UNDER PEER REVIEW

Original Research Article

FACTORS INFLUENCING THE UPTAKE OF MODERN FAMILY PLANNING METHODS AMONG WOMEN OF REPRODUCTIVE AGE IN A RURAL COMMUNITY IN LAGOS STATE

ABSTRACT

Aims: To determine the knowledge, prevalence and factors influencing the uptake of modern family planning among women of reproductive age in Agbowa community in Lagos state.

Study design: A cross-sectional descriptive

Place and Duration of Study: The study was conducted among women of reproductive age group in Agbowa community, Epe Local Government area of Lagos State, Nigeria, between February and July 2013.

Methodology: A household random survey of 220 women aged between 15-49 years was undertaken at Agbowa community in Lagos, Nigeria, to determine their knowledge, practice and factors influencing the use of modern family planning methods. Data was collected using a pretested, structured, interviewer-administered questionnaire.

Results: The ages of study participants ranged from 15-49 years with a mean age of 28.42 ± 7.5years. The majority 192(87.3%) were married, and 183(83.2%) were aware of family planning. The commonest source of information about contraceptives was from health workers 68(30.9%). Despite the high level of awareness of modern family planning methods, the prevalence of contraception among the respondents was low (38.6%). The most popular contraceptive method known by respondents was the male condom 118(64.5%). Overall, 5(2.7%) of the respondents had good knowledge, 102(55.8%) had fair and

UNDER PEER REVIEW

76(41.5%) had poor knowledge of family planning. The main reasons given for non-use were fear of side effects (56.3%), lack of spousal consent (48.9%) and desire for more children (48.9%). The significant socio-demographic determinants of contraceptives uptake were marital status, religion and nature of work ($p<0.05$).

Conclusion: Contraceptives usage remains poor despite high level of awareness. Effective educational and counseling interventions are required to improve women's knowledge and subsequent uptake of contraceptive usage.

Key words: Prevalence; determinants; uptake; modern family planning; rural community; reproductive age – group; women.

INTRODUCTION

Family Planning (FP) refers to the use of various methods of fertility control that will help individuals (men and women) or couples to have the number of children they desire and when they want them in order to ensure the wellbeing of children and the parents. Family planning simply means preventing unwanted pregnancies by safe methods of prevention. This is considered to be part of the basic human rights of all individuals or couples as it was endorsed by the International Conference on Population and Development in Cairo in 1994.[1] Over the last 30 years, as women in the developing world have increasingly desired smaller families, contraceptive use has risen and fertility rates have fallen. In spite of these, demographic surveys indicate that the actual family size in most developing countries remains greater than the desired family size. This gap between the real and the ideal persists even in Sub-Saharan Africa, which still retains a preference for larger families and has the highest fertility rates in the world.[2]

Family planning services are defined as "educational, comprehensive medical or social activities which enable individuals, including minors, to determine freely the number and spacing of their children and to select the means by which this may be achieved.[3] It provides benefits of good health and wellbeing of women and families throughout the world. This keeps the prospective parents healthy and without a child until a time of their choice. Family planning also includes teaching teens and children about sexuality and

UNDER PEER REVIEW

reproduction to keep them from having children before they are ready and providing contraception.[1] This is because maternal death rates for young women aged 15 to 19 are twice as high as for older women, and research suggests that girls aged 10 to 14 are five times more likely to die of maternal causes than women aged 20 to 24 years.[6] Family planning is hailed as one of the great public health achievements of the last century, and yet over 200 million women worldwide who want to use contraceptives don't have access to them.[4]

Nigeria has relatively high maternal and infant mortality rates usually resulting from complications related to pregnancy, childbirth and puerperal conditions.[5] The loss of a woman in a family however is not only a personal tragedy, but infants who are abruptly weaned may not survive, other siblings may become malnourished, sick or may die due to lack of adequate care and nourishment.

Family planning is an important part of efforts to improve infant and child survival. Delaying and spacing births helps women bear children during their healthiest years and enables them to have their desired number of children.[7] International health experts now believe that the healthiest interval between a woman's previous birth and her new pregnancy is at least two years and by preventing closely spaced births, FP could save the lives of more than 2 million infants and children annually. It has also been shown that babies born less than two years after the next oldest sibling are more than twice as likely to die in the first year compared to those born after an interval of three years.[8] Like many other developing nations, majority of Nigeria's population (about 70%) live in the rural communities, these rural communities have very high fertility rate with low contraceptive prevalence rate (CPR) 8% as compared with 18% in the urban areas in Nigeria as many rural women are reluctant to accept artificial method of contraception.[9-10] This study was carried out to determine the prevalence and factors influencing the uptake of modern family planning methods among women of reproductive age in Agbowa community in Lagos state.

