

Knowledge and Awareness of Contraceptives among Teenagers at the Selected School in Mopani District, Limpopo Province, South Africa



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Abstract:

Introduction: The knowledge and awareness of contraceptives among teenagers in South Africa remain a major problem, as evidenced by the continuing increase in teenage pregnancy incidences. The purpose of the study was to assess the knowledge and awareness regarding contraceptives among teenagers at Matome Malatji, in Mopani District, Limpopo Province.

Methods: A Quantitative approach was applied in this study to assess the knowledge and awareness regarding contraceptives among female teenagers at Matome Malatji High School. The research design used was a cross-sectional descriptive design. The study was conducted at Matome Malatji High School. Matome Malatji High School is a public high school located in Maseke Village, Phalaborwa town, Mopani District, Limpopo Province. The target population consisted of male and female teenagers from grades 8 to 12 at Matome Malatji High School. The school had 669 learners, with 400 females and 269 males. The study employed stratified random sampling with a 50% proportional allocation. The study included female and male teenagers between the ages of 13 and 19 years at Matome Malatji High School. A questionnaire was used as a tool to collect data. Descriptive statistics were used to analyse the data. Ethical considerations included obtaining permission to conduct the study, obtaining informed consent, completing an asset form, and ensuring autonomy.

Results: On average, most respondents, 54,30%, indicated “yes” to the questions regarding the knowledge of contraceptives.

Discussion: On average, most respondents, 54,30%, indicated “yes” to the questions regarding the knowledge of contraceptives. The research findings, indicating a 54.3% knowledge score of contraceptives among teenagers in a selected high school in Mopani District, Limpopo Province, South Africa, highlight the need for improved knowledge and awareness of contraceptives among this demographic.

Conclusion: The findings revealed that the teenagers had a moderate level of knowledge about contraceptives, with a score of 54.30%. The study highlights the need for comprehensive sex education programs that provide accurate and unbiased information about contraceptives and reproductive health. The involvement of parents and guardians in providing information and support to teenagers regarding contraceptives and reproductive health is also crucial.

Keywords: Attitude, Awareness, Contraceptive knowledge, Teenagers, Teenage pregnancy incidences, Reproductive health, Transmitted infections.

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1. INTRODUCTION

All teenagers worldwide have the right to sexual and reproductive health. Their choices regarding sexual and reproductive health can have a major influence on their total health and wellness, academics, and economy [1]. Teenage sexual and reproductive health includes various aspects such as being free from unwanted/unintended abortions that are not safe, sexually transmitted infections, and all forms of violence [2].

The adolescent years are a critical period of physical, emotional, and social development, during which teenagers are exposed to various health risks, including unintended pregnancies and Sexually Transmitted Infections (STIs) [3]. Access to accurate information about contraceptives is essential for teenagers to make informed decisions about their reproductive health (Kumar *et al.*, 2020) [4]. However, many teenagers lack knowledge about contraceptives, which can lead to increased risk of unintended pregnancies and STIs [5].

The knowledge and awareness of contraceptives among teenagers in South Africa remains a major problem, as evidenced by the continuing increase in teenage pregnancy incidences. According to Pleaner, Kutwayo, Beksinska *et al.* (2022), teenage pregnancies are a major problem affecting both developing and developed countries [6]. An estimated 12 million teenagers aged 15-19 years and about 777,000 teenagers under 15 years of age give birth each year in developing countries [7]. About 10 million unplanned pregnancies occur each year among teenage girls aged 15-19 years in developing countries [7].

The knowledge regarding contraceptives is considered the first step in choosing an appropriate contraceptive method. Inadequate knowledge and awareness about contraceptives are associated with the non-use of contraceptives among teenagers [8]. The study conducted at Indian tertiary institutions indicated that only 69% of women registered had knowledge about various methods of contraceptives [9]. A study conducted in Adama about the knowledge of contraceptives indicated that 63.6% of females had good knowledge about contraceptives, while 36.4% had poor knowledge regarding contraceptives. The ineffectiveness and inconsistencies regarding the utilization of contraceptives among teenagers may be due to limited knowledge about contraceptives and unfavorable attitudes towards contraception [10]. Lack of utilization of contraceptives, use of less effective methods, and lack of consistency in the use of contraceptives contribute to the high incidence of unplanned pregnancies.

