



FRUIT CONSUMPTION PATTERNS, PREFERENCES, AND NUTRITIONAL AWARENESS AMONG COLLEGE STUDENTS: A CROSS-SECTIONAL STUDY

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Abstract

Background

Fruits are important components of a healthy diet and provide essential nutrients that contribute to growth, health maintenance, and disease prevention. However, inadequate fruit consumption among young adults remains a nutritional concern.

Objective

The present study aimed to assess fruit consumption patterns, preferences, and nutritional awareness among college students.

Materials and Methods

A cross-sectional online survey was conducted among 116 college students using a structured questionnaire consisting of 15 questions related to demographic characteristics, fruit consumption habits, preferences, purchasing behavior, and awareness regarding the nutritional benefits of fruits. Data were collected through Google Forms and analyzed using descriptive statistics. Results were expressed as frequencies and percentages.

Results

The majority of participants (96.6%) reported regular fruit consumption, with raw fruits being the most preferred form of intake (56.9%). Moderate fruit consumption was observed among 73.3% of respondents. Citrus fruits were the most preferred fruit (56.9%), and most participants (74.1%) consumed fruits due to both taste and health benefits. Awareness regarding the importance of fruits was high, with 92.2% considering fruit consumption essential for health. Vitamins were identified as the major nutrients present in fruits by 86.2% of respondents.

Conclusion

The study revealed that although fruit consumption and awareness were common among college students, the frequency and quantity of intake were not always adequate. Improved nutritional education and awareness programs may help promote healthier dietary habits and encourage regular fruit consumption among young adults.

Keywords: Fruit consumption, nutritional awareness, dietary habits, college students, cross-sectional study

I. Introduction

Fruits are an essential component of a balanced diet and play a significant role in maintaining overall health. They are rich sources of vitamins, minerals, dietary fiber, and various bioactive compounds that contribute to physiological functions and disease prevention. Regular consumption of fruits has been associated with a reduced risk of chronic conditions such as cardiovascular diseases, type 2 diabetes, and certain types of cancer (Slavin & Lloyd, 2012; Boeing et al., 2012). Because of these benefits, adequate fruit intake is strongly recommended as part of a healthy lifestyle by organizations such as the World Health Organization (WHO, 2003).

Despite well-established health benefits, global consumption of fruits remains below recommended levels. Several studies have reported that a large proportion of the population does not meet the daily intake guidelines for fruits and vegetables (Hall et al., 2009). This inadequate consumption is influenced by factors such as changing dietary habits, urbanization, increased intake of processed foods, and lack of awareness regarding nutritional benefits. The gap between recommended and actual intake continues to be a major public health concern worldwide.

Young adults, particularly college students, represent a group that is highly susceptible to unhealthy dietary patterns. Transitioning to independent living, academic stress, irregular schedules, and easy access to convenience foods often result in poor dietary choices. Although many students may be aware of the importance of consuming fruits, their actual intake is often inconsistent and insufficient (Pem & Jeewon, 2015). This discrepancy between knowledge and practice highlights the need to better understand their consumption behaviour.

In addition to consumption patterns, factors such as personal preferences, accessibility, and perceptions about health benefits play an important role in determining fruit intake. Awareness regarding the role of fruits in digestion, disease prevention, and nutrient supply may influence dietary decisions. However, limited studies have comprehensively examined fruit consumption habits along with preferences and nutritional awareness among college students in a single framework.

Therefore, the present study was undertaken to assess fruit consumption patterns, preferences, and nutritional awareness among college students using a structured online survey.

II. Materials and Methods

2.1 Study Design

A cross-sectional descriptive study was conducted using an online survey method.

2.2 Study Population

The study included a total of 116 participants who willingly participated in the survey. Participants from different age groups and genders were included in the study.

