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Investigating Determinants Influencing Contraceptive Adoption Among Third-Year Medical Students: A Study at KIU-WC Bushenyi District, Western Uganda

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ABSTRACT

This study assessed the prevalence and factors influencing contraceptive usage among 377 third-year medical students through a descriptive cross-sectional approach. Utilizing qualitative and quantitative data analyzed via SPSS, findings revealed compelling insights. Of the sampled students, 78.5% were sexually active, with 58.7% utilizing contraceptives while 38.0% did not. Most (73.1%) were unmarried, while 25.7% were married. Regarding contraceptive knowledge, 94% were aware, with 81.7% knowing how to use and 91.1% aware of access points. Information sources varied: 44.3% from school, 35.4% from healthcare providers, and 10.6% from media. While 52.3% knew about conception timing, barriers to optimal knowledge persisted, notably concerning emergency and rhythm methods. Despite a positive attitude towards contraceptive use (95.7% believing it necessary), nuances emerged. For instance, 54.3% agreed on male involvement in contraceptive decisions, while 42.0% disagreed. The study highlights the prevailing 58.7% contraceptive prevalence among third-year medical students, showcasing reasonable awareness and positive attitudes. However, gaps in knowledge, especially regarding specific methods, persist, alongside barriers related to efficacy, side effects, and misconceptions about sexual activity. Addressing these gaps could enhance comprehensive understanding and promote informed contraceptive choices among this demographic.

Keywords: Contraceptive use, Third-year Medical Students, Contraceptive methods, Sexual intercourse, Side effects of the methods.

INTRODUCTION

Family Planning is defined by the World Health Organization (WHO) as a voluntary and informed decision by a couple or an individual on the number of children to have and when to have them. This can be achieved by the various contraceptive methods and treatment of voluntary infertility according to the WHO 2013 fact sheet on Family Planning. Family planning is central to ensuring the health and development of youth, reducing unnecessary health risks, and improving their opportunities for education and productive livelihoods [1]. Having unsafe sex has been estimated to be the second most important global risk factor for health. More than half of the world's population is less than 25 years old and approximately 85% of this demographic segment lives in low- or middle-income countries. Most (85%) of the university students are aged 17 – 24 years and highly sexually active. The sexual behaviour of such young people has become a crucial social and public health concern, especially about unintended pregnancies and Sexually Transmitted Diseases (STDs) [2]. Over 100 million acts of sexual intercourse take place each day in the world, resulting in around 3 million conceptions of which 50% are unplanned and 25% unwanted, which are associated with increased risk of unsafe abortions, maternal morbidity and mortality. This is worsened by the high unmet need for contraception in developing countries and Sub-Saharan Africa hits hardest, with an estimated 14 million unintended pregnancies per year and almost half occurring among young women aged 15–24 years [3]. An unplanned or unwanted pregnancy is a serious, global public health problem [4]. It is estimated

