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ORIGINAL ARTICLE

Clinico-demographic Characteristics of Pregnant Women with Diabetes Mellitus attended at a Referral Diabetic Care Hospital in Bangladesh

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Abstract

Background: The clinical and demographic profiles of pregnant women with diabetes mellitus are very important consideration during management. **Objectives:** The purpose of the present study was to see the clinico-demographic characteristics of pregnant women with diabetes mellitus attended at a referral diabetic care hospital in Bangladesh. **Methodology:** This cross sectional study was carried out in inpatient Department of Obstetrics and Gynecology and in outpatients Department of Radiology and Imaging of Bangladesh Institute of Research and Rehabilitation for Diabetes, Endocrine and Metabolic Disorders (BIRDEM) at Dhaka, Bangladesh during the period of April 2005 to March 2007 for a period of two (02) years. Pregnant women diagnosed as diabetes mellitus or gestational diabetes mellitus (GDM) selected for caesarean section or induction of labour, gestational age 236 weeks having 23700 gm by clinical method were included in this study. All the clinical relevant data and demographic characteristics were recorded. **Result:** A total number of 69 pregnant women with diagnosed DM or GDM were recruited for this study. The mean (±SD) age of the patients was 30.8±5.1 years ranged from 20 to 40 years. 60.9% patients were from middle socioeconomic class, 30.4% from low and 8.7% from high class. 58.0% had DM and 42.0% had GDM. The mean (1SD) gestational age of the patients was 37.511.5 weeks range from 36 to 41 weeks. **Conclusion:** In conclusion majority of the pregnant women are in the middle age group with the middle income group. [*Journal of Current and Advance Medical Research 2017;4(2):36-39.*]

Keywords: Clinical profiles; demographic Characteristics; Pregnant Women; Diabetes Mellitus; Gestational diabetes mellitus

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Introduction

Diabetes mellitus is an important medical disorder during pregnancy and it creates substantial risk for both the mothers and fetus[1]. It is a clinical syndrome characterized by deficiency of or insensitivity to insulin and exposure of organs to chronic hyperglycemia, is the commonest medical complication in pregnancy[2]. Abnormalities of carbohydrate metabolism occur frequently during pregnancy and between 1.0% and 3.0% of all pregnant patients show glucose intolerance[3]. The largest number of these patients is comprised of individuals with genetic or metabolic predisposition towards diabetes and who 'are incapable of compensating adequately for the diabetogenic effects of pregnancy, that is, patients with gestational diabetes. A smaller group is formed by women who had diabetes diagnosed before they became pregnant[1].

Diabetes mellitus (DM) complicating pregnancy may be classified as presentational DM and gestational DM[4]. Diabetes diagnosed prior to pregnancy which is known as presentational diabetes, affects approximately 1 to 3 pregnancies per 1000 birth[5]. Many women come for medical care for the first time during pregnancy. Gestational diabetes mellitus (GDM) is defined as glucose intolerance that has its onset or first recognition during pregnancy and it complicates approximately 3 to 4% of pregnancies[2]. The clinical profiles and demographic characteristics are essential to manage these cases. Thus this present study was undertaken to see the clinico-demographic characteristics of pregnant women with diabetes mellitus attended at a referral diabetic care hospital in Bangladesh.

Methodology

This was a cross sectional study. The study was carried out in the department of Obstetrics and Gynecology, BIRDEM in collaboration with the department of Radiology and Imaging department of the same institute. The study was carried out for a period of two years from April 2005 to March 2007. Prior to the commencement of this study, the research protocol was approved by the Local Ethical Committee of BIRDEM Academy. Pregnant women with pre-gestational and gestational diabetes mellitus having fasting blood sugar level 26.1mmol/l aged from 20 to 40 years and gestational age 36 weeks admitted in inpatient Department of Obstetrics and Gynecology, BIRDEM, Dhaka and attending in outpatient Department of Radiology and Imaging of the same institute are selected as subjects. Non-randomized consecutive sampling was used to collect the data. Pregnancy of 36 weeks with diagnosed pregestational DM and GDM having fasting blood sugar level 2 6.1mmol/L as per WHO Expert Committee 1999 selected for caesarean section or induction of labour, accurate gestational age regular menstrual cycle with exact last menstrual period and having early ultrasonography, longitudinal lie, cephalic presentation, intact membranes and estimated fetal weight 23700 gm by clinical method were included as study population[3]. Pregnancy less than 36 weeks, pregnancy with pregestational DM or GDM with complication like hypertension, ketoacidosis, presence of uterine tumour, ruptured membranes, malpresentation, multiple pregnancy were excluded from this study. Those who were agreed to take part in this study were selected. Written consent was taken from the patients. Then detailed history was taken and clinical examination was done and those who were clinically macrosomic were sent for ultrasonographic estimation of the fetal weight. Once the babies were born, their actual birth weights were measured by Weight machine. All the information were recorded in a pre-designed data collection sheet.

