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Overweight and Obesity with Lifestyle and Dietary Habits among Students

Jamal Sabr Idan [1*], Ahmed Salam Jawad [2*], Sajad Ahmed Kadhim [3*]

[1,2,3] Al-Furat Al-Awsat Technical University, Al-Musayyab Technical Institute

Email: [1] jamal.idan.ims03@atu.iq [2] ahmed.jawad.ims003@atu.edu.iq
[3]sajad.kadhim.ims08@atu.edu.iq

Abstract: General Background: Overweight and obesity are increasing global health challenges, closely linked to cardiovascular diseases, insulin resistance, and other metabolic disorders. Specific Background: University students in developing countries are particularly vulnerable due to poor dietary habits, sedentary lifestyles, and limited health awareness. Knowledge Gap: Despite growing concern, limited evidence exists on the combined influence of dietary and lifestyle factors on obesity among Iraqi students. Aim: This study aimed to examine the association between body mass index (BMI), dietary habits, and lifestyle behaviors among students at the Babylon Technical Institute. Results: A cross-sectional survey of 202 students revealed that while most participants had a normal BMI, a notable proportion were overweight or obese, with females at higher risk of central obesity. Although 54% reported eating three meals daily, dietary patterns were generally neutral or unhealthy, characterized by sugary drink consumption and meal skipping. Lifestyle factors showed a statistically significant association with nutritional status ($p = 0.05$), whereas dietary habits did not. Novelty: This is among the first studies in Iraq to simultaneously assess dietary and lifestyle factors in relation to BMI among technical institute students. Implications: The findings highlight the urgent need for institutional interventions, including awareness campaigns, healthier campus food environments, and promotion of physical activity to prevent long-term health risks.

Highlight :

1. Many students had normal weight, but a significant number were overweight or obese.
2. Dietary habits were mostly unhealthy or neutral, with high intake of sugary drinks.
3. Lifestyle showed a significant association with nutritional status.

Keywords : BMI, Obesity, Lifestyle, Dietary Habits, Students

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Introduction

Overweight and obesity appear to be substantial risk factors for the development of cardiovascular disease, insulin resistance, hyperglycemia, hypertension, and malignant neoplasms. All of these conditions are associated with an increased likelihood of developing these conditions [1]. One of the many contributing reasons to overweight and obesity is poor eating habits, which include consuming more high-calorie density meals and fewer fruits, vegetables, whole grain products, and nuts [2].

Nearly one-third of the world's population suffers from overweight and obesity, a condition that has increased in recent years and is growing in number, particularly among college students in emerging nations [3]. Studies among university students in developing countries show high prevalence of overweight and obesity [4]. Students frequently suffer from poor eating plan because they have bad eating habits such as eating fast food due to a lack of time to prepare complete and healthy meals, as these foods are considered unhealthy, resulting in weight gain and, in some cases, obesity [5]. Additionally, the way of life of university students usually involves the consumption of drugs, notably alcoholic beverages, which is seen as "a clinical and public health issue throughout this particular population for the entire population [6].

Research methodology

A. Design, setting , and period of the study:

A descriptive cross-sectional descriptive study was conducted in Iraq – Al-Hilla City, Which included 202 students from Babylon technical institute from various departments for the period from February 2025 to April 2025.

B. Data collection method:

Anthropometric measurements of the students: The Body Mass Index (BMI) is a commonly used screening measure for abdominal obesity, and waist circumference (WC) has been added to the list of methods.

Results

Table (1) shows the demographic characteristics of the students. The results found that the majority 46.5% (n=94) of the participants belong to age group less

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than 20 years, followed by the age group 20-24 years at 36.1% (n=73), while the least represented group1% (n=2) was those aged 30 years or more. However, their average age was 21.74 ± 2.922 (mean ± SD). It was also found that 54% (n=109) of the participants were female. The study indicated that the largest percentage of students 89.6% (n=181) were single, while the proportion of married students was only 8.4% (n=17). In addition, the results revealed that the majority of students 67.3% (n=136) were urban residents, while 91.6% (n=185) of them did not have a family history of obesity [7].

