Uptake of contraceptive services among undergraduate students of a public university in Kenya–A case of Jomo Kenyatta University of Agriculture and Technology.

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Summary

Contraceptives offer protection against unwanted pregnancy and some sexually transmitted infections including HIV. This study was set to determine the level and factors affecting uptake of contraceptive services among undergraduate students at Jomo Kenyatta University of Agriculture and Technology (JKUAT). The overall level of contraceptives use was low 34.2% (149).Contraceptive service provider attitude (P=0.001), affordability/accessibility/safety (P=0.001) and reason for use (P=0.001) were significantly associated with contraceptive uptake. It was concluded that contraceptive user rate among students was low and they obtain contraceptives over the counter. Therefore more enhanced contraceptive information is required for both students and care providers to improve contraceptive dissemination and use.

Methods: A cross-sectional study design was used which adopted both quantitative (through self-administered questionnaires) and qualitative (through KIs) approaches. A sample size of 436 was used for the quantitative and 3 staffs from the health center for the qualitative data. The randomly selected students were traced through their Faculties/Departments/Courses using an internal memo.

Results: The overall level of contraceptive use was low (34.2%) despite high levels of contraceptive awareness (96.1%). Student's religion, residence, parity, previous sexual experiences, previous contraceptive use, contraceptive sources, availability, costs and students attitude towards contraceptives were associated with contraceptive uptake.

Conclusions: The uptake of contraceptive remains relatively low despite the high level of awareness. Contraceptive costs, availability, sources, provider's attitude and students' contraceptive attitude and practices play a great role in contraceptive uptake.

Recommendations: More enhanced contraceptive information is required for both students and care providers to improve contraceptive dissemination and use.

Students' clinics should be youth friendly to allow students obtain contraceptives from there and not from over the counter

Strategies to educate the university students on benefits of use of contraceptives should be developed by university management and ministry of health to improve acceptability and utilisation of services.

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Introduction

Currently sexual activity among the young adult are initiated at younger ages than in the previous generations with variations among many countries and regions [1]. The risks related to sexual activity and unwanted pregnancy are among the most serious health risks that young people face which has been shown to affect not only the physical health but also long-term emotional, economic, and social well-being. Sexually Transmitted Diseases (STDs) and unintended pregnancy often leading to unsafe abortion and its complications are prevalent reproductive health risks in this age bracket [2,3]. In Kenya, complications of unsafe abortion contribute about 30-40% of all maternal deaths, which surpasses the worldwide average of 13% [4]. Unwanted and early pregnancies and infection with STDs, and HIV contributes significantly to negative reproductive health outcomes of early and unprotected sex in Kenya) [5, 6]. Studies show that sexually active young adults are less likely to use contraception than adults, even within marriage ([7,8]. Researchers have documented that many reported unplanned pregnancies occur within a year after first sexual intercourse which is often unprotected [9]. The value of the effective use of contraceptive methods in preventing unwanted pregnancy has been documented in various studies and the high level of contraceptive awareness and low level of its usage has also been established [10,11].

Young students in the university environment being away from home for the first time become free to experiment sexually especially without any parental supervision in addition, the coercion from older students and the liberal atmosphere of the university further encourage this experimentation which may lead to unwanted pregnancies and the predicament of dealing with the ensuing problems. Data are skewed in Kenya especially among the university students regarding contraceptive awareness, usage and factors influencing uptake; the issues that this current study was set to answer among students of Jomo Kenyatta University of Agriculture and Technology (JKUAT) in Nairobi Kenya.

Methods

Study design and population

This cross-sectional study was designed to determine the contraceptive service uptake and associated factors among undergraduate students of Jomo Kenyatta University of Agriculture and Technology (JKUAT) in Nairobi, Kenya. Students who were at least 18 years old, been a student for at least six months, and consented

were eligible to participate. The university has nine departments/programs that were grouped as clusters, which were sampled with probability proportional to size and an equal percentage of students were selected from each cluster resulting in a self-weighted sample. A total of 436 students gave informed consent and were then systematically enrolled in the study from each cluster. A detailed, structured, behavioral face-to-face interview was used to gather information on contraceptive use and associated factors. Key informant interviews among people in position of leadership, either formal or informal, within the university community were done to reflect on our findings were used to confirm and clarify any pending or new issues described in the structured questionnaires. This study was approved by the ethical review committee of the Kenya Medical Research Institute.

