

Knowledge and Use of Fertility Awareness based Methods (FABMs) of Family Planning (FP) among Men and Women in Enugu, Nigeria

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Received: November 14, 2019; Published: December 17, 2019

Abstract

Background: The contraceptive needs of men and women are not being fully met by the family planning options presently being promoted, despite the Nigerian Government's effort in increasing access to family planning. The unmet need for family planning among married women has increased from 16% to 19% over a 5-year period (2014 - 2018). Modern FABMs have been found to expand the contraceptive choice of men and women helping them to meet their reproductive intentions.

Objective: We sought to assess the knowledge and attitude of men and women about FABMs of FP in Enugu, Southeast Nigeria.

Methods: This was a cross-sectional descriptive study through a structured questionnaire to 315 attendees of the gynaecological clinic of University of Nigeria Teaching Hospital, Enugu. Data analysis was with SPSS v. 20 and level of significance set at $p < 0.05$.

Results: 133 (42.2%) had ever used natural family planning methods, of which 60.9% (81) used calendar rhythm and 8.3% (11) temperature methods. The determinants of knowledge of FABMs were age, gender and educational status at p values of 0.016, 0.024 and < 0.001 respectively.

Conclusion: Knowledge of FABMs is poor among our respondents and thus should be included in reproductive health programs to increase available FP options, thereby reducing unmet need.

Keywords: Fertility Awareness Based Methods; Family Planning; Contraceptive Prevalence Rate; Enugu; Nigeria

Abbreviations

FABMs: Fertility Awareness Based Methods; FP: Family Planning; mCPR: Modern Contraceptive Prevalence Rate; NFP: Natural Family Planning; USAID: United States Agency for International Development; WHO: World Health Organization; LAM: Lactational Amenorrhoea Method; SOPs: Standard Operating Procedures

Introduction

Worldwide, about 222million women have an unmet need for contraception [1]. In Nigeria, despite the government's effort to improve access and enabling environment for sexual and reproductive health services [2], 19% of all married women want to avoid pregnancy but are not using a contraceptive method, giving an increase of 3% over the last 5 years [3]. The overall CPR and mCPR among married women remain low at 17% and 12% respectively.

Citation: Ezeome Ijeoma Victoria and Nwankwo Theophilus Ogochukwu. "Knowledge and Use of Fertility Awareness based Methods (FABMs) of Family Planning (FP) among Men and Women in Enugu, Nigeria". *EC Gynaecology* 9.1 (2020): 01-12.

The reasons women give for not using conventional contraceptives include health-related risks, inconveniences of the method, and opposition of the method by themselves or a close relation [4]. Though a lot of research has been carried out on the knowledge and attitude of Nigerians to family planning [5-7], none have examined the level of their knowledge of fertility awareness-based methods.

Modern FABMs of family planning are alternate options for women because they are effective and safe [8], with additional benefits that appeal to women and men [9]. We therefore sought to assess the level of knowledge and attitude of men and women to FABMs in Enugu, Nigeria.

Materials and Methods

This was a cross-sectional descriptive study carried out between January and December 2017. The study population was drawn from consecutively selected women and men attending the gynaecological clinic in UNTH, Enugu.

Inclusion and exclusion criteria

Inclusion criteria were women aged 18 years and above, and men aged 20 years and above who accompanied their female relatives to the clinic. Exclusion criteria was being in a health-related field of study or occupation.

Sample size

The minimum sample size was determined using the formula $N = Z^2PQ/D^2 = Z^2P(1-P)/D^2$. N = Minimum sample size at 95% confidence interval. Z = Standard normal deviation usually set at 1.96. P = Prevalence. Q = 1-P. D = Precision: the difference between the true population rate and the sample rate and it is set at 0.05. Using a FABM uptake of 41.3% from a study in Eastern Nigeria [6], the calculated sample size is 372. 151 and 164 men and women respectively met the inclusion criteria and consented to the study.

Data collection and analysis

We used a structured pre-tested self and interviewer administered questionnaire for data collection, which included demographics, knowledge of meaning of family planning, awareness and knowledge of FABMs, source of information on, and use of FABMs, ever-use and type of contraceptives, effectiveness of FABMs as well as advantages and disadvantages of FABMs of family planning. Informed oral consent was obtained from all participants and confidentiality assured.

