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Obesity and Obesity-Related Hypertension in Northern Cyprus: Findings from a Population-Based Cross-Sectional Study

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Abstract

BACKGROUND/AIMS: Obesity constitutes a chronic and multifactorial condition characterized by an excessive accumulation of adipose tissue and is linked to a wide range of comorbidities, including hypertension (HT). Its predominant cause is the disparity between caloric intake and the body's energy utilization. As obesity rates persistently rise, the incidence of obesity-related conditions, particularly HT, is expected to increase. This study estimated the prevalence of general and abdominal obesity (AO) and obesity-related HT among adults in Northern Cyprus.

MATERIALS AND METHODS: In this cross-sectional observational study, data were collected between October 2023 and June 2024 from Turkish Cypriot adults aged 18-79 years residing in Northern Cyprus.

RESULTS: The population-level prevalences of general obesity, AO, and excess weight were 26.2%, 46.9%, and 63.2%, respectively. Obesity prevalence was higher in males (29.7%) than in females (23.1%), and excess weight affected 74.3% of males and 53.2% of females. AO was also more prevalent among males (49.6%) than among females (44.4%). The population-level prevalence of HT was 34.6% (36.1% in males, 33.1% in females). Among individuals with HT, 76.9% had obesity-related HT (77.6% among males and 76.1% among females).

CONCLUSION: Obesity and its associated HT are highly prevalent among adults in Northern Cyprus. With rising obesity rates, the burden of obesity-related conditions is likely to increase. Prevention strategies, alongside lifestyle interventions, anti-obesity pharmacotherapy, and metabolic surgery when appropriate, are essential for long-term control of weight and blood pressure.

Keywords: Obesity, abdominal obesity, prevalence, hypertension, obesity-related hypertension

INTRODUCTION

Obesity is a chronic disease that can develop at any age, significantly reducing the quality of life. It is characterized by a disproportionate increase in body fat stores, which contributes to several comorbidities, including hypertension (HT), type 2 diabetes mellitus (T2DM), dyslipidemia, cardiovascular disease, stroke, non-alcohol-related hepatic steatosis, obstructive sleep apnea, certain cancers, chronic kidney disease, mental health disorders, and other chronic conditions.[1,2]

Obesity primarily results from a chronic imbalance between energy intake and expenditure, leading to excessive fat accumulation when energy intake exceeds expenditure.[3] Obesity rates worldwide have shown a continuous upward trend in both pediatric and adult populations. Between 1975 and 2016, obesity rates among children and adolescents increased from 4% to 18%, and the worldwide prevalence of obesity nearly tripled.[4] In Europe, 23% of adults are classified as obese, and approximately 59% are either overweight or obese.[2] By 2030, an estimated 78% of American adults are projected to be overweight or obese.[5]

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Body fat mass can be measured directly using advanced imaging modalities, including dual-energy X-ray absorptiometry, magnetic resonance imaging, and computed tomography. Although these approaches deliver highly accurate assessments of adiposity, they are not widely practical.[5] The body mass index (BMI) is a convenient and widely used tool for classifying overweight and obesity in adults. However, BMI does not differentiate between fat mass and lean body mass, nor does it accurately reflect body fat distribution. Anthropometric assessments, for example, waist circumference (WC), waist-to-height ratio, and waist-to-hip ratio, are commonly used to assess abdominal obesity (AO), also known as central or visceral obesity. Among these, WC is the simplest and most widely used indicator of AO.[6]

Using data collected between 1990 and 2019 from adults aged 30-79, a large-scale study estimated the global prevalence of HT to be 34% in males and 32% in females.[7] Globally, HT is the primary determinant of both morbidity and mortality, responsible for approximately 182 million years of healthy life lost (disability-adjusted life years) and 10.4 million deaths per year.[8] The association between obesity and elevated blood pressure (BP) is well recognized; obesity is estimated to account for 65-78% of primary HT incidence.[9]

