The Prevalence of Stimulant and Nutritional Supplement Usage Among Students at Abu Dhabi Universities in Gyms

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University students in Abu Dhabi used stimulants and nutritional supplements at gyms. The study pinpointed variations based on the variables (years of practice, education level, age, and gender) and other. 512 male and female students from various colleges made randomly up the sample. The questionnaire was used to obtain the results. Findings revealed that (46 %) took tablets at a rate of (30.9%), (9.8%) take injections at a rate of (6.3%). Statistically, (8.2%) used supplements for more than five years, (91.2%) of students realized the difference between nutritional supplements and stimulants. The first-year attained the greatest rate in age variable. However, the gender variable was (63.1%) for males and (36.9%) for females in (19-25 Years) age group. The years of physical activity variable showed the most in the use of nutritional supplements and stimulants. All in all, this is to provide supervision for gyms and nutrition centers, get doctor's approval for such materials, and conduct educational courses and workshops for trainers and gym supervisors to limit stimulants and supplements use.

Keywords: nutritional supplements, stimulants, gyms, sports nutrition, health awareness, health culture

INTRODUCTION

The changes the world has undergone over the past 20 years have impacted people's lives in general and athletes' lives in particular. This is because everyone in society, regardless of age or group, should lead a healthy lifestyle to maintain their level of physical activity and nutritional habits. Furthermore, according to Yang & Chiang, (2020) balanced nutrition is considered an assistant in sports training programs," there is no question that adequate nutrition requires engaging in healthy nutritional behavior.

Studies conducted by Kilani, et al. (2020), Jairoun, et al (2020), and Alarjan, & Al-Nawayseh (2016), over the years since the interest in sports nutrition began have demonstrated that proper nutritional

behavior is closely related to a high level of performance, whether performance in training or in competition, because the right nutritional programs lead to the highest level of the athlete's performance, in addition to preventing diseases, boosting immunity, and promoting a healthy lifestyle. It is important to remember that a player's diet has a major impact on how well they perform in sports, regardless of the type of sport that young people or college students practice, whether in gyms located throughout the city or in university gyms, or the nature of their relationship with the coach. Regarding nutritional knowledge, attitudes, behaviors, and the connections between nutrition and training, nutrition and injury recovery, and nutritional habits and behaviors, both coaches and players have misconceptions (Kang, 2008), (Roland, 2013).

STUDY PROBLEM AND ITS SIGNIFICANCE

The problem with the study is that, on the one hand, the number of university students participating in sports activities in clubs has increased, and many of these students are unaware of the differences between nutritional supplements and stimulants, how to use them, when they should use them, and who is the expert who can advise them to take these substances, as well as the presence of non-specialized health professionals in these clubs, additionally, the trainers' lack of knowledge in the area of nutrition has a detrimental effect on the performance of the players, (Brain & Steven, 2006) (Aljaloud & Ibrahim, 2013).

Kilani, et al. (2020) note that changing unhealthy nutrition habits might be challenging unless done gradually over a long period. People can be instructed on creating balanced meals and offering the right and beneficial nutritional alternatives by increasing awareness and promoting the proper nutrition culture. This highlights the significance of the study, which aims to shed more light on the unfortunate widespread use of nutritional supplements and stimulants among the general public, particularly the study sample, which has been sold inside these clubs and is being consumed by individuals, particularly university students, in large quantities without follow-up, control, or even supervision, even without knowing the proportions of their needs. The universities students in Abu Dhabi, who make up a significant large part of the population, will play an important and significant role in this study's success in raising behavioral and health awareness, particularly concerning nutritional behavior.

OBJECTIVES OF THE STUDY

The objective of this research is:

1. To determine how frequently students who attend health clubs or gyms at universities in Abu Dhabi use nutritional supplements and stimulants.
2. To determine the variations in the prevalence of the use of stimulants and nutritional supplements among gym participants, according to the variables (gender, age, academic year, and the number of years of physical activity).

STUDY QUESTIONS

The following questions are attempted to be answered by the current study:

1. What is the percentage of Abu Dhabi university students who attend gyms and use nutritional supplements?
2. What is the extent of the widespread use of stimulants among Abu Dhabi university students who attend gyms?
3. Are there differences in the prevalence of using nutritional supplements and stimulants according to (gender, age, educational level, and number of years of physical activity)?

