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KNOWLEDGE ABOUT THE RISK FACTORS AND SIGN-SYMPOMS OF CARDIOVASCULAR DISEASES AMONG THE PATIENT'S ATTENDANTS AT A SPECIALIZED HOSPITAL IN BANGLADESH

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ABSTRACT

Background: Now a day, cardiovascular disease (CVD) is a very common disease in Bangladesh. Hypertension is the most widely prevalent, largely preventable risk factor for CVD accounting for half of the deaths due to ischaemic heart disease and stroke. Therefore, due to CVD and CKD, uncontrolled hypertension has huge implications for the disease burden. In today's world, awareness among people about the risk factors, signs symptoms, and prevention of CVD is considered as one of the most potent components in saving people from huge mortalities and morbidities of CVD. **Aim of the study:** The present study aimed to assess the knowledge about the risk factors and sign symptoms of cardiovascular diseases among the patient's attendants in the NICVD (National Institute of Cardiovascular Disease) Dhaka, Bangladesh. **Methods:** This was a cross-sectional study. The study was conducted at a National Institute of Cardiovascular Disease (NICVD) in Dhaka, Bangladesh in collaboration with the Department of Public Health, Northern University, Dhaka, Bangladesh during the period from September 2017 to December 2017. Properly written consent was taken from all the participants before starting data collection. A pre-designed questioner was used to collect data. All the results were calculated with the help of a computer by using the SPSS 22.0 version. Data were presented according to the variable of the study and shown in percentage. **Results:** In this study maximum, 83.2% of respondents knew the risk factor of CVD but 16.8% had not. Among the total participants, the major risk factor of CVD hypertension was defined by 80%, smoking by 73%, alcoholism by 53%, DM by 50%, high fat diet

ORIGINAL RESEARCH ARTICLE

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by 52%, and family history of diabetes by 34% of respondents. The maximum, 79.2% respondents had the idea of the sign-symptoms of CVD whereas 20.9% had not. As sign/symptoms maximum, 94% of respondents defined chest pain as the major whereas 48% defined shortness of breathing, 39% defined sweating, 36% defined vomiting and 12% defined swelling as the sign/symptoms of CVD. This study revealed that 55.4% of respondents had knowledge regarding the prevention of CVD but 26.7% had not. **Conclusion:** The knowledge about the risk factors and significant symptoms of cardiovascular diseases (CVD) among the patient's attendants in Bangladesh may not be considered satisfactory. So, there are many scopes to do more works on awareness development about CVD among the general population in Bangladesh.

2021, www.medrech.com**1. INTRODUCTION**

In today's world, awareness among people about the risk factors, symptoms, and prevention of CVD is considered as one of the most potent components in saving people from huge mortalities and morbidities of CVD. Cardiovascular disease (CVD) is a very common disease in Bangladesh now. A recent study showed the prevalence of CKD among 22% of undiagnosed hypertensive and 17% of prehypertensive participants in the USA. Therefore, uncontrolled hypertension has huge implications for the disease burden due to CVD and CKD.¹ Low awareness is common in populations in low-income settings including Bangladesh. Research has shown that greater awareness is associated with higher adherence to antihypertensive treatments and BP control.² Only 30-45% of people with hypertension were aware of their condition and only 8% had achieved target BP goals showed in a study in China. However, after raising awareness, data are scarce on care-seeking behavior and BP target achievement. Despite a very high rate of unawareness and the huge disease burden attributable to hypertension. It is largely an unrecognized and under-researched public health problem in Bangladesh.³ In this paper, we report the prevalence, awareness, and control of hypertension at baseline and explore

