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Knowledge on Gestational Diabetes Mellitus and Its Predictors among Pregnant Women Attending Antenatal Visits at Two Health Facilities in Buea, South-West Region of Cameroon

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Abstract

Background: Gestational Diabetes Mellitus (GDM) is a considerable public health problem, especially in low-resource communities, where a lack of knowledge among pregnant women may hinder optimal control. This study was aimed at assessing the knowledge of gestational diabetes mellitus and its predictors among pregnant women attending antenatal visits at two health facilities in Buea, South-West Region of Cameroon. **Method:** We conducted a cross-sectional study among 500 pregnant women, selected using the convenience sampling technique. Data were collected through the administration of an interviewer-administered questionnaire designed using Epi Info version 7.2.5.0. The questionnaire determined the knowledge about screening, treatment, and complications of GDM. Descriptive and multivariate logistic regression analyses were undertaken with the aim of determining predictors of knowledge of GDM. **Results:** The mean age of the participants was 28.87 years (SD = 5.33). Just 32.4%(95% CI [28.3, 36.5]) had adequate knowledge about GDM screening, treatment, and complications. The level of knowledge was strongly predicted by age (18 - 25 years: aOR = 3.2, 95% CI: 1.52 - 6.75, p =

0.002), number of children (1 - 2 children: aOR = 4.0, 95% CI: 1.174 - 13.775, p = 0.027; 3 - 4 children: aOR = 4.8, 95% CI: 1.063 - 21.84, p = 0.041), and marital status (married: aOR = 1.2, 95% CI: 1.072 - 1.762, p = 0.016). Also, participants with no formal education (aOR = 0.14, 95% CI: 0.124 - 0.991, p < 0.001), primary education (aOR = 0.4, 95% CI: 0.245 - 0.641, p < 0.001), and secondary education (aOR = 0.11, 95% CI: 0.101 - 0.161, p < 0.001) had lower odds of good knowledge compared to those at the tertiary level. **Conclusion:** This study reveals a huge knowledge gap regarding GDM among pregnant women attending antenatal care in Buea. To address this, we suggest policy-making interventions to introduce structured programs provided by healthcare professionals, and specific strategies should be employed regarding older, primiparous, and less-educated women. These initiatives are vital in alleviating GDM morbidity levels and establishing effective national recommendations.

Keywords

Gestational Diabetes, Knowledge, Predictors, Pregnant Women

1. Introduction

Gestational diabetes mellitus (GDM) is glucose intolerance of variable severity with onset or first recognition during pregnancy. Globally, many people are developing gestational diabetes, especially in Southeast Asia. Depending on the setting and screening approach, the prevalence of GDM has been reported to vary between 1% and 28% [1]. Based on the most recent statistics of the International Diabetes Federation (IDF) Diabetes Atlas, the prevalence of GDM among women in Cameroon is estimated at 6.1%, affecting about 76,954 live births [2]. In sub-Saharan Africa, the prevalence of GDM has been reported to vary between 3.05% and 10.8% [2] [3]. The increasing prevalence can be associated with late childbearing age, higher body mass index, and cultural background. Also, the increasing rate of GDM mirrors the rise in type 2 diabetes in the general population [4]. The most prevalent predisposing factors of GDM are maternal age, history of macrosomic babies, previous pregnancy terminated by abortions or stillbirths, and family history of diabetes in pregnancy. Another risk factor of GDM is weight gain between pregnancies, which is also considered to be one of the most widespread modifiable factors. Blood sugar imbalance in pregnancy can influence the immediate and long-term health of the mother and her baby. During GDM, the risk of maternal and neonatal complications is high [5] [6].

In Cameroon, reports on the prevalence of GDM have mostly expressed the deficiency of research in certain areas, as is the case in the South West Region, where little research on GDM (including awareness) has been conducted [7]. Health literacy is an emerging and relevant factor that has been demonstrated to reduce the risk of negative outcomes among non-pregnant diabetic patients [8].

The enhancement of health literacy is beneficial because it enables individuals to understand and embrace good health practices. The problem, though, is that the management of GDM involves women having to accept their diagnosis within a short span of time. As such, acquiring the health literacy skills and knowledge needed to learn how crucial screening and managing the condition are, in this very short window period, is not always easy [9]. According to health behaviour theories such as the Health Belief Model, knowledge is likely the most influential cognitive determinant of behaviour. Knowledge of the possible consequences of a disease is an established behaviour change stimulator. Knowledge shapes the perception of risk and also the benefits, encouraging necessary actions like getting screened for GDM [10]. Women with GDM need to know the consequences of the condition and the importance of controlling their blood glucose levels in order to motivate them to eat nutritiously and become more physically active [11].

