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Consumption and Purchasing Behavior on Mushroom in Hyderabad

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Abstract

Mushrooms are increasingly recognized as a functional food due to their rich nutrition, medicinal value and alignment with modern dietary preferences. This study examines mushroom consumption and purchasing behaviour in Hyderabad, focusing on consumer demographics, preferences, consumption patterns and factors affecting buying decisions. Mushrooms are widely viewed as low-fat, protein-rich and health-promoting, contributing to their growing acceptance among urban consumers and used samples of 150 respondents from five areas of Hyderabad, selected through stratified sampling. A descriptive and analytical approach was followed, with primary data collected via structured questionnaires. The data were analyzed using statistical methods such as percentages, mean, standard deviation and chi-square tests to identify patterns and relationships to show that consumption is mainly influenced by health awareness, taste and the desire for dietary variety. White button mushrooms are the most preferred variety due to their affordability and easy availability. Consumption is generally occasional, with mushroom curry being the most common preparation and fresh mushrooms preferred over processed forms. Purchasing decisions are largely guided by appearance factors like size, shape and colour, along with freshness, availability and nutritional value, while price has a relatively lower influence. Several constraints limit higher consumption, including short shelf life, limited awareness of varieties and recipes, family food preferences and certain misconceptions about mushrooms.

Keywords: Mushroom consumption, purchasing behavior, consumer preferences, food habits, Hyderabad, price sensitivity, health awareness, retail channels, plant-based diet, fresh produce

Introduction

Since the beginning of time, humans have utilized mushrooms, sometimes known as fleshy fungi and they have been referenced in ancient Hindu, Greek and even Roman literature. Because of their capacity to convert necessary inputs into nutrient-dense, high-protein foods, mushrooms are regarded as one of the world's greatest natural resources. Because they are high in vitamins and minerals, mushrooms provide a useful source of nourishment in the case of a significant population rise that results in a shortage of nutrient-dense food. There are currently three types of mushrooms grown around the world: button mushrooms (*Agaricus bisporus*), paddy straw mushrooms (*Volvariella spp.*) and oyster mushrooms (*Pleurotus spp.*). Around the world, (*Agaricus bisporus*) is mostly cultivated on a commercial basis. The milky mushroom (*Calocybe indica*) is a species of edible mushroom native to India. (Kumar *et al.*, 2015). Mushrooms are low in fat, cholesterol and sodium, but rich in vitamins, potassium, selenium and antioxidants, making them a healthy vegetarian option. Their quality depends on flavor, aroma and safety. Unlike other vegetables, mushrooms lack chlorophyll and depend on organic matter for growth, resulting in a unique production process. They also have a short lifespan of one to thirty days. With globalization, consumers now have access to a wider range of affordable, high-quality foods, increasing competition among products.

Mushrooms have become an important global commodity, with production rising steadily. Advances in cultivation techniques have significantly boosted output, reaching about 4.9 million metric tons, although consumption patterns are still not fully understood. (Wani *et al.*, 2010) [17]. India produces about 0.13 million tons of mushrooms each year, growing at an annual rate of around 4.3% between 2010 and 2017. White button mushrooms dominate production with nearly 73%, followed by oyster (16%), paddy straw (7%), and milky mushrooms (3%).

Per capita consumption of mushrooms in India

Per capita consumption of mushrooms in India remains very low when compared with global standards. Estimates suggest that the average Indian consumes well below 100 grams of mushrooms per year, typically ranging between about 40 and 90 grams annually. This level is significantly lower than consumption in many developed countries, where annual intake often reaches several kilograms per person. Between 2020 and 2024, mushroom consumption in India has shown only a gradual increase. Around 2020–2021, per capita consumption was estimated at roughly 25 grams per year. By 2022, it had risen to approximately 70 grams, reflecting growing awareness of mushrooms as a nutritious, protein-rich food. In 2024, the figure is estimated to have reached about 80 grams per person annually, still far below countries such as China, where consumption is around 1.6 kilograms per capita.

Understanding consumption and purchasing behaviour of mushrooms

Mushroom consumption is mainly influenced by their health benefits, such as boosting immunity and providing antioxidants, along with their ability to enhance taste and add variety to meals. White button mushrooms are the most widely preferred. Consumption is often limited by factors like poor availability of fresh produce, lack of knowledge about recipes and misconceptions that mushrooms are non-vegetarian. When purchasing mushrooms, consumers usually prioritize appearance colour, size and shape over price, though cost still plays a role. Nutritional value and a growing preference for local and organic options also influence choices, especially among individuals with higher income and education levels.

