

Prevalence of Using Dietary Supplements among Physically Active Adults in Makkah AL Mukarramah, 2018

Omneya Ahmad Abu Gayed^{1,*}, Roaa Mansour Alhutayli², Dr. Rakan Ali Yamani³

¹Family Physician MBSS, Ministry of Health, Saudi Arabia

²Family Medicine Resident, Joint Program Makkah, Saudi Arabia

³Orthopedic Surgery Specialist, King AbdulAziz Hospital, Makkah Saudi Board Certificate in Orthopedic Surgery MBBS, KSA

*Corresponding author: Dr.abugayed@gmail.com

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Abstract Background: dietary supplement defined as a product taken orally that contains one or more ingredients (such as vitamins or amino acids) that are intended to supplement one's diet and are not considered food. The Kingdom of Saudi Arabia is a fast-growing economic country that had affected its general population in various ways including a transition in daily lifestyle patterns and dietary intake habits. The pace of change has diverted the traditional Saudi diet towards the so-called Western diets, with increased consumption of energy dense and processed foods leading towards increased prevalence of non-communicable diseases in many Arab regions. **Objectives:** To determine the prevalence of DSs consumption among adult gymnasiums in Makkah AL Mukarramah city in 2018. **Method:** Cross-sectional study design. The current study was conducted at Elite, curves and fitness time centers at Holy Capital of Makkah. Sample size will be total of 190 participants. They would be 65 (34%) female volunteers and 125 (66%) male volunteers. **Results:** Overall, our participants who did not suffer side effects of supplements were constitutes 78.6 % the significant difference between education status and using supplements in the study while Chi-square 18.906 & p-value more than 0.05. The Sports Trainer was the most sources to obtain information in study group constitutes 24.9% then the second source to obtain information was Magazines and newspapers constitutes 23.7 % then friends constitutes 17.9%. The significant difference between food supplements used and gender in study group While Chi-square 28.349 & p-value more than 0.05. **Conclusion:** The prevalence of dietary supplement use was high and was significantly associated with socio demographic and lifestyle factors. A substantial proportion of populations take supplements. Further investigation into the social, psychological and economic determinants that motivate the use of supplements is required, to ensure appropriate use of supplements among adults.

Keywords: supplements, dietary intake, lifestyle, prevalence, physically active and adults

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1. Introduction

1.1. Background

Definition of a product taken orally that contains one or more ingredients (such as vitamins, minerals, herbs or amino acids) that are intended to supplement one's diet. [1] They might be sold as a dietary supplement in the United States under the Dietary Supplement Health and Education Act of 1994. [2] Batches of a dietary supplement L-tryptophan that have been implicated in a mysterious disease were produced by a genetically engineered organism. [3] Saudi Arabia is a vast country with about 31.74 million populations. Nearly two-thirds of them are adults. [4] Sports dietary supplements are out there purchasable publicly places as well as sports clubs.

members World Health Organization often sees and consumes them. [5] Which sees the public as an active part of the process and not a passive one. [6] The public's risk perception is influenced by personal, psychological, environmental and social factors. So as to speak the danger, there's a requirement to require the danger communication approach to make an interactive method of exchanging information and opinions among people, teams. [7] Dietary Supplement Health and Education Act of 1994 is defined DSs as any "Product" (other than tobacco) designed to supplement the diet. [8] Aging is often accompanied the middle of hyperbolic nutritional risk which will cause or exacerbate health conditions. Under nutrition in older adults may be because of reduced energy and food intake, biological changes within the systema alimentarium, medical and psychological conditions, polypharmacy, and social problems like economic condition and therefore the inability to buy and

prepare meals. [9] It well documented that the use of some of these products may lead to critical health injury. It means that the regular users are at risk resulting from taking various categories of DSs intended for athletic improvement. [10] dietary supplement (DS) use is widespread, with over 1/2 adults' news use, and also the highest use rumored in older adults. [11]

A cross-sectional study, published in Journal of Nutrition and Metabolism in April 2017 was conducted in Riyadh among regular gymnasiums. The aim of study to determine the prevalence of DSs use. A validated structured questionnaire used. The study showed that 113 (37.8%) individuals out of 299 participants were DSs user.

