

Prevalence of Multivitamins Supplement Use and Associated Factors to Use It among Medical Student at Taif University Saudi Arabia

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Abstract: The prevalence use of multivitamins supplements give us indication the interest the peoples with their health life and precise details in their life that help us in form healthy environment for the public . It use under certain circumstance depend on life styles and another factor like age, gender, socioeconomic state ,physical activity and health state.

We expect that more than 50%of medical student at taif university saudi arabia use multivitamins supplement for give them concentration and give them power for study.

Our objectives are determine the prevalence of multivitamins supplement use among medical student at taif university Saudi Arabia. Determine factor that lead to use it.

Our methods will be a cross-sectional survey was carried out among medical school at taif university, taif, saudi arabia from november to january 2016. The survey included 100 students aged 19-28 years. Simple sampling technique will use to recruit the participants from medical student at taif university. A self-administered questionnaire containing questions on use of vitaminmineral supplement during the last year, demographic, and lifestyle characteristics.

Research methodology: A cross-sectional survey on the use of multi-vitamins supplements was conducted on 100 students attending Taif university between 1st of December until the 1st of January. Taif university is a large sized and a public university. It consists of 12 faculties, located in Taif city which is located in Mecca province of Saudi Arabia and has a population of 500,000.

A quantitative research technique was used, which was approved by the deanship of student's affairs. At the first stage, a stratified sampling technique was used, the faculty of medicine was selected. At the second stage, classes were visited by the research team to clarify the study, the students showed their willingness to participate in the study. Then a schedule for the next visit was given to complete the questionnaire. At the second visit, a self-administered questionnaire was completed by the students in the presence of a member of the research team. (numbers and percentages taken from the questionnaire must be mentioned).

A pre-tested questionnaire consisted of 2 sections. The first section of the questionnaire included general demographic information such as age, gender, family monthly income, as well as information on selected lifestyle characteristics such as smoking status, physical activity, vegetarian status, and body height, and weight. (here we clarify the details about the questionnaire), the second section of the questionnaire included a series of questions on students' use of multi-vitamins supplements during the last year. If the participants reported taking a supplement, they were asked to indicate the number, name, frequency of use, dosage, reason for use, and source of information of the supplement. Each supplement was classified into one of 3 product type classes based on their general nutrient/ingredient composition. the 3 classes were: vitamins, minerals, and vitamin-mineral combinations.

Data entry and statistical analysis were performed using the Statistical Package for Social Science (SPSS) program. Frequency and range checks were performed initially to detect errors in the data entry. Detected errors were corrected by rechecking the original data forms.

Main result: Our findings suggest that 41% of students consume multivitamins supplements and that rate is close to the values found by studies conducted worldwide such as among university students in USA (47-74%), students in South Africa (42%) and in Korea (58%) (1). For healthy individuals, supplements could be a temporary alternative to compensate a lack of nutrients but personal and society efforts should be conducted to provide healthy eat and way of life to promote mental and physical health.

Keywords: Multivitamins Supplements, Taif University.

1. INTRODUCTION

The prevalence use of multivitamins supplements give us indication the interest the peoples with their health life and precise details in their life that help us in form healthy environment for the pubic. It use under certain circumstance depend on life styles and another factor like age , gender, socioeconomic state ,physical activity and health state.

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2. METHODOLOGY

A cross section study was performed at Taif University in Saudi Arabia. The survey included a randomized simple sample of 100 medical students (male (n=50) and female (n=50)), aged 19 and more, studying from 2nd years to 6th years in order to determine prevalence of multivitamin supplements use among medical students at Taif university. Students were excluded from the study because of attending other universities, being 1st year medical students and not being medical students.

Statistical analysis:

Data entry and statistical analysis were performed using the Statistical Package for Social Science (SPSS) program (version 20), for windows. Frequency and range verifications were carried out initially to detect errors in the data entry. Then detected errors were corrected by reverifying the original data forms. Proportions and percentages were used to summarize category variables. We used Chi-square test to examine the relation between socio-demographic factors, lifestyle characteristics, and multi-vitamins supplements use. P-values ≤ 0.05 were considered for statistical significance.

3. RESULTS

Demographics of the studied subjects:

The socio-demographic characteristics are shown in Table 1.