STUDY PROCEDURES

Study Approach

The researchers used the descriptive approach due to its suitability to the nature and objectives of the research.

Fields of Study

Spatial and temporal domain: The study was applied to students of Abu Dhabi universities from 25/5/2021 to 30/7/2021.

Study Population and Sample:

The study was conducted on a sample of (512) male and female universities from universities in Abu Dhabi who participated in gyms, who were chosen randomly.

Description of the Study Sample:

The data of Table (1) indicates the distribution of the study sample according to gender, the number of years of physical activity, the school year, the age group, the daily rate of physical activity, the weekly rate of physical activity, and the goal of practicing activity in health clubs.

TABLE 1
DISTRIBUTION OF SAMPLE DEPENDING ON DEMOGRAPHICAL INFORMATION (N=512)

Variable	Category	Frequency	Percentage n (%)	P value
Years spent practicing physical activity	less than one year	174	34%	0.621
	from 1-2 years	128	25%	
	from 3-4 years	64	12.5%	
	More than 5 years	144	28.1%	
	None	2	0.4%	
	Total	512	100%	
Gender	Male	323	63.1%	<0.001
	Female	189	36.9%	
	Total	512	100%	
Level Study	Secondary school	38	7.4%	0.617
	First year	166	32.4%	
	Second year	70	13.7%	
	Third year	74	14.5%	
	Fourth year	132	25.8%	
	Higher education	30	5.9%	
	None	2	0.4%	
	Total	512	100%	

Variable	Category	Frequency	Percentage n (%)	P value
Age group (years)	Less than 18 years	4	0.8%	0.943
	From 19-25 years	296	57.8%	
	From 26-30 years	92	18%	
	From 30-35 years	64	12.5%	
	From 36-40 years	40	7.8%	
	More than 40 years	14	2.7%	
	None	2	0.4%	
	Total	512	100%	
Average of practicing physical activity per week	From 1-2 times per week	2	0.4%	0.005
	Less than 3 times per week	254	49.6%	
	3-5 times per week	202	39.5%	
	More than 5 times per week	52	10.2%	
	None	2	0.4%	
	Total	512	100%	
Average of practicing physical activity per day	Less than 30 minutes	150	29.3%	0.681
	From 31-60 minutes	326	63.7%	
	From 61-90 minutes	0	0	
	From 91-120 minutes	28	5.5%	
	None	8	1.6%	
	Total	512	100%	

The Tools Used in the Study and the Scientific Transactions of the Questionnaire

The questionnaire for the (Zaied, 2018) study was used and modified slightly by the researchers to suit the variables and nature of the current study as a tool for all the data of the current study, as it is a well-articulated questionnaire and has proven a high level of validity and reliability, where it was presented to a group of arbitrators and experts in the field of study. It was produced in its final form, and thus the questionnaire has achieved apparent or logical validity. Appendix (1) explains the study tool (electronic questionnaire).

PRESENTATION AND DISCUSSION OF FINDINGS

To answer the first and second study question, which states: What is the prevalence of the use of nutritional supplements and stimulants among universities students in Abu Dhabi who attend gyms?

TABLE 2
THE PREVALENCE OF USING NUTRITIONAL SUPPLEMENTS & STIMULANTS AMONG THE STUDY SAMPLE (N=512)

			Graph 1 *The prevalence of using nutritional supplements and stimulants among the study sample. (n=512)*
Variable	**category**	**Frequency percentage**	**P value**
Using nutritional supplements.	Yes	238 46.5%	
	No	274 53.5%	<0.001
	Total	512 100%	
using stimulants among	Yes	50	9.8%
	No	462 90.3%	<0.001
	Total	512 100%	

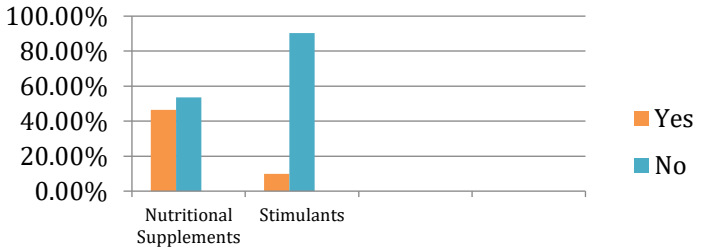

TABLE 3
THE TYPE OF DOSAGE FORM PREFERRED BY THE STUDY SAMPLE IN ORDER TO CONSUME NUTRITIONAL SUPPLEMENTS AND STIMULANTS (N=512)