MATERIALS AND METHODS

Study Area

Agbowa town is one of the commercial centres of Epe LGA of Lagos State, Nigeria. It is situated within the Ikosi-Ejirin LCDA, located 59 kilometres north-east of Lagos along the Ikorodu-Itoikin road and covers

UNDER PEER REVIEW

an estimated area of about 68 square kilometres. It is a fundamentally rural community though it is gradually being transformed by continual urbanization. The predominant ethnic group is Yoruba mostly Ijebus.

The study was a descriptive cross-sectional study conducted among women of reproductive age group in Agbowa community between February and July 2013. Two hundred and twenty women were recruited using a multi stage sampling method. At the first stage, one rural LGA (Epe) was selected from the list of the four rural local government areas that existed in Lagos state. At the second stage, Ikosi-Ejirin was selected by balloting from the list of the three Local council Development Area (LCDA) in Epe LGA. The third stage involved selection of a community from the list of eighteen communities in the LCDA and Agbowa was selected by balloting. Agbowa community has two political wards (E1 and E2) with 25 and 20 streets respectively and an average of 50 households each. The study respondents were selected proportionately from the two political wards in the community. Data was collected by trained interviewers using a pretested, structured questionnaire.

Sample size determination

The sample size determination for the study was derived from the formula below;

$$n = \frac{Z^2 P (1-P)}{d^2}$$ [11]

Where n = the desired sample size

Z = the standard normal deviate usually set at 1.96 which corresponds to 95% confidence level.

P = prevalence of current use of any FP method (married women 15-49) in Nigeria = 15% (NDHS 2008)[12]

D = degree of accuracy desired set at 0.05

Substituting the figure, the minimum sample size calculated was 196 but a total of two hundred and twenty questionnaires (220) were used for the study to cater for a 10% non-response rate.

UNDER PEER REVIEW

The study instrument was a structured pre-tested, interviewer's administered questionnaire which was designed in English language and translated into Yoruba language because of those that didn't speak English and translated back to English to ensure accuracy.

The questionnaire comprised of three different sections with forty-three questions in all. The first section collected information on the socio-demographic characteristics of the respondents such as age, education, marital status, religion and parity. The second section sought information on the respondent's knowledge of contraception while the third section assessed the respondent's practice of contraception and factors that prevent contraceptive use among the women.

Analysis was done using Statistical Package for Social Sciences (SPSS) version 16. Findings were presented in frequency tables and cross tabulations. The Chi square test was used for comparisons while Fisher's exact was used where appropriate. Test of significance was performed using a 95% confidence interval, and the level of significance set at 0.05. To assess knowledge, correct answers to questions were awarded a score of one, while wrong answers attracted a score of zero. The total score for the knowledge section was then calculated by adding all the scores and these were converted to percentages. A knowledge grade was assigned to each respondent based on their total percentage score as follows: poor knowledge 0-49%, fair knowledge 50-74% and good knowledge 75%-100%. Knowledge grade was a scale of performance previously used by studies carried out in Lagos. [13,14]

RESULTS

All the respondents completed the questionnaire satisfactorily as it was interviewer administered. The sociodemographic data are presented in Table 1. Most of the respondents 93(42.3%) were in the age group 25-34 years. The mean age ± of respondents was 28.42± 7.5 years (range 15-49 years). The majority of the respondents 192 (87.3%) were married and most 127 (66.1%) were in a monogamous type of marriage. More than half 140 (63.6%) were Christians of which most 110 (50.0%) were of pentecostal origin. Most 137 (62.3%) of the respondents had secondary education; the majority 148 (67.3%) were self- employed and over half 125 (56.8%) were of Yoruba tribe.

