Original Article

Maternal-Fetal Medicine®

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Postpartum Glucose Follow-up Screening Among Women With Gestational Diabetes Mellitus: A Retrospective Cohort Study

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Abstract

Objective: To evaluate the impact of pregestational and gestational characteristics on postpartum glucose follow-up screening (PGFS) compliance in women diagnosed with gestational diabetes mellitus (GDM) in southwest China.

Methods: This retrospective cohort study was conducted in West China Second Hospital, Sichuan University. Pregestational and gestational factors were extracted from hospital records and compared between women who completed PGFS and those who did not. The screening method chosen was the 75 g oral glucose tolerance test (OGTT), performed 4–12 weeks postpartum. Univariate analysis, logistic regression analysis, and Cochran-Armitage test were used to assess associations between maternal characteristics and PGFS compliance.

Results: A total of 3047 women with GDM were included, with a PGFS completion rate of 47.2%. Of those who completed PGFS, 430 women (29.9%) presented abnormal results: 1.8% with impaired fasting glucose (IFG), 24.1% with impaired glucose tolerance (IGT), 2.2% with both IFG and IGT, and 1.8% with suspected diabetes. Independent factors associated with non-compliance to PGFS included higher pregestational BMI (odds ratio (*OR*): 0.952; 95% confidence interval (*CI*): 0.922, 0.984), multipara (*OR*: 0.721; 95% *CI*: 0.593, 0.877), use of assisted reproduction technology (ART) (*OR*: 1.427; 95% *CI*: 1.080, 1.885), excessive gestational weight gain (*OR*: 0.956; 95% *CI*: 0.936, 0.977), elevated fasting plasma glucose (FPG) prior to delivery (*OR*: 0.909; 95% *CI*: 0.835, 0.988), and undergoing cesarean section (*OR*: 1.232; 95% *CI*: 1.017, 1.492). PGFS completion rates significantly decreased with increasing pregestational BMI and earlier gestational age ($P < 0.001$).

Conclusion: Establishing dedicated postpartum follow-up teams and targeting women with higher pregestational BMI, multiparity, ART use, excessive gestational weight gain, elevated pre-delivery FPG, and those undergoing cesarean section are critical to improving postpartum GDM management.

Keywords: Diabetes mellitus, gestational; Follow-up; Influencing factors; Postpartum; Screening

Introduction

Gestational diabetes mellitus (GDM) is a common complication during pregnancy and is defined as "diabetes diagnosed in the second or third trimester of pregnancy that was not clearly overt diabetes prior to gestation."[1] The rising global prevalence of obesity, type 2 diabetes mellitus (T2DM), and increasing maternal age have contributed to a significant surge in the incidence and prevalence of GDM.[2,3] A history of GDM appears to be a strong predisposing factor in the development of overt diabetes later in life.[4,5] Women with GDM have a steep increase in T2DM episodes of about 50% to 70% after 15 to 25 years and are more likely to suffer from metabolic and cardiovascular disease in the long term.[6,7]

Numerous studies underscore the critical importance of regular and standard postpartum glucose follow-up screening (PGFS) for women with GDM, which plays a pivotal role in delaying or preventing the progression to T2DM and associated complications.[8] For example, one previous study reported that fasting plasma glucose (FPG) ≥5.1 mmol/L at 24 to 28 weeks of gestation were associated with an increased risk of postpartum diabetes, without significant threshold effects. Additionally, the 2-hour plasma glucose (PG) test was effective in identifying women at high risk for developing prediabetes or diabetes in the postpartum period among Chinese women with GDM.[9]

PGFS rates among women with a history of GDM remain suboptimal and highly variable.[8] In the United States, PGFS rates range between 23.4% from 50.0%,[10–13] while in European countries, rates fluctuate between 20% and 30%.[14–16] Limited research has explored PGFS in Asian populations. In Chinese women with a history of GDM, PGFS rates are low and the lifetime follow-up data are infrequently reported,

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Maternal-Fetal Medicine (2024) 6:4

Received: 9 November 2023 / Accepted: 29 August 2024

First online publication: 11 October 2024

http://dx.doi.org/10.1097/FM9.0000000000000252

mirroring trends seen in other countries.[17–19] Furthermore, there is substantial regional variation in PGFS rates across China, with a paucity of data in southwest China. A Chinese study conducted several years ago reported a low PGFS rate, which may no longer reflect the current socioeconomic status.[18] Another study, limited to rural areas, reported findings that may not be broadly generalizable.[19] In addition, few studies include a large number of participants. Therefore, the application of the established influencing factors is limited because of regional and sample size restrictions. This study aims to evaluate the current PGFS rate and investigate factors influencing adherence to recommended postpartum screening, thereby providing evidence to improve postpartum management in women with GDM and to facilitate earlier diagnosis of glucose abnormalities.

