

To Assess Knowledge and Practice of Hypertensive Patients Regarding Prevention of Myocardial Infarction

Faruk Ahommed^{1*}, Mohammad Moyazzam Hossain², Abul Hossain³¹Senior Consultant (Cardiology), CME, OSD, DGHS, Dhaka, Bangladesh²Senior Consultant (Cardiology), Sadar Hospital, Rajbari, Dhaka, Bangladesh³Lecturer, Department of Pharmacology, Bangabandhu Sheikh Mujib Medical College, Faridpur, BangladeshDOI: [10.36347/sjams.2022.v10i12.025](https://doi.org/10.36347/sjams.2022.v10i12.025)

| Received: 29.10.2022 | Accepted: 04.12.2022 | Published: 07.12.2022

*Corresponding author: Faruk Ahommed

Senior Consultant (Cardiology), CME, OSD, DGHS, Dhaka, Bangladesh

Abstract

Original Research Article

Background: Cardiovascular Diseases (CVDs) are the number one cause of death globally. More people die annually from CVDs than from any other cause. An estimated 17.5 million people died from CVDs in 2012, representing 31% of all global deaths. Good knowledge and practice is required for prevention and control of myocardial infarction. **Objective:** To assess knowledge and practice of hypertensive patients regarding prevention of myocardial infarction. **Methods:** A cross-sectional hospital based study was conducted at Cardiology Dept. Islami Bank community Hospital Faridpur and 250 Bedded General Hospital, Gopalganj, Bangladesh January to June 2021. Among 100 hypertensive patients were included. Purposive sampling method was used to select calculated number of study participants. Data was collected by interview method using structured questionnaire and descriptive and inferential statistics was used to analyze the data. **Results:** Total 100 hypertensive respondents, more than half (54.0%) had high level of knowledge whereas 46.0% had low level of knowledge regarding prevention of MI. Similarly, 56.0% had good practice and were taking the appropriate preventive measures of MI, though, 44.0% had poor practice. This study revealed that knowledge level was significantly ($P=0.002$) higher among female (73.2%) than to male (43.2%). This study found significant association of knowledge with gender, education and socio-economic status. In the same manner, there was significant association of practice with awareness of disease. **Conclusion:** Heart disease is a significant problem among adult population. So assessing the knowledge regarding preventive heart disease could be the effective measure to prevent heart disease. Thus, further awareness regarding prevention of MI needs to be provided to hypertensive patients and large scale study should be planned to identify the determinants of knowledge and practice of prevention of MI among hypertensive patients.

Keywords: Hypertension, Myocardial Infarction, Practice, Prevention.

Copyright © 2022 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Cardiovascular Diseases (CVDs) are the number one cause of death globally. More people die annually from CVDs than from any other cause. An estimated 17.5 million people died from CVDs in 2012, representing 31% of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke. Over three quarters of CVD deaths take place in low- and middle-income countries [1]. According to American Heart Association coronary artery disease mortality rates will double from 1990 to 2020, with approximately 82% of the increase attributable to the developing world [2]. About 38% were attributed to CVDs among all other NCDs. CVD was first documented in 1970s with cases

of MI [3]. Importantly, it is a prevailing risk factor for Myocardial Infarction (MI) in the general population [2, 3]. CVDs are expected to be the major causes of morbidity and mortality in many developing countries of the world by 2020, yet it is preventable [4, 5]. Knowledge about prevention and control of complication especially MI is crucial. It has been reported that South Asians have a very poor degree of knowledge regarding coronary heart disease [6]. Myocardial Infarction commonly known as heart attack, occurs when blood flow stops to a part of heart causing damage to the heart muscle, risk factors include high blood pressure, smoking, diabetes, lack of exercise, obesity, poor diet, excessive alcohol intake [7, 8]. Findings also highlighted the lack of knowledge on high cholesterol diet and diabetes as modifiable risk factors

Citation: Faruk Ahommed, Mohammad Moyazzam Hossain, Abul Hossain. To assess Knowledge and Practice of Hypertensive Patients Regarding Prevention of Myocardial Infarction. Sch J App Med Sci, 2022 Dec 10(12): 2201-2204.

