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Research Article

**OUTCOMES OF PREGNANCIES COMPLICATED BY
GESTATIONAL DIABETES MELLITUS**¹Dr Batool Syeda, ²Dr Saif Ullah, ³Dr Farhat Abbas¹Senior Lecturer, Department of Community Medicine, People's University of Medical and Health Sciences Nawabshah, Sindh²Benazir Bhutto Hospital Rawalpindi³Allied Hospital Faisalabad**Article Received:** February 2019**Accepted:** March 2019**Published:** April 2019**Abstract:**

Objectives: The aim of the research work was to assess the results of the pregnancies intricate by GDM (Gestational Diabetes Mellitus) & managed by administration.

Methodology: The information collected about all pregnancies with single baby with gestational diabetes mellitus carried from the patients in the duration of October 2018 to March 2019 by the endocrinology department, Benazir Bhutto Hospital Rawalpindi. The detection of gestational diabetes mellitus carried out in accordance with the O'Sullivan & standard of NDDG (national diabetes data group). MS Excel V.7 was in use descriptive analysis of the collected information. Median values were in use for the description of the discrete & continuous information and percentages were in for the presentation of the categorical information.

Results: Prevalence of the gestational diabetes mellitus was 6.10% (n: 94) out of the sum results of the pregnancies but 78 gestational diabetes mellitus patients were the part of this research work. We found the maternal & neonatal morbidity as 33% (N: 25) & 29.50% (N: 23). The average age of the patients was 35 years. Most of the patients were multipara as 50% (n: 39). The highest body mass index was available in the 3rd trimester of pregnancy as 32.3 & the hemoglobin of the patients was 10.7. The rate of the cesarean section was 25.6% (n: 20) while 19.2% (n: 15) patients developed hypertension because of pregnancies. About 14.1% (n: 11) neonates got admission in neonatal ICU followed by hypoglycemia of neonates in 24.4% (n: 19) neonates. About 19.2% (n: 15) neonates were suffering from the distress of the respiratory system.

Conclusion: Prevalence of gestational diabetes mellitus was 6.10%. The pregnancies even with managed gestational diabetes mellitus gave the adverse outcomes.

KEY WORDS: Gestational Diabetes, Neonatal, Intolerance, Abnormal Pregnancy, Suffering, Glycemic.

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INTRODUCTION:

The definition of GDM according to the American diabetic association is the degree of intolerance of glucose with the start of the pregnancy [1]. Al-Khalifa mentioned that 8.90% to 12.50% from all deliveries are the victim of irregular glycaemic control in the country of Saudi Arabia [2] but Ramos Lev T reported it from 1.0 to 17.80% in various populations [3]. According to some international study on larger scale, the danger of the abnormal pregnancy results increased as a purpose of glycaemia at the pregnancy weeks from 24 to 28. There is no threshold level of these anomalies but prevention and the early detection can help to tackle the problem in initial stage [4].

Ayaz in his case study stated that macrosomia & shoulder dystocia are the results of the increase in the level of maternal glucose at the time of pregnancy. Hypoglycemia, distress of the respiratory system & jaundice of the neonates are also some of the complications faced by the new births of GDM mothers [5]. The females suffering from gestational diabetes mellitus are creating a serious health problem in the public because of the adverse result of pregnancy. The infants are at higher risk to acquire diabetes and other anomalies of this disease [6].

METHODOLOGY:

The duration of this study was from October 2018 to March 2019 endocrinology department of Benazir Bhutto Hospital Rawalpindi, with a mean rate of delivery as 2600 per year. The retrieval of the information of pregnant females having single baby with positive OGTT (oral glucose tolerance test) after first three months of delivery carried out. The patients with positive oral glucose tolerance test in the first three months of pregnancy with no diabetes before pregnancy were also the part of this research work. The females having any serious disorders as heart diseases, asthma & thyroid malfunctioning which have the ability to affect the outcome of the pregnancy were not the part of this research work. The detected pregnant females with gestation diabetes mellitus in the first three months of pregnancy considered to have diabetes mellitus type-2 [7, 8].

The information about the detection of the gestation diabetes mellitus gathered from the records. The test of glucose challenge with the help of fifty gram load of glucose performed for every patient [9]. The OGTT carried out according to the prescriptions of [10]. The repetition of OGTT performed in the females who found negative in their very first visit. Dietary control