Table (1): Socio-demographic characteristics (frequencies and percentages)

Variables		**Frequency (n)**	**Percent (%)**
Age	Less than 20 years	94	46.5
	20-24 years	33	16.4
	25-29 years	73	36.1
	30 years or more	2	1.0
	Age (Mean ±SD) = 21.74 ± 2.922		
Gender	Female	109	54.0
	Male	93	46.0

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Stage	Class 1	68	33.7
	Class 2	134	66.3
Marital status	Engaged	4	2.0
	Married	17	8.4
	Single	181	89.6
Living place	City	136	67.3
	Student dorm	5	2.5
	Village	61	30.2
Living arrangement	Apartment	8	4.0
	Hostel	3	1.5
	With family	191	94.5
Family history of obesity	No	185	91.6
	Yes	17	8.4
Department	Devices Department	30	14.8

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	Legal Administration Department	1	0.5
	Analytics Department	15	7.4
	Nursing Department	47	23.3
	Community Health Department	39	19.3
	Pharmacy Department	31	15.3
	Legal Department	2	1.0
	Accounting Department	3	1.5
	Civil Engineering	27	13.4

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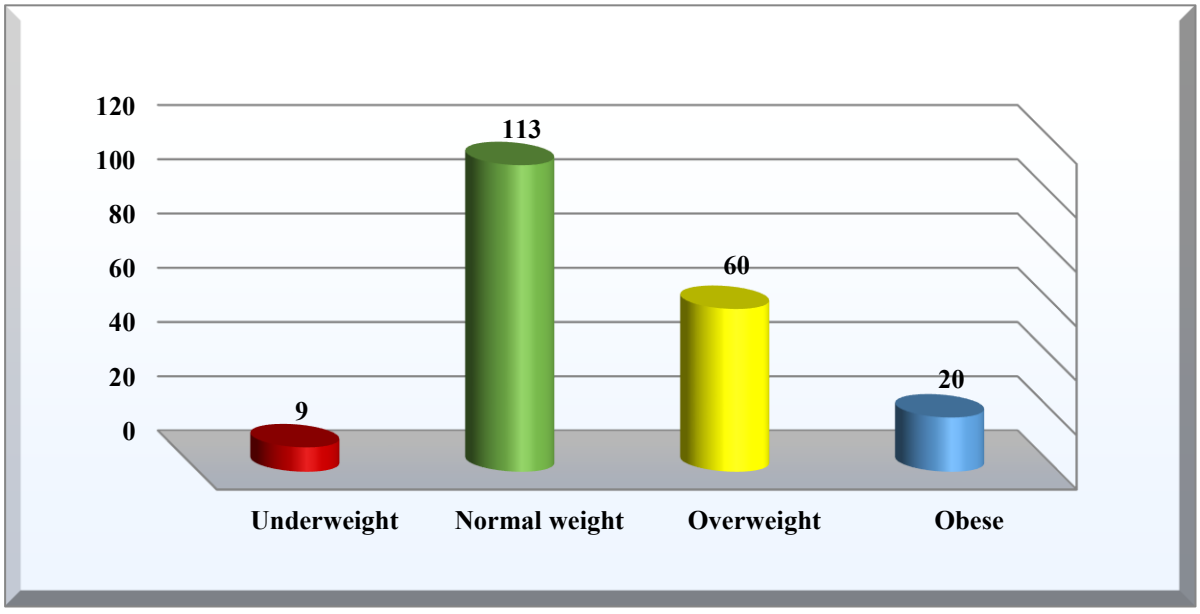
	Department		
	Surveying Department	6	3.0
	Mechanical Engineering Department	1	0.5

Figure (1) illustrates the nutritional status of the students participating in this study. The results indicate that the majority (n=113) of students had a normal weight, followed by 60 who were classified as overweight, 20 as obese, and 9 as underweight [8].



Figure(1) nutritional status of students.

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Figure(2) shows the distribution of the study sample according to waist circumference. Our study found that most of them had low risk of central obesity. However, females were at higher risk of central obesity than male [9].

Figure(2) sample distribution by waist circumference.

