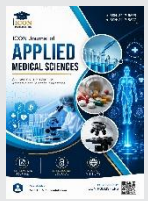

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Prevalence and Barriers to Antenatal Care Use Among Pregnant Teenagers in Umuahia North LGA

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Abstract

The aim of this study was to investigate the prevalence and perceived barriers to access to prenatal care among pregnant teenagers in Umuahia North LGA, Abia State. The study sought to establish the level of ANC utilisation and establish personal, family and health system constraints influencing service uptake among pregnant adolescents. The design was descriptive survey. Simple random sampling was used to choose 320 pregnant teenagers from a population of 1600 using Cochran's formula. Data were obtained using self-structured questionnaire and analysed by Statistical Package for the Social Sciences version 22.0. Descriptive statistics were employed to answer the study questions and inferential statistics were employed to test the hypotheses. The results revealed that the use of ANC among the respondents was poor (58.8%) with just 23.9% having started care in the first trimester . The majority of responders were 16–19 years old (73.4%), while 26.6% were 13–15 years old. The main impediments to ANC use were financial restrictions (especially high cost of services 68.8%) and fear of being judged by healthcare staff (75.0%). Other factors were insufficient knowledge of the benefits of ANC and lack of family support. Identified factors had significant connection with utilisation of prenatal care ($p = 0.03$). The poor use of antenatal care among pregnant adolescents continues due to a complex mix of financial, socio-cultural and health system constraints. It suggests enhanced health education in schools, communities and health facilities along with adolescent-friendly maternal health services to boost early and frequent antenatal care attendance among pregnant teenagers.

Keywords: *antenatal care utilization, adolescent pregnancy, teenage mothers, maternal health services, healthcare access barriers, socio-cultural factors, Nigeria.*

INTRODUCTION

Antenatal care (ANC) is one of the important components of maternal health, which provides preventive, promotive and curative services to maintain the health of mother and foetus during pregnancy. Pregnancy among adolescents is still serious public health concerns in Nigeria, especially with poor utilisation of ANC. Biologically and socially teenage mothers are more vulnerable to pregnancy-related complications, thus increasing their need for skilled maternal healthcare. Despite national policies on improving maternal health, many pregnant adolescents do not attend the recommended number of ANC visits[1] Adolescent pregnancy in Nigeria is strongly linked to socio-economic disadvantage and limited health care access. Many pregnant teenagers are from low income families where costs of healthcare are competing with basic household needs and indirect costs such as transport further deter regular ANC attendance [1] Poverty is also combined

with low educational attainments, leading to lack of awareness of early antenatal booking. Pregnancy can further marginalise girls who leave school and have less access to sources of reliable health information.

Community attitudes and socio-cultural beliefs greatly influence adolescents ' willingness to seek ANC . Early pregnancy outside of marriage is often stigmatised, shamed and socially sanctioned [3]. and fear of judgement from health care workers and community members that discourages clinic visits. Some teenagers conceal their pregnancies for months to avoid criticism, resulting in late ANC initiation.

Health system factors also influence the underutilisation of antenatal services among pregnant teenagers. Many primary healthcare centers do not provide youth-friendly services in a consistent manner, and provider unfriendly attitude and lack of privacy discourage care-seeking [4]. ANC facilities are less attractive because of long waiting times and over-crowded clinics.

The geographical location and infrastructure also determine the utilisation of maternal health services among teenage mothers. Rural and semi-urban communities have poor road networks and limited transport and long travel distances increase cost and physical stress for pregnant adolescents [5]

Education and health literacy are important determinants of ANC utilisation. Adolescents with limited schooling may not have sufficient knowledge about the risks of pregnancy and benefits of routine ANC visits [6]. Without good information, they may downplay the importance of booking early and checking often.

Teenage pregnancy refers to pregnancy among girls aged 13-19 years and constitutes a serious health, social and economic problem in Nigeria. Many adolescent mothers are still growing, which puts them at higher risk of complications such as pre-eclampsia and low birth weight [7]. The implications are vast, affecting not just health but also social engagement and educational success, with many girls facing isolation and stigmatisation from both peers and families.