Data analysis was done with the Statistical Package for Social Sciences Software version 20 (SPSS Inc., Chicago, IL, USA) for Windows using descriptive statistics of frequency and percentage, as well as binary logistic regression. A p-value of < 0.05 was set as level of significance comparing the demographic characteristics and outcome measures.

Ethical approval

The approval of this study was obtained from the Ethics Committee of University of Nigeria Teaching Hospital, Enugu.

Results

The age range of the respondents were 18 to 55 years with a mean of 30.9 + or – 6.8 SD. 280 (88.9%) of respondents were 39 years or less, while 267 (84.8%) were married. 121 (38.4%) had no living child, with 167 (53.0%) desiring to have 3 - 4 more children (Table 1).

Variable	Frequency (Total = 315)	Percentage (Total = 100)
Age in years		
39 or less	280	88.9
40 and above	35	11.1
Gender		
Male	151	47.9
Female	164	52.1
Marital status		
Single	48	15.2
Married	267	84.8
No of living children		
0	121	38.4
1-2	108	34.3
3-4	67	21.3
5 or more	19	6.0
Desire for more children		
0	22	7.0
1 - 2	56	17.8
3 - 4	167	53.0
5 or more	36	11.4
Unsure	34	10.8
Educational status		
Secondary or less	126	40.0
Greater than secondary	189	60.0
Employment status		
Unemployed	37	11.7
Self-employed (artisans, traders, small business owners)	149	47.3
Employee (Government/Private employer)	129	41.0
Religion		
Roman Catholic Mission	158	50.2
Protestant	157	49.8

Table 1: Demographics.

Knowledge of FABMs

The major source of information on FABMs include the media 164 (52%) and Friends 62 (19.7%). 34.9% (110) and 0.3% (1) of our respondents were aware of the old ineffective methods of calendar rhythm, and withdrawal respectively. 49 (15.6%) had no knowledge of any method. Though 93.7% (295) had heard of FABMs, 42.9% (135) believe that family planning means only prevention of pregnancy. 38.1% (120) had good knowledge of FABMs, which include modern cervical mucus methods in combination with other methods (Table 2).

Variable	Frequency	Percentage (100%)
Meaning of FP (T=315)		
Avoid conception	135	42.9
Achieve and avoid conception	180	57.1
Major source of NFP information (315)		
None	20	6.3
Media	164	52.0
Friends	62	19.7
Church	22	7.1
Internet	17	5.4
Awareness Programs	13	4.1
Hospital	9	2.9
School	8	2.5
Types of FABMs known (T = 315)		
None	49	15.6
Calendar Rhythm	110	34.9
Temperature alone	35	11.1
Cervical mucus method in combination with other modern methods	120	38.1
Withdrawal	1	0.3
Knowledge of NFP (T = 315)		
Poor Knowledge	195	61.9
Good Knowledge	120	38.1
Ever-used NFP (T = 315)		
Yes	133	42.2
No	182	57.8
Reason for never using NFP (T = 182)		
Secretions are confusing	31	17.0
Trying to conceive	50	27.5
Doctors say it is ineffective	101	55.5
Types of NFP ever used (T=133)		
Calendar	81	60.9
Temperature alone	11	8.3
Cervical mucus method in combination with other modern methods	40	30.1
Withdrawal	1	0.7

Table 2: Knowledge and use of fertility awareness based methods.

Attitude to FABMs

42.2% (133) had ever used FABMs out of which a total of 69.2% used the ineffective calendar rhythm 60.9% (81/133), and temperature alone (11/133; 8.3%) methods. 42.2% believe FABMs can be effective. 55.5% (101/182) of those who have never used FABMs gave their reason as being that their physicians say it is ineffective (Table 3). However, the opinions of the respondents on why the FABMs are ineffective ranged from couples' inability to avoid intercourse on fertile days (42.5%), inability to identify fertile and infertile days of menstrual cycle (29.2%), and pregnancy despite intercourse on supposed infertile days (20.6%).

