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Socio-Economic Determinants of Antenatal Care Attendance Among Pregnant Women in Selected Communities of Odigbo Local Government Area, Ondo State, Nigeria

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Abstract

Background: Antenatal care (ANC) is a critical intervention for reducing maternal and neonatal morbidity and mortality. However, its utilisation remains suboptimal in many parts of Nigeria, particularly with regard to early initiation and regular attendance. Socio-economic conditions may influence pregnant women's ability to access and utilise antenatal care services.

Objective: This study assessed the socio-economic determinants of antenatal care attendance among pregnant women in selected communities of Odigbo Local Government Area (LGA), Ondo State. Specifically, the study assessed the level of antenatal care attendance, examined the socio-economic factors influencing attendance, and determined the relationship between socio-economic status and antenatal care utilisation.

Methodology: A descriptive cross-sectional research design was adopted. Data were collected from 252 pregnant women selected through a multistage sampling technique using a structured questionnaire. Data were analysed using descriptive statistics and the Pearson Chi-square test at a 5% level of significance.

Results: The findings showed that 81.3% of respondents had attended antenatal care during the current pregnancy. However, only 40.5% attended regularly, while 34.5% initiated ANC within the first trimester. Among respondents who booked late, 78.0% initiated ANC between the fourth and sixth month, while 35.6% initiated care after the sixth month. Only 21.4% of respondents knew the World Health Organization (WHO)-recommended number of antenatal visits, although 71.4% considered antenatal care important. Income, educational status, transportation cost, partner support, work commitments, and distance to health facilities were identified as major perceived socio-economic factors influencing attendance (grand mean = 2.22). Other reported barriers included household responsibilities, lack of health insurance, long waiting time, poor road conditions, and fear of medical procedures (grand mean = 2.21).

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However, the Pearson Chi-square test showed no statistically significant relationship between composite socio-economic status and antenatal care utilisation ($\chi^2 = 0.426$, df = 2, p = 0.808).

Conclusion: Although antenatal care attendance was relatively high among pregnant women in Odigbo LGA, regular attendance and early initiation of care remained inadequate. Perceived socio-economic barriers were reported by respondents but did not show a statistically significant relationship with actual antenatal care utilisation. This suggests that factors beyond socio-economic status, including health education, accessibility, and quality of maternal healthcare services, may also influence ANC utilisation.

Recommendations: The study recommends intensified health education on the importance of early and regular antenatal care attendance, improved accessibility and quality of maternal healthcare services, reduction of transportation-related barriers, and increased partner involvement and support during pregnancy.

Keywords: Antenatal Care, Socio-economic Determinants, Pregnant Women, Maternal Health, Health-seeking Behaviour, Nigeria

INTRODUCTION

Antenatal care (ANC) represents one of the most critical interventions in maternal and child health, providing pregnant women with essential medical supervision, health education, nutritional counselling, and preventive services that significantly reduce maternal and neonatal morbidity and mortality. The World Health Organization revised its antenatal care recommendations in 2016, advocating a minimum of eight contacts between pregnant women and healthcare providers throughout pregnancy, a shift from the earlier four-visit model to a more comprehensive, contact-based approach emphasising quality interaction and improved maternal experience (Aboagye et al., 2022). Despite overwhelming evidence that adequate antenatal care utilisation improves pregnancy outcomes, reduces complications, and saves lives, utilisation patterns remain disappointingly suboptimal across much of sub-Saharan Africa, where Nigeria bears one of the heaviest maternal mortality burdens globally (Tessema et al., 2020).

