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AWARENESS AND CONSUMPTION PATTERN OF MILLETS AMONG COLLEGE GOING FEMALE STUDENTS IN BIHAR

Dr. Shingla Prabha[1], **Dr. Kusum Kumari**[2], **Dr. Vidisha Mishra**[3], **Dr. Shweta Priyadarshini**[4], **Dr. Sangeeta Rani**[5], **Dr. Renu Kumari**[6]

[1] Assistant Professor, Department of Home Science, Vaishali Mahila College Hajipur, Constituent Unit of B.R.A. Bihar University, Muzaffarpur (Bihar)

[2] Professor & Head, University Department of Home Science, B.R.A. Bihar University,

[3] Assistant Professor, Department of Home Science, R.B.B.M. College, Constituent Unit of B.R.A. Bihar University, Muzaffarpur (Bihar)

[4] Assistant Professor (Guest), University Department of Home Science, B.R.A. Bihar University, Muzaffarpur (Bihar)

[5,6] Professor, University Department of Home Science, B.R.A. Bihar University, Muzaffarpur (Bihar)

ABSTRACT

This research paper analyses the consumption patterns and awareness of millet among young female college students. Using a mixed-methods approach, the study combines quantitative data from a survey of three hundred students with qualitative insights from focus group discussions. The survey investigates the frequency of millet consumption, the reasons for consumption or avoidance, and the level of awareness of the nutritional benefits of millet. The focus group discussions offer a more profound understanding of the students' attitudes toward millet, which includes their perceived health benefits, cultural influences, and taste preferences. The results indicate that although there is a moderate level of knowledge regarding the nutritional advantages of millet, the actual intake of millet is limited, mostly because of unfamiliarity with how to prepare it and personal taste preferences. The study emphasizes the necessity of targeted educational campaigns and enhanced accessibility to encourage the consumption of millet among young adults. These endeavors have the potential to improve the health outcomes of the student population by increasing dietary diversity.

INTRODUCTION

For thousands of years, millets have been cultivated in Africa and Asia, making them a group of small-seeded grasses with a rich history. Their nutritional benefits, such as their high levels of protein, fiber, vitamins, and minerals, are well-known. Additionally, they are known for their ability to thrive in harsh growing conditions (Saleh et al., 2013).

Recent studies have emphasized the importance of having a varied diet and incorporating traditional grains into modern diets. This is especially important because it can help address

nutritional deficiencies and lower the chances of developing chronic diseases (Ghosh et al., 2020). This trend can be attributed to the rising awareness among individuals about the health benefits associated with millets, as well as the efforts made by governments to promote millet production and consumption. Millets have garnered attention as a desirable dietary component due to their gluten-free nature and high antioxidant content. Nevertheless, there is a lack of comprehensive knowledge regarding the consumption habits of millet among particular demographic groups, such as young female college students, millet consumption has seen a decline, especially among younger populations, who are increasingly favoring more popular grains such as rice and wheat (FAO, 2018).

Young individuals, particularly college students, encounter distinct difficulties in upholding balanced diets as a result of factors such as limited cooking abilities, busy schedules and prevalent less nourishing food choices (Deshpande et al., 2009).

Prior studies have shown that awareness and knowledge have a substantial impact on the dietary decisions made by individuals in this particular group (Croll et al., 2001).Hence, it is imperative to examine the extent of knowledge, patterns of consumption, and obstacles to the consumption of millet among young female students in order to formulate efficacious nutritional interventions.

This study aims to assess the consumption patterns and perceptions of millet among young female college students using a mixed-methods approach that combines quantitative survey data and qualitative insights from focus group discussions. The survey offers a comprehensive assessment of students' knowledge, frequency of consumption, preferences, and obstacles to consuming millet, while the focus group discussions provide more profound understanding of their attitudes, beliefs, and experiences. The main objective of the study was

1. To assess the consumption patterns of millet among young female college students.
2. To evaluate the level of awareness and knowledge about millet and its nutritional benefits among young female college students.
3. To identify the factors influencing millet consumption among young female college students.

