

Traditional vs Modern Diet and Its Impact on Lifestyle Diseases among Adults in Ballia District, Uttar Pradesh.

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Abstract

This study focuses on the impact of traditional and modern dietary practices on the prevalence of lifestyle-related diseases among adults in the Ballia district of Uttar Pradesh, as rapid urbanization, globalization, and changing socio-economic conditions in this region have led to significant shifts in dietary habits and lifestyles. This nutritional shift is considered a major cause of the increasing burden of lifestyle-related diseases. Study was a descriptive and comparative study, involving a sample of 200 adults aged between 20 and 50 years. Participants were selected from the Hanumanganj and Bansdih blocks using a random sampling method. Data were collected through using structured questionnaires, personal interviews, and basic health assessments. Two groups were divided based on their dietary habits: the Traditional Diet Group (n=90) and the Modern Diet Group (n=110). Anthropometric measurements, such as height and weight, were recorded for Body Mass Index (BMI); additionally, clinical variables such as blood pressure and blood sugar levels were also measured. Study found a notable correlation between dietary patterns and lifestyle diseases. Respondents consuming traditional diets showed better health outcomes, including a higher proportion of normal BMI (64.44%), diabetes (15.56%), and hypertension (17.78%). In contrast, respondents following modern dietary patterns showed higher prevalence of malnutrition (84.55%), diabetes (43.64%), hypertension (44.55%), and heart disease (16.36%). Statistical analysis confirmed that the strong link between dietary patterns and lifestyle diseases was highly significant. For illustration, the relationship between BMI and diet ($\chi^2 = 50.69$, $p < 0.001$), diet and diabetes ($\chi^2 = 18.24$, $p < 0.001$), diet and heart disease ($\chi^2 = 8.94$, $p < 0.01$) and diet and overall disease status ($\chi^2 = 25.88$, $p < 0.001$) demonstrated strong statistical significance. These findings show that eating habits strongly influence health status.

The conclusion of this study found that eating habits of modern diet significantly increase the risk of lifestyle-related diseases, while traditional diets significantly reduce the chances of developing lifestyle-related diseases. The results of present study emphasize the importance of promoting healthy eating habits and reducing processed food intake.

Keywords: Traditional diets, Modern diets, Dietary pattern, Lifestyle diseases.

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Introduction

Diet plays an important role in maintaining good health, through a balanced diet, the bad effects of various diseases can be controlled, and a healthy diet can prevent and well manage the lifestyle-related disorders. Over the past several years, human civilization has rapidly changed, which are visible in our daily lifestyles and dietary patterns (Kumar & Patel, 2018). It signifies a growing trend wherein traditional diets are being replaced by new dietary pattern known as "modern diets." These modern diets increasingly consist of processed foods and high energy items; this trend is not good for health. (Mehta & Sharma, 2022). Due to this shift in dietary habits, lifestyle-related diseases are rising rapidly among adults and children, as well as the elderly which are very concerning for human civilisation. Regional diversity and cultural customs influence dietary habits in India; traditional diets rely primarily on locally or regionally available, seasonal crops (Sheryl Salis, et al., 2021). Traditional diets are very nutritious and rich in all the vitamins, minerals, dietary fiber and antioxidants. Traditional cooking methods in India helps in protect nutrition in food and enhance the test. Many researchers found that the traditional diet have strong link with lower rates of lifestyle diseases (Lee, Choi, Jeong, Lee, & Sung, 2017). Modern diet consists of processed food, high fat salt, sugar, spices, low fiber., Boom in economical conditions, employment, urbanisation socialization, globalization, industrialization, busy lifestyle and development of nuclear family most of the people have changed dietary habits, people prefer the food which can easily made or readymade food i.e., Pizza, Burger, Momos and many of the fried snacks. Majority of this population also prefer energy drinks with modern diet, it seems in all over India. Modern food provides sufficient energy, but they often lack nutrients (Ashakiran & Deepthi, 2012).

