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Contraceptive Knowledge, Attitude, and Barriers among First Year Medical Students at Kampala International University Western Campus Ishaka Bushenyi

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ABSTRACT

A study conducted in Uganda assessed the knowledge, attitude, and barriers associated with contraceptive use among first-year medical students. The majority (90.5%) of the students had heard about contraceptive use, with 85.7% knowing where to get them. However, 44.8% did not know emergency contraception methods, and 49.9% agreed that it is their right to use contraceptives. Barriers to contraceptive use included knowledge, sexual intercourse, effectiveness, and side effects. The study recommends university management to hold health talks about contraceptive use and pharmaceutical companies to produce drugs that can manage side effects.

Keywords: knowledge, attitude, contraceptive students

INTRODUCTION

Family Planning is defined by the World Health Organization (WHO) as a voluntary and informed decision by an individual or couple on the number of children to have and when to have them. According to the WHO 2013 fact sheet on FP, "it is achieved by the various contraceptive methods and treatment of voluntary infertility" [1, 2]. 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. 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 – 24years and highly sexually active. The sexual behavior of such young people has become a crucial social and public health concern, especially with regard to unintended pregnancies and Sexually Transmitted Diseases (STDs) [3, 4, 5]. 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% definitely unwanted, which are associated with increased risk of unsafe abortions, maternal morbidity and mortality [6, 7, 8, 9]. This is worsened by 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 [10]. An unplanned or an unwanted pregnancy is a serious, global public health problem [11, 12, 13]. It is estimated that about 80 million, unplanned pregnancies occurs in the world every year [14]. Unplanned pregnancies may be prevented by using the contraceptive methods, such as the oral contraceptive pills, the long-term hormonal

injections, the condoms, the tubal ligation or a vasectomy [15]. There are also emergency contraceptives available to prevent unplanned pregnancies, and should be obtained and taken within 72 hours after engaging in unprotected sexual intercourse [16, 17, 18].

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 to contraceptive services, peer pressure, sources of information, alcohol and substance abuse and lack of partner support [19, 20]. 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 [21]. In developing countries, one in three women give birth before the age of 20 and pregnancy-related death during child birth is two times higher compared to women older than 20 years [22]. 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. It is evident that use of effective contraceptive methods would potentially prevent 90% of abortions, 20 % pregnancy-related morbidity and a third (32 %) of maternal deaths worldwide [22].

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 [23]. Because of the fact that 80% of undergraduate students at higher educational institutions are sexually active, it is vital that they have access to safe, accessible and adequate contraceptive services [24]. [25] 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 it, [26]. In Uganda, an estimated 1.2 million unintended pregnancies occurred in 2008, representing more than half of the country's 2.2 million pregnancies [27]. The risk of pregnancy increases with a widening gap between sexual debut and age of first marriage [28, 29]. Nearly two thirds (64 %) of women aged 25–49 years reported early sexual debut before the age of 18 years [30-34].

METHODOLOGY

Study Design

This study was a cross sectional study design [31].

Study Area

The study was conducted at KIU-WC.

Study Population

Students pursuing any medical course at Kampala international university western campus

Inclusion Criteria

First year medical students at Kampala international university western campus with informed consent were included in the study.

Exclusion Criteria

The research excluded all students who are critically ill, discontinued and those in dead semesters.

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 Kirsch and Leslie formula;

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

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 Ankole region [32].
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 of both open ended and closed ended questions, and used to collect both qualitative [31] and quantitative data sets.

Data Analysis and Presentation

Data was sorted, coded, and checked for consistency. It was entered into IBM SPSS – 22 for comprehensive analysis. Data sets were be analyzed using multinomial logistic model, then cross tabulated and presented in odds ratios (OR), figures, proportions, percentages, correlations, central tendencies and dispersions.

Ethical Consideration

The research committee was submitted with the final draft of the research to the research ethics committee and academic board of SAHS KIU-WC for approval. After these administrative and ethical clearances, the researcher obtained written informed consent of respondents before enrolling them voluntarily in the study. Ethic issues such as privacy of respondents and confidentiality of information extracted from the respondent were ensured. Respondents were at liberty to withdraw from the study at any time [33].