The pathophysiological mechanisms connecting obesity to HT are complex, involving increased sympathetic nervous system activity; activation of the renin-angiotensin-aldosterone system (RAAS); insulin resistance; structural and functional renal alterations; and changes in adipose-derived cytokines.[9] As obesity rates continue to rise, the incidence of HT and other metabolic disorders is expected to increase. Accordingly, developing comprehensive treatment approaches for obesity is crucial both to prevent obesity-induced HT and to manage elevated BP in affected individuals.[10] The present study sought to evaluate the prevalence of obesity and HT and to quantify the proportion of HT cases associated with obesity in the adult population of Northern Cyprus.

MATERIALS AND METHODS

Individuals and Study Design

In this observational cross-sectional study, data were collected between October 2023 and June 2024 to evaluate the prevalence of obesity and obesity-related HT in Northern Cyprus. The study population consisted of Turkish Cypriots aged 18-79 years residing in various regions of Northern Cyprus. A random sample of individuals was drawn from six towns and 23 villages, with proportional representation based on regional population distributions. As of 2023, the estimated total population of Northern Cyprus was approximately 476,214 individuals, of which the adult population aged 18-79 years was estimated at 380,000.[11] Based on this, the minimum required study population was determined using Cochran's statistical formula for cross-sectional designs,[12] considering a 95% confidence level, an acceptable sampling error of 5%, and an estimated prevalence of 50% to allow for maximum variability. The calculated minimum sample size was approximately 384 individuals; however, a combined sample of 625 individuals was ultimately included in the study. A physician provided individuals with comprehensive information about the study during home visits, and verbal informed consent was obtained from all willing participants prior to inclusion in the investigation. Individuals who were pregnant or lactating or who had advanced heart failure, renal failure, or malignant disease were not included in the study. The study protocol received approval from the institutional Cyprus Science University Ethics Committee (approval number: 2023/10.002, date: 10.10.2023).

Anthropometric Measurements

Individuals' heights were measured without shoes, in meters, and body weights were measured using a tool with an accuracy of ±100 g. To ensure accuracy, individuals were weighed wearing light clothing, without jackets or shoes, and 1 kg was subtracted to account for clothing weight. BMI, a universally recognized parameter for classifying obesity, was calculated by dividing body weight in kilograms by the square of height in meters (kg/m²). WC, an indicator of AO recommended by the World Health Organization. The WC was measured at the midpoint between the last palpable rib and the superior border of the iliac crest.

BP Measurement

BP was measured twice at 3-5-minute intervals after at least five minutes of seated rest. The mean of the two readings was recorded as the individual's BP. All BP measurements were performed by the same physician using the same sphygmomanometer.

Definitions

All individuals were classified based on BMI and WC.

According to BMI:

- **Underweight:** BMI below 18.5 kg/m²
- **Normal weight:** BMI between 18.5 and 24.99 kg/m²
- **Overweight:** BMI between 25 and 29.99 kg/m²
- **Obesity:** BMI equal to or exceeding 30 kg/m²
- **Excess weight:** BMI equal to or exceeding 25 kg/m²

According to WC:

- **Optimal WC:** Defined as <80 cm for female and <94 cm for male
- **Suboptimal WC:** Ranging from 80 to 87 cm for female and 94 to 101 cm for male
- **AO:** Indicated by a WC ≥88 cm for female and ≥102 cm for male

HT was diagnosed when systolic blood pressure (SBP) was ≥140 mmHg or diastolic blood pressure (DBP) was ≥90 mmHg.[13]

Obesity-related HT was defined by the presence of both of the following criteria: (1) SBP equal to or greater than 140 mmHg and/or DBP equal to or greater than 90 mmHg, a previous diagnosis of HT, or the use of antihypertensive treatment; and (2) BMI ≥30 kg/m² and/or WC ≥102 cm in male individuals or ≥88 cm in female individuals.

