

## Reproductive Health Services Utilization and Associated Factors among Youths in Mombasa County-Kenya

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### Abstract

**Background:** Reproductive health has emerged as area of concern globally and either poorly understood or not fully appreciated among the youth. Access to these services is an important element in averting youths from different sexual and reproductive health problems. **Aim:** This study sought to establish access to reproductive healthcare services and associated factors among youths in Mombasa County, Kenya. **Study design:** Community based cross-sectional study was carried between August 2018 and January 2019. **Methodology:** A self-administered structured questionnaire was used to gather information. Obtained information was summarized using SPSS database. The data was cleaned and analyzed by SPSS version 17. Quantitative data was entered into STATA v 9.2 (Strata Corp LP, Texas, and USA) and cleaned prior to analysis. Both bivariate and multivariate analysis was used to examine association between dependent and independent variables. **Results:** A total of 384 sexually active youth participated in the study, 200 (62.2% females and 184 (37.8%) males. Media was main source of information for modern family planning methods 200 (50.1%). Majority of users 326 (84.9%) were soughting contraceptives from pharmacies. 213 (55.5%) were utilizing modern contraception. Risk perception of oneself towards HIV/AIDS acquisition was positively linked with service utilization (COR=2.34, 95%CI: 2.19-5.34). Condom was the most used method 134 (34.9%). Having knowledge about reproductive health services [COR=2.87; 95% CI: 1.92-3.94] was positively associated with the outcome. It was nearly three (3 times more likely that male respondents reported use of condoms (OR = 2.86, 95% CI: 1.82-4.91) than their female counterparts.

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**Conclusion:** There was high level of sexual activity among the youth with low uptake of contraceptive services. Condom was the most commonly used contraceptive. Therefore, there is need improve contraceptive uptake among young people and availability of choices should not be compromised.

**Key words:** Kenya; Reproductive health services; utilization; factors.

### 1. Introduction

Worldwide there are over 1.8 billion young people and nearly 90 percent of whom live in developing countries. The age-range 15 to 24 is a period when most people begin to actively explore their sexuality. Globally, most people become sexually active before their 20<sup>th</sup> birthday and in Sub-Saharan Africa, 75 percent of young women report having had sex by

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age 20[1,2]. Research indicates that youths who begin early sexual activity are at high risk of having high-risk sex (having multiple partners, engaging in unprotected sexual activity, and experimenting sex with alcohol and other drugs), thereby increasing their risk for unintended pregnancy and sexually transmitted infections including HIV/AIDS [3]. Sub-Saharan Africa remains the most affected region in the world with an estimate of 22.5 million people living with HIV. Approximately 1.7 million new infections occurred in the region. Ten million young people aged 15–24 years and almost 3 million children under 15 years were living with HIV. Rates of premarital sexual activity were highest in Sub-Saharan Africa, where more than half of girls aged 15-19 have sexual experience [4].The concern about youth sexual and reproductive health has grown due to unmatched increasing rates of intimacy, early pregnancies and sexually transmitted infections including human immune deficiency virus among adolescents [5, 6].Worldwide, the estimated total abortions range between 36-53 million yielding an annual rate of 32-46 million abortions per 1,000 women of reproductive age. In Africa alone, over 1.5 million abortions are procured annually, while in Kenya it is approximated that about 300,000 abortions are procured each year. Unsafe abortion is an important global public health issue. Globally, 20 million unsafe abortions take place every year, with predominance in developing countries [7]. Unsafe abortion is a major public health problem in low and middle income countries. Young and unmarried women contribute a high risk group for unsafe abortions. It has been estimated that widespread use of emergency contraception may significantly reduce the number of abortion related morbidity and mortality among university students in Cameroon [8].In Kenya, complications of unsafe abortion contribute 30-40% of all maternal deaths, far more than the world wide average of 13%, making unsafe abortion a significant cause of maternal mortality in the country, which stands at 486/100,000 live births [9].Adolescents' utilization of reproductive health services is not only varying from one part of the word to the other, but also it varies within a single

