



Assessment of Knowledge, Attitude and Practice of Micronutrient supplementation among Patients Admitted in Tertiary care Teaching Hospital, Telangana

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Abstract

Background: The rate of usage of micronutrient supplements has increased tremendously over the past decades.

Aim: The aim of this study was to determine the association of Knowledge, attitude and Practice about micronutrient supplements use among patients admitted in Tertiary care Teaching hospital.

Methods: This was a cross-sectional study, conducted in 2020 at Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, and Telangana. Convenient sampling is used the data extracted by interviewing the patient. Data entered in to the Excel and were analysed by using Graph pad prism version 8.0.

Results: Only 25.87% respondents were aware of vitamin supplements and having a good knowledge level on vitamin supplements. While the majority 74.13% participants had a poor knowledge level and 79.6% of the participants were unfamiliar with the harmful effects of vitamin supplements, Most of the participants use B vitamins (30.84%) and few participants use vitamin K supplements (0.75%); only 25.8% participants believe that vitamin supplements to be helpful and improve the health, most of them(25.37%) chosen answer was taking micronutrient supplements to compensate the deficiencies in the body, majority of the participants were unfamiliar with the indication for use of vitamin supplements.

Conclusion: This study focus on the very important even now the ignored issue of micronutrient supplementation in Telangana. A need exists to inform the general population about use of vitamin supplementation because most of the users had poor knowledge regarding cost, adverse reactions and evidence-based health benefit.

Keywords: Vitamin supplements, vitamin deficiency, knowledge, adverse effects, and health benefits;

INTRODUCTION

Most people all over the world use daily vitamin supplements for treatment or prevention of chronic disease. In spite of the fact that the effectiveness of vitamins and mineral supplements is unclear, the prevalence of the use of these supplements in many developed countries is widened. The percentage of adults using daily vitamin and mineral supplements are increased very rapidly in recent years [1]. In a study of drug usage at secondary care hospitals in Maharashtra, India, a multivitamin medication was found to be used in 16 percent of the prescriptions.

Even so, more than one vitamin supplement provided 2 per cent of the prescriptions. A large-scale U.S. national survey found that the use of vitamin-mineral supplements improved from 23.2% in 1987 to 33.9% in 2000 across all races, both sexes and ethnic groups. The majority of the supplement users are educated women living a healthy lifestyle. These can be taken more frequently than once a day, and more than one form of multivitamin may be consumed at times, demonstrated by another large multi-ethnic cohort. Their quick availability as over the counter (OTC)

agents is one of the main reasons for their increased use. Increasing health consciousness, education and income among the general population are significant factors for their widespread use [2]. OTC drug products are such medications that are available to customers without a prescription.

Excessive associated improper use of medicinal products has been identified as public unhealthy leading to an increased risk of adverse drug effects, drug reactions, and inappropriate drug prescribing and inflation prices [3]. The secret and increasing growth of the dietary supplement polypharmacy adds to patient care a whole new layer of quality and presents a wide public unhealthiness, still widely unrecognized and poorly understood [4]. In a very developing country like India with low indices of attention and limited infrastructure, this problem presents a significant economic burden on the country's attention system.

There are minimal data available on this topic in India to the best of our knowledge; hence this study was conducted to evaluate the current understanding, attitudes, and practice of vitamin supplements among the Indian population.

Method and Materials:

This was a cross-sectional study, conducted in 2020 at Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, and Telangana. The total study period of our research was about 6 months from September 2019 to February 2020. Ethical approval was obtained from the Ethical Committee before the data collection was started. The data collection, data cleaning, data entry, data analysis, and report writing was carried out step by step.

Structured questionnaires were prepared and distributed randomly using convenient sampling to the target population. Participants were required to fill out the consent form before completing the questionnaire. The questionnaire consisted of three sections: Section A: Demographic information. This included the participant's age, gender, ethnicity, and occupation, and marital status, level of education, monthly family income, height, and weight. Section B: Knowledge about micronutrient supplements. In this section, the participants were asked about their opinions regarding the statements and answered using the Likert-type scale. Section C: Practices and attitudes on micronutrient supplements. The items asked in this section were about the lifestyle, frequency of nutritional supplement use, source of information, type of supplement, and reasons taking supplements. The formation of questions for the questionnaire was based on a previous study [5, 6]. After collection of the completed questionnaire, the data were entered in Microsoft Excel and was analysed by using the Graph pad prism version 8.0, and all associations were tested by using the Chi-square test.

