties, or consequences for your choice.

Harm and/or risks and/or discomforts

There is a potential for emotional stress during the interview, associated with lack of support the pregnancy or child care for those who have been pregnant. Counselling will be arranged and you will be referred to the social worker to handle the issue of child support. Privacy and confidentiality will be observed and protected. If further risks are anticipated, interviews will be rescheduled.

Benefits

There are no costs attached to the study, there will be no payment for participating in this study. You are free to ask for further clarifications as necessary. Your participation will help to identify factors of concern and to take the necessary steps to reduce the occurrence of teenage pregnancy.

Privacy of records

All information provided will be confidential. A questionnaire code will be used for identification purposes. Personal information from the interview will not be released without your written permission

For further clarification, feel free to contact:

Nothemba Masuku (Mr.)

Cell Numbers: +26775482788/+26773231123

Email: masukun@africau.edu

Declaration of volunteer

I hereby give consent to Nothemba Masuku to include me in the proposed study entitled**: Factors associated with the occurrence of teenage pregnancy in Mabutsane Sub-District**. I understand the aim of the study and what will be required of me if I take part in the study. The risks and benefits if any have been explained to me. Any questions I have concerning the study have been adequately answered. I understand that I can withdraw from the study at any time if I so wish without any consequences. I realize I will be interviewed once. I consent voluntarily to participate in this study.

Respondent's Signature/ mark …….. Date…….

Name of person taking consent

……..

Signature ……. Date ……..

Name of Investigator ……

Signature …….. ……Date ……..

APPENDIX 2: INFORMED CONSENT/ASSENT: SETSWANA

SETLHOGO SA DIPATLISISO

Ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe mo kgaolo potlana ya Mabutsane.

KITSISO KA GA NNA

Leina lame ke Nothemba Masuku. Ke moithuti wa Master of Public Health kwa Africa University, mme ka nako eno ke mo ikatisong mo lephateng la botsogo le boitekanelo mo kgaolong ya borwa. Ke sekaseka ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe mo kgaolo potlana ya Mabutsane. Maduo a tshekatsheko ee, a tla diriswa go dira melawana e ka rarabololang mathata aa. Maduo othe a tshetsheko ee, a tla nna sephiri

MATSENO

O kopiwa go tsaya karolo mo dipatlisisong tsa go sekaseka ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe. Tshedimosetso e e tlang bonwang e tlaa dirisiwa go lemoga ditlhaelo tse di teng le go nonotsha lenaneo ka go rarabolola dikgwetlho tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe ke banana ba Mabutsane.

ITLHOPHELO YA GO IKGOGELA MORAGO KANA GO TSWA MO DIPATLISISONG

Go a ithaopiwa go tsaya karolo. O ka tswa mo legatong le nngwe le nngwe la dipatlisiso. Go tla bo go sena dikotlhao kana ditlamorago mabapi le tshwetso ya gagwe.

KGOBALO LE BODIPHATSA KANA MATLHOKO

Gonale kgonakgalo ya kutlo botlhoko mmo patlisisong ye kamabaka ago tlhoka kemo nokeng mo boimangeng le mo tlhokomelong ya ngwana. Tshidilo maikutlo etla thulagangwa ebile gotla etsisiwe mmaboipelego gore asekaseke seemo sagago. Tsotlhe tse di buiwang di tlaa nna sephiri ebile tsa sirelediwa. Fo go na le bodiphatsa jo bo ka nnang teng, dipotsolotso di tla tlosolosiwa.

DIPOELO

Dipatlisiso tse ga di tlhoke madi go dirwa, ga gona dituelo tsa gore o tsaya karolo. O gololesegile go botsa dipotso go tlhalosediwa fa go tlhokegang. Go tsaya karolo go tlaa thusa lephata la botsogo le boitekanelo go tlokafatsa ditirelo tsa banana le go tsaya dikgato tse di maleba go netefatsa tiriso ya lenaneo le go sekaseka ditsamaiso le go tokafatsa ditirelo tsa bana lefatshe ka bophara.

TSHIRELETSO YA BA BA TSERENG KAROLO

Tshidimosetso yotlhe e e fiwang e tla a nna sephire. Go tlaa dirisiwa dinomoro tsa potsolotso go lemoga ba tsaya karolo. Ga gona go ntshiwa tshedimisetso epe ya ba ba tsayang karolo ntle le teseletso ya bone e e mo mokwalong.