Pregnant women are routinely provided with ANC health services to monitor pregnancy, prevent complications, and promote healthy outcomes for mother and child. It involves examination, health education, nutritional support and screening for conditions such as hypertension and infections. The use of ANC is inconsistent, especially among adolescents [8], even though ANC is essential in reducing maternal and neonatal mortality.

Research has shown that disparities in the use of maternal health services still exist between younger and older women [9].Financial barriers significantly reduce consistent maternal health care use among adolescents in Nigeria [10] whereas negative societal reactions to teenage pregnancy further limit service utilisation among young mothers (Ezeanolue et al., 2022).

Research has shown that unfriendly attitudes from providers and lack of privacy discourage adolescents from seeking maternal health services [11]. Distance to health care facilities remains an important determinant of access. Maternal health literacy is also a strong predictor of timely initiation of ANC [12]

Empirical studies have shown that there are very few pregnant adolescents who initiate ANC in the first trimester and such late initiation is associated with financial constraints and poor knowledge of the benefits of ANC. Other findings have identified stigma, lack of family support and fear of judgement from health providers as the major factors influencing ANC utilisation [13]

Other evidences show that economic constraints, provider attitudes, distance to facilities, and socio-cultural barriers reduce ANC utilisation [14]. Adolescents with higher knowledge of the benefits of ANC are more likely to attend regularly. Qualitative findings show that fear of stigma, lack of privacy at health facilities, and limited autonomy discourage repeat ANC attendance[15]. Cultural beliefs, community norms and traditional practices also influence adolescents' perceptions and use of ANC services.

Nigeria has policies for improving maternal health services but problems of implementation at the grassroots level persist [16]. Adolescents are still experiencing service delivery gaps, even though there are policy frameworks in place to support universal health coverage. This is due to poor coordination between national initiatives and local health care systems, which affects the efficient delivery of services.

Context specific barriers to ANC access need to be identified through localised research. Maternal health programs that do not consider the specific needs of adolescents may not serve them well . • Community engagement and culturally responsive strategies are limited.

Without a clear understanding of how economic constraints, socio-cultural stigma, health system barriers and geographic limitations interact within communities, interventions may not address the real challenges pregnant teenagers face. Addressing these challenges is important to ensure timely and adequate ANC for pregnant adolescents. Identifying local barriers can help health providers improve service delivery and develop adolescent-friendly programs that address the needs of teenagers.

Evidence-based findings could advise policymakers to implement targeted interventions such as ANC subsidies, awareness campaigns and community-based support programs. These insights are also useful for community leaders and organisations to reduce stigma and increase social support for young mothers.

Ultimately, filling these gaps will reduce pregnancy-related complications, improve maternal and child health outcomes, and improve access to quality care for vulnerable groups.

Materials and methods

Study Setting and Design

The study adopted a descriptive survey design to investigate factors preventing pregnant teenagers from accessing ANC in Umuahia North Local Government Area (LGA), Abia State. This design enabled the collection of first-hand data from respondents and providing a snapshot of conditions in the study area. It was suitable because it captured diverse personal, social, economic, and health system factors while allowing quantitative analysis of responses. The descriptive approach also generated practical, generalizable insights to inform interventions aimed at improving ANC access among adolescent mothers.

Study Population

The target population comprised pregnant teenagers aged 13–19 years in Umuahia North LGA, including both in-school and out-of-school adolescents attending or expected to attend ANC services. Data from the Umuahia North LGA Health Department indicated that approximately 1,250 teenage pregnancies were registered in public and private health facilities as of 2025, with an additional 350 unregistered managed in private clinics, giving an accessible pregnant teenage population of 1,600. The study population was selected from three public health facilities and two private clinics in, including Blessed Mothers Clinic and Hope Maternity Centre in Umuahia, chosen for their high adolescent client load and representation of the local demographic.