Methods

This retrospective cohort study was conducted at the West China Second Hospital of Sichuan University, a Class A tertiary hospital in China. Women diagnosed with GDM who delivered in 2019 were eligible for study inclusion. In collaboration with the medical team, all participants were provided with both written and verbal counseling at multiple time points during pregnancy, prior to hospital admission for delivery, and postnatally highlighting the long-term health risks of GDM, including its role as a significant risk factor for the development of T2DM and potential lifelong health implications. Consistent with the recommendations of the American Diabetes Association (ADA), participants were strongly advised to undergo postpartum oral glucose tolerance test (OGTT) between 4 and 12 weeks following delivery.

The GDM follow-up team, possessing expertise in obstetrics and gynecology, epidemiology, and statistics, reviewed medical records and conducted telephone follow-up interviews based on these records. Using the hospital's GDM follow-up management system, developed by the team, the final eligible participants were retrospectively divided into two groups: those who completed PGFS (CP group) and those who did not (NCP group).

Diagnostic criteria

According to ADA's suggestions, the standard method for assessing pregestational diabetes, GDM and glucose recovery conditions is the 75 g OGTT. The complete OGTT results requires plasma glucose (PG) values at fasting (0-hour), 1-hour, and 2-hour intervals, as suggested by the International Association of Diabetes and Pregnancy Study Group.[20] PG values were analyzed using the hexokinase method via ADVIA 2400 Chemistry System (Siemens, Germany), with a measurement range from 0.2 to 38.9 mmol/L. The reported coefficient of variation varying from 0.8%~3.1% respectively.

The standard GDM diagnosis is typically made between 24–28 weeks of gestation using a one-step approach, with diagnostic criteria based on the following thresholds: fasting PG (0-hour) ≥ 5.1 mmol/L, 1-hour PG ≥10.0 mmol/L, or 2-hour PG ≥ 8.5 mmol/L. For pregestational diabetes and postpartum diabetes, diagnosis is made according to the criteria established for non-pregnant adults. PGFS was used to classify glucose tolerance as normal, impaired fasting glucose (IFG), impaired glucose tolerance (IGT), or diabetes mellitus. IFG is defined by a FPG level of 5.6 to 6.9 mmol/L, while IGT is indicated by a 2-hour PG level of 7.8 mmol/L to 11.0 mmol/L. Diabetes mellitus is diagnosed if FPG is ≥7.0 mmol/L or 2-hour PG is ≥11.1 mmol/L. In the absence of symptomatic hyperglycemia, the diagnosis requires two abnormal test results from the same sample or in two independent test samples.

Data collection

Clinical information was independently extracted from hospital records following informed consent by two experienced researchers, including age, pregestational body mass index (BMI), Han ethnicity (yes/no), primipara (yes/no), use of assisted reproduction technology (ART) (yes/no), presence of polycystic ovary syndrome (PCOS) (yes/no), history of GDM (yes/no), family history of diabetes and hypertensive disorder (yes/no), gestational weight gain, insulin therapy during pregnancy (yes/no), FPG values during different periods of pregnancy, OGTT values, gestational age at delivery, and pregnancy outcomes (yes/no) (cesarean section, hypertensive disorders, intrahepatic cholestasis of pregnancy, placenta previa, polyhydramnios, postpartum hemorrhage, macrosomia, and preterm birth).

Age, pregestational BMI, OGTT results, and gestational age at delivery were converted to categorical variables to describe in subsequent statistical analysis. According to the criteria in the Guidelines for Prevention and Control of Overweight and Obesity in Chinese adults, BMI values were classified as underweight (BMI <18.5 kg/m^2), normal weight (18.5 kg/m^2 ≤ BMI < 24.0 kg/m^2), overweight (24.0 kg/m^2 ≤ BMI < 28.0 kg/m^2), and obesity (BMI ≥ 28.0 kg/m^2).[21] The classification of other indexes referred to clinical experts' advice.

