

Impact of Inflation on Nutritional Intake and Health of Youth in Bangladesh

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Abstract

Bangladesh's economy has been experiencing increasing inflationary pressure in food prices in recent years. This study explores the nexus between price inflation and nutritional food consumption among youth and explains whether it impacts their health, mental health, and academics. This study used a mixed-method approach, collected survey data from 205 youth respondents, and conducted 10 IDIs with the respondents. This study found that inflation significantly impacts youth-quality food consumption. Lower-income and middle-income youth are most affected by food price hikes and have become used to negative adaptations, including reducing the quality of food consumption and skipping meals. The changes in dietary behaviour had a significant impact on the health status of the youth, which also led to health and mental health pressure. The Bangladesh government should take the lead in enacting strong policies that promote lower prices, increased productivity, and educating young people about the affordability of nutrient-rich meals.

Keywords: Bangladesh, Health, Inflation, Impact, Nutrition, Youth

Abstrak

Perekonomian Bangladesh telah mengalami peningkatan tekanan inflasi harga pangan dalam beberapa tahun terakhir. Studi ini mengeksplorasi hubungan antara inflasi harga dan konsumsi makanan bergizi di kalangan remaja dan menjelaskan apakah hal tersebut berdampak pada kesehatan, kesehatan mental, dan akademis mereka. Studi ini menggunakan pendekatan metode campuran, mengumpulkan data survei dari 205 responden remaja, dan melakukan 10 IDI dengan responden tersebut. Studi ini menemukan bahwa inflasi berdampak signifikan terhadap konsumsi makanan berkualitas remaja. Remaja berpenghasilan rendah dan menengah paling terdampak oleh kenaikan harga pangan dan telah terbiasa dengan adaptasi negatif, termasuk mengurangi kualitas konsumsi pangan dan melewatkan makan. Perubahan perilaku makan berdampak signifikan terhadap status kesehatan remaja, yang juga menyebabkan tekanan kesehatan dan kesehatan mental. Pemerintah Bangladesh harus memimpin dalam memberlakukan kebijakan yang kuat yang mendorong harga yang lebih rendah, peningkatan produktivitas, dan mengedukasi kaum muda tentang keterjangkauan makanan kaya nutrisi.

Kata Kunci: Bangladesh, Dampak, Gizi, Inflasi, Kesehatan, Remaja

INTRODUCTION

The COVID-19 pandemic had a huge economic effect on the world, causing mass lockdowns that stopped economic activity and consumer behavior (Vázquez-Martínez et al., 2021). People had less

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money to spend, which reduced the demand for goods and services. The pandemic disrupted the economies of all nations, including Bangladesh. Nevertheless, it recovered rapidly as a result of macroeconomic stability, infrastructure development, a rise in the digital economy, and increased trade flows (S. Rahman, 2023). Although this led to these gains, inflationary pressure persisted, especially on food prices, reducing the standard of living (Raihan, 2020). Despite this economic crisis, Bangladesh's per capita income remains high at 2,793 USD, with a 7.1% GDP growth rate (TBS, 2023); increasing inflation is threatening its standard of living. The recent outbreak of food prices, intensified with global crises like the war between Russia and Ukraine, has hit low- and middle-income people, forcing them to compromise on food quality (K. N. Rahman, 2022). It is particularly alarming that food inflation prevails in the general inflationary dynamics of Bangladesh.

The rising food prices are alarming as they compromise the capacity of the population to get sufficient nutrition. Daily surges in commodity prices in Bangladesh have been a burden to consumers, and current events have made it extremely so. The Bangladesh Bureau of Statistics reports that the inflation rate was slightly reduced to 8.57% in January 2023 after reaching its peak in 2022; however, food and non-food prices are still high (Dhaka Tribune, 2023; TBS, 2022). These increases in prices hit hard people already struggling with poverty and food insecurity. Several studies found that inflation has a significant impact on nutrition, especially in low-income households and countries where people are more vulnerable to food price fluctuations (Kindberg-Hanlon, 2021). Inflation decreases the purchasing power of people and tends to drive them towards less nutritious and cheaper food options (Fernando, 2023; Hrisca, 2022). This, in turn, leads to malnutrition, which has significant health consequences, including stunting and wasting in children, and chronic diseases such as diabetes and cardiovascular disease (WHO, 2021). In terms of nutrition, Bangladesh exhibits the poorest performance in South and Southeast Asia. On the Global Hunger Index, Bangladesh ranks 81st out of 125 countries, with 23.6% of the population being undernourished (Global Hunger Index, 2023).

The Trading Corporation of Bangladesh reports that prices of almost all the daily essentials have increased, except in a few cases. As an example, soybean oil prices doubled from 2019 to 2022, and eggs rose by 63% (Byron & Rahman, 2022). These rises render high-nutrient diets unaffordable to a large number of people. In 2017, around 77.4% of people in Bangladesh were unable to afford healthy food; these figures have marginally improved, with only 73% by 2022 (A. Rahman, 2022; TBS, 2022). This affordability gap poses serious effects on the public health and human development. Gender- and age-specific implications of inflation-induced increases in food prices also exist. Several studies revealed the adverse impact of rising food prices on health, particularly concerning maternal and child health (Brinkman et al., 2009; Christian, 2009). Moreover, rising inflation affects not only the physical well-being of a country's youth but also their psychological health (Lu & Lin, 2021).

