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Level of knowledge on the effect of fast foods on health among young hypertensive patients in Bangladesh

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Abstract
Young people make up a sizable share of the global population, and most of them reside in developing nations. They consume too much fast food and obesity at a young age is becoming a worldwide epidemic, putting them at risk for nutritional issues from a physiological as well as psychological perspective. Eating fast food has several negative effects on health. Bangladesh's circumstance is not any different. Thus, this study was conducted to identify the level of knowledge on the effect of fast foods on health among young hypertensive patients in Bangladesh. In a tertiary-level cardiology hospital in Dhaka, Bangladesh, 150 young (20 to 35 years old) hypertension patients participated in a descriptive-type cross-sectional study from November to December 2022. Every stage of the study protected the respondents' anonymity, and participants were made aware that they could withdraw from the program at any point while data was being collected. In total, 25.3 percent of respondents had a good knowledge of the impact of fast food on health, compared to 46.0 percent who had moderate knowledge. It was also found that respondents' knowledge level was substantially correlated with their level of education, occupation, and monthly household income. Given this, various measures should be implemented, such as the implementation of health education programs in communities, schools, and universities, to increase the level of public awareness of the effects of fast food on health.

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Introduction

The burden of non-communicable diseases is increasing globally and poses a major public health concern, a large part of which is preventable. These diseases have been strongly associated with unhealthy lifestyle habits, including inappropriate nutrition, lack of exercise, smoking, alcohol consumption, caffeine overuse, and improper sleeping habits. Inappropriate nutrition and inactivity increase the risk of diabetes, osteoporosis, obesity, and cardiovascular diseases (Ignarro *et al*., 2007) [4]. Fast food needs no introduction these days. It's delicious, filling, affordable, and readily available at any time of the day (Saranya *et al*., 2016) [7]. Healthy nutritious foods have been replaced by fast foods which are easy to make and quick to consume. They are zero in nutritional value and often high in fat, salt, sugar, and calories (Misra *et al*., 2016) [5]. Fast-food consumers were more likely to be younger, smokers, and more highly educated than non-fast-food consumers. They also reported higher energy intake and were more likely to exceed the recommended energy intake (Schroder *et al*., 2007). Trends including fast food consumption and

skipping breakfast increased during the transition period of adulthood and such dietary behaviors are associated with increased weight gain from adolescents to adulthood (Niemeier *et al*., 2006) [6].

Fast food also known as "junk food" tastes good, but the effect on health is detrimental. Junk foods have become a prominent feature of the diet of youngsters in developing countries. Junk food is also called fast food because it is easy to prepare, cheap, and tasty. But these foods have many harmful effects on health. Many youngsters have adapted to such changing fast-food trend culture. Such changes are accompanied by dramatic transformations in people's dietary patterns, most notably an increase in the consumption of processed foods such as hamburgers, cheeseburgers, deep-fried chicken, deep-fried potatoes/French fries, pizza, and donuts. Fast food consumption seems to be linked quite closely with soft-drink consumption. Most of the foods are energy-dense foods, which have high-fat levels and calorific value (Thamarai *et al*., 2015) [9]. Among the behavioral factors, fast food consumption exerted the largest influence on higher levels of obesity. In Bangladesh, paradoxically coexisted with malnutrition among children and adolescents, multiple factors such as rapid urbanization, inappropriate dietary practices, and continually decreasing number of playgrounds, probably have led to less physical and more sedentary activity, and thereby have attributed to an emerging overweight and obesity problem among young children in urban settings, especially among affluent families in Dhaka (Goon *et al*., 2014) [2]. A study published in Neurology shows that eating too much junk food or food rich in trans fats can shrink the brain like that associated with Alzheimer's disease. The most harmful effects of fast food include increased cholesterol levels, cardiac problems, hypertension, obesity, dental caries, cancer, and many other threatening health hazards (Bowman *et al*., 2004) [1]. Adequate knowledge of the effect of fast food on health is important for leading a healthy life and reducing the risk of non-communicable diseases. Proper knowledge of the fact can have a positive impact on the attitude and practice regarding the consumption of fast food among people. A study in India had shown that frequent consumption of fast food and associated lifestyle factors in the urban adolescent and young adult population had increased non-communicable diseases (Saranya *et al*., 2016) [7]. However, the level of knowledge on the effect of fast food on health among the Bangladeshi population has not been quantified. There is scant data on knowledge on the effect of fast food on health in the population of Bangladesh. Hence, this study is designed to assess the level of current knowledge on the effect of fast food on health among young hypertensive patients in Bangladesh and to identify factors that are associated with the level of knowledge on the effect of fast food on health.

