

Association between Socioeconomic Status and the Utilization of Maternal Health Services in Nigeria

Abstract

Background: Maternal health is the mother's state of well-being before, during, and after conception. Studies have suggested that the increasing maternal mortality rate is preventable provided maternal health services are accessible during pregnancy. This study explored the association between socioeconomic status and the utilization of maternal health services in the Federal Medical Centre (FMC), Abeokuta, Ogun State. **Materials and Methods:** This study is a cross-sectional survey. One hundred and eighty-eight pregnant women from the antenatal unit of a tertiary hospital in Southwestern Nigeria were selected using a convenience sampling technique. Data were collected via a pretested, self-designed questionnaire. The descriptive statistics were used to analyze the resulting data, and the hypotheses were tested using the Pearson product-moment correlation at 0.05 level of significance. **Result:** From the study, 72 (38.30%) and 58 (30.90%) agreed that their income and occupation influence their maternal health services utilization. Significant relationship ($p < 0.05$) existed between maternal health service utilization and age and between socioeconomic factors (occupation and income level) and utilization of maternal health services of pregnant women. **Conclusions:** Overall, this study revealed that the level of utilization of maternal health services among expectant women attending FMC is moderate. As this study has shown that socioeconomic factors influence the utilization of maternal health services, we recommend that interventions by health workers targeted at improving the utilization of maternal health services should consider these factors when designing such interventions. It is hoped that this will contribute to reducing maternal mortality and morbidity in this state.

Keywords: Occupation, Pregnant women, Socioeconomic factors

Introduction

Childbirth is a normal physiological process associated with risk and often leads to loss of life, especially in developing countries.^[1] According to World Health Organization, a woman's maternal health involves her health status and well-being during pregnancy, childbirth, and the postpartum period.^[2] The loss of a woman's life during childbirth is called maternal mortality.^[3] In some developing countries, maternal mortality remains a significant health issue, even in Nigeria. This has resulted in increased maternal morbidity and mortality rates, becoming a crucial and major public health problem in developing countries, especially Nigeria.^[4] The World Health Organization described maternal healthcare service as the key to actualizing a sustainable development goal by 2030.^[5]

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Nigeria's maternal mortality persists despite different interventions from the governments and non-governmental organizations.^[6] Nigeria is one of the top six countries in the world contributing over 50% of the world's maternal mortality.^[6] The situation is even more alarming as not much change has been observed since 2000. The maternal mortality rate in the year 2000 was 800/100,000 live births and 1100/100,000 live births in 2005. Although a slight decrease was experienced in 2008 when the maternal death rate declined to 840/100,000 live births, this declining trend was not sustained by 2013 as the maternal death rate rose to 948/100,000 and further reduced to 545 per 100,000 live.^[7] The rise and fall in the maternal mortality rate have made Nigeria the second-largest contributor to maternal mortality worldwide, ranking her at the tenth position in the world health indicators of maternal mortality record.^[5]

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Despite the establishment of different programs in Nigeria to improve maternal health, the morbidity and mortality rate are still increasing.

Babalola and Fatusi reported that only a few women could access maternal healthcare services in developing countries. The utilization of the few available services remains low in sub-Saharan African countries,^[8] including Nigeria, where 58% attended the Antenatal Clinic (ANC) only once, professionals handled only 39% of births, 35% of births occur in a health institution and only 43.70% benefited from postpartum care.^[5,8] Demographic characteristics such as age, religion, residence, and educational level were identified as the critical determinants of maternal healthcare services utilization in developing countries like Nigeria.^[9] A survey by Okoli *et al.*^[10] revealed that women between the age of 25 and 34 years attend more ANC and that women with secondary education make use of the available maternal healthcare services than those with no formal education. Women with higher socioeconomic status exhibit an improved use of health services than women with lower socioeconomic status.^[11] The findings of Dahab and Sakellariou found that women from poor socioeconomic status often find it challenging to utilize maternal health services in rural health centers.^[12] A study by Smith and Sulzbach in three countries revealed that it is unlikely for people living in an urban area to deliver at a health facility.^[13] The study also revealed that the culture of the people influences the utilization of maternal healthcare services.^[9] Since mothers are expected to seek maternal health care before, during pregnancy, and after childbirth, it is likely that the number of women will be higher considering the country's birth rate. However, it has been observed that women who fully utilize these services are low in tertiary hospitals.^[11] Therefore, the study aims to evaluate the influence of socioeconomic status on the utilization of maternal health services.