Variable	Category	Frequency	Percentage n (%)
Dosage form used (Nutritional supplements)	Powder	128	25%
	Tablet	158	30.9%
	Both	4	0.8%
	None	222	43.36%
	Total	290	100%
Dosage form used (stimulants)	Intravenous	32	6.3%
	Powder	16	3.1%
	Tablet	30	5.9%
	Powder and tablet	2	0.4%
	All	4	0.8%
	None	428	83.5%
	Total	512	100%

Graph 2
The type of dosage form preferred by the study sample in order to consume nutritional supplement

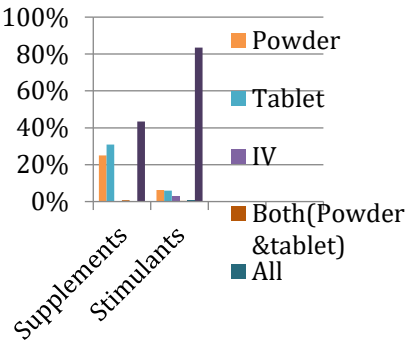

TABLE 4
THE PREVALENCE OF USING NUTRITIONAL SUPPLEMENTS AMONG THE STUDY SAMPLE UNDER A SPECIALIST SUPERVISION (N=512)

Variable	Category	Frequency	Percentage n (%)
The prevalence of using nutritional supplements, under a specialist supervision.	Yes	176	34.4%
	No	310	60.5%
	I don't use it	26	5.1%
	Total	512	100%

TABLE 5
DURATION OF USING NUTRITIONAL SUPPLEMENTS BY THE STUDY SAMPLE (N=512)

Variable	Category	Frequency	Percentage n (%)
Duration of using nutritional supplements.	1 week	38	7.4%
	1 month	92	18%
	3 months	76	14.8%
	6 months	50	9.8%
	More than a year	42	8.2%
	None	214	41.8%
	Total	512	100%

TABLE 6
FREQUENCY OF USING NUTRITION SUPPLEMENTS PER DAY (N=512)

Variable	Category	Frequency	Percentage n (%)
Frequency of using nutritional supplements per day	Once	176	34.4%
	Twice	76	14.8%
	Three times	46	9%
	Five times	4	0.8%
	None	210	41%
	Total	512	100%

TABLE 7
THE BELIEFS OF THE SAMPLE WHETHER NUTRITIONAL SUPPLEMENTS AND STIMULANTS HAS NEGATIVE EFFECT ON THEIR HEALTH (N=512)

Variable	Category	Frequency	Percentage n (%)
The beliefs of the sample whether nutritional supplements has negative effect	Yes	204	39.80%
	No	286	55.90%
	I don't use it	22	4.30%
	Total	512	100%
The beliefs of the sample whether stimulants has negative effect on their health.	Yes	210	41%
	No	263	51.40%
	I don't use it	29	5.70%
	Others	10	2%
	Total	512	100%

TABLE 8
THE REASONS BEYOND USING NUTRITIONAL SUPPLEMENTS AMONG THE SAMPLE (N=512)

Variable	Category	Frequency	Percentage n (%)
Reasons beyond using nutritional supplements.	Fat loss	32	7.4%
	Building muscular mass	148	%28.9
	Replace vitamins loss	66	%12.9
	Prevention of osteoporosis	30	%5.85
	Prevention of fatigue	38	%7.42
	Others	8	%1.56
	None	190	%37.1
	Total	512	%100

It is clear from the presentation of Tables (2,3,4,5,6,7,8) that the percentage of users of nutritional supplements in the study sample was (46%), and the percentages are average for the use of nutritional supplements compared to the percentages of their use in gyms in Riyadh it reached (47%), in Beirut reached (40.5%), and in Brazil reached (36.8%) and less than the utilization rate nutritional supplements among gyms participants in Tehran amounted to (66.7%). While the percentage of using stimulants was (9.8%), which is considered low. This increase in the percentage of using nutritional supplements and stimulants is

due to the lack of awareness and education related to the use of nutritional supplements, in addition to the ease of obtaining them from various sources, and this is also because the nutritional supplements are given significantly without prescription from a doctor.