UNDER PEER REVIEW

Table 1: Socio-demographic characteristics of respondents

Variable	Frequency (n=220)	Percentage
Age in years		
15-24	73	33.2
25-34	93	42.3
35-44	49	22.3
45-49	5	2.3
Mean age ± S.D.= 28.42 ± 7.5		
Marital status		
Single	21	9.5
Married	192	87.3
Divorced	4	1.8
Widow	3	1.4
Type of marriage	(n=192)	
Monogamous	127	66.1
Polygamous	65	33.9

UNDER PEER REVIEW

Religion		
Catholic	30	13.6
Pentecostal	110	50.0
Islam	73	33.2
Traditional	7	3.2
Educational level		
No formal	11	5.0
Primary	34	15.5
Secondary	137	62.3
Tertiary	38	17.3
Nature of work		
Self employed	148	67.3
Govt. employed	24	10.9
Private employed	10	4.5
Unemployed	38	7.3
Ethnicity		
Yoruba	125	56.8
Igbo	42	19.1
Hausa	5	2.3

UNDER PEER REVIEW

Others	48	21.8

The level of contraceptive awareness was high amongst the respondents as (83.2%) of them had previously heard about modern contraception (Table 2) . Health workers (30.9%), followed by mass media (30.5%) and then friends/relations (17.7%) largely accounted for the sources of awareness of modern contraception.

Table 2: Respondents' awareness of modern family planning

Variable	**Frequency (n=220)**	**Percentage**
Awareness of modern FP		
Yes	183	83.2
No	37	16.8
Source(s) of information	**(n=183)**	
Mass media	67	30.5
Friends/relations	39	17.7
Health workers/clinics	68	30.9
Church/mosque	6	2.7
Others		

Most (64.5%) of the respondents were aware of barrier method (male condom) as a method of family planning. More than half (56.8%) were aware of injectable and oral contraceptives (55.7%) respectively among other methods of family planning. The prevalence of modern contraceptive use in this study was

UNDER PEER REVIEW

38.6% and the most commonly used contraceptives were injectables (43.5%) condoms (25.9%) and the pills (24.7%) (Table 3).

Table 3: Respondents' awareness and practice of various modern family planning methods

Variable	Frequency (n=183)	Percentage
Awareness of various modern family planning methods		
Natural methods		
Yes	66	6.1
No	117	63.9
Barrier method		
Yes	118	64.5
No	65	35.5
Oral contraceptive pills		
Yes	102	55.7
No	81	44.3
Implant		
Yes	21	11.5
No	162	88.5
Injectables		
Yes	104	56.8
No	79	43.2
IUCD		
Yes	27	14.8
No	156	85.2
Sterilization		
Yes	20	11.0
No	163	90.0

UNDER PEER REVIEW

Use of modern contraceptives	**(n=220)**	
Yes	85 (38.6)	38.6
No	135 (61.4)	61.4
Currently used methods	**(n=85)**	
Pill	21	24.7
IUCD	5	5.9
Injectable	37	43.5
Condom	22	25.9

Most (67.7%) of the respondents had knowledge of family planning as a means of limiting children. The majority (75.4%) stated FP as a means of spacing births; 73.8% to prevent unwanted pregnancies and about half (54.1%) of the respondents had knowledge of FP as a means to reduce population. Only few (25.7% and 38.3%) had knowledge of FP as a means to prevent sexually transmitted infections and promotion of women's health respectively (Table 4).

Table 4: Respondents' knowledge on the meaning of family planning

Definition	**Frequency (n=183)**	**Percentage**

UNDER PEER REVIEW

Means of limiting children		
Yes	149	67.7
No	33	15.0
Don't know	1	0.5
Means of spacing births		
Yes	138	75.4
No	45	24.6
Means to prevent unwanted		
pregnancies	135	73.8
Yes	48	26.2
No		
Means to reduce population	99	54.1
Yes	84	45.9
No		
Means to prevent STIs	47	25.7
Yes	135	73.8
No	1	0.5
Don't know		
Means of promoting women's health	70	38.3
Yes	110	60.1
No	3	1.6
Don't know		

More than half of the respondents (55.8%) had fair knowledge of modern family planning methods 76 (41.5%) had poor knowledge and very few (2.7%) had good knowledge of modern family planning (Table 5).

Table 5: Respondents over all knowledge of family planning

UNDER PEER REVIEW

Level of knowledge	**Frequency** (n=183)	**Percentage**
Poor knowledge	76	41.5
Fair knowledge	102	55.8
Good knowledge	5	2.7

More than half (61.4%) of respondents were not using any method of contraception. Among the reasons given by those not using any family planning methods were fear of side effects (56.3%); husbands' disapproval (48.9%) and desire for more children (48.9%) (Table 6).