Materials and Methods

This cross-sectional survey was conducted between May and June 2021 at the antenatal clinic of a Federal Medical Centre in Nigeria among pregnant women to examine the influence of socioeconomic status on the utilization of maternal health services. The sample size was calculated using Taro Yamane's formula (1973) with $N = 355$, $e = .05$. and 188 pregnant women were recruited who met a pre-set eligibility criterion including age 20 years and above and consent to join the study. Two research assistants were employed and trained to collect the data. A self-administered structured questionnaire developed based on a literature review was used to collect the data.

The questionnaire was divided into four sections. The first section had six question items detailing the demographic characteristics of respondents. The second section had eight items that assessed the influence of social factors. Social

factors are numerous things that affect a person's lifestyle and influence how people interact with one another and with the community. The minimum score obtainable is 1, while the maximum score is 32. The third section had five items that measured the economic factors—economic factors are those things that affect the financial capability of an individual and their ability to utilize certain services, while the fourth section included five items that assessed the level of utilization of maternal healthcare services among pregnant women. The questionnaire items for sections 2, 3, and 4 were assessed using the Likert scale.

The questionnaire was subjected to validity testing by presenting it to the research supervisor and other experts for content and construct testing. Reliability was done by administering twenty copies of the validated questionnaires to twenty patients in University College Hospital, Ibadan, for a pilot study of the instrument which gave a Cronbach's alpha score of 0.70. The Statistical Package

Table 1: Socio-demographic information of pregnant women $n=188$

Socio-demographic characteristics	<i>n</i> (%)
Age	
20–24 years	30 (16)
25–29 years	68 (36.20)
30–34 years	38 (20.20)
35–39 years	28 (14.90)
Above 41 years	24 (12.80)
Marital Status	
Single	16 (8.50)
Married	156 (83)
Divorced	4 (2.10)
Widowed	10 (5.30)
Others	2 (1.10)
Religion	
Christianity	80 (42.60)
Islam	104 (55.30)
Traditional	2 (1.10)
Orthodox	2 (1.10)
Highest level of education	
No formal education	18 (9.60)
Primary education	64 (34)
Secondary education	72 (38.30)
Tertiary education	34 (18.10)
Occupation	
Trading	40 (21.30)
Farming	42 (22.30)
Civil servant	50 (26.60)
Unemployed	42 (22.30)
Others	14 (7.40)
Income per month	
10,000–50,000 Naira	68 (36.20)
50,000–100,000 Naira	80 (42.60)
100,000–500,000 Naira	34 (18.10)
500,000–1,000,000 Naira	6 (3.20)

Table 2: Social factors influencing utilization of maternal health services n=188

Social Factors	Strongly Agree n (%)	Agree n (%)	Undecided n (%)	Disagree n (%)	Strongly Disagree n (%)
My religion did not support using maternal and child services	76 (40.40%)	34 (18.10%)	38 (20.20%)	30 (16%)	10 (5.30%)
My boss has not provided me adequate support for antenatal care	28 (14.90%)	72 (38.30%)	20 (10.60%)	64 (34%)	4 (2.10%)
I sometimes have problem in getting transportation for me to attend antenatal care clinic	56 (29.80%)	58 (30.90%)	10 (5.30%)	62 (33%)	2 (1.10%)
I do not have adequate understanding about maternal and child service	66 (35.10%)	48 (25.50%)	30 (16%)	16 (8.50%)	28 (14.90%)
I am often excluded from household chores because of pregnancy	88 (46.80%)	42 (22.30%)	22 (11.70%)	30 (16%)	6 (3.20%)
My spouse assists me many of the household chores and very supportive	56 (29.80%)	50 (26.60%)	20 (10.60%)	42 (22.30%)	20 (10.60%)
My mother-in-law is equally supportive to my care	92 (48.90%)	38 (20.20%)	0 (0%)	26 (13.80%)	32 (17%)
I have colleague who rises to my aid when I am psychological down to visit the maternal health center.	72 (38.30%)	60 (31.90%)	18 (9.60%)	34 (18.10%)	4 (2.10%)

Table 3: Categorization of factors influencing utilization of maternal health services n=188

Factors	Categories	n (%)
Social Factors		
High	25–32	48 (25.50)
Moderate	13–24	86 (45.70)
Low	1–12	54 (28.70)
Economic Factors		
High	21–30	54 (28.70)
Moderate	11–20	94 (50)
Low	1–10	40 (21.30)
Total		188 (100)

for Social Sciences version 25.0 with serial number 566823-014 was used for data analysis. Descriptive statistics were used to analyze the demographic data, while Pearson product-moment correlation was used to test the hypotheses. The level of significance was set at 0.05.

