Development of Type 2 Diabetes Mellitus after Gestatinal Diabetes Mellitus in Urban Areas of Beawar

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Abstract- *Background and objectives- Gestational diabetes mellitus (GDM) is a disorder of glucose intolerance which occurs for the first time during pregnancy. GDM affected ladies are advised to do glucose tolerance test after parturition for the detection of type 2 diabetes mellitus (T2DM). Post pregnancy follow-up screening is many times an obligation regarding obstetricians who frequently look after pregnancy-related infections but do not pay attention to the conversion of GDM to T2DM. This preliminary study is done to analyze the appearance rate of type 2 diabetes mellitus after gestational diabetes mellitus in urban areas of beawar.*

Methods- *Data of urban areas was collected from govt. Amrit kaur hospital, private maternity homes etc. of Beawar. Total 105 women were examined in this study that had a history of GDM. The term of follow-up was more limited than a year. Questionnaires were filled by pregnant women who attended hospitals and primary health care centres for antenatal check up and postpartum check up.*

Result- *The evaluated risk of type 2 GDM was 17.7% in women less than 30 years and 33.3 % in women above 30 years. The overall incidence of type 2 diabetes mellitus after GDM was 26.6 % in urban areas of beawar.*

Interpretation and Conclusion- *This study concludes a consequentially higher incidence of T2DM after GDM with increasing maternal age. The study highlights the compulsion for developing awareness about GDM and T2DM and the right age of a woman to get pregnant.*

Keywords**:** Gestational Diabetes Mellitus, Maternal age, Pregnancy, Type 2 Diabetes mellitus.

Introduction

Gestational diabetes mellitus is a disorder of glucose intolerance which occurs for the first time during pregnancy. At the time of gestation placenta release a hormone known as the human placental lactogen or human chorionic somatomamotropic (HCM). It makes the mother less responsive to insulin that means the body of the mother is unable to use insulin properly and this reduced sensitivity to insulin raises the blood glucose level in mother. Usually ladies with gestational diabetes mellitus show no side effects except for certain ladies might exhibit

expanded thirst, expanded urination, exhaustion, sickness, bladder contamination, yeast diseases and obscured vision. GDM become major health concern and is expanding day by day all over the world. The latest report of American Diabetes Association reveals that 15-20% of all pregnant ladies suffer with GDM and approx 50% women develop Type 2 Diabetes after GDM. According to the WHO report 75-90% cases of high blood glucose level in pregnancy considered as GDM. Regarding the typical age of being pregnant has been expanding throughout recent years and women of age above 35 have higher risk of pregnancy complications like caesarean delivery, preterm birth, GDM, postpartum bleeding and maternal hypertensive disorder.

The written history of diabetes in pregnancy throughout the course of recent years is basically the story of the acknowledgment of the unfavourable impacts of hyperglycaemia on both mother and baby. It leads to the risk of obesity, type 2 diabetes and possibly adult cardiovascular disease in infants. The presence of fasting hyperglycemia (>105 mg/dl or >5.8 mmol/l) might be related with an expansion in the risk of intrauterine fetal death during the last 4-8 months of development. Ladies impacted by GDM during pregnancy include effectively recognizable citizens that might actually profit from early preventive way of life intercessions. Thusly, it is very important for public health concern to recognize postpartum mother with greater risk of developing Type 2 Diabetes after pregnancy with GDM. Thus, knowing the perseverance of chance could explain how long ladies and doctors ought to really focus on diabetes screening post pregnancy.

GDM affected ladies advised to do glucose tolerance test after parturition for the detection of type 2 diabetes mellitus (T2DM). Post pregnancy follow-up screening is many times an obligation regarding obstetricians who frequently look after regarding pregnancy-related infections but do not pay attention to the conversion of GDM to T2DM.

Objectives

To evaluate development of Type 2 Diabetes Mellitus after Gestational Diabetes Mellitus in urban areas of Beawar.

Hypothesis

It is expected that the risk of development of Type 2 Diabetes Mellitus is increased in women who had a history of GDM.

Methods and Procedure

The present study was done in government and private hospitals of Beawar region namely Amrit Kaur Government Hospital, Shree Maternity Child Hospital and Jain fertility Child ICU Hospital. These health centres were randomly selected for the study. Ethical permission was acquired by institutional ethical committee. This study was conducted between the periods of 11 months from July 2021 to May 2022.