the effect of raising awareness coupled with providing health messages urging visits to healthcare providers regarding BP and BP goal achievement among individuals with hypertension in urban and rural Bangladesh.⁴ A dramatic increase in CVD from 1986 to 2006 demonstrated in a study in rural areas in Bangladesh 30-fold (from 16 deaths per 100,000 to 483 deaths per 100,000) among males and 47-fold (from 7 deaths per 100,000 to 330 deaths per 100,000) in females increased by the age-standardized CVD mortality rates. A nationwide survey is needed to find out the current epidemiological aspects of CAD in the country.⁵ Ethnicity has been suggested to play role in the undue susceptibility of the South Asian population to CAD. In South Asians, CAD is premature in onset, clinically aggressive, and angiographically extensive. South Asian ethnicity was associated with increased morbidity and mortality after CABG and in-stent restenosis but not mortality after PCI Studies involving the immigrants abroad have found that among the South Asians. Associated with higher morbidity and mortality related to CAD, Bangladeshis are even more prone to develop CAD.⁶ Bangladeshis are the shortest in the UK which is associated with a higher risk of a heart attack.⁷ Recently, 6 novel genetic loci have been identified in South Asians, which are

associated with type 2 diabetes mellitus (DM), a major risk factor for CAD.⁸ The major objective of the present study was to assess the knowledge about the risk factors and significant symptoms of cardiovascular diseases among the patient's attendants in Bangladesh.

2. OBJECTIVE

General Objective:

- To assess the knowledge about the risk factors and signs symptoms of cardiovascular diseases among the participants.

Specific Objective:

- To determine the socio-demographic status of the participants.
- To assess the current concepts of participants regarding the risk factors and sign-symptoms of CVD.

3. METHODOLOGY

This descriptive, cross-sectional study was conducted at the National Institute of Cardiovascular Disease (NICVD) in Dhaka, Bangladesh in collaboration with the Department of Public Health, Northern University, Dhaka, Bangladesh during the period from September 2017 to December 2017. In total 101 attendants of patients of the mentioned hospital were selected as the study people. All the samples were collected by purposive sampling techniques. According to the inclusion criteria of this study, the patient's attendant who was willing to participate and give consent was included as the study population. On the other hand, according to the exclusion criteria of this study, attendants were not interested and were refusing to give informed consent. A semi-structured questionnaire was used as the data collection tool for the present study. After collection, the data was checked & verified daily and audited for errors and inconsistencies. All the results were calculated with the help of a computer by using the SPSS 22.0 version. Descriptive statistics were presented with a frequencies table. Association is demonstrated with cross

tables, Bar, Pie charts, and Line charts were generated to illustrate descriptive statistics. For the better quality of the research standard, the proposal format provided by the university was followed. Interview questionnaire had been checked after collecting data to ensure its completeness, correctness, consistency. For the present study, permission was taken from the internal research committee of the Northern University of Bangladesh. The informed consent of each participant was taken during the interview.

4. RESULT

In this study maximum number of participants, 40% were from the age group of 26-35 years, 27% were from the age group of 36-45 years and 20% were from the age group of 16-25 years. Maximum participants, 61.4% were female and the rest 38.6% were male. Among total participants, almost 84 % were Muslim, 8.9% were Hindu and the rest 5% were Christian. In this study, 29.9% of participant's level of education was primary, 24.85% of participant's level of education was higher secondary, 20.8% of participant's level of education was graduation and above, 19.8% of participant's level of education was secondary and the rest 4.65% respondents were illiterate. The maximum, 37.84% participants of this study were service holders, 34.8% were day laborers, 9.84% were businessmen, 7.84% were students, 5.84% were housewives and the rest 3.84% were retired person. Most of the participants, 20% were earning 26000- 30000 BDT per month, 13% were earning 16000-20000 BDT/month and 12% were earning 21000-25000 BDT per month. In this study, the maximum number of participants, 56.82% knew about ischemic heart disease but 32.58% had not. On the other hand, 9.15% knew MI and 1.45% knew about coronary artery disease. Maximum 83.2% of participants had knowledge about the risk factors of CVD but 16.8% had not. Among the total participants, hypertension was defined as the major risk factor of CVD

by 80%, smoking by 73%, alcoholism by 53%, diabetes by 50%, high fat diet by 52%, DM by 50%, family history of diabetes by 34% and sedentary lifestyle 27%. In this study, the maximum, 79.2% participants had the idea about the sign-symptoms of CVD whereas 20.9% had not. In this study, assign/symptoms maximum, 94% participants defined chest pain as the symptoms of CVD whereas 48% defined shortness of breathing, 39% defined sweating, 36% defined vomiting and 12% defined swelling as the sign/symptoms of

CVD. This study revealed that 55.4% of participants knew about the prevention of CVD 26.7% had no idea about the prevention and 18.9% had not. In this study, 37.5% of participants used to believe that, one can prevent CVD by changing one lifestyle. Besides this 25%, 19.6%, and 18% of participants defined stopping smoking, stopping alcoholism, noticing chest pain as the warning respectively as the preventing methods of CVD.

