Asian Pac. J. Health Sci., 2017; 4(3):269-278 e-ISSN: 2349-0659, p-ISSN: 2350-0964

Document heading **doi: 10.21276/apjhs.2017.4.3.41** **Research Article**

Awareness study on the availability, prevalence and knowledge in use of contraceptives among female adolescent pupils in Ndola, Zambia

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Received: 17-06-2017 / Revised: 28-06-2017 / Accepted: 13-09-2017

ABSTRACT

Adolescents in Zambia face numerous sexual and reproductive health risks, stemming from early and unprotected sexual activities. The engagement in these casual sex practices has contributed to high incidences of abortion, unwanted pregnancies and subsequently, a higher numbers of dropouts from school among female adolescents. Key factors underlying with this problem is the paucity of knowledge on sexual education amongst these age groups, coupled with the taboo cultures surrounding the free accessibility and use of contraceptives. The main objectives of this study were: (a) to determine the availability of contraceptives amongst teenagers in schools, (b) the prevalence and preference in contraception use and (c) the extent of knowledge at which contraceptives were known among pupils. To this effect, a cross-sectional study was carried out at Kanini Secondary school in Ndola, Zambia. Using a questionnaires with standard questions featuring over 12 contraceptive methods, data was collected from a total of 110 pupils, aged 13 to 18 who were randomly selected from grades 10 to 12. A statistical package of SPSS for windows, version 20 was used to enter and analyze data. Categories of variables were compared using the Pearson's Chi-Squared Test and only the significance of p-value < 0.05 were considered. Results on the awareness and prevalence of contraception among teenagers showed that oral contraceptive pills, male and female condoms were highly significant with p-value < 0.000 while injectable and natural contraceptives were only significantly known at p-values 0.010 and 0.002, respectively. Despite the awareness of existing contraceptives however, only 12.7% of respondents had shown interest in using contraception while 87.3% were for the idea of unprotected sex. A further choice of 25 sexually active adolescents from the 110 pupils revealed that the non-use of contraceptives was almost 50 by 50, with 40.0% of pupils found not using contraception each time they had sex. Compounding reasons were that 87.3% of respondents that did not use contraception felt that the practice was weird and bad while only 17.7% of respondents felt that the use of contraception was a good. Worse still, the frequency ratio of unprotected sex was 14:1, between the vulnerable ages of 13 and 15 to 18 year olds. Results of this study represent a general perception among pupils in the urban, peri-urban and rural schools of Ndola district in Zambia.

Key words: Contraceptive, sex, pupils, adolescent, knowledge, prevalence, schools, Zambia.

Introduction

Contraception is defined as the prevention of pregnancy, using several artificial methods. Moreover, contraception can be categorized into temporal, long-active reversible (LARC) and permanent measures, performed on both male and female.

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These contraception range from male or female condoms, intrauterine device (IUD), oral contraceptives (birth control pills), tubal litigation or other natural methods such as abstinence, withdraw method of the woman's known fertile period and several other devices used to prevent pregnancy [1,2,3]. Ideal contraceptive methods should fulfill the following criteria: widely acceptable, inexpensive, simple to use, safe, highly effective and requiring minimal motivation, maintenance and supervision [4]. Furthermore, contraception and fertility control are not Synonymous. Fertility control includes both fertility inhibition (contraception) and fertility stimulation.

While the fertility stimulation is more related to the problem of the infertile couples [5]. Concerted efforts were made on contraception use in Zambia, effective from 1992 till 2007. Following the statistical revelations from Zambia Demographic Health Survey (ZDHS), an exponential increase was steadily recorded in contraceptive use among women from 15% in 1992, to 26% in 1996 and 34% in 2001-2002, to the rate of 41% in 2007 [6]. Nevertheless, results of other recent studies still showed that contraceptive prevalence among sexually active persons was only at 34% while the unmet need for family planning was 27% [7,8]. Unfortunately, these studies on health challenges in Zambia have mostly concentrated on couples and individuals older than 20 years, excluding adolescents who are believed to be too young for such contents.