country. It also noted that utilization of RHS in many countries is low and lags far behind what is expected to be even after decades of extensive investments [10]. Sexual activity is widespread among adolescents and youth in Kenya. In a study carried out among university students by Mutungi [11] results showed that no changes in behaviour were evident with respect to either adolescents aged 15-19 years do not believe they are at risk of contracting [12]. In Sub-Saharan Africa, a study by Santelli [13] indicated that by age of 20 years, at least 80% of the continent's young have become sexually active. Poverty can force young girls to trade sex for money to supplement family income and/or pay school fees. The "sugar daddy" phenomenon that is characterized by older men engaging in sexual relations with younger girls who are presumed to be disease free is of particular concern. In some countries in Africa, the popular belief that sex with a virgin cures AIDS has led many older men to seek out younger female sex partners [14]. Despite the many recorded reproductive health challenges experienced by adolescents and youth in Kenya, there is limited access to reproductive health services. The majority of sexually active adolescents are not using contraception [15]. Kenya has approximately 600 health facilities. However, not all offer comprehensive sexual reproductive health care [16]. Even though there are significant gains achieved in Kenya's health indicators, high maternal morbidity and mortality levels still persist, particularly those associated with prolonged and obstructed labour, unsafe abortion, haemorrhage, hypertensive disease of pregnancy, STDs and HIV/AIDS [17].

At service level, many providers and available health information indicate that family planning are only for those who are "mothers", and are not suitable for those who have not yet had a child [18]. At the policy level, a recent commentary in the Lancet advocates for the replacement of the term "family planning" with "contraception"; a more neutral term that applies to users, with or without families [19]. Despite the high proportion of unmarried sexually active youth in Kenya, the majority of research on barriers to family planning has

been conducted among married women and research among youth is limited to condoms only [19]. There is hardly any studies on community-based distribution of contraceptives that has focused on youths and the factors that influence community based contraceptive uptake among youths are not well understood in Mombasa County.

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## 2. Materials and Methods

### 2.1 Study site

The study was carried out in Mombasa County which has a network of health facilities including the referral hospital (Coast General Provincial Hospital), Sub-County hospitals, health centres and dispensaries as well as private healthcare facilities. The population is steadily growing due to rural-urban migration and immigration from unstable countries. The total area Mombasa is 109 Km<sup>2</sup> with about 60% of the people living overcrowded informal settlements in the form of shelters. Residents are of mixed ethnicity and are engaged in low-income generating activities, mainly informal sector and small trading. The County has rapid population growth and is characterized by low socio-economic indicator. This creates huge demands on health facilities and inability to keep pace with the environment, continued economic prosperity, public health and quality of life of residents. Tuberculosis and HIV/AIDS are the leading causes of deaths in the area representing 50%.

### 2.2 Study design

A community based cross-sectional design combining both qualitative and quantitative was adopted in this study between August 2018 and January 2019.

### 2.3 Study population

The study population comprised of sexually active youths between ages 15-24 years. A mixture of both married and unmarried youths were considered in the study irrespective of their educational and occupational status. The key informants comprised of guidance and counseling teachers for primary and secondary schools, community health workers, public health officers, medical superintendents and opinion leaders.

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### 2.3.1 Inclusion criteria

All males and females aged 15-24 years and those who consented to participate in the study.

Contraceptive service providers were also included

### 2.3.2 Exclusion criteria

All individuals who were less than 15 years and those who did not consent were excluded.

### 2.4 Sample size estimation.

Sample size estimation was done using the formula by Fischer *et al* (1998) at 95% confidence interval and prevalence of 50% because the exact proportion of Mombasa county youths who utilize reproductive health services is not well known.

$$n = \frac{Z^2_{1-\alpha/2} P (1-P)}{d^2}$$

Where;

n = Minimum sample size required

d = Absolute precision (5%)

$\alpha$  = Level of significance at 95% confidence interval (5%)

Z = Standard normal deviate corresponding to 95% confidence interval (1.96)

P = Assumed proportion of the population that donates blood (this is not known hence it is assumed to be 50%).

$$\text{Therefore, } n = \frac{(1.96)^2 \times 0.5(1-0.5)}{(0.05)^2} = 384$$

### 2.5 Sampling procedure

Mombasa County was purposively selected because of cases of teenage pregnancy and HIV/AIDS cases. The sampling frame was the list of all youths between ages 15-24 years from the four randomly selected youths of Mombasa Sub Counties. Eligible participants who comprised of adolescent girls and boys who had not been interviewed with the semi-

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structured questionnaires were purposively selected for the focus groups discussions. Purposive sampling technique was employed to select key informants.

