Maternal Healthcare Utilization among Women of Child Bearing Age Attending the Out-Patient Clinics of a Tertiary Health Facility Outstations in South-East, Nigeria

Silvia I EZEMENAHI [1], Ifeoma A MODEBE [2], Chukwuemeka C NJOKU [2], Amaka L OBI-NWOSU [1], Chisom S EZEMENAHI [3], Chika C OFIAELI [1]

ABSTRACT

Background: Most maternal deaths are preventable, as the healthcare solutions to prevent or manage complications are well known, yet the global burden is still high in many developing countries, including Nigeria. Although access to healthcare services is the right of every woman around the globe, irrespective of economic position and social group but there is still a low level of maternal health care seeking behavior that is compounded by the extremely low skilled attendants especially in low and middle-income countries. **Objective:** To assess the maternal healthcare utilization among women of child-bearing ages attending out-patient clinics in all Nnamdi Azikiwe University Teaching Hospital Outstations in Anambra State, South-East, Nigeria. **Methodology:** After obtaining approval from the ethics and research committees in Nnamdi Azikiwe University Teaching Hospital, a cross-sectional survey of 300 consenting women who met the eligibility criteria was conducted. They were selected by systematic random sampling from 15th February to 15th March, 2021. Data collection was by the use of a self-administered structured questionnaire and analyzed using the statistical package for Social Sciences (SPSS) version 20.0. The level of significance for this study was set at $P < 0.05$ for all analyses. **Results:** A total of 300 women with a mean age and standard deviation of 29.4±0.7 years participated in the study. The proportion of respondents who utilized the health care facilities was 252 (84.67%), while 12.67% attended maternity homes and 2.66% preferred to stay at home. **Conclusion:** Many women did utilize the health care facilities and utilization was influenced by their level of education. Health awareness campaigns should be conducted at the community level to raise the women's level of understanding about the importance of utilization of maternal health services. .

Keywords: Women, Child, healthcare, Utilization, Tertiary, Nigeria

INTRODUCTION

Nigeria is one of the most populous and leading contributor of maternal mortality among Sub-Saharan African countries.[1] The maternal mortality rate (MMR) is high, and the vast majority of these deaths occurred in low-resource settings and most could have been prevented.[2] The high rate in

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Affiliation

[1]Department of Family Medicine, Nnamdi Azikiwe University Awka, Nigeria. [2] Department of Community Medicine, Nnamdi Azikiwe University Awka, Nigeria. [3]Department of Medicine, America University of Barbados, Barbados.

***Correspondence**

Silvia I EZEMENAHI
Department of Family Medicine, Nnamdi Azikiwe University Awka, Nigeria.
***Tel** : +2348033940938*
Email:
si.ezemenahi@unizik.edu.ng

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Nigeria has been attributed to the low use of maternal health services(MHS).[3] MHS refers to the currently accepted means of providing preventive, curative, and rehabilitative health care for women of childbearing ages.[4] It involves all aspect of maternal health care during pregnancy, childbirth, and the postpartum period.[5]

For many decades, maternal and child health (MCH) has been a global priority and essential public health service.[6] But after the pioneering work of Rosenfield and Maine in their article "Where is the M in MCH? ", the neglect of women's health needs was highlighted and it got international attention, for action to be taken against the silent but vast problem of women dying in pregnancy and childbirth.[7] The researchers concluded by calling on policy makers to invest in a system of comprehensive maternity care.[7] Their key recommendations included; building maternity centres in rural areas, recruitment and training of staff for these centres, the establishment of effective referral systems for high-risk women and women with serious complications, and the provision of supplies and drugs.[7] These lead to the creation of awareness campaigns in developing countries in order to encourage policy-makers to take action to addressing the high levels of maternal mortality.[8]

The world health organization (WHO), also have specific interventions such as iron or folic supplementation for pregnant and postpartum women, vitamin A supplementation for children and postpartum women, malaria prophylaxis intervention such as insecticide-treated nets, as well as Intermittent Preventive Treatment in pregnancy and dietary supplementation for pregnant or lactating mothers, have helped improve maternal and child healthcare.[9]

Despite the significant efforts to strengthen maternal health care utilization, maternal mortality is still unacceptably high in the world especially in low and middle-income countries (LMIC).[10] For instance, in 2016, most of the deaths among women were from complications related to pregnancy and occurred in developing countries; greater than half of these happened in sub-Saharan Africa.[11] And most are preventable with interventions currently existing, specifically, in relation to skilled care during prenatal, at delivery, and a few days during the postnatal period. According to WHO, the MMR of Nigeria is 814 (per 100,000 live births).[12] The lifetime risk of a Nigerian woman dying during pregnancy, childbirth, postpartum or post-abortion is 1 in 22, in contrast to the lifetime risk in developed countries estimated at 1 in 4900.[13] Skilled maternal health care services has been advocated globally as the most crucial intervention to reduce maternal mortality.[14]

