Open Access

Original Research

Unmet need, demand and potential demand met for family planning services among urban and rural women in Bayelsa State, Nigeria

Obielumani I Oguche[1*], Ibitein Okeafor[2], Adedotun D Adesina[3], Ulunma I Mariere[1], Seye Babatunde[4]

[1]Department of Community Medicine & Public Health, Federal Medical Centre, Yenagoa, Nigeria; [2]Department of Public Health, Federal Ministry of Health, Nigeria; [3]The Medical Centre, The Nigerian Law School, Yenagoa Campus, Bayelsa State, Nigeria; [4]Centre for Health and Development, University of Port Harcourt, Port Harcourt, Nigeria

Correspondence: obielumanioguche@gmail.com https://orcid.org/0000-0002-3238-8180

DOI: https://doi.org/10.4038/jccpsl.v28i2.8522

Received on 28 March 2022
Accepted on 5 August 2022

Abstract

Introduction: High fertility, low contraceptive prevalence and poor maternal indices characterize the reproductive history of women in sub-Sahara Africa. In such populations, unmet need for contraception tend to be high; there is a dearth of evidence about the unmet need for family planning in these settings.

Objectives: To determine and to compare the unmet need, demand and potential demand met for family planning services (FPS) amongst urban and rural women of Bayelsa State in Southern Nigeria

Methods: A community-based cross-sectional study design was used to survey 200 urban and 200 rural currently married or in-union women in April-July 2018. Data were collected using a pretested, structured interviewer-administered questionnaire on unmet need, after written consent was obtained from respondents. Collected data were edited, coded, and entered to IBM Statistical Package for Social Sciences (SPSS) version 23.0.

Results: The proportion of unmet need was 46.5% (n=93) for urban women compared to 57.5% (n=115) for the rural (χ^2=4.85; p=0.03). The potential demand for contraception was at 62.5% in the urban and 71.5% for the rural women. The proportion of demand satisfied in the urban areas was 26.4% and 19.6% for the rural women.

Conclusions & Recommendations: This study found differences in the level of demand and potential demand met for FPs leading to high unmet need for family planning, between women in urban and rural areas in Bayelsa State. Thus, efforts still need to be intensified in promoting FP programmes as we see that the improvement in uptake with high unmet need, reflects the needs to be met and the readiness of reproductive age women to space or limit childbearing.

***Keywords**: family planning, unmet need, demand for family planning, potential demand met for family planning, Bayelsa State*

Introduction

High fertility, low contraceptive prevalence and poor maternal indices characterize the reproductive history of women in Sub-Sahara Africa. Many women in developing countries would like to delay getting pregnant but are not using any contraceptive method, and this unsatisfied need for contraceptive is what is commonly referred to as 'unmet need' (1). The 'unmet need' reflect the difference between a woman's actual reproductive goal and her contraceptive uptake (1). It is further divided into 'unmet need for limiting' (when the woman does not want to have any more children) and 'unmet need for spacing' (when the woman wish to delay the birth of the next child for 2 or more years) (1). Globally, the unmet need for family planning amongst married women is about 12% (2). This ranged from less than 10% in Eastern Asia, Northern Europe, Western Europe and Northern American to as high as 24% in some developing countries of Sub-Sahara Africa in 2015 (2). This translates to the developing countries contributing about 225 million unmet needs worldwide '(3). Studies in Ethiopia, Cameroon and Eastern Sudan reported unmet need rates of 17.4%, 20.4% and 15.8% respectively (4-6). In all, the need for spacing was higher than that for limiting. The National Demographic Health Survey (NDHS), Nigeria 2013 reported an unmet need of 16% among married women in Nigeria, with 12% of them having a need for spacing birth and 4% for limiting birth (7). A Study done in Nnewi in South-eastern Nigeria revealed an unmet need of 21.4% with 15.2% for spacing and 6.2% for limiting (8). Another study in rural Northern Nigeria reported an unmet need of 10.3% (9). In Bayelsa state, the NDHS 2013 reported unmet need for FP to be 28.5% '(7).

The demand for family planning is defined as the number of women of reproductive age group (WRAG) (15-49 years) who are married or in union and currently using contraceptives or whose partners are using (uptake) (10). The uptake of family planning service is usually determined by the contraceptive prevalence rate (CPR), which is the percentage of women who are practicing or whose sexual partners are practicing any form of contraception. It is usually measured for women aged 15-49 years who are married or in union (11).

