

# DETERMINANTS OF CONTRACEPTIVE USE AMONG WOMEN ATTENDING ANTENATAL CARE AT FEDERAL TEACHING HOSPITAL ABAKALIKI, NIGERIA

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## ABSTRACT

**Background:** Contraception is of immense relevance in reproductive health. It is also one of the effective strategies towards improving maternal health. This study was designed to determine the awareness and use of contraceptives among women attending antenatal care at Federal Teaching Hospital Abakaliki, Nigeria.

**Method:** A descriptive cross sectional study design was used. Systematic random sampling technique was used to select 415 women receiving antenatal care at the facility. Information was obtained using a pre-tested, interviewer-administered questionnaire. Data analysis was done using Statistical Package for Social Sciences statistical software version 22 and level of statistical significance was determined by a p-value <0.05.

**Results:** The mean age of the respondents was 29.3±4.5 years. Majority of respondents, (288) 69.4% had attained tertiary education. Majority, (350)84.3% were aware of contraception and the male condom, (292)70.4% and the pill, (244) 58.8% were the most known methods. Source of information on contraception were mostly from television, (201)48.4% and health workers, (186)44.8%. Use of contraceptives was low among the respondents, (99)23.9% and the male condom, (52) 52.5% and natural method, (28)28.3% were the common methods used. Contraceptives were obtained mainly from pharmacy shops/patient medicine vendors, (50)50.5% and public health facilities, (21) 21.2%. Majority of those who used contraceptives had the support of their husbands, (94) 94.9% and majority also (83)83.8% were satisfied with the methods used. Predictors of contraceptive use among the respondents included being unmarried, (AOR=3.6; 95% CI: 1.3-10.5), Nullipara, (AOR=0.09; 95% CI: 0.02-0.3) and having 1-4 children, (AOR=0.1; 95% CI: 0.05-0.4).

**Conclusion:** Awareness of contraception was high, however utilization was low among the respondents in the study area. There may be the need for increased public enlightenment on the use of contraceptives. Health workers will have a role to play through counselling of clients. Changing the preference of the people for large family sizes may increase the use of contraceptives in Nigeria and there should be greater emphasis on female education.

**Key words:** Determinants, contraceptive, antenatal care, tertiary hospital, Nigeria

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## INTRODUCTION

Family planning permits individuals and couples to limit the number of children and also space the pregnancies and these could be achieved through the use of contraceptive methods.<sup>1,2</sup> It involves the use of pills, implants or surgical measures to either prevent, delay or terminate the reproductive process and its use by society has been for ages.<sup>3</sup> Presently, contraceptive methods are of two kinds, modern and traditional and the latter include the withdrawal method and periodic abstinence. The modern contraceptives comprise of male and female sterilization, pills, intra-uterine

contraceptive devices, injectables, implants and condoms. It also includes the lactation amenorrhoea method. There is evidence that across the globe, contraceptives are used mainly by women in the reproductive age group who are married or in a union, even though its use is more among women in the developed when compared with the developing countries.<sup>4</sup>

The use of effective contraceptive methods is of utmost relevance in improving reproductive health and preventing the risk of unwanted pregnancies.<sup>5</sup> This has necessitated its inclusion in most strategies initiated by the international community, aimed at improving maternal health globally. Examples include the Safe Motherhood Initiative, and the Millennium Development Goals.<sup>6,7</sup> Presently, family

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planning has a role to play in realizing the Sustainable Development Goals.<sup>8</sup> Earlier in 1994, the International Conference on Population and Development brought to the fore the importance of family planning within a rights based framework, thus recognizing family planning as a prerequisite for the empowerment of women.<sup>9</sup>

Globally, more than one in ten married women or those in union have an unmet need for family planning.<sup>2,4</sup> This represents those that have the intention to stop or delay childbearing, but are not using any form of contraception to prevent pregnancy and it is highest in Africa.<sup>2,4</sup> This unmet need has been attributed to the growing population of the world and inadequate family planning services.<sup>2</sup> There is a postulation that if the unmet need for modern contraceptive is reduced, several unintended pregnancies, unsafe abortions and unplanned births will be prevented.<sup>10</sup> In developing countries, an approximate 81% of these unintended pregnancies occur among women who have an unmet need for modern contraception.<sup>10</sup> Based on evidence, an unplanned pregnancy predicts the future occurrence of another unplanned pregnancy.<sup>11</sup>

