

Awareness Toward Weight Loss Products Among Users In Tikrit City: A Cross Sectional Study

Shafaa Salim Hamad^{1*}, Hewa Sattar Salih²

¹MSc Student, College of Nursing, University of Kirkuk, Kirkuk, Iraq

²Professor University of Kirkuk, Community Health Nursing Department, College of Nursing, Iraq

Abstract:

Background: Obesity is an excess body weight that leads to most chronic diseases. Obesity-related conditions are expected to rise globally. Weight-loss products are typically classified according to their mechanism of action into fat absorption inhibitors, appetite suppressants, and thermo-genic agents. The weight loss products become a concern because of the widespread and irrational use of weight-loss products and the continued rise in obesity rates and product use among adults.

Objectives: The aim of this research is to assess the awareness of weight loss products among users in Tikrit City.

Methodology: A descriptive, cross-sectional design was employed, involving a non-probability (purposive) sampling technique to collect data from 400 participants at Tikrit Teaching Hospital, surgical clinics and gyms the distribution of men and women in Tikrit city who use the weight loss. Data were gathered through a "structured questionnaire" specifically developed to measure Awareness, attitudes and prevalence of weight loss products. The sample size was determined based on convenience sampling technique based on feasibility, accessibility, and participants' willingness to participate during the study period to ensure adequate representation of the target population.

Results: The analysis indicated that half of participants (50%) demonstrated a "Moderate" level of awareness about use of weight-loss products, and 42.5% demonstrated a "High" level, while only 7.5% demonstrated a "Low" level of awareness

Conclusions: The results indicate that over fifty percent of the participants exhibit a moderate level of awareness. Participants demonstrated a modest understanding of weight-loss drugs; nevertheless, this awareness is inadequate when compared to their minimal perception of the associated hazards. The participants were motivated to use weight-loss drugs to enhance their looks, boost self-confidence, and address obesity-related health issues.

Keywords: Awareness, Prevalence, weight loss products

Corresponding Author: Shafaa Salim Hamad[†], MSc Student, College of Nursing, University of Kirkuk, Kirkuk, Iraq

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1. INTRODUCTION

Obesity elevates the risk of numerous metabolic problems, including type 2 diabetes, cardiovascular disease, and metabolic fatty liver disease, in addition to various mechanical complications such as arthritis and obstructive sleep apnoea.(Melson et al., 2025).

In Iraq, the rate of obesity has significantly grown in recent years, rising from 25% to around 43% over previous years two decades, from 2000 to 2020.(Abdul-Ameer et al., 2025).

obesity is an excess body weight is linked to the majority of chronic diseases. Obesity-related conditions are expected to increase worldwide, especially among adults aged 40 to 49 years (Carbonell et al., 2024).

Considering the intricate ramifications of obesity on health, economics, and society. The domain of obesity treatment has shown substantial progress. Weight-loss drugs have initiated a new phase in obesity management, demonstrating efficacy in attaining and sustaining substantial weight reduction when integrated with lifestyle modifications. Current clinical recommendations advocate for the use of weight-loss drugs as a viable strategy for obesity management. (Ard et al., 2025).

Weight-loss products are often categorised based on their mechanism of action into fat absorption inhibitors, appetite suppressants, and thermo-genic agents. Despite the persistent increase in obesity rates and substance abuse among adults, the pervasive and illogical consumption of weight-loss medications continues to be a significant issue, further aggravated by insufficient data regarding their prevalence and usage patterns in areas like the Middle East.(Elsahoryi et al., 2021).

Weight loss product encompass a diverse array of therapeutic alternatives. Despite the extensive array of available choices, obesity currently lacks a clear pharmacological treatment. All appetite suppressant medications operate through diverse methods, perhaps promoting a decrease in food consumption and nutritional absorption. (Munafò et al., 2021).

Weight loss therapies encompass both herbal formulations and pharmaceutical agents, sometimes termed chemical or Western drugs. (Al-Byati, 2022).