Table 6: Barriers to the use of modern family planning methods

Variable	**Frequency (n=135)**	**Percentage**
Desire for more children		
Yes	66	48.9
No	69	51.1
Lack of spousal consent		
Yes	66	48.9
No	69	51.1
Don't know	1	0.5
Religion against FP		
Yes	61	45.2
No	74	54.8

UNDER PEER REVIEW

Culture against FP		
Yes	50	37.0
No	85	63.0
Fear of side effects		
Yes	76	56.3
No	59	43.7
Lack of knowledge		
Yes	55	40.7
No	80	59.3

There was a statistically significant association between uptake of family planning and marital status and also religion (Table 7).

Table 7: Socio-demographic characteristics of respondents and uptake of family planning methods

Variable	**Uptake of family planning**		**Total (%) n=220**	**Statistical test**		
	Yes Freq.(%) n=85	**No** Freq.(%) n=135		x^2	**d.f**	***P*-value**
Marital status						
Single	2 (9.5)	19 (90.5)	21 (100)	9.23	3	**.00**
Married	79 (41.1)	113 (58.9)	192(100)			

UNDER PEER REVIEW

Divorced	2 (50.0)	3 (50.0)	4 (100)			
Widow	2 (66.7)	1 (33.3)	3 (100)			
Religion						
Catholic	12 (40.0)	18 (60.0)	30 (100)	7.91	3	**.045**
Pentecostal	37 (33.6)	73 (66.4)	110(100)			
Islam	30 (41.1)	43 (58.9)	73 (100)			
Traditional	6 (85.7)	1(14.3)	7 (100)			

There was a statistically significant association between cost of family planning service, cost of transportation to a family planning centre and uptake of family planning (Table 8).

Table 8: Cost of transportation, cost of obtaining family planning methods, proximity of services and contraceptive uptake

	Cost of transportation to obtain FP service				**Statistical test**		
	<N500	**N500-N1000**	**>N1000**	**Total**			
Uptake of FP	**Frequency (%) n= 154**	**Frequency(%) n= 63**	**Frequency(%) n= 3**	**Frequency(%) n=220**	X^2	**d.f**	***P*-value**
Yes	77 (50.0)	7 (11.1)	1 (33.3)	85 (38.6)	28.56	2	**.00***
No	77 (50.0)	56 (88.9)	2 (66.7)	135 (61.4)			
	Cost of obtaining FP methods						

UNDER PEER REVIEW

	Frequency(%) (%) n= 56	Frequency(%) (%) n= 111	Frequency (%) n= 53	Frequency (%) n= 220			
Yes No	33 (58.9) 23 (41.1)	31 (27.9) 80 (72.1)	21 (39.6) 32 (60.4)	85 (38.6) 135 (61.4)	15.12	2	**.00**
	Distance travel to obtain method of FP						
	<30minutes	**30-60 minutes**	**>60 minutes**	**Total**			
	Frequency(%) 43 (100.0)	**Frequency(%)** 123 (100.0)	**Frequency(%)** 54 (100.0)	**Frequency(%)** 220 (100.0)			
Yes No	32 (74.4) 11 (25.6)	33 (26.8) 90 (73.2)	20 (37.0) 34 (63.0)	85 (38.6) 135 (61.4)	30.51	2	**.00**

DISCUSSION

The pattern of socio-demographic characteristics in this study is comparable to that of other studies in rural Nigeria.[15,16]. The mean number of living children reported by the respondents was 3.04 ±1.88. This is similar the report of a study in a rural community in South-Western Nigeria which reported 3.4±1.8 births per woman.[15] The awareness of modern contraceptive methods was generally high among the respondents (83.2%). This may be due to the fact the study was conducted among reproductive age women who are exposed to one form of health education or the other on modern family planning methods by health workers especially after deliveries and during routine immunization for their children at the primary health care facilities in the community and also through various forms of media. This high level of awareness has been similarly reported by previous studies within and outside Nigeria,[17,18,19] including the

UNDER PEER REVIEW

most recent NDHS which reported that knowledge of any contraceptive method is widespread in Nigeria and 84 percent of all women knew of a modern method.[20] Unlike some other studies where the media was the predominant source of information, about 31% of the respondents in this study knew about contraception through health personnel, which is similar to the finding of a study done in Pakistan on the awareness and pattern of utilizing family planning services among women attending a health care centre.[21,22] It is also similar to a study on fertility intentions, contraceptive awareness and contraceptive use among women in three communities in Northern Nigeria where radio and health facilities were the primary sources of information.[23]

