

Frequency of Obesity in Type II Diabetes Mellitus Patients

Obesity in Type II
Diabetes Mellitus
Patients

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ABSTRACT

Objective: To evaluate the frequency of Obesity in Type II Diabetes Mellitus population

Study Design: Descriptive study

Place and Duration of Study: This study was conducted at the Department of Medicine at Hayatabad Medical Complex (HMC) Peshawar from July 2022 to November 2022.

Materials and Methods: One Hundred Ninety study samples were collected from the different wards of HMC including medicine and endocrinology. After the recruitment of subjects according to the inclusion criteria, subjects underwent a detailed proforma based interview. Participants waist circumference (WC) was checked keeping ≥ 102 cm in male and ≥ 88 cm in females as the cut off for obesity in patients that were already diagnosed as type II diabetics. The data was then organised and analysed in SPSS software version. 26.

Results: Out of the 190 subjects included in the study, 80 subjects were males while 110 were females. Subjects had a mean age of 38.3 ± 5.1 years. Mean WC was 95.14 ± 9.25 cm in males and 94.92 ± 11.12 cm in females. Abdominal obesity was positive in 20% of males and 25% of females with diabetes.

Conclusion: Our study concludes that there abdominal obesity is fairly common in type II diabetic patients and shows a positive correlation with the disease.

Key Words: Diabetes; Obesity; Dyslipidaemias; Waist Circumference

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INTRODUCTION

Obesity has shown to be associated with an increased risk for cardiovascular disease, both high mortality and morbidity. It has reached the level of an epidemic in both developed and developing world. This is all a result of reduction in physical activity and dietary changes.¹⁻²

The term obesity is characterised by excessive accumulation of fat tissue in the body. Waist Circumference (WC) is considered as an objective tool for assessing abdominal obesity (adiposity).³⁻⁴ WC cut-off levels to label abdominal obesity is kept at ≥ 102 cm for men and ≥ 88 cm for women by the National Cholesterol Education Program Adult Treatment Panel III.⁴⁻⁵

Studies have demonstrated that those with metabolic syndrome are at an increased risk for developing type II diabetes and type II diabetes has a strong association with obesity.⁶⁻⁸

The aim of this article is to evaluate the frequency of Obesity in Type II Diabetes Mellitus population and to determine a possible association between the two.

MATERIALS AND METHODS

This descriptive study was carried out in the Dept. of Medicine at Hayatabad Medical Complex (HMC) Peshawar from July 2022 to November 2022. One Hundred Ninety study samples were collected from the different wards of HMC including medicine and endocrinology. After the recruitment of subjects according to the inclusion criteria, subjects underwent a detailed proforma based interview. Participants waist circumference was checked keeping ≥ 102 cm in male and ≥ 88 cm in females as the cut off for obesity in patients that were already diagnosed as type II diabetics. The data was then organised and analysed in SPSS software version. 26. All data was presented as tables.

RESULTS

Out of the 190 subjects included in the study, 80 subjects were males while 110 were females. Subjects

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had a mean age of 38.3 ± 5.1 years. Mean WC was 95.14 ± 9.25 cm in males and 94.92 ± 11.12 cm in females. Abdominal obesity was positive in 20% of males and 25% of females with diabetes.

The results of the study also found out that the most no of obese individuals age group among the presented patients was >40 years of age i.e., 19 subjects with diabetes had obesity.

Table No.1: Shows overall frequency of Obesity in type II Diabetic Subjects

Obesity	Males	Females
YES	16	28
NO	64	82
Total	80	110

Table No.2: Obesity with Age wise Distribution in Males vs Females

Age Group	No. of Obese Diabetics		
	Males	Females	Total
20-30	4	7	11
31-40	5	9	14
>40	7	12	19
Total	16 (20%)	28 (25%)	44

Table No.3: Sex Distribution

Sex	Male	Female
Frequency	80	110
PERCENTAGE	42.1%	57.9%

DISCUSSION

Our study has found that abdominal obesity is found in a large no of subjects with diabetes. 20% of male subjects and 25% of female subjects showed association with type II diabetes.

Our study further found out that the most no of obese individuals age group among the presented patients was >40 years of age i.e., 19 subjects with diabetes had obesity. Table 2. These findings are consistent with another study by Zaher ZMM, et al that reported obesity of 38% in their study sample³.

Our study had somewhat female dominant sample i.e., 60% females. This is also in corroboration to another local study which was also hospital based⁵.

Studies have documented out the prevalence of diabetes in obese individuals at 13%. The Mean WC for our study was 95.14 ± 9.25 cm in males and 94.92 ± 11.12 cm in females while a study found out the Mean WC to be much lower which is contrast to the results of our study, probably because the subjects were military personnel with a much active lifestyle.⁴

In another study it was found that the linear relationship between WC and HbA1c exists and this study suggests if we address the central obesity issue, it could be beneficial to people with T2DM or at risk of T2DM.⁹

It is also documented that for every 3 cm WC increase there is nearly 1.5 times increased risk of developing diabetes.¹⁰ WC and its changes are very strongly

associated with the risk of developing type 2 diabetes in comparison to the body mass index and body weight. WC was identified as an independent risk factor for Type II diabetes. The study further suggested that WC is more important to measure in women for risk stratification than in men for it shows better gender based correlation in cases of females.¹¹⁻¹³

CONCLUSION

Our study concludes that abdominal obesity is fairly common in type II diabetic patients and shows a positive correlation with the disease.

Author's Contribution:

Concept & Design of Study: Farhan Zeb
 Drafting: Saqib Pervez, Musa Kaleemullah
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 Revisiting Critically: Farhan Zeb, Saqib Pervez
 Final Approval of version: Farhan Zeb

Conflict of Interest: The study has no conflict of interest to declare by any author.

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