

SOCIO-CULTURAL BARRIERS AND FACILITATORS OF ADHERENCE TO GESTATIONAL DIABETES MANAGEMENT AMONG PREGNANT WOMEN IN OSUN STATE, NIGERIA

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ABSTRACT

Gestational diabetes mellitus (GDM) is a growing burden on public health and has been linked to adverse outcomes for both mother and neonate, especially when compliance with recommended management is suboptimal. Socio-cultural factors may influence adherence and non-adherence to GDM management among pregnant women in Nigeria, but there is limited empirical evidence from Osun State. This study investigated the extent of adherence and socio-cultural factors influencing gestational adherence and non-adherence among pregnant women in Osun State, Nigeria. A descriptive cross-sectional survey design was adopted for the study. A structured questionnaire was used to collect data from 128 pregnant women attending antenatal care at purposively selected health facilities. Descriptive statistics, Chi-square and binary logistic regression were used to analyse the data at $P < 0.05$. It was found that 36.7% of the respondents had poor adherence, 33.6% had moderate adherence and 29.7% had good adherence to gestational diabetes management and 53.9% were grouped as non-adherent. Food practices ($=2.75 \pm 0.83$), stigma ($=2.73 \pm 0.81$), religion/spiritual beliefs ($=2.71 \pm 0.80$), traditional medicine ($=2.70 \pm 0.79$), cultural beliefs ($=2.68 \pm 0.78$), and family pressure ($=2.66 \pm 0.80$) were considered as key socio-cultural barriers to adherence. Support from family (Mean = 3.01 ± 0.76), health education (Mean = 2.95 ± 0.79), health care workers (Mean = 2.91 ± 0.81), religious support (Mean = 2.83 ± 0.82), community support (Mean = 2.78 ± 0.80) and financial support (Mean = 2.74 ± 0.84) were found to significantly facilitate adherence to GDM management. Binary logistic regression analysis showed that cultural beliefs (OR = 4.10, $p = 0.016$), family pressure (OR = 2.95, $p = 0.033$), and religious/spiritual beliefs (OR = 2.57, $p = 0.047$) were significant predictors of non-adherence. Based on these findings, intervention should be delivered through family-centered, group-based, culturally sensitive, and community-integrated antenatal care framework that strengthens social support networks, enhances health education, promotes adherence to gestational diabetes management, and ultimately improves maternal health outcomes.

Keywords: Antenatal care; gestational diabetes mellitus; socio-cultural barriers and facilitators; pregnant women; treatment adherence; maternal health

INTRODUCTION

Gestational diabetes mellitus (GDM) is becoming a significant challenge to maternal health worldwide and is on the rise globally, especially in developing countries, where the maternal health care system is being strained by financial, socio-cultural and infrastructural barriers. GDM is a form of glucose intolerance which is first recognized during pregnancy, and is a major cause of maternal and newborn morbidity worldwide. The World Health Organization (2016) reported that the prevalence of *hyperglycaemia* in pregnancy was increasing due to obesity, unhealthy diets, physical inactivity, urbanisation, postponement of childbearing and changing reproductive patterns. The International Diabetes Federation likewise estimated that about one in six live births would be affected by *hyperglycaemia* in pregnancy and that gestational diabetes would make up most of these cases. Researchers have documented that uncontrolled gestational diabetes greatly raises the likelihood of maternal complications, including hypertensive disorders, preeclampsia, obstructed labour, and future development of Type 2 diabetes as well as neonatal complications that may encompass macrosomia, respiratory distress, neonatal *hypoglycaemia*, and long-term metabolic conditions (Sheiner ,2020; Lin et al, 2024; Barell & Perri, 2025; Sokou et al, 2025)

It is worthy to note that improvement in the care of the mother with diabetes has been seen throughout the world, however, successful gestational diabetes management still depends to a large extent on the pregnant woman acting on professional advice. Treatment of gestational diabetes involves diet regulation, taking medication, checking blood glucose, exercise, and attending antenatal clinics. Medication and diet management is an important part of Type 2 diabetes care. Consistent self-care is a key to reduction of maternal and fetal complication of GDM (Rahim et al, 2024; Dang et al, 2025; Nyande et al, 2026). However, many mothers most especially in the developing world, where maternal care is shaped by an array of socio-cultural considerations do not comply with this professional advice (Sumankuuro et al, 2018; Felisian et al, 2023).