The prevalence of modern contraceptive use in this study was 38.6%. This prevalence is higher than expected when compared to the National average (26.6%)[20] and to the findings of other studies in rural South, North and Eastern part of Nigeria which reported current usage as low as, 29%, 2.5% and 30% respectively. [19,24,25] A study in rural Senegal reported a prevalence rate as low as 1.5% for modern contraceptives, another study among females in predominantly rural Muslim area of North India reported prevalence of 34.9% and about half were using modern family planning techniques in the study carried out among married Sudanese women.[26-28] The high prevalence reported in this study may be due to high literacy rate among the respondents with almost two-thirds (62.3%) having post-primary school education, because education has been said to play an important role in women's lives and assists in decision-making.[29] However, there was no statistically significant association between the use of contraception and educational status in this study ($p>0.05$). The most commonly used contraceptives in this study were injectables (43.5%), male condoms (25.9%) and the pills (24.7%).

The majority (75.4%) of respondents in this study knew family planning as a method of spacing births; prevent unwanted pregnancies (73.8%); reduce population (54.1%) and only few 25.7% knew family planning as a means of prevention against sexually transmitted infections. This finding is similar to the report of another study in a rural community in Nigeria.[30] It is however worthy of note that some contraceptive methods were very unpopular among the respondents. Very few (11% and 11.5%) knew about implants and permanent methods and just 15% of the respondents knew about Intra Uterine Contraceptive Device as methods of contraception. This finding is similar to the report of the most recent

UNDER PEER REVIEW

NDHS in the country. [20] This is most likely due to the fact that, these methods are not readily available in the rural areas and are relatively more expensive than the other commoner methods like the male condoms.

More than half (61.4%) of respondents were not using any method of contraception. This supports other international studies that reported about one in five married women of childbearing age are not on contraceptives with a higher percentage among rural women.[31,32] Among the reasons given by those not using any family planning methods were fear of side effects (56.3%); husbands' disapproval (48.9%) and desire for more children (48.9%). This is similar to what has been reported by other studies within and outside Nigeria.[19,33] A study in south-eastern Nigeria concluded that despite the high education/literacy with the attendant high knowledge and approval rate of family planning in Nigeria, the practice of family planning is still low, especially due to partner objection.[34]

On the overall knowledge of family planning, more than half 102 (55.7%) respondents had fair knowledge; 76 (41.5%) had poor knowledge while only few 5 (2.7%) had good knowledge. This is contrary to the report of a study carried out in an urban community in Ibadan, South-west Nigeria which reported higher percentage of respondents with good knowledge of FP.[35] This report however is not surprising knowing well that much of the on-going enlightenment on modern family planning in the country has been in the urban areas and recently extending to rural communities.

The use of family planning was found to be associated with marital status and religion in this study. The relationship between religion and family planning has been documented by previous studies and religion has been recognized as a very important determinant of contraceptive usage.[19,27,36] .

A statistically significant association was also found between number of living children and contraceptive use as most respondents with 3 or more children were more likely to use modern contraceptive methods compared to those who have 2 or less children. This result is similar to that of other studies [37,38] Also, the study showed statistically significant relationships between contraceptive use and proximity to the source of family planning services, cost of transportation and cost of obtaining methods. Perception of cost of contraceptive was also found to be statistically significantly associated with the use of contraception. Level of contraceptive use has been shown to have a strong association with availability and accessibility

UNDER PEER REVIEW

of FP services and there is an inverse relationship between current contraceptive use and distance or travel time to an outlet.[39]

CONCLUSIONS AND RECOMMENDATIONS

This study revealed a high level of contraceptive awareness (83.2%) but low prevalence rate (38.4%) and a poor knowledge of the meaning modern family planning methods. The main reasons for none use of modern family planning methods were the fear of side effects, lack of knowledge, spousal's disapproval and the desire for more children. The factors associated with low and poor contraceptive usage includes marital status, religion, cost of obtaining family planning service and cost of transportation to family planning service. It is recommended that effective educational and counseling interventions are likely to improve male involvement and consumers' knowledge would subsequently lead to higher uptake of contraceptive usage. Also, greater advocacy targeted at religious leaders and bodies should be carried out.