## 2.6 Data collection techniques

A structured pre-tested questionnaire was applied to participants who consented to the study drawn from all the study sites. The questionnaire was administered either in English or Kiswahili depending on the preference of each respondent. There was consistent use of a standardized interview translation protocol, training procedures, and use of appropriate language to minimize interpersonal variation in data quality. Completed questionnaires were checked for completeness. Key informant interviews were conducted with two community health workers, two public health officers, one medical superintendent and one area sub-chief.

Three Focus Group Discussions comprising of ten adolescent girls and boys were held to delve deeper into the study subject.

## 2.7 Data management and 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 by descriptive statistics using frequencies, percentages, cross-tabulation, medians, and modes. Factors associated with contraceptive use were analyzed using both bivariate and multivariate analysis. In bivariate analysis, odds ratios (OR) and 95% confidence intervals (CI) for the association between contraceptive use and demographic or behavioural 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  $P \leq 0.05$ .

## 2.8 Ethical consideration

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Clearance to carry out the study was obtained from the Mombasa county scientific steering committee. Written consent was also sought from each respondent. Respondents were protected by keeping the information given confidential and no questionnaires contained any of the respondents' names. The identity of individuals was protected by using numbers only. Respondents were also assured that any information obtained would be used only for the purpose indicated in the objectives and that their consent would be sought before revealing their information for any other purposes. The study did not cause any physical or psychological harm to the respondents.

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### 3.0 Results

#### 3.1 Socio-demographic characteristics of the participants

A total of 384 sexually active young people participated in the study. The mean age of the respondents was 19.5 years, age range was 15-24, and 52.1% of the respondents were between ages 15-19 while 47.9% between 20-24 years. Female respondents constituted the biggest proportion (62.2%) of the study respondents while 33.9% (130/384) of the study respondents were married and below 20 years. However, only 40% had reached secondary level and 18.2% had joined tertiary institutions. Majority of the respondents (40.4%) were students while 37.5% unemployed. This showed that youths out of school mainly depended on small businesses. (Table 1).

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**Table 1 Socio-demographic characteristics of respondents**

Variable	Frequency (N=384)	Percentage
<b>Age</b>	15-19	200
	20-24	184
<b>Sex</b>	Female	239
		62.2%

<b>Marital status</b>	Male	145	37.8%
	Single	250	65.1%
<b>Religion</b>	Married	134	34.9%
	Christianity	219	57.0%
<b>Education level</b>	Islam	161	41.9%
	Others	4	1.1%
	None	15	3.9%
<b>Occupation</b>	Primary school	145	37.8%
	Secondary school	154	40.1%
	Tertiary education	70	18.2%
	Unemployed	144	37.5%
	Self employed	30	7.8%
	Employed	25	6.5%
	Student	155	40.4%
	House wife	30	7.8%

### 3.2 Knowledge of Reproductive health services among youth

Out of the 384 study participants only 195 (50.8%) had heard some of the modern family planning method (MFPM). The main source of information relating FPM was media 200 (50.1 %), health facility 95 (24.7%) and friends and peers 64 (16.7%). Majority of participants 205 (53.4%) preferred regular pills/injections while 170 (44.3%) other types. The most important reasons why youths use the MFPM were child spacing 260 (67.7%) and limiting family size 120 (31.3%). Regarding acceptance of modern contraception by the culture, majority of the respondents 209 (54.4%) reported as it is not accepted by their culture and 175 (45.6%) showed that their culture acceptance the utilization of modern family planning methods. Child preference 164 (42.7% was the main reasons why youth were not utilizing modern family planning methods. Others were religious reasons 143 (37.2%) and affecting health 77 (20.1% respectively. Two hundred and fourteen nine (64.8. %) respondents had never discussed MFPM with their family and friends while 97 (25.3%) normally discusses. Two hundred and ninety five (76.8.2%) of study participants agree that too many children can improve family income while 114 (29.7%) disagree. The study