Statistical Analysis

All statistical evaluations were conducted using IBM SPSS Statistics version 22.0 (IBM Corp., Armonk, NY, USA). The core features of the study population were summarized using descriptive methods. Continuous variables were expressed as means with standard deviations, and categorical variables as frequencies and percentages. Associations between categorical variables were examined using the Pearson's chi-squared (χ^2) test. The strength of associations was expressed as odds ratios with 95% confidence intervals. Results were deemed statistically significant if $p<0.05$.

RESULTS

Among individuals enrolled in the study, 47.4% were male (n=296) and 52.6% were female (n=329). The mean age of study participants was 47.1±16.2 years. The mean age was 46.9±16.0 years for females and 47.3±16.5 years for males. The age distribution was as follows: 38.4% were aged 18-39 years, 35.4% were aged 40-59 years, and 26.2% were aged 60-79 years. The average BMI of the individuals in the study was 27.7±6.1 kg/m² overall, 27.3±6.8 kg/m² for females, and 28.3±5.0 kg/m² for males (Table 1).

The prevalence of obesity was 26.2%, while the prevalence of overweight was 37.0%, resulting in a total excess weight prevalence of 63.2%. The prevalence of AO was 46.9%. For WC, 33.4% of individuals had optimal values and 19.7% had suboptimal values (Table 1).

The proportion of individuals with obesity was 21.6% among those aged 18-39 years, 24.4% among those aged 40-59 years, and 35.4% among those aged 60-79 years. A statistically significant association was observed between increasing age and obesity prevalence (p<0.001). The prevalence of overweight was 31.7%, 38.0%, and 43.3% in the respective age groups. Consequently, the overall prevalence of excess weight (overweight and obesity) was 53.3% in the 18-39-year age group, 62.4% in the 40-59-year age group, and 78.7% in the 60-79-year age group (Table 2).

Regarding sex differences, 46.8% of females had a healthy weight, compared to 25.7% of males. The prevalence of overweight was 30.1% among females and 44.6% among males, while obesity was observed in 23.1% of females and 29.7% of males. Excess weight was present in 53.2% of females and 74.3% of males. Males exhibited a significantly higher prevalence of obesity than females (p<0.001; Table 2).

WC and AO Trends

The prevalence of optimal WC decreased with age, while AO increased significantly (p<0.001). Optimal WC was observed in 51.2% of individuals aged 18-39 years, 29.0% of those aged 40-59 years, and 13.4% of those aged 60-79 years. Conversely, AO prevalence was 29.2%, 48.9%, and 70.1% in the respective age groups. Overall, the prevalence of AO was 46.9%, which was significantly higher in males (49.6%) than in females (44.4%) (p<0.05) (Table 3).

HT Prevalence

The overall prevalence of HT in Northern Cyprus was 34.6%, with a rate of 33.1% in females and 36.1% in males. Age-specific HT prevalence was 5.8% in the 18-39 age group, 39.4% in the 40-59 age group, and 70.1% in the 60-79 age group. The increase in HT prevalence with increasing age was statistically significant (p<0.001) (Table 4). The mean SBP of the individuals was 126.4±19.3 mmHg, while the mean DBP was 79.5±10.5 mmHg. In females, the mean SBP and DBP were 124.1±20.8 mmHg and 78.4±11.5 mmHg, respectively, whereas in males they were 129.0±17.2 mmHg and 80.6±9.2 mmHg (Table 4).

Table 1. Demographic characteristics of participants

		n	%
Age groups	**18-39**	240	38.4
	40-59	221	35.4
	60-79	164	26.2
Gender	**Male**	296	47.4
	Female	329	52.6
BMI (kg/m²)	**Healthy weight**	230	36.8
	Overweight	231	37.0
	General obesity	164	26.2
WC (cm)	**Optimal**	290	33.4
	Suboptimal	123	19.7
	Abdominal obesity	293	46.9
	Total	625	100.0

BMI: Body mass index, WC: Waist circumference.