Majority of the people with modern dietary habits have hectic lifestyles which can be a main cause of lifestyle related diseases i.e., Malnutrition, diabetes, high blood pressure with cardiovascular disorders (Joshi & Mehata, 2021). Modern diets are very high in sugar, spices and salt; and excessive consumption of sugar and salt increases the risk of diabetes, and hypertension (Kumar & Patel, 2018).

Traditional dietary pattern helps in digestion, balancing blood sugar and provide more nutrition for good health (YAMADA, 2024). Traditional diets include seasonal fresh food and vegetables which is good for health because antioxidants and phytochemicals found in these foods reduce the risk of cancer and heart disease.

In Ballia district both traditional and modern dietary patterns are found, due to urbanization, modernization and socialisation the prevalence of modern eating patterns is increasing rapidly among the people of Ballia district, so this region is an ideal place for studying the impact of dietary patterns on lifestyle-related diseases.

Review of Literature

Many researchers have established a substantial relationship between dietary habits and lifestyle-related diseases. (Popkin & Barry, 2017) discussed shifts in global dietary patterns and their contribution to rising rates of obesity. (Walter & Johan, 2019) emphasized the role of healthy, plant-based nutrition in the prevention of heart diseases.

People adopt modern dietary habits due to urbanization, a higher prevalence of diabetes and hypertension is frequently observed (Vishwanath, 2026). Traditional diets have high consumption of whole grains, millets, and seasonal vegetables significantly reduce metabolic health risks (Khandoker, Md, Pandit, Thukral, & Morshad, 2026) . Reports from the WHO have identified unhealthy dietary habits as a major contributor for non-communicable diseases (WHO, 2018). Overall, most of the literature strongly supports the role of traditional diets in promoting good health while highlighting the disease burden associated with modern dietary practices. Sayyed, A. G. (2023)

Study was carried out in the rural and semi-urban areas of the Hanumanganj and Bansdih blocks in the Ballia district of Uttar Pradesh, using a descriptive and comparative research design.

200 Respondents (100 men and 100 women) aged 20–50 years were selected. Stratified random sampling were used for selection of the respondents. Data were collected using structured questionnaires, interviews, and assessments of health parameters. The participants were categorized into the following groups:

- Traditional Diet Group (n = 90)
- Modern Diet Group (n = 110)

Anthropometric measurements were taken to assess nutritional status. Blood pressure and data of blood glucose were recorded using standard procedures. Statistical analysis was performed using percentage distribution and the Chi-square test, with the level of significance set at $p < 0.05$.

Results and Discussion

Table 1: Diet and nutritional Status

Sr. N	Diet	Nutritional status			χ^2	p-value
		Normal f (%)	Malnourished f (%)	Total		
1	Traditional	58 (64.44%)	32 (35.56%)	90	50.69	<0.001
2	Moder n	17 (15.45 %)	93 (84.55%)	110		

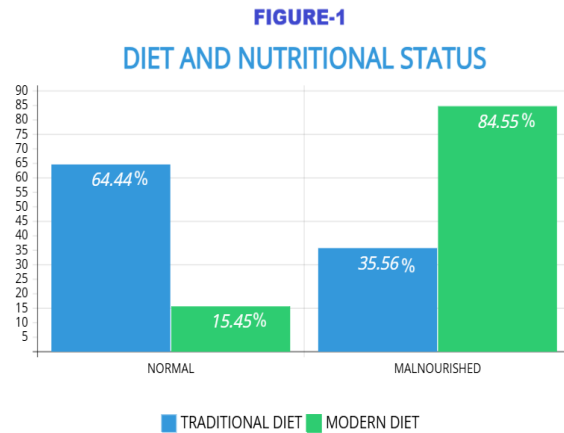


Figure-1 presents the data on dietary patterns and BMI of the respondents. The statistical findings show a significant association between the respondents' dietary patterns and BMI status. Most of the respondents with a traditional diet (64.44%) were found in the normal BMI category, reflecting better weight management and balanced nutrition. On the other hand, respondents with a modern diet, more than three-fourths (84.55%) of them found malnourished, indicate poor dietary behaviour and excessive caloric intake.