RESEARCH METHODOLOGY

A survey was conducted on a sample of 300 college going students in Hajipur and Muzaffarpur district of Bihar. A stratified random sampling technique was used to ensure a representative sample of the student population. A structured questionnaire was developed to gather information. The data were collected regarding their knowledge, frequency, and motivations for consuming millet. Twenty participants were engaged in comprehensive focus group talks to investigate the attitudes, experiences, and obstacles that students face in relation to millet consumption. The survey data were analyzed using descriptive statistics like Frequencies, percentages, means.

The study finds crucial determinants that impact millet consumption, such as demographic traits and health awareness. Suggestions for enhancing millet consumption within this specific group involve focused educational initiatives, enhanced accessibility in on-campus food-establishments, and hands-on cooking sessions. These techniques seek to improve the variety of foods consumed and promote better health outcomes among students.

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RESULT AND DISCUSSION

The demographic profile of survey respondents depicted in table 1 helps explain millet consumption among young female college students. Like most undergraduates, sixty per cent of the respondents are 18–21 years old. Thirty percent are 22–25 years old, likely senior undergraduates and postgraduates, while ten percent are over 25 years.

Sixty-five percent of students are unmarried, which is typical for college students, while thirty-five percent are married, showing older students or those balancing school and home.

Over sixty per cent of respondents live in rural areas, suggesting they are familiar with traditional grains like millets, which are more popular in rural diets. The remaining forty per cent live in cities, where food availability and preferences may influence diet.

In terms of educational level similar to the age distribution, seventy per cent of respondents are undergraduates. The remaining thirty per cent are postgraduate students, demonstrating a diverse educational background.

Table 1: Demographic profile of the Respondents

Particulars	**Category**	**Percentage (N=300)**
Age	18 to 21 yrs	**60**
	22 to 25 yrs	**30**
	Above 25 yrs	**10**
Marital Status	Unmarried	**65**
	Married	**35**
Residence	Rural	**60**
	Urban	**40**
Education	Undergraduate level	**70**
	Postgraduate level	**30**

AWARENESS AND KNOWLEDGE

Awareness and knowledge regarding millets were assessed and presented in table 2 which reveals that sixty percent of students acknowledged the healthiness of millets, demonstrating a commendable level of awareness regarding their nutritional advantages. Millets were recognized by half of the respondents as climate-smart crops, with sixty percent acknowledging their drought-resistant properties. there was forty per cent of the respondents who agree millets are poor man cereals. A majority of respondents acknowledged the health benefits of millets, with fifty five per cent agreeing that they can help prevent diseases such as high blood pressure, and sixty five per cent believing that they can help control blood sugar levels. It was found that only half of the students had knowledge about the benefits of millets during pregnancy and in fighting anaemia. A majority of respondents agreed that millets have positive effects on the growth and development of children, while a significant number also recognized their benefits for healthy hair and skin.

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Only forty percent of the participants were aware of the potential allergies that millets can cause, whereas a majority of sixty-five percent acknowledged that millets have higher levels of vitamins, minerals, and protein in comparison to wheat and rice. Government efforts to promote millet production and consumption were acknowledged by half of the respondents. The findings suggest that there is a considerable level of awareness regarding the health advantages of millets. However, there are still areas where knowledge about their socio-economic perceptions and specific health benefits is lacking. It is evident that there is a pressing need for educational campaigns to bridge these gaps and foster a more holistic comprehension of millets.