There is further emerging evidence indicating that the diabetes management in pregnancy is hindered not only by barriers, but also can be facilitated by socio-cultural facilitators to impact maternal behaviour in a positive way. Cultural misunderstandings, food taboo, spiritual interpretations and traditional medicine may negatively impact on adherence, while family systems, religious support, medical education, medical staff support and community network of pregnant women may positively have impact on adherence. Motherhood and thus, maternal health is influenced by social and cultural factors such as family expectations, cultural beliefs, gender roles, and community perceptions that determine how women perceive illness, seek care, and comply with medical recommendations (Samuel-Ajayi et al, 2026). Social support, health care counselling and positive family participation are important factors in improving self-management in women with gestational diabetes (Abdollahran et al, 2023; Tang et al, 2023; Merchant et al, 2025).

Family members and healthcare professionals are key sources of ongoing health education and emotional support for pregnant women with GDM (Olorunfemi et al, 2024; Ismail et al, 2025; O'Donoshue et al, 2026). Additionally, the support provided by healthcare professionals, spouses, and family members can facilitate adherence thereby improving maternal health (Samuel-Ajayi et al, 2025). Therefore, concerns are growing that the care for women with gestational diabetes is not only encompassed by biomedical knowledge and the delivery of healthcare services.

In Nigeria, gestational diabetes has been ascribed spiritual and cultural interpretations as opposed to solely biomedical explanations of knowledge by a large number of pregnant women (Offomiyor & Rehal, 2023). Similarly, food practices culturally accepted and beliefs on diet in pregnancy were major determinants of maternal nutritional behaviour in pregnant women from Southwestern Nigeria (Chikeme, 2024; Ladun & Ibrahim 2024; Enodegbe et al, 2025; Ugbelu et al, 2025). Thus, pregnancy, for most black African women living on the continent, is profoundly socially embedded within kinship networks, traditional institutions and religious practices, and access to care is collectively managed, rather than being the decisions of individuals to make alone. Pregnant women, therefore, have potential multiple pressures or supports from husbands, mothers-in-law, senior relatives, traditional birth attendants, religious leaders, and the wider community to influence their behaviours around diet, use of formal healthcare, taking of medicine, and compliance with medical advice.

The challenges of gestational diabetes management are further exacerbated in the African setting and in Nigeria specifically due to overburdened maternal healthcare systems by poverty, weak healthcare infrastructure, poor awareness, and rural-urban disparities. There are generally poor awareness and knowledge of gestational diabetes among most pregnant women in Nigeria (Chemeke et al, 2022; Okeke et al, 2025; Varela et al, 2025; Rajaeieh et al, 2026). Also, (Opara et al, 2024; Olagunju et al, 2025) argued that the availability of maternal health service utilization in Nigeria is highly influenced by socio-economic impediments, cultural practices, and distance to health care institutions. Furthermore, transportation and health facilities are scarce in rural areas, traditional health practices are more common, all of which can hinder pregnant women's adherence.

Religious and spiritual truths remain influential in the practices of maternal healthcare in Nigeria. In some culture, pregnancy-related complications are perceived as spiritual or supernatural affairs, with people praying, fasting, getting faith-based healing in form of traditional herbal medicines. While religion can contribute to providing comfort and emotional resilient during pregnancy, spiritual intervention is argued to potentially interfere with adherence to medical advice. Conversely, religious counselling and positive faith-based messages may have beneficial effects on healthcare behaviour and emotional coping during pregnancy. Even though traditional medicine is culturally accepted, trusted as well as cheap, modern medicine is perceived to be expensive and not accessible and very few could afford it in Nigeria (Modibbo et al, 2024).

Although, gestational diabetes has been examined across various domains in biomedicine and clinical practice, substantial gaps still exist in empirical and contextual literature. The majority of the research to date has been concerned with diagnosis, prevalence, treatment outcomes and clinical management of GDM, and the aspects of the socio-cultural barriers and facilitators for adherence among pregnant women have been given little consideration. Similarly, there are minimal research that have interrogated the influence of cultural belief, family support systems, religious beliefs, healthcare support, traditional medicine system, norms of food, stigma and realities of community support on adherence to management of gestational diabetes especially in Southwestern Nigeria and particularly in Osun State.

Hence, this study addresses the gap by investigating the socio-cultural barriers and facilitators of adherence to gestational diabetes management among pregnant mothers in Osun State, Nigeria.

The study will specifically:

1. assess the level of adherence to gestational diabetes management among pregnant women in Osun State, Nigeria.
2. examine the socio-cultural barriers influencing non-adherence to gestational diabetes management among pregnant women
3. investigate the socio-cultural facilitators of adherence to gestational diabetes management among pregnant women

LITERATURE REVIEW

Prior reports from Nigeria including a systematic review and meta - analysis by Azeez et al (2021) documented findings from 36 studies with a cumulative sample of 46,210 pregnant women. The review reported a pooled prevalence of 11.0% for gestational diabetes mellitus (GDM) and found that maternal obesity, advanced maternal age, family history of diabetes, history of miscarriage, and history of giving birth to a macrosomic baby are risk factors for GDM. Similarly, Asiedu-Danso et al (2021) carried out a scoping review that allowed for the integration of results from 13 studies originating from Zimbabwe, Iran, Mexico, India, the United States, and a multinational context. The review revealed that adherence to medication in women with gestational diabetes was 35.6–97% and that it was negatively affected by deficient social support, challenges relating to socioeconomic status, presence of mental health symptoms, medication risk perception, and low level of education.