In Bayelsa State, family planning and maternal indices are relatively poor according to the NDHS 2013; the uptake of contraceptives in Bayelsa State was 13.3%, the lowest amongst the other states in South-South Nigeria, which had an overall rate of 28% '(7). Other states of the South-South region had individual CPR of 25.5% (AkwaIbom), 24.0% (Cross Rivers), 28.7% (Delta), 30.3% (Edo) and 34.5% (Rivers) '(7). However, a study in one of the tertiary hospitals in Bayelsa State revealed a lower uptake of 12.8% (12), possibly highlighting the existence of lower uptakes without considering the rural areas. It has been revealed that the uptake of family planning services in the rural areas are lower due to poor access to health services and low socio-economic status (13). This study hopes to fill the gap in knowledge about the rural areas while comparing with the urban areas of Bayelsa State. This study aimed to determine the unmet need, demand and potential demand met for FPS amongst urban and rural women of Bayelsa State.

Methods

This was a descriptive cross-sectional study carried out in Bayelsa State, one of the six states that make up Nigeria's South-south geopolitical zone, amongst WRAG who are married or in union (cohabiting). Women who were ill e.g., those who are mentally incapacitated or seriously ill and those who attained menopause early were excluded from the study.

The sample size was derived using the sample size calculation formula for estimating difference between two population proportions (14). Using the working proportions of the rate of uptake of family planning methods in Nigeria of urban 25% (P_1) and rural 9% (P_2) obtained from the NDHS 2013, with an average P of 0.17 (0.25 + 0.09 / 2), standard normal deviate corresponding to the level of significance at 5% equivalent to 1.96 (Z_A), standard deviate corresponding to power of 1-B with desired power at 80% equivalent to 0.84 (Z_B), adjustment for design effect of 2.0 (15) and non-response of 10%, a sample size of 200 per group was attained. Thus, the sample

selected for the study was 200 from rural and 200 from urban communities, respectively.

A multi-stage sampling technique was employed to recruit both urban and rural study respondents. Initially, one urban and one rural local government area (LGA) were selected via simple random sampling by balloting. Paper slips of equal sizes were numbered according to the LGAs and were folded and shaken together in a small container to select each LGA. Three wards were then selected from each of the selected LGA and one settlement from each of the selected wards by simple random sampling via balloting. Proportionate to size allocation was used to determine the number to be sampled in each of the selected settlements. Systematic random sampling was used in the selection of houses based on the sampling faction. One eligible WRAG who met the inclusion criteria was sampled from each selected household. In a situation where there was more than one eligible woman in a household, one was selected using simple random sampling method by balloting.

The data instrument was a questionnaire on unmet need which was adapted from the questions and filters needed for unmet needs definition in the DHS questionnaire in Revising Unmet Needs for Family Planning, DHS analytical studies 25 (16). Data were collected by six trained research assistants who are resident doctors in community medicine, federal medical centre (FMC) Yenagoa, Bayelsa State. The study instrument was pretested to test the ease of administration, ease of compliance and ambiguity. One of the settlements in the urban centre that was not a part of the selected settlements for the study was used for the pretesting during the training.

Data analysis

Quantitative data were entered into Statistical Package for Social Sciences (SPSS) version 23.0 for analysis. Categorical variables are expressed in frequencies and percentages while continuous variables are summarized in mean and standard deviation. The unmet need for family planning was derived using an algorithm from the DHS method of measuring unmet needs, also known as the revised definition of unmet needs (16). Figure 1 indicates the procedure followed for computing the number of WRAG either married or in a union who have an unmet need for family planning.

Results

The mean age of WRAG in the rural areas was lower (29.57; SD=7.43 years) in comparison with the urban respondents who had a mean age of 31.21 (SD=6.51) years. Majority (54.0%) in the urban LGA were married, while in the rural LGA, the majority (60.0%) were cohabiting. A higher proportion in both urban (86.0%) and rural (75.0%) areas were in monogamous setting. Most had secondary education in both urban (62.5%) and rural (53.5%) areas. Also, Christians were more in both urban (91.0%) and rural (90.0%) areas (Table 1).