It has been ascertained that use of contraceptives among married women has increased in all regions of the world and sub-Saharan Africa (sSA) has recorded the least,<sup>4</sup> for example, only 15% of married women in Nigeria are currently using contraceptives.<sup>1,4</sup> In the year 2015, sSA accounted for 66% of global maternal deaths and Nigeria with an approximate 58,000 maternal deaths in one year bears the greatest burden of maternal mortality at the country level.<sup>12</sup> Fortunately, family planning has been recognized as one of the strategies for improving maternal health.<sup>4,13</sup> Also, some of the methods of contraception like the condoms can prevent against sexually

transmitted infections including HIV.<sup>2</sup> Family planning also improves schooling and economic outcomes of individuals, especially of women and girls.<sup>4</sup> This study was designed to determine the factors associated with use of contraceptives among women attending antenatal care (ANC) at Federal Teaching Hospital Abakaliki, Nigeria.

## METHODOLOGY

### Description of study area

The study was conducted at Federal Teaching Hospital Abakaliki, Ebonyi state in southeast Nigeria. It is a federal government owned tertiary health institution which became functional in December, 2011, when the former Federal Medical Centre Abakaliki was upgraded to a Federal Teaching Hospital with the absorption of the defunct Ebonyi State University Teaching Hospital Abakaliki. The 602 bed capacity hospital serves as the teaching hospital for the College of Health Sciences of Ebonyi State University and also a training center for Resident Doctors in different fields of Medicine. The health facility conducts ANC every working day of the week under different teams headed by medical consultants. The hospital also provides family planning services and this is directly under the Department of Obstetrics and Gynecology.

### Study design

This was a descriptive cross sectional study.

### Study population

The study population were pregnant women attending ANC at Federal Teaching Hospital Abakaliki, Ebonyi state, Nigeria. All the women who refused to give consent were excluded from the study.

### Sample size determination

The minimum sample size for the study was determined by the formula used for single proportions.

$$n = z^2 pq / d^2$$
<sup>14</sup>

Where n = Minimum sample size for the study

Z = standard normal deviate corresponding to level of significance of 0.05 = 1.96

P = proportion of clients that had practiced contraception in a similar study = 26.5%<sup>15</sup>

q = 1-p

d = margin of error which is equal to 0.05

Therefore  $n = 1.96^2 * 0.265 * 0.0735 / 0.05^2 = 300$

Assuming a 10% non-response, the minimum sample size = 330

To increase the validity of the study, four hundred and fifteen (415) pregnant women were recruited for the study.

### Sampling Technique

A systematic random sampling technique using facility register was used to select the clients as they presented in the ANC clinic on each day of data collection. The last six months attendance to the ANC clinic was used to determine the sampling frame. An average of 1402 clients presented in the ANC clinic on a monthly basis. The period of data collection for the study was one month, hence a sampling frame of 1402 was used. Sampling interval was determined by dividing the sampling frame of 1402 by the sample size of 415, hence a sampling interval of 3 was used. So every third client was recruited for the study, based on the order of registration of clients on each day of data collection. The index patient was selected by simple random sampling method through balloting. The clients coming for ANC in the facility on the five working days of the week were included in the study.

### Study instrument

A semi-structured questionnaire which was developed by the researchers was used for the study. It was pretested

among thirty respondents at University of Nigeria Teaching Hospital Ituku-Ozalla, Enugu and the aim of the pretesting was to detect deficiencies or ambiguities of the study instrument which when detected were corrected. The questionnaire was administered to the clients by trained research assistants who were clinical medical students of Ebonyi State University Abakaliki.