However, the level of knowledge that women have about GDM can vary due to several factors, including their education, language proficiency, and personal history with GDM diagnosis [12]. There is limited data on the knowledge of GDM, its predictors, screening, and treatment among women with and without GDM, especially in developing nations where health care is accessible to only a limited number of women. Greater insight into their knowledge will help in designing interventions that would promote a healthy lifestyle, better health-seeking behaviour, and enhance early detection and treatment of GDM [13]. Given the rising burden of GDM in Cameroon and the lack of evidence on pregnant women's knowledge, measuring their knowledge of GDM and identifying its predictors is important to inform preventive strategies.

2. Materials and Methods

2.1. Study Design and Settings

A hospital-based cross-sectional study was carried out in the Buea Health District (BHD), South West Region of Cameroon, from February to June 2024. This health district has a total population of 169,746 (2017). The BHD has seven health areas with over 48 health facilities, all of which offer antenatal care. A simple random sampling was used to choose two health facilities. This was done by writing down the names of all the eligible health facilities on slips of paper, which were put in a container, and two were randomly drawn out without replacement. The selection of the two health facilities was done as a representative sample in order to statistically project the coverage of antenatal care in the whole district. The results in these facilities can be used as a point estimate, indicating that the rate of pregnant women utilizing regular antenatal care may be used to give an indication of the probable percentage of coverage in the district.

2.2. Study Population and Sampling

This study used convenience sampling to recruit a total of 500 pregnant women aged 16 - 45 years attending regular antenatal clinics at two selected health facili-

ties within the Buea Health District (BHD). The sample size was calculated using Cochran's formula.

$$n = \frac{Z^2 p(1-P)}{e^2}$$

For a z-value of 1.96 as the standard normal variate at a 95% confidence level, an error margin of 5% (e), and a prevalence of 50% (this method was used because there were no previous conclusive studies on the issue in Cameroon), a minimum sample size of 384 participants was required; however, we finally recruited 500 volunteer pregnant women for this study.

2.3. Inclusion and Exclusion Criteria

Inclusion criteria

Pregnant women aged 16 - 45 years were received for regular antenatal care within two selected health facilities of the Buea Health District.

Exclusion criteria

Pregnant women with pre-existing diabetes.

Pregnant women who were not residents of the Buea Health District.

2.4. Data Collection

Data were collected using an interviewer-administered questionnaire built using Epi Info (Version 7.2.5.0). Data collectors with a minimum qualification of a BSc in Health Sciences were trained for one day prior to data collection. The objectives of the study, the questionnaire content, and the ethical principles of informed consent and confidentiality were explained to them. Pre-testing was done among 7 pregnant women to ensure validity and reliability. The questionnaire was then administered in the English language to collect data. It had three sections: socio-demographics, clinical/obstetric/lifestyle characteristics, and knowledge of GDM. A total of sixteen questions were asked to measure their knowledge of GDM and its risk factors. A score of 1 was assigned for each correct response and 0 for an incorrect response. An overall score of 10 and above was classified as good knowledge, using the Blooms criteria, and a score below the cutoff point was considered poor knowledge. This cutoff was established by analyzing the distribution of the scores, which was in line with thresholds of similar research to indicate a sufficient level of knowledge [14].

2.5. Data Management and Analysis

Data collected from participants were coded accordingly, and the questionnaire was double-checked for consistency. Missing values were replaced with the mean values. The data were entered into Microsoft Excel 2016 for cleaning and management. The cleaned data were imported to the Statistical Package for Social Sciences (SPSS version 26) for statistical analysis. Descriptive statistics were used to present frequencies and percentages. The chi-square test was used to test associations, and logistic regression analysis was used to determine predictors of good

knowledge. The choice of the predictors to be included in the multivariate logistic regression model was done in two phases. To begin with, a simple logistic regression analysis was conducted; variables with p-values ≤0.2 cutoff were considered significant for the multivariate model to ensure that we do not dismiss some important potential confounding variables prematurely. A multivariate logistic regression model was then developed using a manual selection of variables that met the 0.2 cutoff. with a stricter significance level of $p < 0.05$ to determine the final predictors of the outcome. Odds ratio (OR) estimates and confidence interval (95% CI) with p values <0.05 were considered statistically significant.

