Knowledge and use of anti-obesity medications among students at Basrah University

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ABSTRACT

Objectives of current research was to determine the rate of anti-obesity medications use among Basrah university students (Bab Al-Zubair Colleges) and to evaluate students' knowledge about these medications. One hundred students from different four Bab Al-Zubair colleges were interviewed using questionnaires established for the study.

The study revealed that approximately half of the university students (54 %) were consumed anti-obesity medications. (48%) of them within normal weight, (33%) were overweight, and while (19%) obese. Most of them never partake in exercise (61%). 67% of the consumers have information about medications and their adverse effects. The physicians and social media are the main sources of information (44%, 33%) respectively. (48%) of them believed that anti-obesity medications can be used safely. (39%) of them were self-administrated without prescription, and (44%) prescribed by physician. Approximately one-third of the consumers (30%) experienced adverse effects while using medications. Diarrheaand oily spotting are the main adverse effects among them (30 %). (37 %) ofstudents prescribed anti-obesity drugs to others. There is significant relationshipbetween gender, BMI, and anti-obesity medications consumers (p-value ≤0.05).

Keywords: Knowledge; Use; Anti-obesity medications; Among; Students

Introduction:

Obesity is an epidemic disease that menaces health care sources by rising cases of diabetes, heart disease, hypertension, and cancer. The influences of obesity result from raising in mass of adipose tissue and raising in secretion of patho-genetic products from enlarged fat cells (1). Lifestyle adjustments such as nutrition and exercise Interference are crucial for preventing and controlling of obesity, and medications may be recommended if the interferences are inefficient for persons having body mass index of 30 kg/m2 or more and those with 27 kg/m2 and more when concurrent diseases like hypertension or type 2 diabetes mellitus are present. Previously several medications have been approved and marketed to manage obesity. However, most of the these medications now have been withdrawn after regulatory approval due to severe adverse reactions. Most of these refer to cardiovascular adverse effects, augmented suicidal risk or boosted possibility of medication dependency and abuse. As such, certain medications are recommended only for short- term consumption (2,3).

The ideal anti-obesity medication would deliver persistent weight lose with minimal

adverse effects. The mechanisms that adjust energy balance that have considerable built-in redundancies, interfere significantly with other physiological functions, and are affected by social, hedonic and psychological factors that border the efficacy of drug therapy interferences (4).

A pharmacological approach should be used depending on the efficacy and safety profile of each medicine as well as the obesity type and associated medical conditions. The most commonly used medications approved by the U.S. Food and Drug Administration (FDA) for the treatment of obesity, especially for long-term use (>12 weeks), include: Bupropion-naltrexone, Liraglutide, Orlistat, and Phenterminetopiramate. Most of these medications have 3% to 7% efficacy in terms of weight loss (5).

Many license medications have been withdrawn because of their adverse reaction include Lorcaserin, Rimonabant, Amphetamines and Sibutramine. The safety and efficiency of prolong drug therapy is very important in the controlling obesity. In fact, orlistat is the only accessible prolong treatment for obesity. Orlistat is a good choice for the management of obesity, because of its safety on cardiovascular illnesses and its positive effects on controlling the diabetes , even if it is not effectual as rimonabant or sibutramine in decreasing body weight (6).

Some medications were used to treat obesity and the adverse effects related with them, include: aminorex (pulmonary hypertension), fenfluramine (cardiac valvulopathy), dexfenfluramine (valvulopathy), phenylpropanolamine (stroke), rimonabant (suicidal ideation and behavior), sibutramine (myocardial infarction and stroke), and the most recent drug, lorcaserin (cancer). After the removal of sibutramine in 2010, the FDA requested cardiovascular-safety data for new anti-obesity medications (7).

Objectives of the study:

Objectives of present research was to determine the rate of anti-obesity medications use among Basrah university students (Bab Al-Zubair Colleges) and to evaluate students' knowledge about these medications

Methodology

1. **Study design:** A cross-sectional, descriptive questionnaire-based study.
2. **Study setting:** Basrah university/Bab Al-Zubair Colleges Complex in Basra governorate, southern of Iraq.
3. **Study sample:** sample of 100 students from 4 colleges (Nursing, Arts, Administration and Economics, and Education For woman). Questionnaire was prepared by researchers for the purpose of the data collection; the data collection was carried out from January to March 2022.
4. **Project instrument:** Based on previous relevant studies[8,9], questionnaire of three sections prepared by researchers and then displayed to faculty members in the College of Nursing, University of Basrah as experts for take their opinions and advices.
5. **Ethical consideration**: Approval was taken from the college's Ethical committee. Participation in a study was voluntary and anonymous. The students who participate in the study selected randomly. Researchers filled out the questionnaire via direct interview with the students.
6. **Statistical analysis**: The collecting data statistically analyzing by using SPSS (statistical package for social science program). Descriptive results were expressed as frequently and percentages.