Unmet need for family planning methods

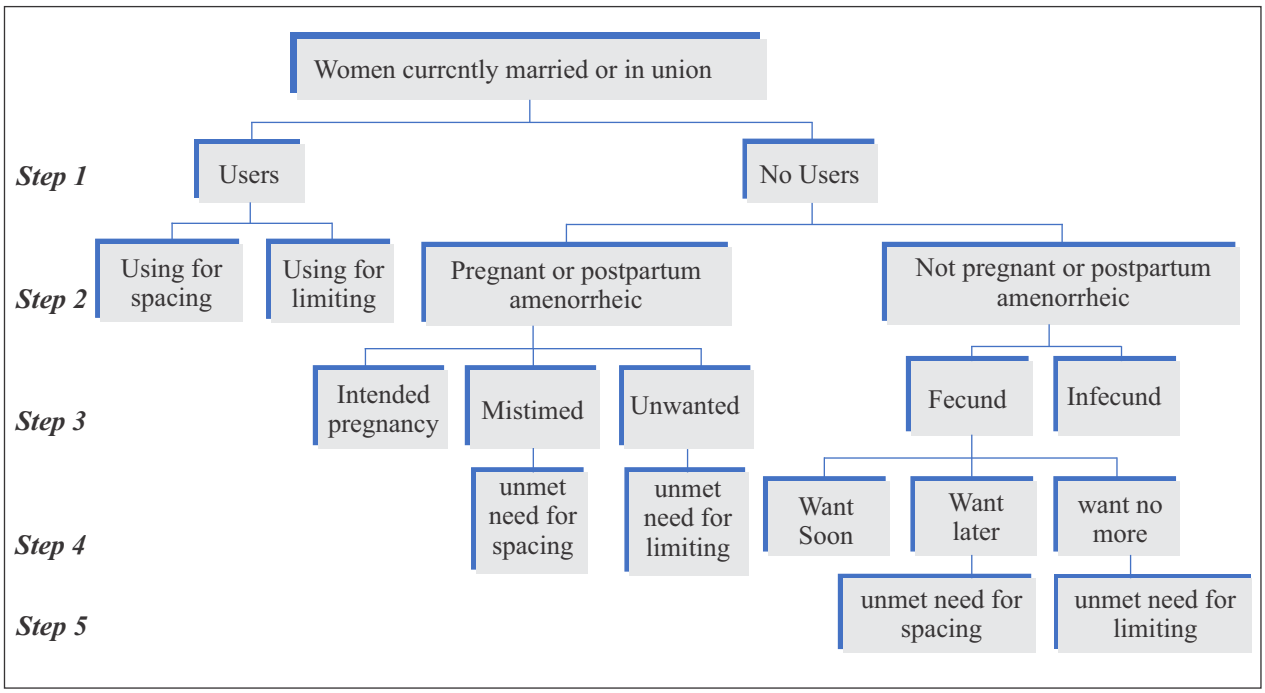
It was estimated that 46.5% of WRAG in the urban areas and 57.5% in the rural areas had an unmet need for family planning (Table 2). This difference was statistically significant (p=0.028). The adjusted estimates depict that unmet need for FP is positively associated with locality as women in the rural areas were about 1.6 times more likely to have an unmet need than their urban counter part (aOR=1.58; 95% CI=1.01, 2.46; p=0.04).

Unmet need for family planning in urban and rural areas

Unmet need for spacing (mistimed + want later) was 27.0% in the urban areas and 45.5% in the rural areas. The corresponding percentages for unmet need for limiting (unwanted + want no more) was 19.0% and 12.0%; for potential demand for contraception (unmet need for family planning + current contraceptive use (any method)) was 62.5% and 71.5%; and for demand satisfied was 26.4% and 19.6% (Figures 2 and 3).

Figure 1: Algorithm for deriving unmet need for FP

Source: Revising Unmet Need for Family Planning, DHS analytical studies No. 25



Step 1: Contraceptive use status - Those currently using family planning methods separated into 'users' and 'non-users'

Step 2: Pregnancy and amenorrhoeic status - The non-users separated into 'currently pregnant or postpartum amenorrhoeic for a period of ≤ 2 years with a life birth' and 'not pregnant postpartum amenorrhoeic'.

Step 3: Wantedness of pregnancy - The pregnant and postpartum amenorrhoeic groups divided into 'intended pregnancy' (women currently pregnant with a planned pregnancy), 'mistimed' (women currently or postpartum amenorrhoeic for a period of ≤2 years with a life birth, where the pregnancies were not planned for or wanted at that time) and 'unwanted' (women currently pregnant or postpartum amenorrhoeic for a period of ≤ 2 years with a life birth, who did not want to have another child).

Step 4: The not pregnant postpartum amenorrhoeic group separated into 'want soon' (women who want to have children now or within the next two years), 'want later' (women who still want to have more children, but want to postpone childbearing for >2 years) and 'want no more' (women who want to stop/limit having children, i.e., they don't want any more children)

Step 5: The mistimed and want later groups were added to form 'unmet need for spacing', while the unwanted and want no more groups were added to form 'unmet need for limiting'. The sum of the unmet need for spacing and limiting forms the total unmet need.