Although weight-loss products offer therapeutic advantages, many concerns about safety, cost, and accessibility have historically restricted their general adoption. Numerous early weight-loss pharmaceuticals were retracted from the market owing to unknown cardiovascular hazards identified during preclinical testing. (Grandl et al., 2024).

The prevalent fallacy that "natural" items are innocuous has resulted in the extensive use of herbal weight loss treatments, exacerbating the issue, as they are heavily marketed for rapid and effortless outcomes. (Alkhatib et al., 2023).

In Iraq, the situation is notably alarming; for instance, research conducted among students at Basrah University revealed that about fifty percent of the students utilised weight-loss medications or herbal remedies, perceiving them as safe for periods ranging from one to six months, with some participants exceeding this duration. One-third proceeded without a physician's prescription, instead depending on social media for information. (Jasim et al., 2023). This study aims to assess the awareness, attitudes, and prevalence of weight loss product usage in Tikrit City.

2. METHODS

Study Design

(Quantitative; A cross-sectional design) population-based study was applied in the current research, which was conducted to assess awareness of population in Tikrit city regarding the use of weight loss medication.

Study Setting

This research was carried out in the Tikrit Teaching Hospital , surgical clinics and gyms for man and women , the selection of games was randomly not follow any rule.

Study Population and Sample

(non-probability: A purposive sampling technique) was used to collect data from 400 people at Tikrit city who use the weight loss products.

Sample Size, Sampling Technique, and Rationale

A total of 400 people participated in the study. The sample size was determined based on a convenience sampling technique based on feasibility, accessibility, and participants' willingness to participate during the study period to ensure adequate representation of the target population.

To justify the sample adequacy, a sample size calculation for estimating a population proportion was performed using the standard single-proportion formula: $n = [Z^2 * P * (1-P)] / d^2$

The sample size was calculated based on a total population of 167,518 using a 95% confidence level and a 5% margin of error. The minimum required sample size was approximately 383 participants; therefore, it was rounded to 400 participants to improve statistical accuracy and compensate for incomplete responses.

Inclusion Criteria

The criteria for selecting study samples are as follows:

1. Both genders.
2. An individual over the age of 18
3. Any anyone utilizing weight loss medications, including botanicals, pharmaceuticals, or any weight loss products, in Tikrit city.

Exclusion Criteria

The patient's medical conditions contraindicate the use of weight-reducing medication, including serious heart disease, renal and liver illnesses, and pregnancy.

Data Collection Tool

Part one: Socio-Demographic Characteristics

This part involved nine items, which include age, gender, marital status, level of education, occupation ,family history of obesity , residence ,height , weight .

Part two: Health and Life Style Data

This part contained eight items. Closed-ended questions and multiple choice were used to assess the life style of patients who suffered from obesity . four part is close-ended and another four parts is multiple choice .

Part three: Awareness of Weight Loss Medication

This part contained eight items; this part measures the awareness of weight loss medication users .the question was three –point likert scale (agree, neutral, disagree).

Part four Reason For Using Weight Loss Medication

This part contained seven items; this part identify the reasons lead individuals to weight loss medication .the question was three –point likert scale (agree, neutral, disagree).

Part five: Attitudes Toward Weight Loss Medication

This part contained six items; this part to evaluate the individual attitudes to weight loss medication .the question was three –point likert scale (agree, neutral, disagree).

Part six: Perceived Benefits

This part contained five items; this part to identify the benefit received from use the weight loss medication. The question was three –point likert scale (agree, neutral, disagree).

Part seven: Perceived Risks

This part contained five items; this part to identify the risk received from use the weight loss medication. The question was three –point likert scale (agree, neutral, disagree).