RESULTS

Table 1: Social demographic factors

N=377

Factor		Frequency(n)	Percentage (%)	odds ratio	p value	95% CI	
						Lower	Upper
Age	15-24yrs	283	75.1	.899	1.031	.644	1.650
	>25yrs	94	24.9	.	.	.	.
Sex	Male	181	47.9	.013	1.681	1.117	2.532
	Female	196	52.1	.	.	.	.
Tribe	Banyankole	73	19.3	.602	.853	.469	1.552
	Banyoro	40	10.8	.164	.593	.284	1.237
	Baganda	125	33.1	.016	.521	.306	.885
	Basoga	35	9.3	.732	.874	.406	1.882
	Others	104	27.5				
Religion	Catholic	124	32.8	.877	1.138	.221	5.859
	Anglican	90	23.8	.958	1.045	.200	5.459
	Muslim	45	11.9	.252	.364	.064	2.054
	Adventist	50	13.2	.507	1.778	.324	9.744
	Born again	62	16.7	.032	.145	.025	.849
	Bisaka	6	1.6				
Marital status	Single	270	71.4	.000	6.358E-8	3.737E-8	1.082E-7
	Married	28	7.7	.000	8.371E-8	3.512E-8	1.995E-7
	Cohabiting	9	2.4	.000	4.485E-8	1.037E-8	1.940E-7
	In a relationship	69	18.3	.	1.037E-7	1.037E-7	1.037E-7
	Divorced	1	.3				
Program of study	BMS	192	50.9	.529	.460	.041	5.158
	BCM	89	23.6	.406	.356	.031	4.070
	BPH	89	23.6	.221	.218	.019	2.505
	BNS	4	1.1	.810	1.500	.055	40.633
	BMLS	3	0.8	.	.	.	.

From table 1 above, it was found that, more than three quarters 283(75.1%) of the respondents were aged 15-24 years while 94(24.9%) of the respondents were >25 years. More than a half 196(52.0%) of the respondents were females while 181(48.0%) of the respondents were males. Furthermore, more than a quarter 125(33.1%) of the respondents were Baganda while only 35(9.3%) of the respondents were Basoga. It was found that more than a quarter 124(32.8%) of the respondents were Catholics while only 6(1.3%) of the respondents were Bisaka believers. Nearly three quarters 270(71.4%) of the respondents were single while only 1(0.3%) of the respondents were divorced. More than a half 192(50.9%) of the respondents were BMS students while only 3(0.8%) of the respondents were BMLT students. Sex; marital status and religion had a significant relationship with contraceptive use with a P-value <0.05

Table 2: Knowledge about contraceptive use

Parameter		Frequency (n)	Percentage (%)	P-value	Odds ratio	95% CI	
						Lower	Upper
Education on contraceptive use	Yes	275	72.9	.000	15.266	6.428	36.256
	No	102	27.1	.	.	.	.
Who should decide on contraceptive use	Male	10	2.7	.528	1.739	.312	9.694
	Female	62	16.4	.008	4.957	1.527	16.092
	Both	272	72.1	.000	5.812	2.419	13.966
	Don't know	33	8.7	.	.	.	.
Discussion about contraceptives with your peers	Yes	259	68.7	.000	11.777	4.984	27.831
	No	118	31.3	.	.	.	.
What are their opinion about contraceptive use	Encouraging	189	50.1	.000	8.018	3.363	19.116
	Discouraging	70	18.6	.002	10.315	2.370	44.888
	None	118	31.3	.	.	.	.
Do you know where to get contraceptives	Yes	323	85.7	.000	11.324	5.366	23.894
	No	54	14.3	.	.	.	.
Is it easy for you to obtain contraceptives	Yes	253	67.1	.000	5.579	2.644	11.770
	No	124	32.9	.	.	.	.
Is it necessary to have knowledge on contraceptives	Yes	365	96.8	.887	.860	.108	6.858
	No	12	3.2	.	.	.	.
Methods used for emergency contraception	Mifipristone	24	6.3	.372	1.986	.440	8.960
	Vaginal douching	23	6.2	.432	.650	.222	1.905
	Levonorgestrel tabs	161	42.7	.000	9.509	2.818	32.089
	Don't know at all	169	44.8	.	.	.	.
Stage of menstrual cycle where someone is likely to conceive	Menstrual period	11	2.9	.005	.122	.028	.527
	A few days before or after menstruation	92	24.4	.578	1.366	.455	4.097
	About 14days before menstruation	162	42.9	.483	1.434	.523	3.930
	In the middle of the cycle	65	17.2	.	1298856523.392	129885652 3.392	1298856523.392
	Don't know	47	12.5	.	.	.	.
Contraceptives are measures used to	Prevent pregnancy & promote child spacing	247	65.5	.457	2.333	.251	21.730
	Prevent STDs	13	3.4	.	497249998.095	497249998.095	497249998.095
	Prevent STDs & pregnancy plus child spacing	112	29.7	.475	2.295	.235	22.396
	None of the above	5	1.3				