Go itse go feta fa, gololesega go ikgolaganya le:

Nothemba Masuku (Mr)

Cell Numbers: +26775482788/+26773231123

Email: masukun@africau.edu

TLHOMAMISO YA GO AKAREDIWA

Ke fa ke dumalana le Nothemba Masuku go nkakaretsa mo dipatlisisong tsa setlhogo se se reng: go sekaseka ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe mo kgaolo potlana ya Mabutsane. Ke tlhaloganya maikemisetso a dipatlisiso tse le se se tla tlhokiwa mo go nna fa ke tsaya karolo mo go tsone. Ke tlhaloseditswe ka bodiphatsa kana dipoelo fa di le teng. Dipotso dipe fela tse ke nang le tsone ka dipatlisiso tse di tla arabilwe ka botlalo. Ke tlhaloganya gore nka ikgogela morago mo dipatlisisong nako nngwe le nngwe fa ke eletsa jalo ntle le ditlamorago dipe. Ke lemoga gore o key a go botsolotswa gangwe fela. Ke dumela ka bo nna gore ke tseye karolo mo dipatlisisong tse.

Monwana wamotsaya karolo……Letsatsi……

Leina la modiredi ……

Monwana wa modiredi …….. Letsatsi ……..

APPENDIX 3: PARENTAL CONSENT: ENGLISH

STUDY TITLE:

Factors associated with the occurrence of teenage pregnancy in Mabutsane Sub-District

Introduction

My name is Nothemba Masuku. I am a Master of Public Health student at Africa University currently on attachment at the Southern Region Health Management Team. I am conducting a study to explore factors associated with the occurrence of teenage pregnancy in Mabutsane Sub District. I am asking you to allow your child to participate in the study by filling in a questionnaire. Findings from this study will be useful in policy review and prioritizing interventions to address the problem. Information gathered from this interview will be anonymous, private and confidential.

What you should know about the study

You are requested to allow your child to participate in the study to explore factors associated with the occurrence of teenage pregnancy in Mabutsane Sub- District. Information generated will be utilized to identify gaps and address sexual and reproductive health challenges faced by teenage girls in Mabutsane.

Choice to withdraw or leave the study

Participation is voluntary. Your child may withdraw at any stage of the study. There will be no penalties, or consequences for his/ her choice.

Procedures and duration

If you decide to allow your child to participate, she will be expected to complete a structured questionnaire. It is expected that this will take about ten minutes

Harm and/or risks and/or discomforts

There is a potential for emotional stress during the interview, associated with lack of support for the pregnancy or child care for those who have been pregnant. Counselling will be arranged and your child will be referred to the social worker to handle the issue of child support. Privacy and confidentiality will be observed and protected. If further risks are anticipated, interviews will be rescheduled.

Benefits

There are no costs attached to the study, there will be no payment for participating in this study. You are free to ask for further clarifications as necessary. Your child's participation will help to identify factors of concern and to take the necessary steps to reduce the occurrence of teenage pregnancy.

Privacy of records

All information provided will be confidential. A questionnaire code will be used for identification purposes. Personal information from the interview will not be released without your written permission

For further clarification, feel free to contact:

Nothemba Masuku (Mr.)

Cell Numbers: +26775482788/+26773231123

Email: masukun@africau.edu

Declaration by parent

I hereby give consent to Nothemba Masuku to include my child in the proposed study entitled**: Factors associated with the occurrence of teenage pregnancy in Mabutsane Sub-District**. I understand the aim of the study and what will be required of her if he/she takes part in the study. The risks and benefits if any have been explained to me. Any questions I have concerning the study have been adequately answered. I understand that my child can withdraw from the study at any time if he so

wishes without any consequences. I realize she will be interviewed once. I consent voluntarily for her to participate in this study.

Parent's Signature or mark ……. Date…….

Name of person taking consent

……..

Signature ……. Date ……..

Name of Investigator ……

Signature …….. Date ……..

APPENDIX 4: PARENTAL CONSENT: SETSWANA

SETLHOGO SA DIPATLISISO

Ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe mo kgaolo potlana ya Mabutsane.