3. Results

3.1. Socio-Demographic Characteristics of the Pregnant Women

Table 1 below shows the sociodemographic characteristics of the study participants. A total of 500 participants were recruited for this study, with a mean age of 28.87 years and a standard deviation of 5.33 years. The majority of the study participants were within the age group of 26 - 35 years, 274 (54.8%). Regarding gestational age, 372 (74.4%) were within a gestational age of 27 - 28 weeks. In terms of educational level, nearly half had tertiary education 224 (44.8%) had achieved a tertiary education. Looking at the number of children, most participants 238 (47.6%) had 1 - 2 children. Most of the study participants 272 (54.4%) were self-employed.

Table 1. Socio-demographic characteristics of pregnant women.

Variable	Category	Frequency	Percentage (%)
Age (years)	18 - 25	158	31.6
	26 - 35	274	54.8
	36 - 42	68	13.6
	Total	**500**	**100**
Gestational age weeks	24 - 26 weeks	128	25.6
	27 - 28 weeks	372	74.4
	Total	**500**	**100**
Educational level	No formal education	38	7.6
	Primary	40	8.0
	Secondary	198	39.6
	Tertiary	224	44.8
	Total	**500**	**100**
Number of children	1 - 2	238	47.6
	3 - 4	122	24.4

Continued

	None	140	28.0
	Total	500	100
Occupation	Employed	132	26.4
	Self employed	272	54.4
	Unemployed	96	19.2
	Total	**500**	**100**

3.2 Distribution of Knowledge Responses about the Meaning of GDM in Pregnant Women

Out of the 500 participants that were interviewed, the majority, 168 (33.6%), didn't know what gestational diabetes (GDM) was; 150 (30%) said it was diabetes during pregnancy; 96 (19.2%) said it was a condition where blood sugar is stable; and 86 (17.2%) said it was a high blood sugar level after birth (Figure 1).

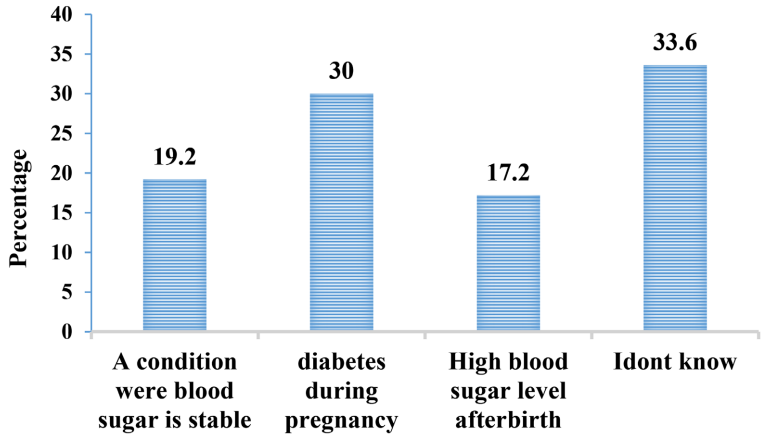

Figure 1. Distribution of knowledge responses about the meaning of GDM in pregnant women.

3.3. Knowledge of Screening, Treatment, and Complications of GDM

When evaluating the level of knowledge on screening, treatment, and complications of GDM among pregnant women (Table 2), the majority, 338 (67.6%), said they had never heard about GDM. A great proportion, 432 (86.4%) of the women believed that diabetes cannot occur during the first pregnancy. Regarding family history of diabetes as a risk factor of GDM, 342 (68.4%) of the participants did not believe a family history of diabetes could be a risk factor for diabetes during pregnancy. The majority of the participants, 448 (89.6%), believed that excessive consumption of sugar could cause GDM. A significant proportion of the pregnant women 408 (81.6%), were aware of blood tests for diabetes. More than half of the participants were of the opinion that testing for diabetes during pregnancy is necessary. Furthermore, 208 (41.6%) believe that diet and exercise can prevent GDM,

while 184 (36.8%) acknowledged insulin can treat GDM. A significant majority of the participants 480 (96%), believed that the mother cannot be harmed, 316 (63.2%), if GDM is left untreated. In terms of the risk in developing GDM, almost all the participants, 374 (74.8%), did not believe mothers with GDM are at risk of developing diabetes in the future.