Additionally, Mdoe et al. (2022) reviewed evidence from 14 studies on African nations to identify the barriers to screening, diagnosis and management of hyperglycaemia in pregnancy. The review identified that beliefs related to socio-cultural factors, poor health literacy, financial constraints, lack of family support and myths related to diabetes in pregnancy were the barriers for gestational diabetes care. These had a negative impact on women's motivation and capacity to follow national guidelines on screening and care. On the other hand, Onwuchuluba et al. (2021) conducted a qualitative study to explore barriers and facilitators to adherence to medication in adults with Type 2 diabetes mellitus (T2DM) using the socioecological model. It was conducted through individual in-depth interviews with care recipients, and determinants at the individual, interpersonal, institutional, and community levels were found. The data were analysed thematically to explore the ways in which social and cultural contexts influence adherence behaviour. Result indicated that sociocultural barriers, such as cultural beliefs on illness, use of traditional medicine, lack of support from family, stigma related to chronic illness, and bad communication with healthcare provider, negatively influenced the level of patients' adherence to the recommended diabetic care. Furthermore, facilitative family dynamics, culturally congruent health education, and positive encounters with health care providers were cited as enablers of adherence.

THEORETICAL FRAMEWORK

This study is anchored on Social Ecological Theory which assumes that an individual's behaviour is affected by all layers of their surrounding environment and not just at the individual level. Bronfenbrenner (1979) proposed that human behaviour is influenced through the process of the individuals interacting with different social systems within which they are placed. The theory was also adapted by McLeroy et al. (1988) to health promotion suggesting that factors at the level of the individual, the interpersonal, the organization, the community and the public policy have impact on health behaviour. This multidimensional approach is also highly pertinent to management of gestational diabetes mellitus (GDM), as pregnant women's compliance with specific management recommendations

is affected by much more than her knowledge and motivation but also influenced by family dynamics, cultural norms, religious beliefs, healthcare services, and the local community at large.

The theory could also be applied to the objective of the study which is to assess the extent of compliance with management of gestational diabetes among pregnant women in Osun State. The Social Ecological Theory explains that adherence behaviour is the result of multiple interactions between individual and environmental factors (Bronfenbrenner, 1979; McLeroy et al., 1988). Therefore, disparities in compliance among pregnant women might be related to differences in social support, accessibility to health care, cultural norms, and living conditions. Consequently, the present study investigates the role of socio-cultural determinants, such as cultural beliefs and practices, family influence, and religious or spiritual belief systems, in gestational diabetes management. This aim corresponds to the interpersonal and community dimensions of the Social Ecological Theory, which posit that social interactions, cultural values, and community standards play a significant role in shaping health behaviour (McLeroy et al., 1988). Pregnant women's adherence to dietary advice, medication compliance, blood glucose monitoring and clinic attendance may be affected by cultural beliefs about pregnancy, food taboos, traditional remedies and spiritual explanations of disease. Opportunities to reinforce family members' and significant other's support for adherence may be impeded by cultural expectations which they may advocate for non-adherence.

According to the Social Ecological Theory, the individual's interpersonal and organizational (work relationships) influence their health behaviour (Bronfenbrenner, 1979; McLeroy et al., 1988). Family members offer various forms of support including emotional, informational, and instrumental which may help with disease management compliance. Healthcare workers also play a role in facilitating better adherence via counselling, good communication, ongoing education and regular monitoring. Health education is a rigorous vehicle identified in the organizational level strategies to increase knowledge, dispel misconceptions, and motivate pregnant women to perform correct self-management behaviour during pregnancy.

METHODS

A descriptive cross-sectional survey was conducted to investigate the socio-cultural challenges to compliance with management of gestational diabetes among pregnant women in Osun State, Nigeria. The study was conducted in Osun State, which is situated in the South-West geopolitical zone of Nigeria. The State has a combination of urban and rural population; the states are composed of 30 Local Government Areas (LGAs). It has been noted that primary, secondary and tertiary healthcare providers at the state level have been delivering full antenatal and maternal services, which includes the screening, diagnosis and treatment of gestational diabetes mellitus (GDM). The study population comprised all pregnant women diagnosed with gestational diabetes mellitus (GDM) attending antenatal clinics in selected healthcare facilities in Osun State during the study period. Participants include pregnant women 18 years and above with a confirmed diagnosis of gestational diabetes mellitus by a qualified healthcare professional and were registered for antenatal care at one of the selected healthcare facilities. However, pregnant women who had pre-existing Type 1 or Type 2 diabetes mellitus diagnosed before pregnancy and those who were critically ill or experiencing obstetric emergencies at the time of data collection were excluded from the study.