South Africa has one of the highest rates of teenage pregnancy in the world, with approximately 30% of teenagers giving birth before the age of 20 [11]. The Mopani District in Limpopo Province has been identified as one of the areas with high rates of teenage pregnancy [12]. The South African government has implemented various initiatives aimed at improving access to reproductive health services, including contraceptives, for teenagers [13]. However, despite these efforts, many teenagers remain unaware of the available contraceptive options and how to access them [14].

In South Africa, Limpopo Province, Mopani District, the schools continue to have a high rate of teenage pregnancy, and the numbers are increasing rapidly despite the government's strategies to reduce the number of unplanned and unintended pregnancies, such as making contraceptives a human right, basic to human dignity. This shows that South African teenagers are resistant to the use of contraceptives [15]. Therefore, this study aimed to assess the knowledge and awareness of contraceptives among teenagers at Matome Malatji, in Mopani District, Limpopo Province.

2. MATERIAL AND METHODS

2.1. Research Approach and Design

Quantitative approach was applied in this study to assess the knowledge and awareness regarding contraceptives among female teenagers at Matome Malatji High School. The research design used was a cross-sectional descriptive design. According to Brink, Van Ver Walt, and Van Rensburg (2018), the quantitative research approach can be used to identify patterns and means, to predict and test relationships of variables, and to summarize results of a large population [16]. Furthermore, quantitative research puts emphasis on objective measurements and numerical analysis of data collected through questionnaires or surveys. According to Burns and Grove (2011), the descriptive designs may be used to determine the problems in recent practices, to justify the recent practice, and to determine what other researchers are doing in the same situation [17].

2.2. Research Setting

The study was conducted at Matome Malatji High School. Matome Malatji High School is a public high school that is located at Maseke Village, Phalaborwa town, Mopani District in Limpopo Province.

2.3. Research Population

The target population consisted of male and female teenagers from grades 8 to 12 at Matome Malatji High School. The school has 669 learners, with 400 females and 269 males.

2.4. Research Sample and Sampling Method

The study used stratified random sampling. The teenage males and females were divided according to grades and age, and were selected based on a 50% proportional method. The fishbowl method was used to select the respondents in each class until the total sample size reached 256. The respondents were divided according to the grades as indicated in Tables 1 and 2.

Total sample size: 226 learners.

The sample size was approved by the University of Venda Ethics Committee.

2.5. Inclusion and Exclusion Criteria

The study included female and male teenagers between the ages of 13-19 years at Matome Malatji High School. Both genders were selected because they are the

ones who use contraceptives more, and both genders are affected by teenage pregnancy. Those who refused to sign the informed consent, or whose parents could not sign the consent form, were excluded from the study.

Table 1. Proportional sampling according to grades (Females).

Grade	Number of Females between the Ages of 13 to 19	Proportional Sample (50%)
Grade 8	39	20
Grade 9	36	18
Grade 10	70	35
Grade 11	54	27
Grade 12	24	12
Total	223 females learners	112 learners

Table 2. Proportional sampling according to grades (Males).

Grade	Number of Males between the Ages of 13 to 19	Proportional Sample (50%)
Grade 8	91	45
Grade 9	40	20
Grade 10	84	42
Grade 11	47	24
Grade 12	25	13
Total	287 male learners	144 learners

2.6. Research Tool

A questionnaire was used as a tool to collect data. Questionnaires were distributed with rating scales to assess the knowledge and awareness regarding contraceptives. The questionnaire was in English as it is the medium of instruction at the school. It was also translated into Sepedi so that the lower-grade learners could understand better. The measuring instrument was based on the objectives of the study. The questionnaire included 2 sections, namely demographic and knowledge and awareness regarding contraceptives. The instrument tool was designed by the researcher, guided by the previous data collection tools.

2.7. Pre-testing of the Instrument

In this study, questionnaire was filled out by 10% female and male learners of the sample size for the pre-test. The respondents were purposively sampled at the nearby High School (Lepato M High School) as they share the same characteristics. The purpose of conducting this pre-test was to determine whether the respondents would understand the questions on the questionnaire and to also verify if the questions would produce the expected results.

2.8. Validity and Reliability

In this study, validity was ensured by means of face and content validity. Test re-test method was used to measure the consistency of the instrument. The instrument was given to the same participants three (3) weeks

apart to measure the accuracy and consistency of the questionnaire to check if it would produce the same results over time.