CONSENT

Participation was voluntary and respondents were informed that they could withdraw from the study at any stage of the interview if they so desired without any penalty. Written informed consent was also obtained from each respondent in the study

ETHICAL APPROVAL

Ethical clearance for this study was obtained from the Health Research and Ethics committee of the Lagos State University Teaching Hospital (Ref No: LREC/10/06/257). Permission to conduct the study was obtained from the Chairman and the Medical Officer of Health (MOH) of the local government area. Anonymity of participants was maintained at all times by not using any identifiers or personal information in the questionnaires.

UNDER PEER REVIEW

REFERENCES

1. Worku F, Gebresilassie S. Reproductive Health for Health Science Students Lecture Note. 2008.

2. Barot S. Back to Basics: The Rationale for Increased Funds for International Family Planning. Guttmacher Policy Review; Summer 2008, 11: 3.

3. Cooper B. The Meaning of Family Planning. Accessed: June 27 2012 Available: http://www.ehow.com/about_6517327_meaning-family planning.html.()

4. Family planning strategy overview. Global health program; 2012. Accessed: June 30 2012. Available: www.gatesfoundation.org/familyplanning.

5. National Population Commission (NPC) and ICF Macro. Nigerian Demographic and Health Survey 2008: key findings. Calverton, Maryland, USA: NPC and ICF Macro; 1-15.

6. Murphy E. "Diffusion of Innovations: Family Planning in Developing Countries". Journal of Health Communication Supplement 2004; 9(1):123-29.

7. Smith R, Ashford L, Gribble J, Clifton D. Family planning saves lives. 4th ed. Population Reference Bureau 2009; 1:25. Accessed: 25 June 2012. Available: www.prb.org/Reports/2009.

8. Shea OR. "Effects of Preceding Birth Intervals on Neonatal, Infant and Under-Five Years Mortality and Nutritional Status in Developing Countries: Evidence From the Demographic and Health Surveys," International Journal of Gynecology and Obstetrics 2005; 89: S7-24.

9. UNAIDS, Report on the Global AIDS Epidemic, Geneva: UNAIDS, 2008: 214-15.

10. Ekong EE. An introduction to Rural Sociology. 2nd Edition. Dove Publications 2003; Uyo, Nigeria. 143 – 151.

11. Araoye MO Research Methodology with statistics for Health and Social Sciences. Nathadex Publishers. Reprinted 2004; Pg. 115-121.

12. Creanga AA, Gillespie D, Karklins S, Tsui AO. Low use of contraception among poor women in Africa: an equity issue. Bulletin of the World Health Organization 2011; 89: 258-266.

13. Odusanya OO, Tayo OO. Breast cancer knowledge, attitudes and practice among nurses in Lagos, Nigeria. Acta Oncol. 2001 ; 40 (7) : 844-8.

14. Odusanya OO. Breast cancer: Knowledge attitudes and practices of female school teachers in Lagos, Nigeria. The Breast Journal 2001;7 (3) : 171-5.

UNDER PEER REVIEW

15. Adebimpe WO., Asekun-Olarinmoye EO. A Comparative Study of Contraceptive among rural and urban women in Osun state, Nigeria. International Journal of Tropical Disease and Health 2012; 2 (3) : 214-224.

16. Olugbenga – Bello AI., Abodunrin OL., Adeomi AA. Contraceptive Practices among Women in Rural Communities in South-Western Nigeria. Global Journal of Medical Research 2011; 11 (2) : 1

17. Barrett J, Buckley C. Constrained Contraceptive Choice: IUD Prevalence in Uzbekistan. International Family Planning Perspectives 2007; 33 (2): 50–57.

18. Ndiaye CA, Delaunay V, Adjamagbo A. Knowledge and use of contraceptive methods in rural Sereer, Senegal. Sante 2003; 13 (1): 31-7.

19. Nwachukwu I. and Obasi OO. Use of Modern Birth Control Methods among Rural Communities in Imo State, Nigeria. African Journal of Reproductive Health 2008. 12(1):101-108.

20. Nigeria Demographic and Health Survey 2013. National Population Commission Federal Republic of Nigeria Abuja, Nigeria ICF International Rockville, Maryland, USA. June 2014.