This consumption was less frequent in females than males (16.4% versus 44.7%) The most ordinarily used supplements were whey protein (22.1%). The causes for taking dietary supplements were to improve body shape (47.7%). nutrients provided by DSs can also potentially lead to intakes exceeding the Tolerable Upper Intake Level (UL), especially for nutrients that are fortified in the US food supply. Moreover, some botanical and herbal DSs cause adverse reactions with prescription and over-the-counter drugs. [12]

In 2013, the Journal of Nutrition and Metabolism had published an article targeted to understand the patterns of using DSs among professional athletes in Saudi Arabia. [13] Although often used with an intention of improving or maintaining health, it was estimated that in 2007-2010 only 23% of all supplement products were used at the recommendation of a health care provider. [14]

Journal of Family and Community Medicine have published a cross-sectional study in early 2017 about nutrition and hormones among Gyms' Attendees in Riyadh to assess the prevalence of supplements use and their types and to obtain the main reasons of that enhancement . There was an apparent association between DSs consumption and hormone use. [15] Results from observational studies have yielded mixed results regarding the health benefits of individual supplements or multivitamins/multiminerals (MVMM), and randomized clinical trials have often not supported benefits of these supplements, although the duration of many randomized clinical trials may have been insufficient to observe beneficial effects. [16]

In Sharjah, the United Arab Emirates, a study of gym users with 320 participants showed a high prevalence of DSs use, 43.8%. DSs use was more common among males than females (47.7% versus 28.1%). The reasons for using DSs differed between males and females. 60.7% Approximately was also used of users were self or commercially prescribed with only 12.8% were professionally advised. [17] Their use may be motivated, in part, by evidence suggesting that increased intake of some dietary constituents may be associated with reduced risk of outcomes, including cancer and cardiovascular disease. [18]

The first study investigated DSs use in Middle East was conducted in Beirut, published in Journal of Nutrition and Metabolism in 2012. It was a cross-sectional survey among 512 exercisers between 20 and 50 years old. The study showed that 36.3% of the participants were DSs users despite professional supervision. [19] The high concurrent use of prescription medications and DSs in older adults may increase the risk of drug-nutrient and other drug-supplement interactions. Thus, DSs have the

potential to be both beneficial and harmful to health, and it is important to monitor usage patterns in this rapidly growing segment of the US population aged ≥ 60 y [20]. A large meta-analysis and systematic review were conducted over 159 studies in the United States of America at 2017. Athletes were using DSs much more than USA general population. The use in male and female was the same except that males were using more protein, Creatine and vitamin E than females. On another hand female were using more iron [21].

1.2. Rationale

The researcher is a physically active person. She joined several fitness centers in Makkah in the last years. She noticed that DSs were widely used between adult gymnasiums. The researcher failed to lay a hand on previous studies conduct the same subject among athletes In Makkah Al Mukrramah city.

1.3. Study Significance

Numerous exercise center individuals who normally work out devour them. Recognize the methodologies and points of view of the open that work out in rec centers and take dietary enhancements .It inspected how experts see sports dietary enhancement utilization and how they impart this issue to exercise center individuals.

1.4. Aim of the Study

Determine the prevalence of DSs consumption among adult gymnasiums in Makkah Al Mukrammah city in 2018.

1.5. Objectives

1. To measure the rate of DSs use among adult gymnasiums.
2. To evaluate the gender variation between users.
3. To understand the concept of their DSs misuse.
4. To allocate the most common types of DSs consumed.

2. Methodology

2.1. Study Design

Cross-sectional descriptive study. Focused on estimation of Prevalence of Using Dietary Supplements among Physically Active Adults

2.2. Study Area

Elite, curves and fitness time centers .The Holy capital, Makkah Al-Mukarramah city. Makkah Al-Mukarramah had all services such as Health, Education, Electricity, Municipality and Transportation.

2.3. Study Population

Adult gymnasiums between 19 and 65 year olds who are training in different fitness centers in main sectors in Makkah Al-Mukrramah 2018.

2.4. Criteria

A. Inclusion criteria

All healthy male and female gymnasiums between 19 and 65 years of age at the time of study training in fitness time, elite and curves centers.

B. Exclusion criteria:

Training coaches.