According to the study in table 2 above, majority 275(72.9%) of the respondents had ever been educated about contraceptive use while minority 102(27.1%) of the respondents had never been educated about contraceptive use. More than a half 272(72.1%) of the respondents opted for both partners (male and female) should decide on contraceptive use whereas only 10(2.7%) of the respondents opted for male to decide on contraceptive use. More

than a half 259(68.7%) of the respondents had discussed contraceptive use with their peer groups while 118(31.3%) of the respondents had never discussed contraceptive use with their peer groups. It was found that just more than a half 189(50.1%) of the respondents had their peer group's opinions encouraging while less than a quarter 70(18.6%) of the respondents had their peer group's opinions discouraging contraceptive use. Furthermore, it was found that more than three quarters 323(85.7%) of the respondents knew where to get contraceptives whereas 54(14.3%) of the respondents never knew where to get contraceptives. More than a half 253(67.1%) of the respondents find it easy to access contraceptive methods whereas less than a quarter 124(32.9%) of the respondents find it difficult to access contraceptive methods. Nearly all 366(96.8%) of the respondents thought that it was necessary to have knowledge on contraceptives while only 12(3.2%) of the respondents thought that it was not necessary to have knowledge on contraceptives. More than a quarter 169(44.8%) of the first year medical students did not know any method for emergency contraception whereas only 23(6.1%) knew vaginal douching as a method for emergency contraception. More than a quarter 162(42.9%) of the respondents thought that one is most likely to conceive about 14 days before menstruation whereas less than a quarter 11(2.9%) of the respondents thought that one is most likely to conceive during menstruation. More than a half 247(65.5%) of the respondents knew that contraceptives are measures used to prevent pregnancy & promote child spacing while only 5(1.3%) of the respondents did not know anything. This study found that education or training on contraceptive use, knowledge on who should decide on the use of contraceptives, peer groups, knowledge on where to obtain contraceptives, accessibility of contraceptives, need to have knowledge on contraceptives, knowledge about methods for emergency contraception and stage of menstrual cycle where one is most likely to conceive had a significantly correlation with contraceptive use (P-value <0.05).

Table 3: Attitude of first year medical students towards contraceptive use

Parameter		Frequency(n)	Percentage (%)	P - value	Odds ratio	95% CI	
						Lower	Upper
Is it student's right to use contraceptives	Agree	188	49.9	.000	4808540 29.207	2431637 65.817	95088425 9.536
	Strongly agree	112	29.7	.000	7614873 92.758	3699480 27.718	15674175 98.917
	Disagree	43	11.4	.	3639127 32.502	3639127 32.502	36391273 2.502
	Strongly disagree	34	9.0	.	.	.	.
It is a man's right to decide on use of contraceptives	Agree	116	30.8	.002	2.618	1.444	4.747
	Strongly agree	88	23.3	.003	2.614	1.392	4.906
	Disagree	91	24.1	.870	.947	.494	1.814
	Strongly disagree	82	21.8	.	.	.	.
It is a woman's right to use contraceptives	Agree	171	45.4	.492	1.247	.665	2.339
	Strongly agree	89	23.6	.003	2.885	1.445	5.761
	Disagree	59	15.6	.284	1.509	.711	3.205
	Strongly disagree	58	15.4	.	.	.	.
First year medical students need to learn sexual knowledge including CP	Agree	175	46.4	.408	.596	.175	2.029
	Strongly agree	176	46.7	.500	.657	.193	2.231
	Disagree	15	4.0	.156	.303	.058	1.576
	Strongly disagree	11	2.9	.	.	.	.