Table 1: Socio-demographic characteristics of participants

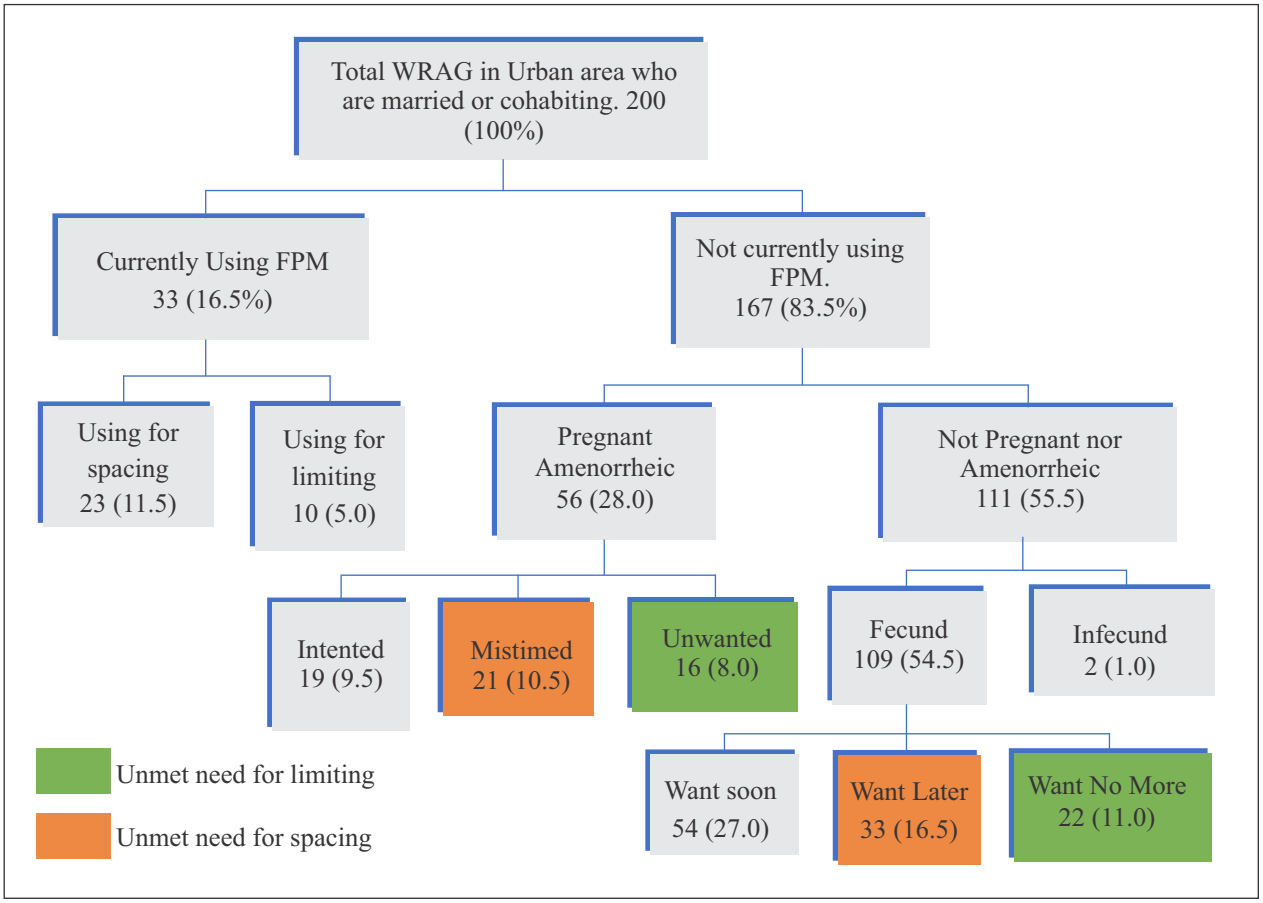
Characteristic	Urban (n=200)		Rural (n=200)	
Age (years)	**No.**	**%**	**No.**	**%**
15 – 19	2	1.0	21	10.5
20 – 24	32	16.0	29	14.5
25 – 29	51	25.5	56	28.0
30 – 34	48	24.0	39	19.5
35 – 39	42	21.0	32	16.0
40 – 44	20	10.0	18	9.0
45 – 49	5	2.5	5	2.5
Mean age (SD)	31.21 (6.51)		29.57 (7.43)	
Marital status				
Married	108	54.0	80	40.0
Co-habiting	92	46.0	120	60.0
Union setting				
Monogamous	172	86.0	150	75.0
Polygamous	28	14.0	50	25.0
Educational level				
None	8	4.0	14	7.0
Primary	24	12.0	42	21.0
Secondary	125	65.5	107	53.5
Post-secondary	43	21.5	37	18.5
Religion				
Christians	183	91.0	180	90.0
Muslims	5	2.5	2	1.0
Others	13	6.5	18	9.0