Youth, which is a large and increasing population in Bangladesh, is particularly vulnerable. According to the most recent census, the adolescent population in Bangladesh has increased by 15.81% to 26.4% over the past decade (The Daily Star, 2023). This group has certain vulnerabilities because of high unemployment levels and economic recovery after the pandemic. Data from Macrotrends revealed that the unemployment rate of the youth in 2021 was 14.71%. Students and young adults with low income find it difficult to keep up with the healthy diet as the prices increase. Several studies showed that inflation of price affects the nutritional quality of diets of poorer socio-economic groups within a country (Anríquez et al., 2013; Green et al., 2013; Mahajan et al., 2015). Therefore, the main question of this study is, does food price inflation change the youth's diet in Bangladesh? Does it affect nutritional intake?

The primary purpose of the study is to explore the nexus between price inflation and nutritional food consumption among youth. It also focuses on explaining whether the change in nutritional intake has an impact on the health, mental health, and academic performance of youths.

Price Inflation and Food Prices in Bangladesh

Bangladesh's economy has been experiencing increasing inflationary pressure in recent years (The Financial Express, 2022). This inflation did not follow a consistent pattern. Food inflation has largely dominated the rise in inflation, while non-food inflation has also remained competitive, particularly during 2021–22 (BBS, 2022b). According to the Bangladesh Bureau of Statistics (BBS, 2022a), inflation hit its highest level in 12 years in August, at 9.52 percent. Inflation is increasing in Bangladesh as a result of the rise in global commodity prices caused by a recovery in demand, record-high shipping costs, and supply shortages (Byron & Chakma, 2021). Rising inflation has a significant negative impact on Bangladesh's poor and low-income people, especially in terms of their purchasing power (Uddin, 2022).

In Bangladesh, experiencing a significant price increase is not new. The rate of price hikes in the country has recently increased significantly. Figure 1 below illustrates the five-year trend of inflation in Bangladesh.

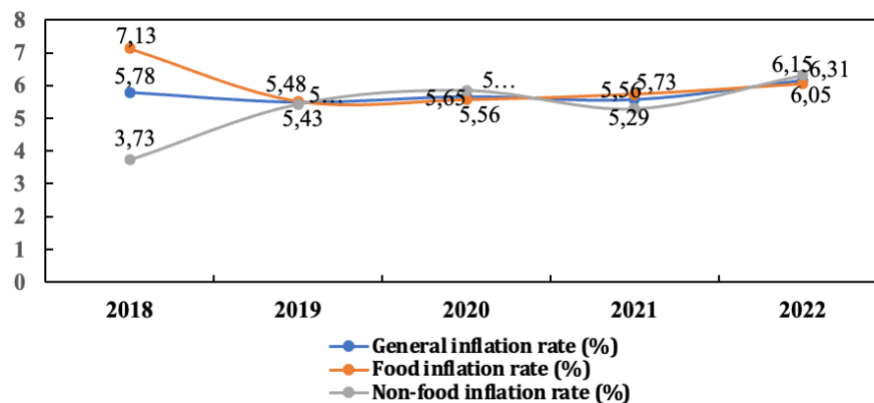


Figure 1. Rate of inflation in Bangladesh during 2017-2021 (Source: (BBS, 2022a))

The annual inflation rate in Bangladesh was 5.78% in 2018, rising to 6.15% in 2022, with food inflation exceeding general inflation. The Bangladesh Bureau of Statistics reports the inflation rates in Bangladesh. The highest inflation rate in the recent five years occurred in 2022, driven by rising prices for both food and non-food items (Figure 1).

The COVID-19 pandemic's interruption of the global supply chain led to the most recent increase in food prices in Bangladesh. The Russo-Ukrainian war has made the situation worse, resulting in a decrease in the supply of food coming from these countries and a rise in fuel prices (Finance Division, 2022). In addition, because of the post-pandemic recovery, domestic demand in Bangladesh is growing overall. Food costs have risen due to unstable geopolitical conditions, supply chain breakdowns, and abrupt fluctuations in demand and supply. Additionally, the recent Taka devaluation and depreciation increased the cost of importing food.

Two groups of people with fixed incomes and low incomes are negatively impacted by this ongoing food inflation. Many households are now limiting their consumption of meat, chicken, dairy and dairy products, fish, and lentils as they need to spend nearly all or most of their family budgets on commodities to prevent hunger and are compelled to skip these expensive food products. Consequently, many households are undernourished.

Food prices for essential commodities have been rapidly rising, reaching a peak in 2022. However, commodity prices fluctuate, and until December 2022, the prices of most essential commodities have risen considerably compared to previous years (MoA, 2022). Table 1 clearly shows that the cost of soybean oil doubled between 2019 and 2022. Rice (Boro) prices increased by 36% in December compared to 2019. In comparison to 2019, the price of eggs (hens) had climbed by 63 percent by December 2022. Lentil (husked) was sold for Tk. 110/Kg in 2019; by December 2022, the price had risen by 26 percent (Table 1). The cost of several types of fish has risen at an astounding rate over the years. Sugar and apple prices are also rising, with increases of 88 percent and 41 percent, respectively. The unpredictable nature of the pricing of necessary commodities severely distresses the lowest sector and the few earners.

Table 1. Percentage changes in the price of essential food items

Food items	Unit	November, 2019	December, 2022	Change (%)
Rice: Boro	Kg.	54	73	0.35
Lentil (husked)	Kg.	110	139	0.26
Rohu (local)	Kg.	240	320	0.33
Chicken (Firm)	Kg.	125	155	0.24
Beef, best quality	Kg.	545	690	0.27
Egg (Hen)	4 pcs	35	57	0.63
Soyabean Oil	Litre	82	169	1.06
Sugar (white)	Kg.	59	111	0.88
Onion (local)	Kg.	180	40	-0.78
Garlic (local)	Kg.	155	115	-0.26
Ginger (local)	Kg.	150	150	0.00
Apple	Kg.	145	205	0.41
Potato, best quality	Kg.	28	22	-0.21
Brinjal, best quality	Kg.	43	35	-0.19
Pumpkin	Kg.	33	35	0.06
Papaya (green)	Kg.	28	28	0.00

