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Association of Educational Status and Occupational Status among Women and Use of Maternal Health Services in Primary Health Centres in Nando, Anambra East L.G.A, Anambra State

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Keywords

Maternal health services, educational status, occupational status, healthcare utilization, women, Primary Health Centres

Abstract

Maternal health services are essential for ensuring positive pregnancy outcomes and reducing maternal and neonatal morbidity and mortality. The utilization of these services is influenced by various socioeconomic factors, including educational attainment and occupational status. This study assessed the association between educational status and occupational status among women and the utilization of maternal health services in Primary Health Centres in Nando, Anambra East Local Government Area, Anambra State, Nigeria.A descriptive cross-sectional study design was employed among women of reproductive age attending Primary Health Centres in Nando. Data were collected using a structured questionnaire and analyzed using descriptive and inferential statistics. Frequencies and percentages were used to summarize the data, while Chi-square tests were used to determine associations between educational status, occupational status, and utilization of maternal health services. Statistical significance was set at $p < 0.05$.The findings showed that utilization of maternal health services increased significantly with higher educational attainment. Among women with no formal education, 58.3% utilized maternal health services compared with 58.4% of those with primary education, 82.2% of those with secondary education, and 100.0% of those with tertiary education. A statistically significant association was observed between

educational status and utilization of maternal health services (χ^2 = 61.349, p < 0.001). Regarding occupational status, maternal health service utilization was 72.2% among housewives, 79.2% among civil servants, 73.2% among business women, 75.8% among privately employed women, and 78.8% among farmers. However, the association between occupational status and utilization of maternal health services was not statistically significant (χ^2 = 2.043, p = 0.728).Educational status is a significant determinant of maternal health service utilization among women in Nando, Anambra East Local Government Area, while occupational status has no significant influence on service utilization. Efforts to improve female education and health literacy should be prioritized to enhance maternal healthcare utilization and improve maternal and child health outcomes in rural communities.

Introduction

Maternal health remains a fundamental component of public health and sustainable development worldwide. Maternal health services encompass a continuum of care provided to women during pregnancy, childbirth, and the postpartum period, including antenatal care (ANC), skilled birth attendance, emergency obstetric care, postnatal care (PNC), and family planning services. These services play a critical role in reducing maternal and neonatal morbidity and mortality by facilitating the early detection and management of pregnancy-related complications, promoting safe delivery practices, and ensuring appropriate postpartum care [1-3]. The World Health Organization (WHO) emphasizes that access to quality maternal healthcare is essential for achieving Sustainable Development Goal 3, which seeks to ensure healthy lives and promote well-being for all at all ages [4-5].Despite global progress in maternal healthcare over the past two decades, maternal mortality remains disproportionately high in low- and middle-income countries, particularly in sub-Saharan Africa. According to the World Health Organization, approximately 287,000 women died from maternal causes globally in 2020, with nearly 70% of these deaths occurring in sub-Saharan Africa. Nigeria accounts for a significant proportion of global maternal deaths and continues to face challenges related to inadequate utilization of maternal health services, especially in rural and underserved communities. Although various national and international interventions have been implemented to improve maternal health outcomes, many women still experience barriers to accessing and utilizing available healthcare services [6].

The utilization of maternal health services is influenced by a complex interplay of socio-demographic, economic, cultural, and health system factors. Among these determinants, women's educational status and occupational status have consistently emerged as important predictors of maternal healthcare utilization. Education enhances women's knowledge, awareness, and understanding of health-related issues, enabling them to make informed decisions regarding pregnancy, childbirth, and child care. Educated women are generally more likely to recognize the importance of antenatal care, seek skilled attendance during childbirth, comply with medical advice, and utilize postnatal and family planning services. Education also contributes to greater autonomy, improved communication with healthcare providers, and increased ability to navigate healthcare systems [7].Occupational status is another important socioeconomic factor that influences maternal health-seeking behavior. Employment and income-generating activities can improve women's financial capacity to access healthcare services, afford transportation, purchase medications, and meet other costs associated with maternal care. Women who are gainfully employed often have greater decision-making power within their households and may be more capable of overcoming financial barriers to healthcare utilization. Conversely, women who are unemployed or engaged in low-income occupations may experience economic constraints that limit their access to essential maternal health services. Occupational status may therefore

directly and indirectly affect healthcare utilization through its impact on household income, social status, and economic independence [8].