2.9. Research Procedure

After obtaining permission from the Department of Education and the school principal, the researcher visited the school to request learners' consent. The researcher explained his intentions to the learners. The nature and aim of the study were explained in detail, including ethical issues. All respondents were asked to sign a consent/assent form before participating in the study, to confirm that they understood the nature, aim, and process of the study. The researcher asked for consent from the parents of respondents who were minors to sign a consent form (assent form) for their minor children to participate in the study. The parents were invited for a meeting 2 days before the day of data collection in order to give consent for their minors. The questionnaire was completed in the presence of the researcher, and clarity was provided where necessary, ensuring that the questionnaires were completed. The questionnaires were completed after school to minimize disruptions to school activities. The questionnaire took 45 minutes to complete.

2.10. Data Analysis

Data analysis was conducted by the researcher, and all data from the questionnaire were entered into SPSS version 26. Descriptive statistics were used to analyse the data. Results obtained from data analysis were presented in the form of tables, graphs, and charts. The researcher chose this method of data analysis to avoid being bias when analysing data.

2.11. Ethical Considerations

2.11.1. Permission to Conduct the Study

The permission to conduct the study was requested from the Limpopo Department of Education, the school, the parents (for teenagers younger than 16), and the teenagers. Permission was also requested from Namakgale Circuit through the Office of the Director, Mopani District, to conduct the study. The letter was written to the principal of the school and the circuit manager to request permission to conduct the study at the school. The ethical clearance was obtained from the University of Venda. Informed consent was given to the respondents and their parents (Younger than 16 years).

2.11.2. Informed Consent

In this study, all the respondents were given full information about the study, including the aims, objectives, methodology, risks, and benefits of the study, and thereafter were given a consent form to sign before data collection.

2.11.3. Assent Form

For learners below the age of 16, assent forms were signed by parents, as, according to the law of South Africa, they are still considered minors and cannot give permission.

2.11.4. Privacy and Confidentiality

All the filled questionnaires and documents were kept in a locked cupboard. Only the researcher, supervisor, and the University could access them. The questionnaires did not contain the names of the respondents. Respondents were identified through letters or numbers. No information was disclosed without the permission of the respondents.

2.11.5. Autonomy and Respect for Participants

The respondents were given full information concerning the study. Informed consents were given, and the respondents had the right to withdraw from the study.

2.12. Sager Guidelines

Following the SAGER guidelines (Heidar *et al*, 2016), sex and gender information were reported separately [18].

3. RESULTS

3.1. Demographic Data

In relation to the demographic data, respondents were asked to indicate their age, gender, race, religion, grade level, sexual activity, and the number of pregnancies.

3.1.1. Grade and Gender

Table 3 shows that Grade 8 had 65 respondents, with 45 males (17.58%) and 20 females (7.81%). Grade 9 had 38 respondents, with 20 males (7.81%) and 18 females (7.03%). Grade 10 had 77 respondents, with 42 males (16.41%) and 35 females (13.67%). Grade 11 had 51 respondents, with 24 males (9.38%) and 27 females (10.55%). Grade 12 had 25 respondents, with 13 males (5.08%) and 12 females (4.69%). In total, from grades 8 to 12, there were 144 male respondents (56.25%) and 112 female respondents (43.75%).

Table 3. Respondents' grade and gender.

Grade	Male Frequency	Male Percentage(%)	Male Frequency	Male Percentage(%)
Grade8	45	17,58	20	7,81
Grade9	20	7,81	18	7,03
Grade10	42	16,14	35	13,67
Grade11	24	9,38	27	10,55
Grade12	13	5,08	12	4,69
Total	144	56.25	112	43,75

3.1.2. Age Group

Fig. (1) indicates that 41% (n=152) of the respondents were between the ages of 17 and 19 years, and 59% (n=104) were between the ages of 13 and 16 years.

3.1.4. Sexual Activeness

Fig. (2) shows that 50% (n=129) of the respondents are sexually active and 50% (n=127) are not sexually active.

3.1.5. Number of Teenage Pregnancies

Fig. (3) indicates that 35.94% (n=92) never fell pregnant, 5.86% (n=15) had one pregnancy, and 1.95% (n=6) respondents had one or more pregnancies. The question was not applicable to 56.25% (n=144) of the male respondents.