Source: (MoA, 2019, 2022b)

Nutritional Status of Youth in Bangladesh

Nutrition plays a crucial role in ensuring human survival, both mental and physical growth, efficiency, and overall well-being throughout the lifespan (Akseer et al., 2017). Proper nutrition enhances the body's immune system, lowers the chance for both diabetes and heart attacks, and increases life expectancy (Thirumdas et al., 2021). Malnutrition remains a significant problem in many regions of the globe. Globally, 1.9 billion individuals are overweight, while 462 million people are underweight, which prevents the growth and the achievement of multiple health and development goals (Akseer et al., 2017). However, women, children, and adolescents are particularly susceptible to malnutrition because of their physiological and socioeconomic backgrounds. In Bangladesh, 13% of young women between the ages of 15 and 24 were underweight, while almost 17% were overweight or obese. Similarly, the percentages of underweight and overweight young men aged 20–29 years were roughly 20% percent and 13% percent, respectively (Biswas et al., 2017). Therefore, the nation's prospects and economic development depend on this adolescent's health and welfare. To effectively serve them, program planning and policy creation require a deeper understanding of the nutritional state of this young population group.

Over the past twenty years, Bangladesh has experienced rapid population growth and epidemiological change (Bollyky et al., 2017). More than 20% of the total population are adolescents (Anjum et al., 2019). Furthermore, a significant percentage of adolescent females suffer from nutritional disorders of varying severity. Inadequate nutrition during adolescence is a major

determinant of future health outcomes (Begum et al., 2017). According to the UN, 25% of women between the ages of 15 and 24 are unhealthily short for their height in Bangladesh, and 33% of teenage girls there are anaemic and lacking in micronutrients (Ahmed et al., 2016). Malnutrition has many causes in Bangladesh, but the two main ones are insufficient food supply and poverty (Ali et al., 2013). These two issues make it difficult to maintain a diet that contains all the nutrients required for a healthy lifestyle, which results in malnutrition. Nowadays, inflation is a major factor contributing to malnutrition in Bangladesh (Haque, 2023). Many families in Bangladesh have stopped eating eggs, meat, and milk due to the rising cost of living (K. N. Rahman, 2022).

In the Global Hunger Index 2023 (GHI), Bangladesh had a score of 19.00, which means the level of hunger in the country is moderate (Global Hunger Index, 2023). Even though the country has been performing better over time, higher sea levels, severe weather, and catastrophic flooding are making climate change a greater risk for nutrition and food safety (Khan et al., 2011). When these factors are added to problems like poverty and injustice, the poorest parts of society, who are already struggling with hunger and poverty, are often the ones who are hurt the most. Based on the results, the government should create helpful nutritional and health promotion programs with the goal of reducing malnutrition and getting the health of adolescents back on track.

METHODOLOGY

Research Method

This study used mixed-method approach for exploring the nexus between inflation and nutritional food consumption among youth people. It used quantitative tool as survey to find out the percentage and ratio of food consumption, nutrition, and the impact of inflation on the targeted respondents. A qualitative tool such as an In-depth Interview (IDI) was also used to explore the nexus between nutrition, food consumption, and inflation rate based on respondents' opinions.

Sampling

This study employed both stratified random sampling and purposive sampling techniques for primary data collection. Stratified random sampling involves dividing the population into homogenous subgroups (strata) and then randomly selecting participants from each stratum. This method ensures balanced representation across key subgroups while maintaining randomness to minimize bias. For the quantitative component, data were collected through surveys. The target group was youths aged 19–25, and stratified sampling was used to classify them by age. Then, individuals were randomly selected from these groups to participate in the survey. For the qualitative part, purposive sampling was adopted to select participants for in-depth interviews to gather detailed and relevant insights from individuals with specific experiences.

Tools of data collection

This study followed quantitative and qualitative research methods to explore the impact of inflation on youth's nutrition intake. A survey was used as a quantitative tool and IDI was used as a qualitative tool.

Survey

This study used a structural questionnaire for data collection by the survey tool. For the survey, KOBOTOOLBOX software was used for online-based data collection. Researchers and data enumerators collected data by selecting respondents randomly from different universities in

Bangladesh. The study areas were the University of Dhaka (DU), Bangladesh University of Professionals (BUP), Daffodil International University (DIU), Southern Medical College and Hospital and University of Chittagong (CU). The data was collected from 01 January 2023 to 30th March 2023.

This study collected data from 205 youth respondents, of whom 117 were male and 88 were female respondents. Moreover, 78 respondents were from DIU, 42 were from BUP, 41 were from DU, 25 were from CU, and others were from Southern Medical College and Hospital (Table 2).

Table 2. Demography of Survey respondents

Characteristic	Participants	Participant Number
Gender	Male	117
	Female	88
Institutions	University of Dhaka (DU)	41
	Bangladesh University of Professionals (BUP)	42
	Daffodil International University (DIU)	78
	Southern Medical College and Hospital	19
	University of Chittagong (CU)	25

In-depth Interview (IDIs)

This study was conducted with 10 IDIs from the respondents of targeted areas to understand the impact of inflation on food consumption among young people in deep. Among 10 IDI respondents, 05 respondents were male, and 05 respondents were female (Table 3). Each interview took 30-45 minutes, respondents participated voluntarily, and researchers maintained notes during interviews with the consent of the respondents.