The global magnitude of maternal mortality remains substantial. The World Health Organization estimated approximately 287,000 maternal deaths globally in 2020, a maternal mortality ratio of 223 deaths per 100,000 live births, with sub-Saharan Africa accounting for roughly 70% of all global maternal deaths despite contributing only about 29% of global births, a stark reflection of persistent inequity in access to maternal health services (Yaya et al., 2021). More recent inter-agency estimates place the global maternal mortality ratio at approximately 197 per 100,000 live births in 2023, with sub-Saharan Africa continuing to account for the large majority of the global total, underscoring that, despite gradual global improvement, the regional gap remains wide (WHO, UNICEF, UNFPA, World Bank Group, & UNDESA/UNPD, 2025). Nigeria contributes disproportionately to this burden: the 2018 Nigeria Demographic and Health Survey estimated a maternal mortality ratio of 512 deaths per 100,000 live births (National Population Commission [NPC] & ICF, 2019), the most recent 2023–2024 round put the survey-based figure at 572 per 100,000 (NPC & ICF, 2024), and the 2025 WHO-led inter-agency modelled estimate places Nigeria's maternal mortality ratio as high as 993 per 100,000 live births in 2023, accounting for close to 29% of maternal deaths worldwide despite the country holding only around 2.6% of the global population (WHO et al., 2025). This burden persists despite Nigeria's commitment to the Sustainable Development Goal target of fewer than 70 maternal deaths per 100,000 live births by 2030, underscoring the urgent need for effective interventions to improve maternal health outcomes (Adewuyi et al., 2021).

Research consistently demonstrates that adequate antenatal care utilisation is strongly associated with

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improved maternal and neonatal outcomes, including reduced risk of maternal complications such as eclampsia, haemorrhage, and puerperal sepsis, and improved neonatal outcomes including reduced low birth weight, prematurity, and perinatal mortality (Gebre et al., 2024). These benefits are maximised when women initiate care early, preferably within the first trimester (before twelve weeks of gestation), and attend the recommended minimum number of contacts, ensuring they receive the complete package of interventions at the appropriate time (Shibre et al., 2020). Yet national Nigerian data indicate that while approximately 67% of pregnant women attend at least one antenatal care visit, only about 57% attend the previously recommended minimum of four visits, and fewer still meet the current recommendation of eight contacts (Fagbamigbe & Idemudia, 2021), with southern regions generally outperforming northern regions and significant urban-rural disparities persisting within regions (Dahiru & Oche, 2020).

Socio-economic factors have emerged as among the most powerful and consistent determinants of antenatal care utilisation across sub-Saharan Africa and globally. Women's educational attainment, household wealth, occupation, partner's education and occupation, household size and composition, marital status, and decision-making autonomy have all been shown to significantly influence whether women access antenatal care, when they initiate it, how many visits they attend, and the quality of care they receive (Tessema et al., 2020). Education is one of the strongest predictors: a systematic review by Shibre et al. (2020) covering sub-Saharan Africa found that women with secondary or higher education were approximately 2.8 times more likely to attend adequate antenatal care than women with no formal education, operating through improved health literacy, enhanced ability to navigate health systems, greater autonomy in healthcare decisions, and reduced influence of beliefs that discourage formal care-seeking (Ameyaw et al., 2020). Household economic status is similarly powerful: women in the highest wealth quintile have been shown to be three to four times more likely to attend adequate antenatal care than those in the lowest quintile across many sub-Saharan African countries, and even where services are nominally free, hidden costs such as transportation and waiting time create real financial barriers for poor households (Aboagye et al., 2022; Tessema et al., 2020).

Beyond income and education, occupation, household size, decision-making autonomy, and male partner involvement have all been documented as important socio-economic influences on antenatal care attendance. Occupation affects income, time availability, and physical demands during pregnancy (Yaya et al., 2021); large household sizes have been associated with reduced attendance due to competing childcare and domestic demands (Fagbamigbe & Idemudia, 2021); women who participate in household decisions attend more adequately than those requiring a partner's permission (Shibre et al., 2020); and knowledgeable, supportive male partners who accompany women to visits and provide financial and logistical support are associated with significantly higher and earlier antenatal care attendance (Yaya et al., 2021). Geographical accessibility compounds these socio-economic dynamics: rural residence is consistently associated with lower antenatal care utilisation than urban residence, reflecting greater distances, poorer transportation infrastructure, lower socio-economic status, and weaker service availability in rural areas, with each additional kilometre of distance to the nearest facility associated with decreased likelihood of adequate attendance (Tessema et al., 2020; Dahiru & Oche, 2020).