The sample size for the study was calculated by using the finite population sampling formula given by Yamane (1967) which is applicable when the population is finite. The target population consisted of 190

pregnant women with gestational diabetes mellitus at the selected antenatal health care centers in Osun State within the duration of the study. The minimum sample size was calculated as 129 using 95% confidence level and 5% margin of error. In view of the non-response, incomplete questionnaires, or subject attrition, 5% was added to the estimated sample size calculated, anticipating dropout, thus the target recruitment was 135 participants.

A multistage sampling procedure was employed to select participants for this study. In the first stage, healthcare facilities providing antenatal care and routine screening and management of gestational diabetes mellitus (GDM) in Osun State were identified. Purposive sampling was used to select ten healthcare facilities with established antenatal clinics and documented cases of pregnant women diagnosed with GDM. This process guaranteed that the chosen facilities had adequate quantities of available participants and that the information needed for the study could be obtained. At all the selected health-care facilities, antenatal clinic (ANC) registers and medical records of pregnant women (recorded by health-care providers) were examined to find those who had been diagnosed with gestational diabetes mellitus. Eligible pregnant women attending antenatal clinics during the data collection period were recruited consecutively using purposive sampling until the required sample size of 135 participants was achieved. Before recruitment, the objectives of the study were explained to each eligible participant, and written informed consent was obtained. Participation was entirely voluntary, and only women who consented were enrolled in the study. The use of purposive sampling at the participant level was considered appropriate because gestational diabetes mellitus occurs in a relatively small proportion of pregnant women, making it necessary to deliberately recruit respondents with a confirmed diagnosis of the condition. This sampling approach ensured that all participants possessed the characteristics relevant to the objectives of the study. Nonetheless, after collection and checking completeness of data, 128 questionnaires were validly completed and this formed the final sample for the study.

Instruments

The questionnaire underwent face and content validation by experts in public health, maternal health, obstetrics, and sociology. A pilot study was conducted among pregnant women outside the study area, and internal consistency was assessed using Cronbach's alpha, with a coefficient of 0.70 or higher was considered acceptable.

1. **Adherence to Gestational Diabetes Management Scale:** Adherence to gestational diabetes management was assessed using a modified version of the Summary of Diabetes Self-Care Activities (SDSCA) developed by Toobert et al. (2000). The scale comprises six items assessing adherence to recommended dietary practices, medication or insulin use, blood glucose monitoring, physical activity, antenatal clinic attendance, and compliance with healthcare providers' recommendations. Responses were rated on a 5-point Likert scale ranging from 1 = Never to 5 = Always, with higher scores indicating better adherence. After pilot testing, the instrument demonstrated good internal consistency (Cronbach's $\alpha = 0.83$).

2. **Socio-Cultural Belief Questionnaire:** Socio-cultural beliefs were measured using a researcher-developed questionnaire based on literature on sociocultural influences on gestational diabetes management in low- and middle-income countries. The instrument assessed cultural beliefs, family pressure, religious/spiritual beliefs, food practices, and traditional medicine use that may influence adherence. Responses were rated on a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 =

Strongly Agree, with higher scores indicating stronger socio-cultural influences. The questionnaire demonstrated good reliability (Cronbach's $\alpha = 0.81$).

3. Diabetes Stigma Assessment Scale (DSAS): Perceived stigma was measured using an adapted version of the Diabetes Stigma Assessment Scale (DSAS) developed by Browne et al. (2016). The six-item scale assessed experiences of blame, judgment, discrimination, and social exclusion related to gestational diabetes. Responses were rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), with higher scores indicating greater perceived stigma. The adapted scale yielded a Cronbach's alpha of 0.79.

4. Adapted Social Capital Assessment Tool (A-SCAT): Community support was assessed using an adapted version of the Adapted Social Capital Assessment Tool (A-SCAT) developed by Harpham et al. (2002). The instrument measured social cohesion, community participation, trust, and mutual assistance in promoting adherence to gestational diabetes management. Responses were rated on a 5-point Likert scale, with higher scores indicating greater perceived community support. The instrument demonstrated good reliability (Cronbach's $\alpha = 0.86$).

5. Religious Support Scale (RSS): Religious support was measured using an adapted version of the Religious Support Scale (RSS) developed by Fiala et al. (2002). The scale assessed support received from religious leaders, faith communities, and personal religious beliefs in promoting adherence to gestational diabetes management. Responses were rated on a 5-point Likert scale, with higher scores indicating greater perceived religious support. The adapted scale had a Cronbach's alpha of 0.76.

