

Awareness and Consumption of Millets-Related Food among College Girls: A Survey Study

Amritasen Yadav¹, Poonam², Prof. Kalpna Gupta³, Prof. Archana Singh⁴

^{1,2}Research Scholar, Department of Home Science, MMV, BHU-Varanasi-221005

³Department of Home Science, MMV, BHU-Varanasi- 221005

⁴Physical Education, MMV, BHU-Varanasi-221005

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ABSTRACT

Millets are a group of small-seeded grasses. Millets are nutritious and are also known as a superfood or smart food, which is mainly grown in arid and semi-arid environments. This study focuses on assessing the millets awareness and consumption of millets-related food among college girls. The study was conducted with a sample of 62 girls from Mahila Mahavidyalaya, BHU, Varanasi were selected using simple Purposive Random Sampling Method. Information related to awareness of millets and their consumption was collected from college girl students through self-constructed questionnaire. For analysis of data Percentage was utilised. Study concluded that 59.61% of the college girls said that the elders in their house used to consume millets in the form of roti. 93.54% college girls were aware of the use of millets whereas 6.45% girls were not aware about the use of millets. 80.64% college girls were consuming millets in their diet whereas 19.35% girls were not using millets in their diet. 82.25% girls were aware that millets are available in the market in different forms whereas 17.74% college girls were not aware that millets are available in the market or not. Maximum 46.77% girls were aware about the roti dish made by millets, 33.87% girls were aware about Khichadi and percentage were low 11.29% and 8.06% for Halwa respectively. Therefore, there is a need to make college girls aware about millets. The present study recommends that awareness can be developed through schools, colleges, and social media and by organizing workshops on various types of millets for their better health.

Keywords: Millets, Awareness, Consumption Pattern, Health benefits, Nutrition Education

INTRODUCTION

Millets are a group of small-seeded cereals that have been an important part of traditional diets throughout the world since ancient times, especially in Asia and Africa. Millets are divided into two groups based on their size, i.e., major millets and minor millets. Major millets include jowar, bajra, and ragi, and Minor millets include kodo, barnyard, kutki, kangni, little millet, etc. Millets are beneficial for the environment. Water is required less for its cultivation, and pesticides are used almost negligibly; and it is ready in two to three months. Millets can be grown even in infertile land and also where water availability is less. Millets are rich in nutrients such as protein, dietary fibre, vitamins, and minerals, that's why it is an important component of a balanced diet. In earlier times, these grains were used to make various dishes and drinks substance in multiple areas, constituting a significant component of the local cuisine. However, because of government initiatives to encourage the growth and consumption of refined grains like rice and wheat, their share of the Indian food supply has been decreasing over time (Kane-Potaka and Kumar, 2019). The nutritional value, environmental sustainability, and health benefits of millets and millet-based dishes have sparked growing interest in their consumption in recent years. Incorporating millets in regular diet can help to combat malnutrition, manage diseases such as diabetes and cancer, and improve digestive health (Behera, 2017). Consumption of millet has been prevalent for many centuries, but its nutritional and medicinal properties have been confirmed by recent studies, biochemical research, and medical studies. Being an excellent source of important minerals like calcium, iron salts, phosphorus, potassium, magnesium, and zinc, it is helpful in maintaining a healthy lifestyle

in humans. Almost all millets are rich in vitamin B3, vitamin B6, and vitamin B. Protein is found in bajra, calcium in ragi, and folic acid in barnyard millet. Millets are gluten-free and hence beneficial for people suffering from Cardiac disease. It contains better antioxidants than other cereals. Millets have a low glycaemic index. Therefore, patients suffering from diabetes are medically advised to include foods made from it in their diet. The dietary fibre present in it is also helpful in reducing the level of sugar in the blood and reducing the level of cholesterol. It keeps the digestive system healthy and also helps in controlling obesity and reduces the risk of heart disease. It is also helpful in preventing certain types of Cancer. It is advisable to consume millets mixed together as multigrain. After the Green Revolution, wheat and rice became popular, and the popularity of millets decreased because the production of wheat and rice was greater than that of millets. However, recently, millets have once again become popular among the people, and their importance has increased for several reasons. First, due to health concerns, millets have gained attention for their rich nutritional content. The rich nutrition found in millets, along with their gluten-free status and low glycaemic index, has made them a suitable option for people with specific dietary needs, such as those suffering from diabetes, heart disease, and celiac disease. Millets have a rich cultural history in many places and communities. Now it is being promoted among the people through food production and consumption, and the Government of India is making people aware of the benefits of the production and consumption of millets from city to village.

