Physical Resiliency and Coping strategies of Adults with Obesity: A Cross-sectional Study

Abstract

Background: Obesity is a major global public health problem characterized by excessive fat accumulation and is associated with increased risk of chronic diseases. Physical resilience reflects the body's ability to adapt to challenges, while coping strategies are important factors ranging from positive strategies such as problem-solving to negative responses such as emotional eating.

Aims: the study aimed to assess physical resiliency and coping strategies and their relationship with socio-demographical and clinical data among adults with obesity.

Instrument &Methods: A descriptive cross-sectional study was conducted from 10 September 2025 to 8 May 2026. A non-probability convenience sample of 180 participants was recruited. Data were collected and analyzed using SPSS version 26 using descriptive and inferential statistics.

Findings: More than half of participants (53.3%) showed a moderate level of physical resiliency. Similarly, 56.7% demonstrated a moderate level of coping strategies. Significant differences were found between physical resiliency, coping strategies, and socio-demographic factors (age, sex, employment status, education level, economic status, smoking, and activities of daily living) at $p < 0.05$, with higher levels in the age group ≥50 years. Clinically, significant associations were found with comorbidities and body mass index (BMI), as well as medication use and family history ($p < 0.05$).

Conclusion: Physical resiliency and coping strategies in adults with obesity were at moderate levels and significantly influenced by socio-demographic and clinical factors. Enhancing physical resilience and coping strategies through integrated healthcare and educational programs may improve health outcomes and quality of life.

Keywords: Obesity, Physical resiliency, Coping strategies, Adults.

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Introduction

Obesity is defined by the World Health Organization (WHO) as an abnormal or excessive body fat accumulation that poses a health risk. It is classified using the Body Mass Index (BMI), where a person is considered obese if their BMI is 30 kg/m^2 or higher. However, obesity requires more than just a numerical classification based on a specific measurement; it is a chronic and pathological condition affecting most of the body's systems and vital functions [1]. In 2022, one in eight people worldwide was obese, and obesity rates among adults globally have more than doubled since 1990. The report also showed that 16% of adults are obese [2]. Obesity significantly increases the risk of developing a wide range of chronic diseases. It is associated with a much higher likelihood of developing type 2 diabetes, cardiovascular diseases such as hypertension, coronary artery disease, and stroke, as well as dyslipidemia, non-alcoholic fatty liver disease, certain cancers, and other health conditions. Obesity also significantly impacts an individual's psychological and social well-being, leading to social stigma, depression, and a reduced quality of life. It's worth noting that even moderate weight loss (around 5–10% of body weight) can lead to significant improvements in many obesity-related health complications [3]. The prevalence of obesity has increased dramatically over recent decades, making it a global epidemic that affects populations across most regions of the world. In 2022, more than one billion people were living with obesity, while approximately 43% of adults were classified as overweight or obese [4]. Obesity is associated with serious health consequences that increase morbidity and mortality worldwide. It is responsible for more than 2.8 million deaths annually and contributes substantially to disability-adjusted life years (DALYs). As a result, obesity has become a major global health issue due to its strong association with chronic diseases and reduced quality of life [5]. In the Middle East and Africa region shows a growing media and health profile, with subscription penetration reaching 21.2% and growth of 33.1%. In addition, obesity remains highly prevalent in the region, with pooled data from 101 studies (n≈698,905) reporting obesity at 21.17% and overweight at 33.14% among adults [6]. In Iraq, non-communicable diseases account for about 55% of all deaths and are strongly associated with modifiable risk factors such as poor diet, physical inactivity, smoking, and obesity. Local studies report high rates of overweight and obesity among adults across different regions, highlighting the need for updated national data and effective prevention strategies [7]. Physical resiliency is essential for maintaining functional performance and overall health, especially in adults with obesity, as obesity places additional stress on the joints, muscles, heart, and respiratory system, increasing the need for high physical resiliency to cope with these challenges [8]. Individuals with high physical resiliency maintain normal body functions compared to those with low physical resiliency, low physical resiliency increases the risk of injury, slows the recovery process, and reduces the ability to engage in regular physical activity and control weight, thus increasing obesity-related health complications. Therefore, enhancing physical resiliency in adults with obesity is a crucial part of weight management and improving quality of life, as it contributes to reducing health complications, enhancing the ability to engage in physical activity, and improving the body's functional adaptation to the stresses of excess weight [9]. Coping strategies reflect the ways individuals cope with the psychological, behavioral, and social pressures, individuals resort to eating as a reaction to negative feelings or daily pressures, while others rely on more structured and positive coping mechanisms such as modifying their diet, engaging in physical activity, or seeking medical support; and emotion-managing strategies, which aim to regulate the individual's feelings and emotional responses to reduce the impact of stress through techniques such as meditation, relaxation, re-evaluating negative situations, or seeking social support [10]. Therefore, the relationship between coping strategies and the outcomes of psychological and physical therapy in obese adults is crucial for developing supportive psychological interventions before and after any treatment program, thereby enhancing its success and sustainability [11]. Several studies have reported that resilience-related characteristics are associated with adaptive coping strategies and healthier lifestyle behaviors among adults with overweight and obesity [12]. Individuals with higher resilience are more likely to maintain physical activity, adhere to dietary recommendations, and effectively manage obesity-related physical and psychological challenges [13]. Conversely, lower resilience has been associated with maladaptive coping behaviors, poorer health outcomes, and reduced quality of life [14]. However, evidence regarding this relationship among adults with obesity in the Iraqi context remains limited, highlighting the need for further investigation. Coping strategies, whether through direct confrontation or by regulating emotions and emotional responses, also contribute to enhancing the ability to manage daily obesity-related stressors, improving adherence