6. Tangible Support Scale: Financial support was assessed using an adapted version of the Tangible Support subscale of the Medical Outcomes Study Social Support Survey (MOS-SSS) developed by Sherbourne and Stewart (1991). The scale measured the availability of financial and material assistance to support adherence to gestational diabetes management. Responses were rated on a 5-point Likert scale, with higher scores indicating greater perceived financial support. The adapted instrument demonstrated acceptable reliability (Cronbach's $\alpha = 0.79$).

7. Multidimensional Scale of Perceived Social Support (MSPSS): Family support was measured using the Family Subscale of the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. (1988). The subscale assessed emotional, informational, and practical support received from family members in managing gestational diabetes. Responses were rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), with higher scores indicating greater perceived family support. The scale demonstrated high reliability (Cronbach's $\alpha = 0.86$).

8. Healthcare Worker Support Scale: Healthcare worker support was measured using a six-item researcher-developed questionnaire assessing communication, emotional support, clinical guidance, follow-up, accessibility, and continuity of care. Responses were rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), with higher scores indicating greater perceived healthcare worker support. The scale demonstrated acceptable reliability (Cronbach's $\alpha = 0.71$).

9. Health Education Scale: Exposure to gestational diabetes health education was assessed using a researcher-developed Health Education Scale measuring education received on diet, blood glucose monitoring, medication use, physical activity, recognition of danger signs, and prevention of maternal and fetal complications. Responses were rated on a 5-point Likert scale (1 = Strongly Disagree to 5 =

Strongly Agree), with higher scores indicating greater exposure to health education. The scale demonstrated good internal consistency (Cronbach's $\alpha = 0.83$).

10. Accessibility to Healthcare Services Scale: Accessibility to healthcare services was measured using a researcher-developed scale assessing structural factors such as distance to healthcare facilities, transportation, waiting time, treatment costs, availability of medications and glucose-monitoring supplies, and appointment scheduling. Responses were rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), with higher scores indicating better access to healthcare services and lower structural barriers to adherence. The instrument demonstrated good reliability (Cronbach's $\alpha = 0.81$).

Procedure for Data Collection: Ethical approval to conduct the study was sought and received from Osun State Hospitals' Management Board Health Research Ethics Committee prior to the commencement of the study. Approval was likewise granted by the management of each of the chosen health facilities. Participants were recruited with the help of healthcare providers during the antenatal clinic visit. The objectives of the study were explained to the participants who met the inclusion criteria, and written informed consent was obtained from them prior to administration of the questionnaire. The questionnaire was administered by the researchers and two trained research assistants.

Data Management and Analysis: The fully completed questionnaires were coded and entered into the Statistical Package for the Social Sciences (SPSS) version 29. The data were cleaned and were checked prior to analysis. Descriptive statistics, such as frequency, percentage, mean, standard deviation, were used to describe the characteristics of respondents and the study variables. Chi-square statistics were used to test the association between categorical variables and adherence to gestational diabetes management. A binary logistic regression analysis was conducted to predict adherence from socio-demographic variables after controlling for significant predictors. Odds ratios (ORs) were reported with 95% confidence intervals. Statistical significance was considered at $p < 0.05$.

RESULTS

Table 1: Socio-demographic Characteristics of Respondents (N = 128)

Variable	Category	Frequency (f)	Percentage
Age	Below 20 years	11	8.6
	20–29 years	59	46.1
	30–39 years	42	32.8
	40 years and above	16	12.5
Marital Status	Single	18	14.1
	Married	92	71.9
	Divorced/Separated	11	8.6
	Widowed	7	5.5
Educational Qualification	No formal education	10	7.8
	Primary education	15	11.7
	Secondary education	37	28.9
	NCE/OND	33	25.8
	HND/B.Sc. and above	33	25.8
Occupation	Civil servant	25	19.5
	Trader	36	28.1

	Artisan	17	13.3
	Farmer	22	17.2
	Full-time housewife	20	15.6
	Other	8	6.2
Religion	Christianity	62	48.4
	Islam	60	46.9
	Traditional religion	3	2.3
	Others	3	2.3
Monthly Income	Below ₦30,000	42	32.8
	₦30,000–₦69,999	43	33.6
	₦70,000–₦149,999	29	22.7
	₦150,000 and above	14	10.9
Place of Residence	Urban	53	41.4
	Semi-urban	41	32.0
	Rural	34	26.6
Number of Pregnancies	First pregnancy	49	38.3
	2–3 pregnancies	48	37.5
	4–5 pregnancies	27	21.1
	More than 5 pregnancies	4	3.1

Source: Field Survey, 2025.