The current study's findings indicate that medical oversight in gyms is very weak and far from the supervision of the appropriate authorities, and this is proved by the fact that 60.5% of the sample in the current study uses nutritional supplements and stimulants without a prescription, as explained by the researchers (Huang & Johnson and Pipe, 2006) (Saeedi, et al. 2013) (Wardenaar et al, 2017). This explains why gym participants are using more stimulants and nutritional supplements.

The findings also indicated that (30.9%) of the nutritional supplements are taken in the form of pills, (25%) take them in the form of powder, while (6.3%) use stimulants in the form of injections, and (5.9%) in the form of pills. The data also showed that (18%) of the users of nutritional supplements and stimulants from the study sample take them daily, and (34.4%) take them once a day. Also, (39.8%) of the users of nutritional supplements and (41%) of the users of stimulants from the study sample believe that they negatively affect health. These findings agree with both (Alarjan, & Al-Nawayseh, 2016) (Aljaloud & Ibrahim, 2013).

The findings also indicated that the reasons for using nutritional supplements and stimulants among the study sample were bodybuilding and muscle amplification with a rate of (28.9%), as it was the main reason for taking nutritional supplements and stimulants for the study sample while compensating for a deficiency of vitamins ranked second with a rate of (12.9%), this is what the researchers explain, that building the body and amplifying muscles depends mainly on rationed training and strengthening it with proteins, which are the basic building material in the body, as it contributes to increasing muscle mass and restoring and building tissues, especially damaged ones. This is confirmed by Tian & Tan, (2009), Guest, et al. (2019), Zaied, (2018), Sharif, et al. (2018), Bailey, (2013), that physical activity practitioners increase their daily protein needs according to the type and purpose of physical activity, as well as compensation for Vitamin deficiency due to lack of proper nutrition for this age group and school year in particular, and their frequent reliance on fast and unhealthy food, and the poor organization of eating meals, especially for students during their working hours on campus.

To answer the third question of the study, which states: Are there differences in the percentages of the prevalence of the use of nutritional supplements and stimulants among gyms participants of Abu Dhabi universities' students according to the variables (gender, age, educational qualification, number of years of physical activity)?

Table (9) shows the percentage of use of nutritional supplements and stimulants according to the number of years of physical activity, educational qualification, and age.

TABLE 9
THE DIFFERENCE IN FREQUENCIES AND PERCENTAGES ACCORDING TO DIFFERENT VARIABLES

Variable	Categories	Nutritional Supplements				Total Responses		Stimulants				Total Response	
		Administer		Don't Administer				Administer		Don't administer			
		f	%	*F*	%	*f*	%	*f*	%	*f*	%	*f*	%
Years spent practicing physical activity	Less than 1 year	56	10.9%	118	23.0%	174	33.9%	10	1.9%	164	32.0%	174	33.9%
	From 1-2 years	82	16.0%	46	8.9%	128	25%	13	2.5%	115	22.4%	128	25%
	From 3-4 years	46	8.9%	19	3.7%	65	12.6%	10	1.9%	56	10.9%	66	12.8%
	More than 5 years	89	17.3%	56	10.9%	145	28.3%	119	23.2%	25	4.8%	144	28.1%
	Total	273	53.1%	239	46.5%	512	100%	152	29.5%	360	70.1%	512	100%
Level Study	Secondary school	18	3.5%	20	3.9%	38	7.4%	4	0.7%	34	6.6%	38	7.3%
	First year	120	23.4%	47	9.1%	167	32.6%	12	2.3%	120	23.4%	132	25.7%
	Second year	30	5.8%	40	7.8%	70	13.6%	4	0.7%	66	12.8%	70	13.5%
	Third year	20	3.9%	54	10.5%	74	14.4%	10	1.9%	64	12.5%	74	14.4%
	Fourth year	66	12.8%	66	12.8%	132	25.6%	16	3.1%	151	29.4%	167	32.5%
	Higher education	18	3.5%	13	2.5%	31	6.0%	4	0.7%	27	5.2%	31	5.9%
	Total	272	52.9%	240	46.8%	512	100%	50	9.7%	462	90.2%	512	100%