that about 80 million, unplanned pregnancies occur in the world every year [5]. Unplanned pregnancies may be preventedby using contraceptive methods, such as oral contraceptive pills, long-term hormonal injections, condoms, tubal ligation or a vasectomy [6]. There arealso emergency contraceptives available to prevent unplanned pregnancies and should be obtained and taken within 72 hours after engaging in unprotected sexual intercourse [7]. In research studies conducted worldwide amongst university students like in Botswana, several factors were identified as contributing to the non-utilization of contraceptives. These were, amongst others, lack of knowledge and awareness, age, culture, ethnicity, religion, poor access tocontraceptive services, peer pressure, sources of information, alcohol and substance abuse and lack of partner support [8]-[10]. Another study conducted amongst university students in the United States of America (USA) estimated that regular contraceptive use can prevent about 12 million unwanted pregnancies every year [11]. In developing countries, one in three women give birth before the age of 20 and pregnancy-related death during childbirth is two times higher compared to women older than 20 years. A quarter of the estimated 20 million unsafe abortions and 70,000 related deaths each year occur among women aged 15–19 years. In sub-Saharan Africa alone, it is estimated that 14 million unintended pregnancies occur every year, with almost half occurring among women aged 15–24 years. The use of effective contraceptive methods would potentially prevent 90% of abortions, 20 % of pregnancy-related morbidity and a third (32 %) of maternal deaths worldwide [12]. In a study amongst 15 to 24-year-old South African women, it was estimated that only 52.2% of sexually experienced women are using contraceptives [13]. Because 80% of undergraduate students at higher educational institutions are sexually active, they must have access to safe, accessible and adequate contraceptive services [14]. [15] suggests that the main reasons for women not utilizing or discontinuing the use of contraceptives are side effects, lack of knowledge about different methods available, or lack of interest in utilizing them [15]; [11]. In Uganda, an estimated 1.2 million unintended pregnancies occurred in 2008, representing more than half of the country's 2.2 million pregnancies [16]. The risk of pregnancy increases with a widening gap between sexual debut and the age of the first marriage [17]; [18]. Lack of access to safe, effective contraceptives among young people has resulted in unplanned pregnancies, unsafe abortion and resulting maternal death and disability [19]. They may also fail to complete their education, inability to maintain employment and make independent marital decisions [20]. Young students' sexual activities are a communal, municipal and public health concern. These activities, especially pre-marital sexual activities, seem to be increasing among higher educational institution students in continents such as Asia and Africa, because of factors such as rapid urbanization and exposure to mass media [11]. The unmet need for family planning in less developed nations such as Uganda remains a major concern to the socioeconomic transformation and development. Furthermore, in the Ankole region for instance the unmet need for family planning was found to be 23.0% out of 66.1% total demand for family planning, with a contraceptive prevalence rate (CPR) of 43.1% which is way below the national target of 50% by 2020 [19]. This happens when 7 in 10 sexually active young Ugandan women are not using any form of contraception and also includes 3 in 10 who express a desire to delay childbearing [19]. A study done at six Ugandan universities showed overall condom use to be 51% and current use of contraceptive methods other than condoms was 9%. This study also found that 6% of sexually active students between ages 15 and 19 became pregnant. [12]. Few comprehensive studies have been conducted on university students in low and middle-resource settings to establish significant effects of knowledge, attitude and socio-demographic factors on the use of contraceptives among medical students in Uganda. Hence this remains unknown to the prevailing data. Therefore, the major objective of this study is to assess knowledge, attitude and barriers to contraceptive use among third-year medical students (KIU- WC).

METHODOLOGY

Study Design

A descriptive cross-sectional study design was used for this study during February – July 2022.

Area of Study

The study was conducted at KIU-WC a private university located in Ishaka, Bushenyi district, South Western Uganda (Ankole region) which is about 65 km from Mbarara along Mbarara – Kasese Road. This is predominantly a science-based Campus, and houses 8 faculties including the faculty of clinical medicine and dentistry, the school of nursing sciences, the school of allied health sciences, and school of pharmacy, the faculty of education, science and technology, a faculty of business management and administration, school of engineering with over 14,000 students pursing Certificate, diploma, undergraduate, and postgraduate course programs.

Study Population

Students who were pursuing any medical course and in their third year at Kampala International University Western Campus

Selection Criteria

The Participants were chosen according to the inclusion and exclusion criteria.

Inclusion Criteria

Third-year medical students at Kampala International University Western Campus who consented were included in the study.

Exclusion Criteria

The research excluded all students who were critically ill, discontinued, in dead semesters andthose who did not consent.

Sampling Technique

Research participants were selected using a non-biased simple random sampling technique.

Sample Size Determination

The sample population of the study was obtained using Kish Leslie's (1965) formula;

$$n = \frac{Z^2_{a/2} \times P(1-P)}{\delta^2}$$

Where:

n = Sample size

δ = ± 5%, Marginal error

Z =1.96, Standard deviation corresponding to 95 % Confidence Interval

P = 43.1%, Prevalence of contraceptive use in 2016 in the Ankole region [21]. Given that; Z = 1.96, P = 0.431, and d =0.05

Therefore, n = 376.8

Thus, the sample size was 377 participants.

Data Collection Method

Pretested self-administered questionnaires were used as a data collection tool. These consisted ofboth open-ended and closed-ended questions and collected both qualitative and quantitative data sets.

Data Analysis and Presentation

Data was sorted, coded, and checked for consistency. It was entered into the IBM SPSS – version

16.0 for comprehensive analysis. Data sets were analyzed using a multinomial logistic model, then cross-tabulated and presented in odds ratios (OR), figures, proportions, percentages, correlations, central tendencies and dispersions.

Quality Control

Questionnaires were pretested and subjected to serial reviews which ensured correctness and appropriateness. Data was sorted, coded, and checked for consistency and Respondents were guided on how they can correctly fill in their answers.

