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UNFAVORABLE FETO-MATERNAL RESULT AMONG OBESE PREGNANT FEMALES

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Abstract:

Objective: *The aim of this study is to compare unfavorable feto-maternal outcome in the obese and females with pregnancy having normal weight.*

Methods: *This was a comparative research work. The duration of this research study was from November 2016 to October 2018. Two hundred pregnant females in which one hundred were obese and one hundred were with normal weight having the pregnancy period of 8 to 40 weeks were the part of this research work. Pregnant females with body mass index of 25 to 29.9 Kg/m2 were in the Group-A of obese & hundred females with normal body mass index of 18.50-24.90 were the healthy controls of Group-Bas controls were in-group B. for the comparison of the maternal as well as fetal outcomes, Chi square method was in use. P value of less than .050 was significant.*

Results: *The range of the age was from 30 to 45 years with an average age of 30.0 ± 4.10 years for the participants of Group-A & B. Obese pregnant females found with high rate of preeclampsia (27.0% vs 9.0% in Group-B), PIH (24.0% vs 8.0% in Group-Bin controls), GDM (Gestational Diabetes Mellitus) (22.0% vs 5.0% in Group-B); long duration of labor (4.0% vs 6.0% in Group-B), Caesarean surgery (44.0% vs 16.0% in Group-B), infection of the wound (3.0% vs 2.0% in Group-B) & hemorrhage after delivery (5.0% vs 2.0% in Group-B). The significant P value was less than 0.001. The complications of fetal in obese pregnant females compared to the healthy controls as still birth (13.0% vs 2.0%), early death of neonates (11.0% vs 1.0%), dystocia of shoulder (5.0% vs 1.0%) and admissions in NICU (47.0% vs 10.0%).*

Conclusion: *We found from the result that the outcome of this study shows dangerous effect of obesity on the maternal as well as fetal outcome.*

Keywords: *Pregnancy, Fetal, Methodology, Complications, Dystocia, Neonate, Gestational, Diabetes, Hemorrhage.*

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INTRODUCTION:

The fatness is medical abnormality and it is very common in the whole world [1]. The occurrence of obesity is not same in the whole world but it depends upon the age and gender in different populations [2]. In females having pregnancy, the rate of obesity is increasing and it is also increasing the problems related to pregnancy complications [3]. These problems affect the life of mother, neonate as well as older child [4]. Obesity can be great risk of the miscarriage and decrease the effect of the fertility treatment [5]. It also causes some other complications as GDM, cesarean surgery and other infections [6]. WHO [7] & NIH (National Institutes of Health) [8] describes the <18.50 underweight BMI, from 18.50 to 24.90 as normal BMI, 25.0 to 29.90 as overweight and more than thirty body mass index as obesity. The most frequent procedures to calculate the obesity are BMI & Quetelet index [9, 10].

The obesity of the pregnant female has a relation with the obesity of female before pregnancy [11] regardless the gain of weigh in pregnancy period. The disparity between weight before pregnancy & weight of pregnant female at the tie of labor pain can be the weight gain during pregnancy period. Obesity is spreading issue in our country Pakistan particularly in females because of inactive life style, uneven eating habits & diet with rich amount of fat.

METHODOLOGY:

This was a comparative research work. This research was conducted in services hospital and the duration of this research study was from November 2016 to October 2018. Total 200 pregnant females in their first 3 months of pregnancy were the part of this study. Rao soft software was in use for the selection of the samples. Out of more than 3 thousand admissions in maternity ward, total 266 females with pregnancy were obese forming a frequency of 8.60%. Every pregnant female gave her consent to take part in this research work. The inclusion standard was the females with pregnancy period of 8 to 40 weeks with single baby. The females with past history of serious disorders as thyroid, DM & kidney issues were not the part of this research work. The record of the variables of demography contained age of female, weight of female in kilogram, height in centimeters and BMI according to the standard formula. The categorization of the normal and fat or obese females carried out in accordance with the standards of BMI maintained by WHO.