Importance of Mushrooms in Human Diet

Mushrooms are often described as “nutraceutical foods” because they provide both nutritional and therapeutic benefits. They are a significant protein replacement, especially for vegetarians, because they contain high-quality protein with essential amino acids similar to those found in legumes. Numerous studies have confirmed the anti-cancer, anti-diabetic and cholesterol-lowering qualities of mushrooms (Manzi *et al.*, 2001)^[18]. Consumers are gradually making healthier food choices as lifestyle-related ailments like obesity, diabetes, cardiovascular problems and hypertension become more common in urban populations. Because of their high nutritious density and low-calorie content, mushrooms are a good fit for this trend. Mushrooms are becoming more and more common in restaurant menus, ready-to-cook food items and home cooking places like Hyderabad, where dietary changes are noticeable (Kumari *et al.*, 2021)^[8]. They contain complex carbohydrates, dietary fiber and essential amino acids, along with important minerals such as potassium, phosphorus, selenium, iron, copper and zinc.

Factors Influencing Purchasing Behavior of Mushrooms

Sensitivity to the price of Purchase decisions is influenced by the perception that mushrooms are more expensive than conventional vegetables, particularly among middle-class and lower-class consumers. Because mushrooms are highly perishable, consumers place a premium on look, texture and freshness. Recurring purchases are significantly influenced by frequent and consistent availability. Consumer trust is increased by hygienic packaging and branded goods. While local markets are selected for cost, supermarkets and online platforms are frequently preferred for quality assurance. (Singh & Verma, 2017)^[16]. Accessibility and availability are other important considerations. Consumer purchasing intentions are influenced by the availability of mushrooms in supermarkets, local markets and online. Freshness, look, texture, colour and shelf life are examples of quality features that have a significant impact on consumer preferences. Purchasing behavior can be positively impacted by hygienic handling, appealing packaging and certification or

Challenges in Mushroom Consumption

Although eating mushrooms has many advantages, there are a few drawbacks. Widespread acceptance is hampered by low awareness, limited shelf life, inadequate storage facilities, price volatility and cultural eating customs.

Inadequate cooking skills and apprehension over spoiling often deter regular purchasing. Small-scale manufacturers encounter supply-side issues with price realization, cold-chain infrastructure and market access. To overcome these obstacles, producers, marketers and legislators must work together. There are obvious nutritional and practical benefits to mushrooms. Despite its low-calorie content, high-quality protein, vitamins B, C, and D, minerals and bioactive substances, their consumption varies by area and customer niche.

Study Area

The present study was conducted in Hyderabad, India, a rapidly growing metropolitan city known for its expanding urban population, economic development and changing lifestyle patterns. Hyderabad has experienced significant growth in organized retail markets, supermarkets and online grocery platforms, which has increased the availability of fresh and processed mushroom products. Urbanization, rising health awareness and changing dietary habits have contributed to a gradual increase in mushroom consumption. While traditional food habits remain strong, modern nutritional trends and vegetarian protein alternatives are influencing consumer choices. The diversity in income levels, occupations and lifestyles across different parts of the city makes Hyderabad an appropriate setting for analysing consumer behaviour towards mushroom products.

Sampling Size

The study is based on a sample of 150 respondents selected from five different regions of Hyderabad: Kompally (North), Malakpet (South), LB Nagar (East), Madhapur (West), Mehdiapatnam (Central). Thirty respondents were selected from each region (R1 to R5) to ensure equal representation. These locations were chosen due to their dense population and diverse socio-economic characteristics. A sample size of 150 respondents provided sufficient data to analyse consumption behaviour and factors influencing demand for mushroom products across different parts of the city.

Research Design

The study follows a descriptive and inferential research design. The descriptive aspect focuses on presenting the demographic profile of respondents and analysing their mushroom consumption patterns, frequency of purchase, monthly expenditure, preferred purchase points and types of mushroom products consumed. By combining descriptive and inferential approaches and provides both factual data and analytical understanding of consumer behaviour towards mushroom products in Hyderabad.

Data Collection

Primary data was collected through questionnaires distributed to respondents aged 15 to above 50 years across the five selected regions (R1 to R5). The survey gathered information on awareness, consumption patterns, expenditure and reasons influencing purchase decisions. Using data sources provides a broader and more reliable understanding of consumer behaviour towards mushroom products in the city.