Table 2: Unmet need for family planning among WRAG in urban and rural area

Need for family planning	Urban No. (%)	Rural No. (%)	χ^2	df	p
Unmet need	93 (46.5)	115 (57.5)	4.848	1	0.028*
Met need	107 (53.5)	85 (42.5)			
Total	**200 (100.0)**	**200 (100.0)**			

*Statistically significant

Figure 2: Unmet need for family planning among WRAG in urban area



Unmet need for spacing = 'mistimed' + 'want later': 10.5% + 16.5% = 27.0%

Unmet need for limiting = 'unwanted' + 'want no more': 8.0% + 11.0% = 19.0%

Total unmet need for family planning = 'mistimed' + 'want later '+'unwanted' + 'want no more': 10.5% + 16.5% +8.0% + 11.0% = 46.0%

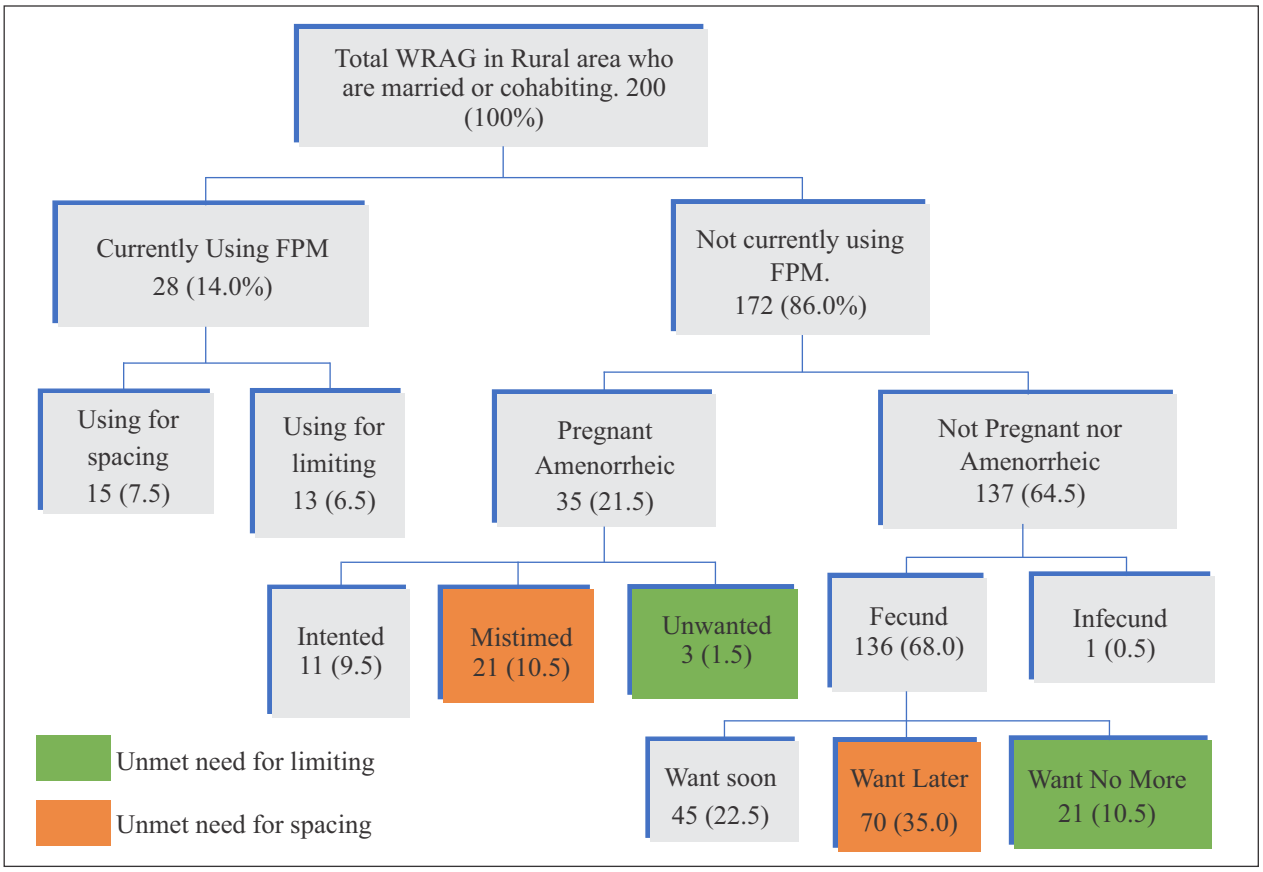
Demand for family planning = 'unmet need for family planning' + 'current contraceptive use (any method)': 46.0% + 16.5% = 62.5%

