

An Analytical Study on Public awareness and Consumption Dynamics of Millets in Coimbatore Region, Tamil Nadu, India

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Abstract- Millets are known as "nutri-cereals," an incredibly effective, preventing obesity, malnutrition, and micronutrient deficiencies, they are rich in proteins, amino acids, vitamins, dietary fiber, and minerals. Millets, popularly referred as sustainable choice for semi-arid regions with unfavorable climate conditions because of their resistance to harsh weather, short growing seasons, and low water requirements. The United Nations General Assembly declared 2023 to be the International Year of Millets, highlighting the significance of sustainable development objectives like improving agriculture, reducing hunger, and promoting good health. The research study was conducted around 300 participants from Coimbatore district, Tamil Nadu, India representing varied age groups. Participants were randomly selected and data were collected using questionnaires through Google form to analyse the millet usage and awareness among people. The age group of 18 – 24 and female population have more participation in this survey. The analysis revealed that respondents possessed a fair level of awareness regarding both the consumption of millets, reflecting their importance in addressing food and nutritional security.

Keywords: Millets, Consumption pattern, Nutrition, Sustainable development goals (SDG)

I. INTRODUCTION

Millets are small-seeded, nutrient-dense cereal food crops that are grown on less fertile soils with little use of fertilizers and pesticides. Millets are widely used as staple foods and are an essential source of energy for populations, particularly in arid and drought-prone regions. They may thrive in a variety of agro climatic zones, from desert plains to higher areas, thanks to their resistance (Prasad et al., 2020; Sudhakar et al.,

2016). Millets are excellent reservoir of essential nutrients such as carbohydrates, dietary fibre, proteins, fats, and vital minerals including potassium, calcium, magnesium and iron. Micronutrients like vitamins, manganese, zinc, and beta-carotene are also abundant in millets. Millets promotes sustainable farming helps to manage climatic resilience, enhancing soil health and helping to absorb carbon (Velmourougane et al., 2018). Sorghum (*Sorghum bicolor*), Periakaruppan et al., 2023, pearl millet (*Pennisetum typhoides*), and finger millet (*Eleusine coracana*) are the most common varieties of millet in India, along with several smaller varieties such foxtail, little, kodo, barnyard, proso, and brown top millet. India is one among the largest millet producer. The United Nations declared 2023 to be the International Year of Millets (IYOM 2023), highlighting their contribution to global food and nutrition security due to their nutritional and ecological significance (Chankamithirai SP., 2024). Low glycaemic index aids in the management of obesity, diabetes, heart disease, and other conditions. Furthermore, millets are gluten-free, reduce acid-forming, and are good for gut health by serving as natural probiotics and avoiding constipation. They have been observed medicinally to lower triglycerides, inflammation, and metabolic disorders (Venketasan et al., 2023).

Ayurvedic scriptures mention the use of millet in Kudhanya Varga. According to Acharya Charaka, Madhur Rasa and Laghu Guna are possessed by Kordhush and Shyamaka. They both aggravate Vata, calm Pitta and Kapha, Sheeta Virya, and Dhatu Shoshak. At Sanva, Millets such as Hasti Shyamak, Niivaar, Jalparni, Gavedhuk, Prshantika, Jalsanva,

Lohitanu, Priyangu, Mukund, Jhinti, Gamuurti, Varuk, Arak, Shibir, Utkat, and Jurna all have comparable qualities. Both Sushruta and Chakrapani identified this Dhanya as Kudhanya Varga. Apart from their nutritional qualities, millets also possess cultural and traditional significance, evident in Ayurvedic classics where they were included under Kudhanya Varga for their medicinal values. Even with their fall out of favor over widespread rice and wheat farming, increased awareness of their health as well as environmental benefits has seen millet foods experience renewed interest and their potential within sustainable diets (Sharma et al., 2024). The present study was completed in Coimbatore district, Tamil Nadu state. The study completed with the objective to assess public awareness and food habits concerning millets. The outcomes of the survey helps to educate about the health benefits of millets to the general public.

II.MATERIALS AND METHOD

Collection of Data

Data collection for the research was conducted using structured questionnaires with 19 closed-ended type questions. The survey was conducted through Google Forms to gather information from different regions of Coimbatore, Tamilnadu. The collection of data completed between from August 3 to September 3 2025 through digital platforms such as e-mail and social media to maximize the participant reach and collect diverse perceptions of Millets, public awareness on millets and culinary uses of millets. The questionnaire content was primarily developed based on consumption pattern and familiarity of millets among people.

Selection of Participants and Ethical considerations

About 300 participants were included, Participants were selected through random sampling and voluntary participation. Informed about the purpose of this survey, obtained consent from all respondents, confidentiality of responses was assured.

Questionnaire

The participants were required to complete the following Google Form regarding "Awareness and Consumption pattern of Millets in Coimbatore District":

- Age of the participant

- Gender of the participant
- Occupation of the participant
- Location of the participant
- Have you been introduced to millets?
- Where did you initially learn about millets?
- Which types of millets do you have knowledge of?
- How frequently do you include millets in your diet?
- Who in your household consumes millets the most?
- When do you include millets in your meals?
- How do you incorporate millets into your meals?
- Which platform do you prefer for buying millets?
- What difficulties do you experience in consuming or purchasing millets?
- How do you find the price of millets compared to other grains?
- How long have you been consuming millets?
- Why do you prefer millets in your diet?
- Have you observed any health improvements following the consumption of millets?
- Have you ever experienced any side effects after consumption of millets?
- Which of the following would encourage you to try millets?