Table 2. BMI of the participants according to their age groups and gender

		BMI (kg/m²)								
		Healthy weight		Overweight		General obesity		Total		Statistics
		n	%	n	%	n	%	n	%	χ^2; p
Age groups	**18-39**	112	46.7	76	31.7	52	21.6	240	100.0	28.090; **0.000**[1]**
	40-59	83	37.6	84	38.0	54	24.4	221	100.0	
	60-79	35	21.3	71	43.3	58	35.4	164	100.0	
	Total	230	36.8	231	37.0	164	26.2	625	100.0	
Gender	**Male**	76	25.7	132	44.6	88	29.7	296	100.0	30.387; **0.000**[1]**
	Female	154	46.8	99	30.1	76	23.1	329	100.0	
	Total	230	36.8	231	37.0	164	26.2	625	100.0	

[1]Pearson's chi-square test (χ^2); **p<0.001.
BMI: Body mass index.

Association Between HT and Obesity

Among individuals with HT, only 11.1% had optimal WC, while 75.5% had AO. Furthermore, among individuals with HT, 45.4% were obese, 38.4% were overweight, and 83.8% had excess weight (overweight or obese). In contrast, among individuals without HT, 16.1% were obese and 36.2% were overweight, totaling 52.3% with excess weight. The rates of both general and AO were significantly higher in hypertensive individuals than in non-hypertensive individuals (Table 5; $p<0.001$).

Obesity-Related HT

Overall, 76.9% of HT cases were associated with obesity, and this association was statistically significant ($p<0.001$). The rate of obesity-related HT was 76.1% among females and 77.6% among males. No statistically significant differences in the rates of obesity and HT were observed between genders ($p>0.05$) (Table 6).

Table 3. WC of the participants according to their age groups and gender

		WC (cm)								Statistics
		Optimal		Suboptimal		Abdominal obesity		Total		
		n	%	n	%	n	%	n	%	χ^2; p
Age groups	18-39	123	51.2	47	19.6	70	29.2	240	100.0	80.467; **0.000**[1]**
	40-59	64	29.0	49	22.2	108	48.9	221	100.0	
	60-79	22	13.4	27	16.5	115	70.1	164	100.0	
	Total	209	33.4	123	19.7	293	46.9	625	100.0	
Gender	Male	84	28.3	65	22.0	147	49.6	296	100.0	6.721; **0.035**[1]*
	Female	125	38.0	58	17.6	146	44.4	329	100.0	
	Total	209	33.4	123	19.7	293	46.9	625	100.0	

[1]Pearson's chi-square test (χ^2); *$p<0.05$, **$p<0.001$.
WC: Waist circumference.

Table 4. Prevalence of HT by gender and age groups

		HT						Statistics
		Yes		No		Total		
		n	%	n	%	n	%	χ^2; p
Age groups	18-39	14	5.8	226	94.2	240	100.0	181.535; **0.000**[1]**
	40-59	87	39.4	134	60.6	221	100.0	
	60-79	115	70.1	49	29.9	164	100.0	
	Total	216	34.6	409	65.4	625	100.0	
Gender	Male	107	36.1	189	63.9	296	100.0	0.628; 0.2391[1]*
	Female	109	33.1	220	66.9	329	100.0	
	Total	216	34.6	409	65.4	625	100.0	

[1]Pearson's chi-square test (χ^2); *$p<0.05$, **$p<0.001$.
HT: Hypertension.