Table 2. (a) Knowledge on screening, treatment, and complications of GDM; (b) Knowledge on screening, treatment, and complications of GDM.

(a)		
Variable	**Frequency (N = 500)**	**Percentage (%)**
Heard about gestational diabetes mellitus		
No	338	67.6
Yes	162	32.4
Total	500	100
Diabetes can occur for the first time in pregnancy		
No	432	86.4
Yes	68	13.6
Total	500	100
Family history of diabetes is a risk factor for diabetes in pregnancy		
No	342	68.4
Yes	158	31.6
Total	500	100
Pre-pregnancy obesity is a risk factor for diabetes		
No	386	77.2
Yes	114	22.8
Total	500	100
Diabetes in a previous pregnancy is a risk factor for diabetes in the current pregnancy		
No	362	72.4
Yes	138	27.6
Total	500	100
Rapid weight gain during pregnancy is a risk factor for diabetes in pregnancy		
No	326	65.2
Yes	174	34.8
Total	500	100

Continued

(b)		
Variable	**Frequency (N = 500)**	**Percentage (%)**
Excessive consumption of sugar can cause GDM		
No	52	10.4
Yes	448	89.6
Total	500	100
Consumption of fatty food can cause GDM		
No	394	78.8
Yes	106	21.2
Total	500	100
Heard about the blood test for diabetes		
No	92	18.4
Yes	408	81.6
Total	500	100
Testing for diabetes in pregnancy is necessary		
No	238	47.6
Yes	262	52.4
Total	500	100
Diet and exercise can prevent GDM		
No	292	58.4
Yes	208	41.6
Total	500	100
Insulin drugs are required to treat GDM		
No	316	63.2
Yes	184	36.8
Total	500	100
GDM disappears after pregnancy		
No	480	96
Yes	20	4
Total	500	100

Continued

The baby can be harmed if GDM is not treated		
No	316	63.2
Yes	184	36.8
Total	500	100
Mothers with GDM are at risk of diabetes in the future		
No	374	74.8
Yes	126	25.2
Total	500	100

3.4. Source of Information about GDM in Pregnant Women

Nearly half of the participants (45%) who heard about GDM heard it from healthcare workers; 32.5% received their information about GDM from friends, while 22.5% obtained their information from mass media (Figure 2).

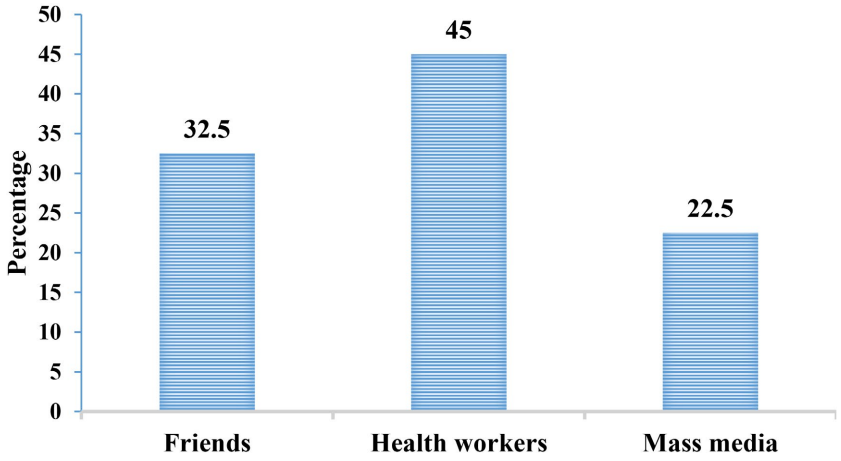

Figure 2. Source of information about GDM in pregnant women.

3.5. Overall Knowledge about GDM in Pregnant Women

Overall, 16 questions were asked to evaluate knowledge on GDM; the computed score showed that, of the 500 participants interviewed, with a mean of 5.66 (SD = 4.48), only 162 (32.4%) had good knowledge on screening, treatment, and complications of GDM (Figure 3).