Participants below 19 years of age or over 65 years.

Participants with chronic diseases or any health problem.

2.5. Sample Size

The number of registered adults at fitness centers in main sectors in Makkah AlMukrammah is a total of 5320, which considered the total population of interest. 1810 (34%) were females, while 3510 (66%) were males. Assuming that, the prevalence of DSs consumption among adult trainees is 50%. Confidence level is: (95%) Error: (7%). Therefore, by stratified sampling technique the required sample size will be total of 190 participants. They would be 65 (34%) female volunteers and 125 (66%) males.

2.6. Sampling Technique

Simple random generator used to select centers randomly from sectors around Makkah AlMukrammah. During the period of data collection, 2018, the researcher will distribute a validated questionnaire to every adult gymnasium who fit into the inclusion criteria by non-probability convenience sampling technique till she obtains the required sample size over a period of three weeks.

2.7. Data Collection Tool

A validated self-administered questionnaire will be used. That would include demographic characteristics such as age, gender, In addition, it would include exercise-related features like duration, Moreover, that form will contain questions concerned with DSs used such as type, duration of use, source of information and purpose of consumption. The questionnaire will be constructed in Arabic language to be validated by two consultants and then it will be distributed and filled by participants.

2.8. Data Collectoin Techniqe

During the period of data collection, the researcher will go to the selected female fitness centers. She will collect data from eligible gymnasiums, by distributing the questionnaire to athletic adults while they are in the training area. The researcher will seek the help of male facilitator in the selected male fitness centers

2.9. Study Variables

Dependent variable

DSs consumption propagation among adult gymnasiums

Independent variable

- Age, Gender, Nationality, Marital status, Education level,

- Sleeping hours
- Duration of being physically active (years):
- Type of exercise:
- Frequency of training (days per week):
- Type of DSs used:

2.10. Data Entry and Analysis

Data will be entered into a personal computer and will be analyzed by using Statistical Package for Social sciences (SPSS24). Necessary statistical tests such as Chi-square, T-test and other appropriate tests will be used. A p- value of less than 0.05 will be adopted for statistical significance.

2.11. Pilot Study/ Pretesting

The researcher will perform a pilot study on 19 adult gymnasiums training in Fitness Way center (out of the study), to test the tool, the methodology and the environment. Necessary changes will be made accordingly.

2.12. Ethical Consideration

1. Research ethics committee approval will be obtained.
2. Permission from higher authorities including public health administration and fitness centers' directors will be obtained.
3. All collected data will be kept confidential.

2.13. Budget

The study was completely self-funded by the researcher.

2.14. Relevance & Expectations

- Increase awareness of the risk of DSs misuse among adult gymnasiums.
- Decrease possible side effects of non-professional DSs consumption.

2.15. Limitations

There might be a limitation in time because of large sample size and short duration for collecting data. Therefore, an extension of the period of data collection might be a necessity.

3. Results

Gender:

The majority of our study were males and they were 68.9% while females were 31.1 % of cases.

Age:

In our study, 29.0% age period of 30 - 35 year olds and they constitute the most common period in this study, while the age period of 25 – 30 year olds represents 22.8 % while the age period of 19 – 25 year olds & 35 – 40 year olds equally represents 18. 1%.

Marital status:

In our study the majority of married participant was 61.1 % while the singles were 38.9 %.

Education Level :

The majority of our participants were at BA were constitutes 54.4 %, followed by Postgraduate were constitutes 16.1 % while secondary certificate were 14.5%, the diploma 10.9%.

Occupation:

In our study the majority of employees was 75.1 % while the none employees were 24.9%.

Income:

In our study Income from 3000-10000SR was 42.5% , while more than 10000SR was 28.5% but non income was 19.2 % and less than 3000 SR was 9.8% .