Survey Questionnaire

During data collection, participants were consented and asked to respond to a standardized structured interview in private by a social scientist. We gathered information on their socio-economic and demographic details and also collected data on their studentship including course and year of study as well as place of residence. We also asked them about their knowledge and practice regarding contraceptive use.

Data Analysis

Quantitative data was entered into STATA v 9.2 (Strata Corp LP, Texas, and USA) and cleaned prior to analysis. Qualitative data was analyzed thematically. Factors associated with contraceptive use were analyzed using both bivariate and multivariate analysis. In bivariate analyses, Odds ratios (OR) and 95% confidence intervals (CI) for the association between contraceptive use and demographic or behavioral characteristics was calculated using Poisson regression method. In multivariate analyses, a manual backward elimination approach was utilized to reach the most parsimonious model, including factors that were independently associated with contraceptive use at the significance level of $p \leq 0.05$. The data from KII were subjected to a manual thematic content analysis using general purpose software tools using Microsoft Word (La Pelle, 2004).

Results

Characteristics of the study population

Of the 436 students who participated in the survey, slightly over half (53.4%) were female. The mean age of the students was 21.59 years (range 18-29 years) with three quarters (72%) aged between 21-25 years old. About 9.2% of them had given birth to 1 to 2 children. Majority of them 42.7% were in their second year of study, while 67.9% resided off campus majority of them residing alone. Majority of the students (35.6%) were pursuing business and related course (Table 1).

Table 1. Characteristics of study population

Characteristic (N = 436)	(%)	%
Gender		
Male	203	46.6
Female	233	53.4
Age Group		
18-20	118	27.1
21-25	314	72
26-30	4	.9
Religion		
Catholic	177	40.6
Protestant	209	47.9
Muslim	27	6.2
Other	23	5.3
Marital status		
Married	25	5.7
Single	395	90.6
Divorced	2	.5
Separated	14	3.2
Number of children		
None	396	90.8
1-2	34	7.8
3 and above	6	1.4
Year of Study		
1st year	67	15.4
2nd year	186	42.7
3rd year	132	30.3
4th year	41	9.4
>4 years	10	2.3
Residence		
On campus	140	32.1
Off campus	296	67.9
Reside With		
Parents	60	13.8
Guardian	9	2.1
Older brother/sister	8	1.8
Alone	186	42.7
Colleague	173	39.7
Course of study		
Basic sciences	29	6.7
Health sciences	24	5.5
Agriculture	5	1.1
Bussines and related courses	155	35.6
Engineering and Architech	72	16.5
Communication and IT	131	30
Graduate studies	20	4.6

Sexual behavior and contraceptive use

More than half (52.1%) of the students had current sexual partners, with nearly three quarters (62.8%) having their age of sexual debut between 16 to 20 years (Table 2). There were slightly less than a quarter (26.1%) who were still virgins. Almost all of the students (96.1%) were aware of one or more types of contraceptive, with

most (53.2%) of them obtaining contraceptive information from print and electronic media. Over 65% of the students had used one or more different contraceptive, with condom (54.8%) being the most commonly used. Pharmacy (60.6%) was the most common sources of contraceptives. Most students (34.9%) preferred a contraceptive which was cheap, easily accessible and safe.