Sample Size and Sampling Technique

The sample size was determined using Cochran's (1977) formula, commonly used in social science research to estimate representative samples from large populations. The formula is a reliable method for determining an appropriate sample size when the population is known and a specified level of precision is required. The formula is expressed as:

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where:

- n_0 = initial sample size
- Z = standard normal deviation corresponding to the desired confidence level (1.96 for 95% confidence level)
- p = estimated proportion of the population possessing the attribute (0.5 was adopted to ensure maximum variability)
- q = 1 − p (0.5)

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$

Where:

- n_0 = 384
- N = 1,600

$$n = \frac{384}{1 + \frac{383}{1600}}$$

$$n = \frac{384}{1 + 0.2394}$$

$$n = \frac{384}{1.2394}$$

$$n \approx 309.8$$

Using this method, an initial sample size of approximately 310 respondents was obtained after applying the finite population correction. However, the sample size was increased to 320 respondents to enhance representativeness and

account for possible non-response, incomplete questionnaires, or data entry errors. Increasing the sample size slightly above the minimum required ensures reliability and validity of the study findings.

This slight increase also facilitated proportional allocation across selected health facilities, ensuring adequate representation from each facility. Consequently, a final sample size of 320 pregnant teenagers was considered sufficient for reliable data analysis.

Sample Size Distribution

The calculated sample size of 320 respondents was proportionally distributed across the selected health facilities based on their patient attendance records. The proportional allocation formula used is:

$$n_i = \frac{N_i}{N} \times n$$

Where:

- n_i = sample size allocated to each facility
- N_i = population of pregnant teenagers in each facility
- N = total population (1,600)
- n = total sample size (320)

Based on facility records in Umuahia North LGA, the distribution was carried out as shown in Table 1.

Table 1. Distribution of pregnant teenagers in selected facilities

Health Facility	Population of Pregnant Teenagers (N_i)	Allocated Sample (n_i)
FMC Umuahia	800	160
PHC Afaraukwu	250	50
PHC Ndume	200	40
Blessed Mothers Clinic	180	36
Hope Maternity Centre	170	34
Total	**1,600**	**320**

This proportional distribution ensured that each facility contributed to the sample according to its population size. Consequently, 160 respondents were selected from FMC Umuahia, while the remaining 160 respondents were drawn from the other Primary Health Centres in the LGA.

Instrument for Data Collection

Data were collected using a structured questionnaire comprising both closed- and open-ended questions. The questionnaire was divided into four sections: Section A covered demographic information (age, educational status, and marital status); Section B assessed the prevalence of ANC utilization among pregnant teenagers in Umuahia North LGA; Section C examined personal factors preventing pregnant teenagers from accessing ANC services; Section D assessed family-related factors preventing pregnant teenagers from accessing ANC services; and Section E examined health-system related factors preventing pregnant teenagers from accessing ANC services.

The instrument was pre-tested on 30 pregnant teenagers from a non-selected clinic in Umuahia South LGA to ensure clarity, validity, and reliability. The Cronbach's alpha coefficient was 0.82, indicating good internal consistency.

Data Collection

The researcher administered the questionnaires with the assistance of three trained research assistants, one assigned to each clinic. Respondents were recruited during clinic hours, and verbal consent was obtained before participation. Data collection spanned 4 weeks, allowing adequate coverage of all selected participants. Confidentiality was maintained, and participation was voluntary.

Statistical Analysis

Data collected were coded and entered into SPSS version 25 for analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the characteristics and responses of respondents. Inferential statistics, particularly chi-square tests, were used to examine associations between independent variables (personal, social, economic, and health system factors) and the dependent variable (ANC utilization). Findings were presented in tables, charts, and narrative form for clarity.

RESULTS

Socioeconomic and Demographic Characteristics of Respondents

The age distribution shows that respondents were mainly older teenagers. The largest group was aged 16–17 years (120; 37.5%), followed by 18–19 years (115; 35.9%), while 85 (26.6%) were aged 13–15 years (Table 2). This indicates that pregnancy occurred across all teenage stages but was more prevalent among those aged 16–19 years.

In terms of education, most respondents had attained secondary education (160; 50.0%). Others had primary education (75; 23.4%) and tertiary education (45; 14.1%), while 40 (12.5%) had no formal education.

Regarding marital status, 215 (67.2%) were single and 105 (32.8%) were married, indicating that most pregnancies occurred outside marriage. For occupation, 180 (56.3%) were students, 90 (28.1%) were traders or apprentices, and 50 (15.6%) were unemployed, showing that most respondents were either students or engaged in informal work.

