

Study on awareness and consumption of mushroom in an around Hyderabad

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Abstract

Today majority of the population is focusing on healthy and nutritional food, scientific cultivation of mushroom is alternative means which can reduce the food shortage and malnutrition. The present study was conducted in 2018 which was focused to know about knowledge of mushroom and its consumption from the local respondents of Hyderabad. A questionnaire was prepared and respondents were interviewed orally in around Hyderabad highlighting above details. Total of 40 respondents, were interviewed orally where female respondent are 45%, and male respondents 55%. Among the total respondents 60% were below poverty level and 40% above poverty level of the total respondents. With respect to gender and class the frequency of mushroom consumed by respondents are 2% frequently consume, 43% consumed non- frequently and, 55% not consumed at all. The results also revealed that consumption of mushrooms was done for two purpose one for medicinal and second for nutritional value. 32% of respondents believed that they are consuming mushroom for nutritional value were as 20% for medicinal value and remaining 68-80% respondents were not aware of nutritional and medicinal value . It concludes from the study, that both the genders and different class of respondents and frequency of consumption shows people are interested to consume because of its nutritional and medicinal value. The government should take initiative to promote the cultivation, supply and awareness of mushroom consumption related to health benefits of human beings.

Keywords: Mushrooms, Consumption, Medicinal Value, Nutritional Value, Health

INTRODUCTION

Globalization is affecting food production and consumption chains worldwide. According to FAO (Food and Agriculture Organization) estimates in "The State of Food Security and Nutrition in the World, 2018" report, that 195.9 million people are undernourished, 14.8% of the population is malnourished in India Hanger in India 2018. Malnourished children have a higher risk from disease such as diarrhea, pneumonia. The Global Hunger Index 2018 ranks India at 103 out of 119. Developing countries are becoming vulnerable to shortage of food supply chiefly on account of increasing population and shrinking land available to agriculture. However the expecting problem of malnutrition is equally threatening, as is shortage of food production. Such a predicament is forcing the policy makers to duly emphasize the importance of nutritious vegetables with higher productivity per unit land. Mushrooms being highly nutritious vegetable and cultivated indoor, has enough potential, although unexploited till now to offer timely solutions to the contemporary problems of food and nutritional security (Mahantesh Shirur et al., 2014: Lazo et al., 2015). Mushrooms are one of the alternative sources of reducing malnutrition (Ahmed and Ajijur Rahman 2008: Dulay et al., 2015: Bustillon et al., 2014). Low cost production of mushroom using agriculture waste in a controlled environment for economic advancement Oyedele et al., 2018. Since thousands of years, edible fungi have been revered for their immense health benefits and extensively used in traditional medicine (Manikandn, 2011). Species of medicinal mushrooms have a long history of use for disease treatment in folk medicines, especially in countries such as China, India, Japan and Korea (Ajith and Janardhanan, 2007: Changet, 1999: Hobb, 1995: Hobbs, 2005: De Silva et al., 2012). Mushrooms contain many essential amino acids, proteins, carbohydrates, unsaturated fatty acids, fiber and minerals. Over 200 species of

mushrooms have been collected for various traditional and medicinal purposes mostly in the far East. The majority of the cultivated species are both edible and possess medicinal properties. Several studies have reported that mushrooms are utilized for treatment of skin diseases, yellow fever, and constipation, mumps, measles, and stomach pain (Aryal and Budhathoki, 2013). China is a major producer and consumer of both edible and medicinal mushrooms. There is evidence to show that some species of mushrooms contain powerful stimulants of the immune system. Mushrooms has protein content of dry weight which is between 19% and 35% , low rate of fat content between 1-8% and, the high content of linoleic acids is one of the reasons why mushrooms are considered healthy food. Mushrooms are a good source of vitamins such as thiamine (Vitamin B). Riboflavin (vitamin B2), niacin, biotin and ascorbic acid (vitamin C), folic acid. Most of the Hyderabad respondents know about mushrooms and they locally called it "putta godugulu" In addition, the generic name of all mushrooms in "tit" in India (Das.et.al.2014). The present study highlight about the understanding study understanding of mushroom awareness and consumption by respondents in and around Hyderabad.