Many efforts have been taken to enhance maternal health service utilization including information, education, and communication to raise awareness, yet several studies still shows that large number of maternal mortality, especially in developing countries has been due to low level of maternal health care seeking behaviour. The low proportion of antenatal care compounded by the extremely low skilled person attended delivery as the major reasons for the high maternal mortality persisting during the last decade.[10,15-16] Finding the reason behind this behavior is worth doing to design interventions for better utilization as maternal health services is integral to reducing maternal mortality and ensuring mother and child safety.[9]

Globally, several studies have identify some factors that influence the choice of utilization of health care services among women of child bearing age, which includes; cost of services; socio-demographics and educational level of the client; women's level of autonomy in making health care decisions; physical accessibility to health care services and healthcare workers attitude.[17-20] Awareness of women of child bearing age about health care services that is available is also an important determinant for choice of health care utilization and it can help in making child birth a joyous event.[21] This study aimed to assess the health

care utilization among women of child-bearing age attending out-patient clinics (OPC) in all Nnamdi Azikiwe University Teaching Hospital [NAUTH] Outstations in Anambra State, South-Eastern, Nigeria.

METHODOLOGY

Study Setting: The study was conducted in all the outstations of Nnamdi Azikiwe University Teaching Hospital at Neni, Umunya, Ukpo, Onitsha, Oba and Awka. NAUTH is a Federal Government Teaching Hospital located at Akamili village in Nnewi town of Nnewi Local Government Area. Nnewi is an ancient village surrounded closely by two towns- Oraifite and Ozubulu, with an estimated population of 1,239,000 in 2023.[22] NAUTH have outstations which comprise; The Centre for Community and Primary Healthcare, Neni, the Centre of Community/Primary Health Care, Ukpo, the Centre of Community/Primary Health Care, Umunya, Nnamdi Azikiwe University Teaching Hospital Annex, Awka, others are - the Guinness Eye Hospital Onitsha, and the Trauma centre Oba, Idemili South. The outpatient clinics are run by consultants and their residents. The average attendance of women of reproductive age that visits the outpatient clinics at Neni, Umunya, Ukpo, Onitsha, Oba and Awka are approximately 102, 94, 75, 700, 100 and 150 respectively for the period of study (from data in medical records). A total of 1221 women of reproductive age were seen, out of which 300 participants were recruited.

Study design: This was a descriptive cross-sectional study carried out among 300 consenting women who were bilingual in English/Igbo and aged 16 - 49 years. Participants were recruited from the outpatient clinics.

Study Population: The Participants in this study were women of child bearing age who had come to attend ante natal, postnatal and outpatient clinics at NAUTH outstations in Anambra State, Nigeria. The study lasted for one month and Informed consent were sought for and obtained.

Exclusion criteria: Women that did not give consent, those who were critically ill, less than 16 and above 49 years of age.

Sample Size Determination

Using the formula for studying proportions with population greater than 10,000 by Naing L *et al*[23]

$N= Z^2PQ/D^2$

Where:

N= Estimated sample size,

Z=Confidence limit of the survey results 95%

P=Prevalence from a previous study by Idris et al in a tertiary institution in northern Nigeria=70%.24 with an attrition rate of 10%

Q=1-P

d=Level of precision required = 0.05

Also factoring in Attrition rate, it was taken as 10% of the estimated sample size to allow for incorrectly filled questionnaire, non-response and errors.

10% of sample size=attrition value

10/100 x 269 = 26.9

Sample size=269+26.9=295.9

Thus, minimal sample size is 295.5

However, to improve the reliability of the study results, we will increase the sample size to 300.

Sample frame

Sample frame was estimated, approximately the number of patients who attend all the outstations for the period the study carried out was 1221 [data from medical records].

So the sampling frame = 1221/n where n= 300

Sampling interval =1221/300= 4.07

Sampling technique

In this study, systematic random sampling was used to select the respondents. The first patient was selected by balloting within the sampling interval then every consecutive 4th patient was recruited until the sample size of 300 was drawn. Eligibility criteria were: Women of child bearing age, who are of the age group 16-49 years, who are pregnant or have given birth within the past 1-2 year preceding the survey and willing to give information about the subject.

Data collection:
The procedure for the study was explained to each participant and thereafter informed consent was obtained before their participation in the study. Information was obtained through self-administered questionnaire. To enhance accuracy; all participants were informed that their responses would remain confidential. The questionnaire was divided into four (4) sections (A, B, C, and D). Section A assessed the socio-demographic profile of the respondents. This section featured questions that helped to elicit responses concerning age, occupation, religion, tribe, and educational status. Section B: assessed ante-natal care history of the patients and satisfaction with the ANC provided including the respondent's past pregnancies. Section C: assessed prevalence of health care utilization among the respondents and section D: assessed the factors influencing health care utilization among the respondents
Informed consent was obtained from respondents before questionnaires were administered. The clinical state of the respondents was ascertained before the interview so that chronically ill women would be excluded.

