Socio-Demographic Factors influencing the Use of Female Condom among women age 18-24 years in Kisauni sub-County, Mombasa- Kenya

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Abstract *The female condom (FC) is among the barrier method that provides double protection against unwanted pregnancy and sexually transmitted infections, including HIV and AIDS. Globally, by the year 2012, the distribution of the female condom had increased to 60 million units per year. In South Africa, policymakers recognize the role of female condoms and have included them in the policy for contraception and dual protection. The female condom was introduced in Kenya 25 years ago but the utilization rates are still low at a prevalence rate of 10.8% (Boraya et al., 2018). Worldwide, youths are more sexually active than any other population group. This in return predisposes them to risks like unwanted pregnancies, unsafe abortions, and sexually Transmitted Infections including HIV/AIDS (Access, 2017). Despite the efficacy of the female condom, relatively low utilization rates are still reported, even in developing countries. Knowledge of female condom use, perception, and attitude among women can influence the utilization of this product. This study aimed to assess the individual factors that influence the utilization of female condoms in Kisauni Sub-County, Mombasa-Kenya. A descriptive cross-sectional study design was employed. A total of 148 women between the ages of 18 and 24 years was sampled. A multi-stage cluster sampling method was used. Structured questionnaires and Focused Group Discussions were used to collect data. Descriptive analysis, chi-square model, and multivariate analysis were used to analyze the qualitative data. The level of significance was fixed at a P value of 0.05 (P=0.05). Qualitative data from FGDs were analyzed thematically. Chi-square test of independence showed no significant relationship between the age of the participant and female condom use (p > 0.05, χ^2 = 0.249, df = 1). The prevalence of female condom use among women aged 18 to 24 years sampled in this study was 12.8% The association between marital status and the use of female condoms was insignificant (p>0.05, df=2, likelihood ratio=1.377). A chi-square test for independence between the level of education and the use of female condoms showed no significant relationship (p > 0.05, χ^2 = 0.530, df = 2). There was no significant association between the employment status and female condom utilization (p > 0.05, df = 2, Likelihood ratio=2.461), among the participants. There was no significant association between the participants' religion and female condom utilization (p > 0.05, χ^2 = 1.434, df = 2) as observed from the results.*

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I. Introduction

A Female condom is a sheath, or lining, that fits loosely inside a woman's vagina, made of thin, transparent, soft film. It has a flexible ring at both ends, which helps to insert and holding part of the condom outside the vagina. Female condoms are made of various materials, such as latex, polyurethane, and nitrile. It works by forming a barrier that keeps sperm out of the vagina, preventing pregnancy. It also helps to keep infections in semen, on the penis, or in the vagina from infecting the other partner. (WHO, 2018)

The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that by December 2018, 37. 9 million people worldwide were living with HIV/AIDS, 1.7 million new infections with HIV by the end of December 2018, 770 000 deaths from AIDS-related illness. Approximately 74.9 million people have been infected with HIV since the start of the epidemic by the end of the year 2018 and a total of 32.0 million deaths from AIDS-related illness since the start of the epidemic by December 2018. Furthermore, the report indicates that every week, approximately 6000 women aged 15–24 years become infected with HIV. In sub-Saharan Africa, four out of five new infections among adolescents aged 15–19 years are in girls and young women aged

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15–24 years are twice as likely to be living with HIV as men. (*DATA*, 2019). In 2017, the National adult HIV prevalence rate in Kenya was estimated at 4.9% with prevalence higher among women (5.2%) than men (4.5%). The national HIV prevalence in 2017 was reported at 2.61% in females as compared to males at 1.34% among males and females aged 15 to 24 years (Aids & Council, 2018).

The world efforts to control the spread of sexually transmitted infections, including HIV/IADS, has led to the invention of Female Condoms that have enabled women to take control of their sexual and reproductive practices because it's known that the Female Condom Offers protection against unwanted pregnancy and Sexually Transmitted Infections, STIs) including HIV/AIDS. One of the major impacts of unplanned pregnancies is unsafe abortions that present a major health impact on the Community and the Nation as a whole. Hence, the Female Condom is one of the safest ways to limit the spread of Sexually Transmitted infections and unplanned pregnancies. (Ananga, Kugbey, Akporlu, & Oppong Asante, 2017).