Table 3 above, a half 188(49.9%) of the first-year medical students agreed that it is student's right to use contraceptives whereas less than a quarter 34(9.0%) of the first-year medical students strongly disagreed that it is not students right to use contraceptives. More than a quarter 116(30.8%) of the first-year medical students agreed that it a man's right to decide on use of contraceptives whereas less than a quarter 82(21.8%) strongly disagreed. Furthermore, more than a quarter 171(45.4%) of the respondents agreed that it is a woman's right to use contraceptives while less than a quarter 58(15.4%) strongly disagreed that it is not a woman's right to use contraceptives. Nearly a half 176 (46.7%) of the first-year medical students strongly agreed that first year medical students need to learn sexual knowledge including contraceptives whereas only less than a quarter 11(2.9%) strongly disagreed that first year medical students do not need to learn sexual knowledge including contraceptives. Attitude towards students', men's and women's right to use contraceptives had a significant relationship towards contraceptive use. They had a P-value less than 0.05. Below results of the study revealed that more than a quarter 153(40.6%) of the first-year medical students used condoms in their last sexual contact with contraception while only 3(0.8%) of the first-year medical students used implanon in their last sexual contact with contraception. The most effective contraceptive method among first year medical students was condom use with nearly a half 187(49.6%) of the total number compared with the least 18(4.8%) who used implanon and majority 134(35.5%) prefer it because it has less side effects while 44(11.7%) prefer it because of its easy accessibility. More than a half 219(58.1%) of the first-year medical students had never had side effects with contraceptive use whereas less than a half 158(41.9%) of the first-year medical students had ever had side effects with contraceptive use. It is indicated that sexual intercourse, effectiveness of the contraceptive method and side effects amongst users were found to influence contraceptive use since they had a P-vale <0.05.

Table 4: Barriers towards the use of contraceptives among first year medical students at KIU-WC

Parameter		Frequency (n)	Percentage (%)	P-value	Odds ratio	95% CI	
						Lower	Upper
CP method used during the last sexual contact	Condoms	153	40.6	.000	12.873	5.575	29.729
	Oral pills	21	5.6	.000	27.143	7.990	92.212
	EC pills	43	11.4	.000	31.584	11.234	88.800
	Injectables	7	1.9	.	18255876 255.600	18255876 255.600	18255876 255.600
	Implanon	3	.8	.189	5.429	.436	67.618
	Safe days or withdraw	68	18.0	.013	3.341	1.285	8.687
	Others	82	21.8	.	.	.	.
Most effective contraceptive method known	Condom	187	49.6	.000	14.235	3.312	61.188
	Oral pills	22	5.8	.001	18.600	3.544	97.626
	EC pills	24	6.4	.001	15.500	3.011	79.790
	Injectables	21	5.6	.018	7.750	1.425	42.147
	Implanon	18	4.8	.001	19.375	3.520	106.650
	Safe days or withdrawal	72	19.1	.003	9.864	2.187	44.488
	Others	33	8.8	.	.	.	.
Why prefer the above method	Safe or less side effects	134	35.5	.000	6.733	2.681	16.907
	Affordable	52	13.8	.003	4.629	1.669	12.840
	Accessible	44	11.7	.001	5.694	2.008	16.145
	Reliable	30	8.0	.000	7.810	2.555	23.871
	Effective	70	18.5	.001	5.432	2.043	14.442
	Others	47	12.5	.	.	.	.
Any side effect with the method you use	Yes	158	41.9	.000	2.778	1.819	4.241
	No	219	58.1	.	.	.	.

DISCUSSION

More than three quarters 283(75.1%) of the respondents were aged 15-24 years while 94(24.9%) of the respondents were >25 years. More than a half 196(52.0%) of the respondents were females while 181(48.0%) of the respondents were males. Furthermore, more than a quarter 125(33.1%) of the respondents were Baganda whereas only 35(9.3%) of the respondents were Basoga. It was found that more than a quarter 124(32.8%) of the respondents were Catholics while only 6(1.3%) of the respondents were Bisaka believers. Nearly three quarters 270(71.4%) of the respondents were single compared to only 1(0.3%) of the respondents were divorced. More than a half 192(50.9%) of the respondents were BMS students while only 3(0.8%) of the respondents were BMLT students. From the study it was found sex, marital status and religion had a significant relationship with contraceptive use with a P-value <0.05.

Females had greater chances of using contraceptives than males and this could have been due to the availability of many methods for females compared to males. Single medical students were most likely to use contraceptives compared with other statuses. Further, Bisaka believers were likely to use contraceptives more than other religions. Religious leaders' unfavorable attitudes towards contraceptive use were directed to adolescents and married couples alike. All these finding was in line with a study done by [21].

According to the study, it was found that majority 341(90.5%) of the respondents had heard about contraceptive use while the least 36(9.5%) of respondents had never heard about contraceptive use and this was corresponding with an earlier study in a government college, Gangtok, Sikkim, in India indicated that, 98% (153/156) of the students had knowledge about family Planning and 86% (134/156) of them had heard about contraceptives. It was found that more than a half 257(68.2%) of the respondents knew how to use contraceptives while more than a quarter 120(31.8%) of the respondents did not know how to use contraceptives. Majority 134(35.5%) of the first year medical students got information about contraceptive use from health care workers while only 24(6.4%) of the first year medical students never had any information about contraceptive use which was in line with the study done by [34]

which established that the most popular sources of information about contraceptives, in descending order, are health-workers, peers, and media channels.