findings showed that 270 (70.3%) of the study participants agree that high infant/ child mortality be compensated by too much birth where 114(29.7%) of disagree. A majority of the respondents 290 (75.5%) stated that religion considers use of family planning as sin while 94 (25.5%) disagree. Some of the reasons for using particular contraceptive is to prevent pregnancy 175 (45.6%), safety and accessibility 105 (27.3%) and to prevent HIV/STIs 104 (27.1%). These actors were strongly associated with uptake of contraceptives ( $p < 0.05$ ). Respondents Most of the contraceptives 326 (84.9%) were obtained over the counter in pharmacies, 35 (9.1%) from clinics and hospitals while 23 (6.0%) obtained their contraceptives shops or supermarkets Table 1). Risk perception of oneself towards HIV/AIDS acquisition was positively linked with service utilization (COR=2.34, 95%CI: 2.19-5.34).

**Table 2: Knowledge of Reproductive health services among youth (n=384)**

Variable	Level	Frequency	Percent %
Ever heard information MFPM	Yes	195	50.8
	No	189	49.2
Source of information	Health facility	95	24.7
	Print/Electronic Media	200	52.1
	Family/Friends and Peers	64	16.7
	Not hear	25	6.5
Methods of MFPM known	Regular Pills/Injections	205	53.4
	Other Types	170	44.3
	I do not know	9	2.3
Reasons youth use MFPM	Child spacing	260	67.7
	To limit family size	120	31.3
	I don't know the reason	4	1.0
Cultural acceptance of MFPM	Yes	175	45.6
	No	209	54.4
Reasons youth not using MFPM	For religious reason	143	37.2
	Child preference	164	42.7
	Rumour (Affects health)	77	20.1
Family/Friend Discussion for the use of MFPM:-	never discussed	249	64.8
	Discuss usually	97	25.3
	intention to Discuss	38	9.9
How to make decision to use MFPM	Jointly	197	51.3
	Husband/Friend	187	48.7
Too many children improve family income.	Yes	295	76.8
	No	89	23.2

High infant/child mortality be compensated by too much birth	Yes	270	70.3
	No	114	29.7
Religiously it is considered FP as sin	Yes	290	75.5
	No	94	25.5
Birth spacing is important for child & maternal health	Yes	205	53.4
	No	179	46.6
Why use contraceptives	Cheap/accessibility/safe	105	27.3
	Prevent HIV/STIs	104	27.1
	Prevent pregnancy	175	45.6
Source of contraceptive	Pharmacy	326	84.9
	Clinic or Hospital	35	9.1
	Shop	23	6.0
No. of sexual partners	1	305	79.4
	2 and above	79	20.6
Perception of risk towards HIV/AIDS.	Yes	165	43.0
	No	219	57.0

### 3.3 Logistic Regression Predicting the Likelihood of Modern Contraceptive Use

The prevalence of use modern contraception (all methods) was at 213 (55.5%). Nonuse of any modern contraceptive was at 171 (45.5%) considering that all the interviewees were **sexually active**. Forty five percent of the 171 respondents who were not currently using modern contraceptives, reported ever used any method in their life time. Nonuse of modern contraceptive was common among non-married females below 20 years. The Logistic regression (Table 3) revealed that none of the variables (age, sex, marital status, schooling status, number of children, siblings and fertility desires) were significantly associated with use of modern contraceptive among the study respondents ( $P > 0.05$ ). However, although marital status was not statistically significant in the model, after adjusting for other factors, being married increased the probability of using modern contraceptives by nearly 50% compared to those who reported not being married (OR=1.45, 95% CI = 0.62-1/77]. Other factors such as being below 20 years, having no children and the desire for having  $\geq$  children were less likely to influence use of modern contraceptives (OR = 0.80;95% CI=0.40 – 1.21, OR = 0.93;95% CI=0.41-2.34 and OR = 0.76;95% CI = 0.82-2.83]. Having knowledge about

reproductive health services [COR=2.87; 95% CI= 1.92-3.94] was positively associated with the outcome.