Data Analysis: Data was checked for completeness, coded, then entered and analysed by using Statistical Package for Social Science (SPSS Inc) software, version 20.0. Descriptive analyses were performed including frequencies, percentages, means, and standard deviations (SD). Chi-square test was used to determine the association between antenatal care and factors influencing health care utilization. The level of significance for this study was set at $P < 0.05$ for all analyses.

Ethical Consideration:
Ethical approval was obtained from the Ethical Committee of the Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi. The participants were assured of the confidentiality of their responses and were assured that any information given would be used primarily for academic research purposes.

RESULTS

The results show that the mean age and standard derivation of the respondents in this study was 29.4 ± 0.7 years. Majority 252 (84.67%) utilized the health care facilities while 39 (12.67% attended maternity homes and 9 (2.66%) preferred to stay at home.

Majority 252 (84.0%) of the respondents received antenatal care at last childbirth, about 77 (25.67%) did register for ante natal care at three months to six months and 87.67% [263] were satisfied with ANC.

Tba 2
From the table 3, about 71(23.7%) participants reside in rural areas and about 84.00% of the respondents did attend health care facility. Forty seven (15.6%) of the respondents did prefer going to the maternity. About 277(92.33%) did not experience any complication during their last delivery

Tab 3
The factors influencing health care utilization of participants; women utilization of health care facility was found to be associated with woman's educational status (χ^2=28.60, $p < 0.001$), salary scale (χ^2=6.51, $p < 0.039$), choice of giving birth (χ^2=11.64, $p < 0.009$), husband's choice of delivery(χ^2=22.07 $p < 0.001$), distance of health facility (χ^2=26.61 $p < 0.001$) means of transportation (15.68 p=0.003), cost of utilization (χ^2=20.58, $p < 0.001$), cost of transportation (χ^2=22.24 $p < 0.001$) and language barrier (χ^2=6.08, $p < 0.014$). (Table 4)

Table 1: Showing the socio-demographic of the study participants

Socio-Demographic	Frequency	Percentage
Age (years)		
18-27 years	123	41.0
28-37 years	147	49.0
38-47 years	28	9.3
>47 years	2	0.7
Mean Age		
Marital status		
Divorced	18	6.0
Married	265	88.3
Separated	5	1.7
Single	12	4.0
Tribe		
Hausa	1	0.3
Igbo	283	94.3
Others	6	2.0
Yoruba	10	3.4
Nationality		
Nigeria	300	100
Religion		
Christianity	300	100
Woman's occupation		
Business woman	194	64.67
Civil servant	7	2.33
Housewife	96	32.00
Others	3	1.00
Total	**300**	**100**

Table 2: Showing the distribution of antenatal care history of the patients involved in the study.

Variable	Frequency	Percentage
Did you receive antenatal care at the last child birth?		
No	48	16.00
Yes	252	84.00
How many children have you given birth to?		
2-4	221	73.67
>5	63	21.00
None	16	5.33
How many months were you when you booked for ANC		
3-6 months	77	25.67
< 3 months	104	34.67
>6months	21	7.00
	98	32.67
How many antenatal care visits did you attend before you gave birth		
1 visit	45	15.00
2 visits	41	13.67
4 or more visits	214	71.33
Satisfaction with the ANC provided		
No	37	12.33
Yes	263	87.67

Table 3: Showing the Prevalence of antenatal care utilization among patients involved in the study.

Variable	Frequency	Prevalence (%)
Where do you live?		
Rural	71	23.67
Urban	229	76.33
Expected ANC attendance		
No	53	17.67
Yes	247	82.33
Where did you go to for antenatal care?		
Health care facility	252	84.00
Home	9	3.00
Maternity	39	13.00
Preference of going to maternity		
No	253	84.33
Yes	47	15.67
Any complications during the last delivery		
No	277	92.33
Yes	23	7.67
Total	**300**	**100**

Table 4A: Showing the Factors influencing antenatal care utilization amongst participants

Variables	Freq	Percentage
Highest level of education of the woma		
No education	76	25.33
Others	49	16.33
Primary school	15	5.00
Secondary school	55	18.33
Tertiary school	105	35.00
Spouse Occupation		
Artisan	47	15.67
Businessman	174	58.00
Civil servant	42	14.00
Others	25	8.33
Unemployed	12	4.00
Spouse highest level of education		
No education	21	7.00
Others	52	17.33
Primary school	43	14.33
Secondary school	60	20.00
Tertiary school	124	41.33

