

## FACTORS ASSOCIATED WITH FREQUENCY AND USE OF CONTRACEPTION AMONG WOMEN IN THE MASUBA COMMUNITY, BOMBALI DISTRICT, SIERRA LEONE

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### Original Article

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#### ABSTRACT

The use of contraception helps women and girls realize their basic rights to freely and responsibly decide when and how many babies they should have. However, few studies have examined contraception in Sierra Leone. Therefore, this study aimed to investigate the factors affecting how often women in the Masuba Community, Bombali District, Sierra Leone use contraception. A community-based cross-sectional design was used to collect quantitative data using a simple random sampling technique to select eligible participants from a sample of 403 women. We used structured questionnaires to interview participants privately without hearing from a third party. At a 95% confidence level and 0.05 margin of error, the chi-square test was employed to determine the significance of the association between cross-tabulated variables. The data collected were analyzed using the Statistical Package for Social Science (SPSS) version 16.0, with 380 women remaining after 23 missing during data collection. The results show the prevalence of contraceptive use was 65%. Women's age ( $X^2 = 13.958$ ,  $P < 0.05$ ) and education level ( $X^2 = 8.137$ ,  $P < 0.05$ ) were significantly associated with contraceptive use. Factors that were not significantly associated with contraceptive use were marital status ( $X^2 = 1.542$ ,  $P > 0.05$ ), religion ( $X^2 = 0.748$ ,  $P > 0.05$ ), and employment status ( $X^2 = 1.038$ ,  $P > 0.05$ ). Therefore, policies aimed at scaling up contraception in Sierra Leone should consider religion, cultural impediments, and other socioeconomic factors among women through a strong advocacy program to increase the level of contraceptive awareness. Additionally, providing access to affordable and quality family planning services in remote and underserved areas can increase utilization rates and help reduce maternal mortality and morbidity. This can be achieved through mobile clinics, community health workers, and partnerships with local healthcare facilities.

**Keywords:** Contraception, Sierra Leone, socio-demographic determinants

## INTRODUCTION

Purposeful and organized avoidance of conception during sexual activity is accomplished through contraception (Hossain et al., 2018). Individuals can achieve this using both contemporary and conventional techniques (Njotang et al., 2017). The use of oral contraceptive pills, implants, injections, patches, rings, intrauterine devices, condoms, and other medical procedures that prevent sexual activity from leading to pregnancy is considered a modern form of contraception (Gonie et al., 2018). The rhythm method, fertility awareness techniques, abstinence, and coitus interruptus are examples of traditional contraceptives, which are nonmedical methods used to prevent pregnancy (Hubacher & Trussell, 2015; Njotang et al., 2017).

Family planning raises the level of maternal and child health by teaching medical methods to protect parents from pregnancy (Keen et al., 2018; Keen et al., 2017). In some cases, condom use aids in the prevention of HIV/AIDS, gonorrhea, syphilis, and other sexually transmitted diseases. According to Susuman et al. (2014), family planning benefits women by allowing them to limit childbearing (STIs). Another benefit of family planning is that it enables women and girls to make informed decisions about their sexual and reproductive health (Sensoy et al., 2018).

Of the 1.1 billion women worldwide, who are currently using contraceptives between the ages of 15 and 49, modern methods only met 76% of women's family planning needs in 2019. Compared with 1994, when less than 4% of the world's population used traditional contraceptive methods, the prevalence of modern methods increased by 44% in 2019. (UN, 2019). An estimated

190 million (10%) married women who used contraception out of the 1.1 billion total users had unmet family planning needs. Female sterilization is the most widely used method for women of reproductive age (15–49 years) (24% of those who use modern

contraceptive methods), followed by condoms, implants, IUDs, pills, and injections (UN, 2019).

Contraceptive use among married women in Sierra Leone has increased (from 6% in 2008 to 16% in 2013 and 21% in 2019), but it has not improved among adolescent girls because the rate of unintended pregnancies between 15 and 18 years of age has remained high (21% in 2019) (StatSL, 2019). This may be because of the high demand for contraception among teenage girls in Sierra Leone. This situation poses a high risk of unintended teenage pregnancies and exposes them to sexually transmitted infections, which are harmful (Kumbeni et al., 2019). The purpose of this study was to determine the prevalence of contraceptive use among women in the Masuba community, as well as the factors that influence its use.