Study area

Hyderabad is located on the banks of the Musi river around artificial lakes. During 1591AD, Hyderabad was founded by the 5th Qutub Shahi who was the ruler of Hyderabad. Muhammad kuli Qutub Shah and even the common people used to refer to this city as "Bhagyanagar" also. In 1978 hyderabad district was split into hyderabad (urban) District and Hyderabad (rural) and the rural part was named as Ranga reddy district. Later, Hyderabad urban was renamed as hyderabad district. The district located in the heart of the Deccan Plateau of the Indian sub-continent lies approximately at the conjunction of 17° 20' northern latitude and 78° 30' eastern longitudes (District census handbook Hyderabad-2011). Hyderabad is 515 meters above the Sea Level (Hyderabad City History). It occupies an area of 650 sq, kms. The district is bounded on all sides by Ranga Reddy district. The estimated population of Hyderabad is 10 million in 2018; Greater Hyderabad Municipal Corporation (GHMC) was created in 2007 .The GHMC has a population of 10 million, which makes it the 6th most populous urban agglomeration in India.

MATERIAL AND METHODS

Materials and methods

Sample area for questionnaire administration

The present study was carried out during the year 2018 for the collection of data in and around Hyderabad, because many mushroom cultivators and awareness institutions are located in Hyderabad. Hyderabad is the capital city of Telangana. Data was collected using the survey questionnaire and interviewed method. The questionnaire was constructed keeping objectives of the study. Questionnaire was prepared in Telugu, Urdu and English as the respondents are fluent in the language aside from their native dialect. The questionnaire was administrated to obtain information on the knowledge of mushroom and its medicinal and nutritional values. Actual interview of respondents was also conducted to obtain additional information. Survey was carried out through formatted interviews with the respondents of the different age and economical communities.

Data Analysis

The data on the socio-demographic characteristics was summarized and tabulated to provide basic information regarding basic knowledge of mushrooms from respondents. The number of respondent information recorded in the survey questionnaire is shown in table1.

Table1- Status of mushroom consumption with respect to various parameters by respondents

S No	Respondent Number	Gender	Age	Class of Respondent	Knowledge of Mushrooms	Frequency	Purpose of Consumption	
							Nutritional Value	Medicinal Value
1	R1	Male	28	BPL	Yes	NF	Yes	Yes
2	R2	Female	35	APL	Yes	NF	Yes	Yes
3	R3	Male	34	BPL	Yes	NF	No	No
4	R4	Female	23	APL	Yes	NF	Yes	No
5	R5	Female	23	APL	Yes	NF	Yes	No
6	R6	Male	55	APL	Yes	NF	No	No
7	R7	Female	50	BPL	Yes	NC	No	No
8	R8	Female	28	APL	Yes	NF	Yes	Yes
9	R9	Male	38	BPL	Yes	F	Yes	Yes
10	R10	Female	23	APL	Yes	NC	No	No
11	R11	Male	50	BPL	Yes	NF	No	No
12	R12	Male	55	BPL	Yes	NF	No	No
13	R13	Male	50	BPL	Yes	NC	No	No
14	R14	Male	26	APL	Yes	NC	No	No
15	R15	Male	45	APL	Yes	NC	No	No
16	R16	Male	22	BPL	Yes	NC	Yes	No
17	R17	Male	35	BPL	Yes	NC	No	No
18	R18	Male	53	APL	Yes	NF	No	No
19	R19	Male	56	APL	Yes	NC	No	No
20	R20	Male	32	APL	Yes	NC	No	No
21	R21	Female	45	BPL	Yes	NC	No	No
22	R22	Female	25	BPL	Yes	NF	Yes	No
23	R23	Male	28	BPL	Yes	NC	Yes	No
24	R24	Female	24	BPL	Yes	NF	Yes	Yes
25	R25	Female	54	APL	Yes	NC	No	No
26	R26	Female	33	BPL	Yes	NC	No	No
27	R27	Female	50	BPL	Yes	NC	Yes	No
28	R28	Female	54	BPL	Yes	NC	No	No
29	R29	Female	40	BPL	Yes	NF	No	No
30	R30	Male	52	BPL	Yes	NC	No	No
31	R31	Male	32	BPL	Yes	NF	No	No
32	R32	Male	58	BPL	Yes	NC	No	No
33	R33	Female	35	APL	Yes	NF	No	No
34	R34	Female	21	BPL	Yes	NC	Yes	Yes
35	R35	Male	33	BPL	Yes	NC	No	No
36	R36	Male	36	APL	Yes	NF	Yes	Yes
37	R37	Male	55	BPL	Yes	NC	No	No
38	R38	Female	40	APL	Yes	NF	No	Yes
39	R39	Female	33	APL	Yes	NC	No	No
40	R40	Male	29	BPL	Yes	NC	No	No