Sample size

Sample size estimation for prevalence of PGFS is a function of expected prevalence and precision for a given level of confidence expressed by the z statistic. We set the expected prevalence at 50% and the allowable error at 2%. The calculated sample size should be at least 1072.

Statistical analysis

Excel and SPSS were used to process the required information. Continuous variables are shown as mean (standard deviation) with normal distribution. Categorical variables are shown as numbers and percentages. The study utilized the Student's *t* test to test for between-group differences in continuous data and the χ^2 test for categorical data. Logistic regression models were developed based on univariate analysis with odds ratios (*OR*) and 95% confidence intervals (*CI*). The PGFS rate changing by age at delivery, pregestational BMI, and gestational age, were analyzed by the Cochran-Armitage test. All *P* values were two-tailed, and $P < 0.05$ was considered statistically significant.

Ethical approval

The study protocol was approved by the ethics committee of the West China Second Hospital of Sichuan University and conformed to the provisions of the *Declaration of Helsinki*. This study was approved by the Ethics Committee of West China Second University Hospital, Sichuan University (Approval No.2021(181)).

Results

General information for PGFS

A total of 3047 patients with GDM were eligible, including 1437 women in the CP group and 1610 in the NCP group. The overall PGFS rate was 47.2% with an average time to follow-up review of 49.96 ± 9.30 days. Among the eligible participants, 430 women (29.9%) had abnormal PGFS results, including IFG in 1.8%, IGT in 24.1%, combined IFG+IGT in 2.2%, and potential diabetes mellitus in 1.8%. The diagnosis of possible diabetes mellitus was suggested due to the absence of evidence of hyperglycemic symptoms at the time of assessment (Fig. 1).

Factors Associated with PGFS Compliance

Comparing the pregestational and gestational characteristics of the two groups, age (MD: –0.345; 95% *CI*: –0.643, –0.048), pregestational BMI (MD: –0.460; 95% *CI*: –0.678, –0.242), Han ethnicity (*OR*: 1.808; 95% *CI*: 1.091, 2.998), primipara (*OR*: 1.443; 95% *CI*: 1.249, 1.667), ART (*OR*: 0.741; 95% *CI*: 0.599, 0.918), weight gain (MD: –0.632; 95% *CI*: –0.944, –0.320), FPG in early pregnancy (MD: –0.065; 95% *CI*: –0.101, 0.029), 0-PG (MD: –0.051; 95% *CI*: –0.088, –0.013), FPG before delivery (MD: –0.097; 95% *CI*: –0.089, –0.013), gestational age (MD: 3.205; 95% *CI*: 1.994, 4.416), cesarean section (*OR*: 0.793; 95% *CI*: 0.683, 0.922), hypertensive disorders (*OR*: 0.719; 95% *CI*: 0.530, 0.977), and preterm birth (*OR*: 0.681; 95% *CI*: 0.553, 0.840) were significantly different (Table 1).

Regression models

Model 1 showed that higher pregestational BMI (*OR*: 0.959; 95% *CI*: 0.936, 0.982), multipara (*OR*: 0.678; 95% *CI*: 0.576, 0.797), and ART utilization (*OR*: 1.434; 95% *CI*: 1.145, 1.796) were independent predictors of PGFS non-compliance (Table 2).

Model 2 showed that higher pregestational BMI (*OR*: 0.942; 95% *CI*: 0.918, 0.966), multipara (*OR*: 0.684; 95% *CI*: 0.581, 0.806), ART utilization (*OR*: 1.399; 95% *CI*: 1.115, 1.745), and more gestational weight gain (*OR*: 0.956; 95% *CI*: 0.939, 0.973) were independent determinants of failing to complete PGFS (Table 2).

Model 3 showed that higher pregestational BMI (*OR*: 0.952; 95% *CI*: 0.922, 0.982), multipara (*OR*: 0.715; 95% *CI*: 0.589, 0.868), ART utilization (*OR*: 1.510; 95% *CI*: 1.151, 1.980), greater gestational weight gain (*OR*: 0.956; 95% *CI*: 0.936, 0.976), and elevated FPG before delivery (*OR*: 0.917; 95% *CI*: 0.844, 0.997) were independent associated with PGFS non-compliance (Table 2).