## MATERIALS AND METHODS

### Study design and justification

To assess how sociodemographic factors, such as age, education level, marital status, religion, and employment status, affect the uptake and prevalence of contraceptive usage among women, a community-based cross-sectional design was used. The design worked well to demonstrate meaningful relationships between cross-tabulated variables and was thus helpful in developing the research hypotheses.

### Study Setting

This study was conducted in Masuba. This neighbourhood created a smaller one inside the city of Makeni along Masuba

Road. Makeni is located in the northern Sierra Leonean district of Bombali.

## Participants

Reproductive-age women between the ages of 15 and 49 years met the inclusion criteria, received their consent to participate in the study, and lived in the Masuba community's geographic area. These conditions had to be met for respondents to be included in the study. These inclusion requirements were implemented to ensure that the participants chose to help the study accomplish its specific goals. Subsequently, interviews were held privately and separately with each participant to maintain the interviewee's privacy. To reduce the possibility of bias in the study's findings, respondents who were 14 years or older or over 50 years old were not included. Participants who lived outside Masuba community boundaries were not included in the study.

## Sample Size Determination and Sampling Procedure

The minimum sample size for the study was obtained by using the formula below.

$$n = Z^2 * p (1-p) / e^2$$

Where:

- **n** is the minimum sample size.
- **e** is the desired level of precision or margin of error, which was set at 0.05.
- **Z** is the confidence level. This was set to 95%, which resulted in a Z of 1.96 as per the Z table.
- **P** is the estimated proportion of the population with the attributes in question. This was set at 0.5.

Applying the formula,  $n = 1.96^2 * 0.5 (1-0.5) / 0.05^2 = 384.16$ . One has then incorporated a predicted non-response rate of 5% to obtain an appropriate sample size to achieve the minimum sample size required for this study. Applying a non-

response rate of 5% (or 0.05), the sample size becomes  $(n) = (384.16 * 0.05) + 384.16 = 403.368$ . Therefore, a total sample size of 403 participants was deemed adequate to generate the required evidence.

## Sample Procedure

The respondents were selected using a simple random sampling design. In this sampling method, every household in the population of the Masuba community has an equal chance of being selected for the sample. There were 95 houses in the Masuba community and a lottery method was employed to select the number of houses deemed adequate to participate in the study. The houses were numbered (001–095), written on slips of paper, and mixed thoroughly in a black bag. Eighty numbers were drawn from bags without replacement. At least two participants were interviewed.

## Equipment and Data Collection Process

We used a structured questionnaire to collect data from the 403 participants. The questionnaire was designed based on key issues related to contraceptive use and its determinants. The reason for using the questionnaire tool was used because it puts less pressure on the respondents and makes them feel more comfortable giving their responses. Moreover, respondents would also have sufficient time to think before giving their answers, and respondents who were not easily approached could be reached conveniently.

Data were collected by trained female enumerators who were thoroughly supervised by the main researcher. Once in a selected household in the Masuba community, enumerators (after the approval of the head of the household) screened the residents to identify eligible women. After the information notice was administered, each eligible woman was

invited to participate in the study. Informed consent was obtained from those who agreed to participate and the questionnaire was administered. The interviews were conducted solely between the enumerator and respondent to avoid third-party hearings. For women with little or no formal educational background, the questionnaire was read to participants. Data were collected regarding the sociodemographic information of each participant, including age, education level, marital status, religion, and employment status of the women.

### Statistical Analysis

The raw data collected from the study participants were analysed using the Statistical Package for Social Sciences (SPSS) version 16.0, followed by an analytical approach. The descriptive section provides a univariate analysis of the study variables. A chi-squared test was used to determine whether any significant association existed between these variables. A probability of 5% (at a 95% confidence level) was used to predict whether there was a significant statistical relationship between the variables when cross-tabulated.

### Ethical Consideration

All respondents were legally and rightfully informed of the motivation behind the study. Respondents were not pressured or intimidated to participate and all unwilling respondents were restricted from participating in the study. Furthermore, informed consent was administered verbally to consider respondents with low literacy, and the questionnaire did not contain information that may personally identify the respondents because these data files were coded in both the questionnaire and SPSS.