Validity and Reliability

To ensure the quality and accuracy of the study tool, the following procedures were conducted:

- **Content Validity:** The initial draft of the questionnaire was reviewed by a panel of experts (including professors in community nursing and assistants in community nursing). Their feedback was used to refine the items, ensuring they accurately measure the awareness regarding weight loss medications.
- **Pilot Study:** A pilot test was conducted with a sample of 40 participants (10% of the original sample size) from the Tikrit population. The subjects were omitted from the primary study. The pilot study sought to evaluate the comprehensibility of the questions and the duration needed to complete the questionnaire.
- **Reliability:** provides the reliability analysis of the study instruments utilising Cronbach's alpha values derived from a pilot sample of (N = 40). All scales exhibit strong internal consistency ($r =$ from 0.712 to 0.788), signifying that their items accurately assess their target constructs.

Data Collection Procedure

Data Analysis

- **Ethical Approval:** Formal ethical approval was secured from the institutional review board before initiating data collection.
- **Participant Briefing:** Potential participants were comprehensively apprised of the study's aims, the characteristics of the questionnaire, and the confidentiality of their responses.
- **Distribution:** Informed consent in writing was secured from every participant. Questionnaires were administered to participants during the data collection phase to guarantee a representative sample.
- **Completion:** Completed surveys were promptly collected to ensure a high response rate.

Ethical Considerations

Formal ethical permission was secured from the Scientific and Ethical Committee of the College of Nursing and the relevant health authorities in Salah-Aldin. To ensure research integrity, participants were informed of the following:

- **Voluntary Participation:** Participation was entirely voluntary, with no compulsion to partake.
- **Right to Withdraw:** Participants had the right to exit the study at any time without facing any negative consequences.
- **Confidentially & Anonymity:** All data were preserved in strict confidentiality and employed solely for academic research objectives. Anonymity was ensured through the use of number codes instead of names or personal identifiers.

Data were processed and analyzed utilizing SPSS version 26.0. The subsequent statistical techniques were employed:

Frequencies and Percentages.

Average and standard deviation.

Summary statistics tables encompassing the mean score (MS), percentile grand/global mean score (PGMS), standard deviation (SD), pooled standard deviation (PSD%), and pooled standard error (PSE%).

Transformed investigated domains to screen estimators' grand and global mean scores of an overall evaluation by converting recorded replies from each sub- and major domain into a quantitative scale using the percentile transformation approach.

3. RESULT

Table.1 Study Sample Demographic Characteristics (n=400)

List	SDVs		No	%
1	Sex	Male	134	33.5
		Female	266	66.5
2	Age (Years) M±SD= 31.5 ± 10.6	18	25	6.3
		19 – 29	167	41.8
		30 – 39	121	30.3
		40 – 49	65	16.3
		≥ 50	22	5.5
3	Marital status	Single	146	36.5
		Married	232	58
		Divorced	14	3.5
		Widowed(er)	8	2
4	Family obesity history	Yes	182	45.5
		No	218	54.5
5	Level of education	Informal education	29	7.2
		Primary	52	13
		Secondary	77	19.3
		Diploma	36	9
		Bachelor	169	42.3
		Postgraduate	37	9.3
6	Occupation	Housewife	95	23.8
		Employee	134	33.5
		Student	133	33.3
		Retired	2	.5
		Others	36	9
7	Residency	Rural	173	43.3
		Urban	227	56.8

Table (1) describes of sociodemographic variables of participants in the study (N=400); the findings reveal that females are higher (66.5%) than males (33.5%).

The average age for participants refers to 31.5± 10.6 years; the higher proportion (41.8%) fell within the age group of 19 – 29 years.

The marital status indicates that more than half (58%) of participants are married and about a third (36.5%) are still single. Regarding family history of obesity, 45.5% of participants reported positive family history.

The level of education reveals that the higher proportion (42.3%) was graduated with bachelor degree, and 19.3% graduated from secondary schools.

The occupational status indicates that higher proportions were distributed for governmental employee (33.5%) and students (33.3%), 23.8% were housewives. The residency shows that more than half (56.8%) were residing in urban, and remaining (43.3%) residing in rural.