Chi-square value ($\chi^2 = 50.69$) and a p-value of less than 0.001 confirm that diet type and nutritional status is statistically highly significant (table-1). Dietary patterns are a critical factor in determining body weight. These results validate along with most of the previous studies, which have found that traditional diets help in maintaining a healthy and appropriate body weight, whereas modern diets promote obesity due to their high fat and sugar content. Balkrishna, A. (2024)

Table 2: Diet and Diabetes

Sr. N.	Diet	Diabetes			χ^2	p-value
		Yes f (%)	No f (%)	Total		
1	Traditional	14 (15.56%)	76 (84.44%)	90	18.24	<0.001
2	Modern	48 (43.64%)	62 (56.36%)	110		

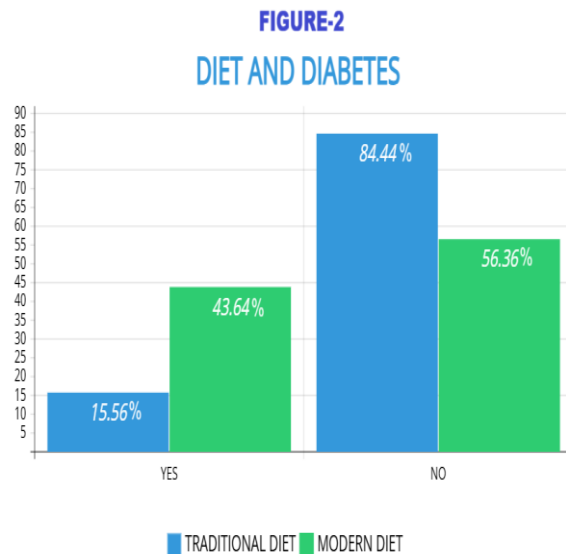


Figure 2 illustrates the relationship between the two dietary groups, i.e., traditional, and modern, with diabetes status. Among respondents consuming a traditional diet, diabetes was detected in only 15.56%, whereas among respondents those consuming a modern diet, diabetes was found in 43.64%. It is clear that modern dietary patterns significantly increase diabetes risk.

The Chi-square value (18.24) and the p-value (<0.001) confirm the association between diet type and diabetes status, which is statistically highly significant (Table-2). The higher prevalence of diabetes among individuals consuming modern dietary items such as Maggi, momos, pizza, and packaged foods may be attributed to an excessive intake of sugar, refined carbohydrates, and fats, which leads to the development of "insulin resistance" in the body. Conversely, the traditional diet of Uttar Pradesh is rich in fibre and complex carbohydrates, which help in reducing the risk of diabetes.

Table 3: Diet and Hypertension

Sr. N.	Diet	Hypertension			χ^2	p-value
		Yes f (%)	No f (%)	Total		
1	Traditional	16 (17.78%)	74 (82.22%)	90	16.16	<0.001
2	Modern	49 (44.55%)	61 (55.45%)	110		

FIGURE-3
DIET AND HYPERTENSION

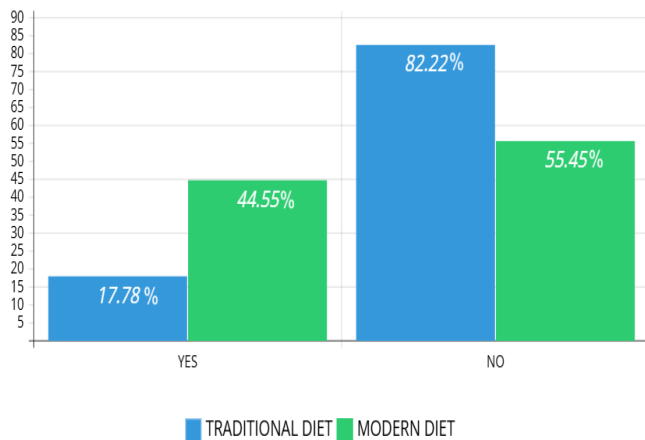


Figure 3 illustrate a significant association between dietary patterns and hypertension (high blood pressure) among the respondents. Hypertension among those consuming a modern diet (44.45%) is higher than that of those consuming a traditional diet (17.78%). Excessive salt and the processed foods in the modern diet can be considered the primary causes of this disparity. A chi-square value of 16.16 and p-value (p < 0.001) indicates a statistically significant level (table-3). Study indicate that dietary habits significantly influence blood pressure control. Most traditional diets emphasize fresh, minimally processed foods; these diets are low in sodium, and beneficial for cardiovascular health.