Table 1: General demographic factors

Data	Frequency	Percent (%)
Educational Level		
2nd year	26	26,0
3rd year	16	16,0
4th year	22	22,0
5th year	15	15,0
6th year	21	21,0
Total	100	100,0
Age		
19	7	7,0
20	21	21,0
21	19	19,0
22	21	21,0
23	15	15,0
24	15	15,0
Older than 24	2	2,0
Total	100	100,0
Gender		
Male	50	50,0
Female	50	50,0

	Total	100	100,0
Monthly income (SR)			
	Low (<3000)	6	6,0
	Average (5000-12000)	28	28,0
	High (>13000)	66	66,0
	Total	100	100,0

By looking at table (1), related to the distribution of respondents according to demographic factors:

The survey included 100 students with a balance of men (50%) and women (50%) across a range of ages equal or older than 19 years. The most of participants were in the second year (26%) and the two-third had a high monthly income (66%).

Lifestyle characteristics:

The lifestyle characteristics are shown in Table 2:

Table 2: lifestyle characteristics

Data	Frequency	Percent (%)
Do you smoke?		
No	91	91,0
Yes	9	9,0
Total	100	100,0
Are you vegetarian?		
No	93	93,0
Yes	7	7,0
Total	100	100,0
Do you exercise?		
Lasy (1h / week)	64	64,0
Average activity (3h / week)	29	29,0
Active (>=5h / week)	7	7,0
Total	100	100,0
Length (cm)		
< 155	6	6,0
155-160	25	25,0
161-165	19	19,0
166-170	20	20,0
171-175	18	18,0
176-180	8	8,0
> 180	4	4,0
Total	100	100,0
Weight (kg)		
<40	1	1,0
41-50	18	18,0
51-60	27	27,0
61-70	18	18,0
71-80	19	19,0
81-90	8	8,0
91-100	6	6,0
> 100	3	3,0
Total	100	100,0
Body Masse Index (BMI)		
Underweight	11	11,0
Normal	63	63,0
Overweight	16	16,0
Obese	8	8,0
Several obese	2	2,0
Total	100	100,0

Overall, 9% of the participants reported current smoking and 7% of them were vegetarian. The majority of the studied respondents were physically inactive compared with only 7% of students who were physically active. Most (63%) were of normal weight (Table 2).

Multi-vitamins supplements use:

Of university students surveyed, 41% consumed multi-vitamins supplements during the last year. Among the supplement users, 70,7% reported having used one type of multivitamins, and most commonly, supplements were taken in the order of one pill once a day (85,4%). Students took multivitamins for numerous reasons, in fact almost the three-quarters (73,2%) reported consuming vitamins to compensate for the daily shortage, were supplements helped 24,4% of the users to increase productivity and concentration, and 2,4% of them to overcome a particular disease. Out of the users, Nearly the half (53,7%) were self-prescribers while 31,7% relied on advice of family or friends and only 14,6% consumed on the advice of doctors (Table 3).

Table 3: Multi-vitamins supplements use

Data		Frequency	Percent (%)
Did you use multi-vitamins supplements during the last year?			
	No	59	59,0
	Yes	41	41,0
	Total	100	100,0
Number			
	One type	29	70,7
	Two types	11	26,8
	Three types	1	2,4
	Total	41	100,0
Frequency of use			
	One time	35	85,4
	Two times	5	12,2
	Three times	1	2,4
	Total	41	100,0
Dosage			
	One pill	35	85,4
	Two pills	5	12,2
	Three pills	1	2,4
	Total	41	100,0
Reason for use			
	To compensate for the daily shortage	30	73,2
	Because of a particular disease	1	2,4
	To increase productivity and concentration	10	24,4
	Total	41	100,0
Source of information of the supplement			
	A friend	2	4,9
	Doctor	6	14,6
	Family	11	26,8
	My own decision	22	53,7
	Total	41	100,0

Questions about Multivitamins supplements :

Have you noticed a difference in your physical performance before and after the use of multivitamin supplements?

		Frequency	Percent
Valid	No	16	40,0
	Yes	24	60,0
	Total	40	100,0

The majority of the students (60%) have noticed a difference in their physical performance before and after the use of multivitamin supplements.

Did you read about vitamin supplements, their importance and their sources?

		Frequency	Percent
	No	42	42,0
	Yes	58	58,0
	Total	100	100,0

In what sources of informations have you read?