KITSISO KA GA NNA

Leina lame ke Nothemba Masuku. Ke moithuti wa Master of Public Health kwa Africa University, mme ka nako eno ke mo ikatisong mo lephateng la botsogo le boitekanelo mo kgaolong ya borwa. Ke sekaseka ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe mo kgaolo potlana ya Mabutsane. Maduo a tshekatsheko ee, a tla diriswa go dira melawana e ka rarabololang mathata aa. Maduo othe a tshetsheko ee, a tla nna sephiri

MATSENO

O kopiwa go letlelela ngwana waga go go tsaya karolo mo dipatlisisong tsa go sekaseka ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe. Tshedimosetso e e tlang bonwang e tlaa dirisiwa go lemoga ditlhaelo tse di teng le go nonotsha lenaneo ka go rarabolola dikgwetlho tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe ke banana ba Mabutsane.

ITLHOPHELO YA GO IKGOGELA MORAGO KANA GO TSWA MO DIPATLISISONG

Go a ithaopiwa go tsaya karolo. Ngwana wa gago o ka tswa mo legatong le nngwe le nngwe la dipatlisiso. Go tla bo go sena dikotlhao kana ditlamorago mabapi le tshwetso ya gagwe.

KGOBALO LE BODIPHATSA KANA MATLHOKO

Gonale kgonakgalo ya kutlo botlhoko mmo patlisisong ye kamabaka ago tlhoka kemo nokeng mo boimangeng le mo tlhokomelong ya ngwana. Tshidilo maikutlo etla thulagangwa ebile gotla etsisiwe mmaboipelego gore asekaseke seemo sangwana wagago. Tsotlhe tse di buiwang di tlaa nna sephiri ebile tsa sirelediwa. Fo go na le bodiphatsa jo bo ka nnang teng, dipotsolotso di tla tlosolosiwa.

DIPOELO

Dipatlisiso tse ga di tlhoke madi go dirwa, ga gona dituelo tsa gore o tsaya karolo. O gololesegile go botsa dipotso go tlhalosediwa fa go tlhokega go tsaya karolo ga ngwana wa gago go tlaa thusa lephata la botsogo le boitekanelo go tlokafatsa ditirelo tsa banana le go tsaya dikgato tse di maleba go netefatsa tiriso ya lenaneo le go sekaseka ditsamaiso le go tokafatsa ditirelo tsa bana lefatshe ka bophara.

TSHIRELETSO YA BA BA TSERENG KAROLO

Tshidimosetso yotlhe e e fiwang e tla a nna sephire. Go tlaa dirisiwa dinomoro tsa potsolotso go lemoga ba tsaya karolo. Ga gona go ntshiwa tshedimisetso epe ya ba ba tsayang karolo ntle le teseletso ya bone e e mo mokwalong.

Go itse go feta fa, gololesega go ikgolaganya le:

Nothemba Masuku (Mr)

Cell Numbers: +26775482788/+26773231123

Email: masukun@africau.edu

TESELETSO KA MOTSADI

Ke fa ke dumalana le Nothemba Masuku go akaretsa ngwanake mo dipatlisisong tsa setlhogo se se reng: go sekaseka ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe mo kgaolo potlana ya Mabutsane. Ke tlhaloganya maikemisetso a dipatlisiso tse le se se tla tlhokiwa mo go ngwanake fa a tsaya karolo mo go tsone. Ke tlhalosedtswe ka bodiphatsa kana dipoelo fa di le teng. Dipotso dipe fela tse ke nang le tsone ka dipatlisiso tse di tla arabilwe ka botlalo. Ke tlhaloganya gore ngwanake o ka ikgogela morago mo dipatlisisong nako nngwe le nngwe fa a eletsa jalo ntle le ditlamorago dipe. Ke lemoga gore o ya go botsolotswa gangwe fela. Ke dumela k abo nna gore a tsee karolo mo dipatlisisong tse.

Monwana wa motsadi…….Letsatsi……

Leina la modiredi ……

Monwana wa modiredi …….. Letsatsi ……..

.