Results: 402 patients were participated in the study; about 238 were females (59.2%) and 164 were males (40.7%). The mean age of study population was 41.52 ± 13.33 years. About 9.95% participants were unmarried while the majority was married (90.04%). Based on educational status 25.37% were illiterates and most of the participants were grade 6-12 (56.9%), based on occupational status approximately 30.35% were housewives and approximately 36.6% labours and only 7.96% were students. The demographic details of study population are presented in Table 1.

Parameter	N (%)
Sex	
Males	164(40.7)
Females	238(59.2)
Mean age in years (standard deviation)	41.52±13.33
Marital status	
Un married	40(9.95)

Married	362(90.04)
Educational status	
Illiterates	102(25.37)
Grade 6-10	144(35.82)
Grade 11-12 or Diploma	85(21.14)
Graduates	42(10.45)
Post Graduates	29(7.214)
Occupational status	
Housewives	122(30.35)
Students	32(7.96)
Private employs	41(10.2)
Labours	147(36.6)
Farmers	60(14.92)

Only 25.87% respondents were aware of vitamin supplements and having a good knowledge level on vitamin supplements. While the majority 74.13% participants had a poor knowledge level and 79.6% of the participants were unfamiliar with the harmful effects of vitamin supplements. Most of the participants use B vitamins (30.84%) and few participants use vitamin K supplements (0.75%); only 25.8% participants believe that vitamin supplements to be helpful and improve the health, most of

them(25.37%) chosen answer was taking micronutrient supplements to compensate the deficiencies in the body, majority of the participants were unfamiliar with the indication for use of vitamin supplements. The commonly chosen answer as the main source of information about supplements was found to be doctors; the knowledge, attitude and practice of study population about vitamin supplements are presented in Table2.

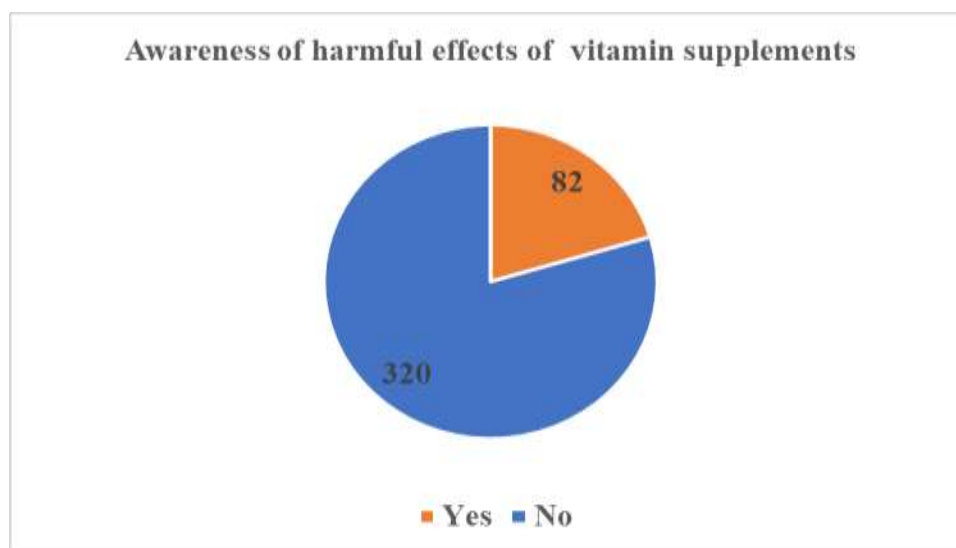
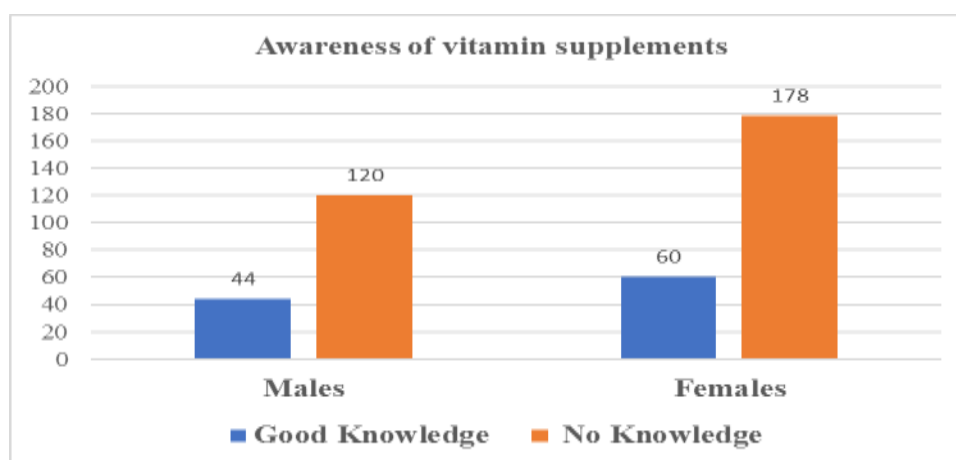
Table2: Knowledge, attitude and Practice of study population about vitamin supplements (n=402)