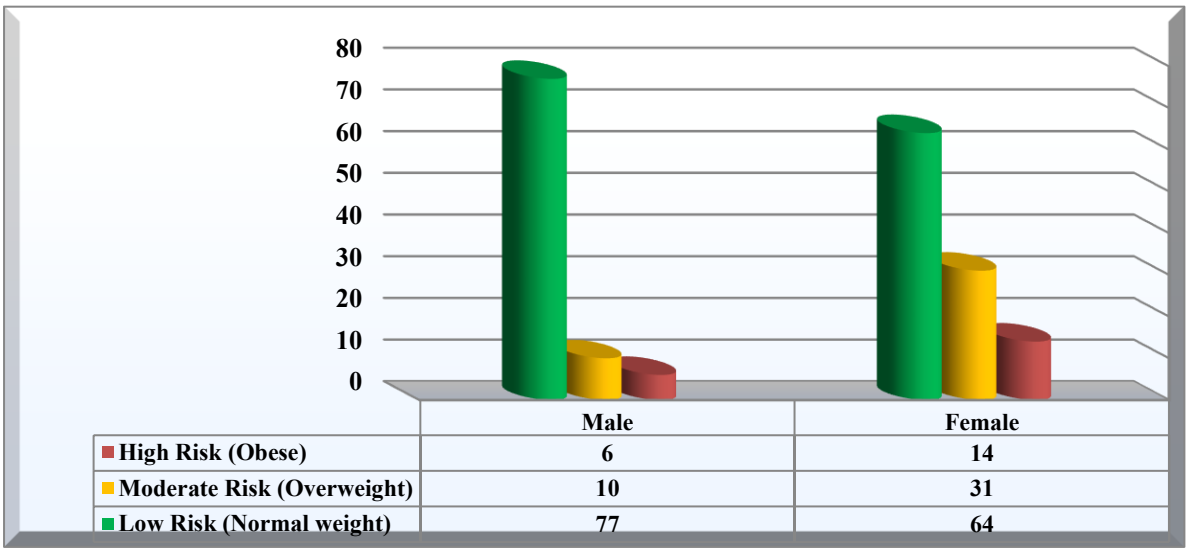

Figure (3) presents an evaluation of the dietary habits of the students participating in the study. The findings indicate that the majority (47%) had neutral eating habits score, followed by 34% with unhealthy dietary habits, while only 19% maintained healthy dietary habits [10].

Figure(3) dietary habits of the students.

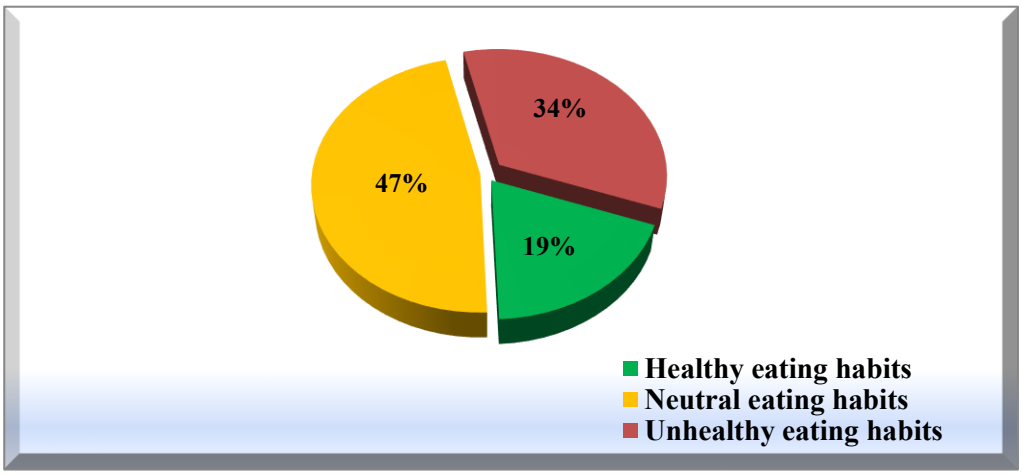

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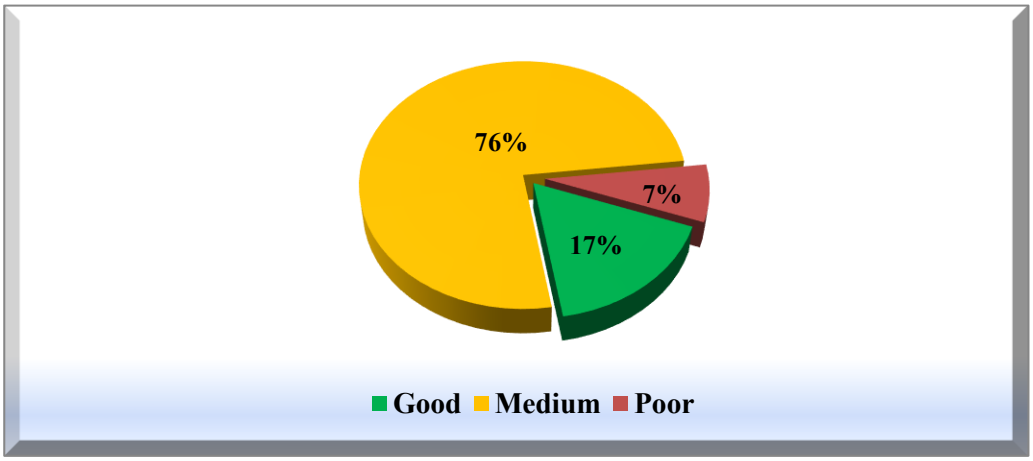
Figure (4) presents an assessment of students' lifestyle habits. T0he results showed that 76% had **medium** lifestyle habits, followed by 17% with **good** lifestyle habits, while only 7% exhibited **poor** lifestyle habits [11].

