

RESEARCH ARTICLE

Influencers of consumption pattern of millets and millet value additions and investigating the gender differences for the same -with special reference to Chennai, India

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ABSTRACT

This study aims at understand the consumption pattern of millet varieties and the awareness of available types of millets diets and also to investigate the Gender influence in the consumption pattern. As the promotion of modern post harvesting machines had given a push in the availability of the millets in the market and the innovative value additions had been made so that to improve the millet consumption. This study is focused in Chennai city and response had been collected from 204 samples selected randomly. Descriptive statistics method is used to understand the relationship between the variables. And The study indicates that there is no gender influence in consumption pattern and important factors like Health conscious and reduction of weight are considered to be the important factors for considering the millet food and value additions of millets in to bakery items, ready to eat foods has a good influence and Social media considers to be the important source for Millet food reach.

Keywords: Millet value addition, millets staple food, indigenous crops, organic farming

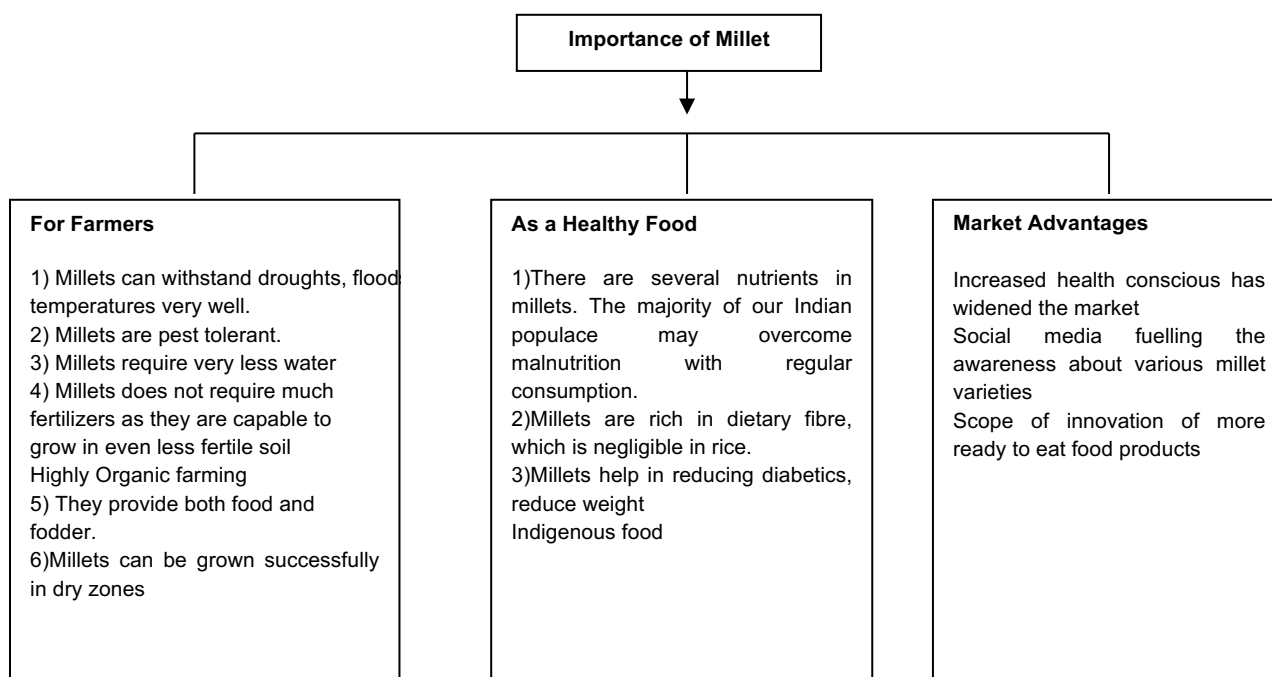
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INTRODUCTION

Any of the several species of cereal grasses in the Poaceae family are considered millet. One of the earliest foods consumed by humans is millet, which is also regarded as one of the first domesticated cereal crops. Although the precise origin is difficult to determine, it is widely agreed that millet was domesticated and grown simultaneously in Asia and Africa during the Neolithic era. The earliest millet that has been cultivated, foxtail millet most likely has its origins in southern Asia. Assyria was known for millet cultivation, according to the Greek historian Herodotus. Around 3000 BC, the ancient Egyptians were skilled at cultivating millet in the parched Sahara.