Variable	Categories	Nutritional Supplements				Total Responses		Stimulants				Total Response	
		Administer		Don't Administer				Administer		Don't administer			
		f	%	*F*	%	*f*	%	*f*	%	*f*	%	*f*	%
Age	Less than 18	2	0.3%	2	0.3%	4	0.6%	0	0%	4	0.7%	4	0.7%
	From 19-25	157	30.6%	140	27.3%	297	58.0%	28	5.4%	269	52.5%	297	57.9%
	From 26-30	54	10.5%	38	7.4%	92	17.9%	12	2.3%	80	15.6%	92	17.9%
	From 31-35	34	6.6%	30	5.8%	64	12.5%	2	0.3%	62	12.1%	64	12.5%
	From 36-40	20	3.9%	20	3.9%	40	7.8%	8	1.5%	32	6.2%	40	7.8%
	More than 40	7	1.3%	8	1.5%	15	2.9%	0	0%	14	2.7%	14	2.7%
	Total	274	53.5%	238	46.4%	512	100%	50	9.7%	462	90.3%	512	100%
Gender	Male	112	21.8%	75	14.6%	187	36.5%	155	30.2%	34	6.6%	189	36.9%
	Female	161	31.4%	163	31.8%	324	63.2%	17	3.3%	307	59.9%	324	63.1%
	Total	273	53.2%	238	46.4%	512	100%	172	33.5%	340	66.5%	512	100%

According to the variable of the number of years of physical activity, it is evident from the presentation of the data in Table (9) that the category (more than five years) uses nutritional supplements and stimulants the most, with percentages of (17.3%) for nutritional supplements and (23.2%) for stimulants. Everyone agrees that most players use nutritional supplements to improve muscle mass, and this is directly related to the number of years of practicing sports who use nutritional supplements. This is explained by the fact that this group has been regularly practicing physical activity for at least five years, and as a result, it seeks to increase the body's muscle mass or maintain the muscle mass gained during this period.

The findings also showed that the most category that uses nutritional supplements, according to the variable of the school year, is the first year, with a rate of (23.4%), while the percentage of using stimulants reached (2.3%) for the same category, which is confirmed by Table No. (1) that the age group that uses nutritional supplements and stimulants, according to the study sample, is the age group (19-25 years) with a percentage of (57.8%). The gender variable came in favor of males with a higher use rate (63.1%), while females reached a percentage of their use of nutritional supplements and stimulants (36.9%). The findings of this study agree with both (Zaied, 2018), (Erdman, et al. 2007), (Alves &Lima, 2009), (Goston & Correia, 2010).

The youth age group is the highest age group that uses nutritional supplements and stimulants, according to the researchers, who also note that this age group frequently seeks attention to body composition, particularly muscle mass and bodybuilding for the ideal and striking figure, making this age group one of the most used age groups for nutritional supplements in most studies.

Since we live in an educated society in which specialized universities and colleges are common, the findings of this study agree with Alshammari, (2017), Lun, et al. (2012), Wardenaar, (2017), Zaied, (2018), that the highest percentage of users of nutritional supplements and stimulants are the bachelor's degree holders as the higher age group used nutritional supplements and stimulants are the category from (19-25 years), because they believe that nutritional supplements and stimulants enable them to increase their physical and functional capabilities and raise the level of their abilities during training and thus reflect on their bodies.

CONCLUSIONS

Based on the presentation and discussion of the findings, the researchers concluded the following:

1. The percentage of using nutritional supplements among the study sample was (46%), while stimulants reached (9.8%).
2. The percentage of using nutritional supplements and stimulants for males was (63.1%), while for females (36.9%).
3. The most age group that uses nutritional supplements is the age group (19-25 years), and the most school stage that uses nutritional supplements and stimulants is the first-year category, while the most used group of nutritional supplements are those who regularly practice physical activity for more than (5) years.
4. Poor awareness and health culture led to (60.5%) of the study sample using nutritional supplements and stimulants without a doctor's recommendation, and (65.9%) believing that taking them has no negative effects on health.
5. This group resorts to using nutritional supplements to compensate for lacking vitamins and stimulants to build the body and amplify the muscles.

Recommendations:

Based on the findings of the study, the researchers recommend the following:

1. The need to spread awareness and health education in the field of nutritional supplements and stimulants, the reasons for their use and their negative effects among university students.
2. The need to provide regulatory and supervisory bodies for health clubs, gyms and nutritional supplements sales centers.

3. Awareness of the importance of doctor approval in prescribing nutritional supplements and not taking them randomly.
4. Conducting more scientific studies on nutritional supplements on larger samples of both genders.
5. Organizing educational courses and workshops for university students, trainers and officials of health clubs and gyms to limit the spread of stimulants.

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