

Assessment of Knowledge, Attitude, and Practice of Exercise During Pregnancy Among Antenatal Care Attendees in North-eastern Nigeria

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Abstract

Background: Regular physical activity during pregnancy is a crucial component of antenatal care, offering significant maternal and fetal health benefits, including improved cardiovascular fitness and reduced risk of gestational complications. However, engagement in prenatal exercise remains low in many resource-limited settings, often due to gaps between knowledge, attitude, and actual practice. **Objective:** This study aimed to assess the knowledge, attitude, and practice (KAP) of exercise during pregnancy among women attending antenatal care at General Hospital Darazo in Bauchi State, Nigeria. **Methods:** A hospital-based, descriptive cross-sectional study was conducted among 242 pregnant women selected via random sampling. Data were collected using a validated, structured questionnaire covering socio-demographic characteristics, knowledge (5 items), attitude (5 items), and practice (5 items) related to exercise during pregnancy. Frequency distributions and simple percentages were used for data analysis. **Results:** Of the 235 respondents who completed the survey, the majority were aged 20–25 years (31.5%), married (94%), and had primary education (25.5%). Most demonstrated good knowledge (83.6%) and a positive attitude (76.0%) toward prenatal exercise. However, only 27.4% reported engaging in regular exercise during pregnancy, indicating a substantial knowledge–practice gap. **Conclusion:** Despite adequate knowledge and favourable attitudes, the practice of exercise during pregnancy remains low among antenatal attendees in this setting. Targeted interventions, including structured antenatal exercise education and family involvement, are recommended to improve adherence to physical activity guidelines during pregnancy.

Keywords: Knowledge, attitude, practice, exercise during pregnancy, antenatal care, Bauchi, Nigeria.

Introduction

Exercise is a fundamental component of women's health and an integral aspect of antenatal care [1]. While empirical data on the precise impact of maternal exercise on fetal outcomes remain limited and sometimes contradictory, [2] current guidelines support its benefits. The American College of Obstetricians and Gynecologists recommends that pregnant women without contraindications engage in moderate-intensity exercise for at least 30 minutes on most days of the week [3]. Such activity should be regular, low-impact, and tailored to the individual's fitness level.

Regular physical activity during pregnancy is associated with numerous health benefits, including the maintenance of cardiovascular fitness, prevention of excessive gestational weight gain and glucose intolerance, muscular conditioning for labour, and improved psychological well-being [4,5]. Furthermore, exercise may reduce the incidence of common pregnancy-related complaints and stimulate positive physiological adaptations [6]. Despite established

guidelines and recognized advantages, adherence to recommended exercise regimens among pregnant women is often suboptimal. Factors influencing engagement include knowledge, attitudes, socio-demographic characteristics, safety perceptions, and prior exercise habits [7].

In the context of Bauchi State, Nigeria, there is a need to understand the determinants of exercise behaviour among pregnant women. This study therefore aimed to assess the knowledge, attitude, and practice (KAP) of exercise during pregnancy among women attending antenatal care at General Hospital Darazo, Bauchi State.

Methodology

Study Area

The study was conducted in Darazo Local Government Area (LGA), Bauchi State, North-East Nigeria. Darazo LGA covers an area of approximately 3,015 km² and has an ethnically diverse population

predominantly comprising Fulani, Hausa, Bolawa, and Karai-Karai groups. The primary economic activities are farming, trading, and civil service.

Study Design

A hospital-based, descriptive cross-sectional survey design was employed [8].

Study Population

The target population consisted of pregnant women attending the antenatal clinic (ANC) at General Hospital Darazo.

Sampling and Sample Size

A simple random sampling technique was used to select participants. A sample size of 242 was obtained based on the registered antenatal care attendees during the study period.

Data Collection

Data were collected using a researcher-administered, structured questionnaire. The instrument comprised four sections:

- Section A: Socio-demographic characteristics.
- Section B: Knowledge of exercise during pregnancy (5 items).
- Section C: Attitude towards exercise during pregnancy (5 items).
- Section D: Practice of exercise during pregnancy (5 items).

The questionnaire contained 20 closed-ended items in total.

Table 1: Socio-Demographic Characteristics of the respondents

Variables	Respondents	Percentage
Age:20-25	74	31.5%
26-30	66	28.1%
31-35	50	21.3%
36 above	45	19.1%
Occupation:		
Business	49	20.8%
Civil servant	46	19.6%
House wife	83	35.3%
Others	57	24.3%
Tribe:		
Hausa	77	32.8%
Fulani	57	24.3%
Karai karai	53	22.5%
Others	48	20.4%
Educational status:		
primary	60	25.5%
Secondary	52	22.1%
Tertiary	43	18.3%
Others	70	29.8%
None	10	4.3%
Total	235	100%
Marital status:		
married	221	94.0%
Single	0	0%
Divorce	14	6.0%
Total	235	100%

Knowledge of Exercise during Pregnancy

As shown in Table 1, a high proportion of respondents demonstrated good knowledge. Most agreed that exercise helps ensure a safe

Validity and Reliability

The questionnaire was validated by the project supervisor. Its reliability was established using a test-retest method, which demonstrated good consistency.

Ethical Consideration

Permission to conduct the study was obtained from the hospital administration. Verbal informed consent was secured from each participant.

Data Analysis

Collected data were analysed using descriptive statistics. Frequency counts and simple percentages were used to summarize socio-demographic variables and responses to the KAP questions.