Broomcorn millet, which may have been imported from southern Central Asia, was possibly grown by the Indus Valley peasants in some areas, particularly Gujarat. Kodo millet, also known as varagu (*Paspalum scrobiculatum*), Italian millet, also known as tinai (*Satariaitalica*), and samai (*Panicum milliare*), as well as pulses like horse gramme (*Macrotyloma uniflorum*) and legumes like beans, lentils, and tamarind, were all grown by the residents of Mullai (pastoral) .

About 60 percent of the nation's farmed land is used for rainfed agriculture, which generates 44 percent of the nation's total food grain production. Rainfed agriculture also produces more than 90 percent of the sorghum, millet, and peanuts grown in desert and semi-arid regions. Historically, millets have been farmed in rainfed environments, particularly by marginal farmers and tribals. In India and the rest of the world, millets are among the oldest crops still being grown. Sorghum and pearl millet are major millets, and the minor millets group is made up of six cultivated species, including Little millet, Indian barnyard millet, Kodo millet, Foxtail millet, Finger millet, and Proso millet (Behera, 2017)



Post harvesting is the major challenge in the millet farming as it involves lot of human labour it is the main challenges in the millet farming. High yield varieties of crops have made a influence to change the crop from millet to high yield crops. The initial step in processing coarse grains and cereals is often to separate the offal (portion that cannot be consumed) (Fig. 1). Offal consists of the pericarp and, occasionally, the germ. Offal removal is often referred to as dehulling or decortication. The main factors contributing to millets' lower appeal among wheat and rice eaters are their tough outer coat, distinctive flavour, and lack of availability of processed millets products that are comparable to rice and wheat. Numerous machinery are available for the processing of grains, but there is no well-established procedure or method for producing white products from coloured millets. (Pushpamma et al., 1990).

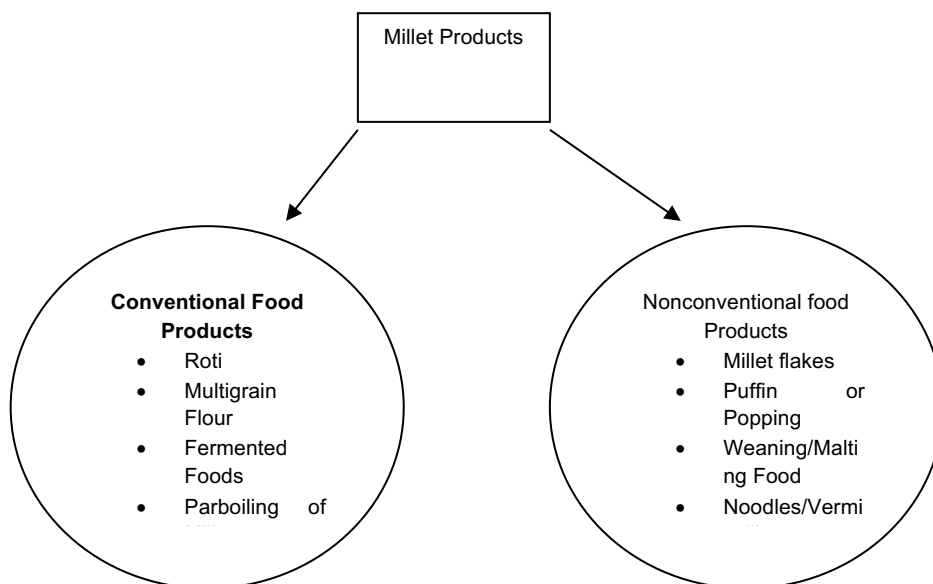


Fig 1: Value Added Products from Millet (Birania et al., 2020)