2.3 Questionnaire Design

A structured questionnaire consisting of 15 questions was prepared to assess:

- Demographic characteristics
- Fruit consumption behaviour
- Frequency and form of fruit intake
- Preferences and purchasing behaviour
- Nutritional awareness regarding fruits

The questionnaire included multiple-choice and yes/no questions.

2.4 Data Collection

Data were collected using Google Forms and distributed through online platforms. Participation was voluntary, and informed consent was obtained from all respondents before data collection.

2.5 Statistical Analysis

The collected data were entered into Microsoft Excel and analysed using descriptive statistics.

Frequencies and percentages were calculated and represented using tables and graphical illustrations.

III. Results

3.1 Demographic Characteristics

A total of 116 participants participated in this present study. Among the sample majority of the participants were female (66.4%) compared to male participants (33.6%). The majority of participants belongs to the age group 21-30 (85.3%), where as 13-20 years age category was 14.7%.

The higher participation of female respondents observed in the present study is similar to findings reported in previous online nutrition surveys, where females demonstrated greater interest and participation in dietary and health-related studies (Pem & Jeewon, 2015).

Table 3.1 Demographic Characteristics of Participants (n=116)

S.NO	Variable	Category	Frequency (n)	Percentage (%)
1	Gender	Female	77	66.4
		Male	39	33.6
2	Age	13-20 years	17	14.7
		21-30 years	99	85.3
Total			116	100%

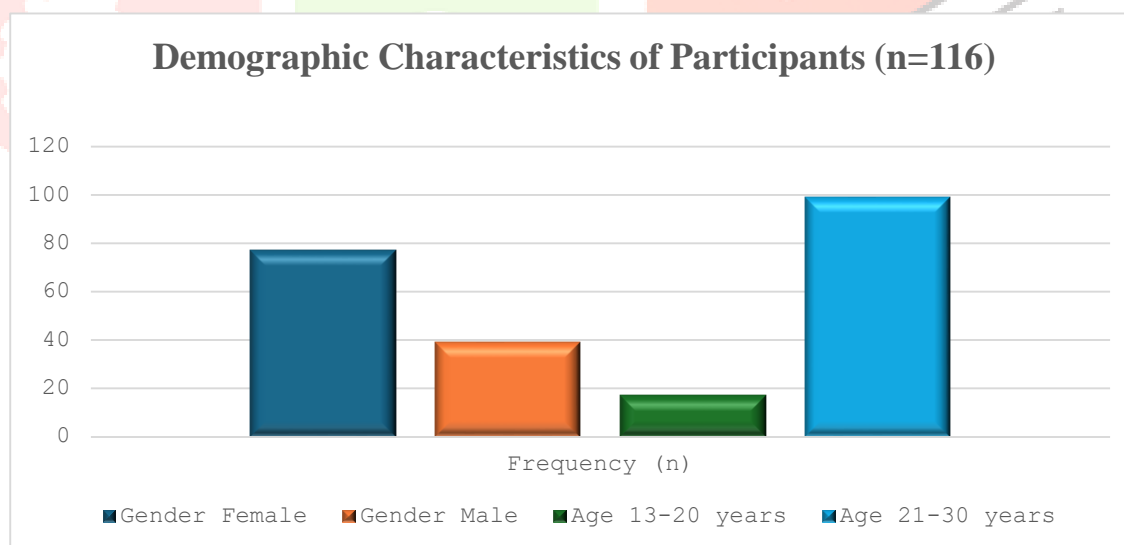


Fig.3.1 Demographic Characteristics of Participants (n=116)

3.2 Fruit Consumption Patterns

The results revealed that majority of participants 96.6% reported consuming fruits regularly, where as only 3.4% indicated that they did not consume fruits regularly. Raw fruits were the most preferred form of consumption (56.9%), followed by juices (24.1%), puree (15.5%), and fruit beverages (3.4%).