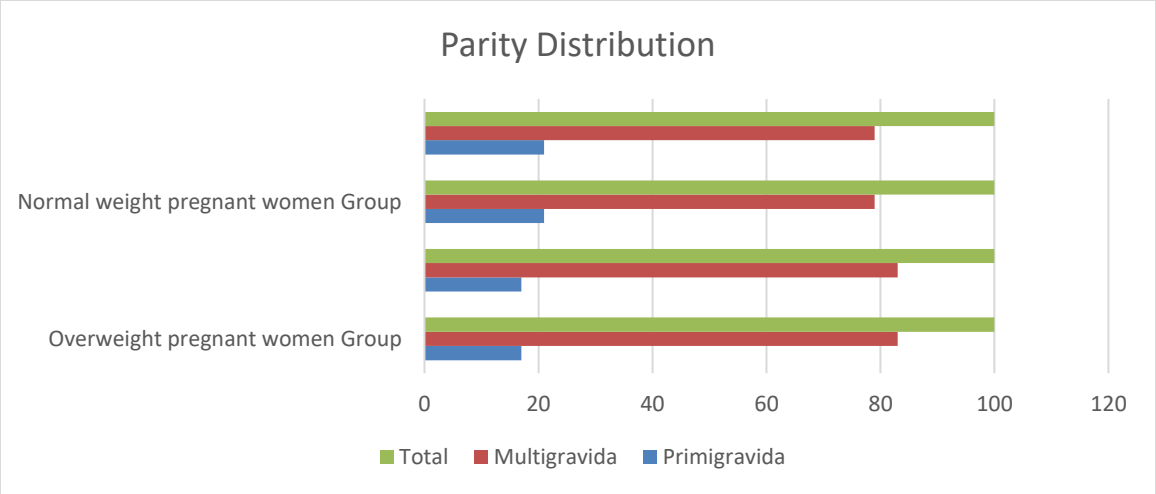
Females with body mass index of 25.0 – 29.90 Kg/m2 were overweight and formed Group-A. Total 100 females with body mass index of 18.50 - 24.90 were in the Group-B of healthy controls. The evaluation of every female carried out with the help of previous history, medical examination & normal interrogation. The final gained variables were hypertension due to delivery fear, GDM, infections of the wound, complications during birth, cesarean surgery, and long duration of labor, still birth, death of neonate and dystocia of shoulder. The record about the parity, age of female, pregnancy period, body mass index and complications gathered on a Performa. Ethical committee of hospital gave permission to conduct this research work. SPSS V.16 was in use for the entry and analysis of the collected information. Chi square method was in use for the comparison in both groups. P value of less than 0.050 was significant.

RESULTS:

In the duration of this research work, total 3090 females with pregnancy got admission in the obstetric department. Total overweight females among them were 266. The frequency of these females was 8.60% in our populations. 100 hundred obese females as well as 100 hundred healthy controls were the part of this research work. The range of the age of females was 30-45 years with an average age of 30.0 ± 4.10 years in the females of both groups. Table-1 display percentage and parity distribution in females of both groups. The rate of prim-gravida & multigravida is same in obese as well as healthy controls.

Table-I: Percentage distribution of parity in both groups.

Parity	Overweight pregnant women Group		Normal weight pregnant women Group	
	Patients	%	Patients	%
Primi gravida	17	17	21	21
Multigravida	83	83	79	79
Total	100	100	100	100