**Table 3: Unadjusted and Adjusted Odds Ratios for the Factors Influencing Modern Contraception among Respondents.**

Independent variables	Use of modern contraceptive		Unadjusted		Adjusted	
	Yes	No	OR	CI-95%	OR	CI-95%
<b>Age</b>						
20-24 years	78	106	1.0		1.0	
15-19 years	135	65	0.81	(0.49-1.18)	0.80	(0.40-1.21)
<b>Sex</b>						
Female	138	101	1.0		1.0	
Male	75	70	1.41	(0.76-1.85)	1.17	(0.64-1.87)
<b>Marital status</b>						
Married	90	44	1.0		1.0	
Single	123	127	1.04	(0.69-1.66)	1.65	(0.73-2.94)
<b>Schooling status</b>						
Out of school	123	106	1.0		1.0	
In-school	90	65	1.14	(0.69-1.78)	1.15	(0.62-2.96)
<b>No. of children</b>						
3-5	36	29	1.0		1.0	
1-2	84	68	0.95	(0.46-1.82)	0.04	(0.44-2.33)
0	93	74	0.87	(0.44-1.78)	0.89	(0.44-2.33)
<b>No. of siblings</b>						
≥ 5 siblings	132	107	1.0		1.0	
≤ 4 siblings	81	64	0.85	(0.55-1.71)	0.66	(0.56-1.63)
<b>Fertility</b>						
≤ 4 children	157	120	1.0		1.0	
≥ 5 children	56	51	0.88	(0.54-1.58)	0.89	(0.49-1.68)
<b>Knowledgeable about RHS</b>						
Knowledgeable	130	65	2.94	1.99-3.98	2.87	1.92-3.94*
Not Knowledge	83	106	1.0	1.0		
<b>Attitude towards RHS</b>						
Bad attitude	90	80	1.0			
Good attitude	123	91	0.98	0.65-1.67	1.50	0.73-1.92

### 3.4 Logistic Regression Predicting the Likelihood of Condom Use

The logistic regression model analysis after adjusting for other factors, results indicated statistically significant factors to use of condoms to be; sex and marital status. It was nearly three (3 times more likely that male respondents reported use of condoms (OR = 2.86; 95% CI=1.82-4.91) than their female counterparts. Similarly, it was two \*(2) times more likely that respondents who were not married would report use of condoms [OR=2.48; 95% CI=1.31-4.74] than married respondents. Although not having children was not statistically significant in the model at 5% level, it increased the probability of using condoms by 25% [OR = 1.25; 95% CI = 0.81-2.71]. On the other hand, factors like number of siblings and schooling status were less likely to influence use of condoms [OR=0.96; 95% CI = 0.56-1.83, and OR = 0.76; 95% CI = 0.57-1.58] as shown in table 4.

**Table 4: Unadjusted and Adjusted Odds Ratios for the Factors Influencing Use of Condoms among Respondents.**

Independent variables	Condom Use		Unadjusted		Adjusted	
	Yes	No	OR	CI-95%	OR	CI-95%
<b>Age</b>						
20-24 years	54	130	1		1	
15-19 years	80	120	1.86	(0.13-2.84)**	1.01	(0.66-1.87)
<b>Sex</b>						
Female	54	185	1		1	
Male	80	65	3.70	(2.19-3.45)	2.86	(1.82-4.91)***
<b>Marital status</b>						
Married	34	100	1		1	
Single	100	150	3.90	(2.38-3.65)	2.48	(1.31-4.74)*
<b>Schooling status</b>						
Out of school	64	165	1		1	
In-school	70	85	0.60	(0.25-1.57)	0.76	(0.57-1.58)
<b>No. of children</b>						
With a child/ren	44	117	1		1	
Without a child	90	133	3.56	(1.98-1.83)	0.25	(0.81-2.71)
<b>No. of siblings</b>						
≥ 5 siblings	200	75	1		1	
≤ 4 siblings	19	90	0.10	(0.67-1.88)	0.96	(0.56-1.83)

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**Fertility desires**

≤ 4children	80	150	1		1	
≥ 5 children	54	100	0.72	(0.95-2.82)	1.45	(0.65-3.82)