"Globally, more than 1 million curable Sexually Transmitted infections occur each day". In the year 2016 according to WHO world estimates, there were approximately 376 million new infections of the four curable STIs, i.e. Chlamydia, Gonorrhea, Syphilis, and Trichomoniasis. STI prevention plays a major role when it comes to the achievement of the Sustainable Development Goals. Approximately 200,000 fetal and neonatal STI-related mortalities are reported due to syphilis in pregnancy and over 280,000 cervical cancer deaths each year due to Human Papilloma Virus (HPV) (*Infection Surveillance*, 2018). Teen pregnancy and motherhood prevalence in Kenya is estimated at 18% and approximately one in every five adolescent girls have either had a live birth or is pregnant with her first child. And the rates increase rapidly with age from 3% among girls at 15 years to 40% girls at 19 years old. (Statistics, n.d.)

The Female Condom helps women to have more control over their reproductive health issues through the prevention of unwanted pregnancy and Sexually Transmitted Infections. Given that it has been available since 1993, accessibility for women in Sub-Sahara Africa or poor women has been difficult. There have been low utilization rates of the Female Condom as observed by the world Health agencies despite the continuous promotion. (Peters et al., 2014). In 2008, an estimated 2.4 million unsafe induced abortions occurred in Eastern Africa representing an increase from the year 2003. The rate of unsafe abortion is 36 per 1000 women of reproductive age. A study done on abortion-related complications over three months in Kenyan public hospital revealed that more than 300,000 abortions occur in Kenya annually i.e. 46 per 1,000 women of reproductive age. In Eastern Africa, it is estimated that 1:5 maternal deaths are related to unsafe abortions and more than 500 women die per 100,000 unsafe abortions (*In Brief*, 2012). Kenya's maternal mortality ratio due to unsafe abortions is 266 deaths per 100,000 live birth. Unsafe abortion is estimated to account for about 35% of maternal deaths in Kenya, compared to 13% globally and 18% in East Africa. The highest incidence of unsafe abortions occurred in Kenyan women below the age of 25 years. (Mohamed et al., 2018)

Globally, the unmet need for contraception is estimated to be around 215 million(WHO, 2012). A majority of this is from developing countries and in particular sub-Sahara Africa. According to the World Bank, sub-Sahara Africa has an average Conditional Payment Rate (CPR) of 21% (Bank, 2010). The low contraceptives use in sub-Sahara Africa is related to low acceptance and high cultural resistance to family planning. The social, financial, and strong kingship values attached to children in the region are also believed to influence the uptake of contraceptives (Adebusoye-Makinwa, 2001). In Kenya, the total fertility rate is currently estimated to be around 4.6% and the contraceptive prevalence rate for all methods is around 46 percent, while the unmet need for family planning services is averaged at 24%. The contraceptive prevalence rate in rural areas was 43% compared to 53% in urban areas and the unmet need for family planning services in urban areas was 17 percent against 27 percent in rural areas(Kenya National Bureau of Statistics (KNBS); ORC Macro, 2010)

II.   Material And Methods

This was a descriptive cross-sectional study among women aged 18-24 in the Kisauni sub-county that utilized the quantitative and qualitative data collection methods.

Study Design: This was a descriptive cross-sectional study

Study Location: The study was conducted in Kisauni Sub-county. It is the largest sub-county in Mombasa County. It covers an area of 106.12 km2, it has a total population of 291,930, of which 146,748 are males and 145,176 females. It's divided into two Divisions, two Locations, and seven Sub-locations. It has a total of 88, 202 households (Government & Mombasa, 2018).

Study Duration: March 2021 to June 2021

Sample size: 148 participants

Sample size calculation: The sample size was obtained using Cochran's formula. $n = (Z^2 \times PQ/e^2)$, Where:

E= desired level of precision (i.e. the margin of error), 0.05

P= Proportion of the population which has the attribute in question, in this case, I will use 0.108 since the estimated proportion is known at 10.8%. (Boraya et al., 2018), $q = 1 - p$, $z = .96$

Thus,

n= [1.96^2 x {0.108 x (1-0.108)}/0.05^2]

n= 148

Subjects & selection method: Kisauni Sub-County was clustered into seven Sub-locations. The clusters were randomly selected into three sub-Location, because the population is evenly distributed, using the lottery method. The three Sub-locations were clustered into villages where every person that met the criteria was sampled until the desired sample size was achieved. Simple random selection of the participants was done in a household with more than one eligible participant using the lottery method. Written informed consent was obtained before participating in the study. Necessary precautions were taken to provide privacy and confidentiality.