Table 1. Socioeconomic and demographic characteristics of respondents

S/N	Demographic Variable	Frequency	Percentage (%)
1	Age (years)		
	13–15	85	26.6
	16–17	120	37.5
	18–19	115	35.9
2	Educational Status		
	No formal education	40	12.5
	Primary education	75	23.4
	Secondary education	160	50.0
	Tertiary education	45	14.1
3	Marital Status		
	Single	215	67.2
	Married	105	32.8
4	Occupation		
	Student	180	56.3
	Trader/apprentice	90	28.1
	Unemployed	50	15.6

Prevalence of antenatal care utilization

Table 2 shows high ANC utilization among respondents. Overall, 280 (87.5%) had attended ANC during pregnancy, and 275 (85.9%) attended during the current pregnancy. However, only 150 (46.9%) initiated ANC within the first trimester. Most respondents recognized the importance of ANC (310; 96.9%), with 300 (93.8%) advised to attend regularly and 290 (90.6%) intending to continue until delivery. In addition, 260 (81.3%) had attended more than once, although 80 (25.0%) reported missing visits. Regarding facility type, 200 (62.5%) used government facilities and 100 (31.3%) attended private facilities.

Table 2. Prevalence of ANC utilization

S/N	Items	Yes	No	Not Sure
1	Have you ever attended antenatal care during any of your pregnancies?	280 (87.5%)	30 (9.4%)	10 (3.1%)
2	Did you attend antenatal care for this current pregnancy?	275 (85.9%)	35 (10.9%)	10 (3.1%)
3	Did you start attending antenatal care within the first trimester of this pregnancy?	150 (46.9%)	140 (43.8%)	30 (9.4%)
4	Have you attended antenatal care more than once during this pregnancy?	260 (81.3%)	40 (12.5%)	20 (6.3%)
5	Did you attend antenatal care at a government facility (e.g., hospital, health center)?	200 (62.5%)	90 (28.1%)	30 (9.4%)
6	Did you attend antenatal care at a private health facility during this pregnancy?	100 (31.3%)	210 (65.6%)	10 (3.1%)
7	Have you ever missed any antenatal care visit for this pregnancy?	80 (25.0%)	230 (71.9%)	10 (3.1%)
8	Do you think attending antenatal care is important for the health of your baby?	310 (96.9%)	5 (1.6%)	5 (1.6%)
9	Have you been advised to attend antenatal care regularly during this pregnancy?	300 (93.8%)	15 (4.7%)	5 (1.6%)
10	Do you intend to continue attending antenatal care until you give birth?	290 (90.6%)	10 (3.1%)	20 (6.3%)

Overall, Figure 1 shows predominantly positive ANC behavior, with 70.2% “Yes” responses, 25.2% “No,” and 4.7% “Not Sure.”

