

A comparative study of consumption pattern of maize (*Zea mays L.*) on rural and urban category in the Kanakpur area of Rudrapur city

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Abstract

Maize (*Zea mays L.*) also known as corn, is a very important staple food due to highest genetic yield potential among the cereals. The maize is grown throughout the year in all states of the India for various purposes including grain, fodder, sweet corn and baby corn etc. In recent years, the maize production has significantly increased due to high demand. The present study assessed the consumption pattern of maize among rural and urban category in the Kanakpur area of Rudrapur city. The study was carried out in October 2018. Purposive sampling technique was adopted to select the samples. A questionnaire cum interview method was used to collect the information from the participants. Forty subjects were randomly selected for the study. In the study, more than half of the participants in both groups consumed maize due to family background. The result of this study shows that people were not aware about the nutritional quality of maize. So there is a need to make people aware about the nutritive quality of maize should be developed various products to increased the acceptability of the maize.

Keywords: consumption pattern, nutritional quality, awareness, maize.

Introduction

Maize or corn (*Zea mays L.*) is a major cereal crop in India. It is grown throughout the year (kharif, rabi and spring season) and third most important cereal crop after rice and wheat in India. Maize is widely cultivated throughout the world. In India, major growing states are Uttar Pradesh, Madhya Pradesh, Jharkhand, Chhattisgarh and Bihar accounting about half of the total production share at national level (Joshi et al. 2005). It is the fact that maize is capable to growing in areas where rainfall is low and irrigation facilities are poor.

Maize crop utilized in Asian countries as animal feed in large scale and comparatively small quantity for human food and industrial process. In India, about 52 percent is used for feed followed by 24 percent for human food and 22 percent for industrial processing (Oberoi and Srivastava 2014). Maize is a good source of some nutrients like energy, protein, micro nutrients and phytochemical compounds. According to Ranum et al. (2014) that maize contains approximately 72% starch, 10% protein and 4% fat supplying an energy density of 365 kcal/100 gm. Maize provides nutrients for human and animals and serves as a basic raw material for the production of starch, oil and protein, alcoholic beverages, food sweeteners etc. in recent years, the maize production has significantly increased due to high demand. Large numbers of residents of Rudrapur city are Punjabi and Sikh. Maize is a main food item of Punjabi. Since the demand for maize is increasing constantly. The present study aimed to assess the consumption pattern of maize and awareness about the nutritional quality of maize on rural and urban category in the Kanakpur area of Rudrapur city.

Methods and Materials

This study is mainly based on primary data. The data was collected from Kanakpur area of Rudrapur city through pre structured questionnaire. Purposive random sampling techniques were adopted to select the subjects. Subject's demographic profiles were also assessed. A total of 40 subject both urban and rural category was interviewed for this study. This study was carried out in October 2018. Exploratory research design was adopted for the study. Frequency and percentage distribution to describe the demographic variables and consumption pattern of maize.

Results

Table 1 reveals that majority 60% of both groups were in the age group of 31-40 years. Regarding the educational qualification 45% subjects of rural category were graduates and 70 % subjects of urban category

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were post graduate. Most of the respondents were married. Considering the type of family 75 % of rural category and 90% of urban category were lived in nuclear family. Regarding the income status majority 55% of rural category had income less than 25,000 Rs. and 70% of urban category had income greater than 25,000 Rs. Table 1 reveals that the 40% respondents of rural category were small farmers (1-2hq) while in urban category 55 percent had no land.

Table 2 reveals that most of the respondents (75%) had no knowledge about nutritional value of Maize in rural category, while in urban area 55 per cent respondents had knowledge about nutritional value of maize.

