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ORIGINAL ARTICLE

Relationship Between Belly Fat and Cardiovascular Disease A Survey Based Study in Cardiology A Multi Center Study

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ABSTRACT

Background: The Prevalence of central obesity is rising, and with it comes a higher risk of cardiovascular disease.
Objectives: The goal is to determine whether or not central obesity is related to cardiovascular disease.
Methodology: This research method was placed between January 05, 2021, and December 31, 2021, at the Department of Cardiology at GKMC Sawabi. The Prevalence of central obesity among 480 members of the general public was determined by measuring their waist circumferences. They also had their fastingblood sugar checked and their ability to exercise test.
Results: The average age was 54.7011.2, and there were 288 females and 192 males. The female-to-maleratio was 60% to 40%. Men were less likely to have a waist circumference of 85 centimeters or more than women. Higher waist circumference was associated with lower and middle socioeconomic status in both sexes. The chances ratio for men against females varied greatly across age groups, body mass index,and socioeconomic position (as measured by family income). Compared to those of normal weight, thosewith central obesity were more likely to have dyslipidemia, ischemia, and atherosclerosis in a biochemical study of blood samples.
Conclusion: Belly obesity is a major risk factor for cardiovascular disease.
Keywords: Relationship, Obesity, Cardiovascular Disease

INTRODUCTION

Obesity is defined as the abnormal buildup of fat tissues in several different parts of the body. The consequent weight increase has severe negative effects on health[1]. Traditionally, obesity has been defined using body mass index (BMI) criteria; however, it has been suggested in the scientific literature that BMI may not be an adequate tool to identify obesity if the body weight is more than 28-30 kg/m02[2].According to recent Research demonstrating a strong association between the two, abdominal obesity is more predictive of health hazards than BMI-based definitions of obesity. Studies in North America and the United Kingdom have added to the growing body of data that a fat belly is associated with a higher chance of cardiovascular disease[3]. Between the ages of 4 and 6, persons with abdominal obesity have afar greater death risk than those of a healthy weight[4]. The high cost and potential dangers of radiological imaging make computed tomography scans the gold standard but limits their use in practice [5]. Waist circumference may be substituted for CT scans in the general population since there is a substantial association between visceral fat and waist circumference Asians had a substantially higher prevalence of abdominal obesity, defined as a waist circumference of fewer than 90 centimeters in males and less than 85 centimeters in women[6]. The researchers set out to find out whether there was a link between central obesity and the development of cardiovascular disease. As a result of this study, we will better understand how to eliminate the root causes of unfavorable health outcomes[7].

MATERIALS AND METHODS

This data analysis was done at GKMC Sawabi's Cardiology Department from January 05 to December 31,2021. All participants supplied informed consent after review board clearance. We divided the city into parts to produce random choices for the poll. Since belly obesity raises heart disease risk by 10%, we chose 480 people to test this hypothesis. 90% confidence interval and 10% margin of error were used. Accordingto the estimates, two councils exist in each cardinal direction. Each council recorded 50 home-dwellers. The plan aimed to send one person to each of the 50 east-side homes. 40-55-year-olds may register. Participants gave 05 ccs of fasting blood. Before distributing flyers in each town, blood samples were obtained. The subject's waist size was determined by rolling an inch-long measuring tape across his belly button. After being refrigerated in an ice chest, the blood was delivered to the lab for serum extraction and freezing at -20 degrees Celsius. We checked each patient's lipid profile and fasting glucose. We utilized a proforma to record age, gender, waist size, BMI, and activity test data. Biochemical results were also reported. Those who needed an ETT might obtain one for free at the hospital's cardiology lab. A p-value of less than 0.05 was deemed statistically significant for Chi-square and odds-ratio analyses using SPSS 20.0.

RESULTS

The average age was 54.7011.2. All participants' BMIs were below 24-25kg/m02. Waist circumference showed considerable improvements. Participants were sorted into two groups depending on whether or nottheir waist circumference was more than or equal to 85 centimeters. 60% of the participants were women, and 57% were males. 8% of males and 14% of women had waist circumferences of 85 cm. Larger waist girths were associated with lower and intermediate socioeconomic status (Table 1). People with a WC of 90 cm or higher were least enthusiastic about working exercises. Half of the men and four-fifths of women only walked twice a week, adding to their obesity (Table 2).

Men's and women's odds ratios differed by age, BMI, and other characteristics.Income and other socioeconomic factors. Walking indicated a significant link when age and BMI were not included. Most overweight people exercise twice weekly (Table 3). A biochemical study of blood samples showed a link between central obesity and dyslipidemia, ischemia, and atherosclerosis. Atherosclerosis was similar across groups, whereas dyslipidemia and ischemia were (Fig. 1).

Table 1: Waist circumference, age, gender, and socioeconomic status.