3.2. The Knowledge and Awareness Regarding Contraceptives

Table 4 presents the results of the questions asked to assess the knowledge and awareness of contraceptives among teenagers. The questions were structured in such a way that those who say "yes" display to have knowledge of contraceptives and those who say "no" do not have knowledge about contraceptives. The following were the questions:

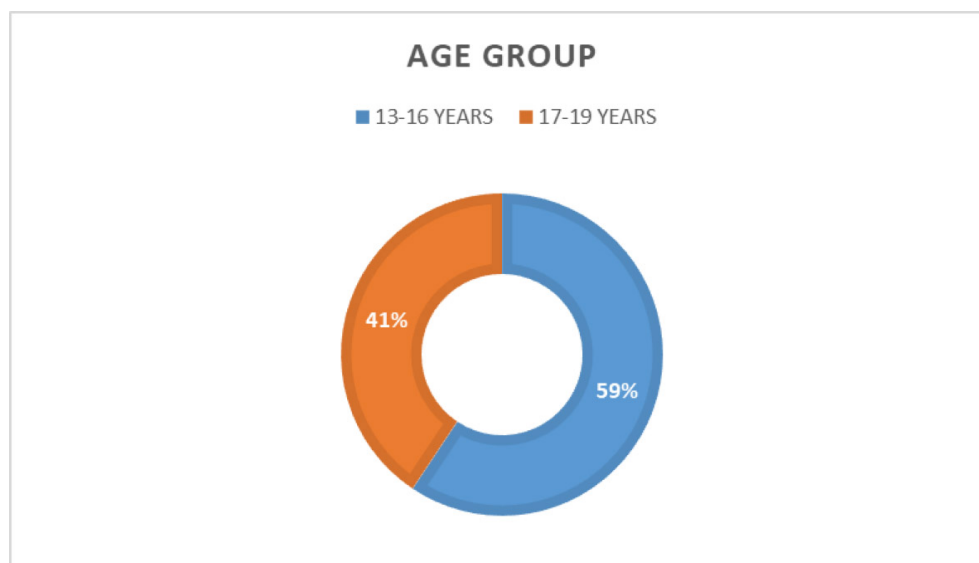


Fig. (1). Different age groups.

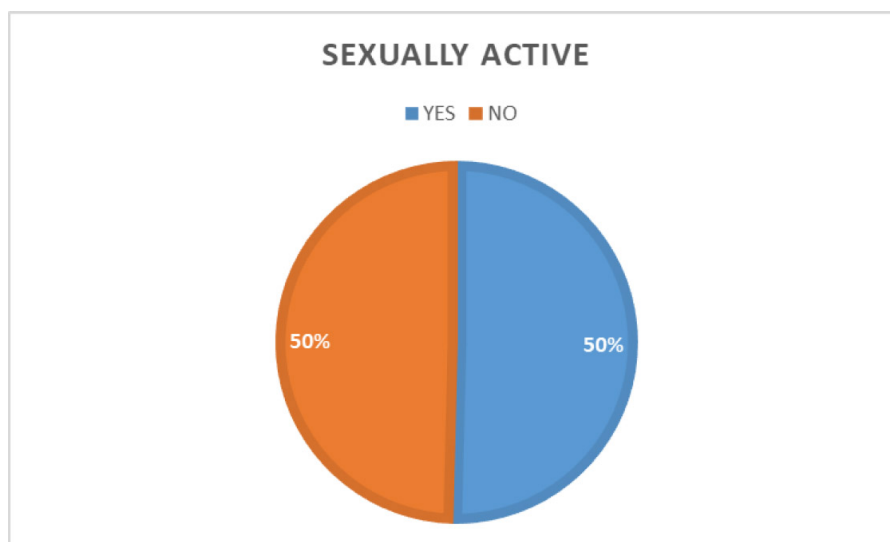


Fig. (2). The sexual activeness of the respondents.

