Prevalence and Determinants of Modern Contraceptive Utilization in the Mpohor District of Ghana

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Introduction: Modern contraceptive use is considered a reliable tool for birth spacing, prevention of unwanted pregnancies and reducing the spread of sexually transmitted diseases. Quite an appreciable number of young women in Mpohor District of Ghana do not use contraception despite its known benefit. This has led to the reported increasing rate of unwanted pregnancies, unsafe abortions, and sometimes death. This study was therefore aimed at identifying the determinants of modern contraceptive use among women in the Mpohor District of Ghana.
Methods: This study is a household cross-sectional survey and structured questionnaire was used to obtain data from 202 women between the ages of 18-48 years in the district. Data was analysed using Statistical Package for Social Science (SPSS) version 22. Also, chi-square test and logistic regression analysis were conducted to interpret the data. Descriptive statistics was used to present findings of the study.
Results: The results of the study revealed that there is a universal knowledge (100%) on modern contraceptives and prevalence of modern contraceptive use was (59.9%) among respondents. The

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determinants of modern contraceptive were age (p=0.033), level of educational (p=0.002), marital status (p=0.043), number of children (p=0.042), contraceptive availability (p=0.009) and accessibility (p=0.019)

Conclusion: There is the need to ensure equitable distribution of family planning facilities all over the country. Healthcare providers must be trained and equipped with the needed resources to provide quality education on contraceptive methods and procedures.

Keywords: Prevalence; determinants; utilization; modern contraceptive; Mpohor district.

1. INTRODUCTION

Huge benefits have been attributed to the use of modern contraceptive methods, such as preventing unplanned pregnancies and improving proper spacing of preferred numbers of children. These benefits make contraceptive usage well appreciated in many parts of the world but relatively low among residents of sub-Saharan Africa [1,2]. In sub-Saharan Africa, including Ghana, a number of maternal deaths, unsafe abortions, and unintended pregnancies have occurred as a result of the low use of modern contraceptives [3,4]. Out of the estimated 210 million pregnancies that occur every year around the world, 80 million (38%) are unplanned and 46 million (22%) end up as abortions. The use of modern contraceptive methods, when properly utilized, is expected to overcome this public health problem [5]. Ghana and some other countries in the sub-Saharan African region have reported low prevalence of modern contraception use possibly because of the challenges faced in convincing potential users of the overall benefit in the practice in addition to the removal of the already existing misconception about family planning methods [6].

In the Mpohor district of Ghana, there is a general fertility rate of 125.8 births per 1000 women aged 15-49 years which is the second highest in the western region of Ghana [7]. According to a 2019 report by the Health Directorate of the Western Region, there is a high rate of abortions and unplanned pregnancies among women in Mpohor district. This may clearly be highlights of the fact that a lot of women in the district are not into the use of modern contraceptive methods (Western Regional Health Directorate, 2019). The reason to patronize the methods or not, and the basis for the choice of a particular method may all play a role in this public health chancre. The present study therefore, seek to fill this gap by identifying the determinants of the use of modern contraceptives among women in Mpohor district of the Western Region of Ghana.

2. METHODS

This descriptive, cross-sectional study took place in five communities in Mpohor, the capital of Mpohor District of Ghana. The communities were Ohiawa-Menwu, Gargo Road, Zongo, Akutuo-Ase and Stephen-Kraku. Introductory letter was obtained from the Department of Health Administration and Education of the University of Education, Winneba to undertake the study. Authorization was obtained from various Chiefs, Assembly men of the communities and District Chief Executive of the district. No incentives were given to participants. Consenting young and adult women numbering 202 were sampled for the study. The sample size was determined using the Cochran's sample size determination formula [8]. The women were between the ages of 18 to 48 yrs and were questioned on their knowledge on modern contraceptives. The study solicited information on the knowledge of participants on the methods in order to determine the prevalence and predictors of modern contraceptive method use. Data collection started on May 2, 2021 and ended on June, 20, 2021.

The study was conducted in the homes of the participants. Systematic random sampling technique was employed to select the total number of respondents. Sample members were selected from a larger population according to a starting point which was randomly selected but with consideration for a secure periodic interval. With this approach, sampling was spread evenly over the population and any female aged 18 years and above and was willing to take part in the study had an equal chance of participation. The women were sampled from household to household. In a situation where the selected house had no eligible respondent, or where the house had eligible respondents but they were unwilling to take part in the study, the researchers moved to the next house. This process continued until the required sample size was obtained from the study population.