Potential demand for spacing = 'unmet need for spacing' + 'contraceptive use for spacing': 27.0% + 11.5% = 38.5%

Potential demand for limiting = 'unmet need for limiting' + 'contraceptive use for limiting': 19.0% + 5.0% = 24.0%

$$\text{Proportion of demand satisfied} = \frac{\text{current contraceptive use (any method)}}{\text{unmet need + current contraceptive use (any method)}} = \frac{16.5\%}{46.0\%+16.5\%} = .0.264$$

Figure 3: Unmet need for family planning among WRAG in rural area



Unmet need for spacing = 'mistimed' + 'want later': 10.5% + 35.0% = 45.5%

Unmet need for limiting = 'unwanted' + 'want no more': 1.5% + 10.5% = 12.0%

Total unmet need for family planning = 'mistimed' + 'want later '+'unwanted' + 'want no more': 10.5% + 35.0% +1.5% + 10.5% = 57.5%

Demand for family planning = 'unmet need for family planning' + 'current contraceptive use (any method)': 57.5% + 14.0% = 71.5%

Potential demand for spacing = 'unmet need for spacing' + 'contraceptive use for spacing': 45.5% +7.5% = 53.0%

Potential demand for limiting = 'unmet need for limiting' + 'contraceptive use for limiting': 12.0% + 6.5% = 18.5%

$$\text{Proportion of demand satisfied} = \frac{\text{current contraceptive use (any method)}}{\text{unmet need + current contraceptive use (any method)}} = \frac{14.0\%}{57.5\%+14.0\%} = 0.196$$

Discussion

This study looked at the uptake, unmet need, demand and potential demand met in urban and rural areas of Bayelsa state. The unmet need as found in this study was 46.0% and 57.5% in the urban and rural areas, respectively. This finding had a large disparity from the national levels of 15.0% in the urban and 17.0% in the rural areas reported in the NDHS 2013 (7). It was also higher than studies done in other parts of Nigeria: Nnewi (21.4%)(8) and rural areas of Jigawa, Yobe, Katsina and Zamfara in Northern Nigeria (10.3%) (9) and outside Nigeria: Cameroon (20.4%) (5), Ethiopia (17.4%) (4), Nepal (25%) (17) and India (27.3% (18) and 39% (19)).

This study applied the revised definition of unmet need (16) in obtaining the result and that may have resulted in the large discrepancy in the result. This was pointed out by Westoff and Pebley in 1981 (20)

using World Fertility Survey (WFS) data, where they showed that different definitions of unmet need produced widely differing estimates. This is because different definitions classify women differently depending on the working definition of the study, for example, the working definition for this study considered women who are amenorrhoeic for 2 years or less as against the original definition of unmet need which considered amenorrhoeic women for 5 years or less. The DHS analytical studies on revising the unmet need for family planning, which proposed this definition actually states that applying this definition could lead to higher figures for unmet as compared to the original definition (16). This discrepancy was not so wide from a study done in Eastern Sudan where the unmet need for FP was 44.8% (6) which also applied the revised definition of unmet need in obtaining their results. This difference between the rural and urban women was statistically significant, while the locality was shown to be a predictor of unmet need in this study, with rural women being 1.55 times more likely to have an unmet need for FP compared to the urban women. This finding is in keeping with other studies (4, 9, 21) which have reported locality as a predictor for unmet need, as is seen in studies in Ethiopia where the rural women were four times (21) and 17.65 times (4) more likely to have an unmet need as compared with their urban counterpart.