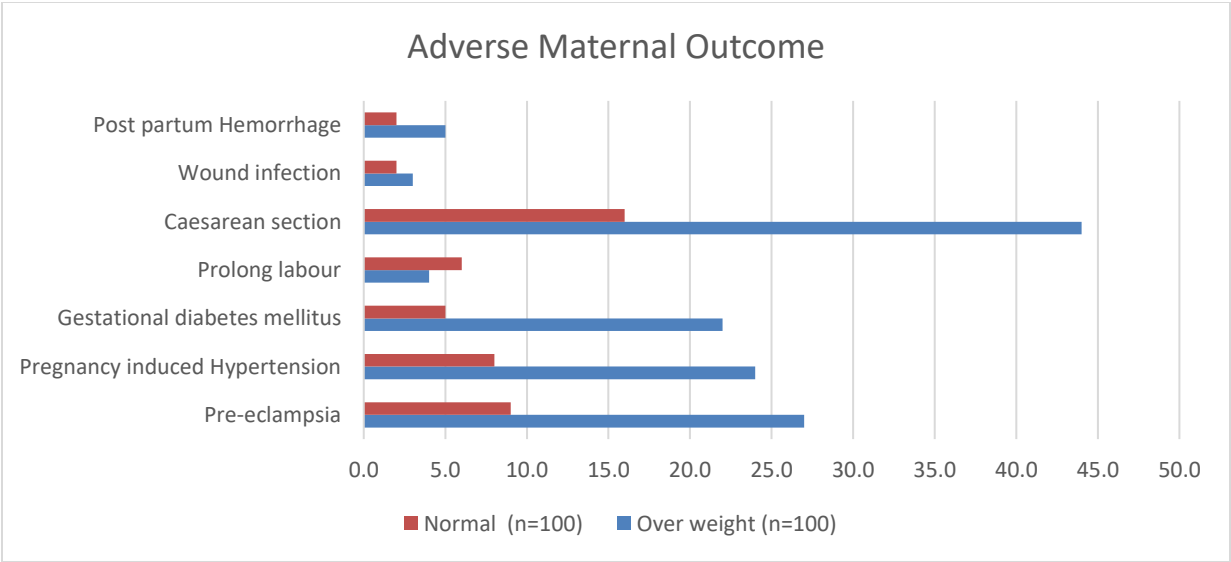


The maternal outcome in obese and healthy normal weight females with pregnancy are available in Table-2. The most common unfavorable maternal outcome was pre-eclampsia and most of these females have to undergo cesarean surgery.

Table-II: Percentage distribution of adverse maternal outcome in both groups.

Maternal outcome	Over weight (n=100)	Normal (n=100)	P Value
Pre-eclampsia	27.0	9.0	0.00960*
Pregnancy induced Hypertension	24.0	8.0	0.01460*
Gestational diabetes mellitus	22.0	5.0	0.00410*
Prolong labour	4.0	6.0	0.7694
Caesarean section	44.0	16.0	0.00240*
Wound infection	3.0	2.0	0.9912
Post-partum Hemorrhage	5.0	2.0	0.4653

