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Impact of Gestational Diabetes on Maternal and Foetal Outcome Among Mothers at Selected Maternity Hospitals in Kanpur

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Introduction

Normal human childbirth is divided into three stages: the shortening and dilation of the cervix, the descent and birth of the newborn, and the birth of the placenta. Childbirth is increasingly being achieved through caesarean section, the removal of the neonate through a surgical incision in the abdomen rather than vaginal birth. One crucial fact about women to remember is that labour is a normal and natural physiological event in the female body, and the female body is designed to handle labour and birth physically, mentally, and emotionally. For centuries, labour has been a part of the female experience.

Pregnancy complications include haematological diseases, heart diseases, gestational diabetes mellitus, thyroid dysfunction, hypertensive disorder, preterm labour, preterm rupture of the membranes, post maturity, intrauterine foetal death, contracted pelvis, abnormal uterine action, malposition, malpresentation, and cord prolapse, prolonged labour, obstructed labour, dystocia caused by foetal anomalies, and dystocia caused by foetal anomalies.

GDM is defined as glucose intolerance that appears for the first time during pregnancy and usually disappears during the puerperium. The prevalence of gestational diabetes mellitus ranges from 1 to 14 in some ethnic groups, depending on the screening method, diagnostic criteria, and population screened. Most women with gestational diabetes mellitus have healthy babies, especially when their blood glucose levels are well controlled through a diabetic diet, exercise, and maintaining a healthy body weight. Gestational diabetes mellitus can hurt a pregnancy and cause bad things to happen to the baby, like macrosomia, birth trauma, shoulder dystocia, and more caesarean sections (CS).

Pregnancy-related morbidity and mortality in gestational diabetes are lower than in overt diabetes mellitus, but if untreated, they are significantly higher than in nondiabetic women. There is still a slight increase in unexplained stillbirths among diabetic mothers. In contrast to established diabetes, there is no increase in the rate of congenital malformations because significant maternal hyperglycemia occurs when organogenesis is complete. Caesarean sections are becoming more common as a result of macrosomic babies and obstructed labour, particularly in developing countries. There is also birth trauma, particularly when these babies are delivered vaginally.

Most studies show that women with gestational diabetes who get high blood pressure during pregnancy are older and weigh more.

Fetal outcome refers to macrosomia, which is most likely caused by maternal hyperglycemia. Hypertrophy and hyperplasia of the foetal islets of Langerhans stimulate carbohydrate utilisation and fat accumulation. With good diabetic control, insulin-like growth factors are also involved in foetal growth and adiposity. Maternal free fatty acid elevation in diabetes leads to increased transfer to the foetus and acceleration of triglyceride synthesis. Adiposity The severity of diabetes affects organogenesis in the first trimester, and the factors associated with teratogenesis are multifactorial genetic susceptibility inhabitation, hyperglycemia, archidonic acid deficiency, ketone body excess, somatomedin inhabitation, and free oxygen radical excess. There is no increase in the risk of foetal chromosomal abnormalities.

Diabetes mellitus during pregnancy is a condition in which the body is unable to produce enough insulin. When there is a lack of insulin, the blood glucose (also known as blood sugar) level rises above normal. Gestational diabetes affects between 2% and 10% of pregnant women.

To reduce the risk of complications for mother and baby, it is critical to detect and treat gestational diabetes as soon as possible. Furthermore, because of an increased risk of developing type 2 diabetes in the years following delivery, women with a history of gestational diabetes should be tested for diabetes after pregnancy. Gestational diabetes screening is usually done between 24 and 28 weeks of pregnancy. However, if you have risk factors for gestational diabetes, screening may be done earlier in pregnancy.

Diabetes is becoming more common around the world, killing, disabling, and impoverishing both men and women. Diabetes already affects 366 million people, with roughly equal numbers of men and women. Type 2 diabetes affects up to 60 million women of reproductive age today, and gestational diabetes mellitus, a type of diabetes that begins or is first recognised during pregnancy, affects up to 15% of pregnant women worldwide.