Model 4 showed that higher pregestational BMI (*OR*: 0.952; 95% *CI*: 0.922, 0.984), multipara (*OR*: 0.721; 95% *CI*: 0.593, 0.877), ART utilization (*OR*: 1.427; 95% *CI*: 1.080, 1.885), greater gestational weight gain (*OR*: 0.956; 95% *CI*: 0.936, 0.977), elevated FPG before delivery (*OR*: 0.909; 95% *CI*: 0.835, 0.988), and cesarean section (*OR*: 1.232; 95% *CI*: 1.017, 1.492) were independent associated with PGFS non-compliance (Table 2).

According to the Cochran-Armitage test, the proportions of women completing PGFS declined significantly with pregestational BMI increasing and gestational age decreasing ($P < 0.001$) (Table 3).

Discussion

This study showed that the following pregestational and gestational characteristics are associated with PGFS. Interestingly, fewer women opted for PGFS if they had a higher pregestational BMI, more weight gain, and higher FPG values at various stages of pregnancy. This trend may indicate a focus on weight management by patients, indirectly hinting at their self-discipline and potentially suggesting the likelihood of PGFS, which was consistent with previous reports.[22,23] Women who have experienced childbirth may refuse to PGFS because of previous experience with PG normalization and more difficulty getting care for their children when going to the hospital or clinic for their tests.[13] ART utilization, with shorter gestational age, and even having preterm birth, were associated with a lower likelihood of attending PGFS, potentially due to increased caregiving responsibilities. Variations in statistical methods, such as using weeks instead of days of gestation, may account for discrepancies observed in prior studies.[24] Women who underwent cesarean sections or had hypertensive disorders also showed a tendency to not to take PGFS, possibly prioritizing wound recovery and blood pressure management.

Although no significant age-related differences were found, younger patients showed a higher tendency to

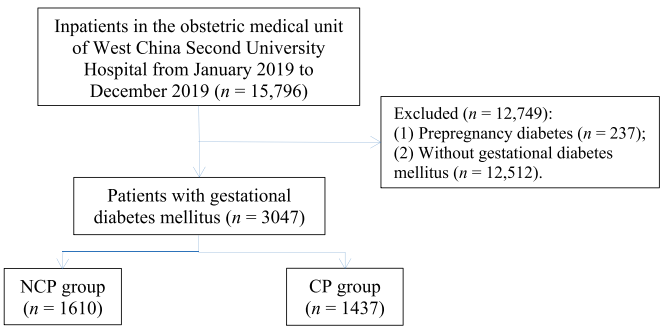

Figure 1. Flowchart of the selection process of the study. CP group: Completing postpartum glucose follow-up screening group; NCP group: Not completing postpartum glucose follow-up screening group.

Table 1

Comparison of baseline characteristics, pregnancy variables, and outcomes between postpartum glucose follow-up groups in women with gestational diabetes.