Table 5. Relationship between HT, BMI, and WC

		BMI (kg/m^2)								Statistics
		Healthy weight		Overweight		General obesity		Total		
		n	%	n	%	n	%	n	%	χ^2; p
HT	Yes	35	16.2	83	38.4	98	45.4	216	100.0	84.276; **0.000**[1]**
	No	195	47.7	148	36.2	66	16.1	409	100.0	
	Total	230	36.8	231	37.0	164	26.2	625	100.0	
		WC (cm)								
		Optimal		**Suboptimal**		**Abdominal obesity**		**Total**		**Statistics**
		n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	χ^2; **p**
HT	Yes	24	11.1	29	13.4	163	75.5	216	100.0	113.295; **0.000**[1]**
	No	185	45.2	94	23.0	130	31.8	409	100.0	
	Total	209	33.4	123	19.7	293	46.9	625	100.0	

[1]Pearson's chi-square test (χ^2); **$p<0.001$.
BMI: Body mass index, WC: Waist circumference, HT: Hypertension.

Table 6. Association between HT and obesity								
		General obesity and/or abdominal obesity						
		Yes		No		Total		Statistics
		n	%	n	%	n	%	χ^2; p
HT	Yes	166	76.9	50	23.1	216	100.0	111.335; **0.000**[1]**
	No	133	32.5	276	67.5	409	100.0	
	Total	299	47.8	326	52.2	625	100.0	
		General obesity and/or abdominal obesity						
		Yes		No		Total		Statistics
		n	%	n	%	n	%	χ^2; p
HT	Female	83	76.1	26	23.9	109	100.0	0.061; 0.4661[1]*
	Male	83	77.6	24	22.4	107	100.0	
	Total	166	76.9	50	23.1	216	100.0	

[1]Pearson's chi-square test (χ^2); *p<0.05, **p<0.001.
HT: Hypertension

DISCUSSION

Globally, obesity constitutes a growing concern for public health. In 1980, the prevalence of obesity was reported as 10.3% in Iraq, 10.7% in Egypt, 11.8% in Russia, and 11.8% in South Africa. By 2019, these figures had risen to 21% in Iraq, 21.8% in Russia, 23.3% in South Africa, and 30% in Egypt.[14] As no prior studies have been conducted on this topic in North Cyprus, we were unable to assess changes in obesity prevalence over time. The prevalence of obesity and overweight varies significantly across countries due to differences in lifestyle and dietary habits. According to recent data, the prevalence of obesity is 41.9% in the United States,[14] 31% in Australia,[15] 30% in Egypt,[14] 26.6% in Canada,[16] 26% in Türkiye, 21.4% in Brazil, 7% in Tanzania,[14] 16.4% in China,[17] 18.2% in Bangladesh,[18] and 2.9% in Ethiopia.[19] In our study, the prevalence of obesity was found to be 26.2%.

When analyzed by gender, obesity rates tend to be higher in males than in females in some countries. For instance, in Australia, obesity affects 33% of men and 30% of women.[15] Similarly, in Malta, the prevalence is 30.6% in male and 26.7% in female,[20] while in Cyprus, it is 28.8% in male and 27% in female.[21] In Canada, 28% of male and 24.7% of female are obese,[16] and in Italy, 12.9% of male and 10.7% of female are affected.[20] Conversely, in other countries, obesity is more prevalent among females. In Ireland, obesity rates are 26% in female and 25.7% in male,[20] while in Bangladesh, the figures are 25.2% for female and 12.2% for male.[18] A study from France reported obesity prevalence rates of 17.4% in female and 16.7% in male,[22] and in Ethiopia, obesity was recorded at 5.6% in female and only 0.4% in male.[19] In our study, the prevalence of obesity was 23.1% among females and 29.7% among males. The variation in gender-specific obesity rates across countries may be influenced by factors such as childbirth rates, cultural perceptions of beauty, workforce participation rates among women, and the types of occupations in which women engage.