Analysis of Data

Responses collected from participants, descriptive study was completed based on the obtained responses to conclude the results with an aid of MS Word.

Research Design

To ensure systematic and reliable approach for collecting data, the study adopted a structured research design. The research design of the study was summarized through the following manner as represented in Fig 1.

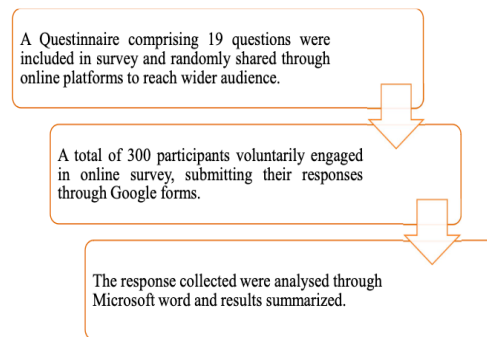


Fig 1: Research Design

III.RESULTS AND DISCUSSION

Age

The survey included participants from a wide range of age groups. Majority responses came from the age

group of 18 to 24, accounting for 76%. The age below 18 and 25 to 34 age groups followed with 10.7 % and 6 % respectively, though these figures were significantly lesser than the leading age group, was represented in Fig 2

Please select your age group

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300 responses

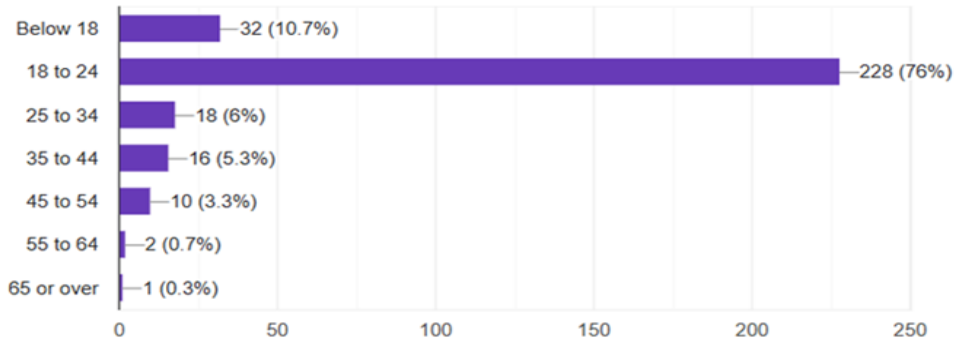



Fig 2: Age wise distribution of survey respondents

Gender

Among respondents who took part in this survey, Female participants made up the majority with 68 % of the responses, while male accounted for 31%. Responses indicate that women were slightly more involved in sharing their views in this survey as represented in Fig 3.

Select your Gender

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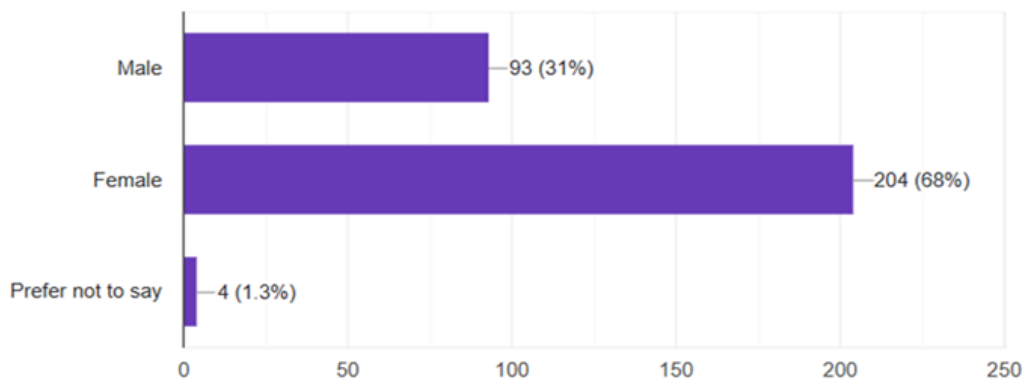


Fig 3: Gender wise distribution of survey respondents

Occupation

Out of 300 total responses, the chart reveals a highly skewed distribution toward one group: students. The survey conducted in an academic setting therefore Students dominate the sample with 248 responses (82.7%).The remaining 52 responses (17.3%) are spread thinly across 14 other occupations, each representing less than 6% of the total. Education/Teacher/Researcher is the second-largest group with 17 responses (5.7%), which indicates the participation of academic represented in Fig 4. staff and research scholars.

