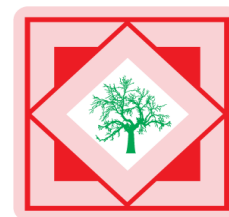




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Awareness of vitamin supplementation among patients visiting out-patient physicians in Security Forces Hospital of Al-Dammam

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ABSTRACT

The objective of this study was to determine the knowledge, attitude and practices of the use of vitamin supplements among patients visiting security forces hospital located at Al-Dammam of the Kingdom of Saudi Arabia. Total 236 patients were interviewed during the period of January 2015 to April 2015. A pre-tested and structured questionnaire was used to collect information. It consisted of questions regarding demographi, awareness of vitamin supplements and its consumption, reasons for usage and its effects. After obtaining written consent, eligible individuals were interviewed. The results revealed that 58.90% of the respondents were not aware of vitamin supplements. The most known vitamin was found to be Vitamin C (57.63%) with Vitamin K being the least well known(2.54%); while 73.97% of the respondents were unaware of the harmful effects of vitamin supplements. The results also showed that 41.10% of the study population had taken vitamin supplements, and 79.24% of the participants considered that vitamin supplements to be helpful. Taking vitamin supplements to improve general health was the most frequently chosen answer(59.75%) as the reason for use of vitamin supplements. On the other hand, a majority of the population was unaware of the indications for use of vitamin supplements. This study highlights a very significant yet ignored issue of vitamin supplementation in Al-Dammam region of the Kingdom of Saudi Arabia. Since awareness about the use of vitamin supplements seems to be deficient in the Al-Dammam region of the Kingdom of Saudi Arabia, a need exists to inform the general population about the use of vitamin supplementation.

Keywords: Vitamin supplements; Practice; Al-Dammam.

INTRODUCTION

Vitamins are essential nutrients for a healthy life. Most of the people get all the vitamins they need from the foods they eat. However, millions of people worldwide also take supplemental vitamins as part of their health regimen [1,2]. Most of these supplements have been used to improve or maintain overall good health [3]. However, as is the case with all dietary supplements, the decision to use supplemental vitamins should not be taken lightly, especially if anybody take fat-soluble vitamins because some side effects are associated with taking too much of a vitamin, for example, Vitamin A or retinol (nausea, vomiting, headache, dizziness, blurred vision, clumsiness, birth defects, liver problems, possible risk of osteoporosis); Vitamin D or calciferol (nausea, vomiting, poor appetite, constipation,

weakness, weight loss, confusion, heart rhythm problems, deposits of calcium and phosphate in soft tissues); Vitamin B3 or Niacin (flushing, redness of the skin, upset stomach); Vitamin B6 or pyridoxine (nerve damage to the limbs, which may cause numbness, trouble walking, and pain); Vitamin C or ascorbic acid (upset stomach, kidney stones, increased iron absorption); and Folic Acid (high levels may, especially in older adults, hide signs of B12 deficiency, a condition that can cause nerve damage). Taking too much of a vitamin can also cause problems with some medical tests or interfere with drug actions [1]. The high prevalence of vitamin supplement use, coupled with the uncontrolled access to such supplements is also a cause for concern [4]. In a country like, Saudi Arabia, this issue may pose a major economic burden on the healthcare system of the country [5-9]. To the best of our knowledge, there is no data available about the knowledge, attitude and practice of vitamin supplementation among people visiting any hospital of the Eastern Region (Al-Dammam) of Saudi Arabia. Therefore, this study was planned to determine the current knowledge, attitudes and practice of vitamin supplementation among people of Eastern Region (Al-Dammam) of Saudi Arabia with the expectations that it might highlight a very important but neglected area of vitamin supplementation in the Al-Dammam area of Saudi Arabia and will also help us to suggest some measures to be taken by the ministry of health to increase the awareness of vitamin supplements in Al-Dammam area of the Saudi Arabia.

MATERIALS AND METHODS

This is a descriptive cross-sectional study conducted at Security Forces Hospital (SFH) in Al-Dammam located in the eastern region of the Kingdom of Saudi Arabia. All participants were approached according to their time and convenience to participate in the study until the final sample size was achieved. However, participants who were below 18 years of age were excluded. Permission to conduct the study was sought from all the concerned places. Written informed consent was obtained from the participants after the study protocol was explained to them. The study participants were assured about the confidentiality and anonymity of the information. After informed consent was obtained; face to face interviews were conducted by Pharm. D. student who was specifically trained for the task by the supervisor. Each interview took about 20-30 minutes. The data was collected from January 2015 to April 2015. A pre-tested and structured questionnaire was used to collect information. The questionnaire was composed of two parts: part 1 included questions on demographics (age, gender, occupation, and education); while the second part of the questionnaire included questions based on awareness of vitamin supplements, its importance, reasons for consuming vitamins and the effects of vitamin supplements (both harmful and desired).