Our findings indicate that obesity prevalence increases with age. The prevalence was 21.6% in the 18-39 age group, 24.4% in the 40-59 age group, and 35.4% in the 60-79 age group. These results align with previous studies. For instance, in the United States, obesity prevalence was reported as 39.8% among individuals aged 20-39 years, 44.3% among those aged 40-59 years, and 41.5% among those aged 60 years and older.[14] Similarly, in France, obesity rates were 9.2% among individuals aged 18-24 years, 13.8% among those aged 25-34 years, 16.7% among those aged 35-44 years, 18.4% among those aged 45-54 years, 19.2% among those aged 55-64 years, and 19.9% among those aged 65 years and older.[22]

The proportion of individuals with excess weight, encompassing both overweight and obesity, was reported as 67% in Australia,[15] 54.3% in Middle Eastern countries,[23] and 53% in European Union (EU) countries.[20] Among EU countries, the lowest prevalence was in Italy (46%), followed by France (47.3%)[22] and Luxembourg (48%).[20] In contrast, the highest prevalence was observed in Croatia and Malta, where 65% of individuals were classified as having excess weight.[20] In our study, the prevalence of excess weight was 63.2%, indicating an elevated burden of overweight and obesity in our population.

When analyzed by gender, excess weight was more common in males than in females, a trend observed across EU countries. In Australia, 75% of males and 60% of females were classified as overweight.[15] Similarly, in Italy, the prevalence was 53% in males and 37% in females, while in Luxembourg, it was 59% in males and 38% in females. In Czechia, excess weight affected 70% of men and 51% of women, while in Croatia the rates were 73% and 58% for men and women, respectively.[20] A study carried out in Cyprus by Andreou et al.[21] estimated a prevalence of 75.7% in males and 53% in females. Our study also found a higher prevalence of excess weight in males (74.3%) than in females (53.2%), similar to the findings in Cyprus and EU countries. These similarities may be attributed to shared lifestyle factors.

A large-scale global study using data from 1990 to 2019 reported the prevalence of HT among individuals aged 30-79 years as 34% in males and 32% in females.[7] In this study, the rate of HT was slightly higher in males (36.1%) than in females (33.1%).

The association between excessive fat accumulation and elevated BP is firmly established, with obesity estimated to account for 65-78% of cases of primary HT.[9] This study found that 76.9% of hypertensive individuals had obesity-related HT. The underlying mechanisms linking obesity to HT are multifactorial and include hyperactivation of the sympathetic branch of the autonomic nervous system, stimulation of the RAAS, impaired insulin sensitivity, structural and functional renal alterations, and dysregulation of adipose tissue-derived cytokines.[9]

Population-based studies have demonstrated an almost linear relationship between BMI and BP.[24] A 5% increase in overall body mass has been associated with a 20-30% increase in the occurrence of HT.[25] Conversely, weight reduction has been shown to lower BP in individuals with HT. In Trials of Hypertension Prevention Phase II, overweight and obese adults who achieved and sustained a 4.5-kg weight loss over 30 months experienced a 65% reduction in the risk of HT.[26]

The primary therapeutic goal in managing obesity-related HT is weight reduction. BP-lowering effects appear to be dose-dependent, with approximately a 1 mmHg decrease in systolic BP per kilogram of weight loss.[27] Lifestyle modifications-including a low-calorie diet, reduced sodium intake, limited consumption of cholesterol and saturated fats, and increased intake of fish, lean meats, vegetables, whole grains, and fruits-combined with regular physical activity are effective in reducing both weight and BP. Weight loss also enhances the efficacy of antihypertensive medications and confers independent cardiovascular benefits.[10]

Pharmacological treatment may be considered for individuals with a BMI equal to or exceeding 30 kg/m^2, or for those with a BMI equal to or exceeding 27 kg/m^2 who have obesity-associated comorbidities, such as HT or T2DM.[28] Currently approved pharmacologic treatments for obesity include orlistat, phentermine-topiramate, liraglutide, semaglutide, and naltrexone-bupropion. Orlistat, a gastrointestinal lipase inhibitor, is particularly effective in reducing visceral fat. Other agents act centrally to suppress appetite and enhance satiety.[29] However, naltrexone-bupropion is contraindicated in hypertensive patients due to its potential to raise BP and heart rate.[30]