Table 1. The frequency of demographic data (gender, Age, Marital status, Education, Occupation and Income)

	N	%
Gender		
Male	133	68.9
Female	60	31.1
Age		
Less than 19years	3	1.6
from19-25years	35	18.1
25-30years	44	22.8
30-35years	56	29.0
35-40years	35	18.1
40-45years	9	4.7
45-50years	9	4.7
55-60years	1	.5
More than 65years	1	.5
Marita status		
Married	118	61.1
Single	75	38.9
Education		
Illiterate	4	2.1
Primary certificate	2	1.0
Middle School certificate	2	1.0
Secondary certificate	28	14.5
diploma	21	10.9
BA	105	54.4
Postgraduate	31	16.1
Occupation		
Yes	145	75.1
No	48	24.9
Income		
Non	37	19.2
Less than 3000SR	19	9.8
3000-10000SR	82	42.5
More than 10000SR	55	28.5

Table 2. The Frequency for (BMI, suffering from any problems and Smoking) in study group

	N	%
BMI		
Underweight	3	1.6
Normal	58	30.1
Overweight	81	42.0
Obese	51	26.4
Smoking		
Non	126	65.3
Yes	53	27.5
Quit smoking	7	3.6
Other	7	3.6

Related to **BMI** the majority of our participants were having overweight constitutes 42.0%, followed by normal BMI participants were constitute 30.1 %. While increase BMI (obese) were constitutes 26.4 %.

Smoking :

The majority of our participants were Non-smoker constitutes 65.3 %. The followed by smokers were constitutes 27.5%.

Do you use any supplement?

Participants who answered “yes” and used supplement were 89.6% followed by those who did not use supplement were only 10.4 %.

Food supplements used.

Majority of our participants were using food supplements like Multivitamins, Whey protein and Omega 3 constitute (36.4%, 16.8 %, 8.7%) Followed by Vitamin B, Vitamin D and Amino acids were constituting (6.4%, 6.4%, 5.8 %).

Form of CMOS food user

Participants who used powder form of CMOS food followed by capsules or tablets were 38.7 % then 28.9 % the other form of CMOS food use energy drinks and bars were (15.6% then 8.7 %).

Table 3. The Frequency for (using any supplement and Food supplements used) in study group

	N	%
Do you use any supplement?		
Yes	173	89.6
No	20	10.4
Food supplements used		
Vitamin B	11	6.4
Vitamin C	4	2.3
Vitamin D	11	6.4
Vitamin E	3	1.7
Multivitamins	63	36.4
Iron	5	2.9
Omega 3	15	8.7
Omega 6	2	1.2
Whey protein	29	16.8
Amino acids	10	5.8
Creatine	3	1.7
Collegians	3	1.7
Caffeine	2	1.2
Herbs	2	1.2
Hormones	5	2.9
Weight Loss Supplements	5	2.9

Motivation of using supplements

Majority of our participants were using supplements the motivation is Rebuild muscle were constitutes 30.1 % then using supplements the motivation is weight loss were constitutes 27.7% another motivation is to improve public health were constitutes 16.2 % then improve the performance were constitutes 9.2%, Followed by Prevent muscle rupture were constitutes 8.7%.

Are you familiar with the side effects?

Majority of our participants answered with “yes” I am familiar with the side effects were 61.8 % while those who weren't aware and answered with “no” were 38.2%.

Did you suffer side effects of supplements?

Majority of our participants answered no I did not suffer from side effects of supplements were constitutes 78.6 % while those who answered with a yes and have suffered from the side effects of supplements were 21.4 %.

Table 4. The Frequency for (Form of CMOS food user, Motivation of using supplements, Do you know what dose is allowed for supplements? Are you familiar with the side effects and Did you suffer side effects of supplements?) in study group

	N	%
Form of CMOS food user		
energy drink	27	15.6
Biscuits	15	8.7
Powder	67	38.7
Capsules or tablets	50	28.9
Sweet song	10	5.8
Other	4	2.3
Motivation of using supplements		
Rebuild muscle	52	30.1
Prevent muscle rupture	15	8.7
Weight loss	48	27.7
improve the performance	16	9.2
Improve public health	28	16.2
Improve physical appearance	11	6.4
Other	3	1.7
Do you know what dose is allowed for supplements?		
Yes I know the recommended dosage	82	47.4
Yes I know the maximum dose	8	4.6
Know the recommended dosage and maximum dose	30	17.3
I do not know	53	30.6
Are you familiar with the side effects		
Yes	107	61.8
No	66	38.2
Did you suffer side effects of supplements?		
Yes	37	21.4
No	136	78.6