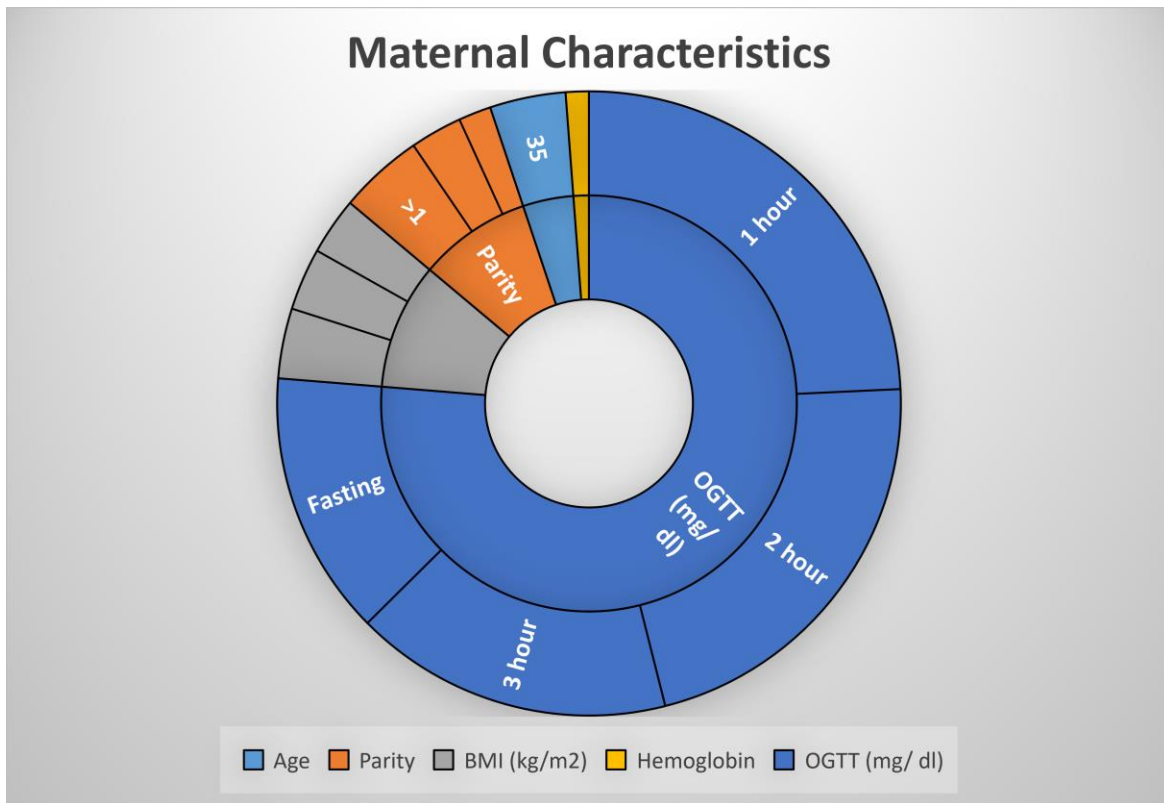
was the main factor in the administration of the gestation diabetes mellitus. The test to check the function of the liver, uric acid & test for the check of the function of kidneys performed according to the indications. Monitoring of the glucose record noticed with regular intervals. The assessment of the maternal as well as health of fetal were under monitoring. The ultrasound of the pregnant females performed to know about the anomalies of the fetal. The levels of plasma glucose in mothers were under monitoring hourly and the dose of glucose adjusted to stable the concentration of the glucose in the blood [11]. A pediatrician was available to evaluate the new born babies just after the birth.

Ultrasound was in use for the estimation of the gestational age in those patients where there was three day disparity from the last period of menstruation [12]. BP greater than 140/90 mmHg was present in the gestational age of greater than twenty weeks or 1st week after the child birth. The death of the fetal happening from the gestational age of 22 weeks to the four weeks after birth was prenatal death [13]. The declaration of neonatal hypoglycemia announced after completing the standard of the Cornblath & Reisner [14]. There was a requirement for the treatment of hyperbilirubinemia [15]. The respiratory distress, macrosomia and preterm births were under consideration [16]. The review board of the institution gave the approval for the conduct of this research work. MS Excel V 7 was in use for the record of the collected information for analysis. Median values were in use for the description of the continuous data & percentages were in use for the categorical information.

RESULTS:

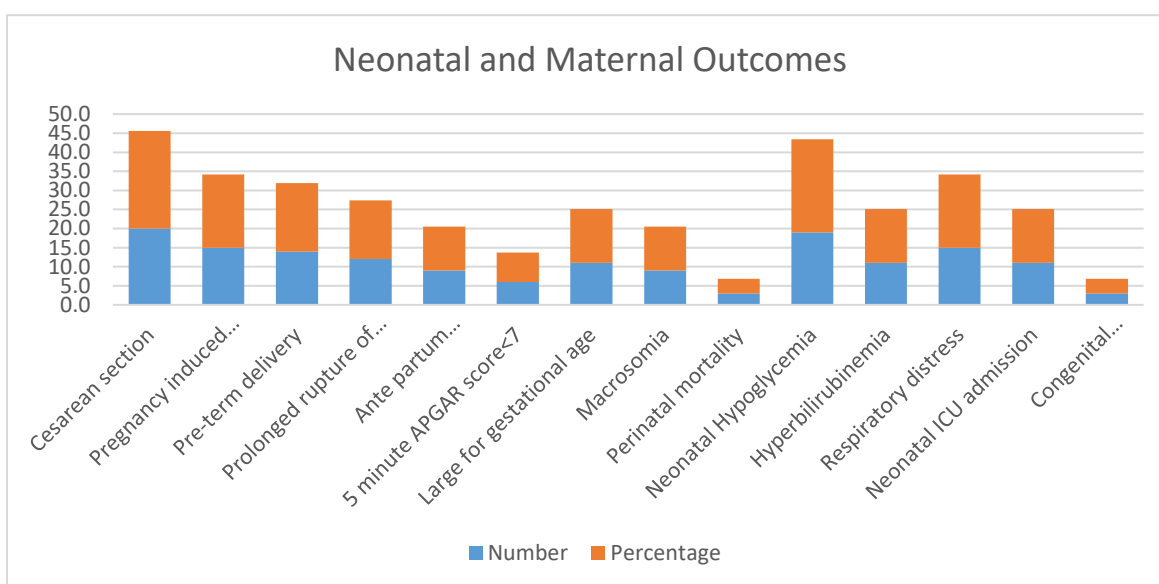
During the period of this research work, a sum of 1550 child births complied. Total diagnosed patients of gestational diabetes mellitus were 6.1% (n: 94) but 78 gestational diabetes mellitus patients were the part of this research work. Total 16 mothers were not this research work because 3 females found with low glycaemic control, ten females did not follow the program of follow up & remaining females found with some other medical abnormalities which have the ability to influence the results of the pregnancy. The morbidity of maternal & neonate was 32% (n: 32) & 29.5% (n: 23). The mean age of the patients was 35 years with arrange from 23 to 47 years, while most of the patients were available as multipara as 50% (n: 39). Highest BMI was available in last trimester as 32.3, & hemoglobin of the patients was 10.7 (Table-1).

