ORIGINAL RESEARCH article

Factors related to the degree of knowledge regarding hypertension in Kishoreganj, Bangladesh

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Abstract: Hypertension is a common disease that imposes risks of diseases on multi-system. Failure to control hypertension leads to end up with unavoidable medical complications. Knowledge of patients about their disease is a key factor for better compliance. The purpose of this study was to determine the variables that are associated with the knowledge of hypertensive patients in Bangladesh. This observational, analytical, cross-sectional study was conducted on patients who visited Jahurul Islam Medical College in Kishoreganj, Bangladesh and were given an anonymous survey to complete between February 2024 and April 2024. Non-probabilistic sampling techniques were used to distribute questionnaire forms to participants who voluntarily consented to participate in the study. Respondents with certain mental health disorders and those who chose not to participate in the study were excluded; 188 individuals had finished the survey and satisfied the inclusion criteria. The findings showed that 47.87% of the participants had completed secondary school, the mean age of the participants was 43.0±13.29 years, and more than half of them (52.1%) were female. Physicians and television were the primary sources of their hypertension knowledge, accounting for 34.57% and 19.14% of the total, respectively. The majority of respondents obtained their information from health experts, and the odds of knowledge were higher for females, those living in urban areas, those with higher levels of education, and those who matured. The knowledge of respondents on hypertension was shown to be significantly correlated with their gender, age, location, level of education, and information source. Several factors influence people's knowledge of hypertension, and understanding these aspects enables public policies and educational initiatives to be tailored to the population that needs them most desperately.

Introduction

A blood pressure value of 130 mm Hg or higher for the systolic and 80 mm Hg or higher for the diastolic is considered hypertension (HTN), also referred to as high blood pressure. HTN commonly known as high blood pressure, is defined as a systolic blood pressure of 130 mm Hg or above and a diastolic blood pressure of 80 mm Hg or greater [1]. An increased risk of stroke and coronary heart disease, as well as related outcomes like heart failure, renal impairment, and retinal hemorrhage, are all associated with elevated blood pressure [2, 3]. In high-income countries, HTN has either stabilized or decreased, but in low and middle-income countries, its prevalence and burden have increased. Certain research attributed the downfall of HTN in high-income nations mainly to better management and prevention efforts [4]. Early on, many people may not be aware that they

have HTN because it rarely exhibits symptoms and is typically discovered through screening or while seeking treatment for an unrelated sickness. Palpitations, headaches, vertigo, and dizziness only manifest when blood pressure is highly elevated [5]. The World Health Organization (WHO) has categorized the main risk factors for HTN into risk indicators related to cardiovascular illnesses as well as metabolic, behavioral, and social determinants. While obesity, diabetes, and high blood lipids are metabolic risk factors for HTN, poor eating, smoking, inactivity, and alcohol abuse are behavioral risk factors [6]. According to studies, low and middle-income countries account for three-quarters of the world's hypertensive population [7], and their prevalence of HTN is higher (31.5%) than that of high-income nations (28.5%) [7].

Bangladesh is among the low- and middle-income nations going through a transition in epidemiology from infectious to non-communicable diseases [8]. The emergence of the HTN epidemic in Bangladesh may also be significantly influenced by the continuous nutritional change away from a traditional diet toward processed and fast food, upward sedentary lifestyle trends brought on by improved socioeconomic status, crowded living conditions, and a lack of physical activity as a result of fast, unplanned urbanization [9]. The most frequently mentioned factors when it comes to reasons why patients don't follow their doctors' orders are those that are directly related to them, such as ignorance of their condition and disease, ignorance of the nature of a chronic illness, a lack of knowledge about the potential consequences of untreated HTN, a lack of motivation to continue treatment, and the need to change their lifestyle [10]. While factors such as family history, gender, age, and race, increase the risk of HTN and cannot be prevented, other factors, like weight, physical inactivity, alcohol consumption, smoking, and diet, can be modified or prevented and are dependent on an individual's lifestyle choices. Therefore, being aware of these factors is seen as a significant step in the prevention and management of HTN [11]. In Bangladesh, several studies have shown that people with HTN have a low level of knowledge, but sadly, few studies have identified the elements that have a major impact on this level of knowledge. The purpose of this study was to assess the factors that directly affect the degree of understanding among the Bangladeshi hypertensive population.

Materials and methods

An observational, analytical, cross-sectional study was carried out from February 2024 to April 2024 through the application of an anonymous survey of patients who attended Jahurul Islam Medical College, Kishoreganj, Bangladesh.

Participants who freely agreed to participate in the study were given questionnaire forms using non-probabilistic sampling approaches. In total 188 patients had completed the survey and met the inclusion requirements with a response rate of 62.2%; respondents with specific mental health conditions and those who declined to participate in the study were not included. The survey tool was validated from a review of the literature [12].