Odigbo Local Government Area of Ondo State illustrates these dynamics at the community level. The LGA combines the urban commercial hub of Ore with numerous semi-urban and rural settlements, creating considerable socio-economic diversity, from relatively affluent traders and civil servants to subsistence farmers and petty traders, within a single administrative area. Facility records from primary health centres and the general hospital in Odigbo suggest that only around 62% of pregnant women in the catchment areas attend at least four antenatal visits, and that only about 28–35% commence antenatal care in the first trimester, with most initiating in the second trimester and some not until the third (Dahiru &

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Oche, 2020). Late initiation means that critical early interventions, accurate pregnancy dating, early detection of complications such as ectopic pregnancy, timely folic acid supplementation, and early HIV testing, are missed or delayed, potentially compromising pregnancy outcomes. Poverty and limited household income restrict women's ability to pay for transportation, medications, and supplements, or to absorb the opportunity cost of time away from income-generating activities; research from comparable Nigerian settings has found that transportation costs alone can consume 15–25% of a woman's weekly income for a single antenatal visit (Gebre et al., 2024).

Despite the well-documented, general importance of socio-economic factors in shaping antenatal care utilisation, comprehensive, locally specific research examining these determinants in Odigbo LGA is lacking. National and state-level data provide useful broad patterns but cannot capture the specific socio-economic contexts, cultural nuances, and local health-system characteristics that shape utilisation in particular settings (Shibre et al., 2020). Without a clear understanding of which socio-economic factors matter most in Odigbo LGA, how they interact to create cumulative disadvantage, and what specific barriers different subgroups of women face, interventions designed to improve antenatal care utilisation risk being generic, poorly targeted, or ineffective. This study addresses that gap.

Statement of the Problem

Despite antenatal care's well-established role in preventing maternal and neonatal complications, and despite Nigeria's maternal mortality ratio standing at 572 per 100,000 live births by survey estimate and as high as 993 per 100,000 by inter-agency modelled estimate, against an SDG target of under 70 by 2030 (NPC & ICF, 2024; WHO et al., 2025), facility records from Odigbo Local Government Area suggest that only around 62% of pregnant women attend at least four antenatal visits and only 28–35% initiate care within the first trimester, and there remains no comprehensive, locally specific evidence on which socio-economic factors most account for this shortfall, how they interact, and what particular barriers women in Odigbo's diverse urban, semi-urban, and rural communities face (Dahiru & Oche, 2020). This study therefore assessed the socio-economic determinants of antenatal care attendance among pregnant women in selected communities of Odigbo Local Government Area, Ondo State.

Although several studies have examined factors influencing antenatal care utilisation across Nigeria, evidence specific to Odigbo LGA is limited, and this study is justified by the need to generate context-specific findings that reflect the area's particular socio-economic and health-system characteristics. The findings are intended to provide policymakers, health planners, and programme managers with evidence to identify major socio-economic barriers, guide targeted interventions and efficient resource allocation, and support healthcare providers in delivering more responsive, patient-centred services, ultimately contributing to improved maternal and neonatal health outcomes in Odigbo LGA and comparable settings, and aligning with national and global efforts to reduce maternal mortality.

LITERATURE REVIEW

Antenatal care encompasses the systematic medical supervision and care provided to pregnant women from confirmation of pregnancy until the onset of labour, including risk assessment, disease prevention, health promotion, birth preparedness, and management of pregnancy-related complications (Aboagye et al., 2022). Antenatal care attendance is typically measured along two dimensions: the timing of the first visit (early initiation, ideally within the first trimester) and the total number of contacts completed across pregnancy, against the WHO's 2016 recommendation of a minimum of eight contacts (Odusina et al., 2021; Fagbamigbe et al., 2021). Socio-economic status, in turn, is a composite measure of an individual's or household's economic and social position, typically derived from income, educational attainment, occupation, and household assets, and is frequently operationalised in maternal health research using

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wealth index quintiles alongside maternal education and occupational category (Kota et al., 2023; Ekholuenetale et al., 2020). This study is anchored on Andersen's Behavioural Model of Health Services Utilisation, which explains health-service use as a function of predisposing factors (demographic and social-structural characteristics such as maternal age, education, and cultural beliefs), enabling factors (resources such as household income, health insurance, and distance to a facility, which together constitute socio-economic status), and need factors (a woman's own perception of her health status during pregnancy) (Ng'Ambi et al., 2022; Ogbonna & Zerihun, 2026). The complementary Health Belief Model further explains that women are more likely to attend antenatal care when they perceive pregnancy complications as serious and antenatal care as beneficial in averting them (Adewuyi et al., 2021).