The preference for raw fruit consumption observed in the present study may be attributed to convenience, freshness, and preservation of natural nutrients. Similar observations were reported by Slavin and Lloyd (2012), who stated that fresh fruit consumption contributes significantly to dietary fiber and micronutrient intake.

Regarding frequency of intake, 21.6% of participants consumed fruits twice per week, while 20.7% consumed fruits daily. Moderate fruit intake was reported by 73.3% of respondents, whereas only a small proportion reported high fruit consumption.

These findings indicate that although awareness regarding fruit consumption exists, the actual frequency and quantity of intake may still be below recommended dietary levels. Similar patterns were observed by Hall et al. (2009), who reported inadequate fruit and vegetable consumption among young populations globally.

Table 3.2. Fruit Consumption Patterns among Participants

S.NO	Variable	Category	Frequency (n)	Percentage (%)
1	Regular fruit consumption	Yes	112	96.6
		no	4	3.4
2	Form of fruit consumption	Raw fruits	66	56.9
		Pured	18	15.5
		Juices/beverages/smoothies	28	24.1
		Sweets/desserts	4	3.5
3	Frequency of fruit consumption	Daily	24	20.7
		Once in a week	34	29.3
		Twice in a week	25	21.6
		Thrice in a week	33	28.4
4	Quantity of fruits included in diet	High	16	13.8
		Moderate	85	73.3
		Low	10	8.6
		Very low	5	4.3
Total			116	100%

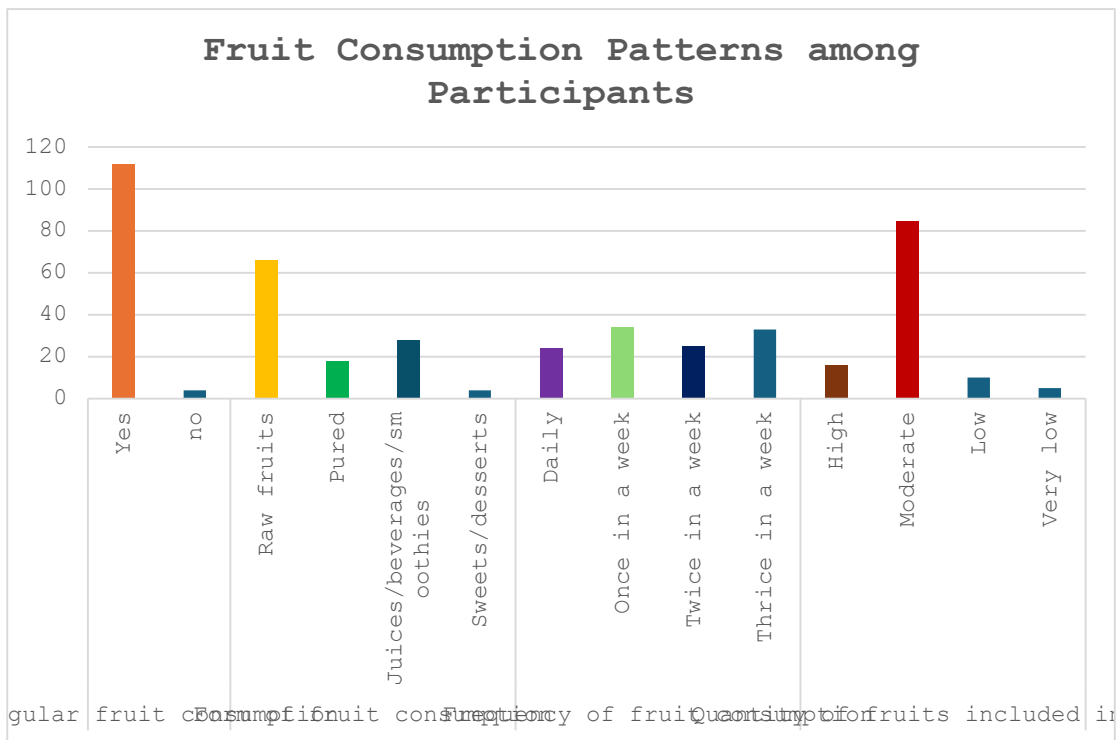


Fig.3.2 Fruit Consumption Patterns among Participants

3.3 Preferences and Purchasing Behaviour

Among the preferred fruit categories, citrus fruits was the most commonly preferred fruit (56.9%), followed by berries (22.4%), pomes (12.1%), and other fruits (8.6%) (Table 3). The majority of participants (74.1%) reported consuming fruits due to both taste and health benefits.