Variable	Frequency	Percentage (100%)
Effectiveness of NFP methods (T = 315)		
Yes	133	42.2
No	182	57.8
Reasons for ineffectiveness of NFP (T = 315)		
Couples difficulty with avoiding on fertile days	134	42.5
Pregnancy despite intercourse on infertile days	65	20.6
Difficulty of partners to identify fertile and infertile days	92	29.2
One partner may not agree with the method	21	6.7
Do not know	3	1.0
Adverse effects of NFP (T = 315)		
None	82	26.0
Psychological problems	29	9.2
Inter-partner tension	94	29.8
Fear of unwanted pregnancy	104	33.0
Lack of spontaneity in expressing genital affection	6	2.0
Positive effects of NFP (T = 315)		
None	62	19.7
Improved communication/marital bonding	222	70.5
Respect and not mere object of sexual pleasure	23	7.3
Increased non-genital expression of affection	8	2.5
Female use OF NFP with spousal support (T = 164)		
Yes, due to lack of side effects	102	62.2
No, involves too much effort to observe secretions	14	8.5
No, easier to use artificial methods	31	18.9
No, secretions are confusing	17	10.4
Male support of wife to use NFP (T = 151)		
Yes, no side effect and increase bonding	86	57.0
No, psychological stress from avoiding sex	15	9.9
No, wife will be in control of our sexual lives	7	4.6
No, her inability to determine the secretions may lead to pregnancy	43	28.5

Table 3: Advantages, disadvantages, and effectiveness of FABMs of FP.

While 222 (70.5%) of the respondents believe that FABMs greatly improves marital communication and bonding, 104 (33%), 94 (29.8%) and 29 (9.2%) are of the opinion that it causes anxiety and fear of unwanted pregnancy, inter-partner tension and psychological problems respectively. However, 62.2% (102/164) of the female respondents would like to use it if supported by their spouses and 57% (86/151) of the males will support their wives to use it because it has no side effects and increases marital bonding.

Only 34.9% (110) had ever used contraception, 80% (88/110) of which is the male condom (Table 4).

Variable	Frequency	Percentage (Total = 100)
Ever-used contraception (T = 315)		
Yes	110	34.9
No	205	65.1
Type of contraception used (T = 110)		
Barrier (Male Condom)	88	80
IUCD	3	2.8
Hormonal Implant	2	1.8
Hormonal Injection	1	0.9
Oral Contraceptive Pills	14	12.7
Emergency contraception	2	1.8

Table 4: Use of contraception.

The most significant determinant of knowing the meaning of family planning were marital, education and employment status with p-values of 0.023, 0.001 and 0.006 respectively (Table 5). Those who are single, with secondary education or less, and self-employed are all 4x less likely to know the meaning of family planning. In addition, gender and education were the significant determinants of knowledge of FABMs with p-values 0.009 and less than 0.001 respectively. Males were 2x more likely and those with secondary education or less were 2x less likely to have a good knowledge of FABMs. The significant determinant of ever-using FABMs are marital and employment status with p-values of 0.007 and 0.027 respectively. Those who were single and those unemployed were 3x less likely to ever use FABMs. Also, education, self- and un-employment were the significant determinants on effectiveness of FABMs with p-values of 0.049, 0.002, and 0.001 respectively. Those with secondary education or less were 5x, those who were unemployed were 2x and those who were self-employed were 3x, all less likely to say FABMs are effective.

Outcome variables	Age (39years or less)	Gender (M)	Marital status (S)	Religion (RCM)	Education (secondary or less)	Employment
Meaning of FP						
p-value	0.699	0.970	0.023	0.161	0.001	0.006*
Exp. (B)	0.855	0.991	0.440	1.426	0.365	0.411
95% C.I. for Exp. (B)	0.387 - 1.890	0.607 - 1.618	0.217 - 0.893	0.869 - 2.342	0.204 - 0.651	0.219 - 0.770

Knowledge of FABMS	0.123						
p-value		0.009	0.220	0.653	0.000	0.556*	
Exp. (B)	0.532	1.964	1.553	1.122	0.214	0.828	
95% C.I for Exp. (B)	0.239 - 1.185	1.181 - 3.265	0.768 - 3.138	0.679-1.856	0.112-0.409	0.443 - 1.550	
Ever-use of FABMS							
p-value	0.876	0.328	0.007	0.131	0.050	0.027#	
Exp. (B)	1.061	0.789	0.342	0.693	0.549	0.359	
95% C.I. for Exp. (B)	0.505 - 2.231	0.490 - 1.269	0.157 - 0.744	0.431 - 1.115	0.301 - 1.000	0.145 - 0.890	
Outcome Variable	Age (39 years or less)	Gender (M)	Marital Status (S)	Religion (RCM)	Education (Secondary or less)	Employment (Unemployment)	Employment (Self-employment)
Effectiveness of FABMS							
p-value	0.970	0.914	0.790	0.987	0.049	0.002#	0.001*
Exp. (B)	0.985	0.973	1.100	1.004	0.548	0.259	0.355
95% C. I. for Exp. (B)	0.453 - 2.142	0.598 - 1.583	0.546 - 2.214	0.618 - 1.631	0.301 - 0.998	0.111 - 0.606	0.193 - 0.653

Table 5: Binary Logistics for Categorical variables and Outcome measures.