Table 4: Diet and Heart Disease

Sr. No	Diet	Heart Disease			χ^2	p-value
		Yes f (%)	No f (%)	Total		
1	Traditional	03 (03.33%)	87 (96.67%)	90	8.94	<0.01
2	Modern	18 (16.36%)	92 (83.64%)	110		

FIGURE-4
DIET AND HEART DISEASE

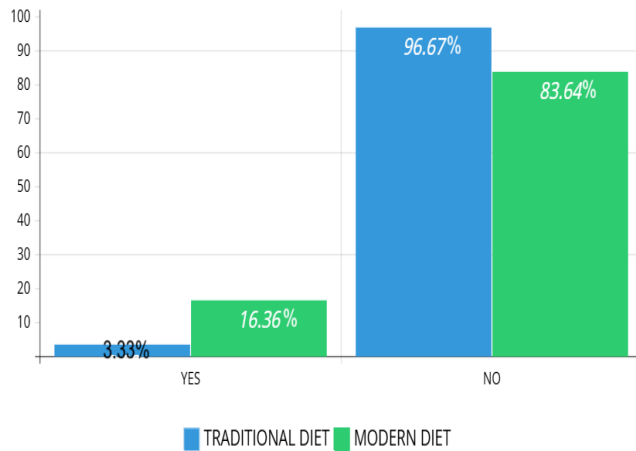


Figure 4 shows the data on the dietary patterns and heart disease of the respondents. According to data, heart disease was found more in respondents who consumed modern diets (16.36%) compared to those consuming traditional diets (3.33%).

The modern diet typically contains unhealthy fats and is also highly processed. This disparity regarding heart disease highlights the adverse effects of the modern diet.

The chi-square value (8.94) and p-value (<0.01) indicate a statistically significant association between heart disease and dietary behaviour (Table-4). However, the prevalence of heart disease is significantly lower compared to other health conditions, but it highlights the impact of diet on cardiovascular health.

Table 5: Diet and Physical Activity

Sr. N.	Diet	Physical Activity			χ^2	p-value
		Active f (%)	Sedentary f (%)	Total		
1	Traditional	54 (60.00%)	36 (40.00%)	90	20.49	<0.001
2	Modern	31 (28.18%)	79 (71.82%)	110		

Figure 5 shows the data on the dietary patterns and physical activity among respondents. Respondents following traditional diets are more physically active (60%) compared to respondents with modern diets, where only 28.18% are active, while a significant 71.82% lead a sedentary lifestyle. Finding suggests that dietary patterns are highly link with lifestyle behaviours of the respondents. The chi-square value ($\chi^2 = 20.49$) with a p-value < 0.001 shows a statistically highly significant association between diet type and physical activity (Table 5). People who adopt a modern lifestyle often adopt a sedentary and comfortable lifestyle due to urban living, a busy life, and desk-based jobs.

Conversely, people who adopt traditional diets, especially in semi-urban and rural areas, are more physically active. This combination of traditional diets and an active lifestyle positively affect on health and significantly reduces the risk of lifestyle-related diseases.