### Data management

Data entry and analysis were done using IBM Statistical Package for Social Sciences statistical software version 22. Frequency tables and cross-tabulations were generated. Chi square test of statistical significance and multivariate analysis using binary logistic regression were used in the analysis. Variables that had a p value of  $\leq 0.20$  on bivariate analysis (age of respondents, marital status, number of children and socio-economic class) were entered into the logistic regression model to determine the predictors (marital status and number of children) of contraceptive use among the respondents. The results were reported using adjusted odds ratio and confidence interval at 95% and level of statistical significance was determined by a p value of  $< 0.05$ .

Socio-economic status of respondents was classified into two, low and high socio-economic class. This was determined using monthly family income and household ownership of nine household items that included radio, television, refrigerator, cable television, electric fan, air conditioner, car, washing machine and gas cooker. The socio-economic status index was developed using Principal Component Analysis, (PCA) in STATA statistical software version 12. For calculation of distribution cut points, quartiles were used and then categorized into low and high socio-economic classes.

## Ethical considerations

Ethical approval for the study was obtained from the Health Research and Ethics Committee of Ebonyi State University Abakaliki, Nigeria. The respondents were required to sign or thumb print to a written informed consent before the interview and the nature of the study, its relevance and the level

of their participation were made known to them. Respondents were assured that all information provided through the questionnaire were kept confidential as no name was included in the questionnaire. Also, there was nowhere the name of the respondents was written on the questionnaire. Participation in the study was voluntary.

## RESULTS

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

Variable	Frequency (n=415)	Percent (%)
<b>Age of respondents</b>		
Mean(±SD)	29.3±4.5	
<b>Age of respondents in groups</b>		
<25 years	51	12.3
25-29 years	170	41.0
30-34 years	139	33.5
≥35 years	55	13.3
<b>Number of children</b>		
No child	87	21.0
1 child	148	35.7
2-4 children	164	39.5
≥5 children	16	3.9
<b>Ethnicity</b>		
Igbo	390	94.0
Others*	25	6.0
<b>Marital status</b>		
Never married	16	3.9
Married	399	96.1
<b>Religion</b>		
Christianity	411	99.0
Others**	4	1.0
<b>Education of Respondents</b>		
No formal education	3	0.7
Primary education	16	3.9
Secondary education	108	26.0
Tertiary education	288	69.4
<b>Education of Husband</b>		
No formal education	2	0.5
Primary education	17	4.3
Secondary education	80	20.1
Tertiary education	300	75.2
<b>Occupation of respondents</b>		
Unemployed	137	33.0
Self-employed	106	26.3
Salaried employment	169	40.7
<b>Occupation of Husbands</b>		
Unemployed	1	0.3
Self-employed	167	41.9
Salaried employment	231	57.9
<b>Socio-economic status</b>		
Low socio-economic class	209	50.4
High socio-economic class	206	49.6

\*Hausa, Yoruba, minority tribes

\*\* Islam, traditional religion

Table 1 shows the socio-demographic characteristics of the respondents. The mean age of the respondents was 29.3±4.5 years and the highest proportion of the respondents, (170)41.0% were in the age

group, 25-29 years. Majority of the respondents, (399)96.1% were married and have also attained tertiary education, (288)69.4% while only a minor proportion, (03)0.7% had no formal education.

**Table 2: Awareness of contraception among the respondents**

Variable	Frequency (n=415)	Percent (%)
<b>Awareness of Contraception</b>		
Yes	350	84.3
No	65	15.7
<b>Methods of Contraception known**</b>		
Male condom	292	70.4
Daily Pill	244	58.8
Skin implants	237	57.1
Injectables	233	56.1
Natural method	215	51.8
Female condom	213	51.3
Intra uterine contraceptive device	173	41.7
Traditional method	84	20.2
Emergency Contraceptive pills	58	14.0
<b>Source of information on contraception**</b>		
Television	201	48.4
Health workers	186	44.8
Neighbour	173	41.7
Newspapers and magazines	151	36.4
Church leaders	94	22.7
Radio	74	17.8
Friends	57	13.7
Political leaders	50	12.0
School	26	6.3
Community leaders	14	3.4
Husband	2	0.5

\*\*multiple responses encouraged

Table 2 shows the awareness of contraception among the respondents. Majority of the respondents, (350)84.3% were aware of contraception. The most known methods of contraception among the respondents were male condom, (292)70.4%, daily pill, (244)58.8% and skin implants, (237)57.1%

while emergency contraceptive pills, (58)14% was the least known. The main sources of information among the respondents included television, (201)48.4% and health workers, (186)44.8% while husbands were the least source of information, (02)0.5%.