APPENDIX 5: QUESTIONNAIRE FOR TEENAGE GIRLS: ENGLISH

Adapted from Habitu, Yalew & Bisetegn (2017)

Social and Demographic Data

1. Age in years: 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐
2. Place of residence……
3. Number of children: One ☐ More than one ☐
4. Number of pregnancies: None ☐ One ☐ More than one ☐

Factors associated with teenage pregnancy

1. Educational Level: ☐ None ☐ Standard 1- 4 ☐ Standard 5-7 ☐ Form 1-3 ☐ Form 4-5 ☐
2. Religion: Christianity ☐ ATR ☐ Other ☐
3. Marital status: Married ☐ Single ☐ Cohabiting ☐ Divorced ☐
4. Occupation: Farmer ☐ Housewife ☐ Student ☐ None ☐
5. Living with: Parent ☐ Husband ☐ Alone ☐
6. Household Income per month:
   - Less than P400 ☐
   - P400- P600 ☐
   - More than P1000 ☐

Awareness of risks associated with teenage pregnancy

1. Have you ever had sexual intercourse? Yes ☐ No ☐

2. At what age did you have first sexual intercourse?

   13- 15 ☐

   16-18 ☐

   19 ☐

3. Are you aware of the potential outcomes of unprotected sex?

   Yes ☐ No ☐

4. Do you use contraceptives Yes ☐ No ☐

   If No, what are your reasons?

   Do not have access ☐

   Do not have knowledge ☐

   Family influence ☐

   Want to fall pregnant ☐

5. Is the use of contraceptives alone, adequate to prevent teenage pregnancy?

   Yes ☐ No ☐

6. Are you aware of the dangers of teenage pregnancy? Yes ☐ No ☐
7. How would you/ did you feel about falling pregnant?

   Happy ☐

   Unhappy ☐ Nothing ☐

Access to information and services to prevent teenage pregnancy

1. How far is the clinic from your place of residence?

   …….kilometers

2. Which services have you received in the past 18 months?

   Counselling ☐ Contraception/ ☐ Condoms ☐

   Ante-natal Care ☐ Post natal Care ☐ Delivery ☐ Management of STI/HIV/AIDS ☐ Specify _____

3. Does the clinic provide privacy? Yes ☐ No ☐

4. Are you restricted from receiving any contraceptives? Yes ☐ No ☐
5. Do you have to go through other formalities before receiving SRH services?
   ☐ Yes ☐ No
6. How long is the waiting time at the clinic?
   Less than 10 mins ☐ 10-15 mins ☐ 15 to 30 mins ☐
   More than 30 mins ☐
7. Does the service provider take your concerns seriously?
   Yes ☐ No ☐
8. Are you satisfied with the services? Yes ☐ ☐

Barriers to SRH service utilization

1. Are you required to obtain parental consent for any Sexual Reproductive Health service?
   Yes ☐ No ☐
2. Does the clinic have separate space to provide services for youths? Yes No ☐
3. Is it ☐ possible for anyone other than the service provider to hear what you are discussing?
   Yes ☐ No ☐
4. Are you satisfied with the privacy at the clinic? Yes No ☐ ☐
5. Do adults in the community support you in seeking reproductive health services?
   Yes ☐ No ☐
6. Do you think youths face any challenges when seeking reproductive health services?
   Yes ☐ No ☐

Possible Interventions to reduce the occurrence of teenage pregnancy

1. What can be done to improve knowledge of teenage girls about risks of

teenage pregnancy? *Tick you answer/ answers*

Strengthen sex education in schools ☐

Address gender inequality ☐

Improve parent- adolescent communication ☐

Utilize social media to mobilise teenage girls ☐

2. What improvements can be made to improve reduce the occurrence of teenage pregnancy? *Tick your answer/ answers*

Improve teenagers' access to information and services ☐

Involve parents and the community ☐

Address gender inequality ☐

Training service providers on the provision of Adolescent Sexual Reproductive Health ☐

Providing contraceptives in schools ☐

APPENDIX 6: QUSETIONNAIRE FOR TEENAGE GIRLS: SETSWANA.

Kitso ka lefelo leo nna mo go lone

1. Dingwaga :13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐
2. Lefelo……
3. Palo ya Bana: Bongwe ☐ Go feta bongwe ☐
4. O itsholofetse ga kafe?: Agoise ☐ ☐ gonne sepe Bongwe feta bongwe ☐

Ditshetlana tse di amanang le go nna teng ga boimana jwa bana ba ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabobgwe.