Table 5. The Frequency for The source used to obtain information in study group

The source used to obtain information	N	%
Internet	41	23.7
Magazines and newspapers	6	3.5
Commercial ads	4	2.3
Friends	31	17.9
Trainees with you in the sports center	24	13.9
Sports Trainer	43	24.9
The doctor	13	7.5
Nutritionist	5	2.9
Magazines and scientific papers	2	1.2
Other	4	2.3

The Sport Trainer was the main source to obtain information in study group was 24.9% and 23.7 % of the second source to obtain information were magazines and newspaper, friends were constitute 17.9% followed by trainees in the sports center were 13.9%.

Table 6. The relation between using supplements and gender in study group

Gender		Using supplement		
		Yes	No	Total
Male	N	119	14	133
	%	68.8%	70.0%	68.9%
Female	N	54	6	60
	%	31.2%	30.0%	31.1%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	0.012		
	P-value	0.911		

Show that no significant difference between using supplements and gender in the study while Chi-square 0.012 & p-value 0.911 less than 0.05. Most of male participants answered “no” they do not use supplements (70.0 %) but 68.8 % of male study group answered “yes” we use supplement. While the female answers by both yes and no were equally 30.0%, 31.2%.

Table 7. The relations between using supplement and age in study group

Age		Using supplement		
		Yes	No	Total
Less than 19years	N	3	0	3
	%	1.7%	0.0%	1.6%
from19-25years 3	N	32	3	35
	%	18.5%	15.0%	18.1%
25-30years	N	37	7	44
	%	21.4%	35.0%	22.8%
30-35years	N	51	5	56
	%	29.5%	25.0%	29.0%
35-40years	N	30	5	35
	%	17.3%	25.0%	18.1%
40-45years	N	9	0	9
	%	5.2%	0.0%	4.7%
45-50years	N	9	0	9
	%	5.2%	0.0%	4.7%
55-60years	N	1	0	1
	%	.6%	0.0%	.5%
More than 65years	N	1	0	1
	%	.6%	0.0%	.5%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	7.090		
	P-value	0.527		

Show that no significant difference between age and using supplements in the study while Chi-square 7.090 & p-value 0.527 less than 0.05. Most age of participants use supplements from 30-35years were constitute 29.5 % while not use 25.0%, then the age from 25 – 30 years use supplements were constituting 21.45% but in the same age not use supplement were constitute 35.0% followed by age from 19-25years use supplement were constitute 18.5% but not use supplement 15.5% and age from 35-40 years use supplement were constitute 17.3% and not use supplement were constitute 25.0%.

Show that no significant difference between marital status and using supplements in the study while Chi-

square 1.140 & p-value 0.286 less than 0.05. Most married of participants use supplements were constitute 62.4% while not use supplements were constitute 50.0% then the unmarried participants use supplements were constitute 37.6 % and unmarried not use supplements were constitute 50.0%.

Table 8. The relation between using supplement and marital status in study group

Marital status		Using supplement		
		Yes	No	Total
Married	N	108	10	118
	%	62.4%	50.0%	61.1%
Single	N	65	10	75
	%	37.6%	50.0%	38.9%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	1.140		
	P-value	0.286		

Table 9. The relation between using supplement and level of education in study group

Education		Using supplement		
		Yes	No	Total
Illiterate	N	4	0	4
	%	2.3%	0.0%	2.1%
Primary certificate	N	2	0	2
	%	1.2%	0.0%	1.0%
Middle School certificate	N	2	0	2
	%	1.2%	0.0%	1.0%
Secondary certificate	N	23	5	28
	%	13.3%	25.0%	14.5%
Diploma	N	21	0	21
	%	12.1%	0.0%	10.9%
BA	N	99	6	105
	%	57.2%	30.0%	54.4%
Postgraduate	N	22	9	31
	%	12.7%	45.0%	16.1%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	18.906		
	P-value	0.004*		

Show that significant difference between Education status and using supplements in the study while Chi-square 18.906 & p-value more than 0.05. Most of the BA education status of participants use supplements were constitute 57.2% while those who do not use supplements were constitute 30.0 % then the secondary education of participants who used supplements were constitute 13.3% while the answer of those who do not use supplements were constitute 25.0% and the postgraduate education of participants who use supplements were constitute 12.7% while 45.0% do not use supplements, also diploma education of participants who use supplements were constitute 12.1% while 0.0% do not use supplements.