Table.2 Mean and Standard Deviation for Items of Individuals’ Awareness about Weight-Loss Medication (N=400)

List	Awareness about Weight-Loss Medication	Mean	SD	Assess.
1	I possess prior information about weight-loss medication	1.98	.902	Moderate
2	Anyone can use weight-loss medications to lose weight	1.96	.909	Moderate
3	There is a specific BMI threshold for using these medication	2.28	.832	Moderate
4	Weight-loss drugs reduce appetite and fat absorption	2.72	.597	High
5	These drugs can help lose 3–8 kg per year	2.65	.666	High
6	Using medication without diet/exercise is effective	2.11	.929	Moderate
7	These drugs may increase the risk of pancreatitis	2.19	.829	Moderate
8	These drugs may increase the risk of thyroid tumors	2.19	.830	Moderate

SD: Standard Deviation, Assess: Assessment

Low= 1.00 – 1.66, Moderate= 1.67 – 2.33, High= 2.34 – 3.00

Table (2) describes that participants demonstrating moderate levels of awareness about use of weight-loss medications among most of items, indicated by mean scores from 1.96-2.28. Participants showed good awareness of how prescriptiants`on weight loss medications worked and what benefits they offered, with higher mean percentages that these drugs work to reduce appetite/fat uptake (Mean = 2.72) and that they can result in a weight loss of 3–8 kg per year (Mean = 2.65,). However, awareness related to previous knowledge about weight loss medications, eligibility based on BMI, and effectiveness of drug usage without diet or exercise was moderate. Likewise, there was an intermediate awareness about the possible risks of weight loss medications such as pancreatitis and thyroid tumor, partially demonstrating their safety profile.

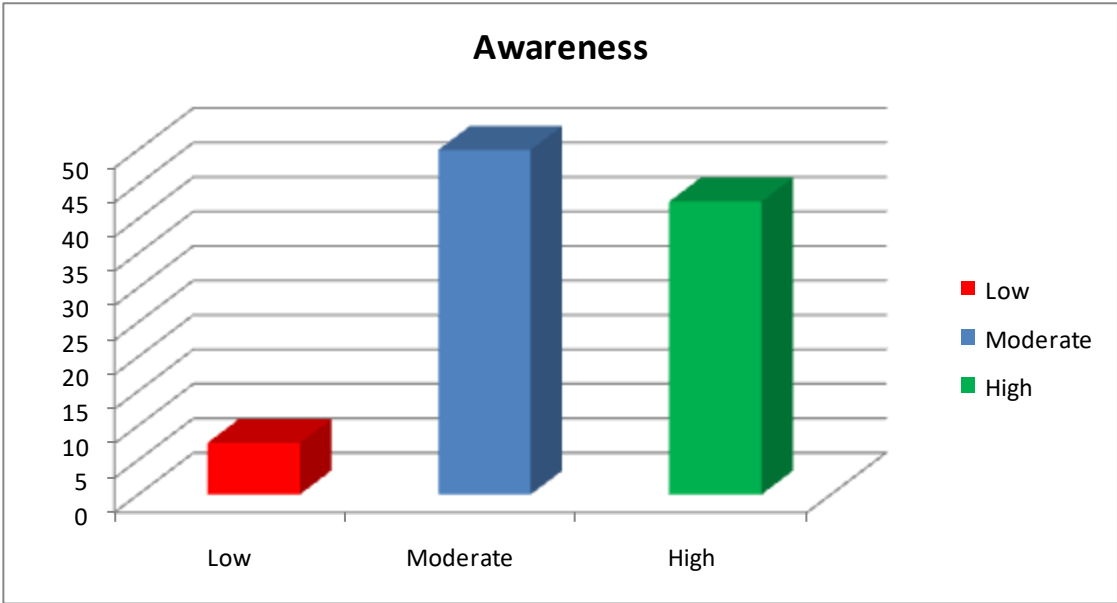


Figure (1): Levels of Individuals’ Awareness about Weight-Loss Medication (N= 400)

This figure shows that 50% of participants associated with moderate awareness about medication use and 42.5% having high level of awareness.