1. Lekwalo le o le dirang: None ☐ Standard 1- ☐ 4 Standard ☐ 5-7 Form 1-3 ☐ Form 4-5 ☐
2. Tumelo: ☐ ☐ Sekeresete ☐ ATR Tse dingwe
3. Lenyalo: Ke mo lenyalong ☐ Gakea nyala/ Gakeanyalwa ☐ Kena le rre/ Kenalemosadi ☐ ☐ mmontlong Ketlhadile
4. Tsa pereko: Molemi morui ☐ Ga ke bereke ☐ Ngwana wa Sekolong ☐ Sepe mo go tse di ☐ boletsweng
5. O nna le mang: batsadi ☐ Monna ☐ Ke le ☐ nosi

6. Letseno la mo lapeng mo selekanong sa kgwedi:
   ko tlase ga ga P400 ☐

   P400- P600 ☐

   Go feta P1000 ☐

Dikitso ka ditlamorogo tse di ka bakiwang ke boimana jwa bana ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabongwe

1. A o kile wa tlhakanela dikobo? EE ☐ NNYAA ☐
2. O tlhakanetse dikobo la ntlha o le dingwaga di le kafe?
   13- 15 ☐
   16-18 ☐
   19 ☐
3. A o itse ka ditlamorago le bodiphatsa ja go tlhakanela dikobo e sa babalesegang? EE ☐ NNYAA ☐
4. O dirisa ditlamelo tsa iphemelo boimana jwa bana ba dingwaga tse
   di lesome le boraro go ya kogo lesome le borobabongwe?
   EE ☐ NNYAA ☐
   Ga karabo ya gago e le Nnya mabaka a gago ke eng?
   ga gona ko ke di tsayang teng ☐
   Ga kena kitso ka ga tsone ☐
   Kgotheletso ya ba masika ☐
   Ke bata go itsholofela ☐
5. A go dirisa iphemelo ya boimana e le kane go kganela boimana jwa bana
   ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabongwe?
   EE ☐ NNYAA ☐
6. A o itse ka ditlamorago tsa boimana jwa bana ba dingwaga tse di lesome ☐

le boraro go ya kogo lesome le borobabongwe? EE NNYAA ☐

7. O ne wa kutwa jang mo maikutlong morago ga o itsholofela kana o ka ikutwa jang fa o ka itsholofela? Nka itumela ☐ Maikutlo ame a ka wela tlase ☐ Ga gona go ntira sepe ☐

Tsela ya go gorogang ko ditlamelong

1. Kokelwana e bokgakala bokae le kwa o nnang teng?._____(Km)
2. Ke dife ditirelo tse o di amogetseng mo kgweding tse di lesome le boferabobedi tse di fitileng? Tshidilo maikutlo ☐ Tsa boiphemelo ☐ Thlokomelo pele ga pelegi ☐ Tlhokomelo morago ga pelegi ☐ Pelegi Kalagi ☐ yamalwetsi adikobo ☐ Tlhalosa _____
3. A kokelwana e fa ditirelo ka tsela e ☐ ☐ bipegileng?. EE NNYAA
4. A o kganelwa go tsaya sepe sa boiphemelo? EE ☐ NNYAA ☐
5. Go na le thulaganyo tse o tshwanetseng wa feta ka tsone pele ga o ka ya go kopa ditirelo tsa SRH ? EE ☐ NNYAA ☐
6. O tsaya lebaka le le kae pele o ka bona thuso kwa kokelwaneng? 10 mins ☐ 10-15 mins ☐ 15 to 30 mins ☐ Gofeta 30 mins ☐
7. A yo o go fang ditirelo o tsaya matshwenyego a gago ka tlhwaafalo? EE ☐ NNYAA ☐
8. A o kgotsofalela ditirelo tse o di fiwang? EE ☐ ☐ NNYAA

DIKGORELETSI MO GO FENG BANANA DITIRELO

1. A o thokiwa go bo bo o na le tumalano le batsadi fa o neelwa tirelo epe ya tsa tlhakanelo dikobo le tsholo? EE ☐ NNYAA ☐
2. A kokelwana e na le lefelo ka bonosi le ka lone banana ba neelwang ditirelo? EE ☐ NNYAA ☐
3. A go na le kgonagalo ya gore ope fela a utlwe se le buang ka sone ntle le yo o go fang ☐ ditirelo? ☐ EE NNYAA
4. A o kgotsafalela ka fa kokelwana e go bipileng ka teng? EE NN☐AA ☐