Please select your occupation

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300 responses

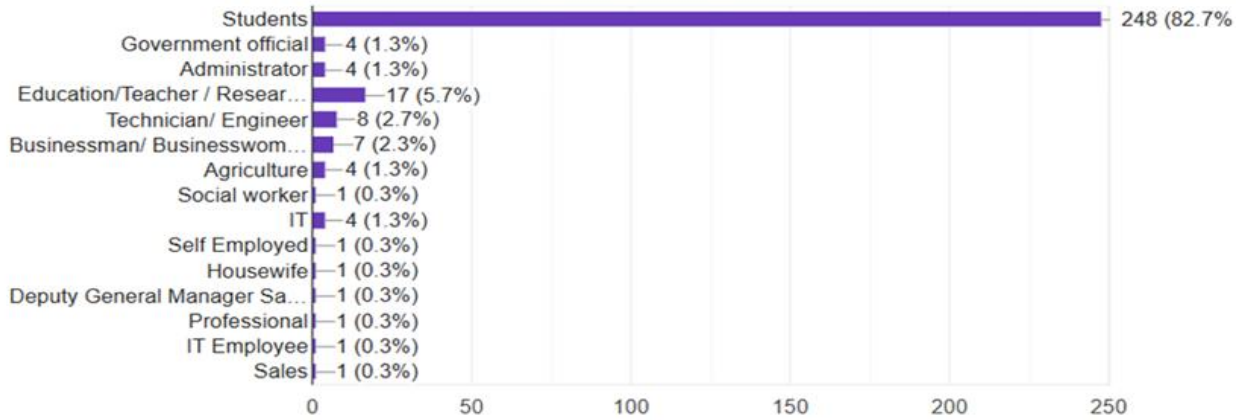


Fig 4: Occupation wise distribution of survey respondents

Place of Residence

The majority of the respondents were residing in urban areas (63.7%). Nearly one-fourth of the respondents reside in rural areas (24.7%). The smaller proportion of respondents with (13%) live in suburban areas, shown in Fig 5.

Select the place of residence

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300 responses

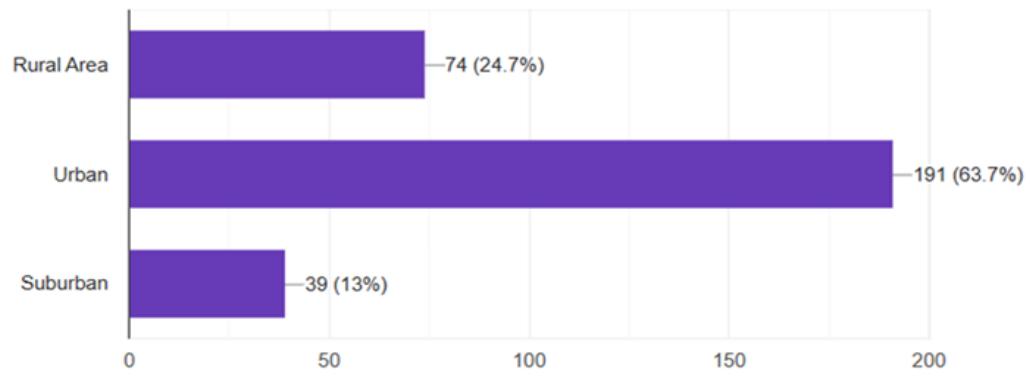


Fig 5: Residential classification of survey respondents

Knowledge about millets

The response reveals that most respondents (93.7%) are familiar with millets, indicating Popularity of millets in the surveyed population. Only a small fraction (7.7 %) have not been introduced to millets, which could be a target group for further awareness programs indicated in Fig 6.

Have you been introduced to millets?

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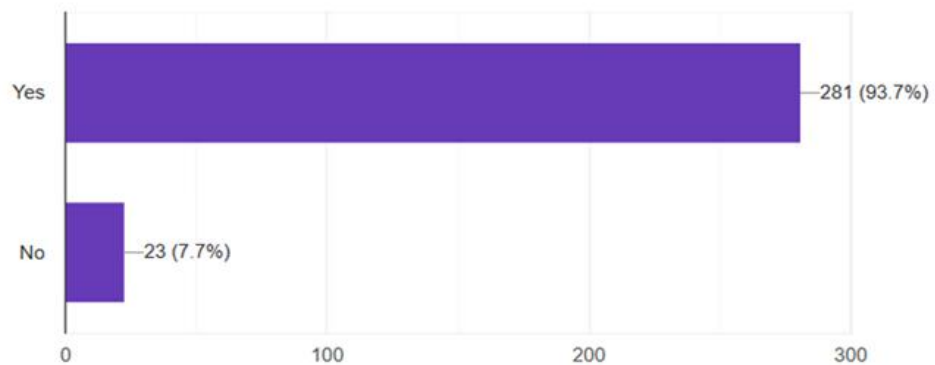


Fig 6: Awareness of millets among respondents

Millet information channels

Family traditions emerge as the dominant source of millet awareness, influencing 77% of respondents, highlighting the deep-rooted cultural legacy and generational connections to millet consumption. Social media follows at 26%, reflecting its rising influence in food and health awareness and it offers a promising avenue for future digital campaigns. Health professionals and friends also play a role, influencing 14.7% and 13.3% respectively. Health professionals like Doctors and nutritionists are effective in promoting millets to health-conscious populations. Formal channels such as schools (1.3%), government initiatives (0.7%), and books (0.3%) contribute minimally, revealing a significant gap in institutional millet education and policy-driven promotion, expressed in Fig 7.

Where did you initially learn about millets?