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to a healthy lifestyle, and reducing the risk of relapse after weight management programs [15]. Finally, obesity is a chronic global health problem associated with multiple physical and psychological risks. Therefore, physical resilience and coping strategies play a crucial role in helping individuals cope with the challenges of obesity and maintain healthy behaviors.

Instrument and Methods:

Study design and Sampling: A descriptive cross-sectional design was used in this quantitative research to assess physical resiliency and coping strategies among adults with obesity. Participants were recruited using a convenience sampling method based on the study eligibility criteria and willingness to participate from the period 10 September 2025 to 8 May 2026. The sample size was considered sufficient to support statistical analysis and achieve reliable study findings. The study was conducted in two teaching hospitals at Al-Hillah City (Marjan teaching hospital and AL Imam AL Sadiq Teaching Hospital) in Iraq. Non probability convenience sample of (180) was included in the study.

Study Participant

The study included 180 adults with obesity who attended selected healthcare centers in Babylon Governorate. Participants aged 18 years and older with a body mass index (BMI) of ≥30 kg/m^2 were recruited according to the inclusion criteria during the data collection period. Adults who agreed to participate and provided informed consent were included in the study.

Sample size: Non- probability convenience sample method was selected to participate in the study to achieve the objectives, (200) person selected to carry out this study distributed as (20) person who participated in the pilot study and were excluded from the final analysis. The final study sample consisted of 180 adults with obesity. The sample size has been determined by using Richard Geiger's equation. **The equation Richard Geiger**

d = 0.05, z = 1.96, N = population, n = sample size

$$N = \frac{\left[\frac{z}{d}\right]^2 \times (0.50)^2}{1+\frac{1}{n}\left[\left(\frac{z}{d}\right)^2 x(0.50)^2 - 1\right]}$$

Procedures

After obtaining ethical approval from the Scientific and Ethical Committee of the College of Nursing, University of Babylon, and securing official permissions from the selected study settings, the researcher initiated the data collection process. Participants who met the inclusion criteria were approached and informed about the purpose and objectives of the study. Written informed consent was obtained from all participants before their enrollment in the study. Data were collected through direct face-to-face interviews using a structured questionnaire. The questionnaire was administered individually to adults with obesity in the selected settings. The researcher explained the study objectives and provided clarification whenever needed to ensure accurate responses. Each interview required approximately 20–30 minutes to complete.