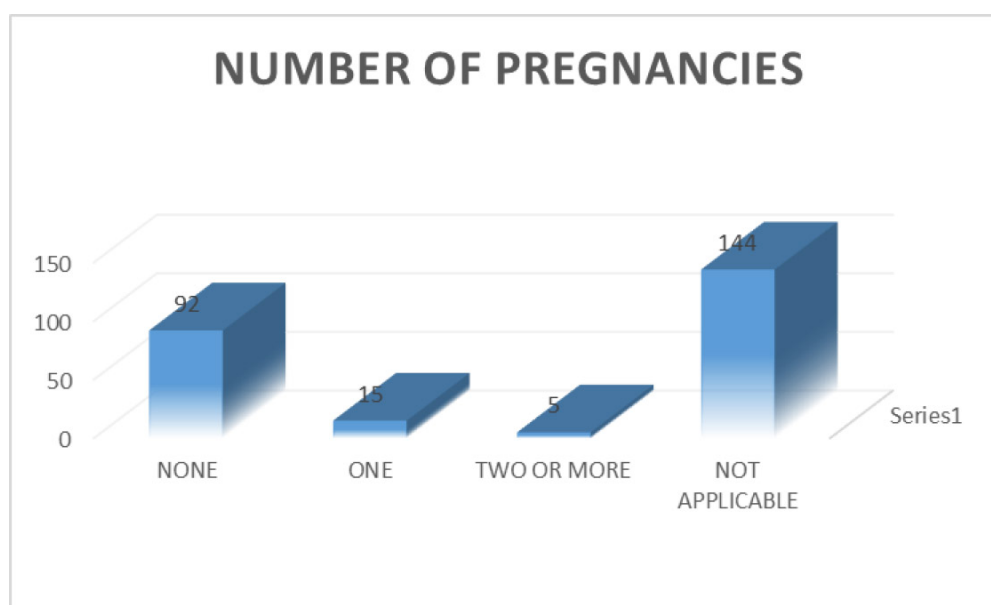


Fig. (3). The number of pregnancies among the respondents.

3.2.1. Do you know the Meaning of Contraceptives?

74.21% (n=190) of the respondents indicated that they knew the meaning of the contraceptives, while 25.78% (n=66) indicated that they did not know the meaning of the contraceptives.

3.2.2. Did you use Contraceptives before?

43.75% (n=112) of the respondents indicated that they have used contraceptives before, while 56.25% (n=144) indicated that they never used contraceptives.

3.2.3. Do you Know the Types of Contraceptives?

61.72% (n=158) of the respondents indicated that they knew the types of contraceptives, and 38.28% (n=98) indicated that they did not know the types of contraceptives.

3.2.4. Do you Know the Advantages and Disadvantages of Contraceptives?

35.94% (n=92) of the respondents indicated that they knew the advantages and disadvantages of the contraceptives, while 64.06% (n=164) of the respondents did not know.

Table 4. The results of the knowledge and awareness of the contraceptives among teenagers.

-	YES	NO
Do you know the meaning of contraceptives?	74.21% n=190	25.78% n=66
Did you use contraceptives before?	43.75% n=112	56.25% n=144
Do you know the types of contraceptives?	61.72% n=158	38.28% n=98
Do you know the advantages and disadvantages of contraceptives?	35.94% n=92	64.06% n=164
Do you know where to get information within regard to contraceptives?	69.14% n=177	30.86% n=79
Do you know the contraindications to contraceptives?	19.53% n=50	80.47% n=206
Do you learn about contraceptives in one of your subjects?	75.78% n=194	24.22% n=62
Average percentage	380.07/7=54.30%	319.92/7=45.70%

3.2.5. Do you Know where to get Information about Contraceptives?

69.14% (n=177) of the respondents indicated 'yes', while 30.86% (n=79) indicated 'no'.

3.2.6. Do you Know the Contraindications to Contraceptives?

19.53% (n=50) of the respondents indicated that they knew the contraindications of contraceptives, and 80.47% (n=206) indicated that they did not.

3.2.7. Do you Learn about Contraceptives in One of your Subjects?

75.78% (n=194) of the respondents indicated that they learn about contraceptives, while 24.22% (n=62) indicated that they do not learn about contraceptives.

4. DISCUSSION OF RESULTS

4.1. Demographic Data

The demographic data section consisted of the age group, gender, grade, sexual activeness, and number of pregnancies of the respondents. This data was significant to be included in the study to get an overview of the characteristics of the respondents, which may affect the knowledge and awareness of contraceptives among teenagers.

4.1.1. Age Group

The majority of the respondents were between the ages of 13 and 16 years, at 59% (n=152). This suggests that the school was dominated by teenagers between the ages of 13 and 16, which is the normal age range for High School. The study findings are similar to a study conducted by Stanford University (2013), which indicated that learners in Grade 5 range between the ages of 5 and 10, learners in Grades 6–8 range between 11 and 13, and learners from Grades 9 to 12 range between the ages of 14 and 18 [19].

