

Traditional Grain-Based Foods In Contemporary Diets: A Study on Consumption Frequency

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Abstract- Traditional grain-based foods, such as rice, wheat, millets, barley and sorghum, play a crucial role in nutritional security and cultural dietary practices. Assessing the frequency and quantity of traditional grain consumption across demographics will be of prime significance, which would help in developing new food products. The present study evaluated consumer awareness, consumption patterns, accessibility and perceptions regarding traditional grain-based foods. A cross-sectional survey was conducted among 216 respondents from diverse demographic backgrounds. The results indicated that there is a regular consumption of traditional grains, like rice (90.6%), being the most commonly consumed, followed by wheat (6.6%) and Millets (2.8%). Despite strong awareness of its nutritional and cultural value, actual consumption is influenced by taste preferences, cost, availability and convenience. Addressing these through improved access, affordable pricing, product innovation (e.g., ready-to-eat millet products) and targeted nutrition education—especially for older and lower-income groups can promote sustained consumption of traditional grains in modern diets.

Keywords: Traditional grains, consumer perception, millets, dietary patterns, food habits

I. INTRODUCTION

Traditional grain-based foods have formed the foundation of human diets for centuries, particularly in Asian and African regions, where grains such as rice, wheat, millets, barley, and sorghum are deeply embedded in cultural, economic, and nutritional practices. These grains provide essential macronutrients, dietary fiber, vitamins, and minerals while supporting food security and sustainable agricultural systems. Traditional grains are also known for their adaptability to diverse climatic conditions and their role in promoting ecological resilience. (Kumar et al., 2018)

Traditional grains are rich in components like dietary fiber, starch, fat, antioxidant nutrients, minerals (calcium,

magnesium, potassium, phosphorus, sodium, and iron), vitamins (thiamine, niacin, riboflavin, and pantothenic acid), lignans, and phenolic compounds that have been linked to the reduced risk of obesity and insulin resistance (Srilakshmi, 2002). Collectively, these nutritional attributes highlight the potential of traditional grains to support balanced diets and long-term health.

In recent decades, rapid urbanisation, globalisation and lifestyle transitions have significantly altered dietary patterns. Increased consumption of refined grains and ultra-processed foods has led to a gradual decline in the intake of traditional grain-based foods, particularly among younger populations (Popkin et al., 2012). Refined grains, although convenient and palatable, often lack essential nutrients due to extensive processing, contributing to rising incidences of non-communicable diseases such as obesity, diabetes, and cardiovascular disorders (Slavin, 2004).

In this context, the present study aimed to assess consumer awareness, frequency of consumption, accessibility, and attitudes toward traditional grain-based foods. By examining demographic influences, perceived benefits, and challenges associated with traditional grain consumption, the study seeks to provide insights that can support targeted nutrition education, product innovation and policy interventions to encourage the sustained inclusion of traditional grains in daily diets.

II. RESEARCH METHODOLOGY

A survey was adopted to identify the frequency of traditional grain-based food consumption among adults primarily from Tamil Nadu and Kerala regions.

The questionnaire contained 20 questions, structured into three sections to capture various aspects of consumer behaviour and preferences. The first section collected demographic information such as age, gender, area of residence (urban or rural), and educational qualification. The

second section was introduced with a question on whether they consume traditional grain-based foods on a daily basis, followed by questions on accessibility, barriers to consumption, health and value perceptions. A 5-point Likert scale was used to measure the availability of traditional grains in local neighbourhood markets. Respondents were also asked to identify whether a high price acted as a barrier to consumption and were presented with a hypothetical scenario to determine their willingness to pay a 10–20 per cent premium for grains with proven health and sustainability benefits. The final section incorporated open-ended questions that allowed respondents to name specific regional traditional grain-based foods and describe particular likes or dislikes regarding their texture and flavour, thereby providing qualitative insights to complement the structured responses.

Data was collected during January over two weeks using a structured Google Forms questionnaire. The respondents were encouraged to share the survey link within their social circles to facilitate wider participation. The study targeted respondents aged 18 and above, reflecting urban and rural demographic areas. Participation in the study was entirely voluntary, and respondents were informed about the purpose of the research prior to data collection. They were assured that their personal information would not be disclosed, and all data would be kept strictly confidential and used only for research purposes.

III. RESULT AND DISCUSSION

A. Demographic profile

The survey was conducted among 216 respondents, representing diverse age groups, educational backgrounds, and areas of residence. Around 66.7 per cent of the participants belonged to the 18–24 age group, followed by 20.7 per cent of respondents aged 25–34 years, with a smaller representation of 3.8 per cent of individuals aged 35 years and above (Figure 1). Female respondents constituted 73.7 per cent of the sample, and the rest were males (26.3%). Participants were drawn from both rural and urban areas, allowing for a comprehensive understanding of variations in accessibility, affordability, and traditional food practices. The predominance of younger respondents in the present study is consistent with findings reported by Popkin et al. (2012), who observed that dietary transitions are more prominent among younger populations due to urbanization and changing lifestyles. Younger individuals are more likely to adopt modern food habits while still showing awareness of traditional diets, making them a key demographic for studying shifts in grain consumption patterns.