Inclusion criteria:
1.   Women aged 18-24 years
2.   Women who volunteered to give informed consent to participate in the study

Exclusion criteria:
1.   Women with no life history of sexual contact
2.   Women who were homosexuals

Procedure methodology

After written informed consent was obtained, a structured questionnaire was used to gather quantitative data from the respondents on the study variables. The questionnaire was divided into four sections. Section I of the questionnaire comprised of the demographic characteristics of the respondents, section II included the prevalence of female condom use among females 18-24 years in Mombasa county section III of the questionnaire consisted of the respondent's knowledge of the female condom, and section IV included the attitude of the respondents towards the female condom. Focus group discussions (FGDs) were used to collect qualitative data. A total of 2 focus group discussions was conducted where12 participants were recruited for each FGD. One group consisted of married women while the other comprised unmarried women. FGD note-taker form was used to take notes during the Focus Group Discussions.

To ensure the quality of data collected, the following steps were undertaken: A pre-test was done at Jomvu Sub-County to pretest the data collection tools. This was done by randomly selecting a few research participants. The research assistants were recruited through a competitive process then they underwent training on data collection and the consenting process by the principal investigator and were closely monitored during the pilot phase to ensure their competency. Each questionnaire was checked for completeness, coherence, and accuracy on the same day of the interview after data collection.

Statistical analysis

The data were analyzed using descriptive analysis techniques including means, frequency counts, and proportions for quantitative variables such as marital status, marital status against the uptake of the female condom. The Chi-square model was used to determine associations such as age against the uptake of the female condom, level of education against female condom uptake, marital status against female condom uptake, and cost of the female condom against accessibility. Multivariate analysis was applied to measure the strength of the relationship among the variables. The data was presented in the form of tables, pie charts, and bar charts with a narrative analysis or interpretation of the results preceding the illustrations. The level of significance was fixed at a P value of 0.05 level of significance (P=0.05). Audio-recorded Focussed Group Discussions were transcribed, translated and coded for predetermined and emerging themes. Qualitative data from FGDs were analyzed thematically. Data was presented in summaries and quotations. Data were managed using the appropriate computer software Epi Info version 7.2.4.0 and SPSS version 26

III.   Result

Table no 1 shows the distribution of study participants by age. The highest proportion (18.24%) of the participants were 23 years old, (Table 4.1), the lowest proportion (8.78%) of the participants were 18 years old. Women of 19 years comprised 14.86%, 20 years old comprised 12.84%, 21 years old comprised 16.22%, women aged 22 years formed 15.54% and 24 years comprised 13.51%.

Table no 1: Shows Distribution of study participants by age

Age	Frequency	Percent	Cum. Percent
18	13	8.78%	8.78%
19	22	14.86%	23.65%
20	19	12.84%	36.49%
21	24	16.22%	52.70%
22	23	15.54%	68.24%
23	27	18.24%	86.49%
24	20	13.51%	100.00%
TOTAL	148	100.00%	100.00%

Distribution of study participants by marital status
In this study, the majority of the participants (83%) were not married, 15% of the participants were married while 3% of the participants were separated by their partners
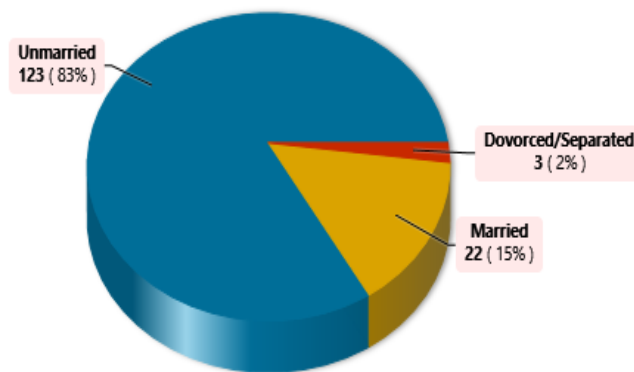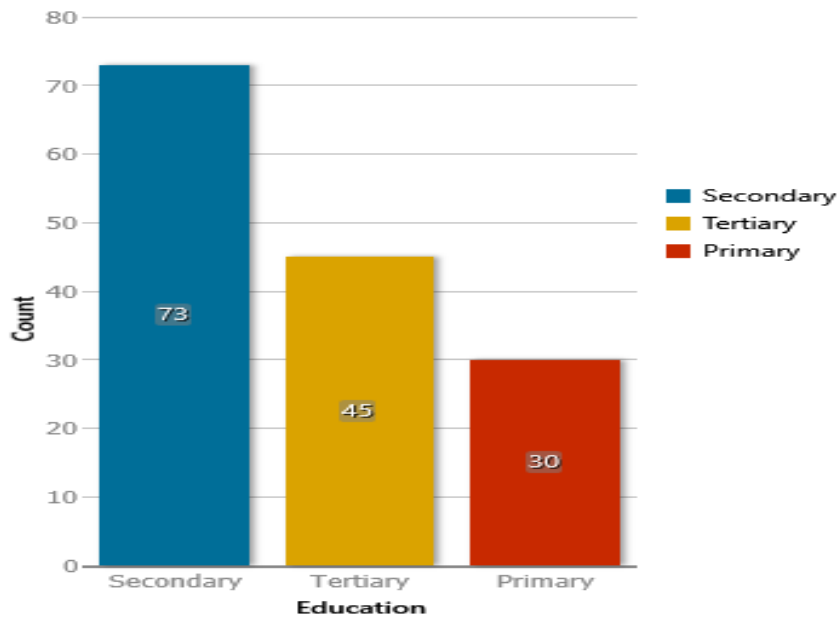