Table 2: Sexual behavior and contraceptive use

Contraceptive characteristic	(%)	%
Sexual partner		
Yes	227	52.1
No	209	47.9
Age of sexual debut		
10-15	30	6.9
16-20	274	62.8
21-25	18	4.1
Not stated	114	26.1
Aware of contraceptive		
Yes	419	96.1
No	17	3.9
Source of contraceptive information		
Books/Internet and Media	30	6.9
Family/Friends and Peers	74	17
Health facility	15	3.4
Not stated	21	4.8
Print/Electronic Media	232	53.2
Ever used contraceptive		
Yes	284	65.1
No	145	33.3
Types of contraceptive used		
Emergency contraceptive	52	11.9
Condoms	239	54.8
Regular pills/injections/coil	36	8
Source of contraceptive		
Pharmacy	264	60.6
Student/staff clinic	40	9.2
Clinic, Hospital, Neighbour, shop/supermarket	7	1.6
Reasons for using contraceptives		
Cheap/accessability/safe	94	21.6
Not stated	152	34.9
Prevent HIV/STIs	48	11
Prevent pregnancy	76	17.4
Prevent pregnancy or HIV/STIs	66	15.1

Socio-demographic factors associated with contraceptive use

In bivariate analyses, students who were catholic, or Protestants or Muslims were less likely to utilize contraceptives than those of other religious affiliations OR 0.41, 95% CI 0.23 to 0.67), (OR 0.46, 95% CI 0.27 to 0.79), and (OR 0.35, 95% CI 0.15 to 0.84) respectively. Further, students who resided on campus were less likely to use contraceptives compared to those who resided off campus (OR 0.55, 95% CI 0.37 to 0.94). Students who had given birth (OR 1.53, 95% CI 1.02 to 2.457) were more likely to use one or more of the available contraceptives. Similarly students who stayed alone (OR 2.49, 95% CI 1.33 to 4.67) were more likely to use contraceptives compared to those who stayed with parents.

In multivariate analyses, catholic and Muslims students were less likely to use contraceptives compared to students of other religions (PR 0.54, 95% CI 0.31 to 0.98) and (PR 0.37, 95%CI 0.37 to 0.94) respectively. Further, compared to students who stayed with parents, those who stay alone were more likelihood to use contraceptives (OR 2.37, 95% CI 1.23 to 4.54) (Table 3).

Table 3: Socio-demographic factors associated with contraceptive use

Socio-Demographic Characteristics	Sample size	Contraceptive utilization		P - value	Bivariate	Multivariate
		No	%		OR (95% CI)	OR (95% CI)
Gender						
Male	203	76	37.44	0.277	1.19 (0.86-1.65)	1.13(0.81-1.58)
Female	233	73	31.33	Referent	Referent	Referent
Age Group						
18-20	118	32	27.12	0.936	1.08 (0.15-7.94)	0.19(0.02-1.52)
21-25	314	116	36.94	0.697	1.47 (0.21-10.57)	0.23(0.031-1.82)
26-30	4	1	25	Referent	Referent	Referent
Religion						
Catholic	177	53	29.94	0.001	0.41(0.23-0.67)	0.54(0.31-0.98)
Protestant	209	72	34.45	0.005	0.46(0.27-0.79)	NS
Muslim	27	7	25.93	0.020	0.35(0.15-0.84)	0.37(0.15-0.92)
Other	23	17	73.91	Referent	Referent	Referent
Given Birth						
Yes	40	20	50	0.045	1.53 (1.02-2.45)	1.52(0.39-5.81)
No	396	129	32.58	Referent	Referent	Referent
Year of Study						
1st year	67	15	22.39	0.302	0.55(0.18-1.68)	
2nd year	186	58	31.18	0.63	0.77(0.28-2.14)	
3rd year	132	50	37.88	0.916	0.94(0.34-2.62)	NS
4th year	41	22	53.66	0.589	1.34(0.46-3.89)	
>4 years	10	4	40	Referent	Referent	
Residence						
On campus	140	31	22.14	0.004	0.55(0.37-0.82)	0.59(0.37-0.94)
Off campus	296	118	39.86	Referent	Referent	Referent
Reside With						
Guardian	9	0	0	0.985	ND	
Older brother/sister	8	2	25	0.687	1.36(0.31-6.15)	
Alone	186	85	45.7	0.004	2.49(1.33-4.67)	2.37(1.23-4.54)
Colleague	173	51	29.48	0.153	1.61(0.83-3.08)	1.95(0.97-3.93)
Parents	60	11	18.33	Referent	Referent	Referent