The year 2023 was declared the International Year of Millets by the United Nations General Assembly. The objective was to increase the production and consumption of millets. Millets are grown in about 131 countries and are the traditional food of about 60 crore people in Asia and Africa. The Prime Minister of India has now addressed Millets as 'Shri Anna'. The nutrients found in Shree Anna are high amounts of fibre, protein, vitamins, minerals, and salts.

When it comes to nutritional factors, millets are far more effective to rice and wheat. They rank higher in terms of mineral content, have more fibre than rice and wheat, and some of them have more than fifty times the fibre of rice. Finger millet has thirty times more calcium than of rice, while all other millets have at least twice the calcium. Foxtail and little millet are also higher in nutritional content than rice in terms of iron. Recently, the Government of India has given more attention to the cultivation and use of millets due to their benefits and financial advantages. Millets have played a vital role as a significant contributor to the nutritional security of every household due to their nutritional benefits. The present study aimed to understand the consumption habits, knowledge, attitude and practices of college girls regarding millets. The transformation of millets from ancient grains to contemporary superfoods gives today's young generation the time to positively impact their health, environment and society. They embark on an important journey towards holistic well-being, sustainability and cultural appreciation by adopting millets in their daily routine and build a better and healthier future for their future generations. These days consumption of millets are very low in peoples of different society because of less availability and less awareness regarding their health benefits. So, there is need to know the awareness and consumption pattern of people.

Objective of the Study

The purpose of this study was to know the level of awareness and consumption of millets related food in college girls.

REVIEW OF RELATED LITERATURE

Trivedi et al. (2024) examined the millet consumption habits and the behaviour of adolescents, as well as their knowledge of its health advantages in the Andhra Pradesh district of Prakasam. Of the 120 youths who took part in the study, 78 were female and 42 were male. Google Forms was used to gather primary data on consumer awareness and consumption trends. Ragi, or finger millet, is the most popular millet among young people according to the study's findings, which also show that almost all (91%) of respondents eat millet because they are offered at home. Furthermore, the majority of respondents (64%) said they preferred eating millets in breakfast.

Prashanthi et al. (2022) surveyed the millet consumption and awareness in the urban as well as rural areas of Mahabub Nagar and Medak districts in Telangana state, A cross-sectional approach was selected and

questionnaires were used. For the study, 160 eighth and ninth graders from both urban ($n = 160$) and rural ($n=160$) districts were enlisted. The Chi-square test was employed to determine the relationship between variables that are categorical. It was discovered that 43.75% of the respondents claimed to be ignorant of millets, and 56.25% said they were aware of them.

Kumar et al. (2023) examined the consumption trends and determinants of millet product consumption among college students in Andhra Pradesh's YSR (Kadapa) area. The majority of respondents (94.17 percent) knew of millet-based goods, according to the survey, and 80.83 percent of them learned about them via friends and relatives. Ragi millet-based items were the most popular millet-based goods.

Pathak et al. (2023) examined the consumption habits and consumer knowledge of millet and millet-based products in Raipur, Chhattisgarh. Of the 150 respondents, only 31% ($n = 46$) said they regularly ate millets (one or more times per week). The consumption patterns of millet and millet-based goods were also shown to be significantly correlated with consumer awareness ($p < 0.001$). Of those surveyed, 57% are relatively familiar with millets, 23% are extremely familiar, and 20% are less familiar.

Chande et al. (2021) examined a cross-section of randomly chosen homes in Tanzania's Kongwa district, which is part of the Dodoma area. A total of 128 women between the ages of 20 and 49 who were of reproductive age were chosen at random to participate in the research. The study concluded that there was a significant difference in intention and practice.