Ethical Consideration

The research proposal was submitted with the final draft of the research to the research ethics committee and academic board of FCMD KIU-WC which was approved. After these administrative and ethical clearances, the researcher obtained written informed consent from respondents before enrolling them voluntarily in the study. Ethical issues such as the privacy of respondents and confidentiality of information extracted from the respondent was ensured. Respondents were at liberty to withdraw from the study at any time [22].

RESULTS

Three hundred seventy-seven (377) students were sampled among third-year medical students at Kampala International University and only 350 questionnaires were collected. The respondent ants included 190(54.3%) male and 156(44.6%) females and 4(1.1%) invalid with a median age of 23 years. Majority 173(50.0%) of the students were single, 90(26.0%) married, 69(19.9%) in a relationship, 8(2.3%) cohabiting while the minority 6(1.7%) were divorced. Sampling was done in various faculties and the findings include information from 101(29.1%) students studying Bachelor of Medicine and Bachelor of Surgery, 95(27.4) Diploma in Clinical

Medicine, 90(25.9%) Certificates in nursing, 39(11.2%) Diploma in Pharmacy, 15(4.3%) Bachelor in Pharmacy and 7(2.0%) Bachelor in Clinical Medicine & community health.

Prevalence rate

In this study it was found out that 78.5% students were sexually active, of these 58.7% used contraceptives while 38.00% didn't with 3.43% invalid as shown in the figure 4.1.1 below. 73.1%where not married, 25.7% where married 41.1% didn't answer.

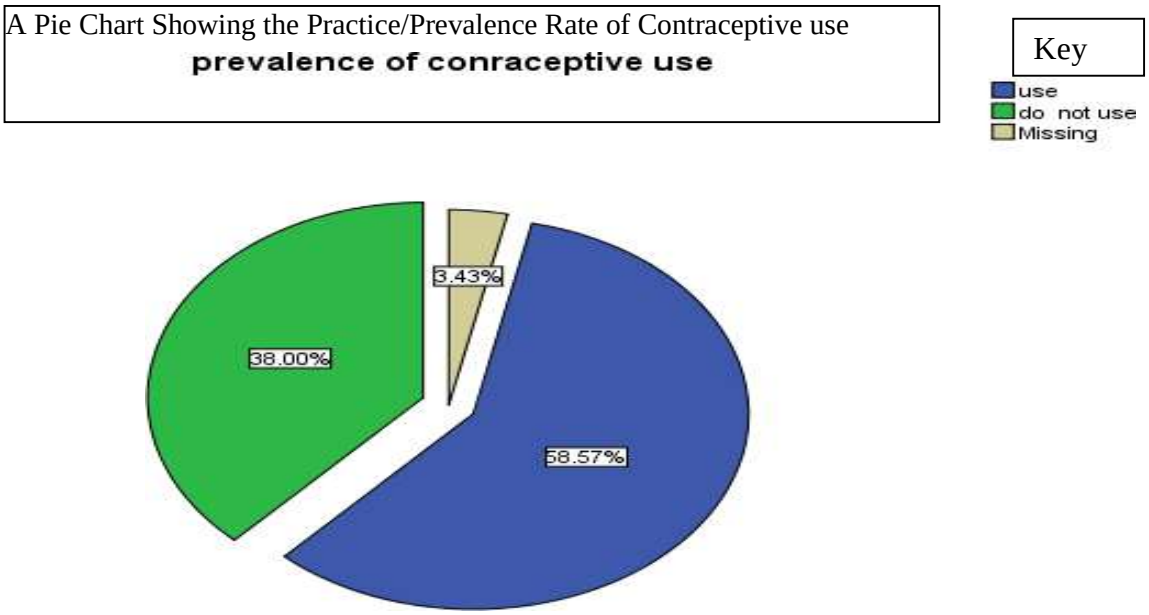

Figure 1: A pie chart of the prevalence rate of contraceptive use

Figure 2 below shows that third-year students were using different methods these included condoms 46.3%, 11.1% rhythm, 7.7% pills, 8.3% implants, 0.6% injectables and13.4% others