In addition, the Ministry of Education policy in Zambia does not allow distribution of condoms in lower institutions and mainly encourages abstinence amongst school pupils. However, the commonly obtaining picture on the ground is that most adolescents would not choose to postpone sexual activities [9]. Also, the educational syllabi, as directly related with the Christian religion in Zambia, are more inclined to cultural values that envisage the sexual act for young and unmarried couples, unethical and a taboo. On the contrary however, recent results have indicated that the increase in numbers of teenagers being recorded on the abstinence campaign, the more this age group would want to indulge into the prohibited sexual practice [10]. Meanwhile, adolescents are freely left to watch unmoderated TV films, which might be contributing on teenagers' behavior change towards earlier sexual engagement [11,12]. To date, a controversial question still lingers on whether we are teaching what is safe for our Zambian adolescents or not [13]? The bottom line is that casual and unprotected sexual activities among most juveniles begin much earlier than their parents may expect [14].

To this effect, several studies have shown that age of the first intercourse is reducing, suggesting that today's young adults are becoming sexually active at an increasingly younger age [15]. In many parts of the developing world, the combination of cultural beliefs, socioeconomics, poverty and national conflicts are the main factors exacerbating the adolescents' engagement in unprotected sex and subsequently exposing them to numerous sexually transmitted diseases (STDs) [16,17,18]. With all these prevailing artificial restrictions on the plight of adolescents to accessing and using contraception, it is evident in some studies that only few female teenagers secretly use contraceptives, putting the rest at risk of unplanned pregnancies, criminal abortions and eventually dropping out from school [15,19].

Of late however, the mirth on the acceptability and use of contraceptives among adolescents in Zambia is far from fetch. The unprotected sex among pupils is skyrocketing, with recent revelations by the Ministries of health and that of Education, showing that teenage pregnancies, the number of younger mothers and the subsequent female pupils' dropouts from school is on the increase in some Provinces of the country [20,21,7,22,23]. In this study, we aimed at promoting free sensitization on the accessibility and use of contraception among adolescent pupils in the secondary school set up, comprising respondents from the urban, peri-urban and rural district of Ndola, Zambia. This particular study will be a useful reference and eye opener, to sensitize a number of communities and relevant stake holders to relax on some stiffened cultural norms and attitude towards the adolescent sex practices.

Methods

Study area and population

The study was conducted at Kanini Secondary school in Ndola, a Zambian City which is located on the grid coordinates of 12º 58' 00"S and 28º38' 00"E. Its elevation is 4,300ft (1,300 m) above sea level with the population of 455,194 (2010 census provisions). The study population was 914 pupils which gave sample size of 120 pupils studying at this particular school. However, the final sample size came to 110 pupils aged 13 to 18 years. The pupils were randomly selected from grades 10 to 12 streams of this urban school. The learners at this school came from different areas including the urban, peri-urban and from other surrounding rural villages around Ndola district. Thus, the population was multicultural and formidably blending pupils from classes of: high, middle and low economical income families so that generally, a study was presumably representing the entire Ndola district.

Study design

The study design was a school based cross-sectional, observing the accessibility, prevalence in use and the extent at which various contraceptives are known by pupils. A questionnaires with standard questions was used when collecting data.

Ethical clearance

Ethical clearance to conduct this research was obtained from the Health Research and Ethics Committee of the Tropical Diseases Research Centre (TDRC) in Ndola. All procedures in the medical professional code of conduct involving engagement of respondents and confidentiality were followed accordingly.

Sample size and sampling

A Statcalc program in EPI INFO version 7.1.33 was used to estimate the sample size. The total population on the study area was 914 female pupils and the sample size that was calculated at 95% level of confidence level, marginal error of 5% and baseline levels was 120. Pupils were randomly selected from grades 10 to 12 streams. The sample size calculation were based on the following formulae:

$$\text{Sample size} = \frac{n}{1 + \frac{n}{\text{Population}}}$$

$$\text{Where } n = Z^2 \frac{P(1-P)}{e^2}$$

Data collection

A standardized questionnaire was used for data collection. Upon getting formal consent from parents of pupils that were less than 15 years old, information was gathered regarding the accessibility, prevalence in use of contraception and the extent at which pupils had knowledge of different contraceptives.

Data entry method and analysis

Data entry and analysis was done using SPSS for windows version 20. The Chi squared test was used to determine associations between categorical variables. Baseline characteristics of the study population were summarized using tables, bar graph, pie charts and frequencies. Cut off point for statistical significance was set at 5%.