### RESULTS

This study aimed to investigate the prevalence and determinants of contraceptive use among women of reproductive age in the Masuba community. Primary data were collected through the administration of a well-structured questionnaire to explore the variables of the study.

Table 1 shows there were 405 questionnaires sent, but the enumerators received 380 completed questionnaires. Twenty-one percent belonged to the age range of 15–19 years, and 46.3% were in the age range of 20–29 years. Twenty-two percent fell into the age category of 30-39 years, and 10.3% fell into the age category of 40-49 years. Almost 19.21% of the women were illiterate and 21.1% reported having attained primary school education. Thirty-eight percent had completed their secondary school education, and 20.8% went to the college and university levels.

Table 1: Sociodemographic characteristics of respondents

Indicators	C	N=380	%
<b>Age indicator</b>	15-19	81	21.30%
	20-29	176	46.30%
	30-39	84	22.10%
	40-49	39	10.30%
	Total	380	100%
<b>Education Level</b>	No formal education	73	19.20%
	Primary school	80	21.10%
	Secondary school	148	38.90%
	College/University	79	20.80%
	Total	380	100%
<b>Marital Status</b>	Single/Never married	155	40.80%
	Currently married	155	40.80%
	Divorce	49	12.90%
	Widow	21	5.50%
	Total	380	100%
<b>Religion</b>	Catholic	43	11.30%

	Pentecostal	50	13.20%	Breastfeeding	6	0.016
	Anglican	41	10.80%	Total	22	0.058
	Muslim	246	64.70%	<b>Reasons for not using contraceptives</b>		
	Total	380	100%	Lack of partner's support	19	0.05
<b>Employment status</b>	Unemployed	107	28.20%	Fear of side effects	54	0.142
	Self-employed	206	54.20%	No access to methods	30	0.079
	Govt/NGO employed	67	17.60%	Lack of information	18	0.047
	Total	380	100%	Parental disapproval	9	0.024
				Total	130	0.342

Both single and currently married women were the most dominant study participants at who, followed by previously married women during the period of data collection at (12.9%) and (5.5%) for widows, who were then the least participants at 155 (40.8). Muslims comprised the majority of participants (67.7%), followed by Christians who were Pentecostals (13.2%), Catholics (11.3%), and Anglicans (10.8%). Half of the participants were self-employed (54.2%), and (17.6%) are employees of either government or NGO institutions, and 28.2% were unemployed.

Table 2: Prevalence of various contraceptive methods

Contraceptive Utilization	N	%
Using Contraception	250	0.658
Not using contraception	130	0.342
Total	380	1
Modern methods	N	%
IUD	8	0.021
Injectable	65	0.171
Pills	68	0.179
Female condoms	37	0.097
Implants	49	0.129
Total	227	0.597
Traditional methods	N	%
Periodic abstinence	16	0.042

Table 2 shows the prevalence of contraception at (65.8%), including both modern and traditional methods. The prevalence of modern contraceptive methods is 59.7%, whereas that of conventional methods is 5.8%. Among modern contraceptive users, pills, injectables, and implants are the most commonly used methods in Masuba. Additionally, 17.9% of women in the Masuba community currently rely on pills to prevent unwanted and early pregnancies. Injectable (17.1%), implants (12.9%), female condoms (9.7%), periodic abstinence (4.2%), IUD (2.1%), and breastfeeding (1.6%). However, the percentage of women not using contraception was 34.2%, and some of the major reasons included fear of side effects (14.2%), access to contraceptive methods (7.9%), lack of partner support (5%), lack of information (4.71%), and parental disapproval (2.4%), particularly in adolescents.