*: Self-employment; #: Unemployment.

Discussion

Family Planning services consist of educational, comprehensive medical or social activities which enable individuals and couples to freely decide on the number, spacing or limiting of their children, as well as the means by which this can be achieved. A significant number of our respondents believe that family planning is synonymous with contraception, without realizing that achieving conception is an equally important component of family planning. This may not be unexpected judging from the fact that as a concept, family planning refers to a program of limiting the size of families through the spacing or prevention of pregnancies. Therefore, a mention of family planning is commonly assumed to mean avoidance of conception. This however is a wrong premise since achieving and avoiding pregnancy are both sides of fertility appreciation. Those who were single were more likely to view family planning as being synonymous with avoiding conception. This is because those who are single are unlikely to be thinking of achieving pregnancy since pregnancy is still seen to be in the domain of marital relationships in Nigeria and many developing countries of Sub-Saharan Africa [10].

The awareness of FABMs was very high as confirmed in similar studies in other parts of the country [5-7]. However, unlike in these studies where health workers were the major source of information, source of information was mostly from the media in this present study which is also supported from the findings in Ilorin by Oni and McCarthy 1999 [11]. This may be due to increased availability and easy accessibility to radio and television over the last two decades. However, information from these outlets are usually in a general form,

not specific to individual peculiarities hence does not translate automatically to increase in use as family planning options since there are several other determinants that affect family planning uptake [12]. Individuals who have access to detailed and specific information from health professionals about family planning were more likely to use modern contraceptives than those with no access [13].

The types of FABMs known were mainly the old ineffective methods of safe period/calendar rhythm which is consistent with findings from other studies [5-7]. Together with withdrawal methods, these are classified as traditional methods with typical use failure rates of 24% [14]. This may be the reason why two thirds of our respondents were of the view that FABMs are ineffective since majority are only aware of these ineffective methods. The reason of ineffectiveness of calendar rhythm lies in the fact that the length of the female menstrual cycles may differ from month to month in the same person, and from person to person as the menstrual cycle is affected by different environmental factors and endogenic hormones [15].

Males were more likely to have good knowledge of FABMs probably because they are more likely to listen to the media outlets (radio, TV, Newsprints) and may be better educated. Those who had secondary education or less were less likely to have good knowledge which is consistent with other studies [5,6,16]. However, recognition of the cervical mucus methods has been reported to be independent of educational level [17].

More than half of our respondents desired 3 - 4 more children, confirming that they are using these methods for child-spacing which is consistent with findings of similar studies in other countries of Sub-Saharan Africa [18]. The issue of preference of large families in Africa remain a problem which must be addressed in the context of population growth and quality of life [19].

Less than two-fifth of our respondents were aware of the newer FABMs despite more than two thirds not having ever used artificial contraception due to the fear of side effects, religious reasons and disapproval by the spouse [5,6]. According to the WHO Department of Reproductive Health and Research and the United States Agency for International Development (USAID), modern contraceptives are defined as having a sound basis in reproductive biology, a precise protocol for correct use, and evidence of efficacy under various conditions based on appropriately designed studies [20]. The Cervical Mucus Ovulation, Standard Days, Two Day, Sympto-thermal and Lactational Amenorrhoea (LAM) methods all fulfill the above criteria with perfect use percentage effectiveness of 98.9% [21], 95.2% [21], 96% [22], 98% [23] and 99% [14] respectively, just like the injectable and oral contraceptives and barrier methods with 99% and 95% respectively [24]. Hence, they have an equal role to play in reducing unmet need for contraception. However, some recent studies have given the typical use failure rates of these modern FABMs to be 2 - 23% [25] though FABM researchers argue that the present effectiveness comparison methods of FABMs and contraceptives is incorrect. A method can only be said to have failed despite its perfect use [26]. Effectiveness is also often underestimated by counting any pregnancy as method failure, even if a couple chose to have intercourse on a fertile day. This is not a failure of the method, but rather confirmation that these methods can help a couple to accurately identify the fertile window [27]. Concurrent use of multiple FABMs has been advocated to help further increase effectiveness [28]. Any method, no matter how ineffective is better than no method with failure rate of 85 pregnancies per 100 women [24].