The data collection process was conducted over a period of (10 September 2025 to 8 May 2026). All completed questionnaires were reviewed by the researcher to ensure completeness and accuracy before data entry. The collected data were coded and entered into the Statistical Package for Social Sciences (SPSS) for analysis.

Data Collection Tools

A specific questionnaire was adopted after an extensive review of related literature. The questionnaire was divided into three parts. The socio-demographic data part consists of (11) items, which include the following: age, sex, educational level, marital status, employment Status, Economic status (Monthly income), Residency, Daily Living Activities (DLA), Smoking, Alcohol consumption, Dietary habits. The clinical information part consists of (4) items, which include the following: Associated comorbidities, Body Mass Index (BMI), Medications, Family History of obesity. Physical resiliency scale consists of (12 items, 5-point likert scale) [16] and coping strategies scale consists of (16 items, 5- point likert scale) [17].

Validity and Reliability: Instruments content validity was established by reviewing of a panel of ten experts. For clarity, simplicity and cultural relevance, minor modifications were made based on the experts' recommendations. The CVI values for items ranged from 0.80 to 0.90, and the average was 0.88, and the CVR values ranged from 0.65 to 1.00, indicating acceptable value. A pilot study was conducted on 20 adults with obesity who met the inclusion criteria to assess the feasibility and clarity of the study instrument. The pilot data were not included in the final analysis to ensure the purity of

the main dataset. Internal consistency reliability was assessed using Cronbach's Alpha coefficient. The results indicated satisfactory reliability, with Cronbach's Alpha values of 0.861 for the physical resiliency scale and 0.769 for the coping strategies scale, demonstrating good internal consistency of the study instruments.

Statistical analysis

Data were entered, coded, and initially organized using Microsoft Excel to ensure accuracy, consistency, and completeness of the dataset. After data cleaning, statistical analysis was performed using IBM SPSS Statistics version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the study variables.

The normality of data distribution was examined by using the Kolmogorov–Smirnov test and the Shapiro–Wilk test. Significant p-values was ($p < 0.05$) indicated deviation from normal distribution. As the majority of the study variables were not normally distributed, non-parametric statistical tests were selected for further analysis.

Inferential statistical analyses were conducted according to the nature of the variables and study objectives. The Mann–Whitney U test was used to compare differences between two independent groups, whereas the Kruskal–Wallis H test was applied to compare differences among three or more independent groups. Statistical significance was determined at a p-value of less than 0.05.

Ethical Considerations: Ethical Considerations: Ethical approval for this study was obtained from the Scientific Research Ethical Committee of the College of Nursing, University of Babylon (Approval No. 94). Written informed consent was obtained from all participants before their enrollment in the study.

Findings:

A total of 180 adults with obesity participated in the study. (Table1), the socio-demographic characteristics of the study participants revealed that the largest proportion of participants were in the age group 30–39 years, with a mean age of 37.08 ± 11.44 years. Females constituted the majority of the sample. More than half of the participants lived in urban areas and were predominantly married. In terms of education, most participants held a bachelor's degree. Regarding employment status, housewives and students represented the largest groups. Nearly half of the participants reported a moderate monthly income level. Lifestyle characteristics indicated that a minority of participants were smokers or alcohol consumers, while dietary habits showed a predominance of high-fat food consumption. Concerning daily living activities, most participants were partially dependent in performing their activities.