21. Bassey EA., Abassattai AM., Asuquo EE., Udoma EJ., Oyo-Ita A. Awareness, attitude and practice of contraception among secondary school girls in Calabar. Nig. Journal of Medicine 2005; 14(2): 146-150.

22. Shah NA, Nisar N, Qadri MH. Awareness and pattern of utilizing family planning services among women attending Urban Health Care Centre Azizabad Sukkur. Pakistan Journal of Medical Sciences 2008; 24(4): 550-555.

23. Avidim S, Akai LA, Mohammed AZ, Adaji S, Shittu O, Ejembi C. Fertility Intentions, Contraceptive Awareness and Contraceptive Use among Women in three Communities in Northern Nigeria. Afr. J. Reprod. Health 2010; 14; 3: 65-70.

24. Omo-Aghoja LO, Omo-Aghoja VW, Aghoja CO, Okonofua FE, Aghedo O, Umueri C, Otayohwo R, Feyi-Wasobo P, Onowhakpor EA, Inikori KA. Factors Associated With the Knowledge, Practice and Perceptions of Contraception in Rural Southern Nigeria. Ghana Med J. 2009; 43: (3): 115-121.

25. Avidim S, Akai LA, Mohammed AZ, Adaji S, Shittu O, Ejembi C. Fertility Intentions, Contraceptive Awareness and Contraceptive Use among Women in three Communities in Northern Nigeria. Afr. J. Reprod. Health 2010; 14 ; 3: 65-70

UNDER PEER REVIEW

26. Ndiaye CA, Delaunay V, Adjamagbo A. Knowledge and use of contraceptive methods in rural Sereer, Senegal. Sante 2003; 13(1): 31-7.

27. Gaur DR, Goel MK, Goel M. Contraceptive practices and related factors among females in predominantly rural Muslim area of North India. The Internet Journal of World Health and Societal Politics 2008; 5(1).

28. Ibnouf AH, van den Borne HW, Maarse JA. Utilization of family planning services by married Sudanese women of reproductive age. East Mediterr Health J. 2007; 13 (6): 1372-81.

29. Marchant T, Mushi AK, Nathan R, Mukasa O, Abdullah S, Lengelen C. Planning a family: priorities and concerns in rural Tanzania. Afr J Reprod Health. 2004; 8:111 23.

30. Olugbenga – Bello A.I., Abodunrin O.L., Adeomi A.A. Contraceptive Practices Among Women in Rural Communities in South-Western Nigeria. Global Journal of Medical Research 2011; 11 (2) : 1.

31. Westoff CF. New estimates of unmet need and the demand for family planning. DHS Comparative Reports 2006: 14.

32. Population Division, World population prospects. The 2008 Revision. United Nations New York, 2009. Highlights, Working Paper No. ESA/P/WP.210. Accessed: 26 June 2013. Available: http://esa.un.org/unpp.

33. Shahin HA, Shahin HG. Reasons for not using family planning methods in Eastern Turkey. Eur J Contracept Reprod Health Care 2003; 8:11- 6.

34. Ikechebelu JI, Joe-ikechebelu NN, Obiajulu FN. Knowledge, attitude and practice of family planning among Igbo women of south-eastern. Nig. Journal of Obstetrics and Gynaecology 2005; 25 (8): 792-795.

35. Moronkola O.A., Ojediran M.M., Amosun A. Reproductive Health Knowledge, beliefs and determinants of contraceptives use among women attending family planning clinics in Ibadan, Nigeria. Africa Health Science 2006; 6 (3) : 155 – 159

36. Shah NJ, Pradhan P, Reddy AS, Joseph B. Contraceptive practices in newly married women in sub-urban Bangalore. Health and Population Perspectives and Issues 2006; 29 (1): 21-8.

UNDER PEER REVIEW

37. Okezie CA, Ogbe AO, Okezie CR. Socio-economic determinants of contraceptive use among rural women in Ikwuano Local Government Area of Abia State, Nigeria. International NGO Journal 2010; 5(4):74-77. Available: http://www.academicjournals.org/INGOJ.

38. Ali S, Rozi S, Mahmood M.A. Prevalence and factors associated with practice of modern contraceptive methods among currently married women in District Naushahro Feroze. J. Park Med Assoc. 2004; 54(9): 461-5.

39. Cleland JG, Ndugwa RP, Zulu EM. Family planning in sub-Saharan Africa: progress or stagnation? Bulletin of the World Health Organization 2011; 89: 137-143.