Table 3. Demography of IDI respondents

Respondents ID	Gender	University
IDI-1	Male	University of Dhaka
IDI-2	Female	University of Dhaka
IDI-3	Male	University of Dhaka
IDI-4	Female	University of Dhaka
IDI-5	Female	Bangladesh University of Professionals
IDI-6	Male	University of Chittagong
IDI-7	Male	University of Chittagong
IDI-8	Female	University of Chittagong
IDI-9	Male	Daffodil International University
IDI-10	Female	Southern Medical College and Hospital

Quality assurance and analysis method

This study followed several strategies to ensure accuracy, reliability, and standardization of data, such as data validation and verification, data cleaning, coding, and the data analysis process. Before data collection, two online-based trainings were conducted with researchers and data enumerators on the survey questionnaire and IDI's open-ended questionnaire and data collection techniques. Then, each interview was cross-checked to minimize errors, inconsistencies, and repetition of data.

After the data collection process, this study used a data cleaning process to correct inconsistencies and remove errors in the data set. Then, qualitative open-ended responses were clustered and categorized based on a theme by open coding for thematic analysis. Descriptive

statistical analysis for quantitative data and thematic analysis for qualitative data were used to identify the impact of inflation on nutritional food intake and its effect on their health and academic activities.

Limitations of the study

This study focused only on university students from five institutions, which limits how much the findings can be applied to all young people. Students from these five institutions may not represent others in different universities or those who are not in higher education at all. Their views and experiences may be shaped by specific academic, social, or cultural settings, making it hard to generalize the results to a wider population.

To reduce this limitation, the authors chose five institutions that differed in location, type, and academic focus. This helped to include a variety of student experiences. Within each university, students from different study areas and backgrounds were selected. The authors also used detailed qualitative quotations to support the findings. These quotations helped explain areas where the quantitative data was unclear. Personal experiences added more meaning and context. This made the results easier to understand and more complete.

Ethics

All survey data and IDIs were conducted after receiving informed written consent from respondents. Each respondent participated in the process voluntarily. The 1964 Helsinki Declaration and its later amendments were followed in all processes involving human participants in this study.

Conceptual Framework

The Social-Ecological Model (SEM) behavior theory has been used as a theoretical framework for this study, as the model explores how an individual is influenced by and connected with their surrounding environments and society that determines behaviors (McLeroy et al., 1988). The model, the Social-Ecological Model (SEM), identifies a more comprehensive approach that includes the five interrelated levels of influence, including individual, interpersonal, institutional, community, and policy to impact health behavior (Richards et al., 1996).

We have developed a conceptual framework (Figure 2) based on this theory for this study to analyze how food price inflation influences the nutritional intake, health status, and academic performance of university students in Bangladesh. This model highlights how the influences at different levels, from broader economic policy implications to individual behaviors, work together to influence students' well-being. At the policy level, high national inflation, limited public food support, and the lack of policies focused on students reduce access to affordable and healthy food. The community level includes changes in local food prices and limited availability of affordable, nutritious food near universities, which limits students' food choices. At the institutional level, Inadequate campus food services and the absence of institutional support programs make food insecurity worse for students. The interpersonal level highlights family financial dependence and peer support as coping strategies. Finally, at the individual level, these combined pressures lead to changes in dietary behavior, health impacts, and academic performance.

The model is especially suitable in the context of Bangladesh, where inflation does not affect only the economy; it also influences social life, and individual wellbeing, as the Socio-Ecological Model (SEM) provides a framework to understand how various levels of influence affect nutritional intake among youth amid rising food inflation.

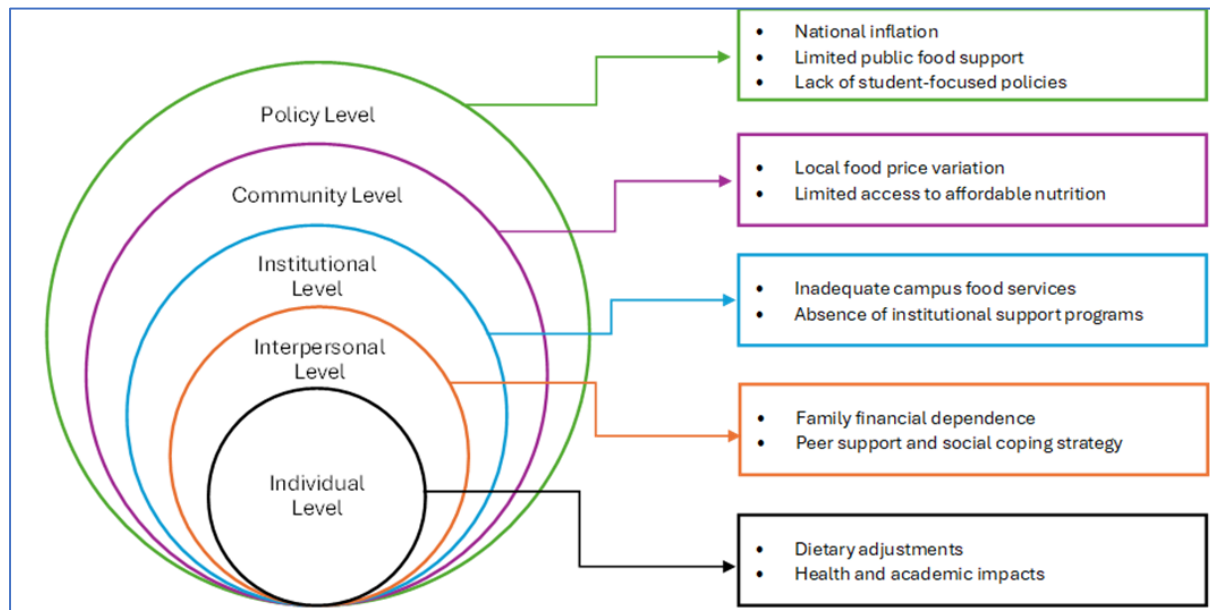


Figure 2. Framework of Socio-Ecological Model (SEM)

RESULT ANALYSIS

Demography

In total, 205 students voluntarily participated and filed data based on their experiences, with 117 being male and 88 being female. This gender pattern demonstrates that males are overrepresented in the study. There were five different institutions represented among the participants, with Daffodil International University having the highest percentage (38%), followed by Bangladesh University of Professionals and the University of Dhaka, each with 20%. The remaining participants were from the Southern Medical College and Hospital and the University of Chittagong (Table 4).