No - Number; % - Percentage; OR - Odds ratio; CI - confidence interval; ND-Not Done; NS - Not significant

Students' behavioral factors associated with uptake of contraceptive

In bivariate analyses, students who reported ever having sex were more likely to utilize contraceptives than those who had no previous sexual experience (OR 9.63, 95% CI 5.45 to 17.01). Students who previously used condoms or regular pills/coils were more likely to use contraceptives compared to those who used emergency pills (OR 4.38, 95% CI 2.83 to 6.79) and (OR 2.21, 95% CI 1.39 to 3.51) respectively. Students who obtained contraceptives from pharmacy or other sources (clinic, hospitals, neighbor and other shops) were more likely to use contraceptives compared to those who obtained their contraceptives from students/staff clinic (OR 8.43, 95% CI 4.4 to 16.04) and (OR 9.3, 95% CI 2.93 to 29.94) respectively. Further, students who observed a positive attitude from the contraceptive provider were more likely to use the contraceptives compared to those who saw negative attitude of the provider (OR 78.6, 95% CI 10.9 to 562.1). Factors like cheap/accessible/safe (OR 43.65, 95% CI 5.9 to 321.3), to prevent STIs and HIV (OR 91.8, 95% CI 12.5 to 674.1), to prevent pregnancy (OR 78, 95% CI 10.7 to 567.7) and to prevent pregnancy and HIV/STIs (OR 122, 95% CI 16.8 to 882.6) were strongly associated with uptake of contraceptives. Students who were currently using condoms (OR 281.7, 95% CI 39.3 to 2.14) or pills (OR 286, 95% CI 38.1 to 2149) were more likely to use other contraceptives than those who did not indicate the contraceptive type they were currently using. In multivariate analysis; none of the behavioral factors were found to be independently associated with contraceptive use (Table 4).

Table 4: Students behavior associated with contraceptive use

Contraceptive characteristic	Sample size	Contraceptive utilization		P - value	Bivariate	Multivariate
		No	%		OR (95% CI)	OR (95% CI)
Sexual partner						
Yes	227	136	59.91	0.001	9.63(5.45-17.01)	NS
No	209	13	6.22	Referent	Referent	Referent
Age of sexual debut						
10-15	30	14	46.67	0.97		
16-20	274	127	46.35	0.97	NS	NS
21-25	18	8	44.44	Referent		
Aware of contraceptive						
Yes	419	149	35.56	0.971	NS	NS
No	17	0	0	Referent		
Contraceptive information						
Books/Internet and Media	30	8	26.67	0.977		
Family/Friends and Peers	74	31	41.89	0.977		
Health facility	15	2	13.33	0.977	NS	NS
Print/Electronic Media	232	84	36.21	0.977		
Not stated	21	5	23.8	Referent		
Ever used contraceptive						
Yes	284	148	52.11	0.978	NS	NS
No	145	21	40.38	Referent		
Contraceptive used						
Condoms	239	125	52.3	0.001	4.38(2.83-6.79)	NS
Regular pills/injections/coil	36	23	65.71	0.001	2.21(1.39-3.51)	
Emergency contraceptive	52	12	23.1	Referent	Referent	
Source of contraceptive						
Pharmacy	264	135	51.14	0.001	8.43(4.4-16.04)	NS
Clinic, Hospital, Neighbour, shop	7	4	33.8	0.001	9.3(2.93-29.94)	
Student/staff clinic	40	13	32.5	Referent	Referent	
Provider's attitude						
Positive	267	139	52.06	0.001	78.6(10.9-562.1)	NS
Negative	18	9	50	Referent	Referent	
Why use contraceptives						
Cheap/accessability/safe	94	27	28.72	0.001	43.65(5.9-321.3)	
Prevent HIV/STIs	48	29	60.42	0.001	91.8(12.5-674.1)	NS
Prevent pregnancy	76	39	51.32	0.001	78(10.7-567.7)	
Prevent pregnancy or HIV/STIs	66	53	80.3	0.001	122(16.8-882.6)	
Not stated	152	1	0.66	Referent	Referent	
Current contraceptive used						
Condom	133	131	98.5	0.001	281.7(39.3-2.14)	NS
Pill	17	17	100	0.001	286(38.1-2149)	
Not stated	286	1	0.35	Referent	Referent	