Table 3: Factors Associated with Contraceptive Utilization

Variables	Contraceptive utilization	Total	X Values
	User		
	non-user		

<b>Age 15-19</b>	50 31	81		<b>Employment</b>	<b>74 33</b>		
<b>20-29</b>	129 47	176	$\chi^2$ (13.809)	<b>Unemployed</b>	131 75	107	$\chi^2(1.038)$
<b>30-39</b>	54 30	84	P=0.003	<b>Self-employed</b>		206	P=0.595
40-49	17 22	39	P<0.05	<b>Govt/NGO worker</b>	45 22	112	P>0.05
<b>Total</b>	250 130	380		<b>Total</b>	250 130	380	

<b>Education</b>			
<b>No formal edu.</b>	40 32	72	
<b>Primary school</b>	50 30	80	$\chi^2(8.137)$
<b>Secondary</b>	100 48	148	P=0.043
<b>College/Uni.</b>	60 20	80	P<0.05
<b>Total</b>	250 130	380	
<b>Marital Status</b>			
<b>Single</b>	99 56	155	$\chi^2(1.542)$
<b>married</b>	36 13	155	P= 0.673
<b>Divorce</b>	13 8	49	P>0.05
<b>Widow</b>	250 130	21	
<b>Total</b>		380	
<b>Religion</b>			
<b>Catholic</b>	31 19	23	
<b>Pentecostals</b>	28 13	50	$\chi^2(0.748)$
<b>Anglican</b>	161 85	41	P=0.862
<b>Muslims</b>	250 130	246	P>0.05
<b>Total</b>		380	

Table 3 shows that approximately 13.1% of the 15–19-year-old women surveyed used some form of contraception. This increased to 33.9% in the 20–29 age groups and fell again in middle-aged and older women, with the prevalence of contraceptive use at 14.2% and 4.5% in the 30-39 and 40–49 age groups, respectively. There was a significant association between women’s reproductive age and contraceptive use at the 95% confidence level ( $\chi^2$  13.809,  $P < 0.05$ ).

Regarding education level, the results show an inclination for contraceptive upsurge alongside educational achievement, from 10.5% among women with no formal education to 13.2% among women with primary school education and 26.3% among women with secondary school learning, but significantly declined to 15.7% among women with college education. Moreover, statistical analysis showed a significant association between women’s education level and contraceptive use at the 95% confidence level ( $\chi^2$  8.137,  $P < 0.05$ ).

The study further revealed that the level of contraceptive use was higher among single women (26.8%) than among currently married women (26.1%), divorced women (9.5%), or those whose husbands had died (3.4%). However, statistical analysis at the bivariate level showed no significant association between marital status and



contraceptive utilization at the 95% confidence level ( $X^2 = 1.542$ ,  $P > 0.05$ ).

In addition, the results showed that contraceptive use was higher among Muslim women (42.4%) than among Christian women, including Catholics, Pentecostals, and Anglicans, with a prevalence of contraceptive use of 8.2% for Pentecostals, 8.0% for Catholics, and 7.4% for Anglicans. However, at the bivariate level, there was no significant association between women's religion and contraceptive utilization ( $X^2 = 0.748$ ,  $P > 0.05$ ).

Finally, the results also noted that self-employed women (34.5%) were more likely to use contraceptives than government- or NGO-employed women (12.0%) and unemployed women (19.5%). However, there was no significant association between women's employment level and contraceptive use at the 95% confidence level ( $X^2 1.038$ ,  $P > 0.05$ ).

## DISCUSSIONS

Prevalence of contraceptive Methods among Masuba women

We conducted a community-based cross-sectional study that employed a quantitative approach to examine the factors affecting how often women in the Masuba Community, Bombali District, Sierra Leone use contraception. This study showed that the contraceptive prevalence ratio (CPR) in the Masuba community was 65.8%. This is higher than the 2019 Sierra Leone Demographic and Health Survey contraceptive prevalence ratio of 21% ([StatSL, 2019]). In addition, the prevalence of modern contraceptive use is 59.7%, which is higher than that in other African countries: 43% in Ethiopia (Tilahun et al., 2013) and 10% in South Africa (Wang et al., 2017).

Factors affecting how often Women use Contraception

This study also identified the age of women as a powerful determinant of contraceptive utilization at the bivariate level ( $X^2 = 13.958$ ,  $P 0.05$ ). This implies that women's contraceptive desire increases from an early age until middle age but significantly decreases in old age. Similarly, the 2019 Sierra Leone Demographic and Health Survey demonstrated that the contraceptive prevalence ratio (CPR) rose from 14% among women aged 15–19 to a peak of 27% among women aged 25–29 but declined to 9% among women aged 40–49 (StatSL, 2019).