The reason given by more than half of our respondents who had never used FABMs is that their physicians said they are ineffective. Many health professionals and medical organizations do not have up-to-date information on the effectiveness of the modern FABMs [29], which may be why many of them discount these methods. In addition, these methods are not emphasized in medical school OBGYN curricula [27], hence medical professionals lack the requisite knowledge and skills to offer these methods to individuals who pick them as contraceptive methods of choice. The need for regular continuing medical education updates in physicians' knowledge of available FABMs cannot be overemphasized [30].

One of the benefits why our respondents prefer FABMs is improved marital bonding which is consistent with findings in other parts of Africa, and some developed nations [31,32]. Other known benefits include not requiring clinical intervention when compared to

hormones, devices, or procedures, increasing a woman's understanding of her fertility and biological processes, being controlled by a woman and her partner, thus avoiding marital discord, and providing the opportunity to facilitate pregnancy planning [28]. In addition, FABMs can be offered via an array of channels including private home consultations. Improving the knowledge of the populace about the effectiveness of different FABMs will not only help to increase the mCPR, but also offer them a safe and effective alternative to other contraceptive methods [8] bearing in mind their aversion to the artificial methods for sociocultural and religious reasons [33]. Though partners' inability to avoid intercourse on fertile days is a major drawback to the FABMs as noted in our study and similar studies [28,31], highly motivated individuals who prefer these methods should be supported in their choice, which will better equip them to achieve their reproductive intentions [30].

When all FABMs are wrongly presumed as traditional and ineffective, program managers and providers are less likely to include them in programs. This will ultimately affect what methods a client can choose from and what will be available at the local clinic. The misperceptions about FABMs mean that countries will not prioritize investments in their introduction or expanded provision, since 'only what gets counted, gets supported' [9].

The Nigerian Government in its FP2020 program and service delivery commitments pledged to improve the supply of modern contraceptives in the country through stimulating the private sector; lowering the price of contraceptives through removal of import duties and other regulatory barriers; and strengthening the in-country logistics system that ensures commodity availability at the facility level [2]. Recently, its Federal Ministry of Health approved a policy document in-cooperating scientific FABMs into the Nigeria Family Planning Curriculum and the corresponding standard operating procedures (SOPs) [34]. However, it is not known if the increase in supply of contraceptives also involves increased availability of FABMs teachers for those interested in these methods. This will obviously improve equity and access to these methods. While the Government's intention to mitigate socio-cultural barriers such as preference for large families, religious restrictions, and women's lack of decision-making power is a welcome development in improving contraceptive prevalence, the key to achieving increased contraceptive uptake lies in expanding access to a method mix of different types including modern FABMs [9], by also adding them to its programs. It is yet to be seen if improvement in supply of modern FABMs is at par with contemporary modern contraceptives as government fulfils its FP2020 commitment.

A significant number of respondents would choose to use the FABMs with support from their spouses. In accordance with human rights principles, people should have access to the widest range of contraceptive methods from which to choose to meet their needs and preferences and their changing needs throughout their reproductive lives [20].

Conclusion

Despite a low uptake of contemporary contraception, the knowledge and use of modern FABMs of family planning was poor among men and women in Enugu, South-East, Nigeria. Safety, effectiveness, availability (including accessibility and affordability), and acceptability are important elements considered by men, women and couples when choosing the most appropriate contraceptive method. Voluntary informed choice of contraceptive methods is an important contributor to successful use of contraceptive methods [35]. Expanding access to a wide and diverse method mix of modern contraception which includes FABMs will improve both contraceptive choice and the mCPR. In addition, providing incentives for continuing medical education for all contraceptive methods providers including FABMs will go a long way to improve access and availability of the latest information on and correct use of these methods and thus hasten the achievement of the 27% mCPR among all women by 2020 [2].

Limitation of the Study

The study was carried out in an urban setting in a single geographical region and so may not be generalizable to the whole country. Hence, there is need to replicate similar studies in other parts of the country.

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Volume 9 Issue 1 Januray 2020

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