Characteristic	NCP group (*n* = 1610)	CP group (*n* = 1437)	MD/*OR* (95% *CI*)	t/χ^2	*P*
Baseline					
Age (years), mean ± *SD*	32.89 ± 4.22	32.54 ± 4.14	−0.345 (−0.643, −0.048)	−2.275*	0.023
Pregestational BMI (kg/m^2), mean ± *SD*	22.01 ± 3.16	21.55 ± 2.91	−0.460 (−0.678, −0.242)	−4.133*	<0.001
Han ethnicity, *n* (%)	1564 (97.1)	1414 (98.4)	1.808 (1.091, 2.998)	5.417†	0.020
Primipara, *n* (%)	838 (52.0)	877 (61.0)	1.443 (1.249, 1.667)	24.886†	<0.001
ART, *n* (%)	237 (14.7)	163 (11.3)	0.741 (0.599, 0.918)	7.595†	0.006
PCOS, *n* (%)	39 (2.4)	46 (3.2)	1.332 (0.864, 2.503)	1.698†	0.193
Previous GDM, *n* (%)	56 (3.5)	55 (3.8)	1.104 (0.756, 1.613)	0.264†	0.608
Family history of diabetes, *n* (%)	226 (14.0)	221 (15.4)	1.113 (0.911, 1.360)	1.092†	0.296
Family history of hypertensive disorder, *n* (%)	286 (17.8)	281 (19.6)	1.125 (0.938, 1.351)	1.067†	0.205
Characteristics during pregnancy					
Weight gain (kg), mean ± *SD*	11.50 ± 4.42	10.87 ± 4.29	−0.632 (−0.944, −0.320)	−3.970*	<0.001
Insulin usage during pregnancy, *n* (%)	166 (10.3)	138 (9.5)	0.924 (0.728, 1.172)	0.423†	0.516
FPG in early pregnancy (mmol/L), mean ± *SD*	4.63 ± 0.50	4.57 ± 0.46	−0.065 (−0.101, 0.029)	−3.531*	<0.001
OGTT values (mmol/L), mean ± *SD*					
0-h PG	4.80 ± 0.50	4.75 ± 0.50	−0.051 (−0.088, −0.013)	−2.661*	0.008
1-h PG	9.83 ± 1.47	9.80 ± 1.41	−0.041 (−0.149, 0.658)	−0.758*	0.448
2-h PG	8.61 ± 1.33	8.67 ± 1.26	0.059 (−0.037, 0.156)	1.206*	0.228
Number of abnormal OGTT values, *n* (%)					
1	764 (47.5)	725 (50.5)	1.128 (0.978, 1.300)	2.733†	0.098
2	725 (45.0)	618 (43.0)	0.921 (0.798, 1.063)	1.263†	0.261
3	121 (7.5)	94 (6.5)	0.861 (0.651, 1.139)	1.099†	0.295
FPG before delivery (mmol/L), mean ± *SD*	5.04 ± 1.09	4.94 ± 1.03	−0.097 (−0.089, −0.013)	−2.277*	0.023
Gestational age (days), mean ± *SD*	266.16 ± 18.31	269.36 ± 15.64	3.205 (1.994, 4.416)	5.189*	<0.001
Pregnancy outcomes					
Cesarean section, *n* (%)	1100 (68.3)	907 (63.1)	0.793 (0.683, 0.922)	9.151†	0.002
Hypertensive disorders, *n* (%)	110 (6.8)	72 (5.0)	0.719 (0.530, 0.977)	4.487†	0.034
Intrahepatic cholestasis of pregnancy, *n* (%)	108 (6.7)	108 (7.5)	1.130 (0.857, 1.491)	0.752†	0.386
Placenta previa, *n* (%)	75 (4.7)	56 (3.9)	0.830 (0.583, 1.182)	1.070†	0.301
Polyhydramnios, *n* (%)	62 (3.9)	54 (3.8)	0.975 (0.672, 1.414)	0.018†	0.893
Postpartum hemorrhage, *n* (%)	68 (4.2)	66 (4.6)	1.092 (0.772, 1.544)	0.246†	0.620
Macrosomia, *n* (%)	53 (3.3)	47 (3.3)	0.993 (0.666, 1.481)	0.001†	0.974
Preterm birth, *n* (%)	259 (16.1)	166 (11.6)	0.681 (0.553, 0.840)	13.011†	

*The t-value and corresponding mean difference are presented.

†The chi-square value and corresponding odds ratio are presented.

ART: Assisted reproduction technology; BMI: Body mass index; *CI*: Confidence interval; CP group: Completing postpartum glucose follow-up screening group; FPG: Fasting plasma glucose; GDM: Gestational diabetes mellitus; MD: Mean difference; NCP group: Not completing postpartum glucose follow-up screening group; OGTT: Oral glucose tolerance test; *OR*: Odds ratio; PCOS: Polycystic ovary syndrome; *SD*: Standard deviation.

complete PGFS, contrary to some previous studies.[25] Differences in age distribution and the absence of a linear trend between age and PGFS rates might explain these variations. Women with a history of GDM were also more likely to neglect PGFS due to socioeconomic factors not covered in this study, such as inadequate focus on the long-term effects of GDM, shift in attention from mothers to newborns, and lack of family support and supervision.

