

# Study on Nutritional Supplements for Females in Dhaka City, Bangladesh

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(Received: January 19, 2020; Accepted: January 28, 2020; Published: January 30, 2020)

## Abstract

Physiological problems due to deficiency of minerals and vitamins level in Bangladeshi female population are on the rise. The primary goal of this study was to find out the intake of nutritional supplements among urban female population. A survey on nutritional supplements was designed for females in some selected area of Dhaka city. One hundred fifty females were recruited, segmented under two sections (non-pregnant / pregnant) and most of them were interviewed face-to-face systematically. 10.7% of the sample was pregnant women and the rest (89.3%) was the non-pregnant category. Participants were asked questions about their prescription drug patterns and intake of nutritional supplements. The study revealed that 53.0% of the female patients were not aware of the value of daily intake of nutritional foods. So, we also found that nutritional supplements were given to the patients continuously (34.48%), occasionally (18.39%) and at first (28.74%). Calcium supplement (36.90%), zinc supplement (14.10 %) and iron supplement (19.90 %) were prescribed most.

**Keywords:** Nutritional supplement, calcium, female, pregnant, prescription.

## Introduction

Dietary supplement is generally a calculated planning to parallel the diet which contains mostly vitamins and minerals, and a lesser extent amino acids, herbs or fish oils. These are viewed as an important source of essential nutrients and providing a solution to daily deficit or help to prevent diseases and improving health condition. A number of factors such as age, gender, educational level, and socio-economic condition, place of residence or accommodation, and ethnicity are involved. Micronutrient-related malnutrition is often termed as 'hidden hunger' because the consequences are not always visible (Mominul *et al.*, 2018).

Now a days mostly vitamins and minerals are used as dietary supplements by half to two-thirds of

American adults (Dickinson and Mackay, 2014). Different surveys show that nutritional supplement users adopt various positive health-related habits like better dietary patterns, exercising regularly and maintaining a healthy body weight (Bailey *et al.*, 2011; Radimer *et al.*, 2004). The situation of micronutrient deficiencies in Bangladesh is increased day by day. Previous study showed that one fourth of the population in Bangladesh at age 15 to <49 years were suffering from chronic energy deficiency or thinness (BMI <18.5) and about 25% of adult were undernourished or thin (BMI <18.5) at aged 46-<60 years in Bangladesh. (Karim and Tasnim, 2015).

The food system in Bangladesh is rapidly changing (Zahirul *et al.*, 2014). Changes are taking place in the patterns of consumption and expenditure

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**DOI:** <https://doi.org/10.3329/bpj.v23i1.45318>

in urban and rural areas in terms of: (i) market purchases versus own production; (ii) the commodity base of diets; (iii) a long term tendency towards a growing role of international trade in food commodities, and hence greater influence of trade policies and international prices on domestic prices and (iv) more processing of food commodities outside the immediate producing or consuming households. (Owens *et al.*, 2014; Ahmed *et al.*, 2000). Women are more likely to suffer from nutritional deficiencies than men are, for reasons including women's reproductive biology, low social status, poverty, and lack of education (Prentice *et al.*, 1996). Socio cultural traditions and disparities in household work patterns can also increase women's chances of being malnourished (Shafique *et al.*, 2007).

The objective of the present study is to find out the nutritional supplement prescribing pattern of female population in some selected areas of Dhaka city. A combination of prescription audit and feedback has been shown to be a successful technique which improves the quality of prescribing. (Suliga, 2015). So, the survey was designed and conducted

systemically to dig up the current scenario and habits of prescriber's about female health and the necessity of precise nutritional supplement.

### Methodology

*Study design:* This was a field survey which was conducted by semi-structured questionnaire. method. In this study, data were collected from 150 female outward patients from different locations (Dhaka Medical College, Women's Medical College and Hospital and Bangladesh Medical college) throughout the Dhaka city. The study was carried out between a period of January 01 to March 31, 2019.

*Participant's information:* Participants (age between 16-70 years old) were recruited from selected hospitals in metropolitan Dhaka city randomly and the participation was on voluntary basis. A questionnaire was developed on the basis nutritional supplement consumption and lifestyle. The questionnaire was self-administered to all the participants, who answered it anonymously.