Millets are becoming more and more well-liked as demand for gluten-free grains rises. Millets are one of the least allergenic grains available, are gluten-free, and have an alkalizing effect on the body, making them a fantastic option for anyone with a variety of food sensitivities and allergies. Pasta, injera, sourdough bread, non-sourdough bread, and different cookie, extrudate, fat replacer, and eating meals are among the traditional millets goods that are used to make gluten-free items. (Mancebo et al., 2015)

Millets offer prebiotic qualities that maintain a healthy gut flora and are quite gentle on the digestive tract. These qualities, together with their high fibre content, contribute to their ability to reduce constipation and other digestive issues. Foods made from millet are regarded as potential prebiotics because they can improve the viability or functionality of probiotics, which has major positive effects on health. As a result, they can create a synbiotic when combined with probiotics (Thakur et al., 2016).

Despite growing health consciousness among people, an increase in non-communicable diseases in India, and the nutritional potential of millets, little official research has been done on urban consumers' knowledge, attitudes, and habits in relation to millets consumption. Joanna's findings suggest that in order to modify people's perceptions of millets and increase consumption of them, there is a need to actively promote the health advantages of millets as well as to raise awareness of the different ways that millets can be prepared or turned into products (Joanna Kane-Potaka, 2021).

For postmenopausal women exhibiting symptoms of cardiovascular disease, such as high blood pressure and high cholesterol levels, regular consumption of millet is particularly advantageous. It has been demonstrated that feeding kids nutritious grains like millet and fish lowers their risk of developing asthma and wheezing. Millet, a high-fiber food, is particularly effective in preventing breast cancer in post-menopausal women. Similar to major grains, millet grains contains several health-promoting nutrients such dietary fibre, minerals, vitamins, and phytochemicals like phenolic compounds. They also have a number of possible health advantages.

However, in order to increase the micronutrients' bioavailability and raise the calibre of millet diets, new processing and preparation techniques are required. It is necessary to create millet food products that are affordable for the poor and offer convenience, flavour, texture, colour, and shelf stability. Additionally, developing highly improved millet products is required to promote the use of millet grains in urban areas and create markets for farmers to increase their revenue (Thakur, 2019)

Food Choice is a area in which research has revealed consistent behavioural gender differences. Food choice is dependent on a wide spectrum of factors, which affect human behaviour in different ways, resulting alternatively in the choice of some specific products and rejection of others (Argani, 2012) Men consume more calories than women do, and there are disparities between the sexes in how they eat, suggesting that women have been trained to eat in a more feminine way. Because they enjoy fatty foods yet believe they shouldn't consume them, women feel more conflicted about eating than men do. Young girls' dietary habits are a sign of early adolescent pressures to be skinny. Compared to men, women are less satisfied with their body weight and shape. The origin of eating disorders, which are substantially more common in females, may be influenced by socio cultural and psychological variables (Rolls et al., 1991). So it is need to study whether there is gender wise knowledge is available with regards to millet diet. The present study was conducted with the following objectives

1. To understand the awareness about various millets diets
2. To identify the various demographic opinion about the various influencers of Millet Food products
3. To examine the influence of colours, textures in Millet consumption

MATERIALS AND METHODS

The primary objective of the study is to understand the Consumption pattern of Millet products. The research design for this study is descriptive in nature. Data were collected based on the convenience Sampling. A sample of 204 respondents from with various age groups and gender were collected (Table 1). Descriptive Statistics method is used to analyze the data, Data Collected during a period of March 2022.

Table 1: Classification of the respondents on the basis of their demographic details

	Particulars	Number of Respondents	Percentage
Gender	Male	135	66.2
	Female	69	33.8
Educational background	Under graduation	139	68.1
	Post graduation	65	31.9
Type of Family	Joint	70	34.3
	Nuclear	134	65.7
	Private	98	48.0
Profession	Business	15	7.4
	Government/Government	87	42.6
	Others	4	2.0
Knowledge gained about Millets	Social Media	120	58.8
	Doctors	45	22.1
	Window Shopping	4	2.0
	From Family	35	17.2

HYPOTHESES

H1: There is significant difference in Knowledge about the Various Millets Available Among the gender.