**Table 3: Contraceptive use among the respondents**

Variable	Frequency (n=415)	Percent (%)
<b>Use of any method of contraception</b>		
Yes	99	23.9
No	316	76.1
<b>Method of contraception used</b>		
	(n=99)	
Male condom	52	52.5
Natural method	28	28.3
Skin implants	5	5.1
Daily Pill	4	4.0
Intra uterine contraceptive device	4	4.0
Injectable	3	3.0
Traditional method	2	2.0
Female condom	1	1.0
Emergency Contraceptive pills	Nil	
<b>Place contraceptive was obtained</b>		
Pharmacy/Patent medicine vendor	50	50.5
Public Health facility	21	21.2
Private health facility	8	8.1
Church	8	8.1
Friend	8	8.1
Husband	4	4.0
<b>What influenced choice of contraception</b>		
Safety/convenience	74	74.7
Effective	13	13.1
Husband's preference	5	5.1
Religious belief	4	4.0
Recommendation	3	3.0
<b>Husband support for use of contraceptive</b>		
Yes	94	94.9
No	5	5.1
<b>Satisfied with method used</b>		
Yes	83	83.8
No	16	16.2

Table 3 shows the use of methods of contraception among the respondents. A minor proportion of the respondents, (99)23.9% have used any method of contraception and the male condom, (52)52.5% was the method used most by the respondents. The pharmacy shops/patent

medicine vendors,(50) 50.5% were the major place the contraceptives were obtained. Majority of the respondents, (94)94.9% had the support of their husbands in using the contraceptives and majority, (83)83.8% were satisfied with the method of contraception used.

**Table 4: Factors affecting contraceptive use among the respondents**

Variable	Use of contraceptive (n=415)		p-value (bivariate analysis)	Adjusted odds ratio (95%CI)
	Yes	No		
<b>Age of Respondents</b>				
≤30 years	56 (20.5)	217 (79.5)	0.027	0.7 (0.4 -1.2)
>30 years	43 (30.3)	99 (69.7)		1
<b>Marital status</b>				
Never married	7 (43.8)	9 (56.2)	0.057	3.6 (1.3 – 10.5)
Married	92 (23.1)	307 (76.9)		1
<b>Number of children</b>				
No child	14 (16.1)	73 (83.9)	<0.001	0.09 (0.02 – 0.3)
1-4 children	74 (23.7)	238 (76.3)		0.1 ((0.05 – 0.4)
≥5 children	11 (68.8)	5 (31.2)		1
<b>Education of Respondents</b>				
Tertiary education	72 (25.0)	216 (75.0)	0.410	NA
Secondary education and less	27 (21.3)	100 (78.7)		
<b>Education of Husband</b>				
Tertiary education	77 (25.7)	223 (74.3)	0.031	NA
Secondary education and less	15 (15.2)	84 (84.8)		
<b>Occupation of Respondents</b>				
Unemployed	28 (20.4)	109 (79.6)	0.045	NA
Self employed	26 (23.9)	83 (76.1)		
Salaried employment	45 (26.6)	124 (73.4)		
<b>Occupation of Husband</b>				
Unemployed	0 (0.0)	1 (100.0)	0.033	NA
Self employed	28 (16.8)	139 (83.2)		
Salaried employment	64 (27.7)	167 (72.3)		
<b>Socio-economic status</b>				
Low socio -economic class	56 (26.8)	153 (73.2)	0.157	1.5 (0.9 – 2.4)
High socio -economic class	43 (20.9)	163 (79.1)		1

NA Not applicable  
95%CI; 95% Confidence interval

Table 4 shows the factors affecting the use of contraceptives among the respondents. The respondents who were not married were about four times more likely to have used a

contraceptive when compared with those who were married. (AOR 3.6; 95%CI: 1.3-10.5). The respondents who had no child were eleven times less likely to have used a

contraceptive when compared with those who had five or more children. (AOR 0.1; 95%CI: 0.02-0.3). Similarly, the respondents who had less than five children were ten times less likely to have used a contraceptive when compared with those who had five or more children. (AOR 0.1; 95%CI: 0.05-0.4).