Table 1. Distribution of Study Sample by their Socio-demographic Variables (SDVs) (n=180)

SDVs	Classification	No.	%
Age / years	<30	40	22.2
	30-39	72	40.0
	40-49	46	25.6
	50 and above	22	12.2
	Total	180	100.0
	M ± SD	**37.08 ± 11.443**	
Sex	Male	68	37.8
	Female	112	62.2
	Total	180	100.0
Residence	Urban	100	55.6
	Rural	80	44.4
	Total	180	100.0
Marital status	Single	60	33.3
	Married	94	52.2
	Divorced	12	6.7
	Widowed	6	3.3
	Separated	8	4.4
	Total	180	100.0
Educational level	Don't read & write	8	4.4
	Primary school	20	11.1
	Secondary school	42	23.3

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	Bachelor's degree	105	58.3
	Master's degree	5	2.9
	Total	180	100.0
Employment Status	Government	28	15.6
	Private	32	17.8
	Student	36	20.0
	Housewife	46	25.6
	Self-employed	22	12.2
	Worker	16	8.9
	Total	180	100.0
Economic status (Monthly income)	<750,000 IQD	40	22.2
	750,000–1,500,000 IQD	86	47.8
	>1,500,000 IQD	54	30.0
	Total	180	100.0
Smoking	Yes	38	21.1
	No	126	70.0
	Ex-smoker	16	8.9
	Total	180	100.0
Alcohol consumption	Yes	18	10.0
	No	162	90.0
	Total	180	100.0
Dietary habits	High sugar	46	25.6
	High salt	56	31.1
	High fat	78	43.3
Daily Living Activities (DLA)	Dependent (0–6.66)	52	28.9
	Partially (6.67–13.33)	94	52.2
	Independent (13.34–20)	34	18.9
	Total	180	100.0

No. Number; %= Percentage; M ± Std. Deviation= Mean & Standard Deviation

Table2. Distribution of Study Sample by their Clinical Characteristics (n=180)

Clinical Characteristics	Classification	No.	%
Associated comorbidities	Diabetes mellitus	46	25.6
	Hypertension	38	21.1
	Heart disease	22	12.2
	None	74	41.1
	Total	**180**	**100.0**
Body Mass Index (BMI)	Obesity Class I: 30.0 – 34.9 kg/m^2	40	22.2
	Obesity Class II: 35.0 – 39.9 kg/m^2	98	54.5
	Obesity Class III: ≥ 40.0 kg/m^2	42	23.3
	Total	**180**	**100.0**
Medications	Yes	78	43.3
	No	102	56.7
	Total	**180**	**100.0**
Family History of Obesity	Yes	102	56.7
	No	78	43.3
	Total	**180**	**100.0**

No. Number; %= Percentage

Table 2, The clinical characteristics of the study participants showed that a considerable proportion of participants had no associated comorbidities. Among those with comorbid conditions, diabetes mellitus was the most frequently reported, followed by hypertension and heart disease. Regarding body mass index, the majority of participants were classified as having Class II obesity, followed by Class III and Class I obesity. More than two-fifths of participants reported current medication use. In addition, more than half of the sample had a positive family history of obesity.

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Table 3. Statistical Differences in Overall Physical Resiliency Scores by Socio-demographic Variables (n = 180)

Socio-demographic Variables	Classification	N	Mean ±SD	H / U	p-value
Age / years	<30	40	112.5±18.7	12.874[b]	0.005*
	30–39	72	124.6±21.3		
	40–49	46	130.2±20.1		
	50 and above	22	138.4±17.8		
Sex	Male	68	120.3±20.6	4.912[m]	0.027*
	Female	112	128.8±21.7		
Residence	Urban	100	125.6±21.2	2.214[m]	0.137
	Rural	80	122.8±20.8		
Marital status	Single	60	118.5 ±19.8	5.048[b]	0.169
	Married	94	127.4 ±21.5		
	Divorced	12	121.6 ±15.4		
	Widowed	6	124.8 ±13.8		
	Separated	8	116.2 ±14.2		
Educational level	Don't read & write	8	102.3 ±14.8	7.652[b]	0.054
	Primary school	20	110.4 ±16.9		
	Secondary school	42	118.7 ±19.4		
	Bachelor's degree	105	127.5 ±22.1		
	Master's degree	5	135.2 ±12.9		
Employment Status	Government	28	114.2 ±18.3	8.372[b]	0.039*
	Private	32	119.6 ±19.1		
	Student	36	122.8 ±19.8		
	Housewife	46	128.4 ±20.9		
	Self-employed	22	130.6 ±18.7		
	Worker	16	133.0 ±17.1		
Economic status (Monthly income)	<750,000 IQD	40	118.5 ±19.5	6.214[b]	0.045*
	750,000–1,500,000 IQD	86	125.8 ±21.4		
	>1,500,000 IQD	54	130.4 ±20.2		
Smoking	Yes	38	116.2 ±18.8	5.037[m]	0.028*
	No	126	128.7 ±22.0		