figure 4 overall assessment of the lifestyle habits.



Association between the nutritional status and dietary habits, lifestyle habits of study sample.

Table (2) displays the relationship between nutritional status and both lifestyle and dietary habits score. The study found a statistically significant association between lifestyle and nutritional status (P-value = 0.05), while no statistically significant relationship was observed between dietary habits and nutritional status (P-value > 0.05) [12].

Table (2): Association between nutritional status and both lifestyle and dietary habits.

	Nutritional status				***-value***
	Obese	**Overweight**	**Underweight**	**Normalwe**	

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						i g h t		
Lifestyle Habits Score	Good			4	1	28		
			.9%	1 1.8%	2 .9%	82.4%		
	Medium		8	50	7	78		
			1.8%	3 2.7%	4 .6%	51.0%		
	Poor			6	1	7		
			.7%	4 0.0%	6 .7%	46.7%		
Dietar	Healthy eating habits			4	1	28		
			.9%	1 1.8%	2 .9%	82.4%		

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	Neutral eating habits		8	50	7	78	
			1.8%	32.7%	4.6%	51.0%	
	Unhealthy eating habits			6	1	7	
			.7%	40.0%	6.7%	46.7%	

Discussion

As regarding distribution of studied sample. the results found that the majority 46.5% (n=94) of the participants belong to age group less than 20 years, followed by the age group 20-24 years at 36.1% (n=73), while the least represented group1% (n=2) was those aged 30 years or more. However, their average age was 21.74 ± 2.922 (mean ± SD). It was also found that 54% (n=109) of the participants were female. The study indicated that the largest percentage of students 89.6% (n=181) were single, while the proportion of married students was only 8.4% (n=17). In addition, the results revealed that the majority of students 67.3% (n=136) were urban residents, while 91.6% (n=185) of them did not have a family history of obesity.the study is agreed with the study done [13].

Regarding body weight The results indicate that the majority (n=113) of students had a normal weight, followed by 60 who were classified as overweight, 20 as obese, and 9 as underweight the current results is agreed with sudy done [14].

Also the study found that most of sample had low risk of central obesity. However, females were at higher risk of central obesity than male the results is agreed with the results achieved.

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The findings indicate that the majority (47%) had neutral eating habits score, followed by 34% with unhealthy dietary habits, while only 19% maintained healthy dietary habits.the results is agreed with study done.

The results showed that 76% had **medium** lifestyle habits, followed by 17% with **good** lifestyle habits, while only 7% exhibited **poor** lifestyle habits.is agreed with the study done [15].

As regarding the association between dietary habit, lifestyle and body weight, the study found a statistically significant association between lifestyle and nutritional status (P-value = 0.05), while no statistically significant relationship was observed between dietary habits and nutritional status (P-value > 0.05). the results agreed with the study done.

Conclusions

1- While the majority of students had a normal body weight, a considerable proportion were overweight or obese, with females at higher risk of central obesity.
2- Although over half of the students reported consuming three meals per day, dietary patterns were generally unhealthy or neutral, with high intake of sugary drinks and frequent meal skipping.
3- most students exhibited sedentary behavior, minimal physical activity, and excessive screen time
4- Statistical analysis revealed significant associations between nutritional status and lifestyle behaviors, age, and marital status. However, no such association was found between nutritional status and dietary habits or other demographic variables.

Recommendations

1- Implement targeted awareness campaigns within academic institutions to educate students about the impact of dietary and lifestyle habits on overall health and body weight.
2- Universities should encourage regular physical activity by providing accessible fitness facilities.
3- Conduct routine BMI and waist circumference assessments for early identification of students at risk of obesity-related health issues.
4- Collaborate with university cafeterias to offer healthier food choices and reduce the availability of high-sugar and fast-food items on campus.

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