



Cost and affordability of healthy diets: A comparative study between rural and urban consumers

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Abstract

Healthy eating is often perceived as more expensive than consuming processed or unhealthy foods, raising concerns about the affordability of healthy diets among different populations. The present study was undertaken to compare the cost of healthy and unhealthy foods between rural and urban areas, assess consumer perceptions regarding the affordability of healthy eating, identify factors influencing food purchasing decisions, and evaluate perceptions of the impact of healthy eating on overall well-being. A comparative research design was adopted, and data were collected from 100 respondents, comprising 50 rural and 50 urban participants, selected through random sampling. Data were collected using a structured questionnaire along with market price observations of selected healthy and unhealthy food items. Descriptive statistics, paired t-test, and Chi-square test were used for data analysis. The findings showed that the mean prices of both healthy and unhealthy food items were significantly higher in urban areas than in rural areas ($p < 0.001$), with a greater price difference observed for healthy foods. A significantly higher proportion of urban respondents (72%) perceived healthy eating as expensive compared with rural respondents (30%) ($\chi^2 = 17.5$, $p < 0.001$). Convenience and availability were the leading factors influencing food purchasing decisions in both groups. The high cost of fresh produce and the time and effort required for meal preparation were the major factors contributing to the perception that healthy foods are expensive. Most respondents from both rural and urban areas perceived that healthy eating moderately improves overall well-being. The study concludes that healthy foods are comparatively more costly, particularly in urban areas, indicating a need to improve their affordability and accessibility and strengthen nutritional awareness among consumers.

Keywords: Cost, affordability, healthy foods, rural, urban, consumer perception

Introduction

Healthy eating is important for maintaining good health and reducing the risk of diet-related diseases. However, the ability to follow a healthy diet depends not only on nutritional knowledge but also on the cost and availability of foods. Studies have reported that diets rich in fruits, vegetables, lean meats, dairy products, and other nutrient-dense foods may cost more than diets based mainly on refined grains, added sugars, and fats. At the same time, food choices are influenced by consumer preferences, convenience, purchasing habits, and socioeconomic conditions. Therefore, the affordability of a healthy diet cannot be considered only in terms of the price of individual foods but also in relation to household resources and food choices.

Income and food prices are important factors affecting the quality of the diet. When household budgets are limited, consumers may prioritize foods that provide greater satiety at a lower cost, while foods such as fruits, vegetables, milk, eggs, and meat may be reduced when prices or financial constraints increase. Previous research in India has also shown that nutritious food groups can be more sensitive to changes in income and prices than staple foods such as rice and wheat. This indicates that economic conditions can influence the ability of households to maintain dietary diversity and nutritional adequacy.

Food availability and the surrounding food environment further influence food choices. Urban areas generally provide access to a wider range of foods through supermarkets, organized retail outlets, restaurants, and

convenience stores. However, greater availability can also increase exposure to processed and convenience foods. Rural populations may depend more on locally available, seasonal, and traditionally consumed foods, while limited market access and lower income can restrict access to a wider variety of nutritious foods. Thus, the cost and accessibility of healthy foods may differ between rural and urban populations.

Previous studies have highlighted the importance of food affordability and accessibility in determining dietary behaviour. Evidence from rural and urban settings suggests that food price, availability, convenience, and accessibility can influence dietary choices, while food environments may differ considerably across population groups. In India, differences in food availability, nutritional quality, and pricing have also been reported across rural, urban, and urban-slum settings.

Although existing research has examined food prices, dietary patterns, and food environments, there is a need to understand how the cost of healthy and unhealthy foods and consumers' perceptions of affordability differ between rural and urban populations. Understanding these differences can help identify the economic and behavioural factors that influence food purchasing decisions and the perceived feasibility of healthy eating.

Therefore, the present study was undertaken to compare the cost of healthy and unhealthy food items between rural and urban areas, assess consumer perceptions regarding the affordability of healthy eating, identify factors influencing food purchasing decisions, identify factors contributing to

the perception that healthy foods are expensive, and assess perceptions regarding the effect of healthy eating on overall well-being.

Methodology

Research Design: A comparative research design was adopted to compare food costs and dietary patterns between urban and rural populations.

Research Approach: A quantitative research approach was employed using a structured questionnaire and market price observation to collect relevant data.