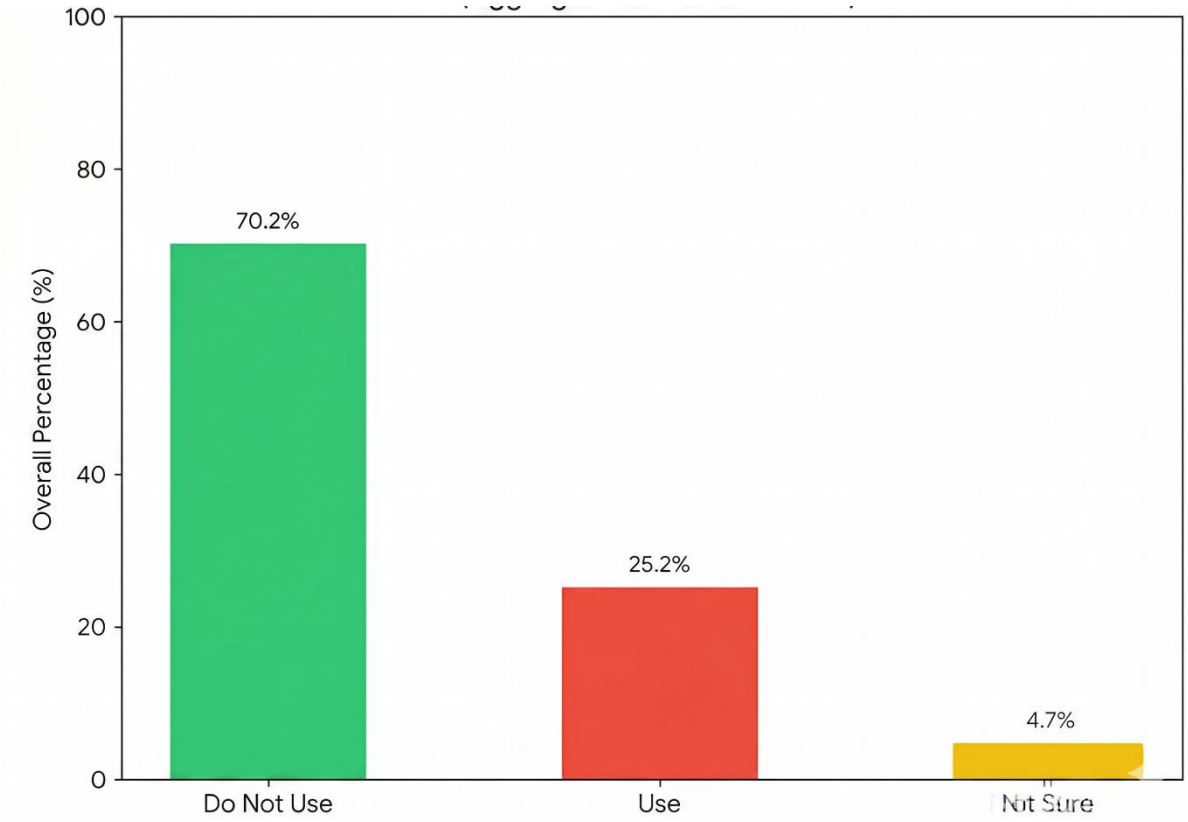

Figure 1. Prevalence of antenatal care utilization among pregnant teenagers

Personal-related factors preventing ANC utilization

Table 3 shows that 210 (65.6%) respondents felt ashamed or embarrassed to attend clinic visits while pregnant, while 180 (56.3%) feared judgment from healthcare workers. Regarding perception, 150 (46.9%) believed ANC was unnecessary if they felt healthy, and 220 (68.8%) believed traditional methods or self-care were sufficient. Awareness was low, as 240 (75.0%) did not know the nearest clinic location. Additional barriers included fear of partner reaction (160; 50.0%) and concealment of pregnancy (130; 40.6%), while fewer respondents reported financial constraints (60; 18.8%) or difficulty leaving school/work (110; 34.4%). Overall, emotional, cultural, and knowledge-related factors were more prominent than economic barriers.

Table 3. Personal-related factors preventing pregnant teenagers from accessing antenatal care services

S/N	Items	Yes	No	Not Sure
1	I feel too ashamed or embarrassed to visit a clinic while pregnant.	210 (65.6%)	100 (31.3%)	10 (3.1%)
2	I do not believe ANC is necessary if I am feeling healthy.	150 (46.9%)	160 (50.0%)	10 (3.1%)
3	I am afraid that my parents or family will find out about my pregnancy if I go to the clinic.	90 (28.1%)	210 (65.6%)	20 (6.3%)
4	I do not have enough money to pay for transport to the clinic.	60 (18.8%)	250 (78.1%)	10 (3.1%)
5	I do not know where the nearest clinic that offers antenatal services is located.	240 (75.0%)	60 (18.8%)	20 (6.3%)
6	I am afraid that healthcare workers will judge or scold me because I am a teenager.	180 (56.3%)	120 (37.5%)	20 (6.3%)
7	I find it difficult to leave my school or work activities to attend ANC appointments.	110 (34.4%)	190 (59.4%)	20 (6.3%)
8	I worry that my partner will get angry or leave me if I decide to register for ANC.	160 (50.0%)	150 (46.9%)	10 (3.1%)
9	I feel that the pregnancy is a secret that should be hidden from others for as long as possible.	130 (40.6%)	160 (50.0%)	30 (9.4%)
10	I believe that traditional methods or self-care are enough for my pregnancy.	220 (68.8%)	80 (25.0%)	20 (6.3%)