Results

A total number of 69 pregnant women with diagnosed DM or GDM selected for caesarean section or induction of labour, gestational age 36 weeks having 23700 gm by clinical method were included in this study. Our targeted sample size was 73 and 1 collected 73 cases. Out of these, 4 cases were dropped due to delivery in other hospital. Finally 69 pregnant women were studied. The mean age of the study subjects was 30.8 years with standard deviation 5.1 years and ranged from 20 to 40 years. The maximum pregnant woman was found between 26 to 30 years age range and minimum was found between 36 to 40 years age range (Table 1).

Table 1: Age distribution of the study subjects (n=69)

Age Group	Frequency	Percentage
20 to 25 Years	27	39.1
26 to 30 Years	30	43.5
31 to 35 Years	8	11.6
36 to 40 Years	4	5.8
Total	**69**	**100.0**
Mean ±SD	30.8±15.1 (years)	

Most of the study subjects came from low and middle socio-economic class (Table 2).

Table 2: Socio-economic conditions of the subjects (n=69).

Socio-Economic Class	Frequency	Percentage
Low	21	30.4
Middle	42	60.9
High	6	8.7
Total	**69**	**100.0**

The study group showed that maximum subject had DM (58.0%) and 42.0% had GDM (Table 3).

Table 3: Distribution according to clinical features (n=69)

Types of Diabetes	Frequency	Percentage
DM	40	58.0
GDM	29	42.0
Total	**69**	**100.0**
Z value = 1.90, p >0.05 in Z test		

The mean (±SD) gestational age of the subjects was 37.5+1.5 weeks and ranged from 36 to 41 weeks. Highest (39.1%) percentage was found in 37 weeks of gestation and lowest (4.3%) was in 41 weeks of gestation (Table 4).

Table 4: Distribution of gestational age (n=69)

Gestational Age	Frequency	Percentage
36 weeks	16	23.2
37 weeks	27	39.1
38 weeks	10	14.5
39 weeks	9	13.0
40 weeks	4	5.8
41 weeks	3	4.3
Total	**69**	**100.0**
Mean±SD	37.5±1.5	

Discussion

The dramatic increase in the prevalence of GDM and its adverse maternal and neonatal complications may possibly be reduced by controlling the risk factors involved in the development of GDM[4]. According to the present study the high risk factors of GDM were advanced maternal age, increased BMI, parity, family history of diabetes and previous history of gestational diabetes[5-8]. Diabetes mellitus during pregnancy is an important part of obstetrics[2]. Accurate estimation can help in deciding the timing and mode of delivery of the fetuses. An accurate diagnosis of the condition of the fetus can lead to a decrease in perinatal morbidity[5]. Its prediction may enable the physician and staff to prepare for shoulder dystocia or prevent a traumatic injury[6-7].

The present study findings were discussed and compared with previously published relevant studies. In this study mean (±SD) age of the patients were 30.8±15.1 years, most of them were from middle socio-economic class, maximum had DM and highest percentage was found in 3 weeks of gestation.

In this study the mean (±SD) gestational age of the subjects was 37.5+1.5 weeks and ranged from 36 to 41 weeks. Highest (39.1%) percentage was found in 37 weeks of gestation and lowest (4.3%) was in 41 weeks of gestation.

The mean age of the study subjects was 30.8 years with standard deviation 5.1 years and ranged from 20 to 40 years. The maximum pregnant woman was found between 26 to 30 years age range and minimum was found between 36 to 40 years age range. Azim et al[6] have reported that majority (81.92%) of the patients were below 30 years of age, 78.31% belonged to middle socioeconomic group.

In this study almost 58.0% women had education below SSC level and 28.91% took regular antenatal checkup. About 61.45% patients were multigravida. Most (59.04%) ante-partum deaths were identified below 32 weeks of pregnancy. The association between GDM and socioeconomic status is less well established, with conflicting results seen in previous studies[8-11]. These studies cannot easily be compared because of different definitions of social status used, depending upon monthly income, educational attainment, employment, family influence, type of health care and house hold characteristics.

Conclusions

In conclusion majority of the pregnant women are in the middle age group. Most of them are coming from the middle income group family. Furthermore the women with previous history of Diabetes mellitus are the most common than gestational diabetes mellitus. As the study was conducted with a small number of subjects, further study may be undertaken in future with large number of subjects.

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