Table 2: Awareness on Nutritional Benefits of Millet

Statement	Agree	Disagree	Can't Say	Rank
Millets are healthy	60	20	20	**II**
Millets are referred as climate smart crop	50	20	30	**V**
Millets are drought-resistant crop	60	15	25	**II**
Millets are "poor man cereals."	40	30	30	**V**
Millets prevent from disease like High blood pressure	55	15	30	**III**
It can help in controlling sugar level in blood	65	10	25	**I**
It is beneficial during pregnancy	50	20	30	**IV**
It is good for growth and development of child	60	15	25	**II**
It can help in anaemia	50	20	30	**IV**
Good for hair and skin	55	20	25	**III**
It can cause allergy in some person	40	30	30	**V**
Millets are high in vitamins, minerals, and protein compared to wheat and rice	65	10	25	**I**
Government promotes production and consumption of Millets	50	20	30	**IV**

MILLET CONSUMPTION PATTERNS

The survey revealed varied consumption patterns among young female college students. Regarding frequency of millet consumption, the survey data reveals only five per cent of students consume millet daily, while fifteen per cent include it in their diets once or twice a week. About twenty per cent eat millet once or twice a month. A significant thirty per cent consume millet only once or twice a year, and another thirty per cent never consume it at all. These patterns indicate a generally low and infrequent consumption of millet, highlighting the need for increased awareness and accessibility.

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Table 3: Frequency of Millet Consumption

Particulars	Category	Percentage (N=300)
How frequently do you eat millets	Daily	**05**
	Once or twice a week	**15**
	Once or twice a month	**20**
	Once or twice a year	**30**
	Never	**30**

Table 4 shows the data pertaining to types and forms of millet consumption. The finding reveals that young female college students have shown varied preferences for different types of millet in terms of consuming it. Pearl millet is widely consumed, with a significant portion of students incorporating it into their diets. Twenty-five percent of students consume sorghum and finger millet, while fifteen percent prefer foxtail millet. Both proso millet and barnyard millet have a consumption rate of ten percent. Twenty percent of people consume kodo millet, while twenty-five percent consume little millet. This variety suggests an awareness of multiple millet types, though their overall consumption frequency remains low.

Table 4: Types and Forms of Millet Consumption

Particulars	Category	Percentage (N=300)
Types of Millet Consumed	Pearl millet	**30**
	Sorghum	**25**
	Finger millet	**25**
	Foxtail millet	**15**
	Proso millet	**10**
	Barnyard millet	**10**
	Kodo Millet	**20**
	Little Millet	**25**
Forms of Millet Consumption	As a porridge	**30**
	Roti/Rice	**30**
	Dosa/Idli/Pancake	**20**
	Baked dishes	**10**
	Sweet dishes	**20**
	Drink form	**10**
	Ready to cook products	**15**
	Ready to eat products	**10**

Regarding the forms of consuming various types of millet the survey results shows thirty percent of students eat millet as a porridge, while another thirty percent use it in roti or rice preparations. Twenty percent consume millet in dosa, idli, or pancake form. Millet is used in baked dishes by ten percent of students and in sweet dishes by twenty percent. Ten percent consume millet in drink form, fifteen percent use ready-to-cook products, and other ten percent

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opt for ready-to-eat products. These consumption patterns reflect a range of preferences for incorporating millet into different types of meals.

Table 5: Factors Influencing Millet Consumption

Particulars	Category	Percentage
Factors influencing dietary intake of millets	Doctors/Dietician recommendation	**20**
	Healthy lifestyle	**15**
	Nutritional benefits	**30**
	Cultural reasons	**15**
	Easily/Locally available	**15**
	Others	**05**

Table 5 shows that the dietary intake of millets among young female college students is influenced by a multitude of factors. The key factors that influence dietary choices include recommendations from doctors and dieticians with twenty per cent of students reporting that recommendations from healthcare professionals influence their millet consumption. These recommendations are often based on millet's nutritional profile, which includes high fiber content, essential minerals, and its gluten-free nature. A commitment to maintaining a healthy lifestyle motivates fifteen per cent of students to incorporate millet into their diets. These health-conscious individuals make dietary choices that support their well-being, and millet's reputation as a nutrient-rich grain aligns well with their goals. Students who are informed about these benefits are more likely to include millet in their meals regularly. Cultural and traditional practices also influence the millet consumption with fifteen per cent of students consume it during the rituals like Jeevit-Putrika festival. Other fifteen percent of the students reported that millets are easily available to their family which influence them to consume it.