Show that no significant difference between occupation and using supplements in the study while Chi-square 1.282 & p-value less than 0.05. Most the of participants occupation answered "yes" I am using supplements were constitute 74.0% while those who answered "no" I do not use supplements were constitute 85.0% than those who do not occupation answered yes we use supplements were constitute 26.0% while who answered we do not use supplements were constitute 15.0%.

Table 10. The relation between using supplement and occupation in study group

Occupation		Using supplement		
		Yes	No	Total
Yes	N	128	17	145
	%	74.0%	85.0%	75.1%
No	N	45	3	48
	%	26.0%	15.0%	24.9%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	1.282		
	P-value	0.257		

Table 11. The relation between using supplement and Income in study group

Income		Using supplement		
		Yes	No	Total
Non	N	34	3	37
	%	19.7%	15.0%	19.2%
Less than 3000SR	N	17	2	19
	%	9.8%	10.0%	9.8%
3000-10000SR	N	77	5	82
	%	44.5%	25.0%	42.5%
More than 10000SR	N	45	10	55
	%	26.0%	50.0%	28.5%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	5.103		
	P-value	0.164		

Show that no significant difference between income and using supplements in the study while Chi-square 5.103 & p-value less than 0.05. Most the 3000 -10000 SR income of participants answer yes I use supplements were constitute 44.5 % while answers with no I do not use supplements were constitute 25.0% more than 10000SR income answer yes we use supplements were constitute 26.0% while answer no we do not use supplements were constitute 50.0%. While non-income participants answer yes we use supplements were constitute 19.7 % while non-income participants do not use supplements were constitute 15.0 % but the less than 3000SR income participants answer yes I use supplements were constitute 9.8% while less than 3000 income participants did not use supplements were constitute 10.0.

Table 12. The relation between using supplement and BMI in study group

BMI		Using supplement		
		Yes	No	Total
Underweight	N	3	0	3
	%	1.7%	0.0%	1.6%
Normal	N	53	5	58
	%	30.6%	25.0%	30.1%
Overweight	N	74	7	81
	%	42.8%	35.0%	42.0%
Obese	N	43	8	51
	%	24.9%	40.0%	26.4%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	2.496		
	P-value	0.476		

Table 13. The relation between using supplement and suffering from any problems in study group

Do you suffer from any problems		Using supplement		
		Yes	No	Total
No	N	171	20	191
	%	98.8%	100.0%	99.0%
Yes	N	2	0	2
	%	1.2%	0.0%	1.0%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	0.440		
	P-value	0.507		

Show that no significant difference between suffering from any problems and using supplements in the study while Chi-square 0.440 & p-value less than 0.05. The majority of our participants who answered “no” constitutes 99.0%, while participants answered with “yes” constitute 1.0%.

Table 14. The relation between using supplement and smoking in study group

Smoking		Using supplement		
		Yes	No	Total
Non	N	109	17	126
	%	63.0%	85.0%	65.3%
Yes	N	50	3	53
	%	28.9%	15.0%	27.5%
Quit smoking	N	7	0	7
	%	4.0%	0.0%	3.6%
other	N	7	0	7
	%	4.0%	0.0%	3.6%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	5.773		
	Pvalue	0.123		

Show that no significant difference between supplement and smoking in study group while Chi-square 5.773 & p-value less than 0.05. The majority of our participants were Non-smoker answered by yes we use supplements constitutes 63.0 %. While non-smoker answered by no we do not use supplements were constitutes 85.0% and the

smokers who answered yes we use supplements constitutes 28.9% and the smokers who do not use supplements were constitutes 15.0% while Quit smoking and other answered by yes use supplements constitutes 4.0% and zero do not use supplements.