Taste preference and perceived health value appear to play important roles in influencing fruit intake among college students. Similar findings were reported by Boeing et al. (2012), who emphasized that sensory appeal and nutritional awareness significantly affect dietary choices.

Regarding purchasing behavior, 68.1% of respondents reported purchasing fruits from both roadside vendors and packaged sources, indicating easy accessibility and availability of fruits in the study population.

Table 3.3. Preferences and Purchasing Behaviour of Participants

S.NO	Variable	Category	Frequency (n)	Percentage (%)
1	Preferred type of fruits	Berries	26	22.4
		Citrus fruits	66	56.9
		Pomes	14	12.1
		drupes	10	8.6
2	Source of fruit purchase	Road side	29	25
		Packed sources	8	6.9
		Both	79	68.1
3	Primary reason for fruit consumption	Taste	3	2.6
		Health benefits	27	23.3
		Both	86	74.1
Total			116	100%

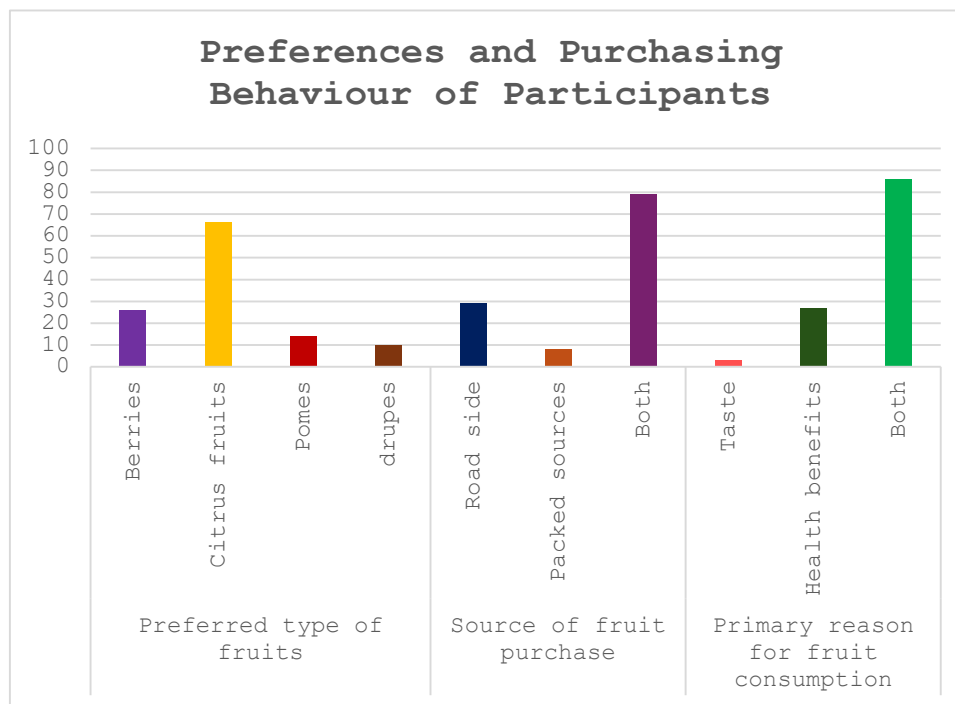


Fig.3.3 Preferences and Purchasing Behaviour of Participants

3.4 Nutritional Awareness

Most participants (92.2%) believed that fruit consumption is essential for maintaining good health (Table 4). Banana was identified by 90.5 % of respondents as beneficial for digestion, while papaya (62.9%) was commonly considered effective in relieving constipation.