METHODOLOGY

The study was conducted with a sample of 62 girls from Mahila Mahavidyalaya, Banaras Hindu University, Varanasi in the month of August 2023. Total 49 Undergraduate and 13 Post Graduate girls were selected using Purposive Simple Random Sampling Method. Being a central government institution, MMV girls belongs originally from different states of India like, UP, MP, West Bengal, Bihar, Jharkhand, Uttarakhand and Rajasthan. A self-developed questionnaire consisted of two sections, the first being on demographic details of the participants such as Age, Education, Type of Family and Income of the family and the second section consist of questions on awareness regarding Consumption of millets, Millet's availability in the Market and Different Dishes made from the millets. For data analysis, percentages were calculated and graphical representation was made with the help of Microsoft Excell 2021 software.

RESULTS AND DISCUSSION

Table No. 1. Different Age Group of the College Girls.

Age (Years)	No. of College Girls (N: 62)	%Percentage
17-19	36	58.06
20-22	20	32.25
23-25	6	9.67

Table No. 1 shows that the majority of the girls were in the age group of 17-19 years (58.06%), and very few were in the age group of 23-25 years (9.67%). 32.25% of girls were in the age category of 20-22 years.

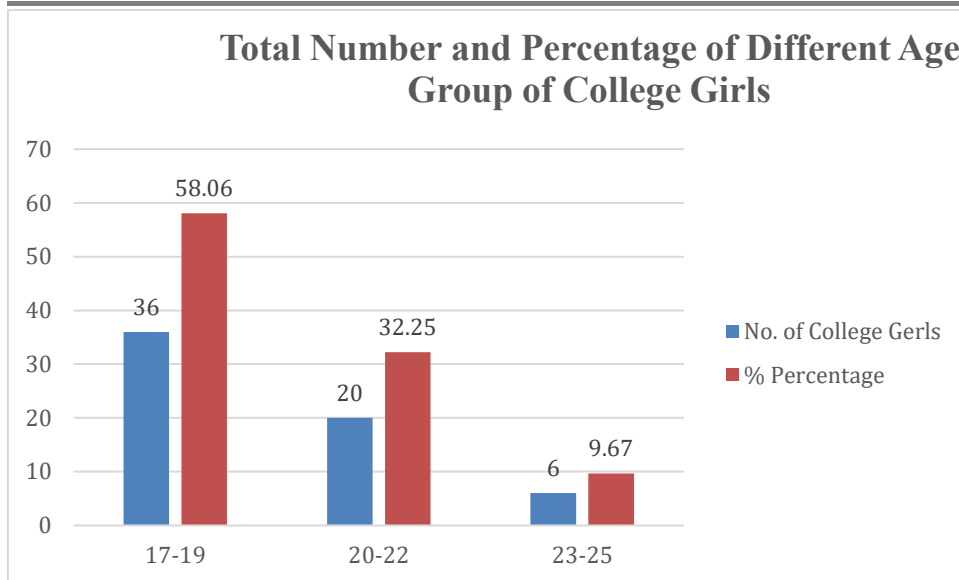


Table No 2 Educational Level of the College Girls

Education	No. of College Girls (N: 62)	%Percentage
U.G.	49	79.03
P.G.	13	20.96

Table 2 shows that 79.03% of the girls were graduates, and 20.96% of the girls were post-graduates. Table also shows that the percentage of U.G girls is higher compared to P.G. girls.