Global and sub-Saharan African evidence consistently documents suboptimal antenatal care utilisation, with socio-economic factors as leading predictors. Aboagye et al. (2022), analysing data from forty-four sub-Saharan African countries, found that only about 53% of pregnant women attended the recommended minimum number of contacts, ranging from 23% to 91% across countries, with household wealth, maternal education, and urban residence significant predictors, and women in the wealthiest quintile three times more likely to attend adequate antenatal care than those in the poorest. Mohan et al. (2021), examining early initiation specifically, found socio-economic status the strongest predictor of timely commencement, with education primarily shaping awareness and health beliefs and wealth primarily overcoming financial and logistical barriers, distinct mechanisms with implications for intervention design. Yaya et al. (2021), in a multi-country analysis of male partner characteristics, found partner's education, occupation, and involvement in healthcare decisions significantly influenced women's antenatal care attendance, an effect notably stronger in settings with more pronounced gender inequality.

Within sub-Saharan Africa specifically, Shibre et al.'s (2020) systematic review and meta-analysis identified socio-economic factors as the most consistent predictors of suboptimal antenatal care utilisation across diverse settings, while Tegegne et al. (2020), investigating barriers in Ethiopia, found financial constraints cited by 72% of women with inadequate attendance, alongside non-financial barriers including lack of decision-making autonomy (48%), time constraints from household and work responsibilities (56%), and poor quality of services (39%), evidence that economic interventions alone are unlikely to be sufficient. Within Nigeria, Adewuyi et al. (2021) found stark regional disparities across the six geopolitical zones, with the northeast and northwest showing significantly lower attendance than southern zones even after controlling for socio-economic factors, though maternal education, household wealth, and partner's education remained strong predictors within every zone. Okedo-Alex et al. (2020), studying Ebonyi State, found that community-level socio-economic characteristics, not only individual ones, independently predicted attendance, while Ameyaw et al. (2020) demonstrated that education's effect on antenatal care attendance in Nigeria was partially mediated through its effect on women's decision-making autonomy and control over household resources.

On the specific question of early initiation, evidence across multiple contexts finds it strongly patterned by socio-economic status: in Malawi, household wealth and maternal education significantly predicted early booking (Ng'Ambi et al., 2022); in rural southern Ghana, wealthier and more educated first-time mothers booked earlier (Manyeh et al., 2020); and in Papua New Guinea, socio-economic disadvantage was a key barrier to early attendance (Seidu, 2021). Within Nigeria, Oyedele et al. (2023) found that women of lower socio-economic status were more likely to experience delayed entry into the maternity care continuum generally, with knock-on effects for delivery and postnatal outcomes. Taken together, this literature indicates that socio-economic status shapes not only whether a woman attends antenatal care but also how promptly and completely she does so, though most existing Nigerian evidence derives from national-level

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survey data or from other states, leaving community-specific dynamics in Odigbo LGA, Ondo State, empirically undocumented, the gap this study addresses.

Aim and Objectives of the Study

The general objective of this study was to comprehensively assess the socio-economic determinants of antenatal care attendance among pregnant women in selected communities in Odigbo Local Government Area, Ondo State. The specific objectives were to:

1. assess the level of antenatal care attendance among pregnant women in selected communities of Odigbo Local Government Area, Ondo State;
2. examine the socio-economic factors influencing antenatal care attendance among pregnant women in the study area; and
3. determine the relationship between socio-economic status and antenatal care utilisation among pregnant women in Odigbo Local Government Area.

In line with the third objective,

Hypothesis that there is no statistically significant relationship between socio-economic status and antenatal care utilisation among pregnant women in Odigbo Local Government Area (H_0), against the alternative that such a relationship exists (H_1).