Ethical consideration

Ethical approval was obtained from Babcock University Health Research Ethics on May with reference number BUHREC 484/21 and from the maternal and child unit of Federal Medical Centre, Abeokuta. The aim of the study and the confidentiality of the information were thoroughly explained to the respondents from whom informed consent was sought. The respondents were also made to understand that they were free to back out at any time if they wished not to continue. The rule of anonymity was also maintained.

Results

In total, 188 women that participated in this study also completed the study, representing a 100% response rate. The age of the respondents was between 20 and >40 years. Most of the pregnant women (83%) were married and practiced Islam (55.30%) or Christianity (42.60%). Most of the pregnant women had secondary school education,

earning 50, 000 to 100, 000 Naira monthly, and very few (22%) were unemployed [Table 1]. Majority of the respondents (45.70%) had a total score for social factors (religion, inadequate knowledge on maternal and child service, husband assistance in household chores, etc.) that ranged between 13 and 24, while the overall mean score (SD) for social factors on the utilization of maternal health services was 18.10(3.99). 88 (46.80%) strongly agreed that they were often excluded from household chores during pregnancy, and 92 (48.90%) strongly agreed that their mother-in-law is equally supportive of their care. The mean score signified that social factors moderately influence maternal health services utilization [Tables 2 and 3]. Half of the respondents (50%) had a total score for economic factors (e.g., income) that ranged between 11 and 20, while the overall mean score (SD) for economic factors on the utilization of maternal health services was 11.50 (2.65) [Tables 3 and 4]. Seventy-two (38.30%) agreed that their income level, and 58 (30.90%) agreed that their occupation influences maternal health services utilization. The mean score signifies a moderate influence on the utilization of maternal health services. The overall mean score for the level of utilization of maternal health services is 11.30 (2.54), which signifies a moderate level of utilization of maternal health services, as 66 (35.10%) agreed that healthcare workers encourage them to go for ANC, while 62 (33%) strongly agreed that they feel reluctant to visit the clinic because of the non-availability of resources [Table 5]. A significant relationship existed between demographic characteristics (age, marital status, ethnicity, and parity) and utilization of maternal health services among expectant mothers, and also a significant relationship occurs between economic factors (occupation and income level) and utilization of maternal health services in Federal Medical Centre, Abeokuta, Ogun State. ($p < 0.050$) [Table 6].

Table 4: Economic factors influencing utilization of maternal health services n=188

Economic Factors	Strongly Agree n (%)	Agree n (%)	Undecided n (%)	Disagree n (%)	Strongly Disagree n (%)
My occupation affects my attendance in antenatal care clinic	58 (30.90%)	44 (23.40%)	18 (9.60%)	46 (24.50%)	22 (11.70%)
My occupation does not provide opportunity for maternity leave	44 (23.40%)	36 (19.10%)	34 (18.10%)	66 (35.10%)	8 (4.30%)
Sometimes my income level is not enough for me to procure needed drugs during Antenatal Clinic (ANC) visits	72 (38.30%)	50 (26.60%)	0 (0%)	48 (25.50%)	18 (9.60%)
Cost of transport to antenatal care can be expensive	62 (33%)	0 (0%)	52 (27.70%)	48 (25.50%)	26 (13.80%)
Sometimes my income level is not enough for me to cover consultation fees of the ANC visit	74 (39.40%)	40 (21.30%)	40 (21.30%)	34 (18.10)	0 (0%)

Table 5: Level of utilization of maternal health services n=188

Level of utilization of maternal health services	Categories	n (%)
High	21–30	60 (31.90)
Moderate	11–20	92 (48.90)
Low	1–10	36 (19.10)
Total		188 (100)

Discussion

From this study, the influence of social factors on the utilization of maternal health services was moderate. This suggests that family support and care received during pregnancy influence the utilization of maternal health services for a considerable number of pregnant women. Adeusi revealed that cultural practices were the most potent predictor of maternal health utilization in Nigeria as women are made to undergo cultural acts that put them at risk and their rights being denied.^[14] For example, child marriage is still predominant, especially in the northern part of this country.^[15] Education as a socioeconomic factor greatly influences maternal healthcare services. For instance, the Pearson test of association showed that education level was significantly related to health facilities for antenatal care. Okonofua said educated women seek better treatment than the uneducated ones.^[16] People with a high level of education have greater power in making decisions and understanding health information better.^[17,18] World Health Organization reported that about 88 to 89% of maternal mortality could be avoided provided they could access and utilize healthcare services.^[5] Almost half of the respondents of this study earn between 50,000 and 100,000 Naira. Income level also influences utilization of maternal healthcare services in developing countries with low income.^[19] Also, exactly half of the respondents, 94 (50%), claimed that some economic factors such as their income level and occupation influence their maternal health services utilization. The result is in tandem with the findings of Dahab and Sakellariou, which found that women from poor socioeconomic status often find it challenging to utilize maternal health services in rural health centers.^[12] A study by Smith and Sulzbach in three

countries revealed that it is unlikely for people living in an urban area to deliver at a health facility.^[13] In Mali, living in the urban region brings a higher chance of birthing in a standard health facility. The poor road and infrastructure in African countries make utilization of health services lower among women in rural regions than in urban. A significant relationship was found between help received during birth and the client's wealth, as affluent women are likely to be given professional aid during childbirth.^[20]