		Frequency	Percent
	Books	5	8,6
	Scientific magazines	3	5,2
	Websites	37	63,8
	Social media	13	22,4
	Total	58	100,0

Overall, the majority (58%) of the studied respondents reported had read about multi-vitamins supplements, their importance and their sources, and indicated websites (63,8%), social-media (22,4%), books (8,6%) and scientific magazines (5,2%) as their source of informations.

From wich food, do you take your daily needs of vitamins?

		Frequency	Percent
	Vegetables and fruits	54	54,0
	Dairy products	22	22,0
	Meat	24	24,0
	Total	100	100,0

How often do you eat a food that contains vitamins per day?

		Frequency	Percent
	I dont eat	7	7,0
	Once	57	57,0
	Twice	33	33,0
	>=Three times	3	3,0
	Total	100	100,0

Almost half of respondents (54%) believed that vegetables and fruits taking is their source of daily vitamins' needs, while 24% and 22% reported taking their daily needs of vitamins from meat and dairy products respectively. Indeed, 57% of participants stated eating once a day an aliment that contains vitamins compared to the third (33%) of them who reported eating a food source of vitamins twice daily, and the 7% who mentioned not eating at all food rich with vitamins.

Have you advised other people to take multivitamin supplements?

		Frequency	Percent
	No	67	67,0
	Yes	33	33,0
	Total	100	100,0

Why did you advise them?

		Frequency	Percent
	Medical need	4	12,5
	Lack of adequate food intake	16	50,0
	In order to improve performance	12	37,5
	Total	32	100,0

About the two-thirds of participants (67%) reported advising other people to take multivitamin supplements; the most common reason for advising supplements appeared to be the lack of adequate food intake (50%).

Table 4: Prevalence of Multi-vitamins supplements use among students by demographic factors

Characteristic		Multi-vitamins supplements users n (%)	p-value (%)
Overall (n=100)		41 (41%)	-
Educational level			
	2nd year	12 (29,3)	0,172
	3rd year	7 (17,1)	
	4th year	4 (9,8)	
	5th year	7 (17,1)	
	6th year	11 (26,8)	
	Total	41 (100)	
Age			
	19	5 (12,2)	0,764
	20	8 (19,5)	
	21	8 (19,5)	
	22	7 (17,1)	
	23	6 (14 ,6)	
	24	6 (14,6)	
	Older than 24	1 (2,4)	
	Total	41 (100)	
Gender			
	Male	15 (36,6)	0,025
	Female	26 (63,4)	
	Total	41 (100)	
Monthly income (SR)			
	Low (<3000)	4 (9,8)	0,376
	Average (5000-12000)	10 (24,4)	
	High (>13000)	27 (65,9)	
	Total	41 (100)	

Table 4 shows the prevalence of Multi-vitamins supplements use among students by demographic factors. Gender was significantly associated with multi-vitamins supplements use ($p=0,025$); females were more likely to use supplements than males (63,4% vs. 36,6%). Otherwise there were no significant associations of multi-vitamins use with the other studied demographic factors (educational level, age, monthly income). Second year students were more frequent to use supplements (29,3%). Students aged between 20 and 21 years old were more frequent to use multi- vitamins supplements than students with the other age groups. Data analysis showed that there is an increasing pattern in vitamins use with increasing family monthly income, about the two-thirds (65,9%) of students with incomes of 13000 (SR) and more, consumed supplements compared with 24,4% and 9,8% of students with incomes between 5000 (SR) and 12000 (SR), and <3000 (SR) respectively.

Table 5: Prevalence of Multi-vitamins supplements use among students by lifestyle characteristics

Characteristic		Multi-vitamins supplements users n (%)	p-value
Overall (n=100)		41 (41%)	-
Do you smoke?			
	No	38 (92,7)	0,624
	Yes	3 (7,3)	
	Total	41 (100)	
Are you vegetarian?			
	No	37 (90,2)	0,368
	Yes	4 (9,8)	
	Total	41 (100)	
Do you exercise?			
	Lasy (1h / week)	28 (68,3)	0,342
	Average activity (3h / week)	9 (22,0)	
	Active (>=5h / week)	4 (9,8)	