The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 19. Multiple responses were divided into separate sub-variables. The mean and standard deviations (SD) for continuous variables such as age and percentages were reported for categorical demographic variables. Indications for use of vitamins (A, B, C, D and E) among the study participants were calculated and reported separately.

RESULTS AND DISCUSSION

The 236 study participants were Saudis; about 121 were females (51.27%) and 115 were males (48.73%). The mean age of the study population was 32.5 ± 10.88 years. About 53.39% of the study participants were single while the married status was (44.07%). More than $\frac{1}{2}$ of the study participants were graduates and/or post graduates. Based on the occupation of the respondents, approximately 15.25% were housewives and approximately 2.54% were doing business. The demographics of the study population are presented in Table 1.

Most of the participants (66.95 %) were not aware of vitamin supplements, and the most known vitamins were found to be Vitamin D (40.68%) and Vitamin C (57.63%), while Vitamin K was found to be the least known (2.97%). The commonly chosen answer (44.07%) as the main source of information about supplements was found to be media and newspaper that was followed by doctors (28.81%); however, (43.46%+30.51 = 73.97%) of the respondents were unaware of the harmful effects of supplements.

Among the study subjects, 79.24% of the participants considered supplements to be helpful. The Improve general health was the most frequently cited (59.75%) reason for the use of vitamin supplements. The study findings showed that the (41.1%) of the study population had taken vitamin supplements, and 51.69% of the participants took their supplements after being recommended to by a doctor.

Table 1: Demographics of study population (N = 236)

Parameter	N (%)
Sex	
Males	115(48.73%)
Females	121(51.27%)
Mean age in years (standard deviation)	
Marital Status	
Single	126 (53.39%)
Married	104(44.07%)
Widow/Divorced/Separated/Unspecified	6(2.54%)
Educational status	
Illiterate/Can read and write/Unspecified	1(0.42%)
Grade 6-10	8(3.39%)
Grade 11-12 or Diploma	61(25.85)
Graduate (14-16 years)	152(64.41)
Postgraduate (> 16 years)	14(5.93)
Occupational Status	
Housewife	36(15.25)
Student	93(39.41)
Private Service	87(36.86)
Businessman	6(2.54)
Medical Personnel	14(5.93)
Unspecified	0

On the other hand, 42.8% of the sample population was unaware of the number of times they took supplements; while approximately half of the study population (48.73%) took the recommended dose of the supplements. The knowledge, attitudes and practices of the study population about Vitamin Supplements are presented in Table 2.

Overall, there was a lack of knowledge regarding the indications for use of vitamin supplements. Vitamin "A" was most commonly chosen (30.2%) as the vitamin which prevents blindness; while 28.6% of the respondents thought that vitamin "A" should be avoided during pregnancy. For lowering the risk of coronary heart disease, Vitamin "C" was the most frequently selected (29.6%); and 32.6% of the participants selected Vitamin "B" as the vitamin important for healthy skin. On the other hand, Vitamin "A" was the most common vitamin taken for lowering the risk of cancer (64.3%). Vitamin "B" was also commonly taken (31%) to maintain the integrity of the immune system. For prevention of flu/cold, Vitamin "A" was most commonly taken (32.6%); and Vitamin "B" was the most commonly (29.3%) considered vitamin which should be given during pregnancy. Then again, Vitamin "C" was most frequently taken (30.3%) by patients to prevent numbness or tingling. Vitamin "B" was also the most frequent (30.3%) vitamin cited for prevention of birth defects. The indications for use of vitamin supplements among the study population are presented in Table 3.

Almost all of the study participants in the current study were aware of vitamin supplements and more than 33% had taken vitamin supplements. This supports the basis of the study that vitamin supplements use is common. In our study, female participants outweighed the percentage of males; this could be one of the reasons that the study found a high percentage of participants consuming vitamin supplements. It is also thought that females are more concerned about their health than their male counterparts.

Our study showed doctors, friends/relatives and media/newspaper to be the three most common sources of information regarding vitamin supplements. Regarding the frequency of use, 42.80% of the respondents were unaware of the number of times they take vitamin supplements; while more than one-third (48.73%) of the study population took a vitamin supplement once daily. This is a particularly important finding as excessive use or over-dosing of vitamins can lead to adverse effects.