Family-related factors preventing ANC utilization

Table 4 shows strong family-level barriers. A large majority reported that their parents would be angry if the pregnancy was discovered (288; 90.0%), and that families preferred hiding pregnancy (272; 85.0%) or using traditional birth attendants (304; 95.0%). Most respondents (256; 80.0%) reported that their parents were unaware of the pregnancy, and the same proportion (80.0%) indicated that pregnancy is considered a source of shame. Dependency on parents was high, with 240 (75.0%) requiring permission to access care and 288 (90.0%) lacking someone to accompany them. Additionally, 224 (70.0%) feared school withdrawal, and 208 (65.0%) reported that parents do not value ANC services. Although 192 (60.0%) cited financial constraints, social and cultural barriers were more prominent.

Table 4. Family-related factors preventing pregnant teenagers from accessing antenatal care services

S/N	Items	Yes	No	Not Sure
1	My parents or guardians would be angry if they found out I was pregnant.	288 (90.0%)	16 (5.0%)	16 (5.0%)
2	I need my parents' permission to visit a healthcare facility, and they have not given it.	240 (75.0%)	48 (15.0%)	32 (10.0%)
3	My family believes that hiding the pregnancy is better than seeking medical help.	272 (85.0%)	32 (10.0%)	16 (5.0%)
4	My parents/guardians are not aware that I am pregnant.	256 (80.0%)	32 (10.0%)	32 (10.0%)
5	My family does not have the financial resources to pay for my antenatal care.	192 (60.0%)	96 (30.0%)	32 (10.0%)
6	My family prefers that I visit a traditional birth attendant (TBA) instead of a clinic.	304 (95.0%)	8 (2.5%)	8 (2.5%)
7	I am afraid that my family will force me to drop out of school if they know about the pregnancy.	224 (70.0%)	64 (20.0%)	32 (10.0%)
8	There is no one in my family who can accompany me to the clinic.	288 (90.0%)	16 (5.0%)	16 (5.0%)
9	My family considers a teenage pregnancy a source of shame and insists on keeping it private.	256 (80.0%)	48 (15.0%)	16 (5.0%)
10	My parents/guardians do not value antenatal care services.	208 (65.0%)	80 (25.0%)	32 (10.0%)

Health system-related factors preventing ANC utilization

Table 5 shows major health system barriers. The cost of care was the most significant factor, reported by 290 (90.6%) respondents. Other barriers included rude or judgmental healthcare workers (280; 87.5%), long waiting times (250; 78.1%), inconvenient clinic hours (240; 75.0%), and distance to facilities (200; 62.5%). Interpersonal and structural challenges were also prominent, including lack of teen-friendly services (220; 68.8%) and difficulty communicating with providers (180; 56.3%). Concerns about confidentiality were high, with 285 (89.1%) fearing disclosure of medical information. Drug availability was mixed, with 150 (46.9%) reporting availability and 150 (46.9%) reporting shortages. Only 100 (31.3%) reported lack of privacy during examinations.

Table 5. Health system-related factors preventing pregnant teenagers from accessing antenatal care services

S/N	Items	Yes	No	Not Sure
1	I find the waiting time at the clinic to be too long.	250 (78.1%)	50 (15.6%)	20 (6.3%)
2	Healthcare workers have been rude or judgmental toward me because of my age.	280 (87.5%)	30 (9.4%)	10 (3.1%)
3	The clinic is too far from where I live, making it difficult to attend.	200 (62.5%)	100 (31.3%)	20 (6.3%)
4	The cost of registration, tests, or drugs at the clinic is too expensive.	290 (90.6%)	20 (6.3%)	10 (3.1%)
5	The clinic operating hours are not convenient for my school or daily schedule.	240 (75.0%)	60 (18.8%)	20 (6.3%)
6	I feel the clinic lacks privacy during medical examinations.	100 (31.3%)	200 (62.5%)	20 (6.3%)
7	The clinic lacks the necessary drugs or equipment whenever I visit.	150 (46.9%)	150 (46.9%)	20 (6.3%)
8	The clinic does not provide a “teen-friendly” environment where I feel comfortable.	220 (68.8%)	80 (25.0%)	20 (6.3%)
9	I find it difficult to communicate openly with the doctors or nurses.	180 (56.3%)	120 (37.5%)	20 (6.3%)
10	I am afraid that my medical records or pregnancy status will be disclosed to others without my consent.	285 (89.1%)	25 (7.8%)	10 (3.1%)

Hypothesis Testing

Table 6 shows a Pearson Chi-Square value of 110.450 (p = 0.000), and a Likelihood Ratio of 14.230 (p = 0.000). At the 0.05 significance level, the null hypothesis is rejected, indicating a statistically significant association in antenatal care utilization among pregnant teenagers in Umuahia North LGA.