The measurement tool for the research was a self-administered questionnaire in the English

language. After getting approval from the participants through informed consent, the questionnaires were administered, one at a time, face to face and to be completed in English language. For those respondents who could not read and/or write in English, the researcher translated the questions into local dialect (Twi) for them.

Participants were made to understand that participation in the study was voluntary and that they could leave at any time without any consequence. Assurance was given of the confidentiality of the information they provide. Moreover, each participant gave verbal or written consent before partaking in the study.

The structured questionnaire consisted of open and close ended questions. The items for the instruments were derived from the literature in accordance with the purpose of the study [9]. The questionnaire was structured in five parts. The first part solicited information on knowledge and awareness of contraceptives while the second part sought information on prevalence of contraceptive use. Meanwhile, the third and fourth part collected information on preferred methods of modern contraceptives and factors that determine modern contraceptive use respectively. The final part collected participants' demographic information such as age, marital status, religion and number of children. The researchers submitted the research instrument to experts in Reproductive Health and Contraceptive use who scrutinized the items to improve the validity. To ensure validity and reliability of the instrument, pre-testing was embarked on using a total of 10 women between the ages of 18years and 48years from Edum Banso also in the same district.

Data from the questionnaire were analyzed using IBM Statistical Package for Social Sciences (SPSS) version 22 software. Also, chi-square test and logistic regression analysis were conducted to interpret the data. Descriptive statistics was used to present findings of the study.

3. RESULTS

3.1 Socio-demographic Characteristics of the Respondents

A total of 202 young and adult women from Mpohor were recruited in the study. A higher proportion of respondents (46.5%) were between the ages of 28-38years. A higher percentage were identified to be (53.5%) single and many were Christians (90.1%). Majority of the respondents (35.1%) had attained vocational skills as their highest educational level with only one respondent (0.5%) having no formal education. More than half of the respondents (54.0%) had no child/children while (35.6%) of them had only one child (See Table 1).

3.2 Knowledge on Modern Contraceptives

All the respondents (100%) had knowledge on modern contraceptives and almost all of them knew at least one method of modern contraceptives. Among the modern contraceptive methods identified were the pills (24.8%), male condom (19.8%), injectable (18.6%), implants (17.4%), female condom (6.2%), male sterilization (2.2%), female sterilization (1.8%), diaphragm (1.2%) and foam/jelly (0.4%). Respondent's main sources of information on modern contraceptives were from television (40.9%), radio (26.2%), hospital/clinic (18.5%), friends (8.0%), posters/banners (4.0%), family/relatives (1.5%) and newspaper/magazine (0.9%) (See Figs. 1 and 2).

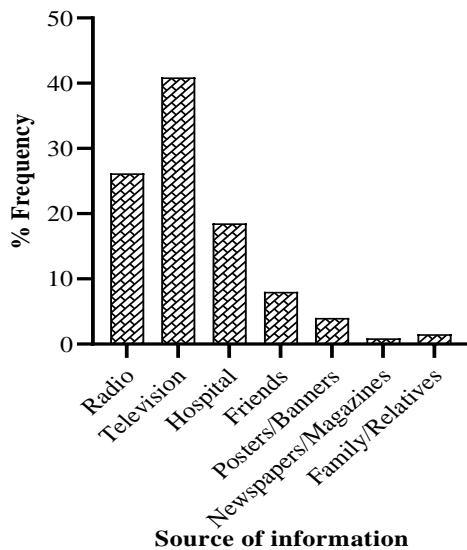### 3.3 Contraceptive Prevalence and Sources

While a greater percentage (93.1%) of the respondents had ever used one modern contraceptive method or the other, 6.9% of them had had no personal experience with the use of any of the methods. Meanwhile, the prevalence of contraceptive usage among respondents was 59.9% with the remaining 40.1% either having had no experience with the methods or stopped using them for over a period. The main sources of respondent's contraceptives were from the pharmacy (78.1%), chemical shop (15.8%) and hospital (6.1%) (See Table 2).