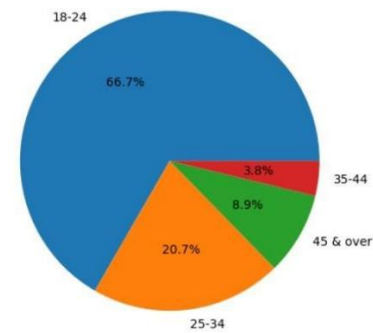


Figure 1
Age-wise distribution of the respondents

B. Commonly consumed grain

Findings from the survey indicated that rice was identified as the most commonly consumed grain (90.6 %) followed by wheat (6.6%) and millets (2.8%). Although refined grains were widely used, many respondents reported replacing them with traditional grains at least occasionally (Figure 2). In contrast, the consumption of grain-based beverages such as barley water and ragi malt was comparatively lower (73.1%) due to their limited integration of these products into the daily diets of consumers. The dominance of rice as the most consumed grain aligns with findings from the Food and Agriculture Organization (2019), which identifies rice as a staple food for a majority of the Asian population due to its accessibility, affordability, and cultural importance. Similarly, Rao et al (2021) reported that although millets are nutritionally superior, their consumption remains lower compared to rice and wheat due to established dietary habits.

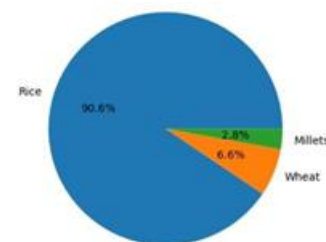


Figure 2
Commonly consumed grains

C. Accessibility of traditional grains

Regarding accessibility, most respondents rated the availability of traditional grains in their local markets as moderate to high. Rural respondents (54.6%) reported better access to traditional grains than urban areas (45.4%). High cost was another frequently mentioned concern, particularly for millets and speciality grains. These factors indicate that

despite awareness and interest, economic and logistical constraints continue to affect consumption levels. The observed influence of accessibility and cost on consumption is supported by Kane-Potaka et al (2021), who found that despite high awareness of millets, their consumption is often limited by higher prices and inconsistent market availability. The study emphasized that improving supply chains and affordability is essential for increasing the adoption of traditional grains.

D. Taste Preference

Taste preference emerged as the most significant barrier to consuming traditional grain-based foods. Challenges included the coarse or chewy texture of traditional grains, prolonged cooking time, and the need for specific preparation techniques. These factors were especially influential among younger respondents, highlighting the role of convenience and sensory appeal in food choices. The importance of taste and texture as barriers is consistent with findings by Wendin et al (2010), who highlighted that sensory attributes such as texture, flavour, and mouthfeel significantly influence food acceptance. Traditional grains are often perceived as coarse or less palatable compared to refined grains, particularly among younger consumers, thereby limiting their regular consumption.

E. Processing of traditional grains

Based on respondents' opinions, traditional grains are prepared using methods such as steaming (54.2%), boiling (66.7%), fermentation (21.3%), and roasting (19%). Among these, boiling was reported as one of the most preferred methods, with 66.7 per cent of respondents indicating its use. Participants also identified a variety of popular traditional dishes prepared from these grains, including idli, dosa, appam, puttu, pongal, chapati, millet porridge, and ragi koozh. These responses suggest that traditional grains continue to be consumed mainly through familiar and culturally rooted preparations, which significantly enhances their acceptability and regular inclusion in the diet. The preference for traditional preparation methods is supported by research from the Indian Council of Agricultural Research, which reports that cooking techniques such as boiling, steaming, and fermentation enhance nutrient bioavailability and digestibility of traditional grains. These methods are also culturally embedded, contributing to higher acceptance through familiar dishes such as asidlis and dosas.

F. Health benefits of traditional grain-based foods

Nearly 79 per cent of respondents associated traditional grains with high nutritional value, making it the most significant factor influencing their perception. Other attributes such as ease of cooking (39.8%), long shelf life (30.6%), affordability and accessibility (30.1%), and palatable taste (26.9%) were also noted. The strong perception of traditional grains as wholesome, minimally processed, and beneficial for long-term health, particularly in improving digestion and promoting sustained satiety, has contributed to their acceptance. Consequently, around 57 per cent of respondents reported that consumption of traditional grains is primarily due to their recognised role in supporting weight management and overall health (Figure 3). The strong perception of traditional grains as nutritious is well supported by Slavin (2004), who emphasized that whole grains are rich in dietary fiber, vitamins, and antioxidants, contributing to reduced risks of obesity, diabetes, and cardiovascular diseases. Additionally, Devi et al. (2014) highlighted that millets, particularly finger millet, possess high levels of polyphenols and dietary fiber that aid in digestion and weight management.