The study participants' living status indicated that the majority of the participants (42%) lived in hostel rooms or bachelor rooms without family. Participants living at home with family accounted for 30%, while only 27% of participants lived in residential halls. In terms of family income, the majority of participants (42%) earned between 20,000 and 40,000. A significant proportion of participants (20%) earned less than 20,000, while 23% earned between 40,000 and 60,000. Only 6% of participants had a family income of 80,000 or more, demonstrating that the sample represented predominantly low to middle-income families (Table 4).

The study participants' income sources revealed that 25% of the participants earned money from tuition, while only 5% of the total participants earned money from part-time jobs. A large percentage of participants (70%) reported having no source of income (Table 4).

Table 4. Survey Participant's Demography

Characteristic	Participants	Participant Number	Percentage (%)
Gender	Male	117	57
	Female	88	43
Institutions	University of Dhaka	41	20
	Bangladesh University of Professionals	42	20
	Daffodil International University	78	38

Characteristic	Participants	Participant Number	Percentage (%)
Living Status	Southern Medical College and Hospital	19	9
	University of Chittagong	25	12
	Residential Hall	56	27
	Hostel Rooms/Bachelor Room without family	87	42
Family Income	At home with family	62	30
	Below 20,000	41	20
	20,000-40,000	86	42
	40,000-60,000	48	23
	60,000-80,000	18	9
Participant's income sources	80,000-Above	12	6
	Tuitions	51	25
	Part-time Job	10	5
	No income source	144	70

Nutritional behaviours change due to inflation

Due to the present economic conditions in Bangladesh, the number of insulated consumers has decreased. This has raised the number of cautious consumers, who are spending more carefully, constrained consumers, who are taking steps to reduce expenditures, and sufferers, who have eliminated all possible expenditures. And the youth have already been affected by the trends. The most common negative adaptations include reducing the quality of food, reducing non-food expenses, reducing food purchases, unusually consuming livestock and poultry, consuming fewer meals than usual, buying groceries on credit, and foregoing multiple meals.

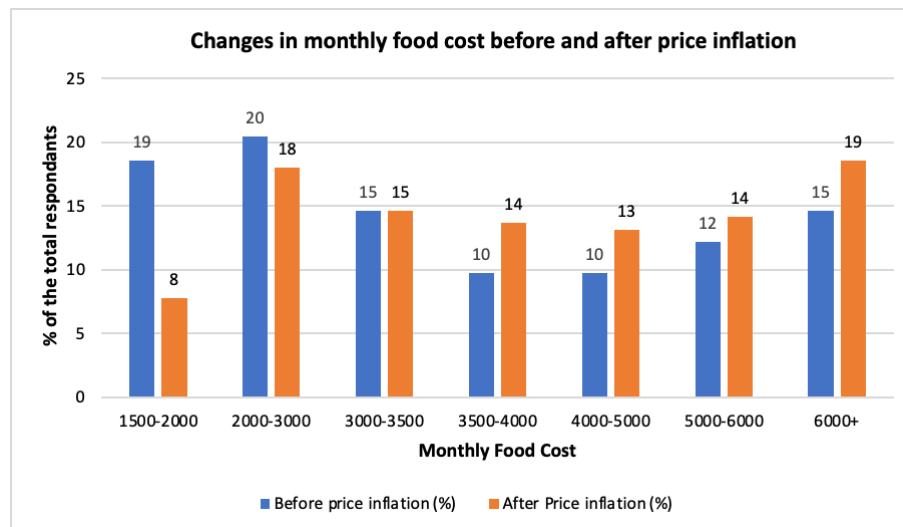


Figure 3. Changes in monthly food costs before and after price inflation

Students are unwilling to acknowledge that their food is nutritious. This low score among the students is primarily due to cost. They are less healthy because of the high cost of healthy food, and they find it challenging to make ends meet on their limited food budget. Regarding those with lower incomes, saving money and compensating for increased expenses elsewhere is not a choice, but rather a sacrifice that they must make. The study found that the majority of the students' monthly food costs were between 2000 and 3000 BDT before

inflation, accounting for 20% of the total respondents. After inflation, this dropped slightly to 18%, while the lowest spending group (1500–2000 BDT) declined sharply from 19% to 8%. In contrast, those spending over 6000 BDT rose from 15% to 19%, indicating that many students had to increase their food budgets due to price hikes, likely adding financial pressure and stress (Figure 3).

A responder went on to explain

“I have noticed that price inflation affects my daily life. Regrettably, fluctuations in food prices and my eating habits have also had an impact on my health. With a decline in my purchasing capacity, I am obliged to consume unhealthy and non-nutritious food, resulting in malnutrition. Price inflation has also affected my mental health because it is now very difficult and stressful for low-income families to provide nutritious food. The possibility of further price hikes also adds additional pressure to my condition.” (A Male respondent, IDI-06).

Less financially stable students are more likely to engage in restrictive behaviour, such as skipping meals, reducing portion sizes, and restricting or avoiding snacking. This exemplifies the significant negative impacts of the increasing cost of living crisis, which is not only forcing students to make unhealthier decisions against their will but is also compelling individuals to cut back on what most people consider to be necessities. One respondent elaborated

“As a result of the rise in commodity prices, I have had to cut back on the amount of food I consume. Additionally, since nutritious food is more expensive, my family and I have had to resort to consuming non-nutritious food at a lower price. Although it has had no noticeable effect on my health, I occasionally feel weaker than I did previously. Nothing has changed in my academic life. However, I am continually concerned about how to finance these additional expenses to sustain regular consumption as a result of the price increase.” (A Male respondent, IDI-03).