Distribution of study participants by Number of children
Table no 2 shows the distribution of study participants by the number of children. A majority (74.32%) of the participants had no child while a small (25.65%) proportion of the participants had 1-5 children.

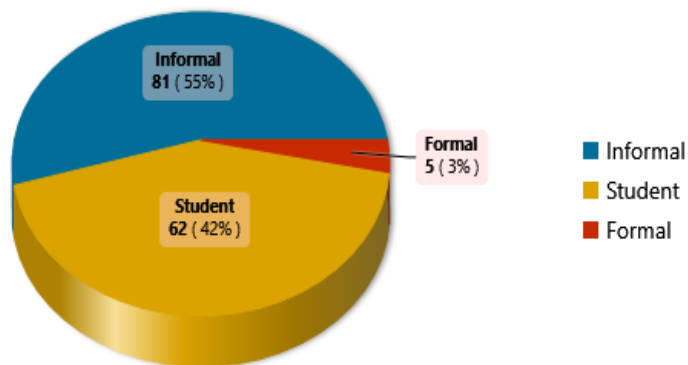**Table no 2:** **S**hows distribution of study participants by Number of children

Number of Living Children	Frequency	Percent	Cum. Percent
None	110	74.32%	74.32%
1-5 Children	38	25.68%	100.00%
TOTAL	148	100.00%	100.00%

The highest proportion (49%) of the study participants had attained secondary education followed by tertiary education at 30% then the lowest proportion was the primary education at 20%.

Distribution of participants by the employment status
Most (55%) of the participants are in informal employment followed by 41% of the participants who were students then 3% of the participants are formally employed.

Distribution of study participants by Religion
Close to half (48%) of the participants were Christians, followed by Muslims at (46%) then only 6% were Hindu
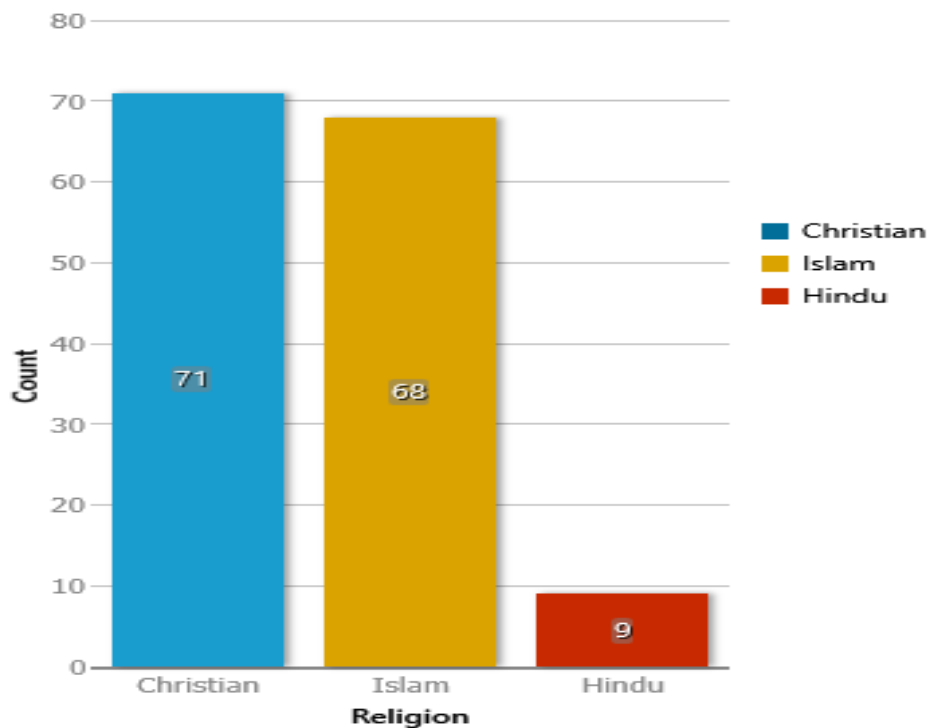
Table no 3: The relationship between demographic characteristics and the use of a female condom