Methodology

A descriptive type of cross-sectional study was carried out in a tertiary-level cardiology hospital in Dhaka, Bangladesh. The target population was young (20 – 35 years) hypertensive patients admitted to the selected hospital. The calculated sample size was 150 using the statistical formula $n=z^2p$ (1-p)/d^2. A purposive sampling technique was followed to select the subjects from the population. The data was collected from the respondents through face-to-face interviews using a semi-structured questionnaire, after taking informed written consent from the participants during November-December 2022. After the collection of data, all interviewed questionnaires were checked for completeness, correctness, and internal consistency to exclude missing or inconsistent data and those were discarded. Corrected data was entered into Statistical Package for Social Sciences (SPSS) statistical software version 20 for the analysis. The anonymity of the respondents was maintained in every stage of the study and study subjects were informed that they can be able to leave the program at any stage of data collection.

Results

The age of the respondents ranged from 20 to 35 years with a mean of 30.11 ± 3.989 years. Most of them were in the 31 to 35 years of age group. Most patients were male (55.3%). The male and female ratio was 1.24: 1. The highest portion (38.0%) of the respondents were at the high school level and the second contribution was graduates (24.0%). The majority (44.7%) of the respondents were service holders followed by business (18.0%). The income of the respondents ranged from 7,000 BDT to 60,000 BDT with a mean of BDT 24,974 ± 11,907 and a median income was BDT 25,000. The majority of the respondents' monthly family income was between 16,000 BDT to 30,000 BDT (38.0%) and ≤15,000 BDT was 31.3% (Table 01).

Table 1: Socio-demographic characteristics of the respondents (n=150)

Socio-demographic characteristics	No. of respondents	Percentage (%)
Age group		
20-25 years	24	16.0
26-30 years	56	37.3
31-35 years	71	46.7
Sex		
Male	83	55.3
Female	67	44.7
Level of education		
Class 1 – 5	29	19.3
Class 6 – 10	28	18.7
Class 11 – 12	30	20.0
Graduate	36	24.0
Postgraduate	24	16.0
Others	3	2.0
Occupation		
Unemployed	8	5.3
Service	67	44.7
Business	27	18.0
Day labor	6	4.0
Garments worker	15	10.0
Housewife	24	16.0
Others	3	2.0
Monthly household income		
Up to BDT 15,000	47	31.3
BDT 16,000 to BDT 30,000	57	38.0
More than BDT 30,000	42	28.0

The majority (82.0%) of the respondents answered correctly about the fact that fast food helps to develop heart diseases whereas 8.0% answered it wrong and 10.0% did not know. In the case of other questions such as fast-food causes a rise in blood pressure, it helps to develop obesity, it causes raise of blood cholesterol, it increases blood sugar, and consumption of fast food can cause cancer correct answers were 80.0%, 49.3%, 46.0%, 44.0%, and 40.0%, wrong answer was 9.3%, 26.7%, 28.0%, 27.3%, and 24.0% respectively (Table 02).

Table 2: Knowledge of the respondents on the effect of fast food on health (n=150)

Statement	Correct Answer		Wrong Answer		Don't know	
	Number	%	Number	%	Number	%
Fast food increases blood sugar	66	44.0	41	27.3	43	28.7
Fast food causes raise of blood pressure	120	80.0	14	9.3	16	10.7
Fast food causes raise of blood cholesterol	69	46.0	42	28.0	39	26.0
Fast food helps to develop heart diseases	123	82.0	12	8.0	15	10.0
Fast food helps to develop obesity	73	49.3	40	26.7	36	24.0
Consumption of fast food can cause cancer	60	40.0	36	24.0	54	36.0

The majority (46.0%) of the respondents have a moderate level of knowledge of the effect of fast food on health followed by poor knowledge (28.7%) (Table 03).

Table 3: Level of knowledge of the respondents on the effect of fast food on health (n=150)

Level of knowledge	Number of respondents	Percentage (%)
Poor knowledge	43	28.7
Moderate knowledge	69	46.0
Good knowledge	38	25.3

Discussion

A significant public health concern is the rising burden of non-communicable diseases, a big portion of which is preventable. These illnesses have a significant link to harmful lifestyle choices such as poor nutrition, inactivity, smoking, drinking too much alcohol, caffeine abuse, and unsuitable sleeping patterns. The chance of developing diabetes, osteoporosis, obesity, and cardiovascular illnesses is increased by poor nutrition and inactivity.