A sufficient protein intake is required for cognitive, immune, and renal system function, making it essential for health maintenance. Generally, the Recommended Dietary Allowance (RDA) for protein is a modest 0.8 grams of protein per kilogram of body weight or 0.36 grams per pound for an individual. In Bangladesh, Rice and fish are the primary sources of protein. But when the cost of daily necessities increases, individuals with low incomes reduce their protein consumption. According to our study, most of the students consume fish as their primary meal once per week before inflation. As a result of inflation, only a few students could afford to eat fish as their primary meal. A responder went on to explain

“Inflation has harmed the health of residents of the hall. It has reduced students' consumption levels. The majority of the students rely on eggs for protein. The price of eggs has risen by about 5-8 taka per piece. Because of my high blood pressure, my doctor advised me to eat rich, nutritious foods, which I cannot afford. I used to try to keep fruits in my room, but it's now nearly impossible. Because of the price increase, I can't even drink fruit juice. It has harmed my health. Now I only eat to survive.” (A Female respondent, IDI-08)

Consequence of Food Price Hike on Health

Inflation has a significant impact on the health status of the students. The study found that the majority of the respondents experienced at least any of the symptoms of bone pain or back pain, headache, fever, diarrhoea, bleeding from the gums, and mouth sores due to the shortage of vitamins and nutritious food.

Figure 3, which is based on the participants' opinions based on a closed-ended question regarding whether they were being hospitalized or not in the last 3 months, reveals that 85% of students had been hospitalized (Figure 4).

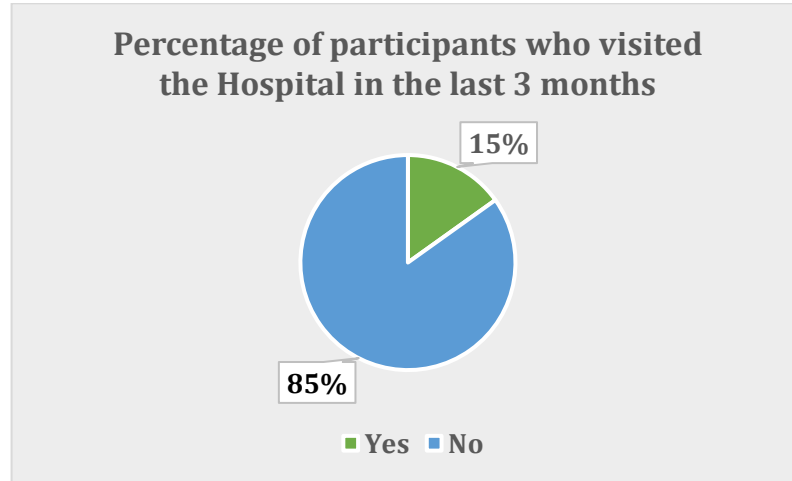


Figure 4. Percentage of participants who visited the Hospital in the last 3 months

After analysing the semi-structured question regarding the reasons for being admitted to the hospital, Table 5 showed that a high percentage of respondents were admitted to the hospital for suffering from fever (25.80%), headache (16.13%), and diarrhoea (9.67%). Additionally, a small percentage of respondents are suffering from gastric problems (6.45%) due to unhygienic food intake. An interview with one respondent addressed the consequences of the food price hike on physical health.

“The breakfast food items I used to consume are now unaffordable due to the increase in prices. As a result, we are driven to consume inexpensive and unhealthy breakfast food items. Consequently, I am now experiencing digestive issues that I have never had previously. I frequently suffer from diarrhea due to unhealthy food intake. Additionally, when I don't eat enough, I have headaches and eye pain, which makes it difficult for me to concentrate on reading.” (A male respondent, IDI-01)

Table 5. Percentage of respondents admitted to the hospital in the last 3 months

Symptoms	Percentage of the total
Bone Pain/Joint Pain /Back Pain	9.67%
Headache	16.13%
Fever	25.80%
Diarrhoea	9.67%
Gastric Problem	6.45%
Jaundice	3.22%

One female respondent stated that

“I rely heavily on the food available at my hall canteen. They haven't raised the prices much recently, but the quality has declined significantly. The price of chicken has risen only a little, but the pieces are now smaller than previously. I used to eat eggs and chicken but now I just eat eggs and veggies because the price has risen, and the quality has declined. As a result, I'm

frequently sick and exhausted. I've also been having issues with my menstrual cycle, which I blame on a lack of adequate nutrition." (A female Respondent, IDI-5)

Another respondent further added

"Due to the price increase, I had to reduce my purchases of biscuits, noodles, and other fast-food items. This has had an impact on my physical health, as well as my academic performance. I was supposed to eat high-nutritional foods because I have low blood pressure and anemia, but because I can't always afford them, I feel weak and irritable most of the time." (A male respondent, IDI-07)

Financial Stress and Mental Health

Regarding the changes in food price and consumption and their impact on mental health, the study found that 62.44 percent of respondents (128) are suffering from mental health issues arising from financial stress due to the price hike. Another 37.56 percent of respondents said that changes in food consumption due to food prices did not influence their mental health (Figure 5).