Gestational diabetes mellitus is also important for long-term public health because it contributes to the escalating type 2 diabetes epidemic. Even though gestational diabetes mellitus only affects pregnant women for a short time, more than half of those who have it develop type 2 diabetes 5–10 years after giving birth.Furthermore, infants born to mothers with gestational diabetes mellitus have a higher prevalence of overweight or obesity as young children and adolescents, as well as a higher risk of developing type 2 diabetes later in life. All countries must ensure that maternal and infant diabetes deaths are recorded in maternal death audits. Long-term records must be kept by healthcare systems in order to facilitate periodic assessments for women with previous gestational diabetes mellitus and their infants, as appropriate. During her clinical experience, the researcher observed several mothers with gestational diabetes mellitus. During her conversations with these mothers, she noticed that many of them did not have normal

pregnancies. Because of this, she decided to do this study to find out what happened to the mother and the baby when the mother had gestational diabetes mellitus.The goal of the study is to find out what happens to the mother and child when a woman has gestational diabetes mellitus during labour and to ask the women about their experiences.

Methodology

The study's goal is to evaluate the maternal and foetal outcomes of mothers who have gestational diabetes mellitus during pregnancy. The researcher was able to develop the conceptual framework and methodology for the study after reviewing related literature. A conceptual framework was used as the conceptual framework for this study, and a descriptive approach was used. This research was carried out in Kanpur's selected hospitals. Purposive and convenient sampling techniques were used to select samples. Chi-square statistics were used to determine the level of association.

Results

In terms of maternal outcomes during labor, none of the mothers had a good result, 55% had an average result, and 45% had a poor result.In the case of perineal injuries, none of the mothers had a good outcome, 52% had an average outcome, and 48% had a poor outcome. In the case of maternal distress, none of the mothers had a good outcome, 57 percent had an average outcome, and 43 percent had a poor outcome. In the case of postpartum haemorrhage, no mother had a good outcome; 65 percent had an average outcome, and 35 percent had a poor outcome. In the case of postnatal hyperglycemia, none of the mothers had a good outcome, 82% had an average outcome, and 18% had a poor outcome. Overall, none had a good outcome, 77% had an average outcome, and 23% had a poor outcome.

The calculated value of age and type of food in maternal outcome is less than the table value, indicating that there is no significant association between demographic variables and maternal outcome.

The calculated value chi-square of foetal birth weight is 17.20, which is greater than the table value, which is significant at p 0.05. This suggests that there is a link between maternal outcome and foetal birth weight.

In terms of foetal outcomes during labor, none had a good result, 78 had an average result, and 22% had a poor result.In the case of foetal distress, none of them had a good outcome; 90 percent had an average outcome, and 10 percent had a poor outcome. In the case of neonatal hypoglycemia, none had a favourable outcome, 67% had an average outcome, and 33% had a poor outcome.None of them had a good APGAR score. 63 percent had an average APGAR score, and 37 percent had a poor APGAR score. In terms of foetal heart rate, none of them had a good outcome, 59 had an average outcome, and 41 had a poor outcome. In terms of overall foetal outcome, none had a good outcome, 92% had an average outcome, and 8% had a poor outcome.

In terms of foetal outcome, the calculated value of demographic variables such as age and food type is less than the table value, indicating that there is no significant relationship between demographic variables and foetal outcome.

Conclusion

The study was carried out at a selected hospital in Kanyakumari District to assess the maternal and foetal outcomes among mothers with gestational diabetes mellitus.

To evaluate maternal and foetal outcomes in mothers with gestational diabetes mellitus using a maternal and foetal assessment tool, as well as to extrapolate mothers' experiences during pregnancy using an open-ended questionnaire. Age, type of food, gestational weeks during labour, weight gain during pregnancy, mode of delivery, and foetal birth weight were among the demographic and clinical variables recorded. The study's results showed that both the mother and the baby of women with gestational diabetes mellitus did about as well as usual during labor.

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