No - Number; % - Percentage; OR - Odds ratio; CI - confidence interval; ND-Not Done; NS - Not significant

Additional students' behavioral factors associated with uptake of contraceptive.

Students who stated that unwanted pregnancy leads to economic burden were less likely to use contraceptives than those who had no idea (OR 0.52, 95% CI 0.37 – 0.75). Students who stated they would terminate pregnancy (OR 0.63, 95% CI 0.41 – 0.99) or report to parents (OR 0.32, 95% CI 0.17 – 0.55) if pregnant were less likely to use contraceptive than those who did not state. Further, students who stated that health complications were hindrance to contraceptive use were less likely to use contraceptives compared to those who reported that contraceptive use could lead to death (OR 0.59, 95% CI 0.35 – 0.99). Students who stated encouragement of abstinence as a means of improving uptake of reproductive health services were less likely to use contraceptive compared to those who had no solution(OR 0.2,95% CI 0.06–0.66) (Table 5).

On the other hand, students who reported how they could be encouraged to use contraceptives by making them affordable/accessible/available (OR 6.78, 95% CI 2.3 – 19.5) or by creating more awareness (OR 4.79, 95% CI 1.77 –12.9) were more likely to use contraceptive compared to students who did not mention any strategy to encourage usage. Student who previously used condoms or regular pills/coils were more likely to use contraceptives compared to those who used emergency pills (OR 4.38, 95% CI 2.83 – 6.79) and (OR 2.21, 95% CI 1.39 – 3.51) respectively. Students who have been infected with an STD were more likely to use contraceptive than those who have not been infected (OR 2.55, 95% CI 1.79 – 3.65). Further those who were infected with bacterial/fungal STD (Gonorrhea, syphilis, chlamydia, cancroid or yeast) were more likely to use contraceptive than those infected with viral STD (HIV or Herpes) (OR 2.68, 95% CI 1.84 – 3.89) (Table 5).

In multivariate analysis, affordability/accessibility/availability was more likely to lead to uptake of contraceptive use than lack of any idea (OR 4.56, 95% CI 1.54 to 13.5). Further, those who stated creating more awareness (OR 4.07, 95% CI 1.43 to 11.5) were more likely to use contraceptive than those students who did not mention any strategy to encourage usage (Table 5).