Table 15. The relation between using supplement and average hours of sleep during the day in study group

Average hours of sleep during the day		Using supplement		
		Yes	No	Total
Less than 7 hours	N	69	8	77
	%	39.9%	40.0%	39.9%
From 7-9 hours	N	100	11	111
	%	57.8%	55.0%	57.5%
More than 9 hours per day	N	4	1	5
	%	2.3%	5.0%	2.6%
Total	N	173	20	193
	%	100.0%	100.0%	100.0%
Chi-square	X ²	0.430		
	P-value	0.807		

Show that no significant difference between supplement and average hours of sleep during the day in study group while Chi-square 0.430 & p-value less than 0.05. The majority of our participants were sleep during the day from 7-9 hours answer by yes we use supplements constitute 57.8 %. While answers who do not use supplements were constitute 55.0%. But those who for less than 7 hours a day answered yes we use supplements constitute 39.9% and who do not use supplements were constitutes 40.0%.

Show that significant difference between Food supplements used and gender in study group While Chi-square 28.349 & p-value more than 0.05. The majority of our male participants were supplement multivitamins, whey protein, omega 3 and vitamin B were constituting (35.3%, 21.0%, 8.4%, 5.9%). But on the other hand we found the different supplements females use majority were supplement multivitamins, vitamin D, B, Omega 3, whey protein and amino acids were constituting (38.9%, 13.0%, 7.4%, 9.3%, 7.4%, 5.6%).

Table 16. The relation between Food supplements used and gender in study group

Food supplements used	Gender				Total	
	Male		Female		N	%
	N	%	N	%		
Vitamin B	7	5.9%	4	7.4%	11	6.4%
Vitamin C	2	1.7%	2	3.7%	4	2.3%
Vitamin D	4	3.4%	7	13.0%	11	6.4%
Vitamin E	2	1.7%	1	1.9%	3	1.7%
Multivitamins	42	35.3%	21	38.9%	63	36.4%
iron	3	2.5%	2	3.7%	5	2.9%
Omega 3	10	8.4%	5	9.3%	15	8.7%
Omega 6	2	1.7%	0	0.0%	2	1.2%
Whey protein	25	21.0%	4	7.4%	29	16.8%
Amino acids	7	5.9%	3	5.6%	10	5.8%
Creatine	3	2.5%	0	0.0%	3	1.7%
Collegians	3	2.5%	0	0.0%	3	1.7%
caffeine	2	1.7%	0	0.0%	2	1.2%
Herbs	0	0.0%	2	3.7%	2	1.2%
Hormones	5	4.2%	0	0.0%	5	2.9%
Weight Loss Supplements	2	1.7%	3	5.6%	5	2.9%
Total	119	100.0%	54	100.0%	173	100.0%
X ²	28.349					
P-value	0.019*					

Table 17. The relation between Food supplements used and Occupation in study group.

Food supplements used	Occupation				Total	
	Yes		No			
	N	%	N	%	N	%
Vitamin B	7	5.5%	4	8.9%	11	6.4%
Vitamin C	4	3.1%	0	0.0%	4	2.3%
Vitamin D	7	5.5%	4	8.9%	11	6.4%
Vitamin E	1	.8%	2	4.4%	3	1.7%
Multivitamins	47	36.7%	16	35.6%	63	36.4%
Iron	3	2.3%	2	4.4%	5	2.9%
Omega 3	9	7.0%	6	13.3%	15	8.7%
Omega 6	2	1.6%	0	0.0%	2	1.2%
Whey protein	23	18.0%	6	13.3%	29	16.8%
Amino acids	9	7.0%	1	2.2%	10	5.8%
Creatine	3	2.3%	0	0.0%	3	1.7%
Collegians	3	2.3%	0	0.0%	3	1.7%
Caffeine	1	.8%	1	2.2%	2	1.2%
Herbs	1	.8%	1	2.2%	2	1.2%
Hormones	5	3.9%	0	0.0%	5	2.9%
Weight Loss Supplements	3	2.3%	2	4.4%	5	2.9%
Total	128	100.0%	45	100.0%	173	100.0%
X ²	18.994					
P-value	0.214					

Show that no significant difference between Food supplements used and Occupation in study group While Chi-square 18.994 & p-value less than 0.05. The majority of our participants were answer yes supplement Multivitamins were constitutes (36.7%) the occupation participant answer not use Multivitamins were constitutes (35.6%) then supplement whey protein the occupation participant answer yes were constitutes (18.0 %) but the occupation not supplement whey protein (13.3%).