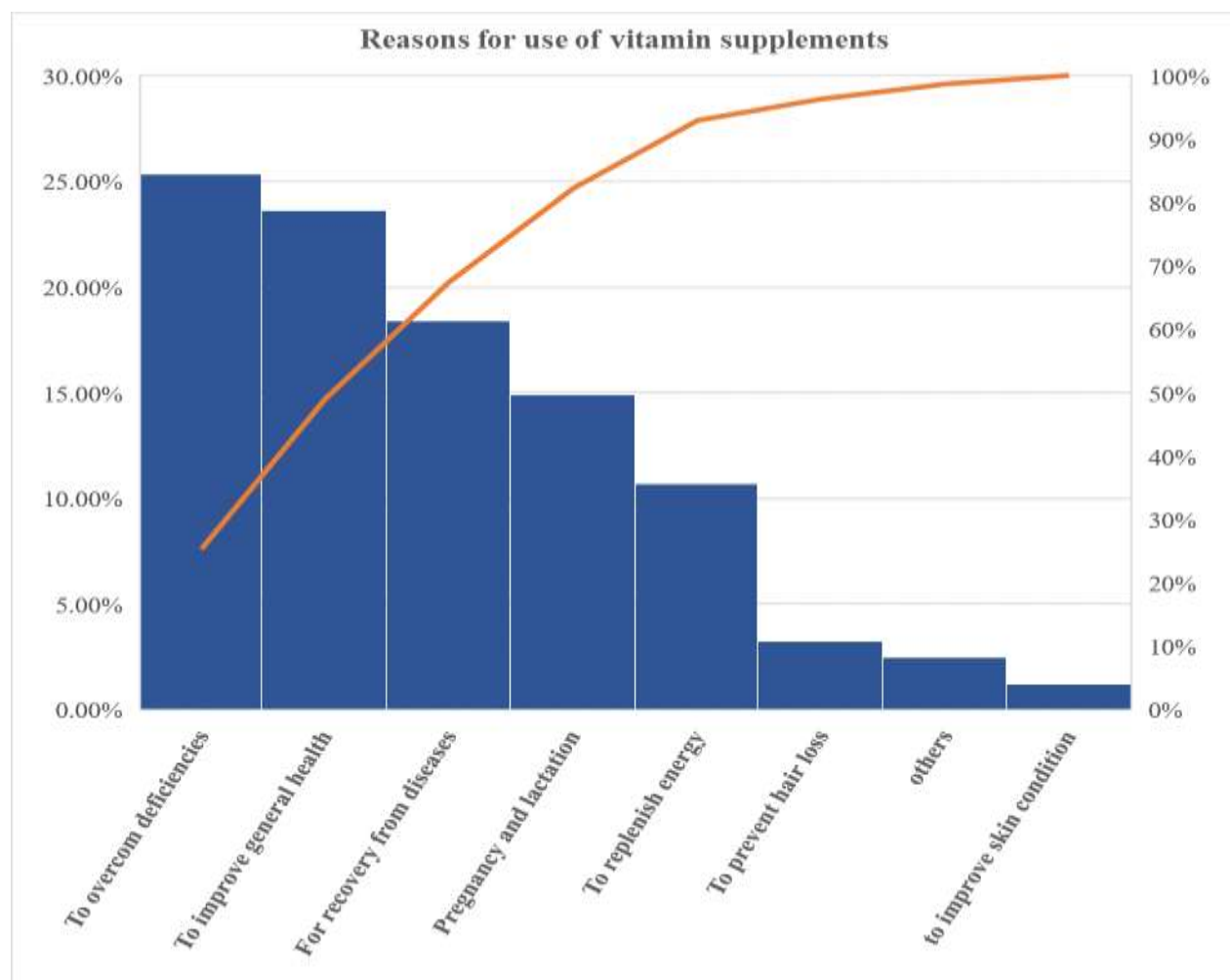
Question	N	%
Knowledge		
1. Awareness of vitamin supplements		
Yes	104	25.87
No	298	74.13
2. Awareness of which of the following micronutrient supplements		
Vitamin A	18	4.47
B vitamins	124	30.84
Vitamin C	71	17.66