4.1.2. Gender

The study found that the majority of the respondents were males, at 56.25% (n=144). This suggests that there are more males than females in the school. This might be because more females have dropped out due to various reasons, such as teenage pregnancy and poor progress. The findings of this study are supported by a recent study about the factors contributing to the high rate of female learners' dropout in rural areas, which indicated that female learners drop out for different reasons such as pregnancy, ill-health, and immigration [20]. A study by the Mail and Guardian (2022) supports the findings of this study, as it found that about 6 out of 10 teenagers drop out without school-leaving qualifications [21]. It further indicated that the high rate of school dropout in South Africa occurs in Grades 10 and 11, resulting in approximately 50% of learners in any given school year dropping out before reaching Grade 12.

4.1.3. Sexual Activeness

The study found that 50% (n=129) of the respondents were sexually active, while 50% (n=127) were not sexually active. This suggests that some teenagers are sexually active while some are not. The findings of the results are similar to a study conducted by The Centre for Disease Control and Prevention (2023), which found that about 30% of high school learners surveyed in 2021 had sex at least once, 48% of them did not use condoms, and 8% were forced to have sex [22]. The findings of the study were also supported by a study about sexual knowledge and practice of adolescent learners in a rural South African School, which found that 26,6% of the respondents were sexually active and 24% once engaged in sexual activity. The mean age for first-time sexual intercourse was 15.2±2.3 [23].

4.1.4. Number of Pregnancies

The study found that 35.94% (n=92) never fell pregnant, 5.86% (n=15) had at least one pregnancy, while 1.95% (n=6) had two or more pregnancies. This suggests that teenage pregnancy is still a problem in schools.

Teenage pregnancy continues to occur in schools, and this is a serious concern in South Africa [24]. The rate of teenage pregnancy in South African schools remains very high, with more than 36,000 babies delivered to girls aged 10 to 19 in the first quarter of 2021 [25].

4.2. The Knowledge and Awareness Regarding Contraceptives

On average, most respondents, 54.30%, indicated “yes” to the questions regarding the knowledge of contraceptives. The research findings, indicating a 54.3% knowledge score of contraceptives among teenagers in a selected high school in Mopani District, Limpopo Province, South Africa, highlight the need for improved knowledge and awareness of contraceptives among this demographic [26]. This suggests that teenagers have little knowledge regarding contraceptives. Several factors contribute to the knowledge and awareness of contraceptives among teenagers. A study by Mshweshwe-Pakela *et al.* (2017) found that respondents were aware of different contraceptive methods, but lacked knowledge about emergency contraceptives, intra-uterine devices, and female condoms [27]. Another study by Ramathuba *et al.* (2012) revealed that pressure from male partners, fear of parental reaction, reluctance to use contraceptives, poor contraceptive education, and lack of counselling were seen as the main causes of ineffective contraceptive use and non-utilization [28].

These study findings are similar to the findings of a recent systematic review about the knowledge of contraceptives in teenagers, which indicated that most teenagers have a slight knowledge about contraceptives; however, this is not well documented [29]. Another cross-sectional study in North and South Kivu, Democratic Republic of Congo, supports the findings of this study as it has found that most teenagers have modest knowledge about contraceptives, with over 90% of all racial groups being able to name at least one modern type of contraceptive [30].

Despite having some knowledge about contraceptives, teenagers face various barriers to effective contraceptive use. A study by Mamabolo (2019) found that the majority of learners had misperceptions about the details and safety of Emergency Contraceptive Pills (ECPs) [26]. This highlights the need for accurate and comprehensive information about contraceptives.

5. STUDY LIMITATIONS

The study had several limitations. The sample size was relatively small, and the study was conducted in only one high school in Mopani District. Future studies should aim to recruit a larger sample size and conduct the study in multiple settings. Time constraints influenced the study.

CONCLUSION

The study aimed to assess the knowledge and awareness of contraceptives among teenagers in a selected high school in Mopani District, Limpopo Province, South Africa. The findings revealed that the teenagers had a moderate level of knowledge about contraceptives, with a score of 54.30%.