Table 4: Association of respondents' level of knowledge with their sociodemographic characteristics

Variables	Level of knowledge						Chi-square value	Degree of freedom	p-value
	Poor knowledge		Moderate knowledge		Good knowledge				
	f	%	f	%	f	%			
Age group									
20 - 25 years	7	4.7	12	8.0	5	3.3	0.581	4	0.965
26 - 30 years	17	11.3	24	16.0	15	10.0			
31 - 35 years	19	12.7	33	22.0	18	12.0			
Sex									
Male	21	14.0	40	26.7	22	14.7	1.029	2	5.98
Female	22	14.7	29	19.3	16	10.7			
Level of education									
Class 1 – 5	17	11.3	11	7.3	1	0.7	42.759	10	<0.001
Class 6 – 10	11	7.3	13	8.7	4	2.7			
Class 11 – 12	9	6.0	18	12.0	3	2.0			
Graduate	4	2.7	15	10.0	17	11.3			
Postgraduate	2	1.3	11	7.3	11	7.3			
Others	0	0.0	1	0.7	2	1.3			
Occupation									
Unemployed	0	0.0	4	2.7	4	2.7	37.496	12	<0.001
Service	10	6.7	34	22.7	23	15.3			
Business	6	4.0	12	8.0	9	6.0			
Day labor	4	2.7	2	1.3	0	0.0			
Garments worker	7	4.7	8	5.3	0	0.0			
Housewife	15	10.0	7	4.7	2	1.3			
Others	1	0.7	2	1.3	0	0.0			
Monthly household income									
Up to BDT 15,000	22	14.7	22	14.7	3	2.0	18.242	4	<0.001
BDT 16,000 to BDT 30,000	13	8.7	27	18.0	17	11.3			
More than BDT 30,000	7	4.7	19	12.7	16	10.7			

In this study majority (46.7%) of respondents were within the range of 31 to 35 years followed by 26 to 30 years (37.3%) which has no similarity with a previous study conducted in Bauchi, Nigeria may be due to the variation in the type of sample in both studies. In that study, most respondents were between the age of 19 and 24 years (50%). While 18 years and below constituted (16.4%) and only 8.6% of the respondents were aged above 30 years (Ibrahim *et al*., 2014). The majority (55.3%) of the respondents of this study were male where the male and female ratio was 1.24:1. A study conducted in Chennai, India found the male and female ratio was 1.46:1 (Thamarai *et al*., 2015) [9]. According to this study, the highest (38.7%) number of the respondents were educated up to high school. followed by graduates (24.0%) and the majority (44.7%) of the respondents were service holders followed by a businessman (18.0%). The monthly family income of most of the respondents was between BDT 16,000 to BDT 30,000 (38.0%) followed by ≤15,000 BDT (31.3%). The study shows that the majority (82.0%) of the respondents answered correctly about the fact that fast food helps to develop heart disease in case of other questions such as fast-food causes raise of blood pressure, it helps to develop

obesity, it increases blood sugar and consumption of fast food can cause cancer correct answer was 80.0%, 49.3%, 44.0%. The majority (46.0%) of the respondents have a moderate level of knowledge whereas a study in Mangaluru, India founds similar findings where 69% of the adolescent had moderate knowledge regarding the effect of fast food on health (Saranya *et al*., 2016) [7]. In the present study, respondents' level of knowledge was found to be significantly associated with their level of education, occupation, and monthly household income (Table 04). Similar findings were reported in the study of Mangaluru, India where the respondents' level of knowledge was found to be significantly associated with their monthly household income (Saranya *et al*., 2016) [7].

Conclusion

According to the study, most respondents have a moderate level of knowledge regarding the impact of fast food on health, and their level of education, occupation, and monthly household income are all strongly correlated with that knowledge. Several non-communicable diseases can be more likely to develop in those who consume fast food. People can avoid contracting these diseases by learning more about them and avoiding fast food. Taking this into account, various steps should be taken to raise the degree of public awareness of the impact of fast food on health, such as the implementation of health education initiatives in communities, schools, and universities.

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Conflict of interest

The authors claimed they had no competing interests in this work. Permission to publish All of the authors of this article have given their consent for it to be published.

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