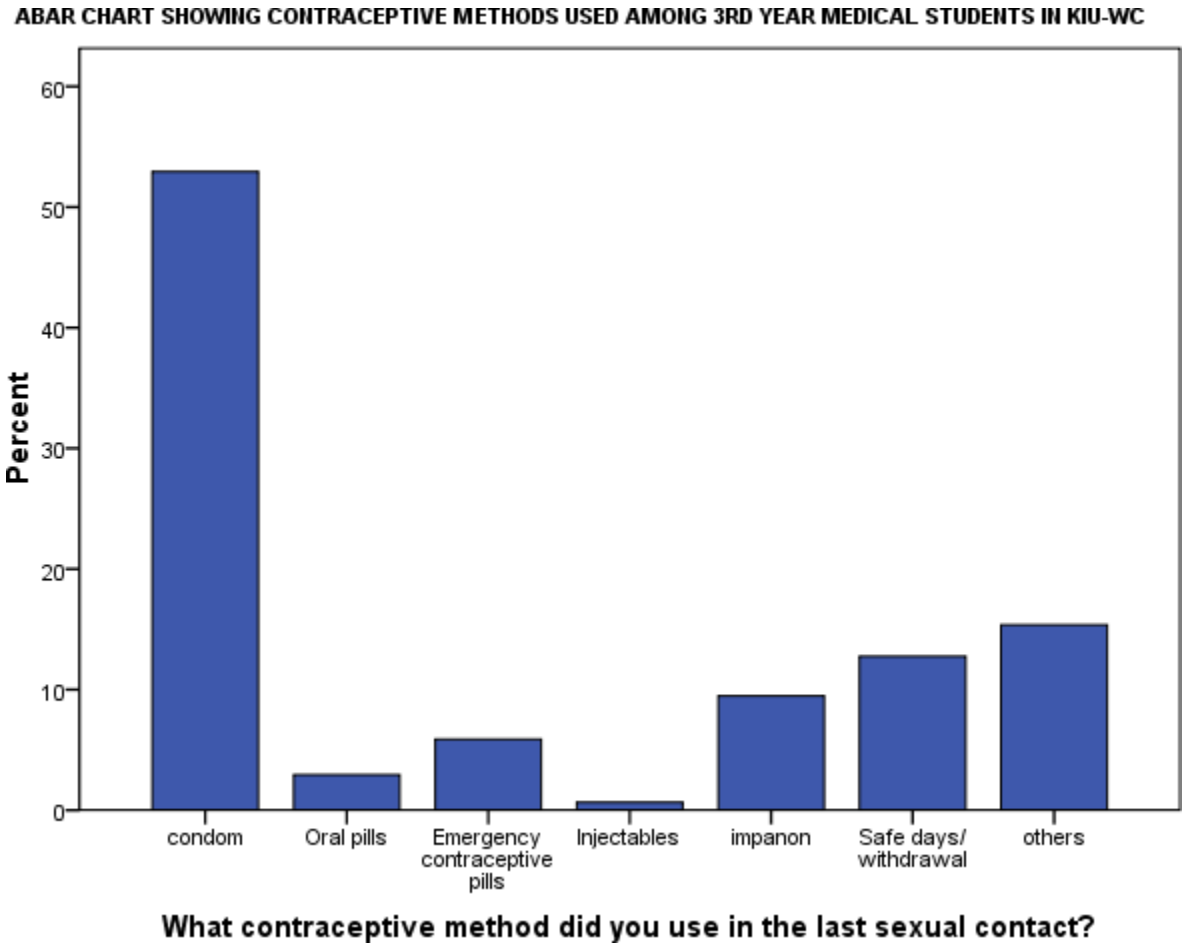

Figure 2: A bar chart showing the contraception method used in the last sexual contact
Knowledge on contraceptive

Ninety-four per cent (94%) have heard about contraceptive use, 4 have not 81.7% reported knowing how to use contraceptives, and 14.0% did not know how to use them.

About Ninety-one per cent (91.1%) knew where to obtain contraceptives, and 7.1% did not know where to obtain them. Based on acquiring knowledge about contraceptives, the majority got information from school 155(44.3%), healthcare providers 124 (35.4%), media 37(10.6%) and minority 30(8.6%) from friends & 4(1.1) did not respond.

Table 1: Showing the Number and Percentages of the Knowledge on Contraceptives among Third Year Medical Students KIU-WC

	Number of students	Percentage %
Aware of contraceptives		
Heard	329	94
Never heard about	14	4
Didn't answer	7	2
Ability to use		
Know how to use	286	81.7
Don't know	49	14.0
Invalid	15	4.3
Know where to obtain contraception		
Know	319	91.1
Don't know	25	7.1
Invalid	6	1.8
Source of information		
School	155	44.3
Healthcare providers	124	35.4
Media	35	10.6
Friends	30	8.6
Invalid	4	1.1
Know where to obtain contraceptives		
Know	319	91.1
Don't know	25	7.1
Didn't answer	6	1.8
When to conceive		
Know	183	52.3
Don't know	149	42.6

In this study, students were evaluated on their knowledge of the rhythm method. It was found that183(52.3%) knew when one would conceive while 149(42.6%) didn't know and 5.1% didn't answer.