Table 6: Factors Influencing Millet Consumption

Particulars	Category	Percentage
Reasons for Not Consuming Millet Frequently	Unfamiliar with how to prepare it	**20**
	Do not like the taste	**20**
	Not easily available	**20**
	Lack of awareness about its benefits	**25**
	Costly	**10**
	Digestive/Allergy Issue	**05**

Understanding the barriers to millet consumption is crucial for developing strategies to promote its intake among young female college students. The data reveals that millet consumption among young female college students is hindered by several factors. About twenty percent students lack familiarity with the process of preparing millet dishes. Their limited understanding of culinary practices causes them to be reluctant in incorporating millet into their dietary choices. The complexity or time required for millet preparation may be perceived as

higher when compared to more commonly consumed grains such as rice or pasta. The taste preference of individuals plays a significant role in influencing their food choices. About twenty per cent of the respondents expressed a dislike for the taste of millet. Accessibility is another barrier, with twenty per cent of students stating that millet is not easily available. This could be due to limited availability in local grocery stores, or a lack of visibility in food marketing and placement. The absence of sufficient knowledge among students results in a limited motivation to actively pursue and engage with millet consumption. A significant portion of students (25%) reported that they are not aware of these benefits. About ten per cent of the respondents identified cost as a barrier. A small percentage of students (5%) reported digestive issues or allergies related to millet consumption. This includes gastrointestinal discomfort or allergic reactions, which can deter them from including millet in their diets.

The present study supports the prior findings of Amal George et al. (2021) identified three key factors that influence millet consumption: perceived value, essential nutrients, and a healthy lifestyle. They also discovered that a lack of awareness was the primary reason for non-consumption. Alekhya and Shravanthi (2019) reported that there was no correlation between income and consumption of millet-based products. However, they found that the number of purchases varied based on the price of the product. The consumption of millet-based food products is primarily influenced by the health benefits they offer. According to the majority of respondents in the sample, flavor is considered a significant attribute for consumer acceptance of millet-based food products.

CONCLUSION AND RECOMMENDATION

The combination of survey data and qualitative insights from focus group discussions provides a comprehensive understanding of millet consumption among young female college students. Millet consumption among the surveyed students is relatively low. The most common forms of millet consumption are porridge, baked goods and as a rice substitute. The preference for specific types of millet, such as pearl millet and finger millet, indicates potential areas for focused promotional efforts. The findings highlight the need for targeted educational campaigns, practical cooking advice, and improved availability to overcome barriers and promote healthier eating habits. By addressing these factors, it is possible to enhance dietary diversity and contribute to better health outcomes for this demographic.

These findings reveal several areas where intervention can be targeted:

- **Educational Initiatives:** Enhancing students' knowledge of millet preparation methods through cooking classes, workshops, or online tutorials can help reduce the unfamiliarity barrier. Providing simple, quick, and tasty millet recipes can make millet more approachable.
- **Taste Improvement:** To address taste preferences, culinary demonstrations can show how millet can be incorporated into popular and familiar dishes. Taste tests and sampling events could also help students discover enjoyable ways to consume millet.
- **Increasing Availability:** Partnering with campus dining services to include millet-based

dishes in menus can improve accessibility. Additionally, working with local grocery stores to stock more millet products can help ensure that students have easier access to millet.

- **Promoting Health Benefits:** Campaigns highlighting the nutritional benefits of millet, such as being gluten-free and high in fiber and antioxidants, can raise awareness and encourage students to try millet. This can be done through posters, social media, and informational sessions.
- **Cost Considerations:** Offering millet at competitive prices in campus stores and exploring bulk purchasing options can make millet more affordable for students.
- **Addressing Digestive/Allergy Issues:** Providing information on how to prepare millet to minimize digestive discomfort and highlighting alternative grains for those with allergies can help address these specific concerns.

By tackling these barriers, the strategies proposed can effectively promote millet consumption among young female college students, leading to more diverse and nutritious dietary patterns.

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