Table (3): Relationship among Participants' Awareness, Perceived benefits, and Perceived Risks for Weight-loss Medication Use (N= 400)

Correlation		Aw	PB	PR
Awareness (Aw)	Correlation		.463**	-.347**
	Sig. (2-tailed)		.000	.000
Perceived Benefits (PB)	Correlation	.463**		-.047
	Sig. (2-tailed)	.000		.351
Perceived Risks (PR)	Correlation	-.347**	-.047	
	Sig. (2-tailed)	.000	.351	

** . Correlation is significant at the 0.01 level (2-tailed).

Table (3) indicates that there is moderate positive relationship ($r = .463$, $P = .000$) between awareness and perceived benefits about using weight-loss medications among participants indicating that participants with higher level of awareness, they are more likely to recognize benefits of weight-loss medications. Conversely, there is moderate negative relationship between awareness and perceived risks ($r = -.347$, $P = .000$) indicating that higher level of awareness associated with lower level of perceived risks.

4. DISCUSSION

The highest sample size in the study was derived from the second age group (19–29 years). Reasons for this trend include the fact that people in this age bracket are particularly susceptible to the pervasive impact of social media's notions of beauty and the perfect body, which contribute to an already-existing obsession with one's physical appearance and one's social interactions. Consistent with other studies conducted in Saudi Arabia, this one found that the most common age group using weight loss drugs was individuals between the ages of 20 and 30 (AlGamdi et al., 2022).

Sixty-6.5 percent of the people who participated in the study were female, while 33.5 percent were male. One possible explanation for the higher number of women compared to males in this study is that women are more motivated to improve their body image and manage their weight. There may be a greater need for weight-loss interventions in women due to biological factors that raise the probability of weight gain, such as pregnancy and hormonal fluctuations. Consistent with this finding is research from Saudi Arabia by Zafar et al. (2025) that found women to make up 68.3% of those who used weight loss drugs, while men accounted for just 31.7%. Consistent with the findings of Abu Atima et al. (2024) in Jordan, this study also found that 65.6% of the participants were female and 34.4% were male.

Among those who were asked about their marital status, 58% were married and 2% were widows. A possible explanation for the higher marital rate compared to other groups is the influence of post-marriage lifestyle changes, such as changes in food and exercise habits that contribute to weight gain. Married people may be more motivated to lose weight for social or health reasons if doing so will improve their quality of life, their relationship, or both. In Saudi Arabia, 53.6% of the participants were married, whereas 0.3% were widowed, according to a study by Algarni et al. (2023).

Of the people with an obesity history in our study, 54.5% had non-hereditary obesity and 45.5% had hereditary obesity. The fact that most people in the study did not come from an obese family raises the possibility that environmental and lifestyle factors are more important than genetics when it comes to the onset of obesity. Because of this, programs aimed at preventing and managing obesity should prioritise dietary changes and increased physical activity. Consistent with the findings of Albasheer et al. (2024), the data show that 66.1% of the participants do not have obesity in their family history, while 33.9% do. A bachelor's degree was held by 42.3% of the participants, while 7.2% had some other type of qualification. People in our sample who have a bachelor's degree are more likely to be health-conscious, committed to managing their weight,