Results

Of the 242 questionnaires distributed, 235 were completed and retrieved, yielding a 97.1% response rate.

Socio-Demographic Characteristics

The respondents' ages ranged from 20 to over 36 years, with the largest group (31.5%) being 20-25 years old. All respondents (100%) were female. The majority (94.0%) were married, 20.8% were engaged in business, 19.6% were civil servants, and 35.3% were housewives. Educational attainment varied: 25.5% had primary education, 22.1% secondary, 18.3% tertiary, and 4.3% had no formal education. Ethnically, the respondents were Hausa (32.8%), Fulani (24.3%), Bolawa (22.5%), and others (20.4%).

pregnancy (91.5%), prevents pregnancy-induced hypertension (83.4%), and aids healthy uterine development (94.0%). Overall, 83.6% of responses indicated correct knowledge.

Table 2: Knowledge of Exercise during Pregnancy (n=235)

Items	Yes, n (%)	No, n (%)
Does exercise help in ensuring a safe pregnancy?	215 (91.5)	20 (8.5)
Does exercise help in preventing pregnancy-induced hypertension?	196 (83.4)	39 (16.6)
Does exercise help in preventing gestational diabetes?	187 (79.6)	48 (20.4)
Does exercise help in ensuring safe delivery?	163 (69.4)	72 (30.6)
Does exercise help in healthy development of the uterus?	221 (94.0)	14 (6.0)
Total Responses	982 (83.6)	196 (16.4)

Attitude towards Exercise during Pregnancy

Respondents generally exhibited a positive attitude (Table 2). Most reported liking exercise during pregnancy (71.0%), encouraged

other pregnant women to exercise (82.1%), and supported family members exercising (89.8%). In total, 76.0% of responses reflected a favourable attitude.

Table 3: Attitude towards Exercise during Pregnancy (n=235)

Items	Yes, n (%)	No, n (%)
Do you like exercise while pregnant?	167 (71.0)	68 (29.0)
Do you encourage other women to exercise while pregnant?	193 (82.1)	42 (17.9)
Do you support family members to exercise?	211 (89.8)	24 (10.2)
Do you follow advice on exercise given during ANC?	173 (73.6)	62 (26.4)
Do you cooperate with healthcare providers discussing exercise?	148 (63.0)	87 (37.0)
Total Responses	892 (76.0)	283 (24.0)

Practice of Exercise during Pregnancy

Despite good knowledge and attitude, reported practice was poor (Table 3). Less than half (42.1%) performed exercise during

pregnancy, and only 34.9% scheduled time for it. A significant majority (72.6% of responses) indicated non-practice of recommended exercise behaviours.

Table 4: Practice of Exercise during Pregnancy (n=235)

Items	Yes, n (%)	No, n (%)
Do you perform exercise while pregnant?	99 (42.1)	136 (57.9)
Do you schedule time for exercise?	82 (34.9)	153 (65.1)
Do you notify your healthcare provider of problems during exercise?	75 (31.9)	160 (68.1)
Do you use exercise to regulate blood pressure?	52 (22.1)	183 (77.9)
Do you perform exercise on a flat surface?	14 (6.0)	221 (94.0)
Total Responses	322 (27.4)	853 (72.6)

Discussion

This study assessed the KAP of exercise among pregnant women in Darazo, Bauchi State. The findings reveal a distinct KAP gap: while knowledge and attitude were largely positive, practice was markedly low.

The high level of knowledge (83.6%) aligns with studies in similar settings, where awareness of antenatal exercise benefits is often adequate [9]. The positive attitude (76.0%) further suggests that women value exercise during pregnancy. However, the low practice rate (27.4%) indicates significant barriers translating intention into action. This discrepancy is consistent with research from Nigeria and other regions, highlighting a common challenge in maternal health education [10].

Barriers to exercise may include cultural norms, lack of time, physical discomfort, inadequate social or spousal support, and absence of guided exercise programmes within ANC services [11]. The finding that most women do not exercise on a flat surface (94.0%) may also point to a lack of knowledge about safe exercise practice or environmental constraints.

Conclusion and Recommendations

The pregnant women attending General Hospital Darazo possess good knowledge and a positive attitude towards exercise during pregnancy. However, there is a profound gap between this awareness and actual practice.

Based on these findings, the following recommendations are made:

1. Healthcare providers should integrate structured, practical demonstrations of safe antenatal exercises into routine health talks during ANC visits.
2. Community and spouse engagement programmes should be developed to build supportive environments that encourage and enable pregnant women to exercise.
3. The hospital management and Bauchi State Ministry of Health should consider employing or training skilled health educators or physiotherapists to lead antenatal exercise classes.

Recommendation for Further Studies

Further qualitative research is recommended to explore the specific barriers and facilitators influencing exercise practice among pregnant women in this region, particularly those with positive knowledge and attitude who still do not exercise.

List of abbreviations

LGA – Local Government Area
ANC – Antenatal Care
KAP – Knowledge attitude and practice

Declarations**Ethics approval and consent to participate**

Ethical approval was issued by Bauchi State Ministry of health.

Data Availability

This article will be updated on research gate and ORCID by the authors.

Conflicts of Interest

The authors declared that there is no conflict of interest regarding the publication of this paper.

Funding Statement

The research was sponsored through authors contributions.

Authors' contributions

Questionnaire was designed by AM which HI and MU Collected the data. Analysis was conducted by UA.

Acknowledgments

We acknowledged the support of the management of General Hospital Darazo for facilitating data collection from their clients

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