

Consumption of fruits among nutrition students

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Abstract: Even though the enormous health and nutritional benefits that could be derived from the consumption of fruits, studies have shown that most adolescents and adults do not consume fruits as per the recommended daily intake. The present study aimed to know the consumption of fruits among nutrition students. The study participants were the students between 20 to 24 years of age pursued their post-graduation in Nutrition and Dietetics. The information regarding the preference, consumption pattern and daily intake of fruits among the nutrition students were collected using the questionnaire. The questionnaire was framed in Google form and the link was sent to the college students through whatsapp and around 140 students submitted the forms completely. The received responses were analyzed and found that 55% of the participants consumed fruits at least daily once, 26% took weekly twice, and 19% reported that they had fruits monthly once or twice only. Nearly 77% took more than 100gms of fruits per day, nine percent consumed around 100gms, 10% 50 -100gms and only four percent took less than 50gms. Banana (31%) was the at most preferred fruit next to pomegranate (27%). Majority of them (93%) were aware of antioxidant and minerals present in fruits. It was concluded that the consumption of fruits was found to be high among the selected nutrition students but they have to regulate their fruits consumption. Lower prices and availability of fruits improve and encourage those in low-socioeconomic group to eat more fruits.

Keywords: Fruits, Preference, Consumption, Frequency, Nutrition

INTRODUCTION

Fruits are an excellent source of essential vitamins and minerals, and they are high in fiber. Fruits also provide a wide range of health-boosting antioxidants, including flavonoids. Eating a diet high in fruits and vegetables can reduce a person's risk of developing heart disease, cancer, inflammation, and diabetes. But young people are more likely to seek convenient food options, lack food preparation skills, and are more prone to consuming less than the recommended amount of (Fruits and Vegetables) F/V and more fast food and energy-dense takeaway meals (Alkazemi, 2019). Fruit and vegetable consumption varies considerably among and within countries, in large part reflecting the prevailing economic, cultural and agricultural environments, but consumption in many parts of the world remains low. Low intake of fruits and vegetables is frequently observed with low socioeconomic status and is often due to the high cost of fruits and vegetables relative to other foods and/or limited access as well as wide availability of unhealthy options, such as energy-dense foods (Krølner et al., 2011).

Adequate intake of fruits are necessary to maintain sound health and it will protect against the non-communicable diseases. It is estimated that 3-5 servings per day is the optimum intake of fruits (Mahan and Stump, 2008). Report of World Health Organization (2019) states that fruits are important components of a healthy diet. Reduced fruit and vegetable consumption is linked to poor health and increased risk of non-communicable diseases (NCDs). An estimated 3.9 million deaths worldwide were attributable to inadequate fruit and vegetable consumption in 2017. Including fruits and vegetables as part of the daily diet may reduce the risk of some NCDs including cardiovascular diseases and certain types of cancer. More limited evidence suggests that when consumed as part of a healthy diet low in fat, sugars and salt/sodium, fruits and vegetables may also help to prevent weight gain and reduce the risk of obesity, an independent risk-factor for NCDs. Moreover, fruits and vegetables are rich sources of vitamins and minerals, dietary fibre and a host of beneficial non-nutrient substances including plant sterols, flavonoids and other antioxidants and consuming a variety of fruits and vegetables helps to ensure an adequate intake of many of these essential nutrients. (https://www.who.int/elena/titles/fruit_vegetables_ncds/en/)

There was a 14% reduction in total cancer risk (summary RR: 0.86; 95% CI: 0.83, 0.89) when comparing people with an intake of 600 g fruits and vegetables/d with those eating only 40 g/d (Aune et al., 2017). The beneficial effect of some fruits and vegetables on blood cholesterol may be due to their high content of fiber which can bind bile salts in the small intestine and lead to fecal excretion of cholesterol, reduced glycemic response resulting in lower insulin stimulation of hepatic cholesterol synthesis, and fermentation of dietary fiber to SCFAs which may suppress cholesterol synthesis in the liver (Gunnness and Gidley, 2010).