## DISCUSSION

Majority of the respondents, 84.3% were aware of contraception and this was the same for similar studies in other parts of Nigeria.<sup>15</sup> Also from the Nigeria Demographic and Health Survey (NDHS), majority of currently married men (97.0%) and women (84.6%) were aware of any method of contraception.<sup>1</sup> These results attest that the awareness on contraception is very high in Nigeria. The most important source of information on contraception among respondents in this study was television. This result is at variance with the findings from similar studies in other parts of Nigeria, where health workers were the most important source of information on contraception.<sup>15,17-19</sup> This may be an indication that health workers in the study area are not doing enough in bringing the message of family planning to the people. It will be of immense good if health workers play the desired role in disseminating information concerning family planning to the people at every available opportunity especially during hospital visits and consultations.

The method of contraception known by majority of the respondents was the male condom (70.4%) and this is similar to findings from similar studies in south-south Nigeria.<sup>15,18</sup> In a study in north-west Nigeria, the injectable was the most known method of contraception.<sup>17</sup> When compared with the proportion of the respondents who were aware of contraception, (84.3%) only a minor proportion of the respondents, 23.9% in this study have used any method of contraception, This disparity between

awareness of contraception and its use have been consistent in similar studies in Nigeria.<sup>15-18</sup> From the result of the NDHS, only 15% of married women use contraceptive methods.<sup>1</sup> It has been affirmed that contraceptive use has increased in all the regions of the world, but the increase is least in sSA.<sup>2</sup> Thus the use of contraceptives among women attending ANC was higher in countries outside sSA when compared with those in sSA.<sup>15-18, 20-21</sup> However in a study among grand multiparous women in Kano, Nigeria, the prevalence of contraceptive use was very high, 88.6%.<sup>22</sup>

The male condom was the most known contraceptive method, among the respondents and also the one used by majority of them. The results from other studies also reveal that in some defined localities the most commonly known method of contraception was the one most used by the respondents.<sup>16-18,23</sup> The finding becomes different when wider geographical entities are involved, for example the pill is the most known contraceptive method in Nigeria, while the male condom is the contraceptive method mainly used by the people.<sup>1</sup> This could be an indication that certain local factors affect the perception and use of contraceptives among the people and if these factors are identified, it could influence the increased use of contraceptives. It is important to note that none of the respondents have ever used the emergency contraceptive pills and the method was also the least known among the respondents. In a study among ANC attendees in south-south Nigeria, none of the respondents have also used emergency contraceptive pills.<sup>16</sup> There has been a call for increased use of emergency contraception among the people with the help of family planning providers.<sup>24</sup>

The main place contraceptives were obtained by respondents in this study was patent medicine vendors/pharmacy shops. This

finding is similar to that from other parts of Nigeria.<sup>19,25</sup> However from a similar study in Indonesia, the primary healthcenter (PHC) was the major place for assessing contraceptives.<sup>23</sup> It could be that choice of method of contraception may have a role to play in where it is obtained, since the male condom could easily be obtained over the counter from the patent medicine vendors and pharmacy shops, unlike the injectables which may need a measure of skill to be administered; hence the choice of the PHCs. However, that the majority of the respondents in Indonesia obtained their family planning methods from a PHC could suggest that the practice is well accepted among the people in that country.