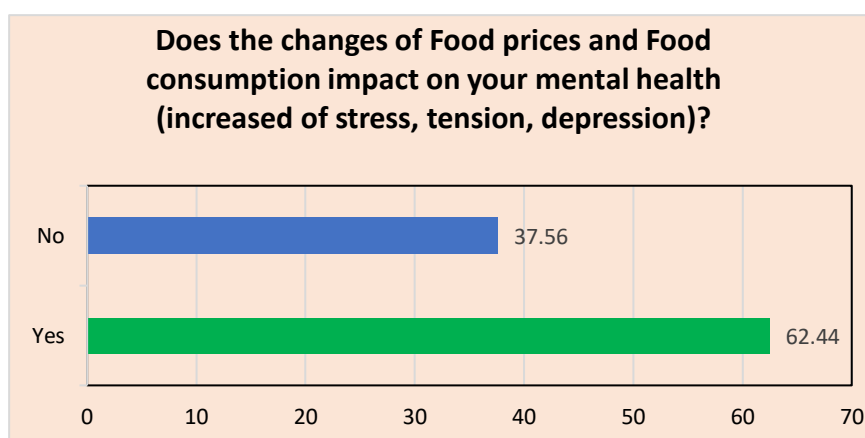


Figure 5. Impact of changes in food prices and food consumption on youth mental health (stress, tension, depression)

One female respondent stated

"As a result of the rise in commodity prices, I have had to cut back on the amount of food I consume. Additionally, since nutritious food is more expensive, my family and I have had to resort to consuming non-nutritious food at a lower price. I am continually worried about how to finance these additional expenses to sustain regular consumption because of the price increase." (A female respondent, IDI-02)

Increasing food prices due to inflation causes mental health problems for students. The majority of the respondents are suffering from anxiety and depression due to the pressure to meet the additional cost of their food expenses.

An Interview with one respondent stated

"The rise in commodity prices has impacted my life, particularly in terms of my monthly expenses. One of the most visible changes is that to continue my regular food consumption, my monthly expenses have risen from 4–4.5 thousand takas to 5–6 thousand takas. Meeting these additional costs has become difficult for me and I still struggle to cover my expenses on time. This has prompted me to experience periods of tension and depression." (A male respondent, IDI-06)

Another respondent further added

“Price inflation has also affected my mental health because it is now very difficult and stressful for low-income families to provide nutritious food. The possibility of further price hikes also adds additional pressure to my condition.” (A female respondent, IDI-10)

Respondents are involved in different income activities, such as extra tutoring and part-time jobs to earn more money to cope with the additional cost arising from inflation.

One male respondent mentioned in his interview

“The cost of living has drastically increased, and I now need more money. This means that I have to do additional tuition to make up for extra expenses.....due to my need for additional money, I feel depressed.” (A male respondent, IDI-09)

Academic performance of youth

This study found that drastic changes in food prices and food consumption had an impact on the academic performance of youth, as the respondents mentioned. Increased food prices had a direct impact on the mental health of youth due to financial stress. Food price increases disproportionately impacted youth from lower and middle-income families, as well as youth without income sources. Financial stress leads to health and mental health pressure, and as a result, they rarely manage their time to study. Figure 6 shows that 51 percent of respondents said that price hikes in food prices had influenced youth's academic activities. Most of the respondents mentioned that they had spent more time managing their monthly food expenditure, and they worried about their academic performance in recent days.

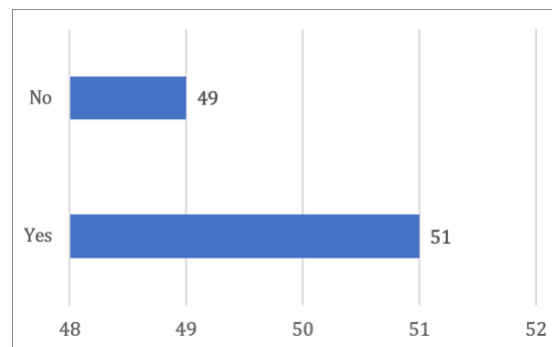


Figure 6. Percentage of effect on academic activities of youth due to changes in Food prices and Food Consumption

As a respondent mentioned that

“This has a significant impact on their academic performance. Currently, I have to continue three tuitions to cover my expenses and support my family. After that, I don't have much energy left for my studies. I can't eat if I concentrate on my studies”. (A male respondent, IDI-01)

Similarly, another respondent said that with the increase in inflation in the food market, monthly expenditures increased more than before. To cover their monthly expenses, she spent the entire day on tutoring. She said that

The cost of living has drastically increased, and I now need more money. I have to do additional tuition...which results in less study time and a lower desired outcome. In addition, spending the entire day on tuition makes me worry about my academic performance. (A female respondent, IDI-10)

On the other hand, the other 49 percent of respondents mentioned that there was no influence of inflation and changes in food prices and consumption on academic activities. A respondent also mentioned that

“Although it has had no noticeable effect on my health, I occasionally feel weaker than I did previously. Nothing has changed in my academic life.” (A male respondent, IDI-07)

DISCUSSION

The study focused on detecting the relationship between inflation and the nutritional status of youth groups, particularly university students. The poor diet during the period of high food prices is likely to have had serious short and long-term impacts on the nutritional status of children, as they require protein to maintain their growth and prevent anemia (Matin et al., 2009). Inadequate food intake and unfavorable changes in dietary patterns may affect their physical and mental development (Lee et al., 2013). Studies have also found that rising inflation affects not only the physical well-being of a country's youth but also their psychological health (Lu & Lin, 2021). Our findings indicate that inflation has a significant impact on the health status of the students. Although the youths have already been affected by the trends, the most common negative adaptations include reducing the quality of food, reducing non-food expenses, and reducing food purchases (Table 06).

As food is a necessity, a rise in food prices due to inflation can make it more difficult for people to access a healthy diet, particularly for those who already struggle to afford adequate food (Hrisca, 2022). High and increasing food prices can be an immediate threat to household food security, undermining population health, retarding human development, and lowering labor productivity for the economy in the long term (Lee et al., 2013). Price rises affect the nutritional quality of diets, especially for the low-income countries and poorer socio-economic groups within a country (Anríquez et al., 2013; Green et al., 2013; Mahajan et al., 2015).