Regular consumption of fruit and vegetables is associated with reduced risks of cancer, cardiovascular disease, stroke, Alzheimer disease, cataracts, and some of the functional declines associated with aging. Prevention is a more effective strategy than is treatment of chronic diseases. Functional foods that contain significant amounts of bioactive components

may provide desirable health benefits beyond basic nutrition (Liu, 2003)

In a recent study done by Alkazemi and Salmean (2021) they reported that male students were found to consume proportionately more fried potatoes of total vegetable intake when compared to females, whereas female students were found to consume more vegetables without fries than males. Taste, inconvenience, and lack of knowledge on F/V intake recommendations and preparation methods were the main barriers to consuming more F/V. College students require encouragement to consume more F/V through targeted campaigns to increase awareness of recommendations, health benefits, and ways to incorporate F/V in their daily diet. The present study was conducted to know the preference, pattern and frequency of consumption of fruits among the nutrition students.

METHODOLOGY

The study took place at Coimbatore and the study participants were the students between 20 to 24 years of age pursued their post-graduation (PG) in nutrition and dietetics. Students who were less than 18 years of age or greater than 24 years of age were excluded. The information regarding the preference, consumption pattern and daily intake of fruits among the PG nutrition students were collected using the questionnaire. The questionnaire was framed in Google form and the link was sent to the college students through whatsapp and around 140 students submitted the forms completely. Incomplete forms were excluded from the study. The received responses were analyzed using Microsoft Excel sheets and the results were expressed in percentage.

RESULTS AND DISCUSSION

1. Background information of the subjects

The participants of the present study were the college students undergoing their post-graduation. Among the subjects, 124 participants were female and 26 were male. It was found that nearly 86% of the selected students prefer fruits in their regular diet and 14% prefer rarely and only one percent not prefer fruits in their diet. It was identified that seasonal fruits were preferred by 95% of the study participants. Only 13% of the selected respondents preferred canned fruits.

2. Frequency of fruits consumption

Table -1

Frequency of fruits consumption

Frequency of fruits consumption	No of subjects (n= 140)	
	No	%
Daily once	77	55
Weekly twice	37	26
Monthly once or twice	26	19
Total	140	100

The frequency of fruits consumption the nutrition students were analyzed and found that among the total responses, 55% consumed fruits at least daily once, 26% took weeklytwice, 19% reported that they had fruits monthly once or twice only.

3. Consumption pattern of fruits

a. Timing of fruits intake

Among the selected nutrition students, 17% (24) consumed fruits with breakfast, 16% (22) with lunch, 53% (74) during evening and 14% (20) consumed fruits at night.

b. Form of fruits consumption

Nearly 88% (123) of the study participants reported that they consumed raw fruits, seven percent (10) as fresh fruit juice, only two percent (3) consumed fruits as milkshake, no one prefer smoothie and three percent (4) were recorded that as they consumed fruits in any forms.

c. Quantity of fruits consumption

Table 2

Quantity of fruits consumption

Quantity (g)	No of responses (n=141)	
	No	%
>100	108	77

100	12	9
50 -100	15	10
<50	5	4
Total	140	100

In a study (Mintah et al., 2012) the major findings were that, students (65%) significantly do not eat the recommended serving of fruits in a day ($P<0.05$), whereas approximately 6% ($P<0.05$) do not eat fruits at all, although their perception on the consumption of fruits was good ($P<0.05$). In the present study among all respondents, 77% took more than 100gms of fruits per day, nine percent consumed around 100gms, 10% 50 -100gms and only four percent took less than 50gms.

4. Most preferred fruits

Table 3

Most preferred fruits

Fruits variety	Preference among the participants (n=140)	
	No	%
Banana	43	31
Apple	34	24
Pomegranate	38	27
Citrus fruits	17	12
Any fruits available	8	6
Total	140	100

From the above table it was clear that 31% study participants most preferred fruit was banana, 24% apple, 27% pomegranate, 12% citrus fruits and six percent go for available fruits.

5. Awareness of antioxidant and minerals present in fruits

Ruka (2005) in her study showed that 85.6% of students were familiar with the concepts of balance between nutrient sin foods, only 7% of them use it in their diet. Yet 51% showed a tendency towards learning healthy diet. As the study participants were postgraduate nutrition students majority of them (93%) were aware of antioxidant and minerals present in fruits. Only seven percent of them reported as they not aware of antioxidant and minerals present in fruits.

CONCLUSION

The consumption of fruits was found to be high among the selected nutrition students and banana was the at most preferred fruit. Though they knew the benefits of fruits, have knowledge on the recommended allowance of fruits still they have to regulate their fruits consumption. We recommend that lower prices and availability of fruits would improve and encourage those in low-socioeconomic group to eat more fruits and we can also go for other improvements in accessibility, such as home, community, college and school gardens.

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