2201

for heart disease i.e., 36.5% and 30.1% respectively. Therefore, it is recommended that awareness raising programs can turn out to be beneficial on prevention of heart disease is correcting in the deficient areas of knowledge regarding preventive measures of heart disease [9].

MATERIALS AND METHODS

A cross-sectional hospital based study was conducted at Cardiology Dept. Islami Bank community Hospital Faridpur and 250 Bedded General Hospital, Gopalganj, Bangladesh January to June 2021. Among 100 hypertensive patients were included. Structured questionnaire on (knowledge and practice) were used to collect data through interview method. There were total twelve questions about knowledge and thirteen questions about practice so total knowledge score were 12 and 13 for practice. Mean score of knowledge (8.29) and practice (7.94) was taken for categorization. If knowledge score obtained by the participants was above mean score then it was categorized as high level knowledge and if it was below mean score then it was graded as low level knowledge. Similarly, if the practice score was above mean then it was categorized as good practice and if it was less than mean, it was graded as poor practice. Those participants who could read and write were taken as literate and those who were unable to do so were taken as illiterate. Data was analyzed in SPSS 20 version using descriptive (mean and standard deviation) and analytical (Chi square test) statistics.

RESULTS

Total 100 hypertensive respondents, more than half (54.0%) had high level of knowledge whereas 46.0% had low level of knowledge regarding prevention of MI. Similarly, 56.0% had good practice and were taking the appropriate preventive measures of MI, though, 44.0% had poor practice (Table-1, 2). This study revealed that knowledge level was significantly ($P=0.002$) higher among female (73.2%) than to male (43.2%). In the same manner, literate participants (69.8%) were significantly ($P<0.001$) more aware about the prevention of MI compared to illiterate participants. Around three fourth (69.6%) of participants, having high level of knowledge, were from upper class and rest (38.7%) were from lower class (Table-3). More than half of the respondents (58.0%) from upper class had good practice of prevention of MI ($P=0.012$) compared to literate good practice 82.4%. Moreover, those participants who were involved in awareness programs of prevention of MI previously, (82.4%) had good practice of prevention of MI ($P=0.012$) than the participants not involved in such programs earlier (51.8%) as presented (Table-4). This study showed that the maximum numbers of respondents were overweight (49%) followed by obese (32%) and normal weight (17%) respectively. The calculated mean Body Mass Index (BMI) was 26.64 and standard deviation was 4.07. Out of the total respondents, 86 (86%) were at risk of cardiovascular disease according to increased waist hip ratio.

Table-1: Level of knowledge and practice (n=100)

Level of knowledge	Frequency (n)	Percentage (%)
High level (> 8.29)	54	54.0
Low level (< 8.29)	46	46.0
Total	100	100.0
Mean \pm SD: 8.29 \pm 2.03		

Table-2: Level of practice (n=100)

Level of practice	Frequency (n)	Percentage (%)
Good (>7.94)	56	56.0
Poor (<7.94)	44	44.0
Total	100	100.0
Mean \pm SD : 7.94 \pm 1.35		

Table-3: Association between the socio-demographic variables and the Knowledge (n= 100)

	Variables	Grading of knowledge		Total (%)	P value
		High (%)	Low (%)		
Age category	<50 years	23(67.6)	11(32.4)	34%	0.23
	>50 years	37(56.06)	29(43.9)	66%	
Sex	Male	19(43.2)	25(56.8)	44%	0.002*
	Female	41(73.2)	15(26.8)	56%	
Education	Literate	60(69.8)	26(30.2)	86%	<0.001*
	Illiterate	0(0)	14(100)	14%	
Occupation	Employed	28(65.1)	15(34.9)	43%	0.34
	Unemployed	32(56.1)	25(43.9)	57%	
Socio-economic class	Upper class	48(69.6)	21(30.4)	69%	0.03***

	Variables	Grading of knowledge		Total (%)	P value
		High (%)	Low (%)		
	Lower class	12(38.7)	19(61.3)	31%	
Religion	Muslim	50(61.0)	32(39.02)	82%	0.12
	Hundi	9(69.2)	4(30.8)	13%	
	Others	1(20.0)	4(80.0)	5%	
Residential Area	Urban	46(63.9)	26(36.1)	72%	0.20
	Rural	14(50.0)	14(50.0)	28%	
Awareness	Yes	13(76.5)	4(23.5)	17%	0.09
	No	47(56.6)	36(43.4)	83%	
Past history of MI	Yes	5(41.7)	7(58.3)	12%	0.16
	No	55(62.5)	33(37.5)	88%	

Significant = ***, a=chi square test.