5. A bagolo mo motseng ba ema nokeng ditirelo tsa tlhakanelo dikobo le tsholo tsa banana? EE ☐ NNYAA ☐
6. A o akanya gore go na le dikgoreledi / dikgwetlho dingwe tse banana ba kopanang le tsone fa ba kopa ditirelo? EE ☐ NNYAA ☐

Dingwe tsa ditsela tse di ka dirisiwang go kganela boimana jwa bana ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabongwe

1. Go ka dirwang go tokafatsa kitso ka ditlamorago tsa boimana jwa bana ba dingwaga tse di lesome le boraro go ya kogo lesome le borobabongwe ?*Tshwaya karabo ya gago*

   Thuto ka tlhakanelo dikobo e babalesegileng mo dikolong. EE ☐ NNYAA ☐

   Go ama dipharologanyo tse di leng teng ka tsa bong?

   EE ☐ NNYAA ☐

   Gotokafatsa puisano gareng ga bana le batsadi. EE ☐ NNYAA ☐

   Go dirisa maranyane go ka ruteetsa bana ba dingwaga tse di lesome go ya ko go lesome le boferabongwe. EE ☐ NNYAA ☐

2. Go ka tokafadiwa fa kae gore bana ba dingwaga tse di lesome go ya ko go lesome le boferabongwe, ba kgone bona ditlamelo? *Tshwaya karabo ya gago*

   Go tokafatsa ponogalo ya ditlamelo le tshedimosetso ya bana ba dingwaga tse di lesome go ya ko go lesome le ☐ boferabongwe .

   Go akareetsa batsadi le sechaba. ☐

   Go ama kgotsa go itebaganya le dikgang tsa tlhoko tekatekano ya bong. ☐

Go rutuntsha badiredi mo go neeleng banana ditirelo tse di amang tlhakanelo dikobo le tsholo. ☐

Go neela dirisiwa tsa boiphemelo mo dikolong. ☐

APPENDIX 7: QUESTIONNAIRE FOR KEY INFORMANTS (NURSES)

Adapted from Habitu, Yalew & Bisetegn (2017)

Facility: …… Types of Facility: Clinic ☐ Health Post ☐

Designation: …… Date: …….

Questionnaire Code……

Awareness among teenage girls on risks associated with teenage pregnancy

1. Do you think youths understand the consequences of teenage pregnancy? Yes…. No….

   If No, what can be done to improve their understanding? Tick your answer/s

Use of peers in health education….. Involving parents…. Strengthening health education….

2. Is there a peer education/ counselling programme in your facility
3. Which educational materials are available in your facility?

   Posters…. Videos…. Pamphlets…. Anatomical models….
4. Do you check if teenagers understand the information on the materials Yes…. No….
5. Do you spend enough time with teenage clients? Yes…. No….

Teenage girls access to SRH information and services

1. Are the facility hours convenient for the youth? Yes…. No….
2. Is the facility conveniently located for all the youths? Yes…. No….
3. Are teenagers attended separately from general consultations? Yes…; No…..
4. Does the community support youth in seeking SRH services? Yes…. No….
5. Are there guidelines for providing ASRH services? Yes…. No….

Barriers to utilization of SRH services among teenage girls

1. Is there sufficient space for privacy in the facility Yes…. No….is the environment comfortable for teenagers Yes…. No….
2. Are you trained to work with youths? Yes…. No….
3. Are staff members and the community supportive to teenagers seeking ASRH services?

   Yes…. No….

4. Do you provide adequate confidentiality of information for teenagers in your facility? Yes…. No….
5. What improvements can be made to improve reduce the occurrence of teenage pregnancy? *Tick your answer/ answers*

   Improve teenagers' access to information and services….

   Involve parents and the community….

   Address gender inequality….

   Training service providers on the provision of Adolescent Sexual Reproductive Health….

   Providing contraceptives in schools….

   Involve teenagers in decision making….

   Other…….

APPENDIX 8: BUDGET

ITEM	**COST (BWP)**
Translation of tools	300
Stationery	400
Meals	350
Supplementary (miscellaneous)	1000

Data Collection	1200
Fuel	2000
TOTAL	**5250**

APPENDIX 9: TIME LINE

ACTIVITY	**DEC 2021**	**JAN 2022**	**FEB 2022**	**MARCH 2022**
Develop items for survey				
Review and translate tools to vernacular language				

Pre-test tools				
Program software for survey				
Data collection				
Statistical analysis				
Dissemination of report				