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ANALYSIS OF ANTENATAL OUTCOME IN OBESE PREGNANT PATIENTS: A POPULATION BASED STUDY

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Abstract:

Introduction: *The worldwide prevalence of obesity has increased substantially over the past few decades. Economic, technologic, and lifestyle changes have created an abundance of cheap, high-calorie food coupled with decreased required physical activity.* ***Aims and objectives:*** *The basic aim of the study is to analyze the antenatal outcome in obese pregnant patients: a population based study.* ***Material and methods:*** *This study was conducted at hospitals of Faisalabad with the collaboration of hospitals of Khanewal during July 2018. This is basically a case control study. One hundred and twenty two women were recruited in the study. The patients were allocated into two groups, group 1 obese patients BMI 30 or more and group 2 non obese patients.* ***Results:*** *About two - third of the study group were having mild obesity, moderate obesity comprised about 28% and about 4% only was morbidly obese. Hypertensive disorders were nine folds more among obese women (R.R 4.74). Obese pregnant women were significantly more prone to have gestational diabetes.* ***Conclusion:*** *It is concluded that obese patients who receive healthcare provider advice about weight loss or strategies for improving diet and exercise are more likely to report they are working on these areas, even in pregnancy.*

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INTRODUCTION:

The worldwide prevalence of obesity has increased substantially over the past few decades. Economic, technologic, and lifestyle changes have created an abundance of cheap, high-calorie food coupled with decreased required physical activity. We are eating more and moving less. There is evidence for metabolic dysregulation among obese individuals that has been linked with a number of possible environmental factors, including contaminants from modern industry [1]. Obesity is a significant public health concern and is likely to remain so for the foreseeable future. Maternal obesity increases the risk of a number of pregnancy complications, including preeclampsia, gestational diabetes mellitus (GDM), and cesarean delivery [2].

In women during pregnancy, the prevalence of obesity is high (28.9%) and shows no signs of abating. Maternal obesity is associated with a number of adverse outcomes during and after pregnancy, such as gestational hypertension and diabetes in mothers, and macrosomia and later overweight in their children. Obese women are more likely to gain in excess of current gestational weight gain guidelines, which itself increases the risk for maternal and offspring morbidity [3].

Data suggest that improvements in glucose metabolism and delivery outcomes are achievable for obese women who control their weight gain and remain physically active in pregnancy. Because pregnant women have frequent interactions with the healthcare system, obstetric providers are uniquely positioned to address the issues of weight gain and exercise with their obese pregnant patients [4]. In a national survey, however, only 58% of obstetrician/gynecologists reported counseling their pregnant patients about weight gain during pregnancy "most of the time," and even fewer (35.7%) modified their recommendations based on their patients' prepregnancy body mass index (BMI). This lack of counseling is a concern, as women who receive advice from their providers regarding appropriate gestational weight gain are more likely to gain within recommended ranges [5].

Aims and objectives

The basic aim of the study is to analyze the antenatal outcome in obese pregnant patients: a population based study.

MATERIAL AND METHODS:

This study was conducted at hospitals of Faisalabad with the collaboration of hospitals of Khanewal during July 2018. This is basically a case control study. One hundred and twenty two women were recruited in the study. The patients were allocated into two groups, group 1 obese patients (68) BMI 30 or more and group 2 non obese patients (54).

BMI of patients are between 19.8 – 24.9. Patients were excluded from the study, if there were other risk factors like previous Ceserian Section (C.S.) or pre-existing medical and / or obstetric complications to evaluate obesity as the only risk factor and its impact upon pregnancy and obstetric outcome. Both groups were comparable as regard age and parity. All patients were subjected to thourogh history, detailed examinations and investigations (CBC, fasting and 2 hours postprandial blood sugar, serum creatinine, complete urine analysis and U/Sevaluation).

Statistical analysis

The statistical analysis was carried out using Statistical Package for Social Sciences version 19 (SPSS Inc., Chicago, USA). Descriptive statistics such as mean, standard deviation, and proportion were used.

RESULTS:

About two - third of the study group were having mild obesity, moderate obesity comprised about 28% and about 4% only was morbidly obese. Hypertensive disorders were nine folds more among obese women (R.R 4.74). Obese pregnant women were significantly more prone to have gestational diabetes. Table 01 shows that during the index pregnancy control group women were significantly lesser weight gain during pregnancy.

Table 01: Mean age, BMI and weight gain during the index pregnancy of women in both groups (mean ±SD).

	Study group	Control group	P. value
	Mean± SD	Mean± SD	
Age	27.85±3.96	26.54±3.49	N.S
BMI	33.85±2.81	24.49±1.88	*
Weight gain During the Index pregnancy	12.47±3.08	10.06±2.79	

*P. value < 0.05

Table 02 represents about two - third of the study group were having mild obesity, moderate obesity comprised about 28% and about 4% only were morbidity obese.

Table 02: Weight classification of study group according to BMI.

Degree of obesity (BMI)	No.	%
Mild obesity (class1 (30.034.9)	46	67.6%
Moderate obesity (class2 (35.5–39.9)	19	27.9%
Extreme obesity > 40	3	4.4%

DISCUSSION:

Obesity is growing problem all over the world and it may have an important impact on pregnancy. Studies on maternal and fetal outcomes of pregnancies implicated by obesity have reported varied results[6]. Women with other risk factors like previous C.S. or pre-existing medical and / or obstetric complications were excluded from the study to evaluate obesity as the only risk factor and its impact upon pregnancy and obstetric outcome. Generally, the results of the present study indicated that obese mothers are at higher risk for most of obstetric complications ranging from a relatively little increase in risk for some problems like hyper emesis gravidarum where obese women had risk of 1.32 to have this problem when compared to non-obese one. This agrees with who found that hyper emesis gravidarum where obese women had a risk of 1.5 to have this problem when compared to non-obese one [7].

An essential first step for appropriate assessment and management of obese patients requires basic provider knowledge of the BMI cutoff point at which obesity is diagnosed. The BMI categories are well established, accepted by all national bodies (including ACOG), and have been in place for over 10 years. However, over one third of surveyed obstetric providers defined obesity incorrectly, which may explain the lower estimation of obesity rates reported at Harvard Vanguard relative to actual population prevalence [8].

Additionally, obstetric providers reported that they recommended gestational weight gain ranges to their patients that were largely discordant with IOM guidelines. A large proportion of providers differed from the guidelines for weight gain advice especially in obese patients, which may be due in part to the lack of consensus regarding an upper limit of weight gain in this group[8]. The IOM guidelines were created at a time when inadequate gestational weight gain was of greatest clinical concern; more recent data, however, have focused on the negative effects of gaining too much in pregnancy, including delivery complications, childhood overweight, and higher risk of postpartum weight retention and maternal obesity [9]. This shift in clinical concern may underlie the current weight gain messages providers are recommending for their patients, particularly for obese mothers. As the IOM considers revising guidelines for weight gain in pregnancy, our results indicate a need for more clearly defined upper and lower limits of weight gain among obese women, as well as targeted dissemination of any revised recommendations to obstetric providers [10].

CONCLUSION:

It is concluded that obese patients who receive healthcare provider advice about weight loss or strategies for improving diet and exercise are more likely to report they are working on these areas, even in pregnancy. To improve obstetric provider compliance with management of their obese pregnant

patients, our findings suggest a need for more education around BMI definitions and weight gain guidelines, along with strategies to address provider personal factors, such as confidence and body satisfaction, that may be important predictors of adherence to management recommendations.

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