Results

Results showed that 74.5% of pupils had heard of 4 or more of the contraceptives that were commonly talked about and only 25.5% had heard less than 3 methods (Fig. 6). The most popular methods highly significantly known at p-value 0.000 were the male condom, followed by female condom and oral contraceptive pills which were computed at 90.0%, 80.9% and 74.5%, respectively. The methods of withdrawal, lactational amenorrhea and diaphragm were rarely known among pupils, with p-values of 0.825, 0.353 and 0.226, respectively (Table 1). Despite the awareness of existing contraceptives among adolescents, only 12.7% of pupils had shown interest in using contraception during casual sex affairs while 87.3% did not (Fig. 4). Overall, only 22.7% of respondents confirmed of ever engaging in sex whilst 77.3% of pupils said had never had sex in their life time (Table 3 and Fig. 1). However, out of the 25 pupils that were involved in casual sex almost half or to be exact, 44.0% of them still practiced unprotected sex (Table 3). The most frequently used contraception among sexually active pupils were male condom, oral contraceptive pills and the natural family planning methods which were rated at 92.9%, 28.6% and 21.4%, respectively (Table 2 and Fig. 3). Results on the preference of contraception still showed that male condom ranked higher with 30.9%, followed by the oral contraceptive pills at 11.8% (Fig. 3). The highest percentage of 35.7% of pupils comfortably accessed contraceptives from places they were not known while those that obtained from local clinic and pharmacy were scored on par with 28.6% as the second preferred sources of contraception by pupils (Table 5). Only on the rare occasion did pupils get contraceptives from friends which was least scored at 7.1%. On contrary however, the source of information on the type of contraception was 40.1% sourced from friends than from the local Clinic, media and other sources which were computed at 29.4%, 16.7% and 13.7%, respectively (Table 6). Results of this study have shown that the age of first sexual encounter has reduced to 13 [15,19]. The trend shows that sexual frequencies can go up to 14 times when adolescents reach 15 years and steadily reducing to 0 when the reach 18 years. Similarly, their first contraception only starts at the age of 14 and continues at the frequencies of 7 and 4 at the ages of 15 and 16 years. It is evident that contraception use equally reduces to the frequency of 1 once pupils' attain the age of 18 years (Fig. 7; Table 7).

Discussion

To our knowledge, sexual activities among adolescents in Zambia are not condoned and hence the prevailing incidences recorded could only be a matter of chancing

or from less shy respondents due to the countrywide stigma instilled on the practice. This mirth on adolescent sex was also confirmed in this study when 82.3% of respondents, boldly confirmed that the use of contraception was bad (Table 3). This was also linked to a category of 35.7% of the sexually active pupils who contributed to the fact that they would rather access contraceptives somewhere they were not known (Table 5). Despite, the initiative of accessing contraceptives and the higher levels on the awareness of existing contraception in Ndola, 44.0% of pupils that engage in sex still practiced unprotected sex (Table 3). Our study concurs with that of Abiodun and Balogun (2009) [24], who reported that adolescents were aware of a wide range of contraceptives but only 25.4% were able to use them. Furthermore, the prevailing fact in this study which showed a lower percentage of only 22.7% of respondents, engaging in sex does not agree with concerns earlier raised by the Ministries of Health and that of Education [21,7], on the recorded higher numbers of school drop outs and adolescent mothers, shamelessly masquerading in villages and markets to make ends meet. Due to perceived adolescent stigma, coupled with shyness in revealing their sexual activities, a likelihood in our study of a higher percentage of pupils engaging in casual sex might have been a case than a mere 25 respondents out of 110 (Table 3). Nevertheless, the main barrier of not using condoms by sexually active pupils was still worrying, especially when almost half of adolescents that engaged in sex preferred not to use any contraception (Table 3). Results of this study which have shown the peak of unprotected sexual activities happening from ages of 13 to 14 among adolescents, is a true revelation that pupils would like to experiment and practice the sexual act at a very tender age [10]. Once they matured a bit at 18, they somewhat refrained from sexual activities, possibly due to warnings they might have heard of dropping out from school if they continued with the mischief (Fig 7; Table 7). The idea brought in by the overwhelmed Zambian Government that younger mothers should be returning to school after delivery does not seem to work so well. Instead, most adolescents choose to drop out from school for good, once they are found in such a predicament. Worse still, others may deliberately want to indulge into sex as an excuse to exit school life, if at all they noticed could not make it with certain tough subjects.