Several studies conducted in Nigeria and other developing countries have demonstrated significant associations between educational attainment, occupational status, and maternal healthcare utilization. Women with higher levels of education are generally more likely to attend the recommended number of antenatal visits, deliver in health facilities under the supervision of skilled birth attendants, and receive postnatal care compared to women with little or no formal education. Similarly, women engaged in professional, civil service, or business occupations often exhibit higher utilization rates of maternal healthcare services than those involved in subsistence farming, informal labor, or unemployment. These findings underscore the importance of socioeconomic empowerment as a strategy for improving maternal health outcomes [9].In Anambra State, considerable efforts have been made to strengthen primary healthcare services and improve maternal and child health indicators. Primary Health Centres (PHCs) serve as the first point of contact for healthcare delivery and provide essential maternal health services to women in both urban and rural communities. However, disparities in the utilization of these services persist, particularly among women residing in rural areas. Nando community in Anambra East Local Government Area is predominantly rural, with residents largely engaged in farming, trading, fishing, and other small-scale economic activities. Although maternal health services are available through local Primary Health Centres, variations in educational attainment and occupational status among women may influence the extent to which these services are utilized [10].Against this background, this study seeks to examine the association between educational status and occupational status among women and the utilization of maternal health services in Primary Health Centres in Nando, Anambra East Local Government Area, Anambra State.

Research Method

This chapter deals with the research design used for the study, area of study, target population, sample and sampling procedure, instrument for data collection, validity and reliability of the instrument. It also discussed ethical consideration, procedure for data collection and method of data analysis.

Research design

A cross-sectional descriptive study design was employed to assess the association between women status and maternal use of primary healthcare facility among women of Nando community.

Area of study

Nando is one of the towns that make up the Anambra East Local Government of Anambra State. The local government is located in the central part of Anambra State in the South East of Nigeria. The head quarter is Otuocha, a town on the bank of Omabala River. As of 2006, Nando had an estimated population of 36,000 and it is a rural community. The town is made up of eight villages. The villages are Ikem, Isinyi, Amajana, AbubeAgu, Abube Uno, Ubarunisioye, Agbudu and Akamanato which is made up of three small villages- AchallaOgu, Amaegwene and Okpobili. Majority of the residents are Christians of different denominations while a significant number patronise the traditional religion. The main occupation for the women is farming while a few of them are teachers and civil servants. The roads are bad and that means poor transport system exists within the community. There are 4 health centres and one health post in the town. These health centres are located in Ikem, AbubeAgu, Amajana and Isinyi villages. The health post is located in Akamanato village. There are also some birthing homes owned by traditional birth attendants and some spiritual healing centres.

The population of study

The population of study is women of childbearing age. Twenty two percent which is the population of women of child bearing age in Nando is estimated to be 7920. This number therefore represents the target population.

Sample:

The final sample size used for this study is 500 women of child bearing age. The sample size determination used .12% found in a survey of determinants of maternal health care utilisation. The minimum sample size of 450 was calculated using the formula for estimating a single finite population.

$N=\left(\frac{z}{e}\right)2P(1-P).$

Z=confidence interval at 95%=1.96
P=proportion of people 0.12.
e=margin of error. (See appendix 1 for the working of sample size).

The sample size was adjusted to accommodate non response. The researcher estimated a 10% non-response rate. This non response rate is to accommodate those questionnaires that will be disqualified for any number of reasons such as questionnaires not properly filled or those who were simply not returned.

A final sample size of 500 was used after adding the 10% non response rate.

Inclusion criteria

-All women who had been pregnant in the past 2 years irrespective of the outcome of pregnancy, whether the pregnancy was terminated half way or carried to term.
-Women, who are alert and physically capable of being interviewed
-Women who are residing in the community at the time of the study.
- Women who are willing to participate in the study.

Sampling procedure:

The sampling technique used is the stratified random sampling technique. The women were stratified into the communities. Hence, each community is a stratum. The population of women from each community was gotten from the women's meeting register. The sample size was allotted proportionately to each community using the proportional allocation formula;

$ns=\frac{Ns}{N} \times n.$

Where ns=sample size of the village.
Ns=population size of the village.
N= total target population.
n=total sample size

Thus the representative sample size from Ikem village with a population of 1340 is 85; Isinyi with a population of 752 is 48; Amajana with a total population of 850 is 54; AbubeAgu with a total population of 750 is 47; Akamanato with a total population of 1410 is 89; Ubarunisioye with a total population of 1176 is 74; Agbudu has a total population of 764 and has a representative sample of 48 and Abube Uno with a total population of 878 has a representative sample of 55. The sample size from each village using the above formula is shown in table 1. The researcher used table of random numbers to select samples for the study based on their meeting registers.