Higher proportion of unmet need for spacing (27.0% urban versus 45.5% rural) was recorded in this study as compared to unmet need for limiting (19.0% urban versus 12.0% rural). This could be due to the fact that a higher proportion of respondent were within 20–34-year age group (65.5% urban versus 62% rural) who are less likely to have achieved their desired family size and thus more apt to have unmet need for spacing than limiting. This is in keeping with a study done in Ethiopia where unmet need for spacing was inversely related with the respondents' age and number of living children (21). Thus, younger women will want to space than limit birth since they have not completed their family size. The unmet need for limiting in the study was greater in the urban (19%) than rural areas (12%). This could be because the urban population (33.5%) had a higher proportion of older women (35-49 years) than the rural population (27.5%). This finding is in keeping with some studies (22-23) where the older women are more likely to have achieved their desired family size and would want to stop child bearing but are not using any form of FPM. This result also agrees with other studies done in Nigeria (8-9, 22) and other African counties (Cameroon (5), Ethiopia (4) and Sudan (6)), where the unmet need for spacing contributed about one third of the unmet needs, but differed from the studies done in Asian countries (17-19) where the unmet need for limiting was higher than for spacing. Most Asia countries have birth control policies and are required by law to have fewer children, thus the need for limiting birth would be greater than for spacing. This was reflected in this study where the urban women who are more educated and engaged in one form of trade or the other, tend to want fewer children, and consequently have a higher proportion of unmet need for limiting (19%) as compared with their rural counterparts (12%).

The potential demand for FP in this study was 62.5% and 71.5% in urban and rural areas respectively, however only 26.4% urban and 19.6% rural of this demand is currently satisfied. This result is similar to that obtained in studies in Cameroon (5) and Sudan (6) which reported a potential demand of 70.6% and 71%, respectively. The gap between potential demand and the demand currently satisfied in this study reveals that a lot still needs to be done on the part of improving the quality of knowledge about FP and improving the supply factors to enhance the uptake of FPS.

This study has added to the existing body of literature regarding the FP unmet need of WRA in urban and rural areas. It has exposed the reality on ground regarding this subject area and further highlighted the necessity for interventions to address these unmet needs. Nonetheless, the authors advocate for further studies on the investigation of determinants of unmet needs among this study population.

Conclusions & Recommendations

This survey demonstrates that there is an obvious gap as regards the demand and potential demand met for FPs leading to high unmet need for family planning,

both in the urban and rural areas. Thus, efforts still need to be intensified in promoting FP programmes as we see that the improvement in uptake with high unmet need, reflects the needs to be met and the readiness of WRAG to space or limit childbearing.

Public Health Implications

- There is need to reverse the unabated population growth in Nigeria, through population control and this can be achieved by increasing the CPR. Bridging the gap between the potential demand for FPS and the proportion of the demand met, will go a long way in addressing the unmet needs for FPS amongst women of reproductive age group. This will invariably result in a reverse of the population growth rate.

Author Declarations

Competing interests: The authors declare that they have no competing interests.

Ethics approval and consent to participate: Ethical approval was obtained from the Research Ethics Committee of the University of Port Harcourt Teaching Hospital. Permission was also obtained from the Reproductive Health Unit of the Local Government Department of Health and Community Development and the heads of the selected communities. Written informed consent was obtained from each woman who participated in this study.

Funding: Self-funded

Acknowledgements: We are grateful to the study participants and the resident doctors of the department of community medicine, FMC, Yenagoa who assisted in data collection for the study.

Author contributions: OO conceived and designed the study, coordinated data collection, analysed and wrote the results, and partook in writing the draft for the manuscript. IO participated in the design of the study, performed the statistical analysis, interpreted the data and reviewed the manuscript. AA participated in Data collection, performed statistical analysis, interpreted the data and reviewed the manuscript, UM reviewed the manuscript, SB supervised all the stages of the research work and reviewed all the drafts of the manuscript. All authors read and approved the final manuscript.