to engage in more positive behaviours, and to be interested in exploring different methods of weight control. These findings are in line with those of a survey by Khalaf and Alghamdi, which found that 51.2% of respondents had bachelor's degrees and 0.8% had some sort of informal education. Alghamdi and Khalaf (2024) Our poll found that workers made up the bulk of respondents (33.5%), with retirees making up the tiniest subset (0.5%). The sedentary nature of office jobs, which typically include little physical activity and extended periods of sitting, may explain why there are so many workers; this, in turn, may lead to an increase in the need for weight-loss medications. Abutaima et al. (2024) found that participants are mostly employed (49.5%), with the smallest number being pensioners (2.9%), which is in line with our findings. While 43.3% of respondents came from rural areas, 56.8% lived in metropolitan areas, according to the poll. The high concentration of city dwellers in the sample may be explained by the fact that city life is often associated with unhealthy habits, such as eating too much fast food and not getting enough exercise, and by the ease with which people can get weight loss aids from local pharmacies and health centers. Li et al. found that 57.46% of Chinese participants lived in cities, whereas 42.54% lived in rural areas; this finding is consistent with their findings. (The study conducted by Li and colleagues in 2024)^

Based on the mean scores that indicate participants' prior knowledge of various weight-loss medications and the specific BMI criterion, our study shows that they have a moderate awareness of these treatments. A great deal of consciousness was present. Many people understand how prescription weight loss meds work and the advantages they provide. Many people also believe that these drugs successfully curb hunger and fat absorption, which might lead to a 3-8 kg weight loss each year. However, there was a moderate level of understanding regarding the potential benefits of weight reduction drugs when used in conjunction with a healthy diet and regular exercise, as well as eligibility criteria based on body mass index. Partially reflecting their safety record, there was a reasonable awareness of the possible dangers associated with weight loss drugs, including pancreatitis and thyroid tumours. Participant knowledge and overall understanding of these items was moderate, according to the results; however, awareness initiatives are necessary to enhance comprehension of consumption indicators and the associated potential dangers. A survey conducted in Diwaniyah, Iraq, in 2024 revealed that 52.5% of health personnel possess a moderate awareness of weight loss drugs. Additionally, Almughais' survey conducted in 2023 in Saudi Arabia revealed that 55.6% of participants shown a commendable awareness level concerning anti-obesity drugs. Relationships among Participants' Awareness, Perceived benefits, and Perceived Risks for Weight-loss Medication in our study indicate that there is a moderate positive relationship ($r = .463$, $P = .000$) between awareness and perceived benefits about using weight-loss medications among participants, indicating that participants with a higher level of awareness are more likely to recognize the benefits of weight-loss medications. Conversely, there is a moderate negative relationship between awareness and perceived risks ($r = -.347$, $P = .000$), indicating that a higher level of awareness is associated with a lower level of perceived risks. This result agrees with study conducted by Albarghouthy showing awareness was positively correlated with weight loss strategy effectiveness. Conversely, the negative relationship between awareness and perceived risks may reflect the fact that more informed individuals tend to assess risks more balanced based on available scientific information. The positive relationship between awareness and perceived benefits suggests that increased knowledge about weight-loss medications may contribute to individuals' perception of their potential benefits. Conversely, the negative relationship between awareness and perceived risks may reflect the fact that more informed individuals tend to assess risks more balanced based on available scientific information.

5. CONCLUSIONS

The study participants primarily consisted of young adult females aged 19 to 29, with a significant proportion being educated individuals holding a bachelor's degree and employed. Two non-genetic factors that contribute to obesity include living in urban areas and having this condition. This trend in demographics shows that young individuals who are self-conscious about their appearance are more likely to use weight reduction medications, which highlights the influence of socio-cultural and lifestyle factors on health-related actions. Lifestyle and environmental variables play a major role in the development of obesity among individuals who do not have a hereditary predisposition, according to the prevalence of non-hereditary obesity. Findings indicate a moderately negative association between awareness and perceived danger and a moderately positive correlation between awareness and reported advantages, according to the study. This suggests that increased consciousness does not necessarily result in accurate risk assessment but can instead strengthen favourable attitudes

toward medication use. Associations between specific demographic variables and the level of self-awareness among the sample. There are strong associations between the type of weight loss medication and the level of participant awareness.

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