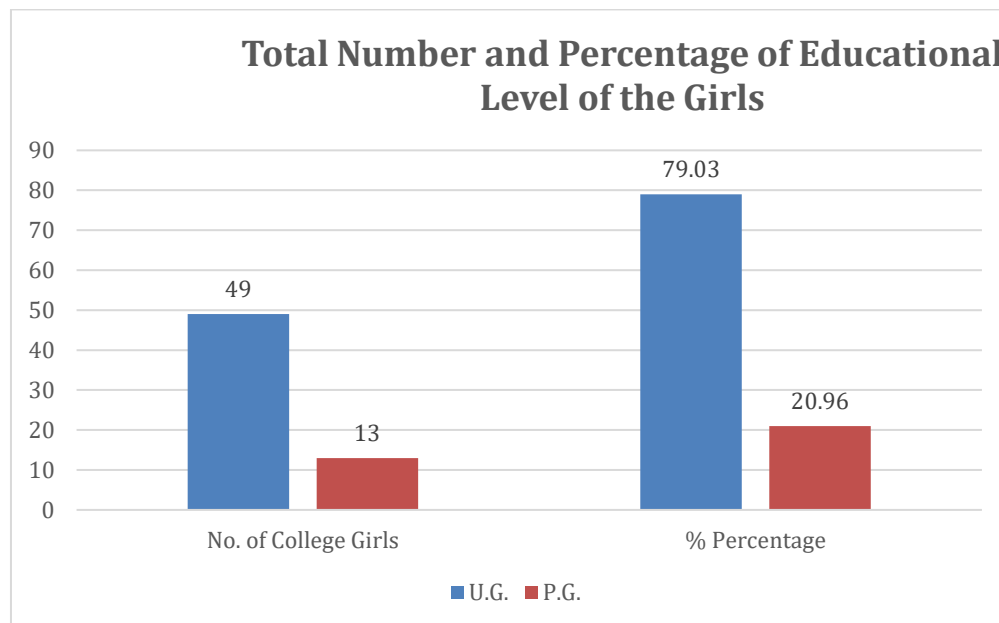


Table No. 3 Types of family of the Girls

Type of Family	No. of College Girls (N: 62)	%Percentage
Joint Family	29	46.77
Nuclear Family	33	53.22

Table -3 shows that 53.22% of the girls came from nuclear families and 46.77% came from joint families.

Type of Family and Percentage

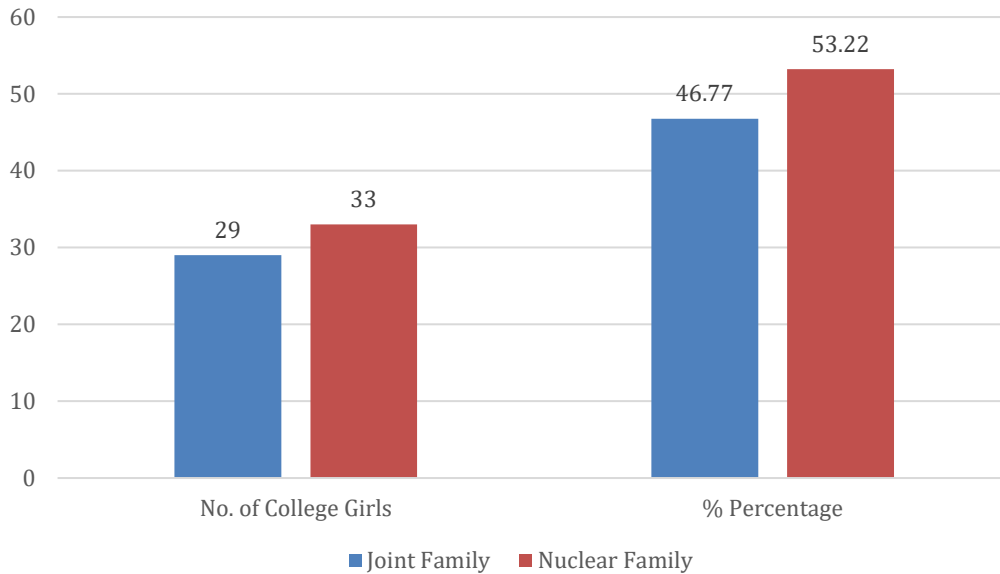


Table No. 4. Monthly Income of the Families of College Girls.

Family Monthly Income	No. of College Girls (N: 62)	%Percentage
Below <25,000-	10	16.12
25,000-30,000	17	27.41
30,000-40,000	11	17.74
Above >40,000	24	38.70

Table 4 shows that 38.70% of the girls' families had a monthly income of more than Rs 40,000, while 16.12% of the girls' families had a monthly income of less than Rs 25,000. 27.41% of girls' families had 25 to 30 thousand family income and 17.74% families are monthly income between 30 to 40 thousand monthly incomes.