Table 1: The Population and Sample Size of each Village in Nando

S/N	Name of village	Population of registered women in each village.	Sample size for each village.	Percentage of the sample size for each village.
1	Ikem	1340	85	16.92%
2	Isinyi	752	48	9.49%
3	Amajana	850	54	10.73%
4.	AbubeAgu	750	47	9.47%
5.	Akamanato	1410	89	17.80%
6.	Ubarunisioye	1176	74	14.85%
7.	Agbudu	764	48	9.65%
8.	Abube Uno.	878	55	11.09%
	Total	7920	500	100%

Ethical consideration

Ethical approval to conduct the study was obtained from the health research ethical committee of Anambra State teaching hospital, Awka after submitting a copy of the proposal of the study to the committee. A letter of introduction was obtained from the Department of Nursing Sciences, University of Nigeria, Enugu Campus. With this letter, permission to carry out the study will be obtained from the traditional ruler of Nando. The researcher will gain informed consent from the respondents before giving them the questionnaire. The purpose of the study will be explained to them. They will also be assured of confidentiality of whatever information that they will give. The respondents will also be told that they have the right to opt out of the study any time they wish.

Procedure for data collection

Face to face interview of the participants was be used to collect data. The questionnaire is the interview guide to obtain information from the women who meet the inclusion criteria. Five research assistants were trained on the purpose of the study, how to collect data and interpret the questions to the respondents. The researcher and her assistants visited every 3rd household. Any woman that met the inclusion criteria was interviewed using the questionnaire as a guide. This was done until the required number is gotten from each community. Data collection in each community took 5 days. Data collection was done in the morning and evening hours, before and after the women was done with their own business. The whole exercise took 50 days.

Method of data analysis

Data collected was coded and analysed using descriptive and inferential statistics. Item by item descriptive analysis of the data was carried out to show response frequency and percentage using the computer software programme, statistical package for the social sciences (SPSS version 18). Mean and standard deviation was used to analyse the demographic data of respondents. A cross tabulation was done to determine the association between women status (education, occupation and socioeconomics status) and decision making autonomy and maternal use of PHC facility using chi square test with 95% confidence interval.

Results

Table 2 presents the association between educational status and utilization of maternal health services among women attending Primary Health Centres in Nando, Anambra East Local Government Area. The findings indicate a clear positive relationship between educational attainment and maternal health service utilization. Among women with no formal education, 28

(58.3%) reported utilizing maternal health services, while 20 (41.7%) did not utilize the services. Similarly, among respondents with primary education, 90 (58.4%) utilized maternal health services, whereas 64 (41.6%) did not.A markedly higher utilization rate was observed among women with secondary education, where 166 (82.2%) reported using maternal health services compared to 36 (17.8%) who did not. Notably, all respondents with tertiary education, 78 (100.0%), reported utilizing maternal health services, with no respondent in this educational category reporting non-utilization. The Chi-square analysis revealed a statistically significant association between educational status and utilization of maternal health services (χ^2 = 61.349, $p < 0.001$). This finding suggests that educational attainment significantly influences women's use of maternal health services. The likelihood of utilizing maternal healthcare services increased progressively with higher levels of education, indicating that educated women may possess better health awareness, greater understanding of the benefits of maternal healthcare, and improved ability to access and utilize available health services.

Table 3 shows the association between occupational status and utilization of maternal health services among the respondents. The results indicate that 91 (72.2%) housewives utilized maternal health services, while 35 (27.8%) did not. Among civil servants, 38 (79.2%) utilized maternal health services compared to 10 (20.8%) who did not. Similarly, 104 (73.2%) business women reported utilizing maternal health services, while 38 (26.8%) did not utilize the services. Among privately employed women, 47 (75.8%) utilized maternal health services and 15 (24.2%) did not. Farmers also demonstrated a relatively high level of utilization, with 82 (78.8%) reporting use of maternal health services compared to 22 (21.2%) who did not. Although slight variations in utilization rates were observed across occupational groups, the differences were not statistically significant. The Chi-square test yielded a value of $\chi^2 = 2.043$ with a p-value of 0.728, indicating no significant association between occupational status and utilization of maternal health services among the respondents. This finding suggests that occupation did not significantly influence women's utilization of maternal health services in the study area. The relatively high utilization rates observed across all occupational categories may reflect widespread awareness of maternal healthcare services and relatively equitable access to Primary Health Centre services within the community.

