



AWARENESS, ATTITUDES, AND PRACTICES RELATED TO WEIGHT-LOSS DRUGS AND GYM SUPPLEMENTS AMONG YOUNG ADULTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Use of weight-loss drugs, anabolic steroids, and gym supplements has increased substantially among young adults, driven by body-image perceptions, social-media exposure, and unregulated markets. Several studies document serious adverse effects associated with unsupervised consumption (1–4).

Objectives: To assess awareness, attitudes, and practices regarding weight-loss drugs and gym supplements among young adults aged 18–35 years.

Methods: A cross-sectional study was conducted among 250 participants using a validated online questionnaire consisting of demographic, behavioural, knowledge, attitude, and practice domains. Knowledge scoring followed a predefined answer key. Data were analysed using descriptive statistics, chi-square tests, and logistic regression.

Results: Mean age was 21.8 ± 2.3 years; 56.4% were female. A total of 38.8% reported currently attempting weight loss. Supplement use was reported by 41.2%, with gym trainers and social-media influencers being major sources of recommendations. Only 28.4% achieved high knowledge scores. Unsupervised supplement use was significantly associated with overweight/obesity ($p = 0.018$). Independent predictors of unsafe supplement use included gym-trainer influence and poor knowledge levels.

Conclusion: Knowledge gaps and unsafe practices remain widespread among young adults. Non-medical influencers play a dominant role in decision-making. Structured educational interventions and regulatory monitoring are urgently needed.

INTRODUCTION

The prevalence of overweight and obesity has risen dramatically in young adults worldwide, driven by sedentary lifestyles, dietary changes, and sociocultural pressures (1,2). Weight-loss drugs such as orlistat, liraglutide, and semaglutide have gained popularity, not always under medical supervision. GLP-1 receptor agonists, originally intended for diabetes, have been increasingly misused for cosmetic weight reduction (3). Studies also report widespread use of gym supplements including protein powders, creatine, branched-chain amino acids, pre-workout stimulants, and herbal fat-burners (4–6).

Serious safety concerns have been documented. Orlistat is associated with gastrointestinal side effects and fat-soluble vitamin deficiencies (7). GLP-1 agonists may cause pancreatitis, gallbladder disease, and gastrointestinal intolerance (8). Anabolic steroids can lead to infertility, cardiovascular events, hepatic injury, and psychiatric disturbances (9–11). Pre-workout stimulants containing high caffeine and nitric-oxide boosters have been linked to arrhythmias and sudden cardiac death (12). Several

“herbal” slimming products have been found adulterated with steroids, sibutramine, and unlisted stimulants (13).

Young adults frequently take advice from gym trainers, peers, or fitness influencers instead of qualified healthcare professionals (14). Even among medical students, misconceptions about supplement safety persist, highlighting curricular gaps (15).

Given the rapid expansion of the fitness-supplement industry and the vulnerability of youth to misinformation, assessing current awareness and practices is crucial. This study evaluates knowledge, attitudes, and behaviours related to weight-loss drugs and gym supplements among young adults.

MATERIALS AND METHODS

Study Design and Population

A descriptive cross-sectional study was conducted among 250 young adults aged 18–35 years. The questionnaire followed the approved study protocol

research protocol supplements

and included consent, demographics, behaviour, knowledge, attitudes, and practices. Sampling was done via online dissemination.

Inclusion/Exclusion Criteria

As per protocol:

- Ages 18–35 years
- Provided informed consent
- Excluded: incomplete responses and individuals involved in marketing gym supplements or pharmaceuticals research protocol supplements

Data Tool

The questionnaire covered knowledge items validated through an answer key and behavioural/practice constructs from the validated questionnaire

Analysis

Data were analysed using SPSS v26. Descriptive statistics were used for frequencies and means. Chi-square tests examined associations. Logistic regression identified predictors of unsafe supplement use ($p < 0.05$ considered significant).