With respect to the choice of method among the respondents, the preferred methods were the pills (63.4%), the female condom (1.5%) and the injectable (1.5%). A relatively high percentage of respondents (34.7%) were actually not on any modern contraceptives. Reasons stated for the preferred methods were, easy to get (42%), safe to use (9%), reliable (16%), give no complication (18%) and cheaper (10%) (See Table 4).

Table 1. Socio-demographic characteristics of respondents

Variable	Frequency (N=202)	Percentage (%)
Age		
18-27	92	45.5
28-38	94	46.5
39-48	16	7.9
Education level		
No formal education	1	0.5
JHS	31	15.3
Secondary	39	19.3
Vocational	71	35.1
Tertiary	60	29.7
Religion		
Christianity	182	90.1
Islam	20	9.9
Marital status		
Single	108	53.5
Married	91	45.0
Divorced	3	1.5
Number of children		
None	109	54.0
1 Child	72	35.6
2 Children	17	8.4
3 Children	1	0.5
4+ Children	3	1.5

Source: Field Survey, 2021

Fig.1. Frequency of respondents' main sources of information on modern contraceptives
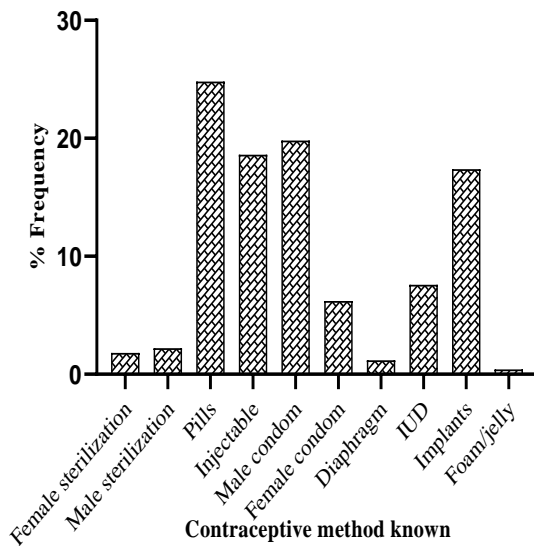
Fig. 2. Frequency of respondents' knowledge on modern contraceptives

Table 2. Contraceptive prevalence and sources

Statement	Frequency (N=202)	Percentage (%)
Ever used contraceptives		
Yes	188	93.1
No	14	6.9
Currently on contraceptives		
Yes	121	59.9
No	81	40.1
Source of contraceptives*		
Hospital	14	6.1
Pharmacy	178	78.1
Chemical shop	36	15.8

multiple responses provided
Source: Field Survey, 2021
Preferred modern contraceptive method

Table 3. Preferred method of contraceptives

Statement	Frequency (N=202)	Percentage (%)
Preferred method		
Pills	128	63.4
Injectable	1	0.5
Female condom	3	1.5
None	70	34.7

Source: Field Survey, 2021

Table 4. Socio-demographic characteristics associated with the use of modern contraceptive

Variable	Contraceptives use n (%)		Chi-square
	Yes	No	Phi p-value
Age			
18-27	81(88.0)	11(12.0)	
28-38	91(96.8)	3(3.2)	0.033*
39-48	16(100.0)	0(0.0)	
Educational level			
No formal education	1(100.0)	0(0.0)	
JHS	30(96.8)	1(3.2)	
Secondary	38(97.4)	1(2.6)	0.002*
Vocational	70(98.6)	1(1.4)	
Tertiary	49(81.7)	11(18.3)	
Religion			
Christianity	168(92.3)	14(7.7)	0.199
Islam	20(100)	0(0.0)	
Marital status			
Single	96(88.9)	12(11.1)	
Married	89(97.8)	2(2.2)	0.043*
Divorced	3(100)	0(0.0)	
Number of children			
None	96(88.1)	13(11.9)	
1 Child	72(100)	0(0.0)	
2 Children	16(94.1)	1(5.9)	0.042*
3 Children	1(100)	0(0.0)	
4+ Children	3(100)	0(0.0)	

*Statistical Significance was accepted at 95% confidence interval *p<0.05*

3.4 Socio-demographic Characteristics Associated with the Use of Modern Contraceptives among Respondents

A Chi-square test was conducted to examine the association between the various socio-demographic variables and those respondents who had ever used a modern contraceptive method. While no significant association was found between religion and the use of modern contraceptives, significant relationships were obtained between age (p=0.033), education (p=0.002), marital status (p=0.043), number of children (p=0.042) and the use of modern contraceptives (See Table 4).