Among the respondents in this study, safety/convenience was the major reason for choice of contraceptives. In a study in Lagos, Nigeria, effectiveness of the method used was the major reason for choosing a method of contraception.<sup>19</sup> In the two studies indicated above, the male condom was the main contraceptive used. However, in a study in Indonesia, the approval of the husband was the main factor that influenced the choice of contraceptives and the injectables were the main contraceptive used by the respondents.<sup>23</sup> This may further explain the variations in the societal acceptance of contraception in Nigeria and Indonesia.

Majority of the respondents, 94.9% had the support of their husbands in the use of family planning methods. This is very important, though expected bearing in mind that majority of the respondents in this study used the male condom which will obviously need the active participation of the husbands. In a study in Ibadan, south-west Nigeria, majority of the respondents, 86.5% had the approval of their husbands on the method of contraception used.<sup>26</sup> This is an interesting finding as it has been found that in Nigeria

the opinion of the male partner is of relevance in the decision of the woman to use contraceptives.<sup>27</sup> Also, compliance with contraceptive methods have a significant association with the approval of the partners.<sup>26</sup> Furthermore, it has been posited that family planning uptake is more likely when couples make a joint decision than when the woman alone makes the decision, and this makes it imperative for the involvement of men in all matters related to use of family planning methods.<sup>28-</sup><sup>29</sup> Interestingly, in a study in Jos, north-central Nigeria, majority of the women attending ANC were of the opinion that both husband and wife should be in agreement of the method of family planning to be used.<sup>30</sup>

Majority of the respondents, 83.8% were satisfied with the method of contraception used. A similar result was obtained in Ibadan, Nigeria.<sup>26</sup> These results are very encouraging as it has been found that there is an association between compliance with contraceptive methods and satisfaction with the contraceptive method used.<sup>26</sup> This thus explains why fear of side effect which may connote dissatisfaction could discourage use of contraceptives in the future.<sup>18</sup>

From the results of this study, the respondents who were not married were about four times more likely to use a contraceptives when compared with those who were married. Globally, it has been found that the use of contraceptives is more among women who are married or in a union.<sup>4</sup> This explains why among women of reproductive age group, married women tend to use family planning methods more when compared with those who were not married.<sup>31,32</sup> It is however expected that among women attending ANC that the use of contraceptives will be more among the respondents who were not married since there has been exposure to sexual activities. In a study among women in rural Kenya,

being married was significantly associated with use of contraception within one year after delivery.<sup>33</sup>

Also, the respondents who had no child during the period of the study were eleven times less likely to have used a contraceptive method when compared with those who had five or more children. Similarly, those who had less than five children were ten times less likely to have used a contraceptive method when compared with those who had five children. This could explain why the use of contraceptives was high among multiparous women (88.6%) even in a developing country.<sup>22</sup> In a study in Northern Ethiopia, having two living children significantly affected the use of contraceptives.<sup>34</sup> Also, in Saudi Arabia, number of living male children also affected the use of contraceptive.<sup>21</sup> From the results of a study in Malawi, women with larger family sizes were more likely to use a modern contraceptive method.<sup>35</sup> Thus reducing the preference for large family sizes by women, couples and the society may increase the use of contraceptives in Nigeria. A similar suggestion was made in south Asia, where preference for sons affected reproductive behavior including use of contraceptives and reducing that preference necessitated a change in social norms and improving the status of women.<sup>36</sup>

In this context, female education will have a crucial role to play in addition to a change of attitude among the people. Already it has been observed that better educated women have fewer children than less educated women in all regions of the world.<sup>37</sup> Also, women are empowered by higher education, thus enabling their involvement in household decision making that may include the use of methods of family planning.<sup>37</sup> Of interest also is that a study in Tanzania concluded that increasing the education of women improves their economic opportunities, thus reducing their desire for large families.<sup>38</sup> These findings necessitate

that greater emphasis should be placed on female education in Nigeria.

## CONCLUSION

Awareness of contraception was high, however utilization was low among the respondents in the study area. There may be the need for increased public enlightenment on the use of contraceptives. Health workers will have a role to play through counselling of clients. Changing the preference of the people for large family sizes may increase the use of contraceptives in Nigeria and there should be greater emphasis on female education.

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