3.5 Statistical Tools:

Frequencies and Percentages

Some of the data were also interpreted in terms of their frequencies and percentages wherever necessary to know the distribution pattern of respondents according to variables.

Frequency: It's simply a count of how many participants or observations fall into each category.

$$\text{Percentage} = \frac{\text{Frequency of category}}{\text{Total frequency (sample size)}} \times 100$$

Arithmetic mean:

Often termed the mean or average, it serves as a measure of central tendency to characterize a set of numerical values. The mathematical mean is the central value in a sequence of uniformly distributed words organized in either ascending or descending order. The arithmetic mean is sometimes called the mean, average or arithmetic average.

$$m = \frac{\text{Sum of the terms}}{\text{number of terms}}$$

Objective: To identify consumer preferences and consumption pattern of mushroom.

Table 1: Select the considerations that are important for you while purchasing mushrooms

Category	Frequency (150)	Percentage
Nutritional value	77	51.3
Good substitute for meat	28	18.7
To add variety to diet	23	15.3
Good taste	22	14.71
Total	150	100

Descriptive Statistics		
Mean	Std. Deviation	N
37.5	22.92	150

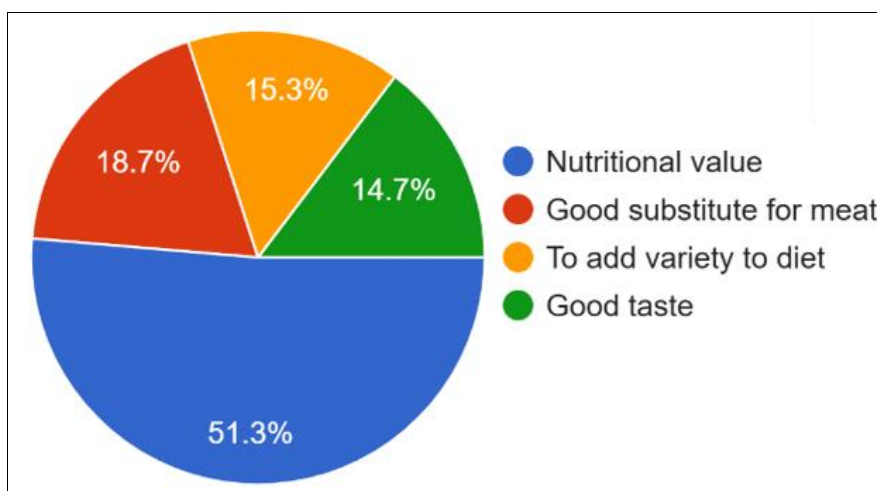


Fig 1: Select the considerations that are important for you while purchasing mushrooms

The pie chart shows the key factors influencing mushroom purchases among 150 respondents. Most participants (51.3%) prioritize nutritional value, indicating strong health awareness. Other factors include use as a meat substitute

(18.7%), adding variety to the diet (15.3%), and taste (14.7%). Overall, health benefits are the main driver, followed by dietary preferences and flavor.

Table 2: How many times have you tasted Mushroom

Category	Frequency (150)	Percentage
Rarely	27	18
Occasionally	75	50
Frequently	39	26
Most frequently	9	6
Total	150	100