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300 responses

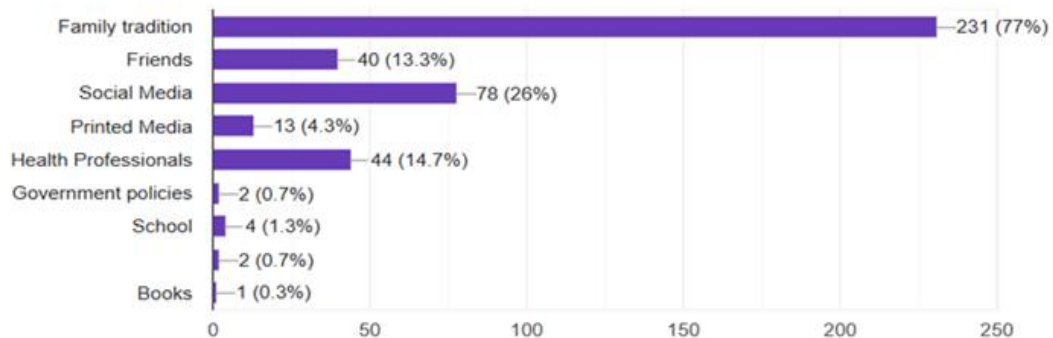


Fig 7: Sources of millet awareness among respondents

Types of Known Millets

Finger millet emerged as the most commonly known variety (84.3%), indicating wide cultural familiarity. Pearl millet (71.3%), Sorghum (60%), and Foxtail millet (54%) also had high awareness among respondents. Little millet (42.7%), Kodo millet (40.7%), and Barnyard millet (36.7%) showed moderate familiarity, represented in Fig 8.

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Which types of millets do you have knowledge of?

300 responses

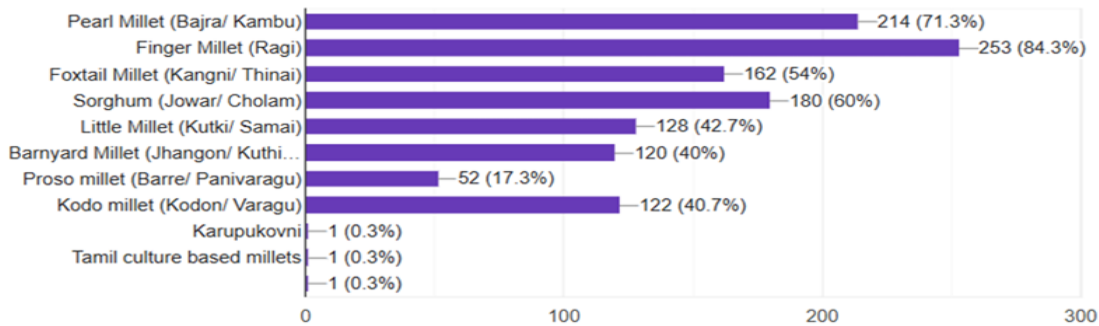


Fig 8: Types of millets known among respondents

Millet consumption behavior

Among the 300 respondents, the majority respondents included millets in their diet occasionally, making up 38.7% of the group. The next most common frequency was once a week, reported by 34% of participants. Following that 24% consumed millets 2-3 times a week, while only 7% ate them daily. A small fraction, just 2.7%, had never consumed millets at all, shown in Fig 9.

How frequently do you include millets in your diet?

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300 responses

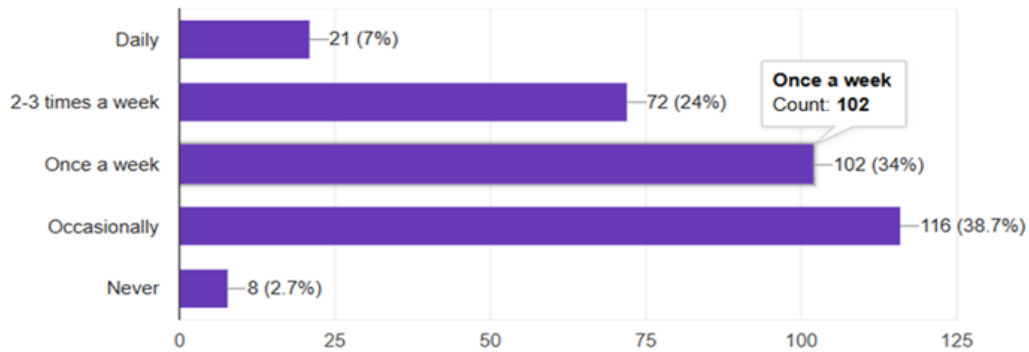


Fig 9: Consumption Behavior of millets among respondents

Millet Consumption across Age Groups

The data shows a broad distribution of millet consumption within households, with the highest share of respondents (45.3%) reporting equal intake among all household members. Millets are being integrated into family meals rather than being limited to specific age groups. This implies growing acceptance and normalization of millets as a staple across generations, represented in Fig 10.

Who in your household consumes millets the most?

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300 responses



Fig 10: Millet Consumption Pattern across Different Age Groups

Millet consumption schedule

Breakfast is the most popular time for millet consumption, the majority of respondents (60.7%) prefer millets for breakfast. Lunch and evening snack times both see a moderate uptake (32.7%). Dinner is less consumed for millet intake, with only (27.7%) incorporating it. Only (5.3%) of respondents don't include millets at all, expressed in Fig 11.