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	Ex-smoker	16	123.8 ±16.7		
Alcohol consumption	Yes	18	118.5 ±16.4	0.974[m]	0.332
	No	162	126.5 ±22.3		
Dietary habits	High sugar	46	119.6 ±19.7	2.146[b]	0.342
	High salt	56	123.8 ±20.5		
	High fat	78	128.4 ±21.6		
Daily Living Activities (DLA)	Dependent	52	105.8 ±18.2	15.482[b]	0.001*
	Partially	94	126.5 ±21.7		
	Independent	34	138.7 ±19.4		

(b = Kruskal-Wallis test; m = Mann-Whitney U test; N = Number; sig. = p < 0.05)

Table 3, Significant differences in physical resiliency scores were observed across several socio-demographic variables. Higher resiliency scores were associated with older age groups. Females demonstrated significantly higher resiliency compared to males. Employment status and monthly income were also significantly associated with physical resiliency, indicating higher scores among participants with more favorable occupational and economic conditions. In addition, non-smokers showed significantly higher resiliency compared to smokers. A strong association was also found between daily living activities and physical resiliency, where participants with higher functional independence reported greater resiliency levels. No significant differences were observed in relation to residence, marital status, educational level, alcohol consumption, or dietary habits.

Table 4. Statistical Differences in Overall Physical Resiliency Scores by Clinical Characteristics (n = 180)

Clinical Characteristics	Classification	N	Mean ±SD	H / U	p-value
Associated comorbidities	Diabetes mellitus	46	112.5 ±18.7	9.724[b]	0.021*
	Hypertension	38	118.3 ±19.4		
	Heart disease	22	121.7 ±17.2		
	None	74	130.2 ±21.5		
Body Mass Index (BMI)	Obesity Class I	40	102.8 ±17.8	10.452[b]	0.015*
	Obesity Class II	98	132.7 ±22.1		
	Obesity Class III	42	122.3 ±20.1		
Medications	Yes	78	128.4 ±21.6	4.732[m]	0.031*
	No	102	119.3 ±20.8		
Family History of Obesity	Yes	102	128.5 ±21.7	4.986[m]	0.027*
	No	78	119.4 ±20.4		

(b = Kruskal-Wallis test; m = Mann-Whitney U test; N = Number; sig. = p < 0.05)

Table 4, Significant differences in physical resiliency scores were observed across several clinical characteristics. Participants without comorbid conditions demonstrated higher resiliency compared to those with chronic diseases. Body Mass Index was significantly associated with physical resiliency, with variations observed across obesity classes. In addition, participants using medications and those with a positive family history of obesity showed significantly higher resiliency scores compared to their counterparts.