Table 6. Chi-square test results

Statistic	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-square	110.450[a]	8	.000
Likelihood ratio	14.230	1	.000
Linear-by-linear association	1.050	1	.030
Number of valid cases	320		

[a]0 cells (0.0%) have expected count < 5.

DISCUSSION

The poor utilisation of ANC by pregnant teenagers in Umuahia North LGA points to a major gap in the coverage of maternal health care services with many adolescents not seeking formal care during pregnancy. This limited use is representative of a broader regional trend, akin to those documented in comparable socio-cultural contexts. For example, similar low ANC utilisation rates were reported among adolescent mothers in Southeast Nigeria and Enugu State respectively, while other scholars attributed this trend to persistent structural and socio-economic barriers that limit healthcare-seeking behaviours among adolescent mothers relative to older women[18].

A similar worrying pattern is seen in the timing of ANC, with few adolescents starting care in the first trimester. This is consistent with a report by [10] who noted frequent delays even in adolescents who eventually obtain access to care. Similarly, low early ANC initiation was reported among teenage mothers in rural Imo State. The literature cites stigma and concealment as the reasons for these delays; fear of social judgement discourages early disclosure of pregnancy while limited autonomy and financial independence impede timely ANC booking [19]

In addition to delayed initiation, many respondents did not attend the recommended number of ANC visits, indicating high dropout after registration. The attrition was attributed to poverty and system inefficiencies. Economic barriers remain a major factor, with the burden of out-of-pocket costs and transportation being evident for teenage mothers. Institutional factors such as negative provider attitudes and lack of adolescent-friendly services also discourage continued attendance[20]

The findings point to a troubling triad of under-utilization, late initiation and poor attendance overall. Adolescent mothers are biologically vulnerable, and poor, delayed, and inconsistent ANC further increases maternal and neonatal risks. This requires interventions to improve access and retention via subsidised, stigma-free and youth-friendly services. The results on personal-related factors indicate psychological, cognitive and perceptual barriers affecting the utilisation of ANC among pregnant teenagers in Umuahia North LGA. Healthcare seeking behaviour is significantly influenced by emotional states and health perceptions.

A key finding is that 65.6% of the respondents were ashamed or embarrassed to go to clinics, consistent with the study that stigma and internalised shame reduces maternal health service utilisation among young mothers [21] This is exacerbated by misconceptions on the care of pregnancy, where 46.9% thought that ANC was not necessary if they felt healthy, which indicates poor health literacy. Also, 68.8% believed that traditional ways of care or self-care are enough.

The study also identified gaps in awareness and risk perception. Poor health information dissemination 75.0% of respondents did not know the location of the nearest ANC facility. However, 65.6% were not afraid of clinic visits that would expose their pregnancy to parents compared to the findings by[13]. Instead, 56.3% feared being scolded or judged by the healthcare workers similar to [22] on negative impact of provider attitudes.

From a Human Needs Theory [5] perspective, these barriers reflect unmet needs for safety, self-esteem and belonging. Psychological conditions such as shame, fear of judgement and lack of awareness create an environment that discourages rational health decision-making and encourages the use of informal and unmonitored care. The findings reveal that the family environment is a major determinant of ANC utilisation among pregnant teenagers in Umuahia North LGA. Cultural preferences, secrecy and punitive reactions that limit adolescents from accessing formal healthcare shape familial dynamics.

One of the major findings was the reported 95.0% preference of traditional birth attendants by their families to formal health care which is a reflection of the dominance of traditional practices in the Nigerian communities. Fear of the parents' reaction was also important, with 90.0% saying that their parents would get angry if the pregnancy were known and 80.0% saying that their family would consider pregnancy a shame. These findings are similar to [23] who found negative familial reactions as a barrier to healthcare use.