Table-I: Maternal Characteristics			
Variables	(n=78)		
	Mean	Mean Value	Percentage / Range
Age		35	23 -47
Parity	0	15	19.2
	1	24	30.8
	>1	39	50
BMI (kg/m ²)	1st Trimester	26.4	24-32.6
	2nd Trimester	28.7	25.2-33.2
	3rd Trimester	32.3	28-35.7
Hemoglobin		10.7	8.5-12.8
OGTT (mg/dl)	Fasting	122	105-139
	1 hour	216	199-339
	2 hour	194	174-327
	3 hour	147	144-257



We found the implementation of cesarean sections in 25.6% (n: 20) patients while 19.2% (n: 15) developed hypertension because of pregnancy. Eleven (14.10%) got admission in in ICU followed by hypoglycemia of neonates in 24.40% (n: 19). Total 19.20% (n: 15) neonates were suffering from distress of the respiratory system Table-2.

Parameters		Number	Percentage
Maternal Outcome	Cesarean section	20.0	25.60
	Pregnancy induced hypertension	15.0	19.20
	Pre-term delivery	14.0	17.90
	Prolonged rupture of membrane	12.0	15.40
	Ante partum hemorrhage	9.0	11.50
Neonatal Outcome	5 minute APGAR score<7	6.0	7.70
	Large for gestational age	11.0	14.10
	Macrosomia	9.0	11.50
	Perinatal mortality	3.0	3.80
	Neonatal Hypoglycemia	19.0	24.40
	Hyperbilirubinemia	11.0	14.10
	Respiratory distress	15.0	19.20
	Neonatal ICU admission	11.0	14.10
	Congenital malformations	3.0	3.80



DISCUSSION:

The prevalence of gestational diabetes mellitus was 6.10% in this case study, while the occurrence of this disease in Qatar was 16.30%, in UAE as 20.60% & in Bahrain as 5.40% [17-19]. The research work of Gasim conducted in Saudi Arabia is very close to this research work. The outcome of the pregnancy from females suffering of gestational diabetes mellitus displayed high occurrence of hypertension, cesarean operations macrosomia & admissions in ICU compared to the healthy females [20]. We found the confirm proof that aggressive therapy against

gestational diabetes mellitus has the ability to decrease these problems [21]. The research work of Al Khalifa matched the outcome of the neonates in controlled gestational diabetes mellitus with normal deliveries and gained adverse results in gestational diabetes mellitus patients. This is very close to the results of this current study & the study work of Gasim [2].

The prevalence of the gestational diabetes mellitus found as 8.60% in a case work performed in a hospital of Riyadh, Saudi Arabia. The rate of cesarean section was 21.60% while the maternal morbidity was 1.20%.

The occurrence of the neonate admissions in ICU was 4.90% which is less much than the outcome of our results [22]. Napola A in his case study conducted in Italy compared the gestational diabetes mellitus pregnancies with healthy ones and found the cesarean section & macrosomia rates as 34.90% vs. 33.20% and 8.70% vs. 7.40% respectively. He also presented the mortality of the neonates and stillbirth. These outcomes was not similar to the results of this research work. A research work from Qatar showed that gestational diabetes mellitus had a high danger of evolving PIH, pre-eclampsia, the rate of cesarean section & APH. There were high rates of the birth injuries and other anomalies in the new births from mothers suffering from gestational diabetes mellitus [17].

CONCLUSION:

There are adverse results of the deliveries from GDM mothers. The prevalence of the gestational diabetes mellitus was 6.10%. The most common anomalies were greater rate of the hypoglycemia & cesarean section. The complications of the deliveries outcome can be decrease with the prevention of the gestational diabetes mellitus in the early stage.

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