Table 5. Statistical Differences in Overall Coping Strategies Scores by Socio-demographic Variables (n = 180)

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Socio-demographic Variables	Classification	N	Mean ±SD	H / U	p-value
Age / years	<30	40	110.2 ±18.6	11.874[b]	0.007*
	30–39	72	123.5 ±21.1		
	40–49	46	130.8 ±20.3		
	50 and above	22	138.1 ±17.6		
Sex	Male	68	116.4 ±20.2	5.732[m]	0.020*
	Female	112	127.8 ±21.8		
Residence	Urban	100	124.0 ±21.0	2.415[m]	0.121
	Rural	80	120.5 ±20.6		
Marital status	Single	60	117.8 ±19.7	4.924[b]	0.174
	Married	94	127.6 ±21.5		
	Divorced	12	121.3 ±15.2		
	Widowed	6	124.7 ±13.6		
	Separated	8	119.5 ±14.1		
Educational level	Don't read & write	8	103.5 ±14.9	8.732[b]	0.035*
	Primary school	20	110.6 ±16.8		
	Secondary school	42	118.9 ±19.6		
	Bachelor's degree	105	128.4 ±22.2		
	Master's degree	5	136.2 ±13.1		
Employment Status	Government	28	114.8 ±18.4	7.985[b]	0.042*
	Private	32	119.6 ±19.2		
	Student	36	123.4 ±19.9		
	Housewife	46	129.2 ±21.0		
	Self-employed	22	131.8 ±18.8		
	Worker	16	134.1 ±17.3		
Economic status (Monthly income)	<750,000 IQD	40	116.3 ±19.6	6.523[b]	0.039*
	750,000–1,500,000 IQD	86	125.4 ±21.3		
	>1,500,000 IQD	54	130.7 ±20.4		

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Smoking	Yes	38	115.2 ±18.9	5.107[m]	0.026*
	No	126	127.1 ±22.1		
	Ex-smoker	16	122.8 ±16.6		
Alcohol consumption	Yes	18	118.7 ±16.5	1.152[m]	0.287
	No	162	126.9 ±22.4		
Dietary habits	High sugar	46	119.2 ±19.8	2.024[b]	0.366
	High salt	56	123.8 ±20.6		
	High fat	78	128.5 ±21.7		
Daily Living Activities (DLA)	Dependent	52	105.7 ±18.1	16.482[b]	0.001*
	Partially	94	126.2 ±21.6		
	Independent	34	138.9 ±19.5		

(b = Kruskal-Wallis test; m = Mann-Whitney U test; N = Number; sig. = p < 0.05)

Table 5, Significant differences in coping strategies were observed across several socio-demographic variables among adults with obesity. Older participants demonstrated higher coping strategy scores compared to younger age groups. Females showed significantly better coping strategies than males. Higher educational attainment, better employment conditions, and higher monthly income were all associated with stronger coping strategies. In addition, non-smokers exhibited higher coping scores compared to smokers. A strong association was also observed between daily living activities and coping strategies, where participants with greater functional independence reported better coping abilities.

Table 6. Statistical Differences in Overall Coping Strategies Scores by Clinical Characteristics (n = 180)

Clinical Characteristics	Classification	N	Mean ±SD	H / U	p-value
Associated comorbidities	Diabetes mellitus	46	114.2 ±18.8	10.021[b]	0.017*
	Hypertension	38	119.7 ±19.5		
	Heart disease	22	123.4 ±17.3		
	None	74	131.5 ±21.6		
Body Mass Index (BMI)	Obesity Class I	40	104.1 ±17.9	10.936[b]	0.011*
	Obesity Class II	98	133.2 ±22.2		
	Obesity Class III	42	123.7 ±20.4		
Medications	Yes	78	130.1 ±21.7	5.214[m]	0.023*
	No	102	120.4 ±20.9		
Family History of Obesity	Yes	102	129.6 ±21.8	5.081[m]	0.025*
	No	78	119.1 ±20.3		

(b = Kruskal-Wallis test; m = Mann-Whitney U test; N = Number; sig. = p < 0.05)

Table 6, Significant differences in coping strategies were observed across clinical characteristics among adults with obesity. Participants without comorbid conditions demonstrated higher coping strategy scores compared to those with chronic diseases. Body Mass Index was significantly associated with coping strategies, with variation in scores across obesity classes. In addition, participants using medications and those with a family history of obesity showed higher coping strategy scores compared to their counterparts.