The study highlights the need for comprehensive sex education programs that provide accurate and unbiased information about contraceptives and reproductive health. The involvement of parents and guardians in providing information and support to teenagers regarding contraceptives and reproductive health is also crucial. The findings of this study are consistent with previous research that has shown that teenagers in South Africa have limited knowledge about contraceptives and reproductive health [26, 28]. The results of the study also underscore the importance of addressing the barriers to effective contraceptive use, such as providing contraceptive counselling and care, to empower teenagers to make informed choices about reproductive health.

Future studies should aim to develop and implement comprehensive sex education programs that provide accurate and unbiased information about contraceptives and reproductive health. Additionally, research should focus on addressing the barriers to effective contraceptive use and evaluating the effectiveness of contraceptive counselling and care in empowering teenagers to make informed choices about reproductive health.

The findings of this study have implications for policy and practice. Policymakers and healthcare providers should prioritize the development and implementation of comprehensive sex education programs that provide accurate and unbiased information about contraceptives and reproductive health. Additionally, healthcare providers should ensure that contraceptive counselling and care are provided to teenagers to empower them to make informed choices about reproductive health.

AUTHORS' CONTRIBUTIONS

The authors confirm their contribution to the paper as follows: L.M.: Conceived and designed the study and collected the data; L.M., A.M., and T.T.: Performed data analysis and interpretation; L.M. and A.M.: Developed the methodology; T.T.: Conducted the investigation; L.M. and A.M.: Drafted the manuscript. All authors reviewed the results and approved the final version of the manuscript.

ABBREVIATION

STIs = Sexually Transmitted Infections

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical clearance was obtained at the University of Venda South Africa. Ethical clearance number: FHS/23/PH/06/0407.

HUMAN AND ANIMAL RIGHTS

All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from all subjects involved in the study. The researcher asked for consent

from the parents of respondents who were minors to sign a consent form (assent form) for their minor children to participate in the study.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data sets used and/or analysed during this study are available from the corresponding author [L.M.] upon reasonable request.

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CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