Table 1: Demographic status of the participants (N=101)

Characteristics	n	%
Age distribution in year		
16-25 yrs.	20	19.96
26-35 yrs.	40	39.96
36-45 yrs.	27	26.82
46-55 yrs.	11	10.68
>56 yrs.	3	2.58
Level of education		
Illiterate	5	4.65
Primary	30	29.9
Secondary	20	19.8
Higher secondary	25	24.85
Graduation and above	21	20.8
Occupational status		
Student	8	7.84
Day laborer	35	34.80
Housewife	6	5.84
Service holder	38	37.84
Business	10	9.84
Retired person	4	3.84

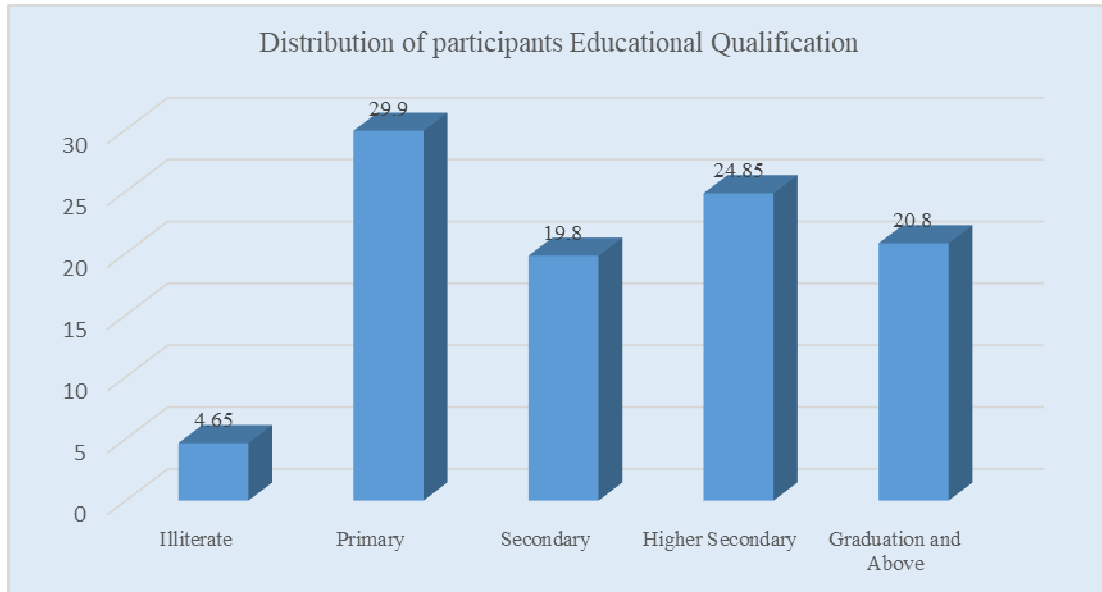


Figure I: Participants Educational Qualification Distribution

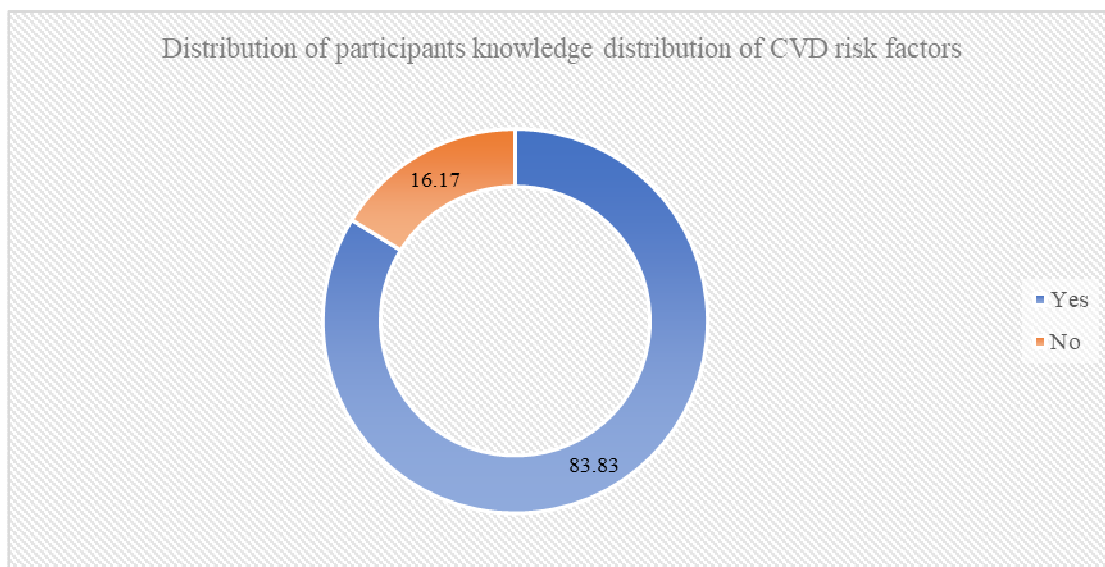


Figure II: Distribution of the participants according to their knowledge about the risk the factor of CVD (N=101)

Table 2: Concepts of the participants regarding the sign-symptoms of CVD (N=101)

Symptoms	n	%
Chest pain	94	94.0
Sweating	39	39.0
Shortness of breath	48	48.0
Vomiting	36	36.0
Swelling of the legs	12	12.0

Table 3: Distribution of the respondents according to their assumed methods to prevent CVD (n=56)

Variable	n	%
Changing lifestyle	21	37.5
Stop smoking	14	25.0
Stop alcoholism	11	19.5
Noticing chest pain	10	18.0
Total	56	100.0

5. DISCUSSION

This present study aimed to assess the knowledge about the risk factors and signs and symptoms of cardiovascular diseases (CVD) among the patient's attendants in Bangladesh. In this study, 29.9% of participant's level of education was primary, 24.85% of participant's level of education was higher secondary, 20.8% of respondent's level of education was graduation and above, 19.8% of participant's level of education was secondary and the rest 4.65% participants were illiterate. Elucidation of the genetic factors that predispose to CAD in South Asians is central to a fuller understanding of the epidemic and the nature of gene-environment interactions in the etiopathogenesis of CAD, and this is equally applicable to CAD in Bangladesh.