Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI:10.53555/x50css31

FREQUENCY OF OBESITY AMONG GASTROESOPHAGEAL REFLUX DISEASE PATIENTS

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Abstract

Background: Gastric reflux disease refers to uncomfortable symptoms or a consequence caused by reflux of stomach contents and has strong association with obesity.

Objective: The aim of the study was to find out the Frequency of Obesity among Gastro-esophageal Reflux Disease Patients

Methodology: The current correctional study was carried out at the Department of medicine, Bolan medical college/ Bolan medical complex hospital Quetta from January 2023 to June 2023 after taking permission from the ethical committee of the institute. 154 participants of both gender, aged 20 to 70, who had GERD symptoms for longer than the previous were enrolled in this study via non-probability sequential sampling throughout the previous four weeks. The obesity incidence in participants with gastroesophageal reflux disease was determined. SPSS version 20.0 was used for data analysis.

Results: Overall 154 participants took part in this study out of which male 97(62.98%) and females were 57(37.0%) Majority of the individuals were in the age group less than 40 years 89(57.7%) with followed by age group greater than 40 years 65(42.2%) with Mean height, weight and BMI 162.09 ± 9.56 cm, 71.92 ± 15.13 kg and28.55 ±6.02 correspondingly. Obesity was noted in 73(47.40) individuals with body mass index greater than 27.Majority of male participants were non obese while 61% of female had greater body mass index with noteworthy p value 0.018**.**

Conclusion: The current study concluded that gastro esophageal reflux disease has strong association with obesity. Obesity rate among individuals with gastro-esophageal reflux disease was observed in 47.3% study participants.

Key words: Frequency; Obesity; Gastro-esophageal Reflux Disease

Introduction

The term "gastric reflux disease" (GERD) refers to uncomfortable symptoms or consequences caused by reflux of stomach contents .[1] This disease might have either a normal or atypical physical

appearance. Retrosternal burning sensation and regurgitation are the predominant symptoms in the typical type, whereas cough, laryngitis, and asthma are the main extra-esophageal symptoms in the atypical form. Pain in the chest may be the initial symptom of GERD in a patient [2-3]. The prevalence of disease is between 10 to 20% worldwide, based on Dent et al. [4] however other research conducted in Pakistan revealed that it varied from twenty four to thirty five [5-6].Pakistani researchers Shamail et al.[7] showed that the prevalence of this (heartburn and/or regurgitation) in obese people varied between 10.2% and 22.1%.In the Indonesian population, Ottmen Sijabat et al.[8] showed that the prevalence of obesity among gastric reflux disease patients was 8.1%.Numerous meta-analyses show a connection between GERD symptoms and complications and body mass index (body mass index, waist circumference, and weight increase [9-10]. The prevalence and severity of GERD symptoms all rise as BMI does. One important metric for comparing body weight to height is BMI.[11] it is calculated by taking the ratio of height in meters square (m2) to weight in kilograms (kg) [12]. The incidence and prevalence of gastric reflux disease have significantly grown in recent years, largely due to an increase in obesity [13-14.] There has only been one study conducted to date to show a correlation between the prevalence of gastric reflux disease and fatness in Pakistan [15]. The purpose of our study was to ascertain how common obesity is among GERD patients. Although some research indicates a substantial correlation between GERD and a larger waist circumference, other studies indicate that this correlation is not as strong as it is with BMI [16-17] similarly, it has been demonstrated that GERD symptoms greatly improve when people lose weight[18].theresfore this study was carried out to determine the Frequency of Obesity among Gastroesophageal Reflux Disease individual.

Materials and method

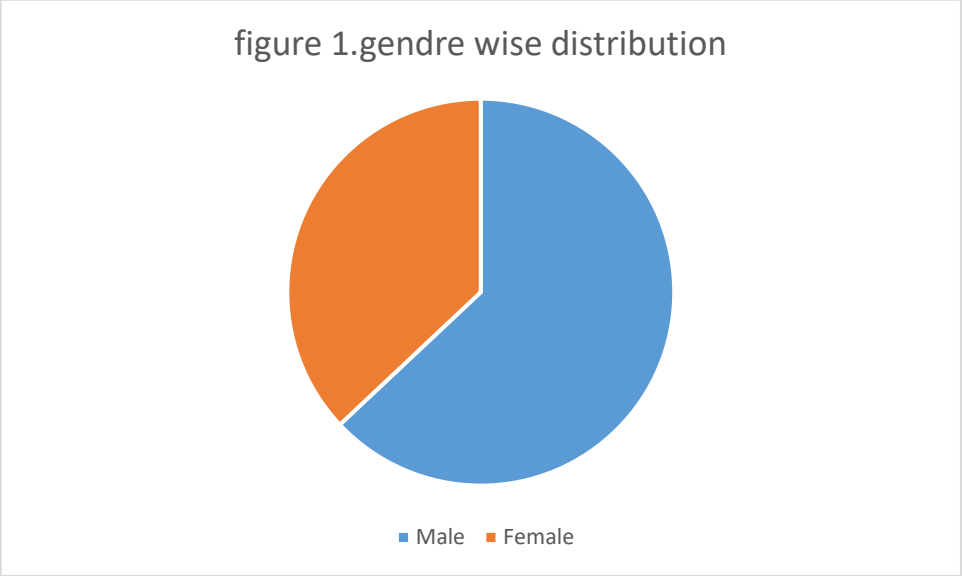
The current correctional study was carried out at the Department of medicine, Bolan medical college/ Bolan medical complex hospital Quetta from January 2023 to June 2023 after taking permission from the ethical committee of the institute. 154 participants of both gender aged 20 to 70, who had GERD symptoms for longer than the previous were enrolled in this study via non-probability sequential sampling throughout the previous four weeks. The obesity prevalence in patients with gastro- esophageal reflux disease was defined by dividing each participant one weight in kilograms (kg) by their height in meters squared (m2) [12]. It was defined as having a body mass index of equal to or greater than twenty seven . [19] Those who did not provide their permission, alarming GERD symptoms heart problems , pregnancy, and ascites from any cause, and patients taking medications or steroids within the previous 4 weeks were all excluded from the study. Using the WHO calculator, the sample size was determined to be 145, with a 95% confidence level, a 4.5% margin of error, and an 8.1% population frequency of obesity in GERD [8]. Analysis of data was performed through SPSS version 20.0. Sex, co-morbidities (DM, HTN, asthma) and obesity (defined as having a BMI of 27 or above) were present in percentage. Age, height, weight, and BMI were among the quantitative parameters that were shown as mean ± standard deviation. Stratification was used to regulate effect modifiers such as gender and age. The chi square post-stratification test was used. A p-value of less than 0.05 was considered statistically significant.