Most of the participants were in the age groups of 20–29 years, 46.1%, and 30–39 years, 32.8%. The majority of the respondents 92 (71.9%) were married. Education level: 28.9% had secondary education while 25.8% were either NCE/OND and HND/B.Sc. The occupation group most commonly represented was traders 36 (28.1%), followed by civil servants 25 (19.5%) and farmers 22 (17.2%). The religious composition of the sample was 48.4% Christians, Muslims 46.9%. In terms of earnings, 33.6 percents earned between 30,000 and 69,999 naira per month while 32.8% earned below 30,000 naira. Of the population studied, 41.4% were urban dwellers while 32.0% and 26.6% were semi-urban and rural dwellers, respectively.

Table 2: Adherence Level to Gestational Diabetes Management among Respondents (N = 128)

Adherence Level	Frequency (f)	Percentage
Low adherence / High non-adherence	47	36.7
Moderate adherence	43	33.6
High adherence	38	29.7
Total	128	100.0

Mean Adherence Score = 23.90, Standard Deviation = 7.41

Table 3: Binary Classification of Adherence Status for Logistic Regression (N = 128)

Adherence Status	Frequency	Percentage
Non-adherent	69	53.9
Adherent	59	46.1
Total	128	100.0

Source: Field Survey, 2025

The adherence score was calculated according to respondents' compliance with advised management of gestational diabetes practices including diet, use of medication, blood glucose monitoring, clinic visits, exercise and following of healthcare provider recommendations. Better mean score indicates better adherence to recommended treatment. The analysis showed an average level of adherence score of 23.90 ± 7.41 , representing moderate variation in adherence among the participants. The results also revealed that 47 participants (36.7%) had poor adherence or high non-adherence to the management of gestational diabetes. In the same way, 43 (33.6%) of the participants had moderate adherence and 38 (29.7%) had high level of adherence. This indicates that a significant number of pregnant women had difficulties in maintaining good adherence to the recommended management practices for gestational diabetes.

Respondents were divided into the adherent and non-adherent groups by overall adherence score for further analysis. However, 69 respondents (53.9%) were identified as non-adherent and 59 respondents (46.1%) were identified as adherent. Thus, majority of the pregnant women were non-adherent to the recommendations for the management of gestational diabetes among those enrolled in the study.

Table 4: Socio-cultural Barriers Influencing Non-Adherence to Gestational Diabetes Management (N = 128)

Barrier Dimension	Mean	Standard Deviation	Interpretation
Food practices	2.75	0.83	High influence
Stigma	2.73	0.81	High influence
Religious/Spiritual beliefs	2.71	0.80	Moderate-high influence
Traditional medicine	2.70	0.79	Moderate-high influence
Cultural beliefs	2.68	0.78	Moderate-high influence
Family pressure	2.66	0.80	Moderate-high influence

Overall Mean Score = 75.89, Standard Deviation = 20.44 Source: Field Survey, 2025

The results of the study revealed significant influence of socio-cultural barriers on pregnant women with gestational diabetes towards compliance to gestational diabetes management in Osun State. The high overall mean score of 75.89 ± 20.44 showed that majority of the respondents were facing so many sociocultural challenges that could inhibit gestational diabetes management compliance. Out of all the barriers identified, food practices obtained the highest mean value (Mean = 2.75, SD = 0.83), meaning that food-related cultural barriers were the most predominant barrier for the participants. This indicates that many of the pregnant women found it challenging to adhere to the dietary restrictions prescribed by medical practitioners owing to cultural food practice as well as food taboos in pregnancy and the stress to eat certain traditional foods so as to enhance maternal strength and foetal survival. Stigma were also reported as significant barriers (Mean = 2.73, SD = 0.81). This means that a few pregnant

women may have perceived stigma and shame related to their condition. Inconsistent family support and stigma within communities might hinder ongoing treatment adherence and public conversations about managing gestational diabetes.

Religious/spiritual beliefs also have a significant impact on role of adherence (Mean = 2.71, SD = 0.80). The finding indicates that a number of pregnant women might be conceiving gestational diabetes in spiritual or religious terms and so may turn to prayer or spiritual solution but not medical adherence. Traditional medicine was also a significant barrier to adherence (Mean = 2.70, SD = 0.79). This implies that some respondents often use herbal medicines and follow traditional treatment methods. These habits might interfere with medication, blood sugar testing, clinic visits, and other advice of professional healthcare.

Pregnant woman's adherent behaviour was also significantly influenced by cultural beliefs (Mean = 2.68, SD = 0.78) and family pressure (Mean = 2.66, SD = 0.80). Decisions around diet, treatment and use of healthcare during pregnancy can be influenced by family members, older relatives and community norms. The results suggest that adherence to gestational diabetes management is not predicated on a sole foundation of medical knowledge but rather is established by social relationships, cultural norms, traditional expectations and community factor.