Table 1 frequency and percentage distribution of demographic variables of respondents

S. No.	General information		Rural		Urban	
			frequency	Percentage	frequency	Percentage
1.	Age group	20-30 years	1	5	4	20
		31-40 years	12	60	12	60
		41-50 years	4	20	4	20
		51 to above	3	15	-	-
2.	Educational Qualification	Illiterate	-	-	-	-
		Less than 10 th	2	10	1	5
		Intermediate	6	30	-	-
		Graduate	9	45	5	25
		Post graduate	3	15	14	70
3.	Family type	Nuclear	15	75	18	90
		Joint	5	25	2	10
4.	No. of family members	Small (Up to 3)	-	-	5	25
		Medium(4-6 members)	17	85	13	65
		Large (7 and above)	3	15	2	10
5.	Monthly income of family	Up to Rs. 10,000	1	5	-	-
		Rs. 10,001 to 25,000	11	55	6	30
		Rs. 25,001 to above	8	40	14	70
6.	Land holding	Marginal farmers (below 1 hq)	5	25	5	25
		Small farmers (1-2 hq)	8	40	4	20
		Big farmers (2hq to above)	7	35	-	-

Source: Data Collected by Researcher

Most of the respondents of rural category had no awareness about the nutritional properties of maize. 10 % of the respondents have knowledge about carbohydrate, protein found in maize.

While in urban category 15 respondents know about that carbohydrate, fat and vitamin found in maize. The result showed that respondents of urban category of Kanakpur area have more knowledge about nutritional properties of maize. Table 2 Dietary profile of respondents

S. No.	Dietary profile of respondents		Rural		Urban	
			frequency	Percentage	frequency	Percentage
1.	Knowledge about of maize	Yes	5	25	11	55
		No	15	75	9	45
2.	Knowledge about nutrients found in maize	Carbohydrate +protein	2	10	2	10
		Carbohydrate +fat	1	5	3	15
		+protein				
		Carbohydrate + vitamin	1	5	1	5
		Vitamin	-	-	1	5
		carbohydrate	-	-	2	10
		mineral	-	-	-	-
Fibre	1	5	2	10		

Source: ibid

A comparative study of consumption pattern of maize (Zea mays L.) on rural and urban category

Table 3 shows that majority of respondents of both category consumed maize in their diet. A report by DMR (2012) reveals that the consumption pattern for maize in India at present includes poultry feed- 52 per cent, human food- 24 per cent, animal feed- 11 per cent and industrial processing- 11-12 per cent.

Majority of the respondents of rural category (40%) consumed maize due to family background, while in urban category 40% respondents consumed maize due to nutritional benefits of maize. Most of the respondents of both category consumed maize as a form of roti, popcorn, babycorn etc.

Discussion

Cereal grains are important staple food providing sufficient amounts of energy, protein and micro nutrients for most of the world's population. Maize (*Zea mays L.*) is a very important staple food. Maize is used as food for human and feed for animals and poultry, besides other industrial uses. From the nutrition point of view, its kernel comprises about 70 per cent starch, 9-10 per cent protein, 4-5 per cent fat, 9- 10 per cent fibre, 2-3 per cent sugar and 1 per cent minerals/ash (GoI, 2008).

Table 3 Consumption pattern of maize in diet

S. No.	Consumption pattern of maize in diet		Rural		Urban	
			frequency	percentage	frequency	percentage
1.	Consumption of maize in diet	Yes	15	75	11	55
		No	5	25	9	45
2.	Reason of consumption of maize in diet	Due to family history	8	40	1	5
		Due to production of maize in their land	5	25	2	10
		Due to nutrition profile	2	10	8	40
3.	Forms of consumption of maize in diet	Roti	4	20	3	10
		Baby corn	-	-	-	-
		Popcorn	4	20	2	5
		Others	-	-	1	5
		Roti+ popcorn	5	25	3	10
		Roti+ popcorn +babycorn	2	10	5	25

Source: ibid

The study results show that majority of urban category were more aware about the nutritional quality of maize in comparison of rural category, But the consumption of maize were high in rural category due to family history.

Conclusion

The present study assessed the consumption pattern of maize and awareness about the nutritional quality of maize on rural and urban category in the Kanakpur area of Rudrapur city. The finding of the study is indicated that consumption pattern of maize was higher in rural area as compared to urban category in Kanakpur area of Rudrapur city, but awareness about nutritive quality of maize were lower in rural area in comparison of urban area. Maize is a good source of all nutrients so it can be combined in various food preparations to achieve better nutrition. The limitation of the present study is the consumption pattern of maize is higher in those areas where maize is cultivated.

The major suggestion of the present study is that maize is a good source of all nutrients. So there is a need to aware the people about its nutritive value and fortify with other cereal to meet nutritionally superior and acceptable products.

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