From the study, it was found that majority 275(72.9%) of the respondents had ever been educated about contraceptive use while minority 102(27.1%) of the respondents had never been educated about contraceptive use. More than a half 272(72.1%) of the respondents opted for both partners (male and female) should decide on contraceptive use whereas only 10(2.7%) of the respondents opted for male to decide on contraceptive use. More than a half 259(68.7%) of the respondents had discussed contraceptive use with their peer groups while 118(31.3%) of the respondents had never discussed contraceptive use with their peer groups. It was found that just more than a half 189(50.1%) of the respondents had their peer group's opinions encouraging while less than a quarter 70(18.6%) of the respondents had their peer group's opinions discouraging contraceptive use. More than three quarters 323(85.7%) of the respondents knew where to get contraceptives whereas 54(14.3%) of the respondents never knew where to get contraceptives. More than a half 253(67.1%) of the respondents find it easy to access contraceptive methods whereas less than a quarter 124(32.9%) of the respondents find it difficult to access contraceptive methods. Nearly all 365(96.8%) of the respondents thought that it was necessary to have knowledge on contraceptives while only 12(3.2%) of the respondents thought that it was not necessary to have knowledge on contraceptives. More than a quarter 169(44.8%) of the first year medical students did not know any method for emergency contraception whereas only 23(6.1%) knew vaginal douching as a method for emergency contraception. Nearly a half 180(47.7%) of the first year medical students preferred condoms while only 4(1.1%) of the first year medical students preferred EC pills. More than a quarter 162(43.0%) of the respondents thought that one is most likely to conceive about 14 days before menstruation whereas less than a quarter 11(2.9%) of the respondents thought that one is most likely to conceive during menstruation. More than a half 247(65.5%) of the respondents knew that contraceptives are measures used to prevent pregnancy & promote child spacing while only 5(1.3%) of the respondents did not know anything.

Concerning attitude towards contraceptive users, focus group discussions among first year medical students at KIU-WC showed that respondents had a good attitude about contraceptive users especially if the user was unmarried. Nearly a half 188(49.9%) of the first-year medical students agreed that it is student's right to use contraceptives whereas less than a quarter 34(9.0%) of the first-year medical students strongly disagreed that it is not students right to use contraceptives. More than a quarter 116(30.8%) of the first-year medical students agreed that it a man's right to decide on use of contraceptives whereas less than a quarter 82(21.8%) strongly disagreed. Furthermore, more than a quarter 171(45.4%) of the respondents agreed that it is a woman's right to use contraceptives while less than a quarter 58(15.4%) strongly disagreed that it is not a woman's right to use contraceptives. Nearly a half 176(46.7%) of the first-year medical students strongly agreed that first year medical students need to learn sexual knowledge including contraceptives whereas only less than a quarter 11(2.9%) strongly disagreed that first year medical students do not need to learn sexual knowledge including contraceptives.

From the study, more than a half 217(57.6%) of first year medical students had used contraceptives while less than a half 160(42.4%) of first year medical students had never used contraceptives. More than a half 260(68.9%) of the respondents had not used contraceptives during the last sexual intercourse whereas more than a quarter 117(31.1%) of the respondents had used contraceptives during the last sexual intercourse but nearly a half 167(44.2%) of the first-year medical students had ever had had sex in the current year while less than a quarter 63(16.7%) of the first-year medical students had never had had sex in the current year. More than a quarter 153(40.6%) of the first-year medical students used condoms in their last sexual contact with contraception while only 3(0.8%) of the first-year medical students used implanon in their last sexual contact with contraception. The most effective contraceptive method among first year medical students was condom use with nearly a half 187(49.6%) of the total number compared with the least 18(4.8%) who used implanon and majority 134(35.5%) prefer it because it has less side effects while 44(11.7%) prefer it because of its easy accessibility. More than a half 219(58.1%) of the first-year medical students had never had side effects with contraceptive use whereas less than a half 158(41.9%) of the first-year medical students had ever had side effects with contraceptive use.

CONCLUSION

The study shows that first-year medical students at KIU-WC have some awareness and sensitization about contraceptive use, but lack knowledge about emergency methods. Barriers include knowledge, sexual intercourse, effectiveness, and side effects

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