Variable	Frequency	FC. use	χ^2, df, p	Likelihood ratio	Effect size
Age			χ^2=0.249		
18-21	78 (52.70%)	9 (47.37%)	df =1		0.041
22-24	70 (47.30%)	10 (52.63%)	p=0.618		
Marital status					
Married	22 (15.9%)	4 (21.1%)	df =2	1.377	0.084
Unmarried	123 (83.1%)	15 (78.9%)	p=0.502		
Divorced/Separated	3 (2.0%)	0 (0%)			
Education					
Primary	30 (20.3%)	3 (15.8%)	χ^2=0.530		0.060
Secondary	73 (49.3%)	9 (47.4%)	df =2		
Tertiary	45 (30.4%)	7 (36.8%)	p=0.767		
Employment					
Informal	81 (54.7%)	10 (52.6%)	df =2	2.461	0.153
Formal	5 (3.4%)	2 (10.5%)	p=0.178		
Student	62 (41.9%)	7 (36.8%)			
Religion					
Christian	71 (48.0%)	10 (52.6%)	χ^2=1.434		0.099
Islam	68 (45.9%)	9 (47.4%)	df =2		
Hindu	9 (6.1%)	0	p=0.488		

Table no 3 shows the relationship between demographic characteristics and the use of a female condom. The participants' age ranged from 18 to 24 years, Chi-square test of independence between the age and the use of female condom was done, there was no significant relationship between the age of the participant and female condom use (p > 0.05, χ^2 = 0.249, df = 1). Effect size assessed by phi was minimal (phi = 0.294). The majority of the participants were unmarried (83.1%), only 14.9% were unmarried while others (2.0%) were divorced/separated. The association between marital status and the use of female condoms was insignificant (p>0.05, df=2, likelihood ratio=1.377)

Most of the respondents (49.3%) had attained the secondary level of education, while 30.4% had tertiary level and others (30%) had primary level of education. A chi-square test for independence between the level of education and the use of female condoms showed no significant relationship (p > 0.05, χ^2 = 0.530, df = 2). The association between the employment status and female condom utilization was insignificant, (p > 0.05,

df = 2, Likelihood ratio=2.461), among the participants. There was no significant association between the participant's religion and female condom utilization (p > 0.05, χ^2 = 1.434, df = 2) as observed from the results.

IV. Discussion

Data were collected among women aged between 18-24years. The highest proportion (18.24%) of the participants were 23 years old the lowest proportion (8.78%) of the participants were 18 years old. Women of 19 years comprised 14.86%, 20 years old comprised 12.84%, 21 years old comprised 16.22%, women aged 22 years formed 15.54% and 24 years comprised 13.51%. Most (20.83%) of the participants in FGD were 24 years of age the least age group was 21 years old at 4.17%. In this study, more than three-quarters of the participants (83.11%) were not married, while 14.86% of the participants were married and only 2.03% of the participants were separated by their partners. The majority (74.32%) of the participants had no child while a small (25.65%) proportion of the participants had between 1-5 children. The findings are similar to the KDHS (2014) which showed 86.8% of women between the age of 15-19 not being married and up to 5% of women aged 20-24 years being separated. Close to half (49%) of the study participants had attained secondary, 30% had tertiary education and the lowest proportion was the primary education at 20%. This finding is consistent with the KDHS (2014) which reported 24.7% of the population between 15-24 years had completed primary, 23.0% had completed secondary education. Slightly above half (55%) of the participants were in informal employment followed by 41% who were students then 3% were formally employed. Most (48%) of the participants were Christians, followed by Muslims at (46%) then only 6% were Hindu.

Chi-square test of independence between the age and the use of female condoms was done, there was no significant relationship between the age of the participant and female condom use (p > 0.05, χ^2 = 0.249, df = 1). The findings are consistent with research done by (Boraya et al., 2018) in Migori County, Kenya which was assessing the socio-demographic factors influencing utilization of female condoms among the youths in tertiary institutions. The association between marital status and the use of female condoms was insignificant (p>0.05, df=2, likelihood ratio=1.377). A chi-square test for independence between the level of education and the use of female condoms showed no significant relationship (p > 0.05, χ^2 = 0.530, df = 2). There was no significant association between the employment status and female condom utilization (p > 0.05, df = 2, Likelihood ratio=2.461), among the participants. There was no significant association between the participants' religion and female condom utilization (p > 0.05, χ^2 = 1.434, df = 2).

V. Conclusion

In conclusion, the study established that very few sexually active women aged 18-24years in Kisauni sub-County use a female condom. The demographic characteristics of an individual do not influence the utilization of the female condom

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