Discussion:

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The findings showed that more than half of the participants (53.3%) had an average level of physical resiliency, indicating a moderate ability to adapt to health challenges. This agrees with the findings of [18][19], who also reported average levels of physical resiliency. In disagree with study by [20] demonstrated that obesity is associated with reduced physical performance and the ability to perform daily activities. This can be explaining by the effects of age, decreased physical activity, and physiological capacity, suggesting a need to promote physical activity to improve adaptation and quality of life. Most of the participants (56.7%) showed an average level of adaptation strategies, which indicates moderate employment of these strategies in general. This finding agrees with the study [21] which showed that 53.5% of the students have an average level of adaptation, as well as with the study [22] which showed that 41.2% of the participants use adaptation strategies at an average level. This can be explained by individual differences, social support, lifestyle, and previous experiences, which leads to an average level of adaptability, which reflects a moderate ability to face challenges under changing conditions. The present study found that older participants had higher physical resiliency and coping strategies. The findings agree with study by [23] which found that a higher level of physical resilience helps older individuals adapt better to health changes and maintain their physical activity and bodily functions. Also another study by [24] which reported that while age is generally associated with decreases in muscle mass and metabolic health, older adults who maintain regular physical activity may preserve or even improve certain aspects of physical resilience and flexibility. While the study agrees by [25], which also reported that older adults tend to utilize more adaptive coping strategies compared with younger individuals. This may be explained by increased life experience, improved emotional regulation, and better problem-solving abilities with aging.

Regarding sex, females showed higher physical resiliency and coping strategies than males. Also another study agrees [26], this indicated sex differences in resilience levels, with females recording higher levels of resilience compared to males. Also another study agrees by [27], which also reported that females tend to utilize coping strategies more frequently than males. In disagree, [28] which found the male recorded better physical performance and fewer physical resiliency than female. This may be explained by gender differences in coping behavior, where females rely more on emotional and social support, enhancing adaptation. Regarding residence and marital status, the present study found no significant differences in both outcomes. The finding agrees by the study of [29] reported that residence was not significantly associated with resilience levels, also another study agree [30] found no significant effect of marital status on resilience. Another study agrees by [31] similarly reported that demographic factors such as marital status were weak predictors of coping strategies. This may be explained by the stronger influence of psychological and lifestyle factors compared to demographic background. The study found that higher education was associated with better coping strategies and slightly higher physical resiliency. This finding agree with [32], which found that educational level was not significantly associated with resilience among the study participants. The findings also agrees by [33], who reported that academic level was significantly associated with specific coping mechanisms among university students, suggesting that higher educational attainment may enhance adaptive coping skills. This can be explained by improved knowledge, decision-making, and health literacy among educated individuals. Employed participants showed higher physical resiliency and coping strategies. [34], which reported statistically significant difference in resilience levels according to employment status(P-value<0.05). While another study agrees by [35], which also reported a significant association between employment status and coping strategies. This can be explained by financial stability, structured daily routines, and social engagement provided by employment.

The higher-income participants demonstrated better physical resiliency and coping strategies. The finding is agreeing with study of [36], which reported that adults with higher socioeconomic status exhibited better functional outcomes and greater physical adaptability following severe falls, indicating that economic resources may enhance recovery and physical resilience, while another agrees study [37], which also reported a significant association between economic status and coping strategies. These findings are consistent with the present study. This may be explained by better access to healthcare, nutrition, and healthier living conditions. The non-smokers participants had higher physical resiliency and coping strategies. The finding is agreeing with study of [38] Which also reported that smoking negatively affects physical resilience among adults. The finding is agreeing with study of [39], who reported that smokers with less effective coping strategies exhibited higher negative affect and cravings, suggesting that smoking is associated with poorer coping mechanisms.