Table-4: Association between the socio-demographic Variables and the Practice (n=100)

	Variables	Practice		Total (%)	P value
		Good	Poor		
Age	<50 years	22(64.7)	12(35.3)	34%	0.23
	>50 years	35(53.03)	31(47.0)	66%	
Sex	Male	27(61.4)	17(38.6)	44%	0.002*
	Female	30(53.6)	26(46.4)	56%	
Residential Area	Urban	40(55.6)	32(44.4)	72%	<0.001*
	Rural	17(60.7)	11(39.3)	28%	
Education	Literate	51(60.0)	34(40.0)	85%	0.34
	Illiterate	6(40.0)	9(60.0)	15%	
Socio-economic class	Upper class	40(58.0)	29(42.03)	69%	0.03***
	Lower class	17(54.8)	14(45.16)	31%	
Awareness	Yes	14(82.4)	3(17.6)	17%	0.09
	No	43(51.8)	40(48.2)	43%	

Significant = ***, a=chi square test.

DISCUSSION

This study was carried out to assess the existing knowledge regarding preventive measures of Myocardial Infarction among the adult population of a community as well as its association with different variables. The discussion was made by reviewing different literature regarding knowledge of myocardial infarction which directly or indirectly supports this study. Demographic patterns of 100 participants at Islami Bank community Hospital Faridpur and 250 Bedded General Hospital, Gopalganj, Bangladesh were age, sex, ethnicity, religion, types of family, education, occupation and residence. More than half (54.0%) had high level of knowledge whereas 46.0% had low level of knowledge regarding prevention of MI, where more than one quarter (34.4%) of participants were between the age of 55- 65 years. More than half (56.8%) of the low hypertensive participants were male in present study which is similar with the study population of Pokhara (66.7%) [10]. About 46 (63.9%) of our study participants were living in urban area which is similar to study done in India [11]. This study revealed that knowledge level was significantly ($P=0.002$) higher among female (73.2%) than to male (43.2%). In the same manner, literate participants (69.8%) were significantly ($p< 0.001$) more aware about the prevention of MI compared to illiterate participants

which is similar to study conducted where majority of participants were male (68.7%) [5]. Similarly, highest number 82% of our participants were Muslim which is higher than previous study [12]. Around 86% were literate in our study which is similar to (80%) study conducted in a part of India [11]. In the same manner, more than half of participants (56.1%) were unemployed in our study which is higher than a study conducted in India (12.94%) [13]. This might be due to different geography and different tools used for classification of socioeconomic status. Moreover, this study identified around more than half (54.0%) had high knowledge and (46.0%) had low knowledge about prevention of MI which is higher than study conducted in India which revealed 56.0% had good knowledge and 44.0% had poor knowledge of prevention of cardiovascular diseases [11]. Nearly half of our participants (49%) were overweight followed by 32% obese based on the World health organization (WHO) classification of BMI for Asian people [15]. Whereas, 65% had BMI more than or equal to twenty-five in a similar study of India [13]. We found that 89.6% were at risk of cardiovascular disease due to increased waist hip ratio on the basis of the cut-off point of the waist-hip ratio of WHO [5]. This observed difference might be due to different characteristics of study participants. This study also revealed high level knowledge among female (73.2%) than male (43.2%). Similarly, this study

shows that the mean score of knowledge is 8.29 out of 12 total score, while mean score was three, range (0-11) out of 15 in a similar study done in Pakistan [14]. This shows that mean knowledge score is comparatively greater in our study. The differential result might be due to different tools used to assess knowledge in both study. However, that study dealt about knowledge of modifiable risk factors rather than about prevention of MI only and the participants were already diagnosed as MI so that might have influenced the knowledge level [16]. It might be due to similar study setting as both are central level referral hospital and other socio demographics characteristics of participants might be similar in both studies, however, tools of measurements were not alike. This may be because of the respondents with self/family members suffering from heart disease would have had a strong motivation to know more about these condition.