Monthly Family Income of the Girls in Percentage

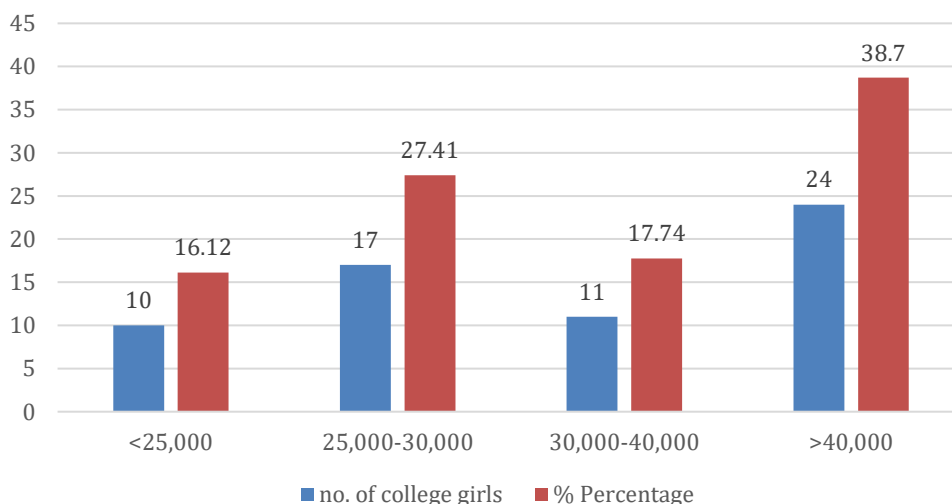


Table. No. 5 Awareness Percentage of College Girls Regarding Millets.

Millets Awareness	No. of College Girls (N: 62)	%Percentage
Yes	58	93.54
No	4	6.45

Table-5. shows the awareness percentage of college girls regarding millets. Results showed that the majority of girls (93.54%) were aware of the use of millets. Whereas a very low percentage (6.45%) of girls were not aware of the use of millets. Result of the study showed that maximum percentage of girls were aware about the millets which may be due to the reason that the government declare the year 2023 as international year of millets and named as Shri Anna loading its high nutritional value, and it is good for person having diabetes and other life style diseases like hypertension, constipation, sugar, cholesterol etc. In the study Prashanti et al., (2022) also found that low percentage of respondent (43.75%) were ignorant of millets whereas more percentage (56.25%) of respondent aware about the millets.

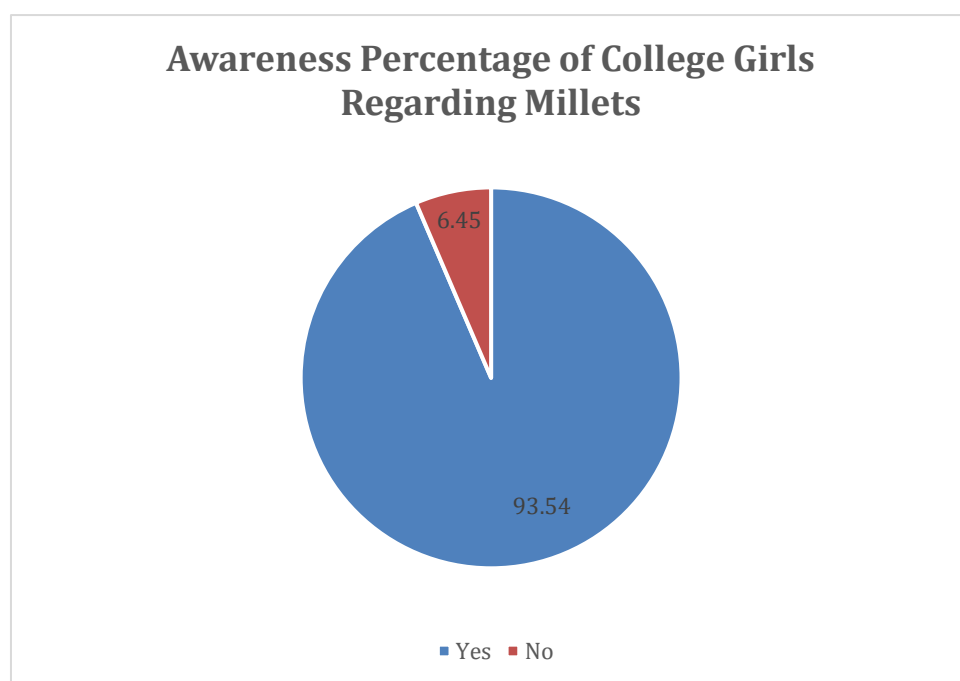


Table No.6 Percentage of College Girls Regarding the Consumption of Millets in their Diet.