Table 5 Socio-Cultural Facilitators of Adherence to Gestational Diabetes Management among Respondents (N = 128)

Facilitator Dimension	Mean	Standard Deviation	Interpretation
Family support	3.01	0.76	High influence
Health education	2.95	0.79	High influence
Healthcare worker Support	2.91	0.81	High influence
Religious support	2.83	0.82	Moderate-high influence
Community support	2.78	0.80	Moderate-high influence
Financial support	2.74	0.84	Moderate-high influence

Overall Mean Score = 81.44, Standard Deviation = 18.62. Source: Field Survey, 2025

Socio-cultural facilitators (e.g., family, friends and faith community, and health systems) were found to be instrumental in reinforcing gestational diabetes management among the participants of this study, pregnant mothers in Osun State. The overall mean score of 81.44 ± 18.62 was obtained. Standard Deviation (SD) demonstrates favourable social and health care conditions contributed to the positive adherence among a significant number of the participants. The strongest factor that promotes adherence is positive family support (Mean= 3.01, SD= 0.76). Emotional support, material help, financial aid, and treatment reminders from husband or relatives or family members led to better adherence to recommended gestational diabetes management practices. Adherence to diet, medication, blood glucose monitoring, and clinic attendance was higher among pregnant women who had strong family support. Health education had a strong effect on adherence behaviour (Mean = 2.95, SD = 0.79). This means that counselling, antenatal education, and increased awareness of gestational diabetes contribute to a better understanding of the disease and the necessity of compliance among affected pregnant women. Therefore, information accessibility may enhance adherence behaviour by promoting knowledge on the health risks for mother and child.

Being a 'friendly healthcare provider' was also a key adherence enabler (Mean = 2.91, SD = 0.81). The result implies that such factors as respectful communication, advice and comfort from the health professional and positive experiences in the clinic motivated the pregnant diabetic women to continue attending the clinic and following medical advice. Therefore, in pregnant women with gestational diabetes, trusting and confidence in health care providers might be associated with better treatment adherence. Religious support also contributed meaningfully to adherence behaviour (Mean = 2.83, SD = 0.82). This implies that religious teachings and spiritual encouragement promoting hospital treatment, medication adherence, and antenatal care attendance positively influenced healthcare behaviour among pregnant women. The finding suggests that religion may function as a supportive healthcare resource when spiritual beliefs encourage medical compliance rather than discourage it.

Support from community (M = 2.78, SD = 0.80) and financial aid (M = 2.74, SD = 0.84) were also facilitators of the adherence for the participants. Local members of the population, community organizations, and programs offering maternal health care may contribute to alleviating the sense of isolation and encouraging expectant mothers to comply with the recommendations of healthcare providers.

DISCUSSION

The result of this study indicated that many of the pregnant women were non-adherent to gestational diabetes management, which is more than half of the total pregnant women involved in the study. The implication of this finding is that adherence to GDM management continues to be a huge public health issue which could further exposes mothers and their unborn babies to a higher risk of experiencing adverse pregnancy outcomes. This result is in line with the scoping review done by Asiedu-Danso, Kretchy, and Sekyi (2021) which revealed that compliance to gestational diabetes treatment was poor. Nonetheless, the finding is in contrast to that of Adeniregun et al. (2025) who found a high dietary compliance (82.6%) of pregnant women with gestational diabetes in a tertiary hospital. This disparity could be because Adeniregun et al (2025) measured only dietary compliance while this study investigated total adherence encompassing medication, clinic visit, blood glucose testing and lifestyle change. Furthermore, women receiving specialist care in tertiary hospitals are likely to receive more comprehensive counselling and follow-up than participants recruited from general antenatal clinics. The present finding therefore demonstrates that while adherence to specific components of treatment such as diet may be satisfactory, comprehensive adherence to gestational diabetes management remains inadequate among many pregnant women in Osun State.

Furthermore, the study found that cultural beliefs, family pressure and religious and spiritual beliefs significantly predicted non-adherence to gestational diabetes management. This indicates that pregnant women who were strongly influenced by cultural expectations, family opinions, and religious beliefs were significantly more likely to exhibit poor adherence to recommended GDM management practices. This result is substantiated by the study of Onwuchuluba et al. (2021) who reported that cultural beliefs, use of native medicine, stigma, poor communication between patients and clinicians as well as the non-existence of family support also contributed to poor compliance to diabetes care. Similarly, Mdoe et al. (2022) also revealed that the key barriers to gestational diabetes management among African women were poverty, low levels of health literacy, myths around diabetes in pregnancy, absence of family support, and socio-cultural practices. These barriers can be the reason for the non-adherence rate among the respondents in this research to be high.