   Chi-squared test used to examine the association between socio-demographic characteristics of students using and non-using anti-obesity medications. A probability of ≤0.05 was deemed to be statistically significant.

Results

Table 1: Socio demographic characteristics of participants (n=100)

Characteristics	Categories	Frequency	(%)
Gender	Male	61	61 %
	Female	39	39 %
	Total	100	100 %
Age in years 22.8±2.9	18-21	35	35%
	22+	65	65 %
	Total	100	100%
College name	Nursing	26	26 %
	Arts	25	25 %
	Administration and Economics	27	27 %
	Education For woman	22	22 %
	Total	100	100%
Academic stage	First	22	22 %
	Second	25	25 %
	Third	26	26 %
	Fourth	27	27 %
	Total	100	100%
BMI	Underweight	12	12 %
	Normal range	56	56 %
	Overweight	20	20 %
	Obese	12	12 %
	Total	100	100%
Trying to lose weight	Yes	67	67 %
	No	34	34 %
	Total	100	100%
Methods used to lose body weight	Food intake restriction	40	40 %
	Physical exercise	42	42 %
	Herbs	4	4 %
	Anti-obesity medications	54	54 %
Exercise	Never	58	58 %
	Daily	13	13 %
	Weekly	22	22 %
	Monthly	7	7%
	Total	100	100%
Information about anti-obesity medications and their adverse effects	Yes	73	73 %
	No	27	27 %
	Total	100	100%
Sources of information	Google	22	22 %
	Physician	24	24 %

	Social media	46	46 %
	Magazines	8	8%

(61%) of the studied students were male, the majority of students (65%) at age more than 22 years. (56%) of them are normal body weight, (20 %) are overweight and (12 %) are obese. Most of them (67%) trying to lose their weight. (40 %) of students trying to lose their weight by food intake restriction, (42 %) by physical exercise, and (54 %) by consuming anti-obesity medications. (73%) of them have information about anti-obesity medications and their adverse effects as they said. (22 %, 24 %, 46 %)of them take their information from Google, physician, and social media respectively as showed in Table (1).

Table 2: Questions about anti-obesity medications knowledge among users (n= 54)

Characteristics	Categories	Frequency	(%)
Information about anti-obesity medications and their adverse effects	Yes	36	67%
	No	18	33%
Sources of information	Google	10	19%
	Physician	24	44%
	Social media	18	33%
	Magazines	2	3.7 %
Anti-obesity medications used safely	Yes	26	48 %
	No	28	52 %
Types of anti-obesity medications	Liraglutide	4	8%
	Orlistat	6	11%
	Don't remember	44	81%
Duration of anti-obesity medications used?	1 – 2	26	48 %
	3 – 4	13	24 %
	5 – 6	11	20 %
	More than 6	4	8 %
Who recommended the medication for you?	My self	21	39%
	Physician	24	44%
	One of family members	6	11 %
	Friend	3	6%
Have you experienced any adverse effects while using anti-obesity drugs?	Yes	16	30 %
	No	40	70 %
Types of Adverse effect of anti-obesity drugs experienced by students	Diarrhoea	16	30 %
	Insomnia	8	15 %
	Nausea	8	15 %
	Oily spotting	16	30 %
Have you prescribed anti-	Yes	20	37 %

obesity drugs to others?	No	34	63 %

The findings of the table (2) presented that 67% of the students who used anti-obesity medications have information about medications and their adverse effects as they said. (19%,44%, 33%) of them take their information from Google, physician, and social media respectively. (48%) of them believed that anti-obesity medications can be used safely. (44%) of the students don't remember their medications used. (48%) of students used anti-obesity medications for 1 – 2 months. (39%) of them were self-administrated without prescription, and (44%) prescribed by physician. (30%) experienced adverse effects while using anti-obesity drugs. (30 %, 15 %, 15 %, 30 %) of them suffered from diarrhea, insomnia, nausea, and oily spotting respectively as adverse effects. (37 %) of student prescribed anti-obesity drugs to others.

