CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.3594707

Available online at: http://www.iajps.com ***Research Article***

ANALYSIS OF RELATIONSHIP OF OBESITY AND DIABETES MELLITUS IN OLD FEMALE POPULATION OF PAKISTAN

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Article Received: October 2019 **Accepted:** November 2019 **Published:** December 2019

Abstract:

The old female population of Pakistan is suffering more from diabetes as this is may be due to eating habits and obesity. The main objective of the study is to find the relationship of obesity, and diabetes in old female population of Pakistan. This cross sectional study was conducted in CIMS, Bahawalpur during January 2019 to October 2019. This study was based on local female population of Lahore, age range from 30 to 50 who was suffering from diabetes and they are also obese. This study was done with the permission of hospital ethical committee and with the written consent of patients. First of all we collect the demographic data of all females, it includes living habits, eating habits, social and economic back ground. The mean age (±SD) was 40 ± 10 years. Mean duration of diabetes was 5 years, mean HbA1c was 8.1% and 53.7% were on oral agents and rest was on insulin with or without oral agents. Hypertension was present in 65.7%, 13.7% had known coronary artery disease and 2.3% had a cerebrovascular accident previously. According to the analysis of data there is a positive correlation between obesity and diabetes in the environment like Pakistan. Because female suffer from hypertension, weight gain and due to this from diabetes.

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Please cite this article in press Sana Perween Memon et al., ***Analysis Of Relationship Of Obesity And Diabetes Mellitus In Old Female Population Of Pakistan.,*** *Indo Am. J. P. Sci, 2019; 06(12).*

INTRODUCTION:

Obesity has been designated as one of the most important global health threats worldwide, and its prevalence has been increasing among women of reproductive age [1]. Pregnant ladies constitute a critical subpopulation with a hoisted danger of obesity because of over the top weight pick up. It has been demonstrated that maternal obesity and inordinate gestational weight pick up (GWG) are related with unfriendly obstetric and neonatal results including unconstrained fetus removal, gestational diabetes mellitus (GDM), cesarean conveyance, preeclampsia, neonatal macrosomia, and agent and soporific entanglements [2].

To help ideal pregnancy results, the World Health Organization (WHO) prescribed that the Institute of Medicine (IOM) create rules for weight pick up amid pregnancy. In any case, the IOM suggestions on gestational weight pick up depend on pre-pregnancy BMI without mulling over various race/ethnicity, age, or existing pregnancy inconveniences [3]. Ladies with GDM are at expanded danger of maternal and fetal intricacies including preeclampsia, preterm birth, cesarean segment and conveyance of huge for gestational age (LGA) newborn children. As obesity and GDM are much of the time comorbid conditions, obesity and over the top gestational weight pick up may intensify these dangers in GDM. Since fat is an endocrine organ and collaborates with diabetes, it is conceivable that the expanded amassing of fat differentially affects perinatal results for ladies with GDM [4].

If the defect is on leptin receptors in the brain or in the downstream signaling pathways, which are the target sites for situationn it would not exert its effect and will be unable to regulate food intake and energy homeostasis. In this condition brain is irresponsive for the intake of food and energy, thus elicits a response to the body for more food intake, which can cause weight gain and obesity. Since obesity is a major risk factor for type 2 diabetes mellitus (T2D), the increase in adipose tissues may lead to diabetes [5].

Objective of the study:

The main objective of the study is to find the relationship of obesity, weight gain and diabetes in old female population of Pakistan.

MATERIAL AND METHODS:

This cross sectional study was conducted in CIMS, Bahawalpur during January 2019 to October 2019. This study was done with the permission of hospital ethical committee and with the written consent of patients. First of all we collect the demographic data of all females, it includes living habits, eating habits, social and economic back ground. And in second phase we collect 5cc blood of each female for the analysis of leptin and other factors. Then all the collected data were analyzed using SPSS and find the mean values and SE of the data. SPSS 18.0 was used to analyze data. All data was represented as mean ± SD or median. For comparison of means, t-test was used to find any statistical significance.

RESULTS:

The mean age (±SD) was 40 ± 10 years. Mean duration of diabetes was 5 years, mean HbA1c was 8.1% and 53.7% were on oral agents and rest was on insulin with or without oral agents. Hypertension was present in 65.7%, 13.7% had known coronary artery disease and 2.3% had a cerebrovascular accident previously. The mean BMI (±SD) was significantly lower in males 29.1 ± 4.74 kg/m^2 as compared to females 31.7 ± 5.3 kg/m^2 (P = 0.001). Women had significantly higher HDL level as compared to man (P < 0.001). Mean (±SD) waist circumference in males was 107.3 ± 16.6 cm and 103 ± 12 cm in females (Table 01).

Table 02 shows the age related prevalence of diabetes in local female population of Pakistan. The values are represented in SE and SD.

Table 01: Age-specific prevalence of obesity in local population of Pakistan

Age, years	Obese women	% (95% CI)	Obese men	% (95% CI)
30-40	263/623	42.0 (38.3–46.1)	161/559	28.8 (25.1–32.6)
40-50	140/444	31.5 (27.2–35.9)	114/427	26.7 (22.5–30.9)
Total	403/1067	37.7 (34.9–40.7)	275/986	27.9 (25.1–30.7)

DISCUSSION:

The association between obesity and health conditions was cross-sectional and there was no follow-up study and therefore new cases of disease could not be identified. However, those could be considered in future efforts by more frequent assessment of physical activity during the follow-up period[6]. Although some socio demographic factors associated with being overweight have been identified in the survey, in-depth trials are needed to study the impact of strategies aimed at behaviour change that would target these factors to reduce the prevalence of being overweight

or obese. Reliance on self-reported physical activity with obesity and diabetes is a major weakness of the study [7]. Misclassification of diabetes could weaken the association between physical activity and the risk of type 2 diabetes. In addition, measurement error in the physical activity questionnaire may also introduce biases in the study [8]. The strengths of this study are the high response rate and use of the modified Asian-specific definition of being overweight or obese which are generalizable. The other strength of this study is the high quality of data collected and the large sample size available for analysis allowing to assess the risk with adjustment for confounders for many demographic and socioeconomic factors as well as to evaluate potentially important interactions [9].

Another supplement likely identified with the best watched glycemic control in our investigation is dietary fiber. In like manner, in our patients in the healthy eating pattern, a higher aggregate, dissolvable, and insoluble fiber utilization was watched. It has just been exhibited that a high fiber intake was related with better glycemic control in patients with diabetes. In any case, up to now, the advantageous effects of fiber intake, particularly solvent fibers, couldn't be detached from the effects of glycemic list and glycemic stack in light of the fact that most foods that have a low glycemic file additionally have a high fiber content [10].

CONCLUSION:

According to the analysis of data there is a positive correlation between obesity and diabetes in the environment like Pakistan. Because female suffer from hypertension, weight gain and due to this from diabetes. This is all because of environmental factor and genetic factor.

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