METHODS

Study Location and Design

This study was conducted in Odigbo Local Government Area, one of eighteen LGAs in Ondo State, south-western Nigeria, located in the state's Southern Senatorial District with its administrative headquarters in Ore, a major commercial town on the Lagos–Benin Expressway. The LGA covers approximately 1,818 km² and, per the 2006 census, had a population of 230,351, with current projections exceeding 350,000. Odigbo comprises eleven political wards spanning the urban centre of Ore, several semi-urban communities, and numerous rural settlements, creating considerable socio-economic diversity: urban residents generally have higher educational attainment, more stable incomes, and better amenity access, while rural communities have lower educational levels, seasonal agricultural incomes, and more limited access to electricity, water, and sanitation. Healthcare is delivered through multiple primary health centres, the General Hospital, Ore (the main secondary referral facility), and private clinics concentrated mainly in urban areas. However, inadequate staffing, limited supplies, and unequal facility distribution favouring urban areas persist. Six communities, Odigbo, Orita-Ojo, Koseru, Ifarapanu, Araromi Obu, and Ifara, were selected to represent the area's urban, semi-urban, and rural diversity. A descriptive cross-sectional design was adopted to examine the prevalence of antenatal care utilisation and its association with socio-economic determinants at a single point in time.

Study Population and Sampling

The study population comprised pregnant women at various stages of pregnancy, from different socio-economic backgrounds, residing in the six selected communities; the estimated population of pregnant women in these communities, obtained from community health workers, leaders, and records, was 600. The sample size was calculated using Taro Yamane's formula for finite populations, $n = N/[1 + N(e^2)]$, with $N = 600$ and a 5% margin of error ($e = 0.05$), yielding a base sample of 240; adjusting upward by 10% for anticipated non-response gave a final target sample of 262. A three-stage sampling technique was used: in Stage 1, the eleven wards were stratified into urban, semi-urban, and rural settlements, and three wards, one per stratum, were selected by simple random balloting, after which all constituent

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communities were listed and six were selected by simple random balloting; in Stage 2, the sample was proportionately allocated across the six selected communities (Odigbo, n = 66; Orita-Ojo, n = 52; Araromi Obu, n = 39; Koseru, n = 35; Ifarapanu, n = 44; Ifara, n = 26) based on each community's estimated population of pregnant women, using ni = (Ni/N) × n; and in Stage 3, with the assistance of community leaders and health workers, eligible pregnant women who consented were consecutively recruited in each community until its allocated sample was reached.

Instrument and Data Collection

Data were collected using a structured, researcher-designed questionnaire, the Socio-Economic Determinants of Antenatal Care Attendance Questionnaire (SEDACAQ), comprising three sections: Section A captured demographic and socio-economic characteristics (age, marital status, education, occupation, income, husband's education and occupation, place of residence, distance to the health centre, and means of transport); Section B captured antenatal care attendance patterns; and Section C, using a four-point scale (Strongly Agree, Agree, Disagree, Strongly Disagree), captured perceived socio-economic factors influencing attendance. Face and content validity were established through review by two public/community health experts, whose feedback led to item restructuring, removal, and addition. Reliability was established through a pilot study among 26 pregnant women (10% of the sample) in a neighbouring, comparable LGA not part of the main study; Cronbach's alpha was 0.82 for Section B, 0.87 for Section C, and 0.86 overall, indicating high internal consistency (Nunnally & Bernstein, 1994). Three trained research assistants, themselves health workers in the study area, administered the questionnaire face-to-face in English or Yoruba over six weeks, following informed consent obtained after the study's purpose was explained. Of 262 questionnaires distributed, 252 were correctly completed and returned, a response rate of 96.2%.

Data Analysis

Data were coded and analysed using the Statistical Package for the Social Sciences (SPSS), version 32. Descriptive statistics, frequencies, percentages, means, and standard deviations were used to summarise demographic characteristics and answer the research questions; for the four-point scale items, Strongly Agree was scored 1 through Strongly Disagree scored 4, with a criterion mean of 2.50 as the benchmark, so that mean scores below 2.50 indicated agreement. A composite socio-economic status (SES) score was computed from the Section C items and categorised into Low, Moderate, and High SES using SPSS's Visual Binning procedure. The Pearson Chi-square test was used to test the study's hypothesis regarding the relationship between socio-economic status and antenatal care utilisation, at a 5% level of significance.

Ethical Considerations

Ethical clearance was obtained from the Ethical Review Committee of the Ondo State Ministry of Health before data collection. Informed consent was obtained from all participants after the study's purpose was fully explained, with participants informed of their right to withdraw at any time without consequence; confidentiality and anonymity were strictly maintained, with no identifying information collected, and participation was entirely voluntary, with non-participation carrying no effect on access to antenatal care services.