This result is in line with the finding of Asiedu-Danso et al. (2021) who reported that women with inadequate social support, low level of education and drug related misconceptions were at a higher risk of non-adherence to gestational diabetes management. These findings indicate that commitment to gestational diabetes management is shaped not solely by medical recommendations but also by deeply entrenched cultural and religious beliefs, the expectations of family members, and the collective ideals of the community.

In similar vein, Mdoe et al. (2022) reported that sociocultural beliefs, poverty and family support were the main drivers for inadequate care of gestational diabetes in Africa. Moreover, Onwuchuluba et al. (2021) found that diabetes care adherence was not a result of singular personality traits but rather a four-dimensional blend of connected fields of influence that included the individual, the interpersonal, the institutional, and the community. The result of the current study also corroborates with Fasanu et al. (2025) who signified that cultural beliefs, partner support and religious beliefs were mediating factors of maternal healthcare services utilization. Consequently, the result revealed that family support, health education and support from health care worker were most influential factor for good adherence to gestational diabetes management. The findings indicated that these factors were protective factors of non-adherence. This co-finding resonates with Asiedu-Danso et al. (2021) that counselling, health education and positive social support were facilitators to medication adherence in women with gestational diabetes. Likewise, culturally competent caregiver provider, strong familial support and open communication between health care provider and patient (Onwuchuluba et al. 2021). The alignment of the current results with prior research underlines the importance of interpersonal and organizational support as a key facilitator in maintaining adherence. Emotional support, financial help and practical assistance are vital in helping family members comply with dietary restriction, medication regimes and clinic visits. In the same way, the adherence of pregnant women is enhanced through the use of constant counselling, reassurance and tailored information from healthcare professionals, which dispels myths related to gestational diabetes. Hence, the result implies that capacity building for the delivery of family-centred maternal care services and strengthening patient-provider communication are key strategies for improving pregnant women's adherence.

CONCLUSION

This study found that compliance with the management of gestational diabetes mellitus (GDM) among pregnant women in Osun State is still poor as more than half of the participants were non-compliant to the management recommendations. Results further revealed that socio-cultural factors and particularly cultural beliefs, family pressure and religious and spiritual beliefs were the main contributors to non-adherence, while family support, health education and healthcare provider support were facilitators of good adherence. In general, the findings suggest that good adherence to gestational diabetes management is influenced by a myriad of socio-cultural factors. Thus, culturally appropriate health education, enhanced family participation, supportive health care and increased access to maternal health care services would contribute to improved adherence and success for maternal and neonatal health outcomes.

Implications of the Findings

The results obtained in this study illustrate that adherence to gestational diabetes management is heavily shaped by the social and cultural context of pregnant women. The strong positive influence of cultural beliefs, family pressure, religious or spiritual beliefs on adherence indicates the importance of social norms, values, and belief systems in health-related behaviours. This indicates that during

pregnancy, health-related seeking behaviour is socially influenced or constructed by family, community and religious institutional expectations and practices. The result that family support is a strong predictor of adherence also underlines the significance of the family as a social unit for maternal health. Families offer emotional support and information as well as instrumental assistance that may enable or impede the ability to follow through the prescribed regimens of diabetes care. This suggests that gestational diabetes management interventions need to extend beyond the individual pregnant woman to engage spouses, family members, and caregivers.

The strong impact of healthcare worker support and health education also highlights the role of healthcare providers in the facilitation of socialization and behaviour change. Communication and health counselling that is culturally appropriate and positive relationships between healthcare professionals and pregnant women may create trust, increase knowledge and positively influence compliance with the management recommendations. This finding reveals the importance of healthcare systems becoming patient-centred and culturally sensitive in the provision of maternal care.

RECOMMENDATIONS

1. Healthcare professionals should create and execute culturally competent health education programs that could correct misconceptions and negative societal and religious influences hindering pregnant women from complying with gestational diabetes care.
2. Caregivers, spouses, and other family members should be part of the antenatal care, with them attending health counselling and education sessions so that they could be a source of encouragement rather than a source of pressure on the family to adhere to treatment.
3. Support should be sought from religious leaders through tailored training so that they could become partners in maternal health promotion and to discourage practices and beliefs that undermine adherence to gestational diabetes management.
4. Health personnel should be trained periodically in patient-centred communication, counselling and cultural competence to enhance the level of support given to pregnant women with gestational diabetes.
5. The maternal health education on gestational diabetes needs to be improved in the ANC clinic and this should focus on continuous education on healthy eating, medication, adherence to blood glucose metering, exercise, and possible maternal and fetal complications due to poor control of the illness.

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