^{9,10} In this study, it is also revealed that 56.82% of participants knew about cardiovascular disease whereas 32.58% had no idea and 9.15% had knowledge about MI and 1.45% had knowledge about coronary artery disease. Among the total respondents, a maximum of 84% had knowledge regarding risk factors, 16.8% had no knowledge about the risk factor of CVD. The respondents knew the name of the risk factors and they mentioned hypertension (80%), smoking (73%), alcoholism (53%), high-fat diet (52%), DM (50%), family history of diabetes (34%) and sedentary lifestyle (27%). It was also revealed that 79% of respondents knew about the symptoms and 60% of respondents knew about the treatments and complications of cardiovascular diseases. A case-control study of non-smoking Bangladeshi adults aged 40-

75 years conducted in 2010 found no statistically significant association between smokeless tobacco use in general and CAD among non-smoking adults.¹¹ The destruction of folates may all contribute to dyslipidemia in this population leading to liberal use of saturated fats and trans fats, deep frying, reuse of cooking oil, and overcooking.¹² Probable explanations may include rapid urbanization with less physical activities, environmental pollution, climate change, changes in dietary habits, and increasing access to day-to-day modern amenities leading to reduced physical activity and sedentary lifestyles, especially in younger adults.¹³ Studies are needed to determine the lipoprotein profile of the population for a better understanding of the contribution of dyslipidemia to the etiopathogenesis of CAD.¹⁴ The International Diabetes Federation (IDF) estimated that 5.7 million (6.1%) and 6.7 million (7.1%) of people living in Bangladesh are suffering from DM and impaired glucose tolerance (IGT), respectively in 2010 and by 2030, it is expected to rise to 11.1 million.¹⁵