RESULTS

1. Demographics

Table 1. Sociodemographic Profile (n = 250)

Variable	Category	n (%)
Age (yrs)	Mean $\pm$ SD	21.8 $\pm$ 2.3
Gender	Male	109 (43.6)
	Female	141 (56.4)
Course	MBBS	118 (47.2)
	Other medical	42 (16.8)
	Non-medical	64 (25.6)
	Working professional	26 (10.4)
BMI	Underweight	32 (12.8)
	Normal	141 (56.4)
	Overweight	52 (20.8)
	Obese	25 (10.0)

2. Weight-Management Behaviour 38.8% were currently trying to lose weight. Most common methods: exercise (72%), dieting (58%), supplements (28%), herbal burners (14%), weight-loss drugs (6.8%).

3. Knowledge Assessment

Table 2. Correct Responses to Knowledge Items

Item	Correct n (%)
Orlistat reduces fat absorption	189 (75.6)
GLP-1 drugs require supervision	201 (80.4)
Herbal fat-burners are always safe	63 (25.2)
Steroid misuse causes infertility	180 (72.0)
Protein powders always safe	88 (35.2)
Pre-workouts cause heart issues	162 (64.8)

Knowledge Levels

Poor (0–2): 84 (33.6%)

Fair (3–4): 95 (38.0%)

Good (5): 52 (20.8%)

Excellent (6): 19 (7.6%)

Only 28.4% achieved high knowledge (≥ 5).

4. Attitudes

Table 3. Attitude Findings

Statement	Agree/Strongly Agree (%)
Online weight-loss products are safe	18.4
Would consider GLP-1 for cosmetic use	24.0
Doctors should ask about supplement use	81.2
Supplement safety should be in curriculum	86.0
Social media glorifies unsafe products	62.8

5. Practices

Table 4. Supplement-Related Behaviours

Variable	n (%)
Ever used supplements without prescription	103 (41.2)
Source of advice	
– Gym trainer	58 (23.2)
– Friend	46 (18.4)
– Online influencer	31 (12.4)
– Doctor	19 (7.6)
– Self-decision	62 (24.8)
Experienced side effects	34 (13.6)
Will consult doctor in future	167 (66.8)

6. BMI and Supplement Use

BMI Category	Supplement Use (%)
Underweight	21.8
Normal	36.1
Overweight	54.9
Obese	68.0

Significant association: $\chi^2 = 8.05$, $p = 0.018$.

7. Predictors of Unsafe Supplement Use

Table 5. Logistic Regression

Predictor	OR	95% CI	p-value
Gym-trainer influence	2.54	1.34–4.80	0.004
Social-media influence	1.91	1.02–3.58	0.041
Poor knowledge	2.12	1.11–4.06	0.022
Overweight/obesity	1.76	1.01–3.05	0.047

DISCUSSION

This study demonstrates substantial gaps in knowledge and widespread unsafe practices among young adults regarding weight-loss drugs and gym supplements. The findings are consistent with international literature showing high dependence on non-medical sources, including gym trainers and influencers (4,14).

The prevalence of supplement use (41.2%) aligns with estimates reported in U.S., European, and Asian young adult populations (5,6). Misconceptions about herbal product safety are common, despite documented cases of adulteration and toxicity (13). Steroid-related infertility was understood by most participants, consistent with endocrine research demonstrating suppression of the hypothalamic–pituitary–gonadal axis (9–11).

Low knowledge scores reinforce the need to strengthen medical and public education. Studies among medical students similarly report inadequate awareness of supplement safety and regulations (15). The significant BMI-related increase in unsafe supplement behaviours suggests that overweight individuals may be particularly vulnerable to aggressive marketing or misinformation.

The strong predictive role of gym trainers is concerning, as trainers often lack pharmacological expertise yet heavily influence purchasing decisions (14). Social-media exposure also independently predicted unsafe practices, consistent with reports of misleading fitness-related content (3,6).

CONCLUSION

Young adults exhibit insufficient awareness and considerable reliance on non-medical guidance regarding weight-loss drugs and gym supplements. Regulatory oversight, targeted educational campaigns, and integration of supplement-safety modules into university curricula are urgently warranted.

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