Given the recommendations of the ADA[1] and the American Congress of Obstetricians and Gynecologists,[26] the percentage of PGFS in our study was 47.2%, which indicated that standardization of PGFS needs to be enhanced. This result surpasses reported figures from the United States (38.9% and 9.7%),[10,27] Europe (18.5%),[16] Malaysia (35.8%),[28] and the previous study in China (32.7%).[19]

This study also showed respective rates of 1.8%, 24.1%, and 1.8% for IFG, IGT, and possible diabetes mellitus, with a similar trend compared to one previous study in China (3.3%, 26.4%, and 1.1%).[17] Among Asian Indian women, only 84.5% of women with GDM returned to normal glucose tolerance within 6 to 12 weeks, while more than 20% developed glucose intolerance within 1 year after delivery.[29] IGT appears to be the most prevalent form of postpartum dysglycemia, though our sample size was significantly larger.

Using varying guidelines for PGFS can introduce bias due to different recommended time intervals. For example, the ADA and the ACOG advise initial OGTT rather than glycosylated hemoglobin between 4 to 12 weeks postpartum for pre-diabetes or persistent diabetes.[26,30] The 5th International Workshop-Conference on GDM recommends 6 to 12 weeks after childbirth.[31]

To enhance the PGFS rate, several strategies are beneficial. Increasing the overall postpartum follow-up rate can improve PGFS compliance. Continuity of care from prenatal to postpartum stages may play a role, as postpartum women often prioritize uterine involution and pelvic floor recovery and are therefore more likely to adhere to follow-

Table 2

Influencing factors of the eligible participants who uncompleted PGFS (*n* = 3047).

Variable	Model 1, *OR* (95% *CI*)	Model 2, *OR* (95% *CI*)	Model 3, *OR* (95% *CI*)	Model 4, *AOR* (95% *CI*)
Age	1.006 (0.986, 1.025)	1.003 (0.984, 1.023)	0.999 (0.976, 1.022)	1.003 (0.979, 1.027)
Pregestational BMI	0.959 (0.936, 0.982)	0.942 (0.918, 0.966)	0.952 (0.922, 0.982)	0.952 (0.922, 0.984)
Han ethnicity	0.600 (0.357, 1.007)	0.666 (0.393, 1.129)	0.695 (0.379, 1.276)	0.718 (0.391, 1.319)
Primipara	0.678 (0.576, 0.797)	0.684 (0.581, 0.806)	0.715 (0.589, 0.868)	0.721 (0.593, 0.877)
ART	1.434 (1.145, 1.796)	1.399 (1.115, 1.745)	1.510 (1.151, 1.980)	1.427 (1.080, 1.885)
Weight gain	-	0.956 (0.939, 0.973)	0.956 (0.936, 0.976)	0.956 (0.936, 0.977)
FPG in early pregnancy	-	-	0.888 (0.710, 1.110)	0.891 (0.712, 1.116)
0-h PG	-	-	0.983 (0.800, 1.209)	0.993 (0.807, 1.222)
FPG before delivery	-	-	0.917 (0.844, 0.997)	0.909 (0.835, 0.988)
Gestational age	-	-	-	0.823 (0.493, 1.374)
Cesarean section	-	-	-	1.232 (1.017, 1.492)
Hypertensive disorders	-	-	-	0.959 (0.659, 1.397)
Preterm birth	-	-	-	1.065 (0.806, 1.407)

Model 1 adjusted variables, including age, pregestational BMI, Han ethnicity, primipara, ART. Model 2 adjusted variables, including age, pregestational BMI, Han ethnicity, primipara, ART, weight gain. Excluding multicollinearity among FPG in early pregnancy, 0-h PG, and FPG before delivery. Model 3 adjusted variables, including age, pregestational BMI, Han ethnicity, primipara, ART, weight gain, FPG in early pregnancy, 0-h PG, and FPG before delivery. Excluding multicollinearity among FPG in early pregnancy, 0-h PG, and FPG before delivery. Model 4 adjusted all variables in the table.

OR: Odds ratio; *AOR*: Adjusted odds ratio from the logistic regression model; ART: Assisted reproduction technology; BMI: Body mass index; *CI*: Confidence interval; PG: Plasma glucose; PGFS: Postpartum glucose follow-up screening; –: Not applicable.

up appointments. During these visits, healthcare providers can remind patients to undergo glucose testing. Implementing oral and written follow-up instructions is also crucial. A systematic review of forty-two studies concluded that proactive and systematic management significantly enhances follow-up adherence.[32] Additionally, targeted health education regarding GDM outcomes is essential. Healthcare practitioners should educate women with GDM on the advantages of OGTT for PGFS and encourage proactive participation. Emerging randomized controlled trials are exploring the effectiveness of smartphone-based interventions.[33,34] However, a previous study highlighted challenges in connecting with women with GDM shortly after delivery.[35]