When do you include millets in your meals? (Select All that apply)

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300 responses

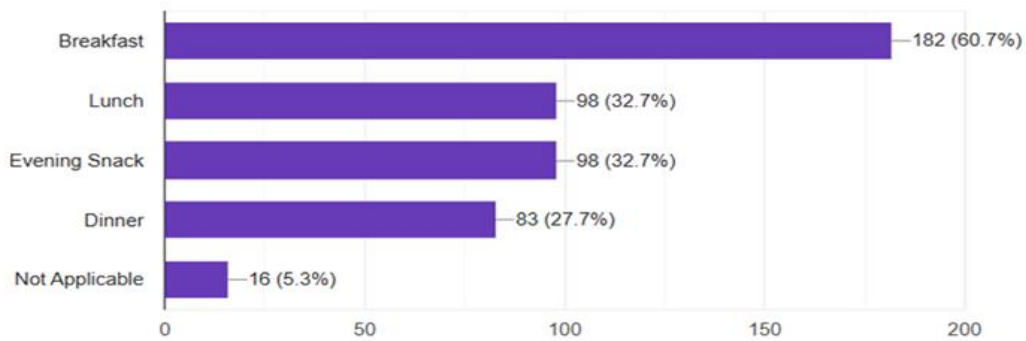


Fig 11: Millet Consumption Schedule among Respondents

Dominant culinary selections

The most popular method of people consuming millets is through fermented dishes like idli and dosa, favored by (69%) of respondents. Porridge-style dishes such as khichdi and upma come next at (50.7%). Millet rice is also popular, chosen by (44.3%) as a strong staple alternative. Snacks like murukku and laddu are included by (35.3%), while baked treats like cookies and cakes are used by (26.7%). Millet-based beverages are uncommon, with just 2.3% choosing them. Nearly one-fifth (19.7%) of participants don't eat millet at all, and millet chapathi is the least consumed, with only (0.3%) reporting its use, shown in Fig 12.

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How do you incorporate millets into your meals?

300 responses

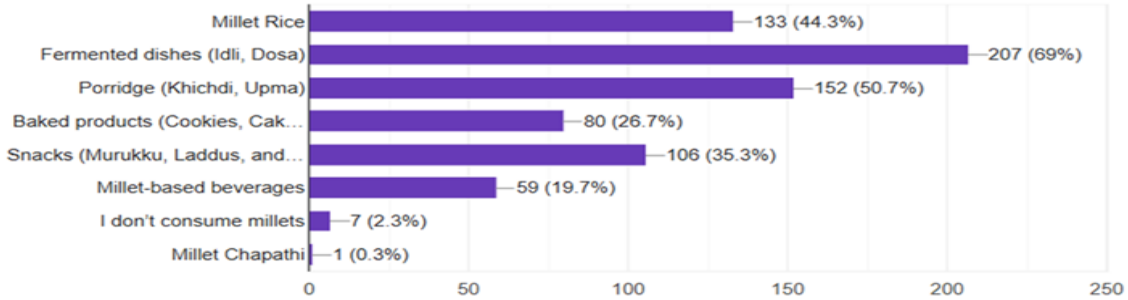


Fig 12: Culinary forms of Millets Consumed by Respondents

Millet Purchase Platforms

Local markets and grocery stores are the top platforms for millet purchases, preferred by 61.3% of respondents. Supermarkets or name brands follow with 47.7%. Organic stores are selected by 31.3%, showing a niche interest. Direct-from-farmer purchases appeal to 17.3%, reflecting support for farm-fresh sourcing. Online platforms are less utilized, with just 9.7% choosing them. Only 0.7% of respondents don't buy millets at all represented in Fig 13.

Which platform do you prefer buying millets?

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300 responses

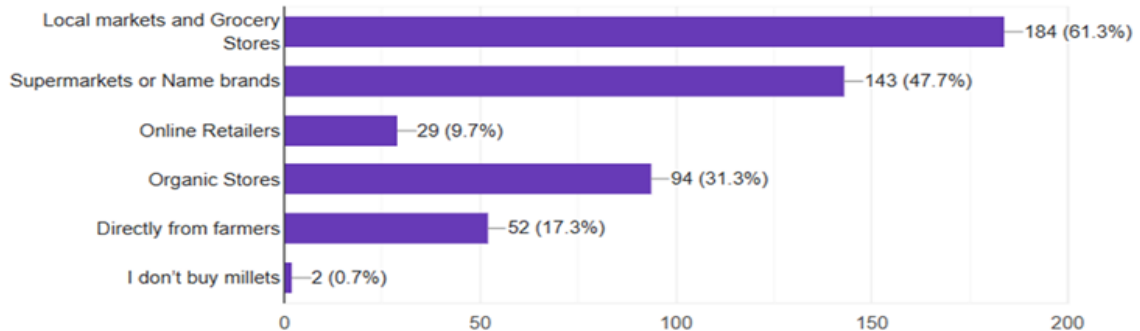


Fig 13: Platforms Used by Survey Respondents for purchasing Millets

Constraints in millet usage

The leading challenge in millet consumption is taste preference for other grains, cited by (32.2%) of respondents. High cost (27.9%) and lack of awareness (26.9%) also significantly hinder adoption. Availability remains an issue for (22.6%), while (14%) struggle with lacking awareness about cooking millets. Only (0.3%) are unaware of how to prepare them. Notably, (16.3%) reported no difficulties. Overall, taste, affordability, and awareness are the main barriers, whereas cooking-related concerns are less prominent. The presence of a challenge-free group indicates room for growth through targeted outreach. A notable minority faces no issues in millet intake hence strategic interventions could enhance millet adoption, expressed in Fig 14.