Table 2: Knowledge, attitude and practices of study population about vitamin supplements (N = 236)

Question/Response	N	%
Knowledge		
1. Awareness of vitamin supplements:		
Yes	78	33.05
No	158	66.95
2. Awareness of which of the following vitamin supplements: (multiple response):		
Vitamin A	52	22.03
Vitamin B	25	10.59
Vitamin C	136	57.63
Vitamin D	96	40.68
Vitamin E	6	2.54
Vitamin K	7	2.97
Multivitamins	61	25.85
3. Sources of awareness of vitamin supplements: (multiple response)		
Doctor	68	28.81
Friends or Relatives	57	24.15
Media or Newspaper	104	44.07
Others	48	20.34
4. Awareness of harmful effects of vitamin supplementation:		
Yes	61	25.85
No	103	43.64
Not specified	72	30.51
Attitude		
5. Vitamin supplements helpful:		
Yes	187	79.24
No	5	2.12
Don't know	44	18.64
6. Reasons for use of vitamin supplements: (multiple response)		
To overcome deficiencies	90	38.14
To improve general health	141	59.75
To replenish Energy	40	16.95
Required during pregnancy or lactation	47	19.92
For recovery from disease	35	14.83
To improve skin condition	45	19.07
To prevent hair loss	57	24.15
Others	27	11.44
Practice		
7. Taken vitamin supplements:		
Yes	97	41.1
No	139	58.9
8. Recommendation of vitamin supplements use by:		
Doctor	122	51.69
Friends or Relatives	62	26.27
Others	52	22.03
9. Frequency of vitamin supplements use:		
Once daily	115	48.73
Twice daily	20	8.47
Others	101	42.8
10. Taken the recommended dose of vitamin supplements:		
Yes	119	50.42
No	50	21.19
Not aware of recommended dose	67	28.39

Moreover, more than half (51.69%) of the study population was recommended to use vitamin supplements by a doctor. However, approximately half of the study population declared that they were unaware of the harmful effects of vitamin supplements. Excluding the patients who responded "Don't know" for the above indications, the remaining study population correlated certain vitamins for specific indications; for example: Vitamin "A" prevents blindness, Vitamin "E" is important for healthy skin, Vitamin C improves flu/cold and Vitamin 'B' prevents birth defects and numbness. Although no concrete evidence is provided in the literature suggesting these specific indications, health related articles in newspapers and marketing statements have a significant contribution for these perceptions.

Table 3: Indications for use of vitamin supplements among study population (N=236). (Multiple response questions in %)

Questions	Vitamin A	Vitamin B	Vitamin C	Vitamin D	Vitamin E
Which vitamin(s) prevent blindness?	30.3%	23.3%	27%	11%	8.3%
Which vitamin(s) lower the risk of coronary heart disease?	29%	28.3%	29.6%	7.6%	5.3%
Which vitamin(s) lower the risk of cancer?	64.3%	32%	27.3%	4.6%	6.3%
Which vitamin(s) are important for preventing numbness or tingling?	29%	27.3%	30.3%	5.3%	9.6%
Which vitamin(s) are required for integrity of immune system?	28.6%	31%	27%	6.6%	8.3%
Which vitamin(s) are important for healthy skin?	29%	32.6%	23.6%	6.3%	8.3%
Which vitamin(s) prevent flu/cold?	32.6%	31.6%	20.3%	10.3%	8.3%
Which vitamin(s) prevent birth defects?	29.6%	30.3%	25%	7.3%	7.6%
Which vitamin(s) should be given in pregnancy?	25.6%	29.3%	23.6%	13%	8.6%
Which vitamin(s) should be avoided in pregnancy?	28.6%	28.6%	30%	7.6%	5.3%

Patients interviewed in this study were mostly literate people, hence, the results cannot be generalized to the whole population. Nevertheless, this is the first such study to be conducted in the Northern Border Region of Saudi Arabia and can form the basis for further studies and awareness programs regarding the safe and correct use of vitamin supplements.

This study has several limitations that need to be addressed. Since the study was a descriptive cross sectional study; the association or correlation between variables could not be studied. Secondly, most of the study participants were from Al-Dammam, so their knowledge about vitamin supplementation might be different from the less educated or illiterate population, this may have biased the study results. Thirdly, the harmful effects of vitamins were not specifically raised in the questionnaire. Furthermore, the study was conducted at place of the Eastern Border Region of Saudi Arabia namely, Al-Dammam, therefore, it may not be possible to generalize the results of this study since other populations may have different behaviors.

CONCLUSION

This study highlights a very important but neglected area of vitamin supplementation in the Northern Border Region of Saudi Arabia. Since, awareness about the use of vitamin supplements seems to be deficient in the Northern Border Region of Saudi Arabia; we therefore recommend that this should be addressed either by conducting awareness campaigns or educating the general population through media and health professionals. Most importantly, short training sessions/workshops should be arranged specifically for doctors, to educate them as to which explanation/description should be given to patients seeking or requiring vitamin supplementation. In addition, refresher training programs are essential for the continuous improvement of doctors' knowledge and skills. The results of this study signify that further studies are needed to assess the overuse of multivitamins and the factors related to description of multivitamins by doctors to their patients.

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