Since the mean values of male and female are 3.62 and 3.74 and standard deviation values are 1.134 and 0.856 (F 0.645) but the p value is more than 0.05 (0.423) so there is no significant difference in Knowledge about the Various Millets Available Among the gender.

H2: There is significant difference in opinion that Millets helps to Reduce Weight among the gender

The mean values of male and female are 3.7 and 3.87 and standard deviation values are 1.204 and 0.922 (F 1.007) but the p value is more than 0.05 (0.317) so there is no significant difference in opinion that Millets helps to Reduce Weight among the gender

H3: There is significant difference in opinion that Millets diets are reduce Diabetics among the gender

The mean values of male and female are 4.01 and 3.99 and standard deviation values are 1.136 and 1.157 (F 0.17) but the p value is more than 0.05 (0.897) and hence there is no significant difference in opinion that Millets diets reduce Diabetics among the gender

H4: There is significant difference in opinion that Millets are best for Traditional foods types among the gender

The mean values of male and female are 3.31 and 3.33 and standard deviation values are 1.318 and 1.172 (F 0.14) but the p value is more than 0.05 (0.906) so there is no significant difference in opinion that Millets are best for Traditional foods types among the gender

H5: There is significant difference in opinion that New Innovative Millet recipes help to increase usage of Millet food among the gender.

The mean values of male and female are 3.56 and 3.52 and standard deviation values are 1.256 and 1.093 (F 0.36) but the p value is more than 0.05 (0.85) so there is no significant difference in opinion that New Innovative Millet recipes help to increase usage of Millet food among the gender

H6: There is significant difference in opinion Colour and textual Attributes are important while purchasing Millet Snacks among the gender.

The mean values of male and female are 2.99 and 2.99 and standard deviation values are 1.054 and 0.899 (F 0.02) but the p value is more than 0.05 (0.962) so there is no significant difference in opinion Colour and textual Attributes are important while purchasing Millet Snacks among the gender.

H7: There is significant difference Regular Consumption of Millets will reduce health issues among the gender.

The mean values of male and female are 3.36 and 3.48 and standard deviation values are 1.261 and 1.023 (F 0.431) but the p value is more than 0.05 (0.512) so there is no significant difference Regular Consumption of Millets will reduce health issues among the gender.

RESULTS AND DISCUSSION

It is found that Social Media is the important tool to create awareness of health with 58.8% of the respondents has gained knowledge about the health benefits of millet. Jonanna also finds from their study that When asked what their source of information on health and foods was, by far the most influential was social sources, the largest being social media with 50.7% of the participants opting for it (Joanna et al., 2021).

It is also found that Reducing Weight, reduce Diabetics some of the main reason for Millet consumption. You Young found from his study that taking into account the role of adiponectin, insulin, and HDL-cholesterol in diabetes, atherosclerosis, and obesity; it appears likely that FMP (Korean Foxtail Millet Protein) improves insulin sensitivity and cholesterol metabolism through an increase in adiponectin concentration. Therefore, FMP can serve as another beneficial food component in obesity-related diseases such as type 2 diabetes and cardiovascular diseases (You-Young et al., 2005).

Majority of the respondents have a opinion that Millets are bets fit for traditional foods. Geetha in her research found that Millets based Koozh preparation are a very good alternatives, koozh prepared with other millet will increase marketability of the products (Thirumangaimannan et al., 2013)

Respondents also felt color and textual attributes are also an important factor. It is also found that there is no Gender influence in the millet consumption patter. Amal in his study was found that the consumers of millets in the state are comparatively low. The demographic factors only have very minimal influence on the consumption pattern of millets. Thus, there is a need to look for other factors to promote the cultivation and consumption of millets among the people (George et al., 2021).

CONCLUSION

Millets are indigenous food but consumers have forgotten its importance for some time but due to the changing life style and increased health consciousness has regained its value. Technological advancement in post harvest methods an increase in the concept of value additions has being the biggest game changer in the millet food products, increase of millet consumption will help to the increase in the millet demand which certainly motivate farmers to cultivate millets, millet farming will reduce consumption of Fertilizers and it will also help the eco system to flourish.


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