Table 5:Characteristics factors associated with contraceptive use

Contraceptive characteristic	Sample size	Contraceptive utilization		P - value	Bivariate	Multivariate
		No	%		OR (95% CI)	OR (95% CI)
Encouragement to use contraceptive						
Affordable/accessible/available	46	24	52.17	0.001	6.78(2.3-19.5)	4.56(1.54-13.5)
Breaking Stigma	29	7	24.14	0.068	3.13(0.91-10.7)	
Creating more awareness	309	114	36.89	0.002	4.79(1.77-12.9)	4.07(1.43-11.5)
Not Stated	52	4	7.69	Referent	Referent	
Impact of unwanted pregnancy						
Health risks	137	51	37.23	Referent	Referent	NS
Academic delay	340	117	34.41	0.106	0.71(0.46-1.07)	
Economic burden	230	61	26.52	0.001	0.52(0.37-0.75)	
No idea	6	0	0	ND	ND	
Action if pregnant						
Terminate pregnancy	143	43	30.07	0.048	0.63(0.41-0.99)	
Defer training	170	68	40	Referent	Referent	NS
Report to parents	93	14	15.05	0.001	0.32(0.17-0.55)	
No idea	8	0	0	ND	ND	
Hindrance to contraceptive use						
Health complications	263	67	25.48	0.05	0.59(0.35-0.99)	
Costly	20	5	25	0.286	0.58(0.21-1.57)	NS
Lack of awareness	21	6	28.57	0.39	0.66(0.26-1.67)	
Cause death	90	53	58.89	Referent	Referent	
Improvement of reproductive						
Affordable/accessible/available	38	12	31.58	0.927	1.03(0.52-2.045)	
Increase awareness	40	20	50	0.098	1.63(0.91-2.92)	
Encourage abstainance	49	3	6.12	0.008	0.2(0.06-0.66)	NS
Qualified health personnel	210	84	40	0.232	1.31(0.84-2.03)	
Condom use	14	4	28.57	0.899	0.93(0.32-2.67)	
No solution	85	26	30.59	Referent	Referent	
Ever had any STIs?						
Yes	58	42	72.41	0.001	2.55(1.79-3.65)	NS
No	378	107	23.31	Referent	Referent	
STI Type						
Bacterial	49	37	75.51	0.001	2.68(1.84-3.89)	NS
Viral	7	5	71.43	Referent	Referent	

No - Number; % - Percentage; OR - Odds ratio; CI - confidence interval; ND-Not Done; NS - Not significant

Discussion

Contraceptive awareness and usage

Almost all students were aware of contraceptive with print and electronic media being the most common source of this information. About three quarter of them had used at least one of the contraceptives. These results confirms the result of the [20] which showed that more than 97% of unmarried male and female students had knowledge of contraceptive available in Kenya [18]. The current contraceptive awareness is far much higher than the 39% rates reported between 1990 and 2011 among university students in Kenya [21]. Other regions have reported different level of awareness of contraceptive for example among college students in Kathmandu, Nepal the level of awareness was 66%) [19], Ghana (43%)) [22] and Cameroon (63%) [23]. The current awareness level is comparable to those of university students, for example, in the USA (94%) (Vahratian et al., 2008) [24] and Jamaica (84%) (Harper et al., 1995) [25].

In the current study, slightly more than a third 34.2% of the students were currently using at least one of the commonly available contraceptives. Majority of them 54.8% being condoms with 11.9% and 8% using emergency pills and regular pills including injectable and coils respectively. This agrees with a study done in Adama University, Central Ethiopia which stated that only 26.7% of the students who had unprotected sex used emergency contraception [14]. In four different public universities in Texas and Wisconsin, one-in-four respondents (25%) reported that neither they nor their partner used a method of contraception at first sexual intercourse [12]. In a public college in New York City 42% of the sexually active students did not use condoms and other contraceptives strategies [26]. In large, urban, tertiary institution campus in South Africa over 90% of African and 75% of Indian sexually active participants had reportedly used a condom in the last three months, but few had ever used a female condom [27]. Among individuals who choose to be sexually active, condom use is the only reliable method of STI and HIV prevention. Regardless, rates of condom use among young adults, including college students, are low. For instance, research has shown that 4.5%, 27.9%, and 52.8% of sexually active students used condoms during their most recent oral, anal, and vaginal intercourse experiences, respectively [4].

Factors affecting utilization of contraceptives

Students who professed one kind of religion (catholic, Protestants and Muslims) were unlikely to utilize contraceptives. Religion teaches and advocates for sex within marriage therefore students who professed one kind of religion were unlikely to engage in premarital sex and thus the lack of need to use any form of contraceptive. This finding is contrary to [28] who showed high proportion of both married and unmarried religious students using contraceptive. Students who resided on campus were less likely to use contraceptives compared to those who resided off campus. Fear of being seen by other students and inconvenient service delivery within the campus environment could account for this lack of

association. [29] showed that the area of residence and of growing up had a significant association with non-use of contraception. Further compared to students who stayed with parents, those who stay alone showed a 37% increase in likelihood of utilization of contraceptives. This was probably because of the ease of access and freedom to choose.