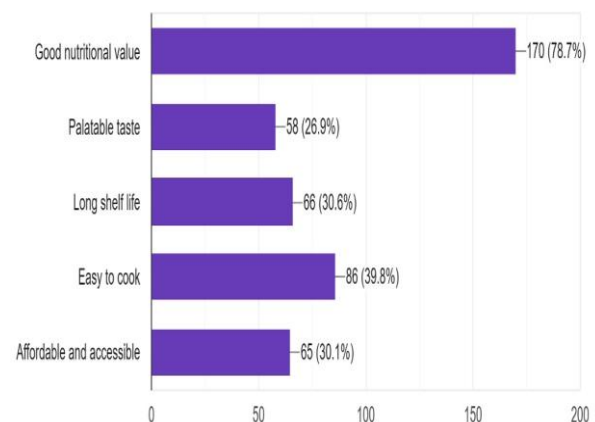


Figure 3
Reasons for the consumption of Traditional grain-based Foods

G. Availability and preference of traditional grain-based foods

Most of the respondents (77%) expressed a preference for homemade traditional grain-based foods over store-bought or ready-to-eat products. Traditional grain-based snacks such as poha and puffed rice were often favoured over modern packaged snacks. While there was notable interest in value-added millet products such as instant mixes and snacks, willingness to purchase these products depended largely on affordability (Figure 4). Around (38%) of respondents were willing to pay an extra premium for healthier and more sustainable food options, yet budget constraints remained a decisive factor. The preference for homemade foods observed

in this study aligns with findings by Bisai et al. (2023), who reported that traditional food consumption is closely linked to household practices and cultural habits. Homemade preparations are often perceived as healthier, safer, and more authentic compared to processed or ready-to-eat alternatives.

their integration into daily diets depends heavily on accessibility, modernized recipes, and awareness campaigns.

IV. CONCLUSION

The results of the present study indicate that there exist high awareness and regular consumption of traditional grain-based foods among respondents, particularly rice, wheat, and millets. Most participants associated traditional grains with positive attributes such as good nutritional value, satiety, palatable taste, and cultural familiarity. However, despite favourable perceptions, the survey also identified key barriers to increased consumption, including high price, limited availability, taste preferences, and longer preparation time. A strong preference for homemade preparations and a willingness to consume value-added millet products provided they are affordable and easily available—highlight the potential for promoting traditional grains through product innovation, nutrition education, and social media outreach.

Overall, the results emphasize the need for coordinated efforts involving policy support, food industry innovation, and targeted nutrition communication to enhance the regular inclusion of traditional grain-based foods in contemporary diets. Strengthening value-added product development and improving affordability and availability could play a crucial role in sustaining both nutritional security and traditional food heritage.

V. ACKNOWLEDGMENT

The authors take this opportunity to express their sincere gratitude to all those respondents who have supported by volunteering in the survey on consumption of traditional grains-based food pattern.

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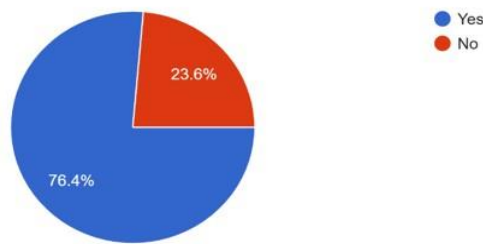


Figure 4
Preference for Homemade Traditional grain based foods

H. Factors influencing the consumption of traditional grain-based foods

Several resources could encourage increased consumption of traditional grains, such as cooking videos, nutrition guides, free recipes, social media campaigns, influencer marketing, and food awareness workshops. Around 48 per cent of the participants felt that improving taste, texture, convenience, and visibility through digital platforms would make traditional grain-based foods more appealing, particularly to younger generations (Figure 5).

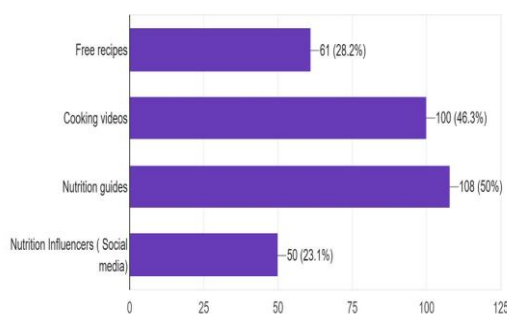


Figure 5
Resources influencing the consumption of traditional grain-based foods

These findings are consistent with similar surveys conducted in India. Anitha et al., (2021) who reported that while awareness of millets and traditional grains was high among urban and rural consumers, actual consumption remained limited due to convenience issues, higher costs, and sensory preferences. Likewise, a nationwide consumer survey by ICMR–NIN (2023) ensured that the traditional grains are largely perceived as healthier alternatives to refined grains, yet

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