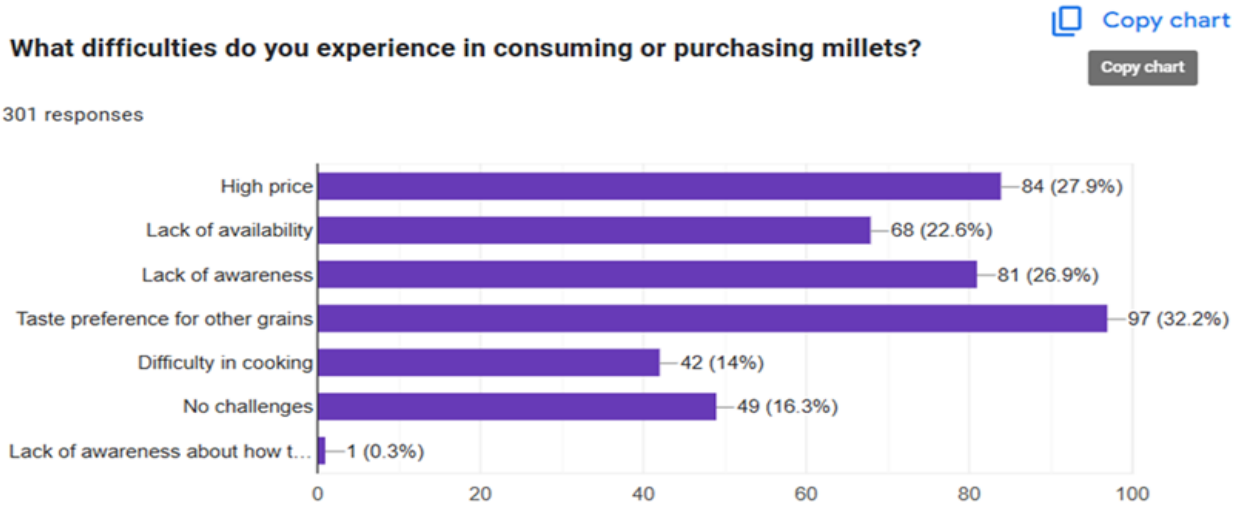


Fig 14: Constraints in Millet Consumption

Consumer views on millet price

A significant portion of respondents (47.7%), nearly half of the participants view millets to be more expensive than other grains like rice or wheat, this makes a prominent barrier to adopt millet consumption. Nearly the same number of respondents (46.7%) believe prices are the same with other grains. Only (11.3%) regard millets as the cheaper option than other grains. These views support previous data identifying cost as a prominent obstacle to millet adoption, shown in Fig 15.

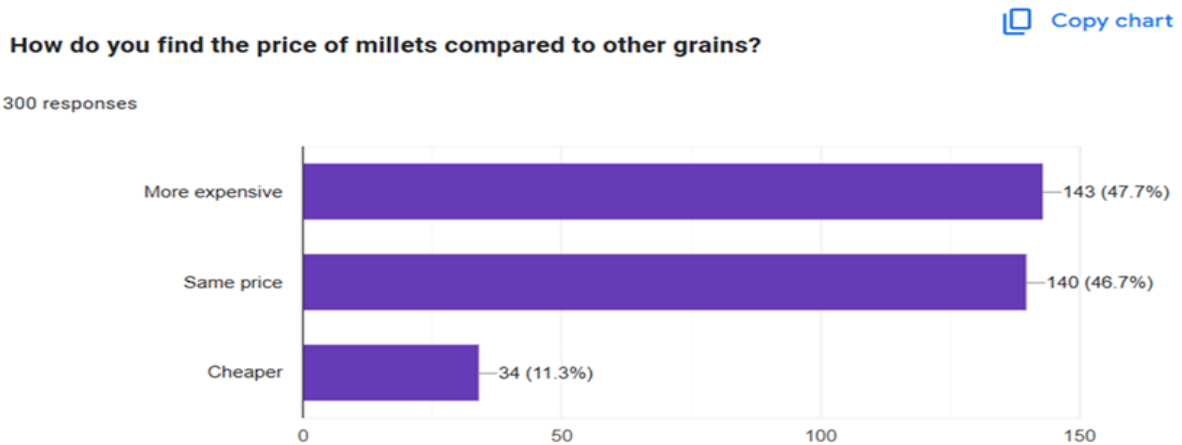


Fig 15: Perception of Millet Prices among Respondents

Duration of Dietary Millet Adoption

Based on 300 responses from people, the majority of respondents (61.3%) reported consuming millets for more than 3 years, indicating long-term adoption. Around (20.3%) have been consuming it for less than a year, while (18%) fall in the 1–3 years category. Only a small fraction (2.3%) have never tried millets. This suggests that millets are widely accepted and have been a regular part of the diet for most respondents, indicated in Fig 16.

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How long have you been consuming millets?