Table 2: Association between educational status of women and use of maternal health services

Educational level	Utilization		χ^2	P value
	Yes n (%)	No n (%)		
No formal	28 (58.3)	20 (41.7)	61.349	< 0.001
Primary	90 (58.4)	64 (41.6)		
Secondary	166 (82.2)	36 (17.8)		
Tertiary	78 (100.0)	0 (0.0)		

The results reveal that respondents' utilization of maternal health services increased with higher level of education. The proportion of women with secondary (82.2%) and tertiary education (100%) who used ANC was significantly higher compared to women with primary (58.4%) or no formal education (58.3%).

Table 3: Association between occupational status and use of maternal health services

Educational level	Utilization		χ^2	P value
	Yes n (%)	No n (%)		
Housewife	91 (72.2)	35 (27.8)	2.043	0.728
Civil servant	38 (79.2)	10 (20.8)		
Business woman	104 (73.2)	38 (26.8)		
Privately employed	47 (75.8)	15 (24.2)		
Farmer	82 (78.8)	22 (21.2)		

Discussion

The present study examined the association between educational status and occupational status among women and the utilization of maternal health services in Primary Health Centres in Nando, Anambra East Local Government Area, Anambra State. The findings provide important insights into the socioeconomic factors influencing maternal healthcare utilization in the study area. The study revealed a statistically significant association between educational status and utilization of maternal health services. Maternal health service utilization increased progressively with higher levels of education, with all women who attained tertiary education reporting utilization of maternal health services. Women with secondary education also demonstrated substantially higher utilization rates than those with primary or no formal education. This finding highlights the critical role of education in shaping health-seeking behavior and promoting the use of essential maternal healthcare services [11].The observed relationship between education and maternal health service utilization is consistent with the findings of previous studies conducted in Nigeria and other developing countries. Education enhances health literacy, improves communication with healthcare providers, increases awareness of available services, and empowers women to make informed decisions regarding their health and that of their children [12].

The findings may also be explained by the fact that educated women are more likely to recognize the importance of preventive healthcare services and are better equipped to understand health information provided during antenatal visits. Furthermore, education often increases women's autonomy and decision-making power within households, enabling them to seek healthcare services without undue restrictions. Women with higher educational attainment may also be more likely to have access to information through various media channels and social networks, thereby increasing awareness of the benefits of maternal healthcare utilization. The study further investigated the association between occupational status and utilization of maternal health services. Although utilization rates varied slightly among occupational categories, no statistically significant association was observed between occupational status and maternal health service utilization. Women across all occupational groups, including housewives, civil servants, business women, privately employed women, and farmers, reported relatively high levels of maternal healthcare utilization. This suggests that occupational status did not play a determining role in the utilization of maternal health services among women in the study area [13].The lack of a significant association between occupational status and maternal healthcare utilization contrasts with findings from some previous studies that identified occupation as an important determinant of healthcare-seeking behavior.

However, the findings of the present study are consistent with studies suggesting that when maternal health services are readily available and affordable, occupational differences may have less influence on service utilization. The absence of a significant association may indicate that

women in Nando community have relatively similar access to Primary Health Centre services regardless of their occupational status. It is also possible that community health education programs, government-supported maternal health initiatives, and increased awareness of maternal health issues have encouraged women from different occupational backgrounds to utilize available services [14].Another possible explanation is that occupation alone may not adequately capture the economic circumstances of respondents. Some women classified as housewives may receive substantial financial support from their spouses, while farmers and business women may generate incomes comparable to those of formally employed individuals. Consequently, occupational classification may not fully reflect variations in economic empowerment and healthcare affordability within the study population [16].

Conclusion

This study assessed the association between educational status and occupational status among women and the utilization of maternal health services in Primary Health Centres in Nando, Anambra East Local Government Area, Anambra State. The findings demonstrated that educational status is a significant determinant of maternal health service utilization. Women with higher levels of education, particularly those with secondary and tertiary education, were more likely to utilize maternal health services than women with primary or no formal education. The study showed a progressive increase in service utilization with increasing educational attainment, highlighting the important role of education in promoting health awareness, informed decision-making, and positive health-seeking behavior.In contrast, occupational status was not significantly associated with maternal health service utilization. Although utilization rates differed slightly across occupational categories, these differences were not statistically significant. This suggests that women in the study area accessed and utilized maternal health services relatively equally regardless of their occupation.

The finding may reflect the availability of maternal healthcare services through Primary Health Centres and the effectiveness of community-based health education efforts in encouraging service utilization across different occupational groups.