Results

Overall 154 participants took part in this study out of which male 97(62.98%) and females were 57(37.0%).**(figure1**) Majority of the individuals were in the age group less than 40 years 89(57.7%) with followed by age group greater than 40 years 65(42.2%) with Mean height, weight and BMI 162.09 ± 9.56 cm, 71.92 ± 15.13 kg and28.55 ±6.02 correspondingly. Obesity was noted in 73(47.40) individuals with body mass index greater than 27 as presented in **table 1**.Majority of male participants were non obese while 61% of female had greater body mass index with noteworthy p value 0.018 as presented in **table 2.**

Table 1. Demographic features of the study population	
Variables	**N (%)**
Age in years	
Mean	43.3 ±11.5
Range	(20-70)
Gender	
Male	97(62.98)
Female	57(37.0%)
Weight in Kg Mean ±SD	72.92±15.13
Height in centimeters Mean ±SD	163±9.59
BMI kg/m2 Mean ±SD (Range	27.55±6.02(16.7-44.8)
BMI> 27kg/m2	72(46.7)
BMI≤ 27kg/m2	82(53.24)
Age greater than 40 Years,	89(57.7)
Age ≤40 years	65(42.2)
Comorbidities	
Diabetes Melitus	23(14.9)
Hypertension	17(11.0)
Asthma	14(9)
Other	2(1.2)
Symptoms duration	
Below 6 months	22(14.2)
6months to 1 year	60(38.96)
1Year to 5 years	49(31.8)
Above 5 years	23(14.9)

Table 2. Displays the relationship between BMI and other variables			
Variables	**Body mass index**		**Value of P**
	Less than 27	27 or above	
Gender			
Male	6	39	0.018
Female	23	34	
Age greater than 40 Years,	42	47	0.110
Age ≤40 years	39	26	
Comorbidities			0.001
Present	21	34	
Absent	60	39	
Symptoms duration			0.691
Below 6 months	11	13	
6months to 1 year	35	26	
1Year to 5 years	26	24	
Above 5 years	12	12	



Discussion

In the current study we examined 145 individuals who had GERD symptoms to find out frequency of obesity and it was defined as having a body mass index (BMI) of equal to or greater than 27. The incidence of GERD in Pakistan is between 24% and 35%, according Jafri Net al. [4] The prevalence of gastro esophageal reflux symptoms (GERS) in the Asian population ranges from 50 to 70 percent [20]. A dose-response relationship between BMI and the likelihood that both men and women would report having GERD symptoms was shown by a meta-analysis [21]. The prevalence of GERD in obese people varies between 10-22.1%. [7]We identified 154 GERD individuals in this research, and 73 of them were determined to be obese (47.40%).Crowell et al.[22] found that overweight women attending a weight management clinic had higher upper and lower gastrointestinal problems than women of normal weight who were recruited from the community. A research by Jacobson et al.[23] on a large cohort of female participants likewise showed a favorable correlation between BMI and reported GI problems. Additionally, the author showed that gaining weight was associated with a higher risk of GERD symptoms, but losing weight reduced that risk.in our study majority of male participants were non obese while 61% of female had greater body mass index with noteworthy. (Value of P 0.018). One of the possible threat of GERD is obesity. According to a study, obesity (Body mass index greater than 30 kg/m2) is a significant risk factor for the occurrence of GERD.[24] The etiology of GERD in obese individuals is thought to be complex. We currently don't fully understand the cause of the higher prevalence of Reflux development in obese people. It has been shown that, in comparison to normal subjects, people with obesity have lower esophageal sphincter tones that are comparable or somewhat lower.[25-26] Numerous meta-analyses show a connection between Gastro esophageal symptoms and complications and a relationship between BMI , waist circumference, and weight increase.[9-10] Obesity-related elevated intra-abdominal pressure may lead to the emergence of GERD symptoms. Body fat accumulation, particularly in the abdominal area, may be the cause of this increase in intra-abdominal pressure. A hormone that is linked to adipose tissue and plays a part in the pathophysiology of GERD also affects accumulated body fat. Nevertheless, the exact process is still unknown.[23.] in our study 154 people had GERD, and 71 (47.3%) of those patients were obese. Variations in ethnicity and BMI cut-off can be attributed for the difference in the results.

Conclusion

The current study concluded that gastro esophageal reflux disease has strong association with obesity. Obesity rate among individuals with gastro-esophageal reflux disease was observed in 47.3% study participants. Female gender and concurrent diseases, such as diabetes and hypertension, were more closely linked to GERD and obesity.

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