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#### 4. Discussion

This study assessed the uptake and use of modern contraceptives and the factors that influence contraception among youths (15-24) at community level in Kisauni, Mombasa County. However, nearly 44.5% of sexually active youths reported not using any modern contraceptives and this should be of great public health concern. This high level of sexual activity among the youth question the various efforts from stakeholders to address the issue of risky sexual behavior among young people especially those in higher institutions of learning in the recent past. With the high level of awareness of HIV/AIDS with 99% of women and 100% of men age 15-49 years having heard of AIDS, one would have expected that this knowledge would have translated to practice but this result is pointing to the contrary. Risky sexual practices are still common occurrences among students in higher institutions of learning. In Kenya where HIV prevalence in people aged 15 to 49 has increased from 6.4% in the 2009-2012 to 7.3% in 2015, high levels of sexual activity and unprotected sex are placing these youths at risk of HIV infection, as well as pregnancy. Research indicates that youths are at high risk of having high-risk sex, thereby increasing their risk for unintended pregnancy and sexually transmitted infections including HIV/Aids [20]. This study also showed that uptake of modern contraceptives was lower among unmarried females below 20 years. This could be because the youths themselves and the providers of contraceptives were a little reserved about use of contraceptives by the unmarried and in-school youths [21]. Studies have demonstrated difficulties in satisfying contraceptive needs in communities where contraceptives are believed to be only for married people [22]. The results indicate that generalized contraceptive services for youths could not

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be a solution to the low up of contraceptives among youths. The implications of this is that family planning programs targeting youths should not aim at everybody but rather focus on specific subgroups because amongst youths, there are more vulnerable subgroups. Increasing use of contraceptives among youths may require messages and services tailored towards individual groups [23].

We found that males and those who reported being single were more likely to report using condoms compared to the female and married respondents. On the other hand, those who were between the ages 20-24 years and the married were more likely to report using Depo-Provera compared to those between the ages of 15-19 and the unmarried respondents. Similarly, a study in Kenya and Nigeria showed that condom use was more amongst men compared to women [24], the latter with a population of students in institutions of higher learning. This finding could explain the findings in a study amongst the Latino community that showed that females were at a high risk of unprotected sex compared to their male counterparts [25]. Again, studies carried out in Kenya, Ghana and Brazil [26] also indicated that condom use was less among married couples compared to those who were single. This draws more attention to fact that young people's contraceptive needs and preferences differ by age group and marital status.

Related to the above, condoms were reported to be the main contraceptive method used among the study participants. This is similar to the findings of other studies where the most commonly known, ever used, and currently used contraceptive was condom [27, 28]. Further still, this study showed that youths used only short term contraceptives like condoms and contraceptive pills. This indicates knowledge gaps among youths, limited access to comprehensive contraceptive information as well as full range of contraceptive services. Another reason for use of only short term contraceptives could be that youths are at the onset of their reproduction and therefore believe use of long term methods like nor plants is

inappropriate. On the other hand, it could mean that young people are mainly interested in condoms and therefore an opportunity for promoting condoms use among youths since acceptability is already demonstrated [29].

In this study, almost all the respondents (52.1%) were aware of contraceptive with print and electronic media the most common sources of information. Half of the respondents (55.5%) had used at least a form of contraceptive. These results confirm the result of the KDHS (2015), which showed that more than 97% of unmarried males and females had knowledge of contraceptive (female sterilisation, male sterilisation, the pill, intra-uterine device (IUD), injectables, implants, male condoms, female condoms, lactational amenorrhoea, and emergency contraception and two traditional methods (rhythm or calendar method and withdrawal) used and available in Kenya. The current contraceptive awareness is far much higher than the 39% rates reported between 1990 and 2013 among university students in Kenya [30]. Other regions have reported different level of awareness of contraceptives for example among college students in Kathmandu, Nepal, the level of awareness was 66% [31], Ghana (43%) [32] and Cameroon (63%) [8]. Sexual and reproductive health information is vital as it is the genesis towards use of SRH services. The Kenya Adolescent Reproductive Health and Development Policy of 2003 provide that Adolescent Sexual and Reproductive Health encompass the provision to adolescents sexual and reproductive health information and education. This study also explored the perceptions of different family planning providers on the provision of contraceptives to young people. The study showed a slight positive shift in the provider perceptions in favour of dispensing contraceptives to young people but still, there were a lot of concealed provider biases driving service delivery practices. For example, providers in this study revealed exclusionary practices based on age or marital status, as has been documented elsewhere in Africa [33, 34]. In our study providers universally reported counseling the young and unmarried on abstinence from sex rather than

contraceptive methods when they sought contraceptive services. Another study in Uganda revealed that providers believed that contraceptives would cause infertility, thereby influencing provider restrictions and behaviours [35]. Kenya is working to create a generation free of reproductive health-related problems by the year 2030 including HIV/AIDS and other STIs. This demands strengthening reproductive health services utilization and related strategies which one of the curtail approaches may include addressing the reproductive health problems of adolescent females particularly who are living in the urban areas. Therefore, this finding will help to inform policymakers and healthcare planners working on the prevention of reproductive health problems at the local and national levels and makes a valuable contribution to the literature a front line study.