	Total	41 (100)	
Length (cm)			
	< 155	4 (9,8)	0,424
	155-160	14 (34,1)	
	161-165	7 (17,1)	
	166-170	6 (14,6)	
	171-175	6 (14,6)	
	176-180	3 (7,3)	
	> 180	1 (2,4)	
	Total	41 (100)	
Weight (kg)			
	<40	0 (0,0)	0,285
	41-50	6 (14,6)	
	51-60	15 (36,6)	
	61-70	8 (19,5)	
	71-80	8 (19,5)	
	81-90	1 (2,4)	
	91-100	3 (7,3)	
	> 100	0 (0,0)	
	Total	41 (100)	
Body Masse Index (BMI)			
	Underweight	2 (4,9)	0,186
	Normal	31 (75,6)	
	Overweight	5 (12,2)	
	Obese	3 (7,3)	
	Several obese	0 (0,0)	
	Total	41 (100)	

Table 5 shows the prevalence of Multi-vitamins supplements use among students by lifestyle characteristics. Results revealed no significant association of lifestyle factors with supplements use. Non-smokers were more frequent to use multi-vitamins supplements than current smokers (92,7% vs.7,3%). Also non-vegetarian students were more frequent to use supplements than the vegetarian participants (90,2% vs. 9,8%). Physically active students were less frequent to use multi-vitamins than physically inactive students (9,8% vs. 68,3%). Data analysis showed that students with a normal BMI were by far the most frequent users of supplements (75,6%) than the other BMI categories.

4. RECOMMENDATIONS

Multivitamins supplements may offer health benefits to students. However a number of surveys reported that supplements use is not always safe and beneficial, especially since the consumption of vitamins has become a trend to supplement the nutritional intake with dietary supplements, in fact taking certain vitamins or wrongly use or excessively high intakes of supplements may even be harmful¹ than good. Therefore students and people in general who have health problems or conditions (for example pregnant women) should consult their doctor or the health advisor in the university for a correct prescription of the necessary supplements or if they already taking multi-vitamins supplements, to ask him about the possible continuity of the use, the possible interaction with medications they are consuming and the unexpected side effects.

Students should stopping advising others to take supplements that they take or already took because they are not yet ready to do prescriptions.

Students in our study take supplements essentially to make up for poor eating habits or to raise their concentrations and productivity while a few of them consume multivitamins because of particular disease, however, students do not always need supplements as long as they are healthy and eat varied diet which gives them sufficient micronutrients quantities thus supplements use has no additional benefits for health.

For individuals with health problems and/or conditions, deficiencies could be difficult to identify, so if possible performing

¹ Netherlands Nutrition Centre | Recommendations for vitamin, mineral or trace element supplementation.

blood and urine tests could help to establish the diagnosis and distinguish low status from deficiency¹.

There is no doubt that among individuals with truly deficient or low status of vitamins, supplements would really help brain development and functions in relation with memory, concentration and good physical performances, in fact, multi vitamins have not only the known biochemical roles but also many of them have anti-inflammatory, antioxidant and many other effects that could help, in theory, preventing chronic problems like cancer, dementia or heart problems in older age. However, many studies have not proved the cause and effect relationship².

Students should follow healthy and balanced diet, that helps them boosting concentration, memory and focus, reaching full potential for mental and physical capacities, and avoiding excessive weight. Students should avoid processed and sugary foods such as fast food, sodas, canned foods... and instead consuming sufficient amounts of proteins, vegetables, fruits and healthy snacks such as dark chocolate, dried fruits... In fact, healthy and balanced diet remains the best source of nutrients, vitamins and minerals for the body and a multivitamins cannot be a substitute for healthy eating, it gives rather a less nutritional back-up³.

Since no one could maintain a perfect nutrition all the time, multivitamins could be a sort of way of compensation especially among people on special diets such as vegetarians.

Smoking cessation and practicing physical fitness should also be encouraged by parents and the society and promoted by universities, all education institutions and the government for a healthy way of life among young people.

5. CONCLUSION

Limitation of this survey is that it included only a sample from one University in the country and thus our findings may not be representative of the prevalence of supplements use and associated factors among students in other universities in Saudi Arabia.

Our findings suggest that 41% of students consume multivitamins supplements and that rate is close to the values found by studies conducted worldwide such as among university students in USA (47-74%), students in South Africa (42%) and in Korea (58%) (1). For healthy individuals, supplements could be a temporary alternative to compensate a lack of nutrients but personal and society efforts should be conducted to provide healthy eat and way of life to promote mental and physical health.

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² Should you take that Multi, <http://www.berkeleywellness.com/supplements/vitamins/article/should-you-still-take-multi>

³ <http://www.webmd.com/vitamins-and-supplements/nutrition-vitamins-11/choose-multivitamin>

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