The selected items were translated into Bengali, and pilot research was conducted to guarantee their validity and reliability. According to the American Heart Association's most recent recommendation, respondents were considered hypertensive patients if they had previously received a medical diagnosis and their blood pressure was ≥130/80. Ethics approval from the Jahurul Islam Medical College institutional board was obtained with a reference number [JIMC/IB/2024(1)].

Statistical analysis: The Statistical Package for the SPSS, version 23.0, was used to statistically analyze the data, and a value of ($P<0.05$) was thought to be statistically significant. To predict the possibility of a relationship between the participants' demographic factors and their level of knowledge, Chi-square and logistic regression analyses were used. Before data collection, participants were given a consent form, ethics approval was acquired from the relevant committee, and all data were fully anonymous with their consent.

Results

There were 188 eligible participants in all, 121 of whom lived in urban and 67 in rural regions (**Table 1**). The findings showed that 47.87% of the participants had completed secondary school, the mean age of the participants was 43.0±13.29 years, and more than half of them (52.1%) were female. Doctors and television were the primary sources of their knowledge of HTN, accounting for 34.57% and 19.14% of the total, respectively. The analytical Chi-square test revealed a statistically significant correlation between the amount of knowledge of hypertensive participants and demographic parameters such as gender, age, location, education level, and the source of information about HTN ($P<0.05$).

Table 1: Socio-demographic details of the hypertensive patients who answered the survey

Variables	Variables	Frequency (%)
Age	≤ 40	85 (45.21)
	> 40	103 (54.78)
Gender	Male	90 (47.87)
	Female	98 (52.12)
Residence	Rural	67 (35.63)
	Urban	121 (64.36)
Marital status	Single	32 (17.02)
	Married	109 (57.97)
	Divorced	25 (13.30)
	Widowed	22 (11.70)
Education level	Illiterate	15 (7.98)
	Primary level	56 (29.78)
	Secondary level	90 (47.87)
	University	27 (14.36)
Informational source regarding hypertension	Doctors	65 (34.57)
	Television	36 (19.14)
	Smartphone	19 (10.10)
	Leaflets	10 (5.30)
	Pharmacist	11 (5.58)
	Family	15 (7.97)
	Relatives	06 (3.19)
	Public health campaign	08 (4.25)
	Newspaper	18 (9.57)

According to the results of multivariate logistic regression (**Table 2**), the odds of ratio (OR) of HTN knowledge could be increased by approximately two and a half times if an individual was an urban resident, more educated, and older (>40 years old) (OR 2.6 [1.95-6.43], OR 2.9 [1.60-5.23], and OR 2.8 [1.38-4.05]) respectively. Those respondents who had heard about HTN from doctors were (1.85 OR [1.24-3.26]) times more likely to know more about their condition and HTN. According to the current study, female participants knew almost 1.5 times as much about HTN (OR 1.6 [1.21-6.12]).

Table 2: Independent predictors for knowledge of hypertension

Independent Variables	P (Chi-square)	OR	95% CI	P value (logistic regression)
Gender (female)	0.042	1.6	1.21-6.12	0.038
Age (>40)	0.001	2.8	1.38-4.05	0.019
Residence (urban)	0.017	2.6	1.95-6.43	0.015
Education level (university)	0.001	2.9	1.60-5.23	0.001
Source of information about hypertension (Doctors)	0.01	1.85	1.24-3.26	0.001

Discussion

This study was conducted to concentrate primarily on the variables that significantly impact the level of knowledge of the Bangladeshi hypertensive population regarding HTN. This study found a substantial correlation between the respondents' knowledge of HTN and their gender, age, location, degree of education, and source of information regarding the condition. Mature adults' understanding of the illness starts to rise, primarily as a result of prolonged experience that has increased their exposure to helpful health information [13]. Furthermore, the current study showed that women are more likely than males to learn more about their health state. This is most likely because of the fact that women have more healthcare-related practices than males [14]. In addition, it was shown that respondents with a university degree knew more than those with only a primary education since higher education levels result in a greater understanding of health issues, particularly those connected with chronic illnesses [15-17]. Furthermore, a study carried out in the United Arab Emirates found that different sources could contribute to knowledge on hyper HTN tension, indicating a relationship between the amount of knowledge and information source [18]. This study showed that the primary trustworthy sources of information about HTN are medical professionals and the media, mainly television. They contribute to the dissemination of information about the dangers of untreated HTN, its negative effects, and the most economical ways to manage it [19]. Location is one element in this study that might influence the degree of HTN knowledge. Respondents from rural areas had less understanding, making them more likely to have inadequate blood pressure control. This might be the result of inadequate health care in rural areas as opposed to cities [20-22]. Consequently, the present report highlights how important it is to give rural residents of Bangladesh to lower the risk of HTN and enhance their understanding of and compliance with medication.

Conclusion: The knowledge of respondents on hypertension was significantly correlated with their gender, age, location, level of education, and information source. The idea of health knowledge must be derived from the literature and include precise and comprehensive information on general and particular facets of health that are connected to attitudes, intents, and perceptions of individual and collective care for hypertension.

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