*Survey form:*

A short survey on Nutritional Supplements of female population in some selected area of Dhaka city.	
Serial No: .....	Date: .....
Location : .....	Patients Name : .....
:	
SL	Questionnaire
Q-1	Are you pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, how many weeks pregnant are you? Ans : ..... Weeks
Q-2	How old are you? Ans : .....
Q-3	What is your occupation? Ans: .....
Q-4	Are you taking any vitamins or supplements at present? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, Then answer the following questions? i. What is the brand name? Brand Name: Name of Manufacturer : Generic name : ii. How many times are you taking them? Ans : .....
Q-5	Have you taken any vitamins or supplements previously? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, for how many days? Comments:.....
Q-6	What is your family income? Ans: .....
Q-7	Do you eat meat, chicken, fish, eggs, green leafy vegetables daily? <input type="checkbox"/> Yes <input type="checkbox"/> No

*Statistical analysis:* The data collected from the survey was tabulated, analyzed and graphically presented using Microsoft Office Excel 2016.

### Results and Discussion

The study was conducted on the urban physician's tendency to prescribe nutritional supplement among female patients of Dhaka city in Bangladesh with a standard structured questionnaire. In the present work, it observed that a great portion of study female population (89.3%) is non-pregnant. In case of occupation, 15.3% patients were student, 64.7% were housewife and 20.0% were working women. The number of pregnant women is 10.7%. It was also revealed that the most prevalent age group of

the participants (44.7%) is 26-40 years, 34% were between 12-25 years, 18.6% were between 41-55 years and 2.7% were above 55 years as shown in table 1.

We also assessed between their prescription (presence of nutritional supplements in 58% prescriptions) and the knowledge or alertness of the participants for daily intake of nutritional food and their frequency. It observed that a major portion of the female patients (53.0%) were not aware of the value of daily intake of nutritional foods. From the sensible (33.00%) group, the daily consumption of nutritional foods (meat, eggs, milk, leafy vegetables, fruits etc.) was highly satisfactory in 26% patients whereas the negligible fraction is 32.0% (Table 2).

**Table 1. Demographic characteristics of study population.**

Question pattern	Response pattern	Frequency (N=150)	Percentage (%)
Age	12-25	51	34.0
	26-40	67	44.7
	41-55	28	18.6
	56-70	4	2.7
Category	Pregnant	16	10.7
	Non-Pregnant	134	89.3
Occupation	Housewife	97	64.7
	Working women	30	20.0
	Student	23	15.3

**Table 2. Perception about daily intake of nutritional foods.**

Question pattern	Response pattern	Frequency (N=150)	Percentage (%)
Knowledge	Conscious	79	53.0
	Unaware	50	33.0
	didn't answer	21	14.0
Daily consumption of nutritional foods (N=50)	Highly satisfactory	13	26.0
	Satisfactory	21	42.0
	Negligible	16	32.0
Nutritional supplements exposure in prescription	Yes	87	58.0
	No	63	42.0

From the prescription coverage, it was found that dietary supplement was always given to 34.48% patients, 18.39 % were given occasionally and 28.74 % were given for the first time. In 87 prescriptions out of 150, doctors usually prescribed calcium

supplement for majority of the patients (36.90%). Zinc supplement was prescribed for 14.10 % patients whereas iron supplement among 19.9 % patients. Different combinations of multivitamins have their percentage of 29.10% patients (Table 3).

**Table 3. Prescription status of nutritional supplement among study population.**

Question pattern	Response pattern	Frequency (N=87)	Percentage (%)
Frequency	Always	30	34.48
	Occasionally	16	18.39
	First time	25	28.74
	Unaware of previous prescription history	16	18.39
Preference	Calcium	33	36.90
	Iron	17	19.90
	Zinc	13	14.10
	Other multivitamins	24	29.10

### Conclusion

The use of nutritional supplements among female populations is popular worldwide. In conclusion, this study expands the existing scenerios regarding prescription pattern of urban female of different age groups. Our study also has some limitations. We took samples from only three medical institutions of Dhaka city and therefore caution should be taken to generalize the data for nationwide female populations. However, it is currently unclear whether physicians perform necessary physiological tests to identify vitamin D/calcium/iron level of the patients and if this influenced them to prescribe a dietary supplement. It is important for us as a society to raise awareness about the health issue of female society. We should study more to find out the root causes behind dietary supplement use,

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