300 responses

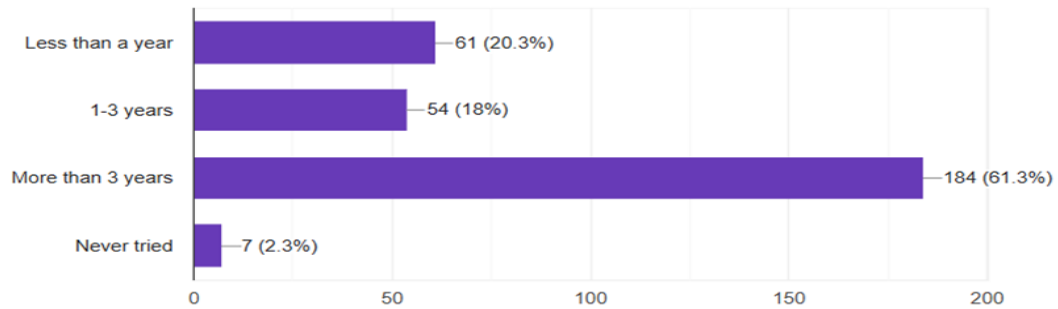


Fig 16: Duration of Millet consumption among Respondent

Factors Influencing Millet preference in Diet

This survey reveals that nutritional benefits are the primary reason of people for prefer millets, with 81.3% of respondents recognizing their richness in fiber, protein, and other nutrients. Additional health-related reasons such as weight management (51%) and diabetes control (38.3%) also emerged as strong motivators for consumption. Other aspects like being gluten-free (24.3%), taste and versatility (22.3%), and affordability (14.3%) were less influential. These results highlight that health-driven choices dominate millet consumption preferences, shown in Fig 17.

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Why do you prefer millets in your diet? (Select all that apply)

300 responses

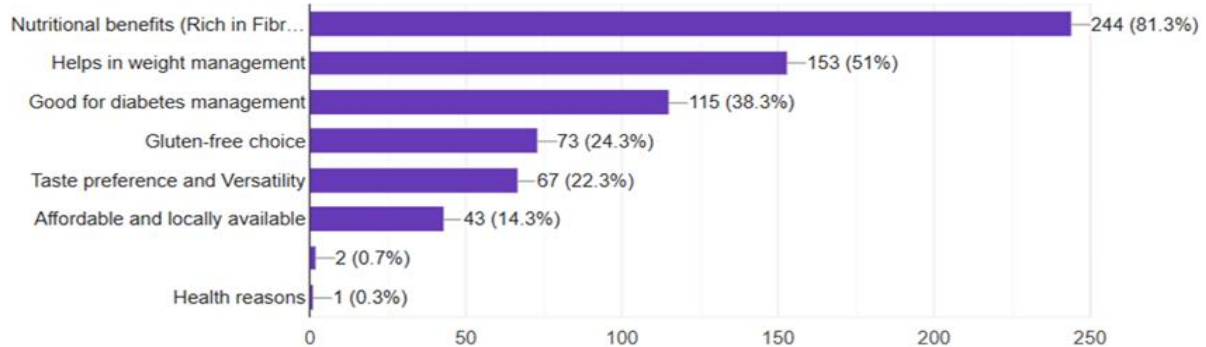


Fig 17 Perceived Health benefits among Respondents

Public Perspectives on Millet Health benefits

These results reveal most of the participants believe in health benefits from consuming millets, with (69%) confirming improvements. Only a minor group noticed no changes after millet consumption, and a very few are undecided. These findings highlight millets rising popularity and suggest further education could help clarify their potential health advantages to the public, expressed in Fig 18.

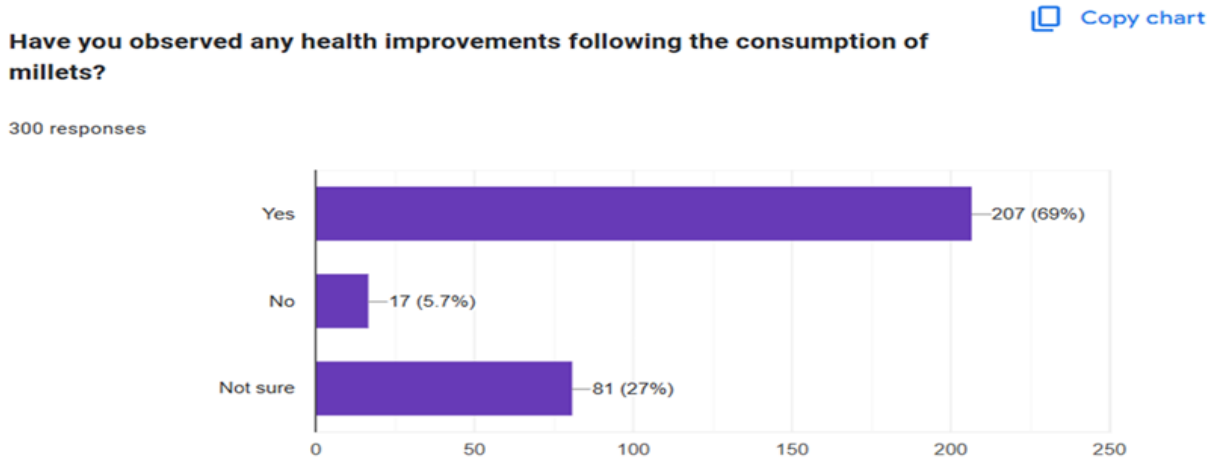


Fig 18: Distribution of Responses on Health benefits from Millets among Respondents

Promotion of Millet Intake

According to the survey, the leading factor for choosing millets by most people is pointing to learning about their health benefits. Over (60%) said that would help. Half of the respondents (50%) also wanted new culinary recipe ideas, and more than a third were interested in cooking demonstrations. Discounts and inspiring stories had less pull, showing that people are more motivated by knowledge and creativity than cost alone, shown in Fig 19.