Reference

1. World Health Organization. Unmet need for family planning. Available from: www.who.int/reproductive health/topics/family _planning/unmet_need_fp/en/.
2. United Nation, Department of Economic and Social Affairs PD (2015). *Trends in contraceptive use*. Worldwide 2015 (ST/ESA/SER.A/349). New York, 2015.
3. World Health Organization. Family planning / contraception. Facts sheet. 2016 [accessed 11 Apr 2017]. Available from: http://www.who.int/mediacentre/factsheets/fs351/en/#.
4. Genet E, Abeje G, Ejigu T. Determinants of unmet need for family planning among currently married women in Dangila town administration, Awi Zone, Amhara regional state; a cross sectional study. *Reprod Health* 2015; 12(1): 42-46.DOI: 10.1186/s12978-015-0038-3
5. Ajong AB, Njotang PN, Yakum MN, Essi MJ, Essiben F, Eko FE, et al. Determinants of unmet need for family planning among women in Urban Cameroon: a cross sectional survey in the Biyem-Assi Health District, Yaoundé. BMC Womens Health. 2016;16:4. DOI: 10.1186/s12905-016-0283-9
6. Ali AAA, Okud A. Factors affecting unmet need for family planning in Eastern Sudan. BMC Public Health. 2013;13:102–106. DOI: 10.1186/1471-2458-13-102
7. National population commission (NPC) [Nigeria] and ICF International 2014. Nigeria Demographic and Health Survey 2013. Abuja,Nigeria and Rockville,Maryland, USA: NPC and ICF International; 2014.
8. Igwegbe O, Ugboaja O, Monago N. Prevalence and determinants of unmet need for family planning in Nnewi , south-east Nigeria. Int J Med Med Sci. 2009;1(8):325–329. Corpus ID: 74073800
9. Doctor H, Findley SE, Afenyadu GY, Uzondu C, Ashir GM. Awareness, use, and unmet need for family planning in rural northern Nigeria. Afr J Reprod Health. 2013;17(4):107–117. PMID: 24558787
10. World Health Organization. Demand for family planning satisfied with modern methods. 2015

[accessed 23 Feb2017]. Available from: www.who.int/healthinfo/indicators

11. World Health Organization. Contraceptive prevalence rate (%). [accessed 26 May 2017]. Available from: www.who.int/reproductivehealth/topics/family-planning/contraceptive-prevalence/en/

12. Addah A, Omietimi J, Kotingo E. Birth spacing practices in Bayelsa State of Nigeria . A Cross Sectional study of antenatal women in a Tertiary Centre . Integr J Br. 2015;2(2):172–181.

13. Olalekan AW, Esther A. A comparative study of contraceptive use among rural and urban women in Osun State , Nigeria. Int J Trop Dis Heal. 2012;2(3):214–224. DOI: 10.9734/IJTDH/2012/1308

14. Kirkwood B, Sterne J. Calculation of required sample size. In: Essential of Medical Statistics. 2nd ed. United Kingdom Publisher Science; 2003. p. 420–421.

15. Sarmukaddam SB. The Design effect-Architecture of clinical reseach sampling. Fundamentals of Biostatistics. New Delhi: Jaypee Brothers Medical Publishers.; 2006. p. 49–50

16. Bradley SEK, Croft TN, Fishel JD, Westoff CF. Revising Unmet Need for Family Planning. DHS Analytical Studies No. 25. Calverton,Maryland, USA: ICF International.; 2012. p. 3–14.

17. Bhandari, GP, Premarajan, KC, Jha, N, Yadav, BK, Paudel, IS, Nagesh, S. Prevalence and determinants of unmet need for family planning in a district of eastern region of Nepal. Kathmandu University medical journal (KUMJ). 2006;4(2): 201–210. PMID: 18603899

18. Sulthana B, Shewade HD, Sunderamurthy B, Manoharan K, Subramanian M. Unmet need for contraception among married women in an urban area of Puducherry, India. Indian J Med Res Suppl. 2015;141:115–118. DOI:10.4103/0971-5916.154513

19. Bhattathiry MM, Ethirajan N. Unmet need for family planning among married women of reproductive age group in urban Tamil Nadu. J Family Community Med. 2014;21(1):53–57. DOI: 10.4103/2230-8229.128786

20. Westoff C, Pebley A. Alternative measures of unmet need for family planning in developing counties. Int Fam Plan Perspect. 1981;7(2): 126–136. DOI: 10.2307/2947843

21. Hailemariam A, Haddis F. Factors affecting unmet need for family planning In southern nations , nationalities and peoples region, Ethiopia. Ethiop J Health Sci. 2011;21(2):77–89. DOI: 10.4314/ejhs.v21i2.69048

22. Oginni A, Ahonsi B, Adebajo S. Trend and determinants of unmet need for family planning services among currently married women and sexually active unmarried women aged 15-49 in Nigeria (2003-2013). African Popul Stud. 2015;29(1):1483–1499. DOI:10.11564/29-1-694

23. Fagbamigbe AF, Afolabi RF, Idemudia ES. Demand and unmet needs of contraception among sexually active In-union women in Nigeria : Distribution , Associated Characteristics , Barriers , and Program Implications. SAGE Open. 2018;(January-March):1–11. DOI:10.1177/2158244017754077