Descriptive Statistics		
Mean	Std. Deviation	N
37.5	24.14	150

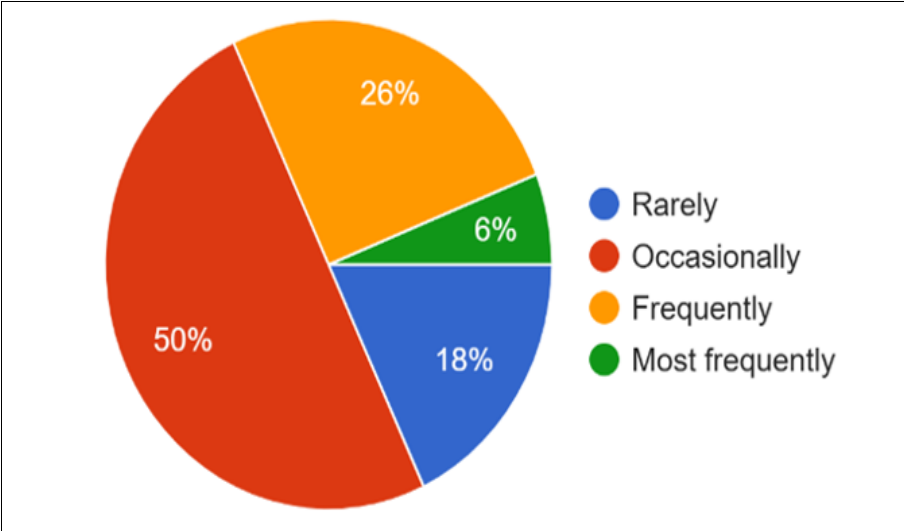


Fig 2: How many times have you tasted Mushroom

The pie chart represents how often respondents consume mushrooms. Half of the participants (50%) eat them occasionally, while 26% consume them regularly. A smaller share (18%) rarely include mushrooms in their diet, and

only 6% consume them frequently. Overall, consumption is mostly occasional, indicating moderate acceptance and potential for increased regular use with better awareness and availability.

Table. 3: How do you eat mushrooms?

Category	Frequency (150)	Percentage
Curry	129	86
Soup	9	6
Pickle	9	6
Salad	3	2
Total	150	100

Descriptive Statistics		
Mean	Std. Deviation	N
37.5	61.04	150

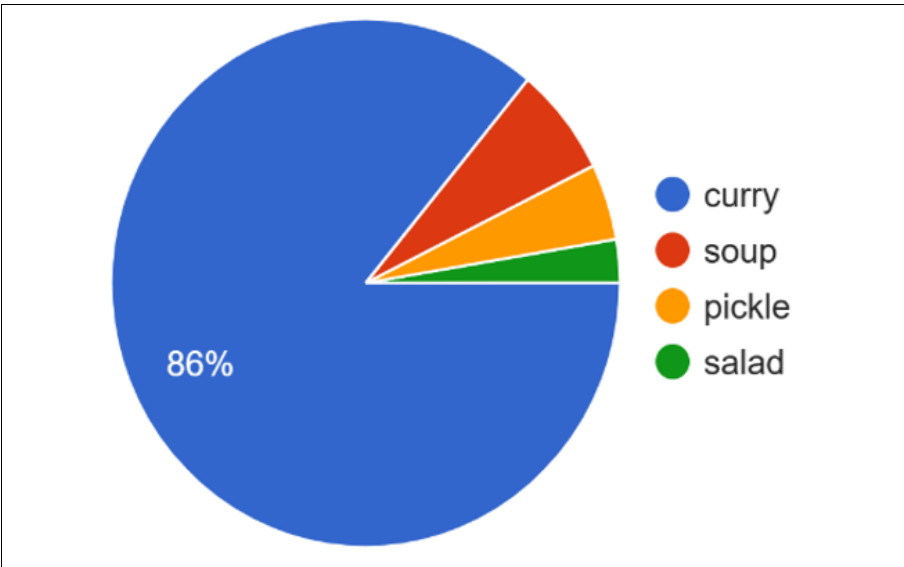


Fig 3: How do you eat mushrooms?

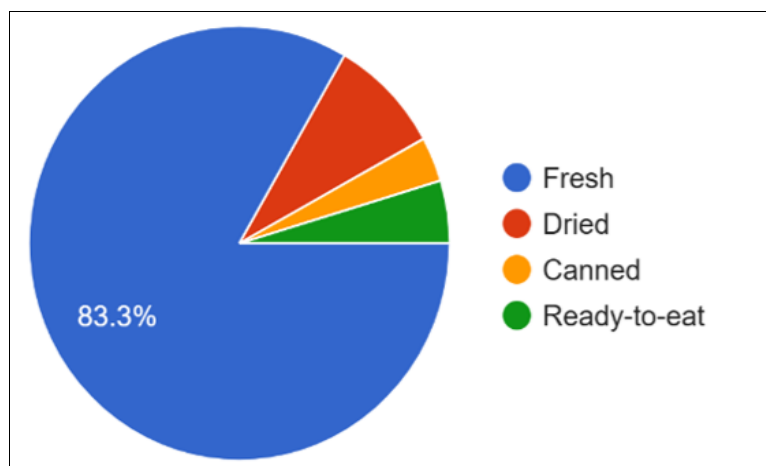
The pie chart displays the 150 respondents preferred methods of eating mushrooms. Due to its adaptability for everyday meals, mushroom curry is the most popular preparation technique, preferred by the majority (86%). Few

people eat mushrooms as soup and even fewer use them in pickles or salads. Traditional curry preparation is unquestionably the most popular option overall.