Table 1:Popularity in methods of contraception among adolescent pupils in school

Type of contraception	ever heard of such contraception				
	no% (n)	**Yes%(n)**	**Unknown %(n)**	**Total%(n)**	**P-value**
Female sterilization	69.1(76)	23.6(26)	7.3(8)	100(110)	0.102
Intra-uterine device (IUD)	16.4(18)	76.4(84)	7.3(8)	100(110)	0.166
Injectable	74.5(82)	18.2(20)	7.3(8)	100(110)	0.010
Implants	70.0(77)	17.3(19)	12.7(14)	100(110)	0.086
Pills	18.2(20)	74.5(82)	7.3(8)	100(110)	0.000
Male condom	2.7(3)	90.0(99)	7.3(8)	100(110)	0.000
Female condom	11.8(13)	80.9(89)	7.3(8)	100(110)	0.000
Diaphragm	78.1(86)	14.5(16)	7.3(8)	100(110)	0.226
Lactational amenorrhea	83.6(92)	9.1(10)	7.3(8)	100(110)	0.353
Natural family planning	40.9(45)	51.8(57)	7.3(8)	100(110)	0.002
Withdrawal	67.3(74)	25.5(28)	7.3(8)	100(110)	0.825
Others	85.5(94)	7.3(8)	7.3(8)	100(110)	0.411
Mean	**51.5(57)**	**40.8(45)**	**7.8(8.5)**	**100(110)**	**0.181**

Table 2: Contraception use among 14 sexually active pupils in a school

Type of contraception	Number of pupils frequently using contraception		
	no %(n)	**yes %(n)**	**total %(n)**
Female sterilization	100(14)	0(0)	100(14)
Pill	71.4(10)	28.6(4)	100(14)
Intrauterine device (IUD)	100(14)	0(0)	100(14)
Injectable	100(14)	0(0)	100(14)
Implants	100(14)	0(0)	100(14)
Male condom	7.1(1)	92.9(13)	100(14)

Table 3: General questions on the attitude and behavior among pupils towards the engagement in sexual activities or courtship

Exclusive questions to pupils' on possible engagement in casual sex activities	Interpretation of a given answer		
	no%(n)	**Yes % (n)**	**Total %(n)**
Ever had sex?	77.3(85)	22.7(25)	100(110)
Ever used contraception when having sex?	44.0(11)	56.0(14)	100(25)
Currently in relationship?	52.7(58)	47.3(52)	100(110)
Is the use of contraception good or bad (good = yes while bad = no)	82.3(94)	17.7(16)	100(110)

Table 4: Methods of Contraceptive methods used among the 14 pupils sexually active

METHODS	FREQUENCY	FREQUENCY PERCENTAGE
1 method	9	64.3
2 methods	3	21.4
3 methods	2	14.3
Total	**14**	**100.0**

Table 5: Comfortability in accessing contraception among the 14 sexually active pupils

PLACE	FREQUENCY	FREQUENCY PERCENTAGE
Local Clinic	4	28.6
Pharmacy	4	28.6
Friends	1	7.1
Anywhere else they are not known	5	35.7

Table 6: Source of information on the availability and use of condoms

SOURCE OF INFORMATION	FREQUENCY
Media	16.7%(17)
Clinic	29.4%(30)
Friends	40.1%(41)
Other	13.7%(14)
Total	**100%(102)**

Table 7: Shows the first sexual encounter, contraception use & the frequency among pupils

Age	First sexual encounter And the frequency in practice	First contraception use and the frequency in practice
Thirteen	1	0
Fourteen	3	1
Fifteen	14	7
Sixteen	5	4
Seventeen	2	1
Eighteen	0	1