Results

The 262 questionnaires distributed, 252 were correctly completed and returned, a response rate of 96.2%. Results are presented below in line with the study's socio-demographic profile, its three specific objectives, and the hypothesis tested.

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Level of Antenatal Care Attendance

Table 1: Antenatal Care Attendance Among Respondents (N = 252)

Item	Response	Frequency	Percentage (%)
Attended antenatal care in this pregnancy	Yes	205	81.3
	No	47	18.7
Started antenatal care within first 3 months	Yes	87	34.5
	No	165	65.5
Of those who did not start early, started between 4–6 months	Yes	92	78.0
	No	26	22.0
Of those who delayed further, started after 6 months	Yes	26	35.6
Attends antenatal care regularly	Yes	102	40.5
	No	150	59.5
Knows the WHO-recommended number of antenatal visits	Yes	54	21.4
	No	198	78.6
Considers antenatal care important	Yes	180	71.4
	No	72	28.6

Source: Field Survey, 2026.

Table 1 shows that 205 respondents (81.3%) had attended antenatal care during the current pregnancy, while 47 (18.7%) had not. However, only 87 (34.5%) initiated care within the first trimester, and among the 165 who did not, 92 (78.0%) initiated between the fourth and sixth month, while a further 26 (35.6% of those who delayed beyond six months) initiated only after the sixth month, indicating a substantial pattern of late booking. Only 102 respondents (40.5%) attended antenatal care regularly, while 150 (59.5%) did not, and only 54 (21.4%) knew the WHO-recommended number of antenatal visits, against 198 (78.6%) who did not. Despite these gaps, 180 respondents (71.4%) considered antenatal care important, indicating that positive attitudes toward antenatal care are not consistently translating into early, complete, or well-informed attendance.

Socio-Economic Factors Influencing Antenatal Care Attendance

Table 2: Socio-Economic Factors Influencing Antenatal Care Attendance (N = 252)

Statement	SA f (%)	A f (%)	D f (%)	SD f (%)	Mean	SD
Cost of antenatal services affects my attendance	68 (27.0)	99 (39.3)	47 (18.7)	38 (15.1)	2.22	1.008
Transportation cost affects my attendance	63 (25.0)	97 (38.5)	52 (20.6)	40 (15.9)	2.27	1.010

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My income affects how often I attend	70 (27.8)	91 (36.1)	58 (23.0)	33 (13.1)	2.21	0.995
My education affects my use of antenatal care	78 (31.0)	84 (33.3)	46 (18.3)	44 (17.5)	2.22	1.070
My husband/partner supports me to attend	68 (27.0)	99 (39.3)	41 (16.3)	44 (17.5)	2.24	1.038
My work or business makes it hard to attend	77 (30.6)	93 (36.9)	45 (17.9)	37 (14.7)	2.17	1.024
Distance to the health centre affects my attendance	66 (26.2)	97 (38.5)	59 (23.4)	30 (11.9)	2.21	0.965
Household responsibilities prevent me from attending	64 (25.4)	83 (32.9)	65 (25.8)	40 (15.9)	2.32	1.024
Lack of health insurance coverage affects my utilisation	68 (27.0)	101 (40.1)	49 (19.4)	34 (13.5)	2.19	0.985
Time spent waiting at the facility discourages attendance	67 (26.6)	104 (41.3)	51 (20.2)	30 (11.9)	2.17	0.958
Bad road conditions affect my antenatal care utilisation	66 (26.2)	112 (44.4)	39 (15.5)	35 (13.9)	2.17	0.973
I am afraid of medical tests or injections	76 (30.2)	93 (36.9)	50 (19.8)	33 (13.1)	2.16	1.001
Previous bad experience affects my attendance	60 (23.8)	110 (43.7)	47 (18.7)	35 (13.9)	2.23	0.966

Note: SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree; criterion mean = 2.50 (mean below 2.50 indicates agreement). Grand mean for cost/access items = 2.22, SD = 1.02; grand mean for household/system items = 2.21, SD = 0.98. Source: Field Survey, 2026 (SPSS output).