Place of Study: The study was conducted in both urban and rural areas the study will focus on two regions: an urban locality and a rural locality

Sample Size: The total sample size for the study was 100 (50 from urban areas and 50 from rural areas).

Sample Type: The study used a random sampling method.

Inclusion Criteria:

- **Age:** 20-60 years
- **Location:** Participants must reside in either an urban or rural area.
- **Income:** A mix of different income levels will be included to assess the impact of income on food choices.
- **Eating Habits:** Participants consumed food regularly from local markets or stores.

Data Collection Tools: A structured questionnaire were used to collect primary data from the participants.

Data Analysis

- The collected data will be compiled and tabulated
- Descriptive statistics such as frequency and percentage were used to analyze perception of food cost.
- Food prices were compared between rural and urban areas.

Statistical Analysis: Descriptive statistical methods such as frequency and percentage will be used to analyse the collected data. Paired t-test and Chi-square test were used for comparison and association, respectively, with statistical significance set at $p < 0.05$.

Results and Discussion

Statistical Analysis of Price Comparison of Healthy Foods

Area	No.of food items	Mean price	Standard deviation
Urban	70	86.57	90.65
Rural	70	74.21	81.42

Statistical test	T value	P value
Paired t test	7.776	<0.001

The mean price of healthy food items was found to be higher in urban areas (₹86.57 $\pm$ 90.65) than in rural areas (₹74.21 $\pm$ 81.42). The paired t-test revealed a statistically significant difference between urban and rural food prices ($t = 7.776$, $p < 0.001$). This finding indicates that healthy food

items were generally more expensive in urban markets than in rural markets, suggesting differences in food affordability between the two locations.

Statistical Analysis of Price Comparison of Unhealthy Foods

Area	No. of food items	Mean price	Standard deviation
Urban	13	35.23	21.81
Rural	13	31.31	19.11

statistical test	t- value	p- value
Paired t test	2.776	0.017

The mean price of unhealthy food items was higher in urban areas (₹35.23 $\pm$ 21.81) than in rural areas (₹31.31 $\pm$ 19.11). The paired t-test indicated a statistically significant difference between urban and rural prices of unhealthy foods ($t = 2.776$, $p = 0.017$). This finding suggests that unhealthy food items were also comparatively more expensive in urban areas, although the difference was less pronounced than that observed for healthy food items.

Perception That Healthy Food is Expensive

RESPONSE	RURAL	URBAN	TOTAL
YES	15	36	51
NOT SURE	35	14	49
TOTAL	50	50	100

Statistical test	χ^2 value	df	p value
Chi square test	17.5	1	< 0.001

The Chi-square test revealed a statistically significant association between place of residence and respondents' perception regarding the cost of healthy eating ($\chi^2 = 17.5$, $df = 1$, $p < 0.001$). A greater proportion of urban respondents perceived healthy eating as more expensive compared to rural respondents. Conversely, a higher proportion of rural respondents were uncertain about the cost difference between healthy and unhealthy foods. These findings suggest that place of residence significantly influences perceptions regarding the affordability of healthy eating. The observed difference may be attributed to variations in food pricing, purchasing patterns, and market accessibility between rural and urban areas, which can influence consumer perceptions regarding the affordability of healthy foods.

Factors Influencing the Food Purchase Decisions

FACTORS	RURAL	URBAN	TOTAL
Price	11	7	18
Availability	19	21	40
Convenience	20	22	42
Total	50	50	100

Statistical test	χ^2 value	df	P value
Chi square test	1.12	2	0.57

The Chi-square test showed no statistically significant association between place of residence and factors influencing food purchase decisions ($\chi^2 = 1.12$, $df = 2$, $p = 0.57$). Respondents from both rural and urban areas reported

similar preferences regarding food purchasing behaviour. Convenience and availability were identified as the major factors influencing food choices in both groups, while price was reported less frequently. These findings suggest that food purchase decisions were largely comparable among rural and urban respondents.