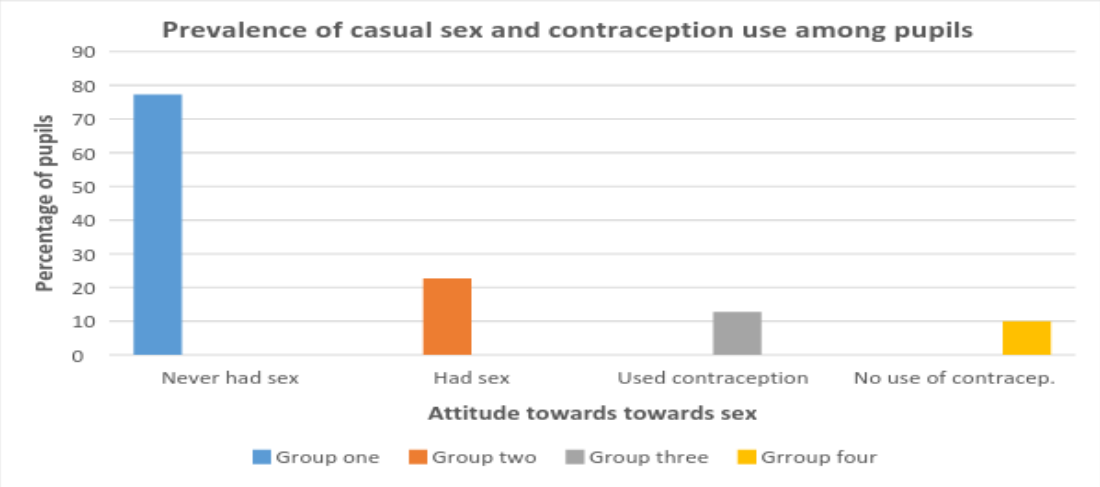

Fig 1: Showing the prevalence of casual sex and contraceptive use among pupils

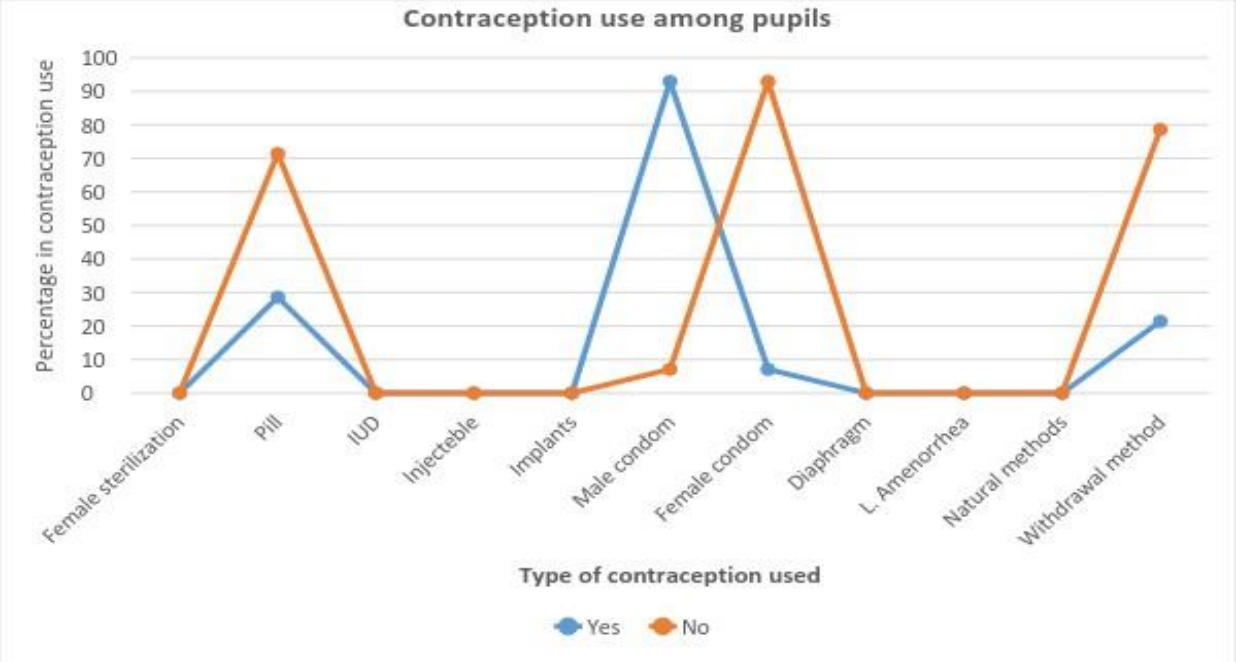