Table 4: In what form do you prefer mushrooms

Category	Frequency (150)	Percentage
Fresh	124	83.3
Dried	12	8.0
Canned	6	3.7
Ready -to -eat	8	5.0
Total	150	100

Descriptive Statistics		
Mean	Std. Deviation	N
37.5	57.72	150

**Fig 4:** In what form do you prefer mushrooms

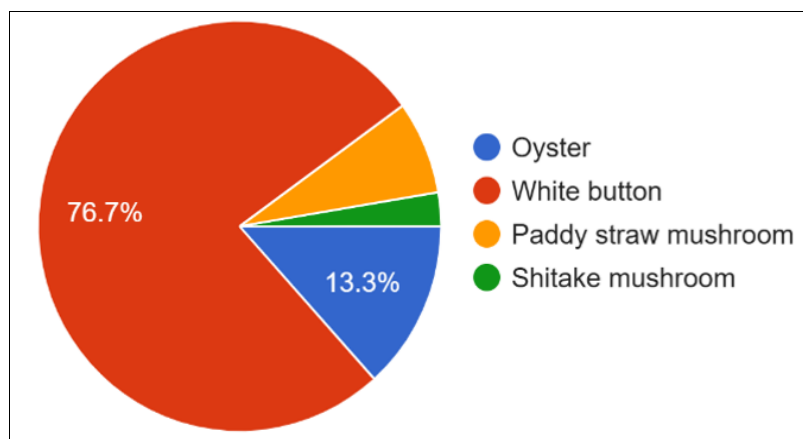
The pie chart presents respondents' preferred form of mushrooms. Most participants (83.3%) prefer fresh mushrooms, indicating a strong preference for natural and home-cooked ingredients. Around 8% choose dried

mushrooms, 5% prefer ready-to-eat options, and only 3.7% opt for canned mushrooms. Overall, fresh mushrooms are clearly the most preferred, while processed varieties have limited demand.

Table 5: Out of the following varieties of mushrooms choose one variety of mushroom that is preferred mostly by you

Category	Frequency (150)	Percentage
Oyster	20	13.3
White button	115	76.7
Paddy straw mushroom	11	7.0
Shitake mushroom	4	3.0
Total	150	100

Descriptive Statistics		
Mean	Std. Deviation	N
37.5	52.08	150

**Fig 5:** Out of the following varieties of mushrooms choose one variety of mushroom that is preferred mostly by you

The pie chart shows respondents' preferences for different types of mushrooms based on 150 responses. Most participants (76.7%) prefer white button mushrooms, making them the most popular due to their availability, affordability and mild taste. Oyster mushrooms are

preferred by 13.3% of respondents, followed by paddy straw mushrooms at around 7–8%. Shiitake mushrooms are the least preferred at about 2%. Overall, white button mushrooms dominate consumer preference, influenced by price, availability, and familiarity.

Table 6: Out of the following factors, which factor influences you the most while purchasing mushrooms

Factor Considered	Frequency (f)	Percent (%)
Colour	37	24.7
Price	22	14.7
Shape and size	67	44.7
None of these	24	16.0
Total	150	100

Descriptive Statistics		
Mean	Std. Deviation	N
37.5	20.76	150

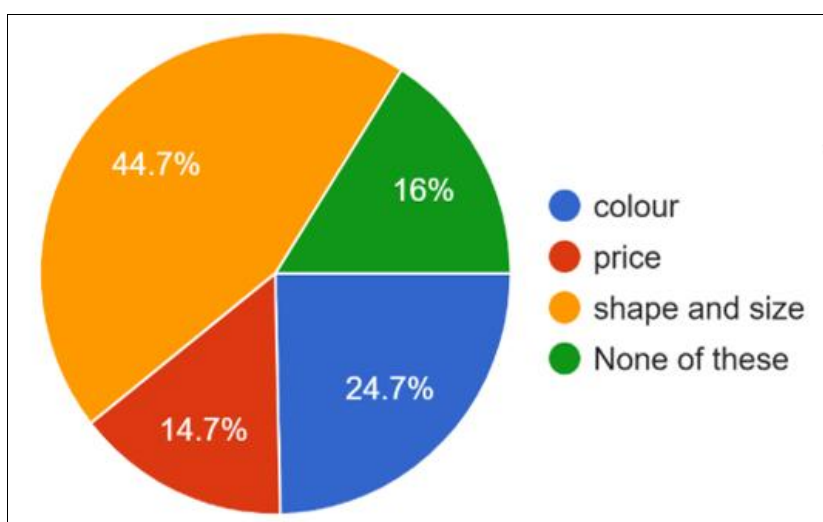


Fig 6: Out of the following factors, which factor influences you the most while purchasing mushrooms

The pie chart represents factors influencing mushroom purchasing decisions based on 150 responses. Most respondents (44.7%) consider size and shape as the key factor, highlighting the importance of visual quality. Colour is next, chosen by 24.7%, as it reflects freshness. Price is

important for 14.7% of respondents, while 16% selected other factors such as freshness, taste, or availability. Overall, visual appearance plays a greater role than price in consumer decisions.