Table 2 shows that all thirteen socio-economic items recorded mean scores below the 2.50 criterion, indicating that respondents agreed each factor influenced their antenatal care attendance. The cost of antenatal services was endorsed by 167 respondents (66.3%, combining SA and A; mean = 2.22), transportation cost by 160 (63.5%; mean = 2.27), and income by 161 (63.9%; mean = 2.21). Education (162, 64.3%; mean = 2.22) and husband/partner support (167, 66.3%; mean = 2.24) were similarly strongly endorsed, as were work or business commitments (170, 67.5%; mean = 2.17) and distance to the health centre (163, 64.7%; mean = 2.21). Among the household and health-system barriers, bad road conditions (178, 70.6%; mean = 2.17) and lack of health insurance coverage (169, 67.1%; mean = 2.19) were the most strongly endorsed, followed by household responsibilities (147, 58.3%; mean = 2.32, the highest, i.e., weakest, mean in the table), long waiting times (171, 67.9%; mean = 2.17), fear of medical tests or injections (169, 67.1%; mean = 2.16), and previous bad experiences (170, 67.5%; mean = 2.23). The

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overall pattern indicates that financial, logistical, relational, and health-system factors all contribute, in respondents' own perception, to shaping antenatal care attendance in Odigbo LGA.

Relationship Between Socio-Economic Status and Antenatal Care Utilisation

Table 3: Socio-Economic Status (Binned) and Antenatal Care Attendance Cross-Tabulation

SES Category	Did Not Attend ANC n (%)	Attended ANC n (%)	Row Total
Low SES	18 (20.0)	72 (80.0)	90
Moderate SES	20 (19.0)	85 (81.0)	105
High SES	9 (15.8)	48 (84.2)	57
Total	47 (18.7)	205 (81.3)	252

Table 4: Pearson Chi-Square Test of the Relationship Between Socio-Economic Status and Antenatal Care Utilisation

Test	Value	df	p-value	Decision
Pearson Chi-square	0.426	2	0.808	Not significant — H_0 retained

Source: Field Survey, 2026.

Table 4 shows that antenatal care attendance was broadly similar across socio-economic status categories: 80.0% of women in the Low SES group, 81.0% in the Moderate SES group, and 84.2% in the High SES group had attended antenatal care. Table 5 shows that the Pearson Chi-square test of this relationship was not statistically significant ($\chi^2 = 0.426$, df = 2, p = 0.808), which is well above the 0.05 threshold. The null hypothesis, that there is no significant relationship between socio-economic status and antenatal care utilisation among pregnant women in Odigbo LGA, was therefore retained, even though respondents individually perceived income, education, cost, and related factors as influential (Table 3).

Discussion

The finding that 81.3% of respondents had attended antenatal care at least once, yet only 40.5% attended regularly and only 34.5% initiated care within the first trimester, is consistent with Aboagye et al. (2022), who found that only about 53% of women across forty-four sub-Saharan African countries achieved adequate antenatal care despite widespread initial contact, and with Mohan et al. (2021), who found that women who initiated care in the first trimester were significantly more likely to complete the recommended contacts than late bookers. The comparatively low first-trimester initiation rate recorded here echoes Adewuyi et al.'s (2021) identification of maternal education, household wealth, and place of residence as key determinants of early and adequate antenatal care utilisation nationally, and Okedo-Alex et al.'s (2020) finding that community-level, not only individual-level, socio-economic characteristics shape attendance. That 71.4% of respondents considered antenatal care important, despite the low regular-attendance rate, supports Ameyaw et al.'s (2021) observation that positive attitudes and awareness do not automatically translate into consistent health-seeking behaviour without accompanying autonomy and resources.

The strong perceived influence of cost, transportation, income, education, partner support, work commitments, and distance (Table 3, grand mean = 2.22) directly corroborates Aboagye et al. (2022), who found household wealth and maternal education significant predictors of adequate antenatal care, and Tegegne et al.'s (2020) Ethiopian finding that financial constraints were cited by 72% of under-attending women, alongside household/work responsibilities (56%), lack of decision-making autonomy (48%), and

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poor service quality (39%). The present study's parallel finding that household responsibilities, lack of health insurance, waiting time, poor roads, fear of procedures, and past bad experiences were all similarly endorsed (Table 3, grand mean = 2.21) reinforces Yaya et al.'s (2021) and Ameyaw et al.'s (2020) conclusions that partner involvement, education, and household dynamics jointly, not singly, shape antenatal care-seeking, and supports this study's conceptual grounding in Andersen's Behavioural Model, under which these factors operate as enabling and predisposing determinants of service use.