Fig 2: Showing contraception use among the sexually active pupils in school

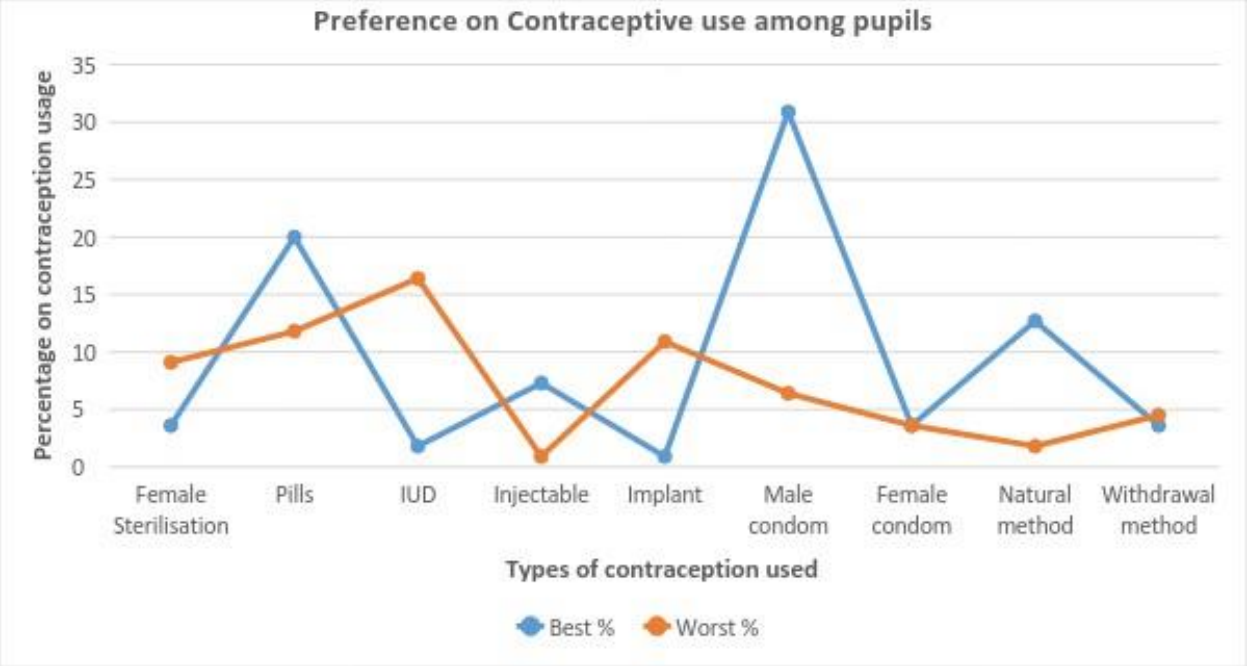

Fig 3:Showing the preference on contraception use among the sexually active pupils