3.5 Logistic Regression of the Factors Associated with Contraceptive Use among Respondents

A simple binary logistic regression analysis was performed on the factors that were found to be significantly associated with modern contraceptive use in the crosstabs analysis to further investigate the strength of these associations. The crude odds ratio (OR), the p-values as well as confidence intervals are presented. According to the binary logistic regression, all the factors that were proven to have significant association in the crosstabs analysis were confirmed to be significantly associated with contraceptive use in the binary logistic regression analysis. It was also noticed that contraceptive availability was 15.5 times odd of contraceptive accessibility among the respondents. The educational level of respondents has a higher odds (3.053) of contraceptive use than the age category of respondents (0.222). The marital status of respondents is at a reduced odds (0.177) of contraceptive use as compared to the number of children of respondents (0.207) (See Table 5).

4. DISCUSSION

4.1 Knowledge on Modern Contraceptives

The aim of the study was to identify the determinants of modern contraceptive use among women in the Mpohor District of Ghana. All the respondents had knowledge on modern contraceptives and almost all of them knew at least one method of modern contraceptives. This is affirmed by Tukue et al. [6] who assessed the prevalence and determinants of modern contraceptive utilization among Ethiopian women within the reproductive age group. In the view of the authors, universal knowledge and awareness of modern contraceptives could be partly due to the various behaviour change through communication and social marketing strategies in the form of visual and audio advertisements as well as educational interventions put in place to promote contraceptive use [10]. Meanwhile, Ghana Demographic Health Survey [7] report also showed that 99% of women have knowledge on at least a modern contraceptive method. A study in Ethiopia, reported that about 99% of women knew at least one modern contraceptives method [11]. Among the modern contraceptive methods identified were the pills (24.8%), male condom (19.8%), injectable (18.6%), implants (17.4%), female condom (6.2%), male sterilization (2.2%), female sterilization (1.8%), diaphragm (1.2%) and foam/jelly (0.4%). In a qualitative study assessing knowledge and perceptions regarding long-acting and permanent contraceptive methods in urban Ethiopia, women preferred methods that did not require any procedure [12]. This may support the reason why majority of the respondents knew a lot about the pills (24.8%) and male condom (19.8%) than the rest of the contraceptive method since they require no procedure. Respondents' main source of information on modern contraceptives were from television, radio, hospital/clinic, friends, posters/banners, family/relatives and newspaper/magazine. This study is in contrast to the study by Eliason et al. [4] who revealed that the main source of family planning knowledge or information was health workers for people in the Nkwanta District, Ghana. The Nkwanta District is noted for poor television reception unlike the people in the Mpohor District. This means difficulty in obtaining regular family planning information through such audio-visual means for the people of Nkwanta as compared to their fellows in Mpohor. Television has been considered to be a reliable source of information on contraceptive methods and the findings in this study is consistent with that of Egede et al. [13]. Ghosh et al. [14] and Ossai et al. [15] have stated that information obtained from the television medium on the methods of contraception are more reliable and educative tham other media sources. Caution is however given on the possibility of misinformation, distortion, falsehoods, and misconception contained in the information they give. In this study, it has been revealed that respondents' major source of information is the television and radio rather than the hospital/clinic. This may be due to technological advancement and increasing digitalization of our growing world.

Table 5. Logistic regression of the factors associated with contraceptive use among Respondents

Factors	Crude Odds Ratio		95% CI
	OR	P-Value	Lower, Upper
Contraceptive availability			
Yes	15.500	0.009*	2.005, 119.80
No			
Contraceptive accessibility			
Difficult	0.380	0.019*	0.170, 0.851
Very difficult			
Easy			
Age			
18-27			
28-38	0.222	0.018*	0.64, 0.777
39-48			
Educational level			
No formal education			
JHS	3.053	0.008*	1.343, 6.941
Secondary			
Vocational			
Tertiary			
Marital status			
Single			
Married	0.177	0.025*	0.39, 0.806
Divorced			
Number of children			
None			
1 Child			
2 Children	0.207	0.032*	0.49, 0.876
3 Children			
4+ Children			

*P< 0.05; OR = Odd Ratio; CI = Confidence Interval (95%)