Vitamin D	92	22.88
Multivitamins	89	22.14
Vitamin E	5	1.24
Vitamin K	3	0.75
3. Sources of awareness of vitamin supplements		
Doctors	402	100
4. Awareness of harmful effects of micronutrient supplementation		
Yes	82	20.39
No	320	79.6
Attitude		
5. Vitamin supplements helpful		
Yes	104	25.8
No	42	10.45
Don't know	256	63.68
6. Reasons for use of vitamin supplements		
To overcome deficiencies	102	25.37
To improve general health	95	23.63
To replenish energy	43	10.69
Required during pregnancy and lactation	60	14.92
For recovery from diseases	74	18.4
To improve skin conditions	5	1.24
To prevent hair loss	13	3.23
others	10	2.49
Practice		
7. Taken vitamin supplements		
Yes	348	86.6
No	54	13.4
8. Recommendation of micronutrient supplements use by :		
Doctors	402	100
Friends/ relatives	-	-
Others	-	-

9. Frequency of vitamin supplements		
Don't know	158	39.3
Once daily	148	36.8
Twice daily	22	5.47
Others	74	18.4
10. Taken the recommended dose of micronutrient supplements		
Yes	350	87
No	52	13

Overall, there was insufficient knowledge regarding the indications for the use of vitamin supplements with don't know being most commonly selected for all questions. Vitamin E Was most commonly used for coronary artery disease (1.24%), vitamin C most commonly used vitamin cancer patients (7.6%) and surgery patients (10.06%) to boost immunity, B vitamins most regularly used in premenopausal women (15.2%) and in pregnancy(15.6%) to prevent negative birth outcomes, vitamin D is most commonly used in chronic kidney disease(22.8%).





Discussion:

The majority of current study participants possess poor knowledge regarding supplements use is similar to study conducted in Malaysia regarding supplements use is revealed that their main stream study population possess poor knowledge regarding supplements, therefore present study findings were similar to a research conducted in university students in Malaysia

The current findings also can be explained as it has become a popular belief in many countries including India that vitamin supplementation maintains health and energy level. Although, there are growing evidences that such unselective use of micronutrients cause no health benefits over balanced diet, but only increase wastage of money and adverse reactions[7]. Among the current study participants, the majority of supplement users were below 45 years old. This may be due to this study conducted in in-patient ward and including all age groups and all medical conditions the current study findings were totally different from ATM Emadadual Haque et.al. Because the majority of

the study participants were of same age group as the study was conducted among university students and staff

In our study, female participants use more vitamin supplements compared to males. Many studies have indicated that females are more concerned about their health than their male counterparts, as males appear to be the bread-earners in our part of the world, and typically have low health-seeking behaviors [8, 9]. With regard to the frequency of use, 39.3% of respondents were unaware of the number of times they take vitamin supplements; whereas about one-third (36.8%) of the sample population took once daily a vitamin supplement. The findings were close to those recorded in a Mary et al. study where 44.6 percent took one supplement daily [10]. It is an especially important finding because prolonged use or vitamin overdosing can lead to adverse effects.

All participants in the study was recommended to use vitamin supplements by a doctor. It was also seen in a study conducted by Annette et al. in which 72 percent

of doctors used vitamin supplements and when asked whether they "recommend dietary supplements" to their patients, 79 percent of doctors said they did [10]. Nonetheless, 80 percent of the sample population said they were unaware of the vitamin supplements' adverse effects. Although many consumers consider it safe because supplements are "natural," they may still be potentially harmful due to drug interactions, toxicity, contamination and other hazards [11].

Patients interviewed in this study were visiting a tertiary care teaching hospital, where the urban and literate population are mainly seeking healthcare; thus, the findings cannot be generalized to the entire population. However, this is the first such research to be carried out in India and can form the basis for further studies and awareness programs concerning the healthy and appropriate use of vitamin supplements.

LIMITATIONS

This is a cross-sectional analysis with obvious problem of its own. Moreover, the small sample size may not actually represent all of India's population.

Conclusion

This research illustrates a very important but overlooked field of supplementation with vitamins. Since there seems to be a lack of awareness of the use of vitamin supplements in India; most of them do not know that micronutrient supplements can also cause adverse reactions and there is no definite evidence for any health benefit, we therefore recommend that this should either be resolved by advising patients on the use of supplements. Results of this study indicate that further studies are needed to assess multivitamin overuse and the factors associated with the doctors' description of multivitamins to their patients.

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