In relation to disease prevention, apple (41.4%) and papaya (37.1%) were frequently associated with health improvement and disease prevention. Furthermore, the majority of participants (86.2%) identified vitamins as the major nutrients present in fruits.

The findings suggest that participants possessed moderate awareness regarding the health benefits of fruits. However, awareness regarding dietary fiber and antioxidant content was comparatively lower. Similar observations were reported by Pem and Jeewon (2015), who found that young adults often possess basic nutritional awareness but lack comprehensive knowledge regarding specific nutrient functions.

Overall, the present study highlights that although fruit consumption and awareness are relatively common among college students, improvements in frequency, quantity, and nutritional understanding are still necessary.

Table 3.4. Nutritional Awareness Regarding Fruits among Participants

S.NO	Variable	Category	Frequency (n)	Percentage (%)
1	Belief that fruit consumption is essential for health	Yes	107	92.2
		No	9	7.8
2	Fruit associated with improved digestion	Mango	4	3.4
		Grapes	0	0
		Banana	106	90.5
		Guava	6	5.2
3	Fruits associated with disease prevention	Pine apple	19	16.4
		Papaya	43	37.1
		Apple	48	41.4
		Straw berry	6	5.2
4	Fruit is considered effective in relieving constipation	Citrus fruits	29	25
		Drupes	9	7.8
		Banana	73	62.9
		berries	5	4.3
5	Nutrients predominantly found in fruits	Carbohydrates	7	6
		Protein	9	7.8
		Fat	0	0
		Vitamins and minerals	100	86.2
6	Age group benefiting most from fruit consumption	Children	0	0
		Adults	2	1.7
		Old age	0	0
		All age groups	114	98.3
Total			116	100%

IV. Discussion

The findings of the present study indicate that fruit consumption is common among college students; however, the frequency and quantity of intake may still be insufficient to meet recommended dietary guidelines. Similar findings have been reported in previous studies where young adults exhibited inconsistent fruit consumption patterns despite awareness of health benefits (Pem & Jeewon, 2015).

Raw fruits were the most preferred form of intake among participants, which may reflect convenience and traditional consumption habits. The preference for fruits based on both taste and health benefits suggests that sensory appeal and nutritional awareness jointly influence dietary choices.

The study also revealed moderate awareness regarding the health-promoting properties of fruits. Although most participants recognized fruits as important sources of vitamins, awareness regarding dietary fiber and antioxidant content was relatively limited. This indicates a need for improved nutrition education programs among college students.

The accessibility of fruits through roadside vendors and packaged sources suggests that availability may not be the primary barrier to fruit consumption in this population. Instead, lifestyle factors, dietary habits, and limited nutritional understanding may contribute to suboptimal intake levels.

The present study has certain limitations, including a relatively small sample size and reliance on self-reported responses, which may introduce response bias. In addition, only descriptive statistical analysis was performed. Further studies involving larger populations and advanced statistical methods are recommended.

V. Conclusion

The present study concludes that fruit consumption among college students is common but not always adequate in terms of frequency and quantity. Although participants demonstrated moderate awareness regarding the nutritional and health benefits of fruits, gaps in knowledge still exist. Nutrition education and awareness programs may help encourage healthier dietary behaviors and improve fruit consumption among young adults.

VI. Ethical Statement

Participation in the study was voluntary, and informed consent was obtained from all participants prior to data collection. The survey was conducted anonymously, and confidentiality of participant information was maintained throughout the study. The study involved only a questionnaire-based survey and did not include any invasive procedures.

VII. Funding Statement

The present study did not receive any specific grant from funding agencies in the public, commercial, or non-profit sectors.

VIII. Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of this paper.

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