As the poor spend a large part of their expenditure on food, the rising food price is likely to have a net worsening effect in terms of their already low nutritional status (Munshi et al., 2009). When inflation takes place, very few students can afford their monthly food expenses under the current price structure. Because of the high cost of healthy food, they find it challenging to make ends meet on their limited food budget. Most of the students consumed fish as their primary meal once per week before inflation. As a result of inflation, only a few students can afford to eat fish as their primary meal now. Moreover, less financially stable students are more likely to engage in restrictive behavior, such as skipping meals, reducing portion sizes, and restricting or avoiding snacking (Table 6). A study on the effect of high food prices on food consumption found that a large number of vulnerable households in developing countries like Haiti, Nepal, and Niger reduced the quality and quantity of their food consumption and faced the risk of malnutrition (Lee et al., 2013).

Rising food prices have a significant and adverse effect on all three health indicators in developing countries (Lee et al., 2013). It is also associated with negative childhood nutrition across the entire population, particularly among deprived groups (Vellakkal et al., 2015). Studies have also found that inflation has a significant impact on nutrition, particularly in low-income households and countries where people are more vulnerable to food price fluctuations (Kindberg-Hanlon, 2021). Due to the fall in quality food consumption, 67 percent of workers suffer from body aches, which is a huge concern for our public health, and they do not have any access to quality healthcare for their sufferings (Chandan, 2022). Similarly, these studies showed that the rising food price leads to changes in a balanced diet and it also has a negative impact on the health of youth. Among the surveyed respondents, (Brinkman et al., 2009) assess the potential effects of the global financial crisis on food consumption, nutrition, and health by examining various transmission channels.

Table 6. Summary of how rising inflation affects the nutritional intake, health, and academic performance among university youth students

Policy Level	<ul style="list-style-type: none"> ▪ Rising national inflation ▪ Weak or absent public food subsidies ▪ Lack of student-focused nutrition policies
Community Level	<ul style="list-style-type: none"> ▪ High local food prices near campuses ▪ Limited access to affordable nutritious food in urban/semi-urban areas ▪ Market disparities in food availability
Institutional Level	<ul style="list-style-type: none"> ▪ Poor food quality in university canteens and hostels ▪ No subsidized meal or food support programs for students ▪ Limited on-campus income opportunities or food support
Interpersonal Level	<ul style="list-style-type: none"> ▪ Reliance on family remittances or peer support ▪ Shared meals, borrowing, or skipping meals ▪ Varying access to emotional and financial support networks
Individual Level	<ul style="list-style-type: none"> ▪ Reduced food intake and dietary diversity ▪ Physical health issues: fatigue, digestive problems, menstrual irregularities ▪ Mental health effects: anxiety, stress, depression ▪ Academic disruption due to stress and part-time job burden

In addition, this study showed that increases in food prices had a direct impact on the mental health of youth due to financial stress (Table 06). These spikes in food prices may have a widespread adverse impact on maternal and child health, especially in low- and middle-income countries (Brinkman et al., 2009; Christian, 2009; Darnton-Hill & Cogill, 2009; Martin-Prevel et al., 2012). Moreover, studies found that rising inflation affects not only the physical well-being of a country's youth but also their psychological health (Lu & Lin, 2021). Similarly, this study found that Youth from lower-income families and middle-income families, youth who have no income sources, and a price hike in food prices affected them most. Financial stress leads to health and mental health pressure, and as a result, they rarely manage time to study. Increasing food prices due to inflation causes mental health problems for students. The majority of the respondents are suffering from anxiety and depression because of the pressure to meet the additional cost of their food expenses.

CONCLUSION

This study underscores the significant impact of rising food prices on the nutritional and mental well-being of youth in Bangladesh, particularly among university students. Using a mixed-methods approach, the research revealed how inflation, especially in the food sector, has directly influenced dietary patterns, health outcomes, and academic engagement. Vulnerable youth populations are increasingly resorting to negative coping mechanisms such as skipping meals, consuming less nutritious food, and managing additional financial burdens—resulting in both physical ailments and psychological stress. These findings highlight a pressing need to address food insecurity and financial instability among young people in the context of ongoing economic challenges.

The evidence points to a critical need for targeted interventions to alleviate the burden of food inflation on low-income and student populations. Government initiatives such as expanding subsidized food programmes, enhancing Open Market Sales, strengthening the role of the Trading Corporation of Bangladesh, and maintaining a strong public distribution system are steps in the right direction. However, these must be scaled up and made more accessible to the youth demographic,

particularly in urban and semi-urban university zones. In addition to economic reforms, nutrition awareness campaigns should be implemented to educate young people about affordable, locally available nutrient-dense food options. Universities and student welfare bodies can also play a role by introducing or expanding subsidized campus meal plans, nutrition counselling services, and emergency food assistance programs.

Further research is needed to explore the long-term impact of food inflation on educational outcomes, mental health, and labor force participation among youth. Longitudinal studies could provide deeper insights into how sustained economic pressures shape the development and well-being of young populations. Additionally, comparative studies across different socioeconomic groups and geographic regions would enhance understanding of the broader implications of inflation on food security in Bangladesh.

Lastly, while Bangladesh has made considerable economic progress in the post-pandemic period, the adverse effects of rising food prices on its youth population cannot be overlooked. This study emphasizes the urgency of comprehensive, youth-centered policy interventions to ensure food security, nutritional adequacy, and academic resilience. Stabilizing food prices and enhancing the affordability and accessibility of nutritious foods are essential steps toward securing a healthier and more equitable future.

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