## **5. Conclusion**

There was high level of sexual activity among the youth with low uptake of contraceptive services. Condom was the most commonly used contraceptive. It also showed uneven availability of contraceptive supplies and limited information characterized the contraceptive services accessed by young people. Factors like age, sex, marital status, schooling status, number of children, siblings and fertility desires) were significantly associated with uptake of contraceptive services among the study respondents ( $P > 0.05$ ). Therefore, to improve contraceptive uptake among young people, availability of contraceptive choices should not be compromised. Dispensing contraceptives should be accompanied by adequate information and Sex education in all education levels should be enhanced by the ministry of education in conjunction with ministry of health to improve acceptability and utilization of services.

## **REFERENCES**

1. WHO and Deutsche Gesellschaft fuer Technische Zusammenarbeit (GTZ) GmbH (2018). Sexually transmitted infections among adolescents: the need for adequate health services. Geneva: WHO Library Cataloguing-in-Publication Data; 2010.

2. Blum RW: Youth in sub-Saharan Africa. (2016). *J Adoles Health*. 41:230-238.
3. Dixon-Mueller R. (2017). Starting young: sexual initiation and HIV prevention in early adolescence. *AIDS and Behavior*.13(1):100–109.
4. US Population Council. (2011). Poverty, gender and youth: premarital sex and schooling transitions in four sub-Saharan African countries. New York, 2012.
5. Shivaram K, Nandini C, and Malleshappa1 K. (2018). Knowledge and attitude about reproductive health among rural adolescent girls in Kuppammandal: an intervention study. *Biomed Res*. 22(3):305–310.
6. Hughes J, McCauley AP. (2015). Improving the Fit. Adolescents' needs and future programs for sexual and reproductive health in developing countries studies in family planning. *Studies in Family Planning*. 29(2):233–245.
7. WHO (2014). Pregnant Adolescents: Delivering on Global Promises of Hope (PDF). Retrieved from <http://whqlibdoc.who.int/publications/2006/9241593784-eng.pdf>.
8. Kongnyuy, E.J., Ngassa, P., Fomulu, N., Wiysonge, C.S., Kouam, L and Doh, A.S. (2016).A survey of knowledge, attitudes and practice of emergency contraception among university students in Cameroon. *Biomedical Central Journal of Emergency Medicine*. 7 (7), 1-7.
9. Kenya Demographic and Health Survey (KDHS); (2017). Kenya Demographic and Health Survey. Nairobi: Health (San Francisco).
10. Malarcher S. (2016). A review of sexual and reproductive health through the equity lens: Social Determinants of Sexual and Reproductive Health. WHO Press.2011.
11. Mutungi, M. (2016). East Africa Regional Workshop on HIV/AIDS Toolkit 1. Choose life Africa. Retrieved from <http://www2.aau.org/aur-hiv-aids/ws/kenya06>.
12. Kenya Demographic and Health Survey (KDHS); (2017). Complications associated with child birth and HIV/AIDS. Retrived from [www.measuredhs.com/pubs/pdf/sr104/sr104ke03.pdf](http://www.measuredhs.com/pubs/pdf/sr104/sr104ke03.pdf).
13. Santelli, J. (2015). Explaining Recent Declines in Adolescent Pregnancy in the United States. The contribution of Abstinence and improved Contraceptive use. *American Journal of Public Health*. 97, 1-10.
14. National AIDS Control Council (NACC), (2015). Kenya National HIV and AIDS Strategic Plan 2005/2006 – 2009/10. Retrieved from <http://www.nacc.or.ke>.
15. Ministry of Health (MOH), 2014). National Reproductive Health Policy (pp. 1-80).
16. Ministry of Health (MOH), 2011). National Reproductive Health Policy (pp. 1-80).