R₁₋₄₀=Respondent Number, APL=above poverty level, BPL=below poverty level, F=Frequently, NF=Non - frequently, NC=Not -consume

RESULTS AND DISCUSSION

Results and Discussion

Respondent gender

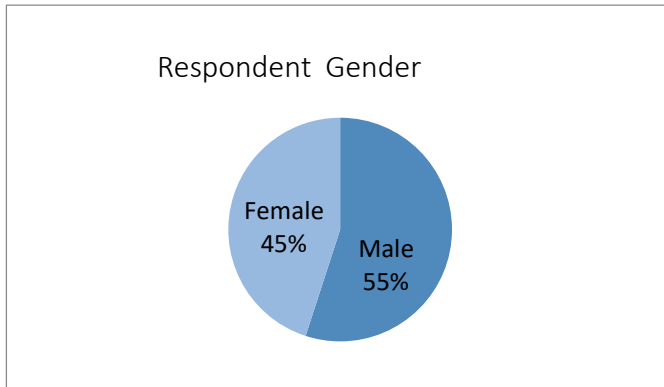


Figure1- Mushroom consumption by various genders

The result showed in figure1, total 40 respondents were interviewed 55% male and 45% female who as actively participated in the survey. Majority of the females are aware of mushroom nutritional and medicinal values.

Respondent Class

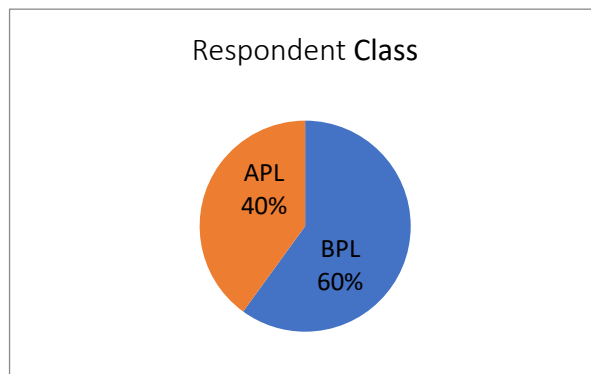


Figure2- Mushroom consumption by various classes

The results in figure2 depicts respondents economical class .The respondent class was divided in two classes below poverty level and above poverty level .Majority of the respondent 60% are below poverty level and 40% are above poverty level of the total respondents.

Respondent age

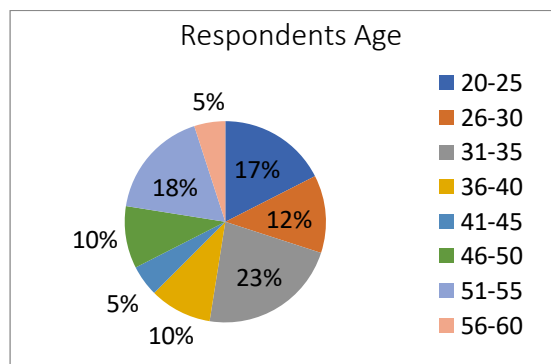


Figure3- Mushroom consumption by various ages

The result showed in figure3 about respondent age. The respondent age between 20-60 years old. Majority of the respondents is between 31-35 age groups which constitute 23%. Age of 56-60 and 41-45 age respondents participated in the study which constitutes 5%.

Frequency of mushroom consumption

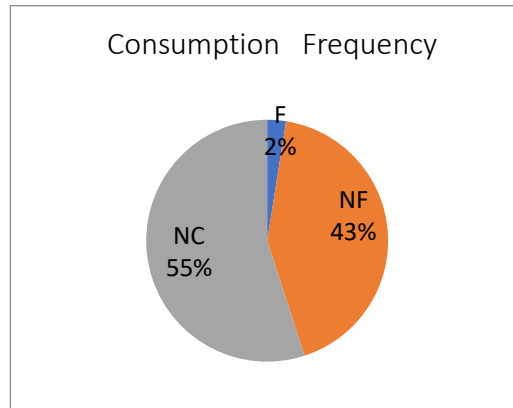


Figure4- Frequency of mushroom consumption

The result showed in figure4 all the 40 respondents with respect to gender and class of the frequency of mushroom consumed by respondents indicates frequently consumed 2%, non- frequently 43%, and not consume 55%.