REFERENCES

- [1] Sexual and reproductive health: Young people need their sexual and reproductive health and rights. 2021. Available from: <https://www.ohchr.org/en/stories/2021/05/young-people-need-their-sexual-and-reproductive-health-and-rights>
- [2] Adolescent sexual reproductive health. 2022. Available from: <https://who.in/southeastasia/activities/adolescent-sexual-reproductive-health>
- [3] Adolescent health. 2020. Available from: https://www.who.int/health-topics/adolescent-health#tab=tab_1
- [4] Kumar A, Singh A, Kumar P. Knowledge and awareness of contraceptives among adolescents in India. *J Family Med Prim Care* 2020; 9(3): 1331-6.
- [5] Mchunu G, Mabaso M. Factors influencing contraceptive use among adolescents in South Africa. *J Adolesc Health* 2020; 66(4): 531-6.
- [6] Pleaner M, Kutwayo A, Beksinska M, Mabetha K, Naidoo N. Contraception knowledge and uptake among in school adolescents in three South African Townships: Baseline findings from girls achieve power (Gap) Trial. *Gates Open Res* 2022; 6: 67. <http://dx.doi.org/10.12688/gatesopenres.13588.2> PMID: 37249956
- [7] Darroch J, Woog V, Ashford LS. Adding it up: Costs and benefits of meeting contraceptive needs of adolescents. 2016. Available from: https://www.guttmacher.org/report/adding-it-meeting-contraceptive-needs-of-adolescents?utm_source=Master%20List&utm_campaign=5049803929-NR_AIUU_20165_16_16&utm_medium=email&utm_term=0_9ac83dc920-5049803929-244293497
- [8] Gallo MF, Nguyen N, Steiner MJ. Knowledge of contraceptive effectiveness and method use among women in Hanoi, Vietnam. *Contraception* 2019; 100: 100009. <http://dx.doi.org/10.1016/j.conx.2019.100009>
- [9] Birth control methods. 2021. Available from: <https://www.womenshealth.gov/a-z-topics/birth-control-methods>
- [10] Guzzo KB, Hayford SR. Adolescent reproductive and Contraceptive Knowledge and Attitudes and adult contraceptive behaviour. *Matern Child Health J* 2018; 22(1): 32-40. <http://dx.doi.org/10.1007/s10995-017-2351-7> PMID: 28755044
- [11] Integrated School Health Programme (ISHP). 2020. Available from: <https://www.education.gov.za/Programmes/CareandSupport/HealthPromotion/IntegratedSchoolHealthProgramme.aspx>
- [12] Annual report 2019/2020. 2020. Available from: https://provincialgovernment.co.za/department_annual/908/2020-1
- [13] impopo-health-annual-report.pdf
- [14] Mashamba-Thompson TP, Tumbo JM. Contraceptive use and awareness among adolescents in South Africa. *Afr J Reprod Health* 2020; 24(1): 115-23.
- [15] Harries J, Constant D, Wright V, Morroni C, Müller A, Colvin CJ. A multidimensional approach to inform family planning needs, preferences and behaviours amongst women in South Africa through body mapping. *Reprod Health* 2019; 16(1): 159. <http://dx.doi.org/10.1186/s12978-019-0830-6> PMID: 31694648
- [16] Brink H, van Resburg G. Fundamentals of research methodology for health care professionals. (5th ed.), 5th ed. Cape Town: Juta 2018.
- [17] Burns N, Grove S. Understanding nursing research: Building an evidence-based practice. (5th ed.), 5th ed. St Louis, MO: Elsevier Saunders 2011.
- [18] Heidari S, Babor TF, Castro PD, Tort S, Curno M. Sex and gender equity in research: Rationale for the SAGER guidelines and recommended use. *Res Integr Peer Rev* 2016; 1: 2. <http://dx.doi.org/10.1186/s41073-016-0007-6> PMID: 29451543
- [19] Programs for high school students. 2023. Available from: <https://eso.stanford.edu/programs/high-school-students>
- [20] Mokoena P, van Breda AD. School dropout among female learners in rural Mpumalanga, South Africa. *S Afr J Educ* 2021; 41(3): 1842. <http://dx.doi.org/10.15700/saje.v41n3a1842>
- [21] School dropout rate improved by 10% compared with pre-Covid levels. 2022. Available from: <https://mg.co.za/news/2023-04-18-school-dropout-rate-improve-by-10-compared-with-pre-covid-levels/>
- [22] Diagnoses of HIV infection in the United States and dependent areas. 2020. Available from: <https://stacks.cdc.gov/view/cdc/121127>
- [23] Li Z. The use of contraceptives among adolescence. *JAMA Netw Open* 2020. <http://dx.doi.org/10.1001/jamanetworkopen.2019.21437> PMID: 32074290
- [24] Nkosi NN, Pretorius E. The influence of teenage pregnancy on education: Perceptions of educators at a secondary school in Tembisa, Gauteng. *Soc Work* 2019; 55(1): 108-16. <http://dx.doi.org/10.15270/55-1-698>
- [25] Barron P, Subedar H, Letsoko M, Makua M, Pillay Y. Teenage births and pregnancies in South Africa, 2017 - 2021 - a reflection of a troubled country: Analysis of public sector data. *S Afr Med J* 2022; 112(4): 252-8. <http://dx.doi.org/10.7196/SAMJ.2022.v112i4.16327> PMID: 35587803
- [26] Mamabolo PR. Knowledge of emergency contraceptives among secondary school learners in the rural area of Moleletj Mashashane, Limpopo Province, South Africa. *S Afr J Obstet Gynaecol* 2019; 25(2): 1-5.
- [27] Mshweshwe-Pakela N, Matlakala M, Mbengo F. Attitudes to, and knowledge and use of contraception among female learners attending a high school in Mdantsane. *Afr J Nurs Midwifery* 2017; 19(1): 170-89. <http://dx.doi.org/10.25159/2520-5293/685>
- [28] Ramathuba DU, Khoza LB, Netshikweta ML. Knowledge, attitudes and practice of secondary school girls towards contraception in Limpopo Province. *Curationis* 2012; 35(1): 45. <http://dx.doi.org/10.4102/curationis.v35i1.45> PMID: 23327767
- [29] Atuhaire S, Ngendakumana J, Galadima A, Adam A. Knowledge and attitude towards contraceptive use among adolescents in Africa: A systematic review. *Int J Reprod Contracept Obstet Gynecol* 2021; 10(11): 4292-303. <http://dx.doi.org/10.18203/2320-1770.ijrcog20214349>
- [30] Casey SE, Gallagher MC, Kakesa J, et al. Contraceptive use among adolescent and young women in North and South Kivu, Democratic Republic of the Congo: A cross-sectional population-based survey. *PLoS Med* 2020; 17(3): e1003086. <http://dx.doi.org/10.1371/journal.pmed.1003086> PMID: 32231356