Table 18. The relation between Food supplements used and Income in study group

Food supplements used	Income								Total	
	Non		Less than 3000SR		3000-10000SR		More than 10000SR			
	N	%	N	%	N	%	N	%	N	%
Vitamin B	3	8.8%	2	11.8%	4	5.2%	2	4.4%	11	6.4%
Vitamin C	0	0.0%	0	0.0%	4	5.2%	0	0.0%	4	2.3%
Vitamin D	1	2.9%	3	17.6%	4	5.2%	3	6.7%	11	6.4%
Vitamin E	1	2.9%	1	5.9%	0	0.0%	1	2.2%	3	1.7%
Multivitamins	14	41.2%	6	35.3%	26	33.8%	17	37.8%	63	36.4%
Iron	2	5.9%	0	0.0%	1	1.3%	2	4.4%	5	2.9%
Omega 3	5	14.7%	1	5.9%	6	7.8%	3	6.7%	15	8.7%
Omega 6	0	0.0%	0	0.0%	2	2.6%	0	0.0%	2	1.2%
Whey protein	4	11.8%	3	17.6%	13	16.9%	9	20.0%	29	16.8%
Amino acids	1	2.9%	1	5.9%	6	7.8%	2	4.4%	10	5.8%
Creatine	0	0.0%	0	0.0%	3	3.9%	0	0.0%	3	1.7%
Collegians	0	0.0%	0	0.0%	2	2.6%	1	2.2%	3	1.7%
Caffeine	0	0.0%	0	0.0%	1	1.3%	1	2.2%	2	1.2%
Herbs	1	2.9%	0	0.0%	0	0.0%	1	2.2%	2	1.2%
Hormones	0	0.0%	0	0.0%	3	3.9%	2	4.4%	5	2.9%
Weight Loss Supplements	2	5.9%	0	0.0%	2	2.6%	1	2.2%	5	2.9%
Total	34	100.0%	17	100.0%	77	100.0%	45	100.0%	173	100.0%
X ²	42.476									
P-value	0.579									

Show that no significant difference between food supplements used and income in study group While Chi-square 42.476 & p-value less than 0.05. The majority of our participants use supplement Multivitamins the non-income were constitutes (41.2%), then more than 10000SR were constitutes (37.8%) then Less than 3000 SR supplement were constitutes (35.3%) followed by use supplement whey protein the total use 16.8% in deferent income.

4. Discussion

The present study demonstrated the high prevalence of dietary supplement use and its association with socio-demographic and lifestyle factors in Adults in Makkah AlMukarramah at King Saudi Arabia. The association between education level and dietary supplement use has been in study. A significant direct association of level of education and dietary supplement use in the adult population. A significantly higher consumption of vitamins and/or mineral food supplements in females with educational status. Our present study supports the above findings showing a significant direct association between level of education and Food supplements used and gender in study group While Chi-square 28.349 & P 0.019 While p-value more than 0.05.

Studies across completely different populations and sex show a healthier manner related to dietary supplement (men and women) that dietary supplement use. Participants lack correct data and basic information concerning aspect effects, importance of doctor's prescription and reliable supply. These findings can't be generalized thanks to little sample size, that isn't representative of the population in Kingdom of Saudi Arabia. Thanks to the cross-sectional style of this study, the reported associations, significantly with relevance socio-demographic/lifestyle characteristic and health outcomes couldn't establish relation.

5. Conclusion

Lack of awareness of risks suggests that there's a requirement for communication on this issue. We tend to advocate that professionals (physicians and dietitians) be present in sports clubs that sell such products in an uncontrolled method. The prevalence of dietary supplement use was high and was considerably related to socio-demographic and style factors. A considerable proportion of populations take supplements. Any investigation into the social, psychological and economic determinants that encourage the employment of supplements is needed, to confirm applicable use of supplements among adults.

6. Recommendations

Future studies can add perspectives of additional populations who work out. Most consumers lacked knowledge about supplement side effects, and further research should ascertain whether risk communication might affect participants' awareness of risks. This study also indicates that the information about SDS is gleaned particularly from the internet and friends; further studies should research the distribution of information on the internet.

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