6. LIMITATION OF THE STUDY

This preliminary study had several limitations. The cross-sectional, descriptive nature of the study was not strong enough to dig out the concrete findings. The sample size was comparatively small due to the shortage of time and financial constraints of the research period and thus the result could not be generalized.

7. CONCLUSION & RECOMMENDATION

The knowledge about the risk factors and signs symptoms of cardiovascular diseases (CVD) among the patient's attendants in Bangladesh may not be considered satisfactory. So, there are many scopes to do more works on awareness development about CVD among the general population in Bangladesh. For getting more specific information regarding this issue we would like to recommend conducting more studies in several places with a large sample size.

REFERENCES

1. 2011–2015. Directorate General of Health Services, Ministry of Health and Family Welfare; Dhaka: August 2011.
2. Department of Public Health and Primary Care, University of Cambridge. High-risk Hearts: A South Asian Epidemic. [homepage on the Internet] c2013 [cited 2013 Jul 3]. Available from: <http://www.phpc.cam.ac.uk/blog/high-risk-hearts-a-south-asian-epidemic>.
3. Enas EA., Senthilkumar A. Coronary artery disease in Asian Indians: an update and review. *Int J Cardiol.* 2001;1(2)
4. Malik A. Congenital and acquired heart diseases (a survey of 7062 persons) *Bangladesh Med Res Counc Bull.* 1976; II:115–119. [PubMed]
5. AhsanKarar Z., Alam N., Kim Streatfield P. Epidemiological transition in rural Bangladesh, 1986–2006. *Glob Health Action.* 2009;2. [PMC free article] [PubMed]
6. Gupta M., Singh N., Verma S. South Asians and cardiovascular risk: what clinicians should know. *Circulation.* 2006;113: e924–e929. [PubMed]
7. Shah A., Hernandez A., Mathur D. Adipokines and body fat composition in south Asians: results of the Metabolic Syndrome and Atherosclerosis in South Asians Living in America (MASALA) study. *Int J Obes (Lond)* 2012; 36:810–816. [PubMed]
8. Chowdhury AH., Zaman M.M., Haque KM. Association of angiotensin converting enzyme (ACE) gene polymorphism with hypertension in a Bangladeshi population. *Bangladesh Med Res Counc Bull.* 1998; 24:55–59. [PubMed]
9. Khanam MA., Qiu C., Lindeboom W. The metabolic syndrome: prevalence, associated factors, and impact on survival among older persons in rural Bangladesh. *PLoS One.* 2011;6: e20259. [PubMed]
10. Mohsin FS., Tayya B., Baker A. Prevalence of obesity among affluent school children in Dhaka. *Mymensingh Med J.* 2010; 19:549–554. [PubMed]
11. Rahman MM., Rabim MA., Nath RK. Prognostic role of C-reactive protein in acute stroke. *Bangladesh J Med Sci.* 2010; 10:29–33.
12. Alam DS., Chowdhury M.A.H., Siddiquee AT., Ahmed S. Niessen LW. Awareness and control of hypertension in Bangladesh: follow-up of a hypertensive cohort. *BMJ Open.* 2014;4: e004983. [PMC free article] [PubMed]
13. Majumder AAS., Karim MF., Rahman M.A. Study of association of C-reactive protein with coronary collateral development. *Cardiovasc J.* 2010; 3:26–32.
14. 34. National Low Birth Weight Survey of Bangladesh, 2003-2004. Bangladesh Bureau of Statistics, Planning Division, Ministry of Planning, Government of the People's Republic of Bangladesh; 2005.
15. Mohsin F., Baki F., Nahar J. Prevalence of metabolic syndrome among obese children and adolescents. *Birdem Med J.* 2011; 1:21–25.