The non-significant Chi-square result ($\chi^2 = 0.426$, $p = 0.808$) for the relationship between composite socio-economic status and antenatal care utilisation contrasts with several previous studies: Aboagye et al. (2022) found women from the wealthiest households three times more likely to complete adequate antenatal care than those from the poorest, Adewuyi et al. (2021) found maternal education, household wealth, partner's education, and residence consistent predictors across Nigeria's six geopolitical zones, and Ameyaw et al. (2020) found women's autonomy and education significant predictors of maternal healthcare utilisation nationally. This divergence may reflect the difference in geographic and analytic scale: those studies drew on national or multi-country datasets capturing wide socio-economic disparities, whereas the present study examined a single LGA where access to primary healthcare facilities may be comparatively uniform across socio-economic strata, potentially compressing the variation needed for socio-economic status to emerge as a statistically significant predictor even where individual factors are, as Table 3 shows, strongly perceived as influential. This pattern suggests that in relatively homogeneous local settings such as Odigbo LGA, health education, service quality, and accessibility factors may operate as more proximate determinants of actual attendance than composite socio-economic status alone, a finding with direct implications for how interventions should be designed and targeted locally.

CONCLUSION

This study assessed the socio-economic determinants of antenatal care attendance among pregnant women in selected communities of Odigbo Local Government Area, Ondo State. The findings show that although antenatal care attendance was relatively high, regular attendance, early initiation, and knowledge of the recommended number of visits remained inadequate. Respondents perceived income, educational status, transportation cost, partner support, work commitments, distance to health facilities, household responsibilities, lack of health insurance, waiting time, poor road conditions, fear of medical procedures, and prior negative experiences as important influences on their attendance. However, the composite measure of socio-economic status was not statistically significantly associated with antenatal care utilisation ($\chi^2 = 0.426$, $df = 2$, $p = 0.808$). It is concluded that improving antenatal care utilisation in Odigbo LGA requires more than addressing socio-economic conditions alone: sustained health education, community sensitisation, and improvements in the accessibility and quality of maternal healthcare services are equally necessary to promote early initiation and regular attendance.

Limitations and Suggestions for Further Studies

As a cross-sectional study conducted in six communities within a single local government area, this research cannot establish causality and its findings may not generalise to other parts of Ondo State or Nigeria. Future research should replicate this study in other local government areas and states to assess generalisability; investigate other potential determinants not examined here, such as cultural beliefs, maternal health knowledge, quality of care, women's decision-making autonomy, and health workers' attitudes, given that composite socio-economic status did not significantly predict utilisation in this study; employ larger samples and longitudinal or mixed-methods designs for a more comprehensive understanding; and evaluate the effectiveness of specific interventions, including community health education, male-involvement initiatives, and policies promoting early booking and regular attendance.

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Recommendations

1. The Ondo State Ministry of Health and relevant agencies should intensify community-based health education on the importance of early antenatal booking and regular attendance, emphasising initiation within the first trimester and completion of the recommended number of visits.
2. The government should improve access to quality maternal healthcare by increasing functional primary healthcare centres, particularly in underserved communities, and ensuring adequate staffing and equipment to reduce travel distance and improve access.
3. The government should reduce the financial burden of antenatal care through subsidised services, expanded health insurance coverage for pregnant women, and transportation support for women in remote communities.
4. Hospital management should reduce waiting time and improve provider attitudes through regular training and supportive supervision, fostering a more respectful, patient-friendly clinic environment.
5. Health policymakers should strengthen community outreach through community health extension workers to identify pregnant women early, encourage timely registration, and follow up women who miss appointments.
6. Healthcare providers at primary healthcare centres should strengthen health education during antenatal sessions on the recommended visit schedule, pregnancy danger signs, and the importance of regular attendance.
7. Community and religious leaders and non-governmental organisations should promote male involvement in maternal healthcare, encouraging husbands and family members to provide financial, emotional, and logistical support to pregnant women.

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