



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

TO DETERMINE THE MATERNAL AND PERINATAL OUTCOMES IN GESTATIONAL DIABETES PATIENTS WITH LOW SOCIOECONOMIC STATUS

KEY WORDS: Gestational diabetes mellitus, oral glucose tolerance test.

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ABSTRACT

Introduction: Gestational diabetes mellitus (GDM) is defined as a carbohydrate intolerance first diagnosed in pregnancy and may be associated with adverse maternal and perinatal outcome. **Aim And Objectives-** The aim of the study to determine the maternal and perinatal outcome in GDM during pregnancy in SMS medical College and Hospital Jaipur. **Material And Methods:** The research comprised a total of 100 patients. Controls included 50 GDM patients who were handled and delivered, as well as 50 women with normal profiles who did not have GDM and delivered at the same time. GTT with 75 g glucose was used to diagnose GDM. If any of the values exceeded the criterion (fasting blood sugar [BS] ≥ 92 mg/dl, 1 h BS ≥ 180 mg/dl, and 2 h BS ≥ 153 mg/dl), the patient was diagnosed with GDM. **Results:** There was no significant difference in age, BMI, or religion. However, there was a substantial difference in socioeconomic level, with a considerably greater proportion of women in the lower socioeconomic class in GDM 62% compared to control 50% ($P=0.001$). Gestational hypertension and preeclampsia were found in a considerably larger number of GDM patients 18% compared to controls 6%, but polyhydramnios was also detected in a higher number of GDM patients 4%. The mean birth weight in the GDM group was 2974.22 ± 545.11 compared to 2836.45 ± 606.73 in the control group.

INTRODUCTION-

As per the World Health Organization, gestational diabetes mellitus (GDM) is defined as any degree of glucose intolerance with onset or first recognized during pregnancy. It is a common problem with prevalence varying from 2% to 22% of all pregnancies due to the use of different criteria for diagnosis. GDM constitutes 90%–95% of all cases of diabetes seen in pregnant women. There are controversies about screening, diagnostic tools, and glucose level threshold use as different organizations use different criteria [4]. Many studies report maternal and fetal complication with GDM but were flawed due to a number of confounding factors such as obesity, older maternal age, and various other comorbidities. [4] Most convincing evidence of adverse pregnancy outcome in gestational diabetes was provided by hyperglycemia and adverse pregnancy outcome (HAPO). After this study, in 75 g oral glucose tolerance test (GTT) fasting ≥ 92 mg, 1 h ≥ 180 mg/dl, and 2 h ≥ 153 mg/dl plasma glucose values (any single value more than the mentioned limit) are taken as GDM. [6] In India, Seshiah et al. performed a community-based study on the prevalence of GDM in South India and came up with Indian guidelines for GDM which are commonly used in Indian condition. All women with gestational diabetes should have their glucose tolerance reassessed after delivery, and should receive advice and counselling regarding future pregnancies [6,7]. Clinical features which should alert one to the possibility of type 1 diabetes include; age]. The WHO expert group recommended that all pregnant women or those with risk factors should be screened at the beginning of third trimester of pregnancy using oral glucose tolerance test (OGTT), that is, blood glucose 2-hr after 75g oral glucose load. This is recommended both for screening and diagnosis [8]. The results are interpreted according to WHO criteria for diabetes. Pregnancy related morbidity and mortality in gestational diabetes is less than that of overt diabetes mellitus however if not treated it is significantly higher than for non diabetic women. There remains a small increase in unexplained stillbirth in mothers with gestational diabetes. Unlike established diabetes there is no increase in congenital

malformation rates since significant maternal hyperglycaemia occurs when organogenesis is complete.

MATERIALS AND METHODS-

All antenatal mothers subjected to glucose tolerance tests Study population Women who had come to attend antenatal clinics in department of obg at SMS hospital and Medical college Jaipur. Sample size calculation 100 GDM mothers are screened and followed till delivery and fetal maternal outcome analysed

Inclusion Criteria -

Women with single ton pregnancy who are coming For ANC Check up.

Exclusion Criteria -

Women with diabetes mellitus co-existing with other medical conditions such as sickle cell disease.

Sampling Procedure And Data Collection- this prospective observational research was carried out at the Department of Obstetrics & Gynaecology at SMS medical College And Hospital, Jaipur. The research comprised a total of 100 patients. Controls included 50 GDM patients who were handled and delivered, as well as 50 women with normal profiles who did not have GDM and delivered at the same time. Women's baseline characteristics such as age, body mass index (BMI), socioeconomic position, and religion were all recorded. GTT with 75 g glucose was used to diagnose GDM. If any of the values exceeded the criterion (fasting blood sugar [BS] ≥ 92 mg/dl, 1 h BS ≥ 180 mg/dl, and 2 h BS ≥ 153 mg/dl), the patient was diagnosed with GDM. Patients were first put on a diabetic diet and given some physical workouts. A nutritionist initiated the diet. If blood sugar levels were not managed with a diabetic diet, women were put on either an oral hypoglycemic medication or insulin in cooperation with an endocrinologist.