Variable	Waist circumference (Male =192)			Waist circumference (Female =288)		
	<80 cm [n=176, 90]	≥85 cm [n=19 10%]	P value	<85 cm [n=244, 86%]	≥85 cm [n=36, 14 %]	P value
WC (cm)	81.3±4.5	90.1±43.1	[<0.001]	74.5±5.6	88.1±2.7	[<0.001]

BMI (kg/m^2)	22.2±2.64	23.3±0.80	[<0.001]	22.3±1.7	23.8±0.7	[<0.001]
Age (years)	51.71±15.3	63.3±12.64	[<0.001]	49.1±16.3	63.9±4.5	[<0.001]
Income Family						
Low to Middle	55 (43.80%)	6 (50%)	[0.010]	84 (38.1%)	19 (47.5%)	[<0.001]
Middle to high	54 (41.6%)	3 (25%)		65(29.5%)	10 (25%)	
High	50 (31.3%)	3 (25%)		71(32.3%)	11 (27.5%)	

Table 2: weekly comparison of exercisers of different waist widths

[days per week]	Waist circumference (Male =192)			Waist circumference (Female =288)		
Exercise	<80 cm [n=176, 90%]	≥85 cm[n=19 10%]	P value	<85 cm (n=244, 85%)	≥85 cm (n=36, 15%)	P value
[0–3]	65 (44%)	10 (51%)	[<0.001]	85 (33)	15 (41)	0.001
[3–4]	42 (26%)	5 (34%)		65 (27)	11 (26)	
[6–6]	46 (28%)	4 (17%)		94 (36)	10 (31)	

Table 3: Comparing persons of different waist widths reveals some strange proportions.

[Variable]	Male				Female			
	[Unadjusted]		[Age and BMI adjusted]		Unadjusted		Age and BMI adjusted	
	OR (90% CI)	P value	OR (90% CI)	P value	OR (90% CI)	P value	OR (93% CI)	P value
[Age	01.04 (1.049–1.068)	[<0.001]			01.05 (1.05–1.07)	[<0.001]		
[BMI	01.81 (1.67–1.98)	[<0.001]			01.66 (1.6–1.71)	[<0.001]		
[Low–middle]	01.31 (0.85–1.96)	[0.192]	01.02 (0.8–1.82)	0.45	02.3(1.7–3.4)	[<0.001]	01.83(01.30–2.6)	[0.001]
[Middle–High]	01.11(0.72–1.65)	[0.643]	01.20 (0.8–1.90)	0.40	01.43 (0.1–2.1)	[0.045]	01.03 (0.90–1.944)	[0.14]
[High]	02		02		02		01	

Table 4: [Walking exercise (day/wk)]

[0–01]	03.32(1.5–4.4)	[<0.001]	01.06 (1.20–2.6)	0.003	01.3 (1.1–1.91)	[0.009]	01.02 (0.85–1.6)	[0.81]
[02–04]	01.4 (0.992– 1.99)	[0.056]	01.02 (0.80–1.6)	0.32	0.90 (0.7–1.3)	[0.521]	01.90 (0.660–1.2)	[0.21]
[06–07]	02		03		02		02	

DISCUSSION

Diseases including diabetes, cardiovascular issues, breathing difficulties, and mental health issues have long been linked to obesity[8]. This study's only purpose was to examine the link between abdominal obesity and cardiovascular illness. There were significantly fewer males than females in the sample size used for this study[9]. However, contrary to data from other parts of Asia, men outnumber women regarding central obesity. 12-17 Climate and food variations among nations in the same area may be a factor[10]. The average age of the men and women with central obesity in the present Research was significantly greater than that of the healthy control group. Without a core fat reserve Research into the meaning of the Koran has reached the same conclusions[11]. After accounting for age and other socioeconomic characteristics, there was no longer a significant link between central obesity in males and cardiovascular disease. The development of central obesity and its association with CVD was more influenced for women by their family's socioeconomic level[12]. Another research indicated that the effects of education on central obesity in women were larger than in the United States; this may be related to better awareness of the health risks associated with obesity. In nations where alcoholism is already prevalent, there is a substantial correlation between rising rates of central obesity in men and the growth of alcoholism[13]. Since Pakistan's religiousregulations outlaw Muslim countries and alcohol usage, the population of interest was not discovered in the present study, even though this issue was previously addressed in the Research [14]. Research from the pastand present has shown that the rate at which one moves may have a major effect in warding off central obesity and the cardiovascular issues that come with it. 20 Further support was found in this study for the idea that central obesity is linked to a higher risk of dyslipidemia, atherosclerosis, and ischemia than in thegeneral population[15]. Thus, it was shown that central obesity had a robust association with cardiovascular events. Several investigations have verified similar findings, highlighting the significance of the correlation between central obesity and dyslipidemia and the increased risk of diabetes and hypertension[16].

CONCLUSION

There is a strong correlation between cardiovascular disorders and central obesity; thus, quick action isnecessary to treat the issue.

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