Purpose of mushroom consumption

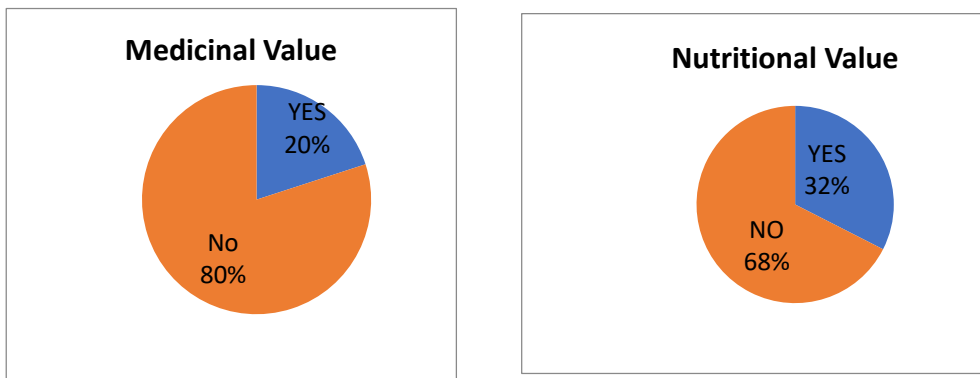


Figure 5-Purpose of mushroom consumption

The result in figure 5 revealed that consumption of mushrooms was done for two purpose one for medicinal and second for nutritional value. 32% of respondents believed that they are consuming mushroom for nutritional value where as 20% for medicinal value and remaining 68-80% respondents not aware of nutritional and medicinal value.

Status of mushroom consumption with respect to various parameters by respondents:

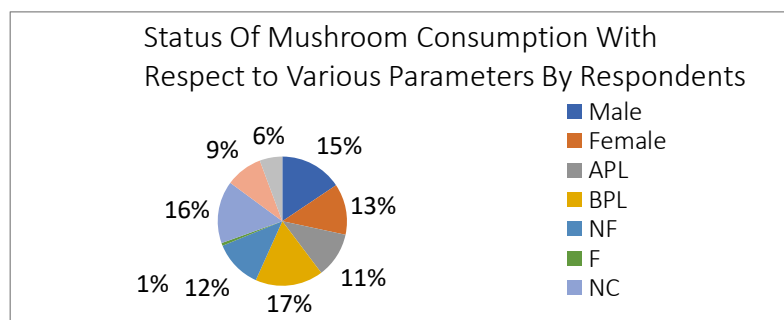


Figure 6- Status of mushroom consumption with respect various parameters by respondents

The overall results depicted in figure 6 showed that female respondent were 45%, male respondents 55% among the total respondents, were as below poverty level 60% and above poverty level 40% of the total respondents. Majority of respondents 31-35 age group are 23% and 56-60 age groups participated in survey which constitute 5%. With respect gender and class the frequency of mushroom consumed by respondents indicate frequently consumed 2%, non- frequently 43% ,and not consumed 55%.The result also revealed that consumption of mushroom was done for two purpose one for medicinal and nutritional value. Majority of the respondents revealed that they are consuming mushroom for nutritional value which is 32% were as medicinal value 20% the remaining 68-80% respondents are not aware of nutritional and medicinal value of mushroom.

The current study reveals that among selected respondents most of the respondents are unaware about the nutritional and medicinal qualities of mushrooms. Though, the education level of respondents in the present study is relatively high, their unawareness about the nutritional and medicinal qualities of mushrooms is surprising. This calls for emphasizing on publishing regular articles on nutritious aspects of mushrooms in vernacular print medium. Majority of the respondents said that, they avoid purchasing mushrooms as they feel that the prices of mushrooms are much higher to than other vegetables, non-availability of mushrooms in the market hinders purchasing frequency, mushrooms available in the market are not fresh, do not know how to make different mushroom recipes, unaware about their nutritional properties, higher price of mushrooms compared to other vegetables hinders purchasing frequency other family members do not like mushrooms, mushroom cannot be stored for longer duration, it is not tasty, fear about mushrooms being poisonous, mushrooms are grown on compost, few respondents said it is non vegetarian food.

Conclusion

Majority of the people lack of awareness and they don't know the consumption benefits. Because of this reasons the government should take initiative to promote the cultivation, supply and awareness of mushroom consumption related to health benefits of human beings.