Students who had given birth before were more likely to use one or more of the available contraceptives. This was probably for family planning reasons. An attribute confirmed by the [20], [18].Students who had previous sexual partners, or used condoms or regular pills/coils were more likely to use contraceptives. Students in a relationship were more likely to use contraceptives than those who are single [30, 31, 29], possibly because of the association between reduced communication in early casual relationships and risky sexual behaviors. Student's source of contraceptives greatly influenced uptake; those who obtained contraceptives from pharmacy or other sources (clinic, hospitals, neighbor and other shops) were more likely to use contraceptives compared to those who obtained their contraceptives from students/staff clinic. This is supported by statements that emerged from the key informants.

"Outlets include private clinics and chemists especially for emergency contraceptives".

"Stock out is not experienced as when Kenya Medical Supply Agency (KEMSA) fails to supply the hospital usually buys".

In China,) [32] found that providing free condom at student health centers was associated with increased odds of condom use among male college students. It indicated that services for contraceptive provision could be improved and policies modified in order to facilitate access to contraceptive care [30]. Incorporating these services into health protection programs could benefit students as college-aged students have high rates of unintended pregnancies and high risk of STDs [30].

Contraceptive service provider positive attitude, contraceptive affordability/accessibility/safety and use of contraceptive to prevent pregnancy and HIV/STIs were strongly associated with contraceptive uptake. Further, student's current contraceptive use has great influence on continuous use. With regard to this, key informants noted that;

"Students are reserved. They do not seek for health care on time but come when complications have set in. This can be due to stigma and fear of being harassed by the staff. Abortion and STI cases usually come at night."

"Students are currently using contraceptives but we do not have specific data. Preferred type is male condoms and emergency pills".

The paramount importance of good provider attitude, accessibility and affordability has been extensively showed elsewhere. Among college students in Sikkim, India, [33] showed that students who thought contraceptives were to be used to prevent unwanted pregnancy and for birth spacing was associated with actual use. Similarly in Ethiopia [34] repoterd that student who believed that contraceptives were effective in preventing pregnancy and STI were statistically significantly associated with actual use. It is reasonable to state therefore that positive attidue about contraceptives and good knowledge about their use and fucntion are key motivators for actual use. The students in Kenyan colleges and other learning institutions could greately benefit for enhanced contraceptive information aimed at improving their attitue and attitude of others including providers for the perpuses of contraceptive dissemination and use. This should be a key govenment policy agender.

Poor knowledge and attitude towards pregnancy such as that it leads to economic burden, or that they would terminate pregnancy was statistically associated with disuse of contraceptives. Further, students who stated that contraceptive use leads to health complications were hindrance to contraceptive use. On the other hand, students who reported how they could be encouraged to use contraceptives by making them affordable/accessible/available compared to students who did not mention any strategy to encourage usage. Student's previous history of STD infection had a great impact on current contraceptive use. Those students who had been infected before with an STD were more likely to use contraceptive. Further, those who were infected with bacterial/fungal STD (Gonorrhea, syphilis, chlamydia, cancroid or yeast) were more likely to use contraceptive than those infected with viral STD (HIV or Herpes). [35] in China observed similar trend among among unmarried graduate students. STD infection to the students causes great emortional burden. Overall, the CDC estimates that 19 million new sexually transmitted infections occur each year, almost half among 15- to 24-year-olds. College is a time when many young people choose to explore their newfound freedom. Part of this can be engaging in potentially unsafe sexual situations. Perhaps that is why STD rates are so much higher among teens and young adults than they are with any other age group. It's a powerful statistic to keep in mind for those entering the college dating scene.

In conccluion, this study revealed that there are high level of sexual activity among the university students with low uptake of contraceptive services. Condom was the most commonly used contraceptive. Attributes such as religion, knowledge, previous sexual practices, availability, affordability greately influence contraceptive acceptability and uptake. Therefore, students in Kenyan tertiary institutions could greatly benefit from enhanced contraceptive information dessemination aimed at improving their attitude towards contraceptive awareness and hopefully uptake.

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