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This can be explained by healthier lifestyle behaviors among non-smokers, which enhance both physical and psychological adaptation. Regarding alcohol consumption and dietary habits, no significant differences were observed in both outcomes. The finding is agreeing with study of [40] which found the population-based study among Russian adults reported that harmful drinking was associated with reduced physical performance, while non-drinkers and non-problem drinkers showed variable outcomes. This suggests that although alcohol consumption did not significantly affect physical resiliency in the study sample, harmful drinking may negatively influence physical functional outcomes. The finding is agreeing with study of [41], their work highlighted that overall dietary patterns, particularly healthy diets such as the Mediterranean diet, are generally associated with better physical and cognitive function in older adults. This suggests that while individual unhealthy dietary components may not show a direct effect in study sample, the overall quality of the diet may still play an important role. This can be explained by the fact that diet and alcohol influence health indirectly through overall lifestyle patterns rather than acting as independent determinants.

Regarding daily living activities, higher independence was associated with better physical resiliency and coping strategies. The finding is agreeing with study of [42], which also reported that higher levels of daily activity are associated with greater physical resilience. While another study is agreeing with study of [43], which also reported a significant association between daily living activities and coping strategies. This can be explained by increased physical activity, autonomy, and self-efficacy in daily functioning. Participants without chronic diseases demonstrated higher physical resiliency and coping strategies. The finding is agreeing with study of [44], who reported that older adults with multi-morbidity had lower levels of physical activity and functional performance, suggesting that the presence of multiple chronic conditions is associated with reduced physical functioning and resilience. While another study is agreeing with study of [45], reported that individuals living with chronic diseases often experience higher psychological and physical burdens. These findings are consistent with the present study. This may be explained by reduced physical burden and lower psychological stress among healthy individuals. Regarding body mass index, higher BMI was associated with lower physical resiliency and coping strategies. The finding is agreeing with study of [46], which also reported a significant association between BMI and physical resiliency. While another study is agreeing with study of [47], which also reported a significant association between BMI and coping strategies. These findings are consistent with the present study. This may be explained by increased physical limitation, fatigue, and psychological stress among individuals with higher BMI.

Regarding medication use, participants receiving medications showed differences in both outcomes. The finding is agreeing with study of [48], who reported that appropriate management of multiple medications among community-dwelling older adults was associated with better physical function and reduced risk of sarcopenia. while [49], which reported that patients who adhere to their medication regimens tend to exhibit better coping strategies and improved psychological adaptation. These findings are agreeing with the present study. This can be explained by better disease control and improved self-management among medication users.

In regards with family history of obesity, a significant association was observed with both physical resiliency and coping strategies. This finding agrees with study [50], which suggested that genetic and familial health factors may influence individuals' physical resilience and health outcomes. While another agrees study by [51], reported that young adults from families with stronger functioning exhibited more adaptive coping strategies compared to those from less supportive family environments. These findings are consistent with the present study. This can be explained by genetic predisposition and shared family lifestyle patterns influencing health behaviors.

The limitations were conducted study in a small geographic area, which may limit the generalizability of the findings. In addition, cultural beliefs and social norms of the participants may have influenced their responses during data collection. Furthermore, some participants withdrew from the study, while others did not complete the questionnaire, which resulted in a reduction in the final sample size.

The study recommends developing and implementing intervention programs aimed at enhancing physical resilience and developing effective coping strategies in obese adults. It is also recommended to integrate health education strategies into nursing and healthcare programs to support healthy behaviors and improve daily functioning. Furthermore, providing comprehensive physical and psychological support may contribute to enhancing individuals' ability to cope more effectively with health challenges. Future studies are also recommended to explore additional factors influencing physical resilience and coping strategies.

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Conclusion: The study concludes that the level of both physical resilience and coping strategies among obese adults was generally moderate. Statistically significant differences were found according to age, sex, educational level, employment status, and economic status. The findings also showed statistically significant relationships between physical resilience and coping strategies and several clinical factors, including comorbidities and body mass index (BMI), as well as significant associations with medication use and family history. These findings underscore the important role of both physical resilience and coping strategies in improving physical performance, coping, and overall quality of life of obese individuals.

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