Table 3: Relationship between socio-demographic characteristics of students using and non-using anti-obesity medications

Characteristics	Categories	All students (n=100)	Users (n= 54)	Non-users (n= 46)	p-value
Gender	Male	61	22	39	**0.001**
	Female	39	32	7	
College name	Nursing	26	12	14	0.821
	Arts	25	14	11	
	Administration and Economics	27	17	10	
	Education For woman	22	11	11	
Academic stage	First	22	8	14	0.202
	Second	25	13	12	
	Third	26	17	9	
	Fourth	27	16	11	
BMI	Underweight	12	0	12	**0.002**
	Normal range	56	26	30	
	Overweight	20	18	2	
	Obese	12	10	2	
Exercise	Never	58	33	25	0.103
	Daily	13	4	9	
	Weekly	22	12	10	
	Monthly	7	5	2	
Information about anti-obesity medications and their adverse effects	Yes	73	36	37	0.222
	No	27	18	9	
Information sources	Google	22	10	12	0.548
	Physician	24	24	0	
	Social media	46	18	28	
	Magazines	8	2	6	

p-value < 0.05 is significant

Table (3) displayed that more than half of medications users (32) were female. Among them (26 students) of normal weight, (18) suffered from overweight, and (10) were obese. Most of them never partake in exercise (33).

Chi-squared test results shown that there was a significant relationship between gender, BMI, and anti-obesity medications users (p-value ≤0.05).

Discussion

Obesity is consider to be predisposing factor for diseases, such as hypertension, stroke, heart disease, type 2 diabetes, dyslipidemia, and some types of cancer[9]. Studies proposed that 5–10% weight demotion had a significant amelioration in these diseases. Thus, obesity is crucial for determining effectual treatment strategies for overweight and obesity. Lifestyle modification is the gold standard way to treat obesity by reduced diet and improved physical activity, which can cause a incessant reduction in weight [8].

The results of the present study revealed that approximately half of the university students 54 % (59% female) consume anti-obesity medications. Among them (48%) of normal weight, (33%) overweight, and (19%) were obese. Most of them never partake in exercise (61%). 67% of the consumers have information about medications and their adverse effects. The physician and social media are the main sources of information (44%, 33%) respectively. (48%) of them believed that anti-obesity medications can be used safely. (39%) of them were self-administrated without prescription, and (44%) prescribed by physician. Approximately one-third of the consumers (30%) experienced adverse effects while using medications. Diarrhea and oily spotting are the main adverse effects among them (30 %). (37 %) of student prescribed anti-obesity drugs to others. There is significant relationship between gender, BMI, and anti-obesity medications consumers (p-value ≤0.05).

Our study differed from similar study done among university students in Jordan which revealed that prevalence of anti-obesity medications used was 11% (63% females). 30% of the students of normal weight, 43.5% were overweight, and 26.1% obese. The study revealed that (78.3%) of the users were self-treated without physician's prescription.

Majority of the users never participate in exercise (78.3%). Vomiting, nausea and gastric upsets very common adverse events (65.2%). Age, BMI, study year and anti-obesity medications usage relationship was statically significant (p-value ≤0.05) [8].

Another similar study done among university students in Brazil also show different results. The study showed that the recently or previously intake of anti-obesity medications was reported by 6.8% of students (62.2% of them female) and physicians were prescribed medications for only 31.1% of them. The study considers the use of anti-obesity drugs among college students to be of concern, especially due to the high incidence of over-the-counter medication use [9].

A study of Taiwanese adults seeking treatment for obesity revealed nearly similar results. The prevalence of use of anti-obesity medications is high (50.8%) and females percentage was (53.6%) [11].

Further similar study done among Saudi females also showed different results. 21.3% using anti-obesity medication, whilst dieting and physical exercising the highest methods used to lose weight (64.1% and 61.5% respectively). The frequent self-reported side effect was oily spotting (25.9%) [12].

Conclusions

The anti-obesitymedications usage among college students is a concern because approximately half of the students consume anti- obesity medications and believed that anti-obesity medications can be used safely. One third of them take medications without medical prescription and relay on social media as a source of information.

Recommendations

1. The small sample size may not be enough to find out the knowledge and extent of the use of anti-obesity medications among Basrah university

students. Thus, extension of such studies to cover large samples is necessary.
2. There is a need for other studies in the future to cover the subject among other Basrah university colleges and consider the present study as a base for future researches.
3. Trying to improve general knowledge among students by develops and delivers education programs on anti-obesity medications advantages and disadvantages.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest.

Statement of informed consent

Taken from Basra Nursing College ethical and scientific committee

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