Reasons Why Healthy Foods are Expensive

Reasons	Rural	Urban	Total
High price on fresh produce	21	13	34
Organic food is more expensive	8	13	21
Time and effort to prepare meals	21	24	45
Total	50	50	100

statistical test	x ² value	df	p value
Chi square test	3.89	2	0.143

The Chi-square test revealed no statistically significant association between place of residence and the factors contributing to the perception that healthy foods are expensive ($\chi^2 = 3.89$, $df = 2$, $p = 0.143$). Respondents from both rural and urban areas reported similar reasons for perceiving healthy foods as expensive. The time and effort required to prepare meals and the high price of fresh produce were the most frequently reported factors, whereas the perception that organic foods are more expensive was reported less frequently. These findings indicate that the reasons underlying the perception of high healthy food costs were comparable across both residential groups.

Perceptions Regarding the Eating Healthy Food on Overall Well Being

Response	Rural	Urban	Total
Significantly	2	6	8
Moderately	32	36	68
Slightly	16	8	24
Total	50	50	100

Statistical test	X ² value	Df	P value
Chi square	4.96	2	0.086

The Chi-square test indicated no statistically significant association between place of residence and respondents' perceptions regarding the impact of healthy eating on overall well-being ($\chi^2 = 4.96$, $df = 2$, $p = 0.086$). The majority of respondents from both rural and urban areas reported that healthy eating moderately improves overall well-being. Although a slightly higher proportion of urban respondents perceived a significant impact of healthy eating, the observed differences were not statistically significant. These findings suggest that perceptions regarding the benefits of healthy eating were generally similar among rural and urban respondents.

Conclusion

The study found that the mean prices of healthy and unhealthy food items were higher in urban areas than in rural areas. The difference in prices was statistically significant for both healthy foods (paired t-test, $t = 7.776$, $p < 0.001$) and unhealthy foods ($t = 2.776$, $p = 0.017$). A significant association was observed between place of residence and the perception that healthy eating is expensive ($\chi^2 = 17.50$, $p < 0.001$). Convenience and availability were

the major factors influencing food purchasing decisions, while the high price of fresh produce and the time and effort required for meal preparation were the main reasons for perceiving healthy foods as expensive. Overall, respondents from both rural and urban areas perceived that healthy eating moderately improves well-being. The findings indicate the need to improve access to affordable healthy foods and promote practical nutrition awareness among consumers.

References

1. Anekwe TD, Rahkovsky I. Economic costs and benefits of healthy eating. *Current Obesity Reports*,2013;2(3):225-234.
2. Bren d'Amour C, Pandey B, Reba M, Ahmad S, Creutzig F, Seto KC. Urbanization, processed foods, and eating out in India. *Global Food Security*,2020;25:100361.
3. Das SK, Bhattacharjee M, Saha AR. Sustainability and dietary change: An analysis of Indian food consumption patterns. *Indian Journal of Applied Economics and Business*,2023;5(1):85-105.
4. Dean WR, Sharkey JR. Rural and urban differences in the associations between characteristics of the community food environment and fruit and vegetable intake. *Journal of Nutrition Education and Behavior*,2011;43(6):426-433.
5. Drewnowski A. Food choices and diet costs: An economic analysis. *The Journal of Nutrition*,2005;135(4):900-904.
6. Khed VC, Saravanakumar V. Rural–urban divide in diet diversity and nutritional security. *Indian Journal of Agricultural Economics*,2019;74(4):487-501.
7. Mohammed Abrar K, Verma A. Examining Indian organic food purchase behavior. *International Research Journal of Multidisciplinary Scope*,2025;6(1):950-967.
8. Pandey B, Reba M, Joshi PK, Seto KC. Urbanization and food consumption in India. *Scientific Reports*,2020;10:17241.
9. Rani R. A comparative analysis of consumer buying behavior in rural and urban areas of India. *International Research Journal of Management and Commerce*,2024;11(3):301-310.
10. Raghunathan K, Headey D, Herforth A. Affordability of nutritious diets in rural India. *Food Policy*,2021;99:101982.
11. Shahare PU. Changing attitudes of rural consumers towards packaged food products. *International Journal of Commerce and Management Research*,2019;5(3):14-18.
12. Srivastava SK, Kumar P, Joshi PK. Food consumption patterns across rural and urban India. *Indian Journal of Agricultural Economics*,2013;68(3):379-396.
13. Vasanthi M, Preethi M. Consumer attitudes and determinants of organic food purchasing behavior: Evidence from Andhra Pradesh, India. *Journal of Scientific Research and Reports*,2026;32(2):27-36.