Given the involvement of RAAS activation in obesity-related HT, angiotensin converting enzyme inhibitors (ACEIs) which inhibit angiotensin-converting enzyme, and angiotensin II receptor blockers (ARBs) which block angiotensin II receptors, are recommended as primary therapeutic interventions.[9] Dihydropyridine calcium channel blockers are typically used as adjunctive agents in combination with ACEIs or ARBs.[31] In contrast, beta-blockers are generally avoided in obesity-related HT because of their association with insulin resistance and their potential to cause weight gain.[32]

Surgical metabolic interventions are the most effective approaches for achieving substantial and sustained reductions in body weight. Candidates for bariatric surgery include patients with T2DM and poor glycemic control and a BMI of 30 kg/m² or higher; patients with a BMI of 35 kg/m² or higher and coexisting conditions; and patients with a BMI of 40 kg/m² or higher.[33] Surgical options include laparoscopic adjustable gastric banding, sleeve gastrectomy (SG), and Roux-en-Y gastric bypass. SG is presently the most widely performed bariatric procedure because of its proven effectiveness and favorable safety profile.[34]

Study Limitations

The present study is subject to several limitations that should be taken into account. The lack of prior data from North Cyprus precludes analysis of trends, and the cross-sectional design limits causal inference regarding the relationship between obesity and HT. Self-reported lifestyle information may be subject to recall bias, and potential sampling bias could affect generalizability. Key metabolic parameters, genetic predispositions, and environmental factors were not considered, thereby limiting comprehensive understanding of obesity-related HT. The effects of antihypertensive medications were not assessed, and psychological and behavioral factors such as stress and sleep patterns were overlooked. Additionally, physical activity levels were not objectively measured, and regional or ethnic comparisons were not made. Future research should adopt longitudinal designs, incorporate objective lifestyle and metabolic assessments, expand sample sizes, and explore genetic, psychological, and regional influences to provide a more complete understanding of obesity-related HT in North Cyprus.

CONCLUSION

Approximately one in four adults in Northern Cyprus (26.2%) has general obesity, nearly one in two (46.9%) has AO, and one in three (34.6%) has HT. Among individuals with HT, 76.9% have obesity-related BP elevation. As obesity becomes more prevalent, the incidence of obesity-related comorbidities, including HT, is expected to rise. In addition to lifestyle modifications, anti-obesity pharmacotherapy and metabolic surgery might offer effective long-term strategies for weight loss and BP control in selected patients. However, prioritizing the development and implementation of preventive strategies is essential to curbing the rising prevalence of obesity and its related complications, including HT.

MAIN POINTS

- The rates of general obesity, abdominal obesity, and excess weight among adults in Northern Cyprus were 26.2%, 46.9%, and 63.2%, respectively. Obesity prevalence was higher in males (29.7%) than in females (23.1%).
- Both obesity and excess weight increased with age. The rate of excess weight was 53.3% among individuals aged 18-39 years, 62.4% among those aged 40-59 years, and 78.7% among individuals aged 60-79 years.
- The overall prevalence of hypertension (HT) was 34.6%, with a slightly elevated rate in males (36.1%) compared to females (33.1%).
- Among individuals with HT, 76.9% had obesity-related HT. The proportion of obesity-related HT was 76.1% among females and 77.6% among males.

ETHICS

Ethics Committee Approval: The study protocol received approval from the institutional Cyprus Science University Ethics Committee (approval number: 2023/10.002, date: 10.10.2023).

Informed Consent: Patient consent was obtained.

Footnotes

Authorship Contributions

Concept: E.B., Design: E.B., Data Collection and/or Processing: E.B., G.Ö., Analysis and/or Interpretation: E.B., G.Ö., Literature Search: E.B., Writing: E.B., G.Ö.

DISCLOSURES

Conflict of Interest: No conflict of interest was declared by the authors.

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