Furthermore, about half of the respondents had a moderate level of utilization of maternal health services. About one-third had a high level of utilization as most of the respondents said healthcare professionals encouraged them to visit the clinic. This may be related to the proximity of the location of the Federal Medical Centre Abeokuta and the different structure that has been put in place to ensure pregnant women have easy access to healthcare services. The result is in tandem with the findings of Kim, where a good level of maternal healthcare services attendance is because of proximity to care.^[21] The result is also supported by Yar'zever and Said's findings, where different factors like restrictions on hospital use, ignorance, and permission from husband influence healthcare utilization by women in rural Kano, Northwest Nigeria.^[22] Other studies revealed that area of living, quality of care, pay, tribe, and subscribing to health insurance are related to utilizing healthcare services in Nigeria.^[23] Also, the finding of this study is consistent with the findings that showed that child delivery in health facilities has increased from 56.50% to 85% in Ondo state.^[24] Finally, there was a significant relationship between demographic characteristics (age, marital status, ethnicity, and parity) and utilization of maternal health services among expectant mothers, and also a significant relationship occurs between economic factors (occupation and income level) and utilization of maternal health services in Federal Medical Centre, Abeokuta, Ogun State. The limitation of the study was that the study was conducted in a local government in a state in Nigeria, and the findings might not be represented in what is obtainable in other local governments of the state in the country. This limitation should be taken into consideration when interpreting the findings.

Table 6: Pearson product-moment correlation showing the relationship between the social and economic (occupation and income level) factors and utilization of maternal health services

Social factors	Categories	Utilization of maternal health services			Total	<i>r</i> [*] <i>p</i> ^{**}
		High	Moderate	Low		
Age	12–20 years	8 (8.70)	12 (20)	10 (27.80)	30 (16)	0.88
	21–30 years	34 (37)	26 (43.30)	8 (22.20)	68 (36.20)	<0.001**
	31–40 years	16 (17.40)	10 (16.70)	12 (33.30)	38 (20.20)	
	41–50 years	18 (19.60)	8 (13.30)	2 (5.60)	28 (14.90)	
	≥51 years	16 (17.40)	4 (6.70)	4 (11.10)	24 (12.80)	
Marital Status	Single	8 (8.70)	6 (10)	2 (5.60)	16 (8.50)	
Marital Status	Married	78 (84.80)	48 (80)	30 (83.30)	156 (83)	0.001**
	Divorced	0 (0)	2 (3.30)	2 (5.60)	4 (2.10)	
	Widowed	6 (6.50)	4 (6.70)	0 (0)	10 (5.30)	
	Others	0 (0)	0 (0)	2 (5.60)	2 (1.10)	
Economic Factors						
Occupation	Trading	14 (15.20)	22 (36.70)	4 (11.10)	40 (21.30)	0.77
	Farming	26 (28.30)	8 (13.30)	8 (22.20)	42 (22.30)	0.002**
	Civil servant	22 (23.90)	14 (23.30)	14 (38.90)	50 (26.60)	
	Unemployed	20 (21.70)	16 (26.70)	6 (16.70)	42 (22.30)	
	Others	10 (10.90)	0 (0)	4 (11.10)	14 (7.40)	
Income level	#10,000–50,000	32 (34.80)	24 (40)	12 (33.30)	68 (36.20)	
Income level	#50,000–100,000	36 (39.10)	24 (40)	20 (55.60)	80 (42.60)	0.001**
	#100,000–500,000	20 (21.70)	10 (16.70)	4 (11.10)	34 (18.10)	
	#500,000–1,000,000	4 (4.30)	2 (3.30)	0 (0)	6 (3.20)	

*Means Pearson correlation. **means significance difference of *p* value at *p*<0.05

Conclusion

The result implies that social factors such as support from family and economic factors such as occupation and level of income significantly influence the utilization of maternal health services. Generally, this study revealed that the level of utilization of maternal health services among expectant women attending FMC is moderate. Even though there is still a bridge that needs to be fixed regarding maternal mortality and morbidity in the state. The general community should be educated on the importance of utilization of maternal health services and the need for families and employers to support women during pregnancy.

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Conflicts of interest

Nothing to declare.

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