Table 7: Among the following statements mentioned, choose the reasons that are responsible for your non purchasing behaviour of mushrooms

Reason for Not Consuming Mushrooms	Frequency (f)	Percent (%)
Higher prices of mushrooms	42	28
All family members don't like mushrooms	48	32
Can't be stored for longer duration	48	32
Vegetables are cheaper than mushroom	12	8
Total	150	100

Descriptive Statistics		
Mean	Std. Deviation	N
37.5	17.23	150

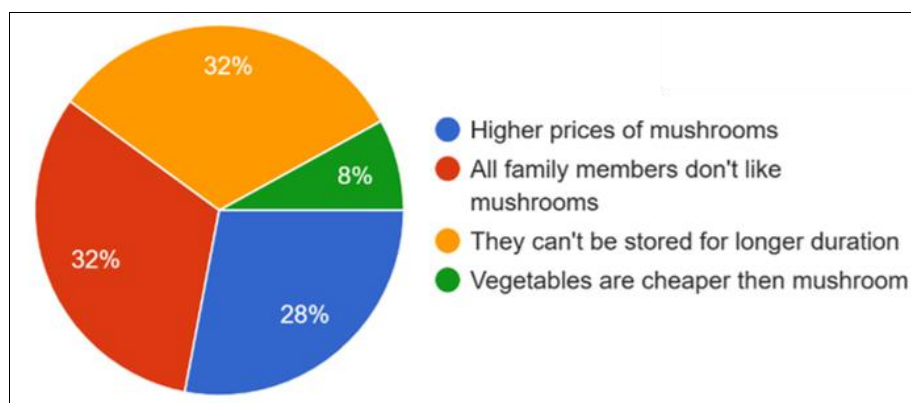


Fig 7: Among the following statements mentioned, choose the reasons that are responsible for your non purchasing behaviour of mushrooms

The pie chart highlights reasons for not purchasing mushrooms based on 150 responses. Family dislike (32%) and short shelf life (32%) are the main barriers, showing the influence of household preferences and perishability. Higher price is cited by 28% of respondents, while 8% feel vegetables are more economical. Overall, non-purchase is mainly driven by family preferences and storage limitations, followed by cost concerns.

Summary

Mushroom consumption and purchasing behavior in Hyderabad based on data from 150 respondents across five locations. The sample mainly represents young, educated, urban consumers, with many belonging to nuclear families and middle-income groups. Results show that mushrooms are primarily consumed for their nutritional and health benefits, and are often viewed as a protein alternative. However, their use is mostly occasional, indicating that regular inclusion in daily diets is still limited despite awareness. In terms of preferences, mushroom curry is the most popular preparation, reflecting a tendency toward familiar cooking methods. Fresh mushrooms are strongly preferred, while processed forms have low acceptance. Among varieties, white button mushrooms are the most commonly chosen due to their availability, affordability and familiarity. Buying decisions are largely influenced by visual qualities such as size, shape and colour, which consumers associate with freshness. Price is less important compared to appearance. Supermarkets are the main purchasing source, followed by local markets, while organic stores and direct farm purchases are less common.

Conclusion

Mushroom consumption in Hyderabad is increasing, but it has not yet become a regular part of most diets. Although people are generally aware of the health and nutritional benefits, this awareness does not always lead to frequent consumption. Consumer choices are mainly influenced by convenience, appearance and familiarity rather than detailed nutritional knowledge. Supermarkets are the primary source of purchase, reflecting the growing role of organized retail in urban areas. Despite positive attitudes, several factors limit wider use, including short shelf life, lack of storage options, limited cooking knowledge and traditional food habits. Price sensitivity and family preferences also affect buying decisions, especially among middle and lower income groups. The findings suggest strong potential to

expand the mushroom market through better awareness programs, improved supply chain and product innovations such as ready-to-cook or value-added items.

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