17. Kenya Demographic and Health Survey (KDHS); (2017). Prevention of sexual transmission of HIV/AIDS Retrieved from [www.measuradhs.com/pubs/pdf/fr229/fr229.pdf](http://www.measuradhs.com/pubs/pdf/fr229/fr229.pdf).
18. Burke Holly MC, Ambasa-Shisanya C. (2015). Qualitative study of reasons for discontinuation of injectable contraceptives among users and salient reference groups in Kenya. *Afr J Reprod Health*. 15(2):67–78.
19. Rodríguez I, Say L, Temmerman M. (2014). Family planning versus contraception: what's in a name? *The Lancet Global Health*, 2(3):e131–2. doi:10.1016/S2214-109X(13)70177-3.
20. Ross John A, Agwanda Alfred T. (2015). Increased Use of Injectable Contraception in Sub-Saharan Africa. *Afr J Reprod Health*. 16(4):68–80.
21. Rozina M, Uzma A, Haleema HA. (2017). Contraceptive Knowledge, Attitude and Practice Among Rural Women. *J Coll Physicians Surg Pak*. 18(9):542–5.
22. Wright D, Plummer ML, Mshana G, Wamoyi J, Shigogo ZS, Ross DA.(2006). Contradictory sexual norms and expectations for young people in rural Northern Tanzania. *Social Science and Medicine*. 62:987-997.
23. National AIDS/STI Control Programme (NASCOP), Kenya. (2018). Kenya AIDS Indicator Survey: Final Report 2015. <http://www.aidskenya.org>
24. Fadiora SO, Oboro VO, Akinwusi PO, Adeoti ML, Bello TO, Egbewale BE. (2016). Sexual Health Matters. Published Quarterly by Express Print Works, Middlesbrough, UK ISSN 1469-7556. Available
25. Gomez, Cynthia A, Marin (2015). Gender, Culture, and Power: Barriers to HIV Prevention Strategies for Women. *The Journal of Sex Research*. 4: 355–362.
26. Adih WK, Alexander CS (1996). Determinants of condom use to prevent HIV infection among youth in Ghana. *Journal of Adolescent Health*. 1:63-72
27. Calazans G, Araujo TW, Venturi G, Franca, Junior I (2015). Factors associated with condom use among youth aged 15-24 years in Brazil. *AIDS*, 4: 42-50.
28. Ebuehi O.M, Ekanem E.E, Ebuehi O.A. (2016). Knowledge and practice of emergency contraception among female undergraduates in the University of Lagos, Nigeria. *East Afr Med J Mar*, 83(3):90-5.
29. Orji E.O, Adegbenro C.A, Olalekan A.W. (2017): Prevalence of sexual activity and family planning use among undergraduates in South West Nigeria. *Eur J Contracept Reprod Health Care*. 10 (4):255-60.

30. Muia, E, Ellertson, C, Lukhando, M, Flul, B, Clark, S. and Olenia, J. (2016). Emergency contraception in Nairobi, Kenya: Knowledge, attitude and practices among policy makers, family planning providers and clients, and university students. *Contraceptives manual*.60 (4), 223–232.
31. Adhikari, R and Tamang, J. (2014). Premarital Sexual Behavior among male college students of Kathmandu, Nepal. *Biomedical Central Journal of Public Health*. (9)241-250.
32. Askew, B. I. and Baker, N. (2015). Integration of STI Prevention and Management with Family Planning and Antenatal Care in Sub-Saharan Africa — What More Do We Need to Know?;28(2), 77–86.
33. AdekunleAO, Arowojolu AO, Adedimeji AA. (2016). Adolescent contraception: survey of attitudes and practice of health professionals. *Afr J Med Med Sci*. 29:247–252.
34. Stanback J, Twum-Baah KA. (2016). Why do family planning providers restrict access to services? An examination in Ghana. *IntFam Plan Perspect*. 27:37–41.
35. Nalwadda G, Mirembe F, Tumwesigye NM, Byamugisha J, Faxelid E. (2015). Constraints and prospects for contraceptive service provision to young people in Uganda: providers' perspectives. *BMC Health Services Research*. 11:220