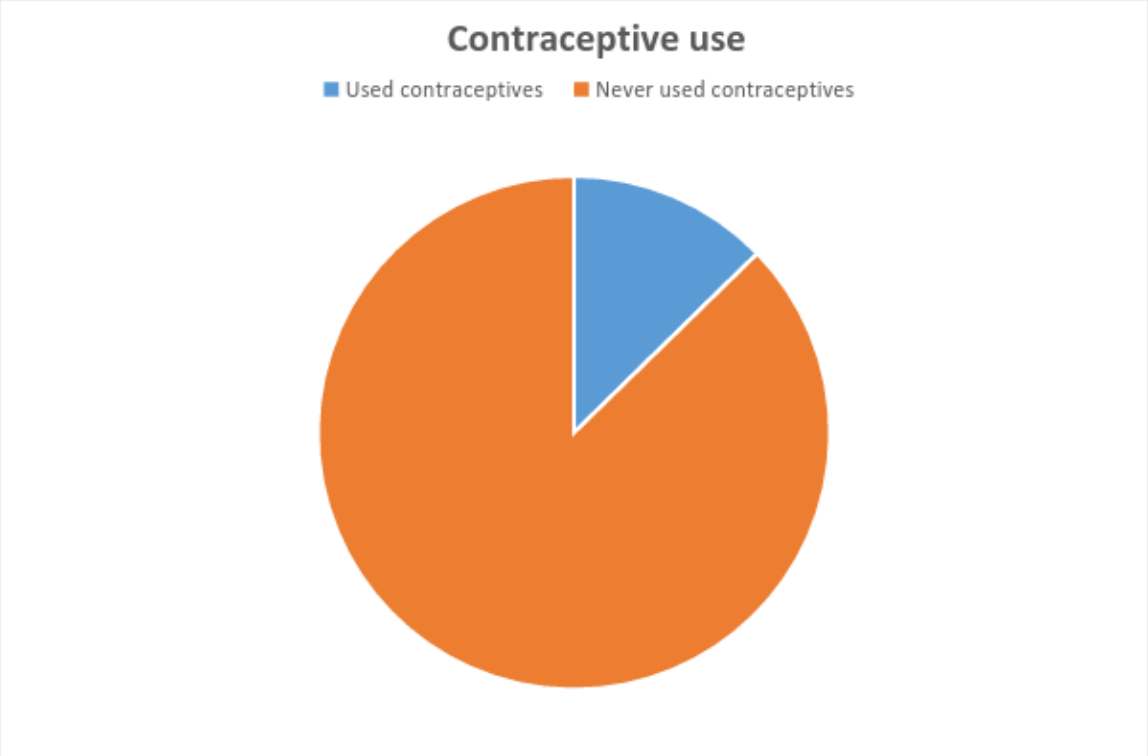

Fig 4:Showing pupils interested in using contraception from 110 respondents

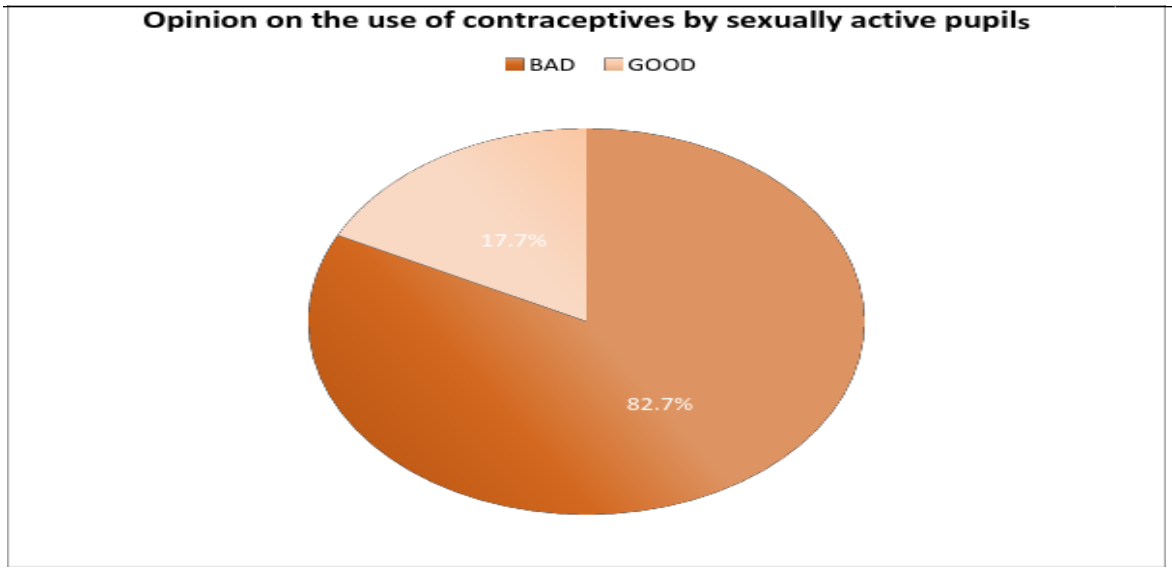

Fig 5:Showing pupils' opinion on the use of contraception from 110 respondents

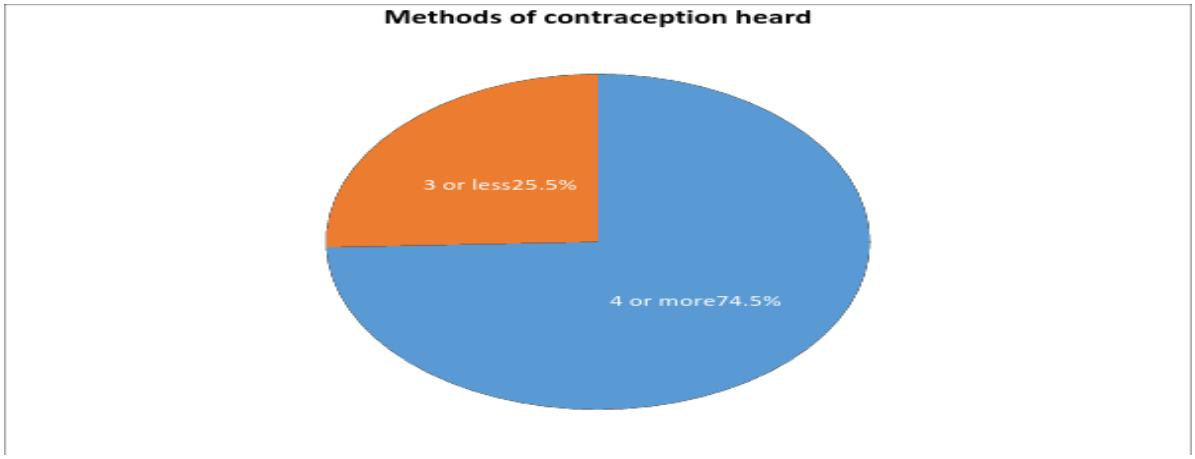

Fig 6: Showing pupils' knowledge on the types of contraception they had heard of

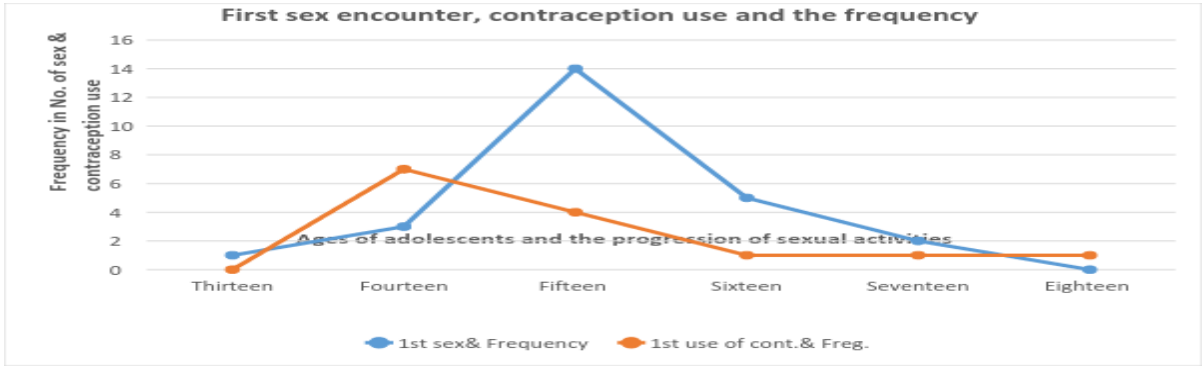

Fig 7: Showing the first sexual encounter, contraception use and the frequency of activities.

Limitations

Some respondents had no knowledge on the subject and there was need for more time to justify and explain the importance of the research which was being carried out. Limitation in resources caused this study to be done on a small population. Some participants that were selected refused to participate and for various reasons others could not have responded honestly, thus, introducing bias to the study findings. Despite the aforementioned limitations however, we believe that the magnitude of bias that might have been introduced could be very minimal, partly because of the high response rate that the study achieved.

Recommendation

1. Massive sensitization on benefits of contraceptive use to adolescents who are sexually active should be done in clinics and schools.
2. A need for introducing a curriculum in schools on early sex and contraceptive use can enable the pupils to regard the subject not a taboo but beneficial to their day to day life.
3. Other effective contraceptives besides male condom should be made readily available in clinics, pharmacies and other sources from where sexually active juveniles can easily access them.
4. Educate the community that contraceptives are not just for married people but for everyone who is sexually active. This effort may break the pending barriers existing on contraceptive use by adolescents.
5. This study to be done on a bigger population involving typical rural schools and those from urban**.**

Acknowledgement

I would like to deeply appreciate the services of Dr. Alfred M. Sichilima, my co-author and supervisor in this research, for his immense contributions from the inception of the research proposal and throughout my technical write up of this paper. My gratitude further goes to both, the Education Board Secretary and the Kanini Secondary school management for authorization of my research activities and for the cordial reception they had accorded to me during the data collection of my study. I extend my thanks to my beloved parents and family members for their constant encouragement and for their financial contributions towards my study. Last but not the least, I would like to thank my fellow Medical students: Blessings Kapisha, Patrick Sichundu and Trevor Halwindi for their contribution during my data entry and analysis.

Conclusion

This study demonstrated that most female adolescent pupils were aware of at least one method of contraception but very few ever used contraceptive during a sexual encounter. There is need to educate and break all surrounding barriers limiting the access and use of contraceptives among the sexually active adolescents.

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Source of Support: Nil
Conflict of Interest: Nil