A total number of 105 respondents were included in this study. In this study a well prepared questionnaire was given to the pregnant women who visited the hospitals for antenatal

check-up in their pregnancy time. Data of registered pregnant women were collected from hospital and their information data were collected through face to face and phone call interview. The respondents were asked to give information about sociodemographic details of patient includes - living status, education, occupation, age and Family history of diabetes, history of hyperglycaemia, accessibility of antenatal records and glucose evaluation during the pregnancy. Pregnancy related data and glycaemic status during the list pregnancy were taken from antenatal records while result status of appearance and non appearance of diabetes was assured by medical reports and postpartum blood sugar test reports. The resulting data have been analyzed through SPSS 16 and MS excel.

Result and discussion

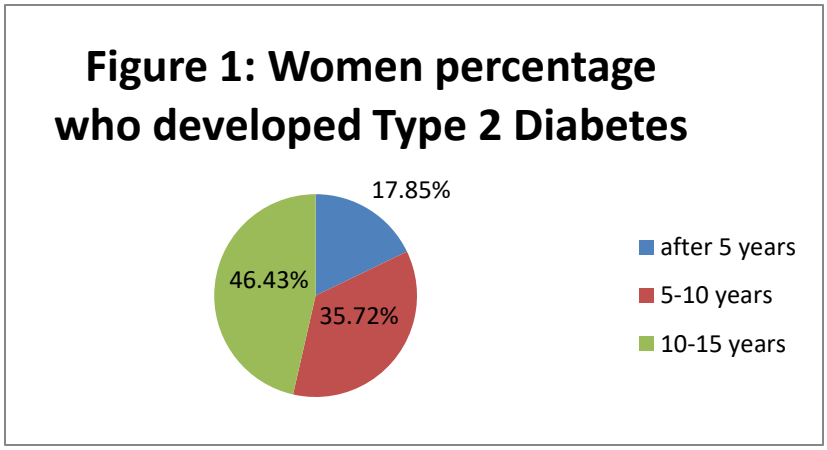
105 women have been filled the questionnaire. Table1: represents the demographic characteristics of respondents. A larger number of respondents were in the age group of 30-35. Most of respondents were employed (60,57.14) and most of them were highly educated. GDM found in 40 (38.09%) women mostly in second trimester (27,67.5%) and in which 28 (26.6%) women develop type 2 diabetes after some years of pregnancy.

Table 1: sociodemographic characteristics of respondents

characteristics	n (%)
Age	
20-25	18 (17.14)
25-30	22 (20.95)
30-35	34 (32.38)
35-40	31 (29.52)
Education	
Illiterate	4 (3.8)
Primary	9 (8.5)
Secondary	33 (31.42)
Higher	56 (53.33)
Occupation	
Employed	60 (57.14)
unemployed	45 (42.85)
GDM found in trimester	
Second	27 (67.5)
Third	13 (32.5)
Type 2 diabetes found after postpartum	
After 5 years	5 (17.85)
5-10 years	10 (35.72)
10-15 years	13 (46.43)

Figure 1: represents that 17.85% women developed T2DM after 5 years of pregnancy, 35.72% women developed T2DM in between 5-10 years and 46.43 % women developed T2DM in between 10-15 Years after pregnancy.

Figure 1: Women Percentage who developed T2DM



t-Test: Paired Two Sample for Means		
	Occupation Num	*Ty2DM NUM*
Mean	0.6	0.60952381
Variance	0.242308	1.182600733
Observations	105	105
Pearson Correlation	-0.00718	
Hypothesized Mean Difference	0	
df	104	
t Stat	-0.08153	
P(T<=t) one-tail	0.467587	
t Critical one-tail	1.659637	
P(T<=t) two-tail	0.935173	
t Critical two-tail	1.983037	

Prevalence of GDM is increasing all over the world in conjunction with type 2 diabetes mellitus. GDM if left untreated results in extreme maternal and neonatal complications. Our research gave light on the chances of T2DM among ladies with GDM, which could stimulate these impacted moms to go to screening programs and in this manner they learn way of living and observing to make less chances to develop TDM.

Conclusion- This study concludes a consequentially higher incidence of T2DM after GDM with increasing maternal age. The study highlights the compulsion for developing awareness about GDM and T2DM and the right age of a woman to get pregnant.

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