FIGURE-5
DIET AND PHYSICAL ACTIVITY

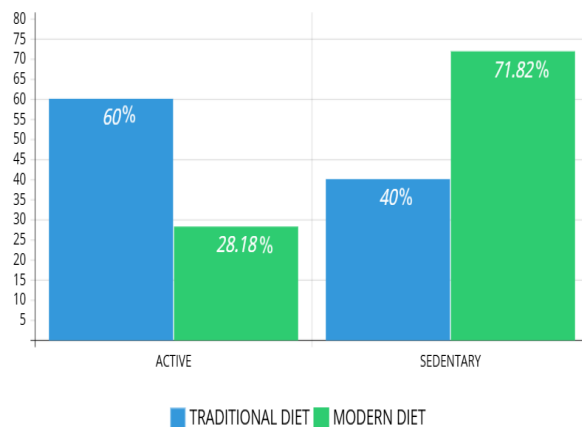


Table 6: Diet and Disease Status

Sr. N.	Diet	Number of Lifestyle disease				Total	χ^2	p-value
		<2 disease f (%)	3-5 diseases f (%)	>5 diseases f (%)	Healthy f (%)			
1	Traditional	19 (21.11%)	14 (15.56%)	06 (06.67%)	51 (56.67%)	90	25.88	<0.001
2	Modern	31 (28.18%)	27 (24.55%)	19 (17.27%)	33 (30.00%)	110		

FIGURE - 6.1
TRADITIONAL DIET AND LIFESTYLE DISEASE

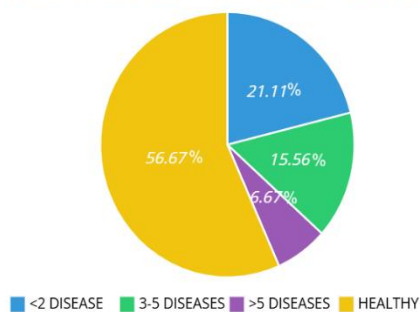


FIGURE 6.2
MODERN DIET AND LIFESTYLE DISEASE

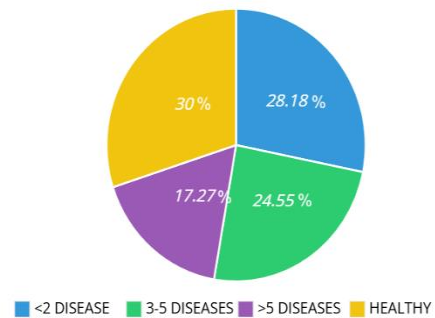


Figure 6.1 & 6.2 presents data on the number of lifestyle-related diseases. 41.82% of the respondents following a modern diet affected by three or more lifestyle-related diseases, while only 22.23% of the respondents following a traditional diet fell into this category. When compared to healthy respondents, 56.67% of the respondents following a traditional diet did not have any such disease, while the number in the modern diet group was only 30%.

The chi-square value ($\chi^2 = 25.88$) and $p < 0.001$ show a strong and relationship between dietary habits and disease prevalence (Table-6). This indicates that dietary habits are one of the key factors determining health status, especially lifestyle diseases.

Modern diets are high in fat, sugar, and salt, significantly increasing the risk of lifestyle diseases. Meanwhile, traditional diets are nutritionally balanced and helpful in preventing lifestyle diseases. These findings from the present study strongly support the need to promote traditional eating habits to prevent lifestyle diseases.

Summary

The present study highlights the significant impact of dietary habits on lifestyle-related diseases among adults in the Ballia district of Uttar Pradesh. The findings of the study indicate that modern dietary patterns associated with higher risk of malnutrition specifically obesity, diabetes, hypertension, and heart-related diseases, whereas traditional dietary patterns demonstrate a protective effect due to their balanced nutritional composition and high fibre content.

Statistical analysis of the data confirms the existence of a highly significant correlation between dietary habits and lifestyle-related diseases. The results of this study highlight the promoting healthy eating habits and reducing the consumption of processed foods.

Conclusion

The study concludes that traditional diets offer protective benefits, whereas modern dietary patterns significantly increase the risk of lifestyle-related diseases in adults. Therefore, it is essential to take the necessary steps to promote traditional diets and healthy lifestyle habits in order to improve public health.

Recommendations

- Traditional dietary patterns including whole grains, pulses, fruits, and vegetables should be promoted through public health programs.
- People should be encouraged to reduce their consumption of packed foods, sugary beverages, and fast food. The government should formulate policies to regulate or reduce the availability and marketing of such unhealthy food products.

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