* significant

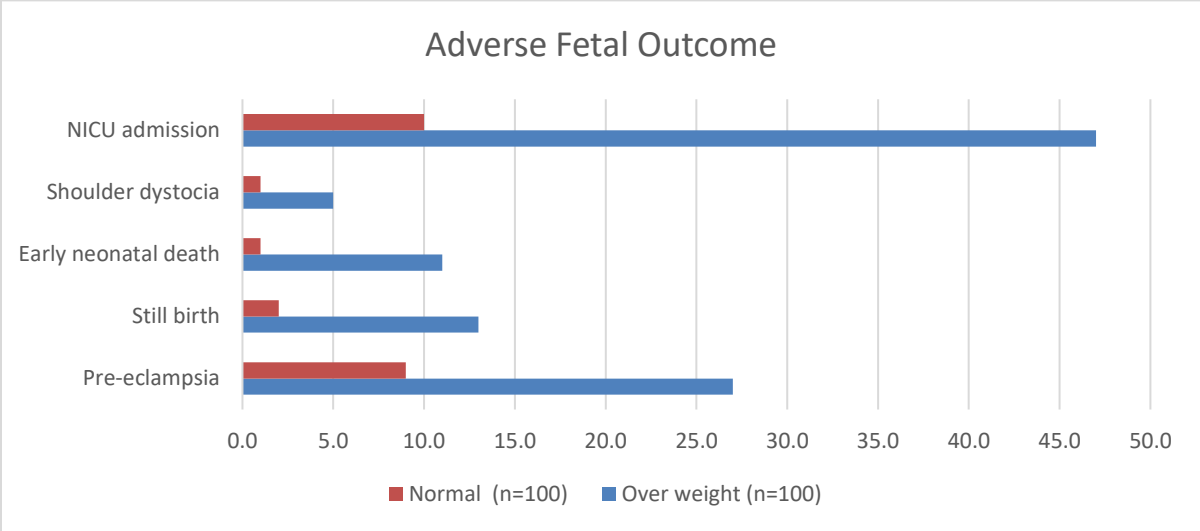


In the same manner, hypertension due to pregnancy, long time of labor, and cesarean surgery were very common in the obese females in comparison with the healthy controls. The rate of the infection of wound and hemorrhage after delivery were same in both groups.

Table-III: Percentage distribution of adverse Fetal outcome in both groups.

Fetal outcome	Over weight (n=100)	Normal (n=100)	P Value
Pre-eclampsia	27.0	9.0	0.00960*
Still birth	13.0	2.0	0.01330*
Early neonatal death	11.0	1.0	0.01210*
Shoulder dystocia	5.0	1.0	0.2321
NICU admission	47.0	10.0	< 0.00010 *

* significant



Regarding the fetal outcome, stillbirths, deaths of the neonates, admission in the NICU were more common in the Group-A as compared to Group-B. Table-3 is describing the comparison of feto-maternal outcome in the females of both groups.

DISCUSSION:

The obesity in the pregnant females is the cause of many health complications as well as adverse pregnancy outcome [12]. A current study in USA discovers that 28.0% females under the difference of age of twenty-five years or older are obese & 27.0% were extremely obese [13]. The alterations of rate of obese lies at 33.0%, obese at 30.0%, lastly morbidly obese at 4.50% [14]. This research work is comparable to the study of Chaudhry H [15]. In accordance with the research study of Humaira, it displayed that 30.0% females were prim-gravida and 70.0% females were multigravida [15]. The well-matched average age disparity among patients discovered in series was high (30.0 ± 4.10 vs 26.40 Years) in comparison with the research work of Fatima [16].

High body mass index of female is main factor of risk of Preeclampsia. The relative pregnancy risk because of preeclampsia is 35.0% greater with an average relative body mass index of 15-21. The rate is very high when BMI value increases [17]. The assumptions of inflammation & hyperlipidemia are also relative to body mass index preeclampsia [18]. The current research work discovered that 24.0% patients found with relation of hypertension due to pregnancy & obesity which was available in only 8.0% patients of healthy controls. This finding is similar to many other research work. This finding also shows that the occurrence of the hypertension due to pregnancy is 2.20 times greater in obese females in comparison with their healthy controls [19].

Arrowsmith S stated in his research study that the complication of the long duration of labor can increase to 30.0% in obese females [20]. There was a higher rate prevalence of cesarean section among obese females [21]. Hibbard [22] concluded that his 44.0% patients underwent cesarean section in comparison with the 16.0% females with normal weight. Another comparative research work showed the occurrence of cesarean section in 35.0% obese females, conducted by Ngoga E [23]. NICU admission occurred in 47.0% obese females and only 10.0% females with normal weight.

CONCLUSION:

The findings of this research work concluded that there are extreme adverse impacts of obesity or fatness on the maternal as well as fetal outcome. This obesity can lead of various complications. All efforts should be in action to prevent females from fatness particularly in the age of childbearing and encourage them to loss their weight before the planning of pregnancy. The outcome of the fatness on the morbidity & mortality can be decrease with the help of proper management.

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