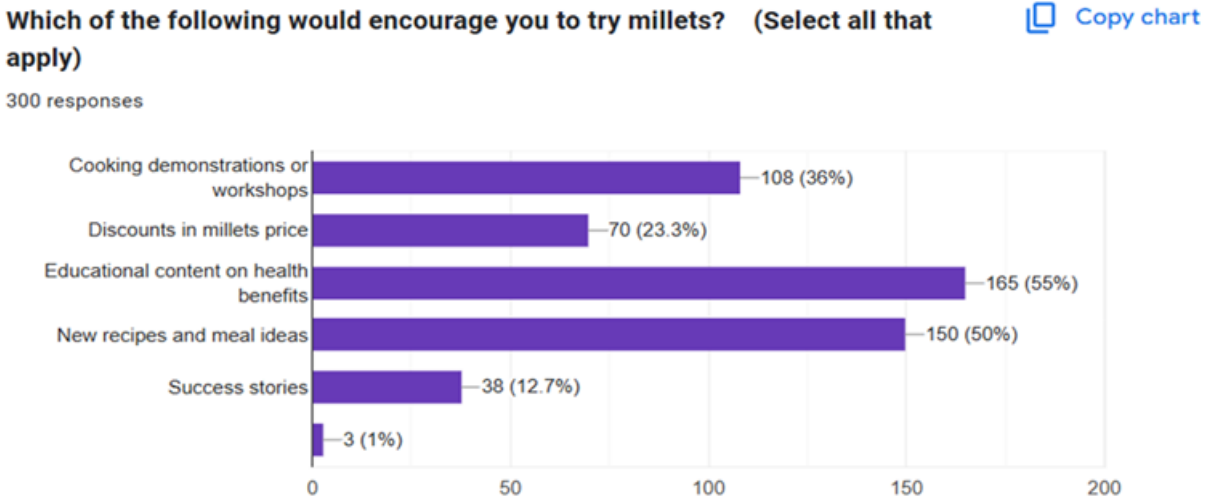


Fig 19: Strategies for Encouraging Millet Intake among Respondents

Inclusion of Millets in Public Distribution System

The responses from 300 participants regarding the inclusion of millets in the Public Distribution System (PDS). The majority of respondents with (56%) supported the inclusion of millets based on consumer choice, while (49%) agreed to their inclusion with limited subsidies. Only a small fraction of respondents (2.3%) felt that millets are not required in the PDS, and (3.7%) remained unsure. Overall, the results highlight strong public support for integrating millets into the PDS, either through subsidies or consumer-driven options, presented in Fig 20.

Should Millets be included in Public distribution system at government with limited subsidy?

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300 responses

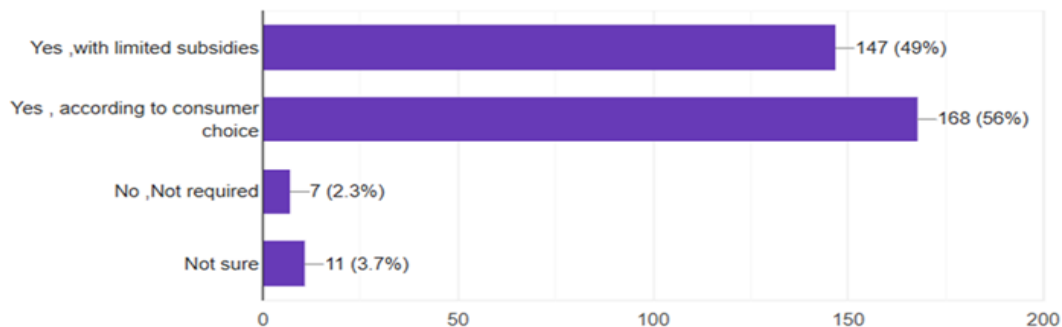


Fig 20: Perception of Millet Inclusion in Public Distribution System

IV.CONCLUSION

Millets are historically valued for their sustainability, but their underutilization and less cultivation contribute to food insecurity and widespread malnutrition in India. The survey was conducted on Public awareness and Consumption Dynamics of Millets in Coimbatore Region, Tamil Nadu to enhance millet awareness and encourage its adoption among the public. It included 300 people from Coimbatore and it shows that the majority of the population is well-informed about the cultivation and nutritional value of millets. Despite their wide-ranging health advantages, millet consumption is limited by challenges due to limited accessibility and cost. If these issues remain unresolved, chronic health conditions may rise. Governmental and non-governmental organizations must recognize the public's lack of awareness regarding the health advantages of millets and actively promote their significance through media campaigns, advertisements, and various public outreach initiatives.

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