This environment encourages secrecy, with 80.0% reporting that their parents did not know about the pregnancy and 85.0% reporting that families preferred secrecy over seeking care. This corroborates a study that found that concealment delays or prevents maternal health care utilisation [2].

Access is also limited by family dependency, with 75.0% needing parental permission to visit a facility without permission, and 90.0% not having a companion to go with. These results are consistent with [24] who stressed the importance of family support towards ANC utilisation. Moreover, 70.0% expressed fear of being forced to leave school which is in line with the findings of [9] on the socioeconomic consequences of adolescent pregnancy.

Financial constraints were reported by 60.0% , but larger proportions reporting cultural preference and stigma suggest social barriers could be more restrictive than economic ones . This is consistent with the findings of [25] who reported that the lack of family support compromises healthcare interventions even when services are affordable. The structural, operational and interpersonal features of health facilities in Umuahia North LGA are major barriers to ANC utilisation among teenagers.

Cost was a major obstacle, with 90.6% of respondents saying they could not afford to pay registration fees, tests and drugs. This is in line with findings by [3] that documented the effect of out-of-pocket expenses on ANC completion, and is supported by lack of financial independence by adolescents [2].Geographical barriers are still present, with 62.5% saying Clinics are too far, which supports [6] on the role of distance in access to care.

Interpersonal factors are also significant, with 87.5% reporting rude or judgemental behaviours from healthcare workers, which supports [7] regarding negative adolescent experiences in clinics. 56.3% reported difficulty interacting with providers contributing to communication barriers. In addition, 68.8% mentioned the absence of a teen-friendly environment which supports the findings of [4] on the importance of adolescent friendly services.

Long waiting times (78.1%) and inconvenient clinic hours (75.0%) were also reported as deterrents to use due to operational inefficiencies, in agreement with [11]. The level of concern about confidentiality was very high, with 89.1% of them being afraid that their pregnancy status would be disclosed, which is consistent with the report of institutional mistrust [13]. Adequate physical privacy during exams was reported by 62.5% , but fear of social exposure remains dominant. Finally, the mixed perception of drug and equipment availability is indicative of the systemic challenges that have been noted in [26].

Some limitations of this study are: It was limited to pregnant teenagers in Umuahia North LGA and this may limit the generalisability of the findings to other regions. Data were self-reported and may be biased. The cross-sectional design does not also permit causal inference between the identified factors and ANC utilisation. Finally, the study was constrained to a particular sample size and setting due to time and resource limitations; hence, potentially relevant variables such as partner influence or school-based interventions were excluded.

CONCLUSION

The study revealed that the utilisation of ANC by pregnant teenagers in Umuahia North LGA is a multiplication of interconnected personal, social, economic and health system factors . Knowledge, attitudes and beliefs are important as adolescents with more knowledge of risks of pregnancy are more likely to seek care.

Social factors such as family support and community norms play an important role in health-seeking behaviour. Supportive environments promote ANC attendance while stigma deters ANC attendance. Economic constraints, especially transportation and the affordability of healthcare services, continue to be major barriers. Health system factors such as the distance to facilities, quality of services, waiting time, and provider attitudes also influence utilisation. These factors are inter-related and their combined effect determines the utilisation of ANC They have to be dealt with through comprehensive, integrated interventions. The study has provided context-specific evidence on barriers to ANC among pregnant teenagers in Umuahia North LGA but the cross-sectional design and reliance on self-report data limit the study. Intervention strategies and longitudinal designs should be explored in future investigations to improve maternal health outcomes in adolescents.

In conclusion, to improve the utilisation of ANC services among pregnant teenagers, it requires a concerted effort from healthcare providers, policymakers, families, and communities. Health education should be improved in schools, communities and health facilities to increase knowledge about early and regular ANC. Sensitisation and mentoring of families, peers and communities should be undertaken to reduce stigma of teenage mothers. Policies should include financial support, e.g. subsidised fees and transport. Health facilities should improve access, quality of service and adolescent-friendly practices, including respectful care, shorter waiting times and privacy.

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