Overall, the findings regarding the positive association between women's education level and contraceptive use are in line with previous literature in that this study confirms a significant association between women's education level and contraceptive use, which is very strong and powerful (Asiimwe et al., 2018; Asiimwe et al., 2014). Therefore, increased educational attainment empowers women to make informed choices regarding their sexual health status (Beyene et al. 2015).

The most frequently used modern methods were pills (17.9 %), followed by injectables (17.1%), implants (12.9%), female condoms (9.71%), and IUDs (2.1%). This could be attributed to an increase in educational attainment among the women in the Masuba community. Women who had attained secondary school ( $N = 93$ ) were more likely to use modern methods than women with no formal education ( $N = 31$ ) or primary school education ( $N = 40$ ); however, contraceptive methods declined significantly at the college level ( $N = 56$ ). This could be linked to low awareness of family planning campaigns among university students in Makeni City.

The results revealed that married women are more likely to utilize injectables and pills than single women, whereas single

women practice more traditional methods than currently and previously married women. This is contrary to findings from the 2019 Sierra Leone Demographic and Health Survey, which indicated that unmarried or single women are more likely to use modern contraception than currently married women (StatSL, 2019).

Additionally, about 34.2 percent of the women in the Masuba community during the time of data collection did not use contraceptive methods (both modern and traditional methods). This means that those who were not using contraceptives were at a higher risk of unexpected pregnancies over the years, which can expose these women to sexually transmitted infections (STIs), thus raising the trend of unsafe abortions and increasing the rates of maternal and infant deaths. Hossain et al. (2018) reported similar results in women who did not use contraceptives and were at high risk of pregnancy and sexually transmitted diseases.

Fear of side effects (14.2%) was the most common reason why single and married women in the Masuba community did not use contraception, followed by no access to family planning programs (7.9%), lack of partner support (5%), lack of contraceptive knowledge (4.7%), and parental disapproval (2.4%), particularly for adolescents aged 15–19 years. Komasa et al. (2020) reported similar findings that low contraceptive intake among married women could be linked to fear of side effects, lack of husband's support, and unavailability of contraceptive methods in healthcare facilities.

This study also revealed no statistically significant relationship between religion and contraception. This finding implies that religion may not guarantee contraceptive intake among women of reproductive age

in Masuba. However, the results showed higher contraceptive intake among Muslims than among Christian women. Kumbeni et al. (2019) reported similar findings; contraceptive use was higher among Muslim women than among Christian women. This could probably be related to Muslim religious leaders who participated more than Christian religious leaders in contraceptive use (Kumbeni et al., 2019).

Regarding employment status, this study revealed that self-employed women (34.5%) (n = 131) were more likely to use contraceptives than unemployed women (19.5%) (n = 74). However, there was no significant association between women's employment level and contraceptive use. This is in line with a study conducted in Bangladesh, which showed that contraceptive use was higher among working women than unemployed women (Islam et al., 2016). This means that female empowerment through engaging in different jobs enhances women's belief in their own power to decide their family size and the methods to use.

## CONCLUSIONS AND RECOMMENDATIONS

The findings of this study have far-reaching social and policy implications that will improve the process of reducing unplanned pregnancies, unsafe abortions, maternal mortality, and other pregnancy complications in Sierra Leone. Therefore, policies aimed at scaling up contraception in Sierra Leone ought to consider religion, cultural impediments, and other socioeconomic factors among women through a strong advocacy program to increase the level of contraceptive awareness. This could be achieved by promoting awareness among various religious and community leaders of family planning utilization, which will in turn sensitize their followers through frequent



religious and community gatherings. Moreover, women may have different misconceptions about modern family planning methods, and these fears and concerns should be acknowledged, and respectful counselling should be provided to look at their fears and concerns realistically. In addition, providing access to affordable and quality family planning services in remote and underserved areas can increase utilization rates and help reduce maternal mortality and morbidity. This can be achieved through mobile clinics, community health workers, and partnerships with local health facilities.

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#### COMPETING INTEREST

The authors announce that they have no competing interests.

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