References

1. Ahmed.Imtiaj.,and Syed Ajijur Rahman,2008,Economic viability of mushrooms cultivation to poverty reduction in Bangladesh Tropical and Subtropical Agroecosystems,vol.8,núm.1,pp,93-99,Universidad Autónoma de Yu.
2. Aryal.H.P., and U.Budhathoki.,Phytochemical Screening Of Termite's Mushroom In Nepal ,J. Nat. Hist. Mus. Vol. 27, 2013.
3. Ajith.TA.Janardhanan.KK.2007, Indian medicinal mushrooms as asource of antioxidant and antitumor agents, J Clin Biochem Nutr 40:157–162.
4. Ayodele.SM.,Akpaja.EO.,Adamu.Y.,2011,Some Edible and Medicinal Mushrooms of Igala Land in Nigeria,Their Sociocultural and Ethnomycological Uses, International Journal of Science and Nature. 2(3), 473–476.
5. Bustillos.RG.,Dulay.RMR.,Bauto.JJ.,Pascual.F.,Baltazar.K.,Bunag.HW.,Macatula.A., Nicolas.MA.,Torres.MA.,Nillosa.JC.,DelaCruz.JC.,Kalaw.SP.,ReyesRG.,2014,Mycochemical Profile of Mycelia and Fruiting Body of *Paneolus cyanescens* and its Optimal Submerged Culture.
6. Chang. ST., 1999, Global impact of edible and medicinal mushroomson human welfare in the 21st century: nongreen revolution, Int JMed Mushr 1:1–8.
7. Das.K.,Lamo.A.,Paul.D.,Jha.LK.,2014,Ethnomycological Knowledge on Wild Edible Mushroom of Khasi Tribes of Meghalaya, North-Eastern India. European Academic Research. 2(3)3433– 3443.
8. De Leon.AM.,Reyes.RG.,Dela Cruz.TEE.,2012,An ethnomycological survey of macro fungi utilized by Aeta communities in Central Luzon, Philippines Mycosphere, 3(2),251–259, Doi 10.5943/mycosphere/3/2/9.
9. De Silva.DD., Rapior.S.,Fons.,Bahkali.AH.,Hyde.KD., 2012, Medicinal mushrooms in supportive cancer therapies: an approach to anti-cancer effects and putative mechanisms of action, A Review, Fungal Divers 55:1–35.

10. Dulay.RMR.,Flores.KS.,Tiniola.RC.,Marquez.DHH.,DelaCruz.AG.,Kalaw.SP.,and Reyes.RG.,2015,Mycelial biomass production and antioxidant activity of *Lentinus tigrinus* and *Lentinus sajor-caju* in indigenous liquid culture, *Mycosphere* 6(6), 659–666, Doi 10.5943/mycosphere/6/6/2.
11. Hobbs.CR., 1995, *Medicinal mushrooms: an exploration of tradition, healing, and culture*, Botanica Press, Santa Cruz, USA, 251p.
12. Hobbs.CR.,2005, The chemistry, nutritional value, immune pharmacology, and safety of the traditional food of medicinal split-gill fungus *Schizophyllum commune*, *Aphyllophoromyceti-deae*, A literature review, *Int J Med Mushr* 7:127–140.
13. Lazo.CRM.,Kalaw.SP.,DeLeon.AM., 2015, Ethno mycological Survey of Macrofungi Utilized by Gaddang Communities in Nueva Vizcaya, Philippines, *Current Research in Environmental & Applied Mycology* 5(3), 256–262, Doi 10.5943/cream/5/3/8.
14. Mahantesh.Shirur. OP.Ahlawat., and K.Manikandan.,Mushroom consumption and purchasing behavior in India, A study among selected respondents *Research* 23 (2): 225-231, 2014.
15. Oyedele.OA.,Adeosun.MV.,Koyenikan.OO.,2018,Low Cost Production of Mushroom using Agricultural Waste in a Controlled Environment for Economic Advancement, *Int J Waste Resour* 8: 329, Doi, 10.4172/2252-5211.1000329.
16. Das.K.,Lamo.A.,Paul.D.,Jha.LK.,2014,Ethnomycological Knowledge on Wild Edible Mushroom of Khasi Tribes of Meghalaya, North-Eastern India. *European Academic Research*, 2(3)3433– 3443.
17. District census handbook Hyderabad.directorate of census operations Andhra Pradesh, census of India 2011. Andhra Pradesh series-29 part xii-a.
18. Manikandan.K,2011,Nutritional and medicinal values of mushrooms. *Mushrooms, Cultivation, Marketing and consumption*, Edited by Manjit Singh, B. Vijay, Shwet Kamal and G.C. Wakchaure.
19. Hanger in India (2008)
<http://www.indianfoodbanking.org/hunger>. Accessed 10 march 2019.
20. Hyderabad City History, Google source, Accessed 1 march 2019.