Attitude on contraceptive use

335(95.7%) believed that it was necessary to know contraceptives while a minority 11(3.1%) thought it was unnecessary as indicated in Table 2. More than half 190(54.3%) agreed that it's a man's right to decide on the use of contraceptives, 147(42.0%) disagreed and 13(3.7%) didn't answer. The majority 280(80.0%) agreed that it's a woman's right to decide on contraceptive use, 52(14.9%) disagreed and 18(5.1%) didn't answer. Also, the majority 330(94.3%) agreed that medical students need to learn sexual knowledge including contraceptive methods, 10(2.9%) disagreed and 10(2.9%) did not answer.

Table 2: Showing the Frequencies and Percentages of Opinion of Third-Year Medical Students KIU-WC on Contraceptive Use

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Agree	197	56.3	57.9	57.9
	Strongly agree	90	25.7	26.5	84.4
	Disagree	36	10.3	10.6	95.0
	Stronglydisagree	17	4.9	5.0	100.0
	Total	340	97.1	100.0	
Missing	System	10	2.9		
Total		**350**	**100.0**		

Table 3: The frequencies and percentages of what third-year medical students think about learning sexual knowledge and contraceptives

		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Agree	134	38.3	39.4	39.4
	Strongly agree	196	56.0	57.6	97.1
	Disagree	10	2.9	2.9	100.0
	Total	340	97.1	100.0	
Missing	System	10	2.9		
Total		**350**	**100.0**		