Millets as Diet	No. of College Girls (N:62)	%Percentage
Yes	50	80.64
No	12	19.35

Table-6. shows the percentage of college girls regarding the consumption of millets in their diet. Results of the study showed that 80.64% of girls were consuming millets in their diet, whereas 19.35% of girls were not using millets in their diet. This may be due to the reason that millets are not easily available and it is more costly compare to other food items. Kumar et al. (2023) also examine the consumption trends of millets college girls of Andhra Pradesh and concluded that ragi millets-based items were the most popular millet-based goods among college girls. He also concluded that majority percentage (94.17%) of students, knew of millet -based product of food. Manisha et al., (2024) also concluded that majority (91%) of respondent eat millets at home and they preferred eating millets in breakfast. The consumption rate is low because of the lack of understanding of the preparation procedure, being the only one in the home eating them and unpleasant flavour, and a lengthy preparation time and also not likely the taste too.

Consumption Percentage of Millets of College Girs

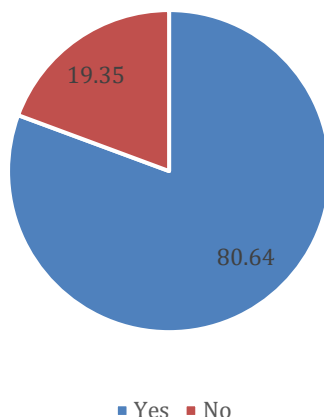


Table No.7 Awareness Percentage of College Girls Regarding Millets Availability in the Market.

Millets Availability in the Market	No. of College Girls (N: 62)	%Percentage
Yes	51	82.25
No	11	17.74

Table no 7. Shows awareness and percentage of college girls regarding millets availability in the market. Result showed that millets are available in the market in different forms whereas very low percentage (17.74%) of girls were not aware that millets are available in the market or not. This may be due to the reason that in their family millets consumption are very low or they are not using any millets related food items in their regular diet. Lakra et al., (2024) also concluded in his study that 82% participants were found to be aware of millet goods on the market and around home. Reddy et al., (2023) concluded that due to government initiatives to encourage millets production and consumption as well as growing health consciousness, people's knowledge of millets is steadily rising these days and they are becoming aware.

Percentage of Availability of Millets in Market

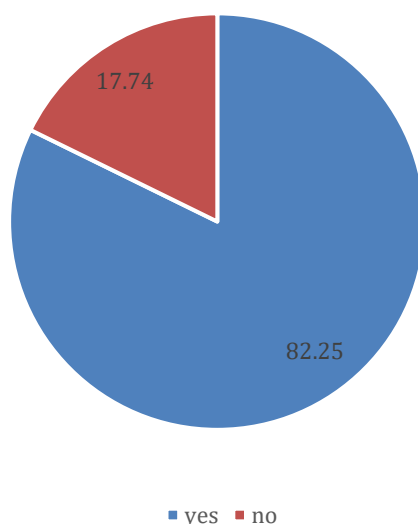
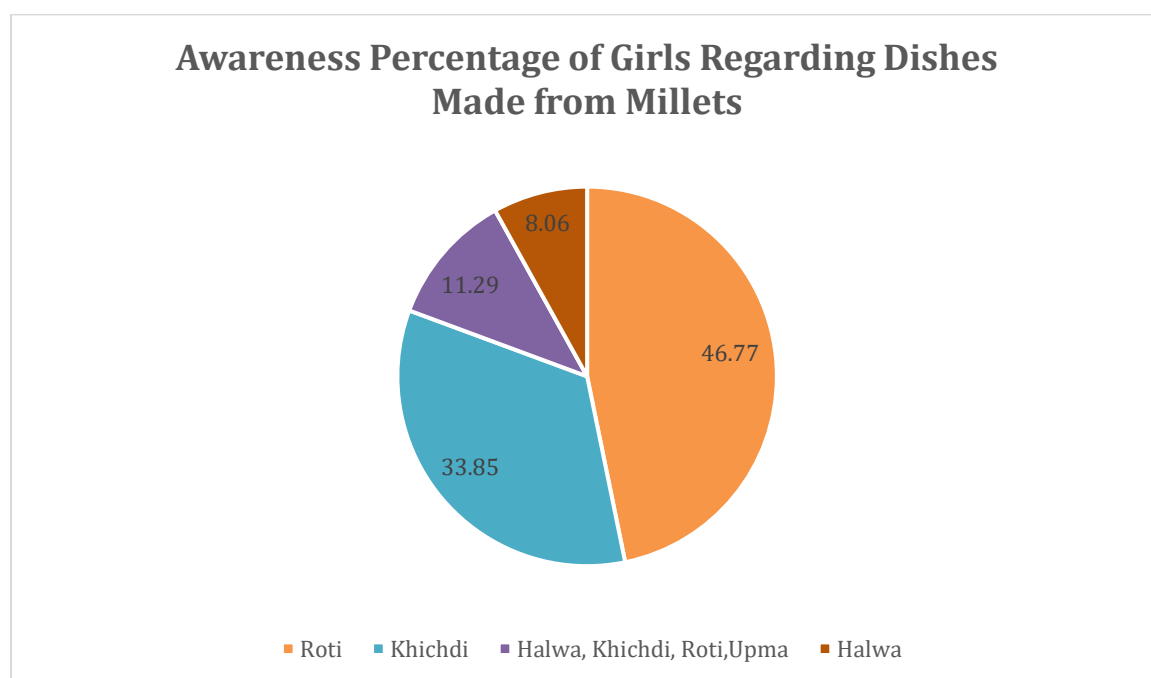