3.6. Factors Associated with Good Knowledge of GDM in Pregnant Women

Table 3 shows a bivariate analysis to identify factors associated with overall good knowledge of GDM. Age category, number of children, and educational level were found to be significantly associated ($p < 0.05$) with good knowledge of GDM.

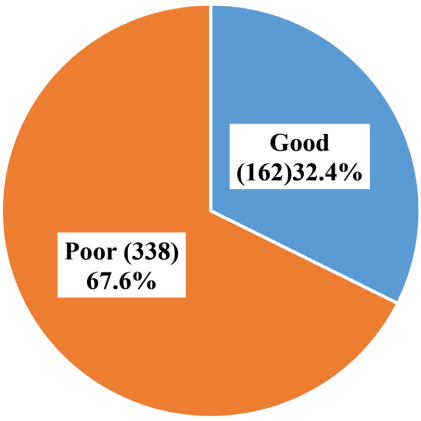

Figure 3. Overall knowledge about GDM in pregnant women.

Table 3. Factors associated with good knowledge of GDM in pregnant women.

		Knowledge				
Variable	**Category**	**Good**	**Poor**	**Total**	X^2	**p-value**
Age category	18 - 25	86 (54.4%)	72 (45.6%)	158 (100%)	78.42	**<0.001**
	26 - 35	62 (22.6%)	212 (77.4%)	274 (100%)		
	36 - 42	14 (20.6%)	54 (79.4%)	68 (100%)		
	Total	**162 (32.4)**	**338 (67.6)**	**500 (100)**		
Gestational age weeks	24 - 26 weeks	42 (32.8)	86 (67.2)	128 (100)	0.013	0.495
	27 - 28 weeks	120 (32.3)	252 (67.7)	372 (100)		
	Total	**162 (32.4)**	**338 (67.6)**	**500 (100)**		
Number of children	1 - 2	69 (29)	169 (71)	238 (100)	38.481	**<0.001**
	3 - 4	66 (54.1)	56 (45.9)	122 (100)		
	None	27 (19.3)	113 (80.7)	140 (100)		
	Total	**162 (32.4)**	**338 (67.6)**	**500 (100)**		
Marital status	Cohabiting	26 (24.5)	80 (75.5)	106 (100)	3.924	0.131
	Married	94 (35.1)	174 (64.9)	268 (100)		
	Single	42 (33.3)	84 (66.7)	126 (100)		
	Total	**162 (32.4)**	**338 (67.6)**	**500 (100)**		
Educational level	No formal education	1 (2.6)	37 (97.4)	38 (100)	317.284	**<0.001**
	Primary	1 (2.5)	39 (97.5)	40 (100)		
	Secondary	2 (1)	196 (99)	198 (100)		
	Tertiary	158 (70.5)	66 (29.5)	224 (100)		
	Total	**162 (32.4)**	**338 (67.6)**	**500 (100)**		

Continued

Occupation	Employed	32 (24.2)	100 (75.8)	132 (100)	5.685	0.058
	Self employed	98 (36)	174 (64)	272 (100)		
	Unemployed	32 (33.3)	64 (66.7)	96 (100)		
	Total	**162 (32.4)**	**338 (67.6)**	**500 (100)**		

3.7. Predictors of Good Knowledge of GDM in Pregnant Women

A logistic regression analysis model was done (Table 4) to identify predictors of good knowledge of GDM. A simple logistic regression model was done with cutoff $p \leq 0.2$ being considered as significant for the multivariate. After controlling for confounders, using the manual method multivariate logistic regression, participants aged 18 - 25 years had 3.2 times higher odds of good knowledge (aOR = 3.2, 95% CI: 1.52 - 6.75, p = 0.002) compared to those aged 36 - 45 years. Similarly, individuals with 1 - 2 children (aOR = 4.0, 95% CI: 1.174 - 13.775, p = 0.027) and 3 - 4 children (aOR = 4.8, 95% CI: 1.063 - 21.84, p = 0.041) had significantly higher odds of good knowledge than those with no children. Participants who were married exhibited higher odds of good knowledge compared to single individuals (aOR = 1.2, 95% CI: 1.072 - 1.762, p = 0.016). Educational level was also a significant predictor, with no formal education (aOR = 0.14, 95% CI: 0.124 - 0.991, p <0.001), primary education (aOR = 0.4, 95% CI: 0.245 - 0.641, p < 0.001), and secondary education (aOR = 0.11, 95% CI: 0.101 - 0.161, p < 0.001) all associated with substantially lower odds of good knowledge compared to those at the tertiary level.