Table 4B: Showing the Factors influencing antenatal care utilization amongst participant

Variables	Frequency	Percentage (%)
Salary scale		
<50,000	219	73.00
50,000-100,000	75	25.00
100,000-500,000	6	2.00
Who makes your choice on where to give birth?		
Husband	86	28.67
Woman	102	34.00
Womanand husband	70	23.33
Others	42	14.00
Where is your husband's Choice for delivery?		
Health care facility	192	64.00
Home	3	1.00
Maternity home	91	30.33
Others	14	4.67
What is the distance of the health facility from your hou		
Close by	58	19.33
Far	173	57.67
Not so far	69	23.00

Table 4C: Showing the factors influencing health care utilization among participants

Variables	Frequency	Percentage (%)
Motorcycle	68	22.67
On foot	5	1.67
Others	3	1.00
Private vehicles	44	14.67
Public transportation	180	60.00
What is the attitude of the health workers towards the patients?		
Average	150	50.00
Good	79	26.33
Poor	71	23.67
Do they waste time before you are attended to during antenatal care services?		
No	46	15.33
Yes	254	84.67
What is the cost of using this facility for antenatal care?		
Affordable	188	62.67
Cheap	38	12.67
Expensive	74	24.67
What is the cost of transportation to the health facility?		
Affordable	71	23.67
Cheap	59	19.67
Expensive	170	56.67
Total	**300**	**100**

DISCUSSION

In this study a greater proportion of the respondents were in the age group of 18 - 47, This finding was similar to the findings from the study carried out by Dasa and colleagues.[25] This may be explained by the fact that these age groups constituted the women of child bearing age.

This study revealed that majority of the respondents 252 (84.00%) receive antenatal care at their last confinement, This findings is in accordance with other studies done by Dasa et al and Gudu and colleagues.[25,26] despite the difference in their study population.

In this study higher proportion of the urban participants 229 (76.33%), utilized the health care facilities. The findings from this study are similar to a study done by Yaya and colleagues reported 86.9% of the urban women choosing health care facility.[27]

In consideration of the association between Women utilization of health care facility and woman's educational status, it was statistically significant ($p < 0.001$) This findings were in keeping with that of Emelumade et al and Rasha and colleagues that revealed that majority of women of childbearing age have their choices of health institution influenced by their level of education.[28-29]

This implies that the higher the educational attainment, the more chances the women of child bearing age would utilize health care facility. This is a reflection of an appreciable health seeking behavior and the level of education, as highly educated child bearing women will patronize the best health institution based on informed mind and earn more to afford even the service cost of institution.

Regarding the association between utilization and salary scale the present study shown significant association ($p=0.039$). This observation was comparable to a study conducted by Dasa T et al who noted that an average monthly income gotten by women of childbearing age is said to influence their choice of utilization of health care facilities by 8 times.[25] The above observations was consistent with

many other studies which buttressed increased towards increase in level of salaries.[30,31,32] Going by the index study, there is a significant relationship (p= <0.001) between the place of delivery and distance of health care facility, of which decrease in distance leads to an increase in health care utilization.[33,34] They hinted that proximity as a strong determinant of choice of health care facility to the child-bearing women that cannot be over emphasized. Women utilization of health care facility also depends on means of transportation (accessibility) which is statistically significantly (p=0.003). This was also seen as predictor on health care utilization in other studies.[30] This study also reported that cost of transportation was statistically significant (p<0.001) to the level of health care utilization, similar studies conducted by Jumbo et al enlisted cost of transportation as a significant factor that influences health care utilization.[35]

CONCLUSION

Many women did utilize the health care facilities and utilization was influenced by their level of education. Health awareness campaigns should be conducted at the community level to raise the women's level of understanding about the importance of utilization of maternal health services.

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Author contributions

S.I.E. (Nnamdi Azikiwe University, Awka, Nigeria) Conceived and carried out the research, participated in protocol writing, data analysis, manuscript writing and review A.I.M. (Nnamdi Azikiwe University, Awka Nigeria) implementation and revision of the manuscript. C.C.N. (Nnamdi Azikiwe University, Awka, Nigeria) Conceived and carried out the research with the guidances of A.I.M. and S.I.E., participated in protocol writing and review of the manuscript. A.L.O.N. (Nnamdi Azikiwe University, Awka, Nigeria) Participated in manuscript writing and review. C.S.E. (Department of Medicine, America University of Barbados, Barbados) was involved in the writing of the protocol as well as review of the manuscript. C.O. (Nnamdi Azikiwe University, Awka, Nigeria) Participated in manuscript writing and review. The authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

Data availability:

The data used to support the findings of this study are available from the corresponding author upon reasonable request.

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