Table No. 8. Awareness Percentage of College Girls Regarding Dishes Made from Millets.

Dishes made from Millets	No. of College Girls (N:62)	%Percentage
Roti	29	46.77
Khichdi	21	33.87
Halwa, Khichdi, Roti, Upma	7	11.29
Halwa	5	8.06

Table 8 shows the awareness percentage of college girls regarding different dishes made from millets. In this table 46.77% girls aware about Roti, 33.87% girls were aware about khichdi, 11.29% girls were about Halwa, Khichdi, Roti, Upma and only 8.06% girls were aware about Halwa made from different millets. Result showed that maximum girls were aware about Roti made from millets. The regular consumption of different dishes made by millets were limited due to the low availability of ready to eat food products containing different millet and also not availability in nearby markets. Manufacturers do not highlight the health benefits of these products like biscuits, noodles and bread. Also, they do not know the preparation procedure of that millet-based food items.



CONCLUSION

Based on findings following conclusions were drawn from this study-

1. 93.54% college girls were aware of the use of millets, whereas 6.45% girls were not aware of the use of millets.
2. 80.64% college girls were consuming millets in their diet, whereas 19.35% girls were not using millets in their diet.
3. 82.25% girls were aware that millets are available in the market in different forms, whereas 17.74% college girls were not aware whether millets are available in the market or not.
4. A maximum of 46.77% girls were aware of the role dish made by millets, 33.87% girls were aware of Khichadi and percentage were low 11.29% and 8.06% for Halwa respectively.

The study found that although the respondents were aware of the benefits of millets and their consumption, millets were not consumed in practice. Millets (bajra, jowar, ragi) declined in Uttar Pradesh and Bihar after the Green Revolution as rice and wheat became dominant. Recent government promotion of “Shri Anna” and health trends have boosted general awareness, especially among youth of UP, Bihar and other states, though knowledge of millets remains low. Common types of millets like jowar and bajra are best known. Despite increased awareness of health benefits among female college students, regular consumption remains very low. The primary obstacles to regular intake are a lack of knowledge on how to prepare different dishes of millets. Also, the dominance of rice and wheat in urban diets consumption is slightly higher and millets are only popular among rural households and older generations.

RECOMMENDATION

The present study recommends that awareness can be developed through schools, colleges and social media and by organising workshops related to millets and various type of health benefits of millets.

Suggestions for Future Research

The study may be conducted selecting girls from different states and also in different districts of UP to know more about the status of millets production and consumption pattern. In future this study may be conducted selecting large number of students on both genders and comparing urban and rural college going girls to know the awareness regarding millets.

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