The ladies got prenatal care on a regular basis. All prenatal examinations were completed.

RESULTS

Table 1: Profile Of The Patients According To Age Group-

Age	GDM (50)	NON GDM (50)	P value
Below 25 years	5(10%)	06(12%)	0.77
25-35 years	30(60%)	35(70%)	
35-45 years	9(18%)	07(14%)	
Above 45 years	6(12%)	02(4%)	

Table 2: Profile Of The Patients According To Socio Economic Status-

Socioeconomicstatus	GDM (50)	NON GDM (50)	P value
Lower class	31(62%)	25(50%)	0.001
Middle class	14(28%)	14(28%)	
Upper class	5(10%)	11(22%)	

Table 3: Maternal Outcomes-

	GDM=50	NONGDM =50	P (T-TEST)
Vaginal	35(70%)	19(38%)	0.41
Caesarean	15(30%)	15(30%)	
Instrumental	2(4%)	2(4%)	0.32
Primary postpartum haemorrhage	1(2%)	1(2%)	0.66
Postpartum sepsis	2(4%)	1(2%)	0.49

Table 1 and Table 2 shows the baseline characteristics of diabetic women and their control. In both groups, there was no significant difference in age, BMI, or religion. But there was a substantial difference in socioeconomic level, with a considerably greater proportion of women in the lower socioeconomic class in GDM 31(62%) compared to control 25(50%) (P=0.001) shows a considerably larger proportion of GDM patients had a family history of diabetes than the control group (6%) (P=0.001).

Table 3 depicts the various maternal problems of twogroups. Gestational hypertension and preeclampsia (pregnancy-induced hypertension) were found in a considerably larger number of GDM patients (9(18%) compared to controls 3 (6%), but polyhydramnios was also detected in a higher number of GDM patients (2(4%)). Other prenatal problems, such as UTI (6%) and candidiasis (3%) were more common in GDM patients as compared to non-GDM individuals shows the obstetric result in two groups.

DISCUSSION

The frequency of GDM has been reported to range from 1.4 to 14 percent globally, with differences across racial and ethnic groupings. Maternal hyperglycemia influenced both main and secondary outcomes, and the frequency of complication was directly related to increasing blood glucose levels. The majority of recommendations were produced with the outcomes of the HAPO research in mind, including Indian guidelines published by Seshiah et al. In the current study, the incidence of GDM was found to be 3.71 percent, which was lower than the 13 percent reported by Nair et al.,] from Kolkata, Bengaluru, and Pune, and similar to the 7.17 percent reported by Rajput et al, from Rohtak, Haryana, and higher than the 3.8 percent reported by Zargar et al, from Kashmir. There was a significant difference in socioeconomic status in the current study, with a significantly higher number of women in the lower socioeconomic class in GDM 31(62 percent) as compared to control 25(50 percent) (P=0.001), but Rajput et al. observed a higher prevalence in the lower socioeconomic class.[13] A considerably larger proportion of GDM patients (15%) had a family history of diabetes than the control group (6%) (P=0.001).. The findings are comparable to those of Nair et al There was no significant difference in method of delivery (caesarean delivery vs instrumental delivery) in GDM compared to controls in the current research, which was similarly found by the HAPO study and Nair et al.[9,12] In terms of perinatal outcome, the GDM group had a substantially greater mean birth weight (2974.22±545.11) than the control group (2836.45±606.73).. The findings were consistent with those of Nair et al.[12] and Djomhou et al. from

Cameroon, who found an increased incidence of macrosomia in their research Sacks et al.[18] discovered 17.8 percent (9.3 percent –25.5 percent) prevalence of GDM with unfavourable perinatal outcome in a Californian research. Most et al. from New York, USA, identified an unfavourable perinatal result in women diagnosed with GDM in early pregnancy, and the bad pregnancy outcome was evident despite early detection and care of GDM owing to the increased severity of the condition. Balaji et al. observed an incidence of 13.4 percent of GDM in pregnancy and a need for insulin in 9.7 percent in a study conducted in a diabetes care centre in Chennai, India, using Diabetes in Pregnancy Study Group of India criteria, which was similar to the need for insulin in 9(18 percent) in our study. According to Nair et al, [12] effective glycemic management in the prenatal period may greatly prevent most complications such as macrosomia, foetal distress, delivery injuries, and dystocia.

CONCLUSION

GDM has a greater frequency in India, which varies by region and socioeconomic position. Adequate GDM therapy with diet, oral hypoglycemic medications, or insulin to achieve euglycemia may result in near normal maternal and newborn outcomes. Despite the fact that birth weight and neonatal hypoglycemia are still increased in GDM patients.

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