Table 4. Predictors of good knowledge of GDM in pregnant women.

Variable	Category	cOR (95%CI)	p-value	aOR (95%CI)	p-value
Age category	18 - 25	1.19 (1.09 - 2.43)	0.011	3.2 (1.52, 6.75)	**0.002**
	26 - 35	0.29 (0.19 - 2.15)	0.59	1.05 (0.52, 2.12)	0.891
	36 - 42	1		1	.
Number of children	1 - 2	1.73 (1.03 - 2.91)	0.039	4.0 (1.174, 13.775)	**0.027**
	3 - 4	4.95 (2.81 - 8.72)	0.012	4.8 (1.063, 21.84)	**0.041**
	None	1		1	.
Marital status	Cohabiting	0.65 (0.37 - 1.15)	0.14	0.6 (0.039, 2.237)	0.238
	Married	1.08 (0.70 - 1.67)	0.73	1.2 (1.072, 1.762)	**0.016**
	Single	1		1	.
Occupation	Employed	0.64 (0.37 - 1.11)	0.11	4.4 (0.581, 33.732)	0.151
	Self employed	1.13 (0.69 - 1.85)	0.63	1.6 (0.483, 5.382	0.437
	Unemployed	1		1	.

Continued

Educational level	No formal education	0.07 (0.01 - 0.11)	<0.001	0.14 (0.124, 0.991)	**<0.001**
	Primary	0.1 (0.06 - 0.21)	<0.001	0.4 (0.245, 0.641	**<0.001**
	Secondary	0.2 (0.01 - 0.42)	<0.001	0.11 (0.101, 0.161)	**<0.001**
	Tertiary	1		1	.

4. Discussion

The results indicated that merely 32.4% of the respondents had a good level of knowledge about the screening process, treatment options, and complications of GDM. The principal sources of information were mass media, friends, and health workers, whereas age, marital status, number of children, and level of education were found to be predictors of good knowledge of GDM. These results are relevant to understanding the gaps in and determinants of knowledge among pregnant women in this region and contribute to the overall discussion on maternal health in sub-Saharan Africa.

4.1. Knowledge Levels and Sources of Information

The fact that just 32.4% of the pregnant women had good knowledge of the screening, management, and complications of GDM suggests a substantial knowledge gap in this population. This is, indeed, a concern given the rising global burden of GDM and the associated maternal and foetal complications, including preeclampsia, macrosomia, and higher caesarean section rates. Related studies conducted in the sub-Saharan African region report similarly low awareness of GDM. For example, research conducted in Uganda at the Kawempe National Referral Hospital discovered that awareness of GDM was low, and only a proportion of the women had satisfactory knowledge based on their level of education and exposure to health education [15]. In Southern Nigeria, research noted that women in their reproductive years had low awareness of GDM, and a high percentage lacked knowledge of the effects of the condition [13]. The similarities in knowledge levels across Uganda, Nigeria, and Cameroon can be explained by regional issues, including inadequate and uneven health education in the course of antenatal care, the lack of consistency in GDM screening policy, and socioeconomic obstacles, including low female literacy rates, which hinder understanding of health information about GDM [16].

In Cameroon, the health system limitations, such as the lack of professional staffing, insufficient medical equipment, and evidence-based practices, once again restrict the opportunities for GDM education during antenatal visits [17]. Although this study did not measure the impact of some external factors, our findings of poor knowledge must be related to Cameroon's challenging healthcare system. In politically unstable areas like Buea in the South-West Region of Cameroon, it is possible for access to healthcare and routine antenatal care to be disrupted, limiting potential opportunities for health education [18]. Traditional food taboos in

pregnancy, beliefs about obesity signifying wealth and status, and use of traditional healers are some of the cultural practices that could lower biomedical knowledge of GDM in Cameroon because indigenous beliefs reign supreme in Cameroon over the biomedical facility-based information [19]. Healthcare professionals were the leading but not majority source of knowledge, similar to findings in Kenya, wherein one-third of informed pregnant women identified health facilities as their primary source of information [14]. This underscores the vital importance of antenatal care (ANC) visits in the distribution of health-related information. The dependence on mass media and peers as significant sources suggests a possibility of misinformation, as these media might not always offer evidence-based or correct information. One study in Bangladesh stated that while mass media can enhance health literacy, it is not always in-depth for full comprehension of diseases like GDM [20]. This indicates the importance of facility-based education programs that are structured and adapted to local conditions in Buea, including incorporation of literacy-sensitive resources, conducting community work to tackle cultural beliefs, and the enhancement of health systems to address the barriers of accessibility.