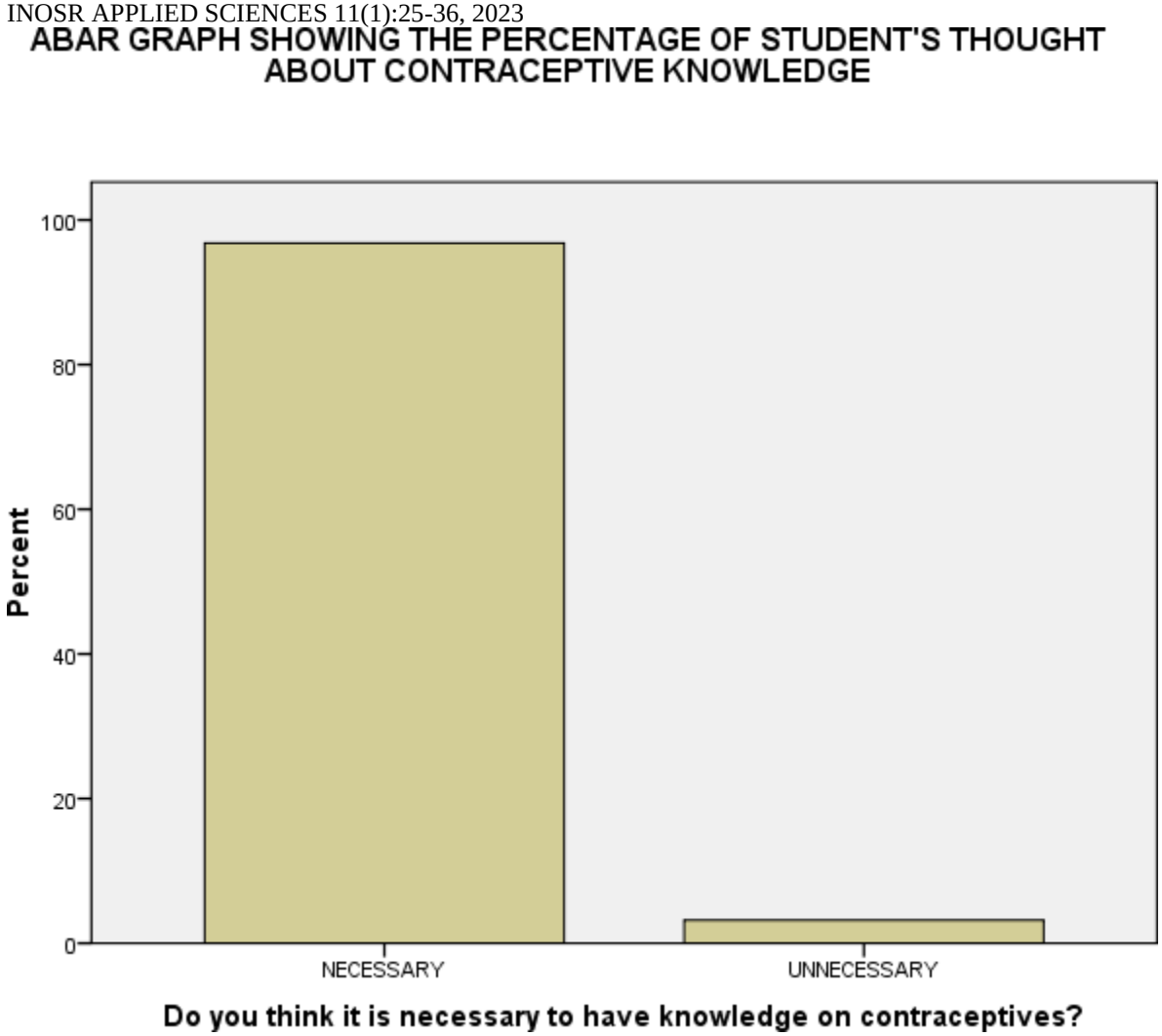

Figure 3: A bar graph showing the percentage of students thought about contraceptiveknowledge

DISCUSSIONS

Prevalence

Seventy-five per cent (75.2%) of the students are sexually active and the contraceptive utilization at the time of the study was 58.6% which is in line with the study in 2012 which showed global modern contraceptive utilization to be 57% [23] and was above the estimated prevalence rate in Africa of only 28% and that of Uganda which was 26% (Uganda Demographic and healthy survey, 2016. these differences could have been due to the methods used to collect data, the study population and population size. Third-year students were using different methods these included condoms 46.3%, 11.1% rhythm, 7.7% pills, 8.3% implants, 0.6% injectables and13.4% others in line with the study in Uganda that showed the commonest method as male condoms (88.4%0, pills (86.7%), with injectables being the least method used [12].

Knowledge

According to the study, it was found that the majority 329(94%) of the respondents had heard aboutcontraceptive use while the least 14(4%) of respondents had never heard about contraceptive use and this corresponded with an earlier study in a government college, [24] in India which indicated that 98% (153/156) of the students knew about family Planning and 86% (134/156) of them had heard about contraceptives. Majority 134(35.5%) of the

third year medical students got information about contraceptive use from healthcare workers while only 24(6.4%) of the third year medical students never had any information about contraceptive use which was in line with the study done by [25]-[30] which established that the most popular sources of information about contraceptives, in descending order, are health-workers, peers, and media channels. In this study, students were evaluated on their knowledge of the rhythm method. It was found that 52.3% knew when one would conceive while 42.6% didn't know and 5.1% didn't answer. This shows that 42.6% of third-year students are at risk of getting pregnant or impregnating when they use the rhythm method.

Attitude

In this study, it found out that 95.7% believed it was necessary to know contraceptives while a minority 3.1% believed it was unnecessary as indicated in Figure 3 More than half 54.3% agreed that it is a man's right to decide on the use of contraceptives, 42.0% disagreed and 3.7% didn't answer. The majority 80.0% agreed that it's a woman's right to decide on contraceptive use, 14.9% disagreedand 5.1% didn't answer. Also, majority 94.3% agreed that medical students need to learn sexual knowledge including contraceptive methods, 2.9% disagreed and 2.9% did not answer. In this study the attitude of third-year medical students towards contraceptive use was good/positive, however, this was not in line with the research done [26], [29]-[32] at the University of Ghana which showed that respondents had a negative/bad attitude about contraceptives.

CONCLUSION

The prevalence of contraceptive utilization at the time of the study was high with 58.6% using contraception of the 75.2% of sexually active students. Generally, third-year medical students at KIU-WC knew in terms of awareness and sensitization about contraceptive use though they still lacked knowledge about the available methods especially emergency contraceptive methods and rhythm methods. Third-year medical students of KIU-WC had a good attitude towards contraceptive use though a few had negativity concerning contraceptive use. The barriers towards contraceptive use include knowledge, sexual intercourse, effectiveness and side effects of the methods.

Recommendation.

Based on the findings of the study, the investigator recommends that the university managementshould start holding thorough health talks with third-year medical students about contraceptive use especially contraceptive methods and their side effects. Furthermore, the University Committee on Reproductive Health should try to encourage the students to use the available recommended contraceptive methods despite associated side effects since the benefits of using contraception outweigh the risks of not using them.

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