4.2 Prevalence of Modern Contraceptive Use

The utilization of modern contraceptives is crucial since unprotected sex can result in an unplanned pregnancy or sexually transmitted diseases, or both [7]. Therefore, the utilization of modern contraceptives is crucial. Contraceptive use is a critical strategy for reducing morbidity and mortality from unplanned pregnancies and abortion among women of reproductive age. In this study, the prevalence of modern contraceptive use was 59.9% among 202 respondents and this is higher than a report by Ba et al. [16] on the general rate among 17 sub-Saharan African countries (17%). Although higher than the rate recorded by Ba et al., in 2019, Tanzania's rate of 41.5% as determined by Somba et al. [17] was also less than the current study. In other studies in Ghana, a rate of 18.7% to 21.5% have been recorded between 2003 and 2014 [18]. This high prevalence of modern contraceptives use may be due to an increase in awareness of the methods among the respondents. In fact, majority of the respondents (75.7%) proclaimed good comments about their choices, supporting their good perception about contraception. Again, the high response by respondents with respect to the ease in obtaining the contraceptives (95.5%) may have also contributed to the higher prevalence in the district. This shows that the probability of obtaining a higher prevalence on the use of modern contraceptives is influenced by relevant knowledge and awareness.

The main sources of respondents' contraceptives were from the pharmacy, chemical shops or hospital. It was largely considered a waste of time in attending the hospitals/clinics for contraceptives when pharmacies and chemicals shops were all over. Respondents rather preferred those easy-to-reach locations as compared to the health facilities even though it was mostly the pills that were mostly available at these shops.

4.3 Preferred Method

Out of the 202 respondents, about 65.4% are currently using modern contraceptives. The preferred method was pills (63.4%). Some of the reasons given by the respondents for using the short acting method were that they are easy to get and use, safe to use, reliable, cause no complications and cheaper. In a qualitative study assessing knowledge and perceptions regarding long-acting and permanent contraceptive methods in urban Ethiopia, women preferred methods that did not require any procedure [12]. This may support the reason why the respondents' preferred method of modern contraceptive was the pill, since it requires no procedure. Also, a relatively high percentage of the respondents (34.7%) were actually not on any modern contraceptives currently. This may be due to some factors preventing the use of modern contraceptives, like fear of side effects, cultural beliefs against the use of modern contraceptives, dissatisfaction with the service and also their opinion that modern contraceptive methods are bad.

4.4 Determinants of Modern Contraceptives Use

The marital status of women was found to be associated with modern contraceptive use in this study. This is similar to studies in Uganda, Nigeria and Bangladesh, where users of long-acting contraception were more likely to be married women [19-21]. This is unsurprisingly so because these married women want to plan and regulate the size of their family and proper spacing of childbirth becomes an integral component in this situation. Also, researchers have reported an association between educational level, age, number of children, income, and religion of study participants and contraceptive use [11,22-24]. However, this study found no association between religion (p=0.199) and contraceptive use among respondents just as was found in another study in Ghana by Marrone et al. [25]. However, the most likely reason in this case may be because majority of the respondents in the current study were Christians.

Furthermore, the study found a strong association between contraceptive availability (p=0.009) and contraceptive accessibility (p=0.019). Majority of the women responded "yes" to accessing contraceptives in their area, while a greater percentage actually confirmed that it was easy for them to purchase contraceptives around their vicinities. This may be due to the fact that hospitals are not the only source of accessing contraceptives. There are other sources, such as pharmacies and chemical shops, which might even be closer to the respondents than the hospital. Hence, they can access any contraceptive method of their choice without any difficulty. This may account for the reason why the two factors were significantly associated with contraceptive use, hence constituting some major determinant of contraceptive use by the respondents.

5. CONCLUSION

The prevalence of contraceptive use among women of reproductive age in the Mpohor District was estimated to be 59.9% even though all respondents had knowledge on at least one method of modern contraceptive. The utilization of the methods was influenced by accessibility, availability and socio-demographic factors such as age (p=0.033), educational level (p=0.002), marital status (p=0.043), number of children (p=0.042), etc. The most preferred method was the pills (63.4%). These outcomes suggest that while increasing the educational messages on the utilization of modern contraceptives through the various media platforms, more emphasis must be placed on their relevance and benefits.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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