Optimizing GDM management includes effective postpartum screening, though several barriers persist. Diagnostic criteria for GDM remain controversial. Recent studies suggest that prenatal screening should occur before the ADA-recommended timeline to facilitate early treatment and mitigate adverse outcomes.[35,36] Accessibility is a significant concern; lost, forgotten, or misreported glucose results and patient relocation can lead to delay or miss screening. Additionally, the OGTT is often poorly tolerated due to associated nausea and vomiting. Ensuring accuracy is another challenge, as physiological changes during pregnancy necessitate precise timing for comparability. Variations in diet, hydration, and physical activity between glucose tests can also impact the accuracy of the result.

The study has several potential limitations. First, the PGFS rate was relatively low and the study was conducted at a single center, lacking data on educational background, economic status, and psychological factors. Second, while some independent factors affecting PGFS compliance were identified, their odds ratios were relatively low. Future research should include additional sensitive indicators of GDM

Table 3

Distribution of age, pregestational BMI, and gestational age among women with GDM.

Characteristic	CP group (*n* = 1437), *n* (%)	NCP group (*n* = 1610), *n* (%)	χ^2 value	*P*
Age (years)				
15–19	0	1 (0.1)	2.023	0.155
20–29	346 (24.1)	347 (21.6)		
30–39	1004 (69.9)	1159 (72.0)		
40–49	85 (5.9)	102 (6.3)		
50–59	2 (0.1)	1 (0.1)		
Pregestational BMI (kg/m^2)				
Underweight (<18.5)	175 (12.2)	157 (9.8)	16.877	<0.001
Normal weight (18.5 – <24.0)	1011 (70.4)	1086 (67.5)		
Overweight (24.0 – <28.0)	209 (14.5)	291 (18.1)		
Obesity (≥ 28.0)	42 (2.9)	76 (4.7)		
Gestational age (days)				
<259	186 (12.9)	294 (18.3)	24.129	<0.001
259–272	410 (28.5)	499 (31.0)		
273–285	835 (58.1)	814 (50.6)		
>285	6 (0.4)	3 (0.2)		

BMI: Body mass index; CP group: Completing postpartum glucose follow-up screening group; GDM: Gestational diabetes mellitus; NCP group: Not completing postpartum glucose follow-up screening group.

severity beyond insulin usage during pregnancy. The study also did not address long-term glucose follow-up post-delivery or assess lifetime adverse outcomes for mothers and their offspring.

Conclusion

Continued improvement of the PGFS rates is necessary. Developing postpartum follow-up teams and targeting women with elevated pregestational BMI, multiparity, ART utilization, significant gestational weight gain, elevated fasting PG prior to delivery, and those who have undergone cesarean section are crucial upstream strategies for improving postpartum management of GDM.

Acknowledgments

The authors thank all research staff who helped in data collection and analysis, and participants who took part in the study. All persons that contributed to this study are listed as authors and meet the criteria for authorship.

Funding

This study was supported by the Science Foundation of Sichuan Province (Grant No. 2022YF0042).

Author Contributions

The authors' responsibilities were as follows: Jiani Zhang, Tingting Xu, Qi Cao, Chihui Mao, and Xiaodong Wang designed the research; Jiani Zhang, Qi Cao, and Chihui Mao collected and analyzed the data; Jiani Zhang drafted the manuscript; Tingting Xu, Fan Zhou, and Xiaodong Wang revised the manuscript. All authors were responsible for the final content. All authors read and approved the final manuscript.

Conflicts of Interest

None.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Editor Note

Xiaodong Wang is one of the Editorial Board Members of *Maternal-Fetal Medicine*. The article was subject to the journal's standard procedures, with peer-review handled independently of this editor and the associated group.

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Edited By Yang Pan and Jue Li

How to cite this article: Zhang J, Xu T, Cao Q, Mao C, Zhou F, Wang X. Postpartum Glucose Follow-up Screening Among Women With Gestational Diabetes Mellitus: A Retrospective Cohort Study. Maternal Fetal Med 2024;6(4):236–242. doi: 10.1097/FM9.0000000000000252.