References

1. Singh, K., Story, W. T., & Moran, A. C. (2016). Assessing the Continuum of Care Pathway for Maternal Health in South Asia and Sub-Saharan Africa. *Maternal and child health journal*, *20*(2), 281–289. https://doi.org/10.1007/s10995-015-1827-6
2. Obeagu, E. I., &Obeagu, G. U. (2024). Protecting maternal health: Strategies against HIV and malaria in pregnancy. *Medicine*, *103*(36), e39565. https://doi.org/10.1097/MD.0000000000039565
3. Obeagu, G. U., Altraide, B. O., &Obeagu, E. I. (2026). Estimation of prevalence and complications of iron deficiency anemia in pregnancy at Obio-Akpor, Rivers State, Nigeria from 2019 to 2023. *Medicine*, *105*(7), e47666. https://doi.org/10.1097/MD.0000000000047666
4. Obeagu E. I. (2025). HIV and Maternal-Fetal Immunity: Challenges and Strategies for Reducing Vertical Transmission-A Narrative Review. *Health science reports*, *8*(7), e71076. https://doi.org/10.1002/hsr2.71076
5. Buli, T. D., Wakgari, N., Ganfure, G., Wondimu, F., Dube, D. L., Moti, G., &Doba, Y. S. (2023). Completion of the continuum of maternity care and associated factors among women who gave birth in the last 6 months in Chelia district, West Shoa zone, Ethiopia: A community-based cross-sectional study. *Frontiers in public health*, *10*, 1026236. https://doi.org/10.3389/fpubh.2022.1026236
6. Ekwuazi, E. K., Chigbu, C. O., &Ngene, N. C. (2023). Reducing maternal mortality in low- and middle-income countries. *Case reports in women's health*, *39*, e00542. https://doi.org/10.1016/j.crwh.2023.e00542

7. Fasanu, A., Adeyemo, S. C., Fasanu, O. A., Adekanle, D. A., Oluwole, A. I., Awodele, K., Folami, E. O., Akindele, R. A., &Olabode, E. D. (2025). Awareness and Utilization of Maternal and Child Health Services Among Women of Reproductive Age in Osogbo, Nigeria. *Cureus*, *17*(8), e90850. https://doi.org/10.7759/cureus.90850
8. Maitanmi, B. T., Adelaja, A. A., Okunola, D. R., Maitanmi, J. O., Tola, Y. O., &Akingbade, O. (2023). Association between Socioeconomic Status and the Utilization of Maternal Health Services in Nigeria. *Iranian journal of nursing and midwifery research*, *28*(5), 514–519. https://doi.org/10.4103/ijnmr.ijnmr_61_22
9. Umar A. S. (2017). Does female education explain the disparity in the use of antenatal and natal services in Nigeria? Evidence from demographic and health survey data. *African health sciences*, *17*(2), 391–399. https://doi.org/10.4314/ahs.v17i2.13
10. Ogu, U. U., Ebenso, B., Mirzoev, T., Uguru, N., Etiaba, E., Uzochukwu, B., Ezumah, N., &Onwujekwe, O. (2023). Demand and supply analysis for maternal and child health services at the primary healthcare level in Nigeria. *BMC health services research*, *23*(1), 1280. https://doi.org/10.1186/s12913-023-10210-6
11. Amwonya, D., Kigosa, N., &Kizza, J. (2022). Female education and maternal health care utilization: evidence from Uganda. *Reproductive health*, *19*(1), 142. https://doi.org/10.1186/s12978-022-01432-8
12. Ningrum, E. W., Lusmilasari, L., Huriyati, E., Marthias, T., &Hasanbasri, M. (2024). Improving maternal health literacy among low-income pregnant women: A systematic review. *Narra J*, *4*(2), e886. https://doi.org/10.52225/narra.v4i2.886
13. Al-Ateeq, M. A., & Al-Rusaiess, A. A. (2015). Health education during antenatal care: the need for more. *International journal of women's health*, *7*, 239–242. https://doi.org/10.2147/IJWH.S75164
14. Temesgen, S. A., & Netangaheni, T. R. (2024). Utilisation of maternal healthcare services and influencing factors in public health facilities in Addis Ababa, Ethiopia. *Health SA = SA Gesondheid*, *29*, 2694. https://doi.org/10.4102/hsag.v29i0.2694
15. Bhojani, A., Alsager, A., McCann, J. K., Joachim, D., Kabati, M., &Jeong, J. (2024). *"If my wife earns more than me, she will force me to do what she wants"*: Women's economic empowerment and family caregiving dynamics in Tanzania. *World development*, *179*, 106626. https://doi.org/10.1016/j.worlddev.2024.106626
16. Obeagu E. I. (2025). Innovative hematological strategies to combat maternal and child mortality in Africa: focus on anemia and sickle cell disease. *Annals of medicine and surgery (2012)*, *88*(1), 470–477. https://doi.org/10.1097/MS9.0000000000004325

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