4.2. Predictors of Good Knowledge of GDM in Pregnant Women

The recognition of age, number of children, marital status, and level of education as important predictors of good GDM knowledge is in line with previous studies. The level of education, specifically, has been consistently proven to affect health literacy and knowledge of GDM. A Tanzanian study revealed that educationally more advanced women were likely to be familiar with GDM, due to greater exposure to health information through media and health-related literature [21]. Likewise, South Indian research noted that higher educational levels were related to increased knowledge of GDM, most likely because of greater understanding of information on health made available during ANC [22]. Parity as a predictor may reflect life exposure to health information through repeated ANC visits. Multiparous women may have had more exposure to interactions with healthcare systems, as seen in one study in Ghana, where multiparity was associated with higher GDM awareness [23]. Unexpectedly, younger women showed higher knowledge levels compared to older women, which may reflect exposure to digital media and social networks. This was in line with a study carried out in Samoa, where younger women had more knowledge [24]. Marital status as a predictor could be linked to social support systems, where married women have the advantage of spousal or familial support in seeking health information, a trend observed in a Malaysian study of GDM knowledge [25].

The low knowledge level among pregnant women highlights the urgent need for structured educational interventions during ANC visits to improve the screening and management of GDM. Healthcare providers, being major sources of information, must equip themselves to provide simple, evidence-based education during antenatal care (ANC) visits. In addition, mass media can effectively spread accurate health campaigns to reach women who rely on such media, as suggested

by studies on public health education [20]. The critical function of education as a marker suggests that interventions should be specifically designed for women with lower levels of education, who may have difficulty interpreting complicated health information. Community-based interventions, particularly those using community health workers, have been found to be effective in enhancing diabetes knowledge among vulnerable populations and can be modified for gestational diabetes mellitus (GDM) education in Buea [26]. With the late booking of ANC, which mostly had gestational age 27-28 weeks visits as seen in Buea, policy should encourage early ANC booking to allow for maximum opportunities for education and screening [27].

5. Limitations

The use of self-reported data may introduce the risk of recall and social desirability bias. Measurement bias due to questionnaire design. Moreover, convenience sampling may limit the generalizability of the findings. Furthermore, exchanging knowledge through friends and mass media raises questions about its validity. A single-district, hospital-based design may limit generalizability to all pregnant women in Cameroon.

6. Conclusion

The study reveals a huge knowledge gap regarding GDM among pregnant women attending antenatal care in Buea, pointing out the need for more serious educational interventions. The results suggest policy changes to inform comprehensive GDM education as a standard of care, using health care providers as the key sources of information to enhance awareness of screening and early treatment of complications. Targeted programs should focus on less-educated, older, and primiparous women, addressing the predictors of poor knowledge. Additionally, these findings recommend large-scale multicentric studies across Cameroon to confirm and extend these findings, establishing national recommendations to minimize the burden of GDM-related maternal and neonatal morbidity.

Ethical Consideration

The study protocol was approved by the Institutional Review Board of the Faculty of Health Sciences of the University of Buea (Ref: 2024/2377 - 02/UB/IRB/FHS). An additional administrative approval was provided by the Regional Delegation of Public Health for the South-West Region (Ref: P42/SWR/RDPH/616/52). The research was carried out in line with the ethical requirements for studies on humans, following the Helsinki Declaration.

Consent to Participate

Potential participants were told the aims and benefits of contributing to the study, and written informed consent was signed by potential pregnant women who volunteered to take part in the study and by parents/guardians of subjects who were

below 21 years. Participants were free to withdraw from the study at any point in time. We enrolled 500 pregnant women who sought antenatal care services and were aged between 16 and 45 years.

Data Availability

Data will be made available by the authors upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Abbreviations

ANC	Antenatal Care
aOR	Adjusted Odds Ratio
BHD	Buea Health District
GDM	Gestational Diabetes Mellitus
IDF	International Diabetes Federation
RDPH	Regional Delegation of Public Health
SWR	South West Region