CONCLUSION

Heart disease is a significant problem among adult population. So assessing the knowledge regarding preventive heart disease could be the effective measure to prevent heart disease. Thus, further awareness regarding prevention of MI needs to be provided to hypertensive patients and large scale study should be planned to identify the determinants of knowledge and practice of prevention of MI among hypertensive patients.

Conflict of Interest: None.

Source of Fund: Nil.

REFERENCES

- Zuhaid, M., Kazmi, S., Farooq, U., Khan, I. A., Aziz, T., Aziz, S., & Rahim, M. (2014). Knowledge of modifiable risk factors of cardiovascular diseases among patients with acute myocardial infarction. *Journal of Ayub Medical College Abbottabad*, 26(3), 364-367.
- Namayandeh, S. M., Sadr, S. M., Ansari, Z., & Rafiei, M. (2011). A cross-sectional study of the prevalence of coronary artery disease traditional risk factors in Yazd urban population, Yazd healthy heart project. *Iranian Cardiovas. Res. J*, 5(1), 7-13.
- Pandey, R. A., & Khadka, I. (2012). Knowledge regarding preventive measures of heart disease among the adult population in Kathmandu. *Health*, 4(9), 601-606.
- Prasad, D. S., Kabir, Z., Dash, A. K., & Das, B. C. (2012). Prevalence and risk factors for metabolic syndrome in Asian Indians: A community study from urban Eastern India. *Journal of cardiovascular disease research*, 3(3), 204-211.
- Attarchi, M., Mohammadi, S., Nojomi, M., & Labbafinejad, Y. (2012). Knowledge and practice assessment of workers in a pharmaceutical company about prevention of coronary artery disease. *Acta Medica Iranica*, 697-703.
- Kearney, P. M., Whelton, M., Reynolds, K., Muntner, P., Whelton, P. K., & He, J. (2005). Global burden of hypertension: analysis of worldwide data. *The lancet*, 365(9455), 217-223.
- Goyal, A., & Yusuf, S. (2006). The burden of disease in the Indian subcontinent. *Indian J Med Res*, 124, 235-244.
- Gandhi, S., Chaudhari, N., Bhuvra, R., Mallick, K., & Vasava, B. (2010). Awareness and prevalence of myocardial infarction and hypertension In general population of surat city. *National Journal of Community Medicine*, 1(02), 139-142.
- Celermajer, D. S., Chow, C. K., Marijon, E., Anstey, N. M., & Woo, K. S. (2012). Cardiovascular disease in the developing world: prevalences, patterns, and the potential of early disease detection. *Journal of the American College of Cardiology*, 60(14), 1207-1216.
- Shankar, P. R., Partha, P., Shenoy, N., Chandrasekhar, T. S., & Dubey, A. K. (2007). Knowledge about heart attack and hypertension among individuals attending a cardiac camp in Pokhara city. *Kathmandu University Medical Journal (KUMJ)*, 5(2), 273-278.
- Choudhary, M., Sharma, K., & Sodhi, J. K. (2014). Knowledge regarding preventive measures of coronary artery disease among patient attending outpatient departments of selected hospital of Ludhiana city. *International Journal of Healthcare Sciences*, 2(1), 60-63.
- Bhandari, B., Bhattarai, M., Bhandari, M., Ghimire, A., & Pokharel, P. K. (2014). Prevalence of other associated risk factors of Cardiovascular Disease among Hypertensive patients in Eastern Nepal. *Nepalese Heart Journal*, 11(1), 27-31.
- Mahajan, H., Kazi, Y., Sharma, B., & Velhal, G. D. (2012). Assessment of KAP, risk factors and associated co-morbidities in hypertensive patients. *IOSR Journal of Dental and Medical Sciences*, 1(2), 6-14.
- Jafary, F. H., Aslam, F., Mahmud, H., Waheed, A., Shakir, M., Afzal, A., ... & Haque, I. U. (2005). Cardiovascular health knowledge and behavior in patient attendants at four tertiary care hospitals in Pakistan—a cause for concern. *BMC Public Health*, 5(1), 1-9. doi:10.1186/1471-2458-5-124.
- Organization WH. The Asia-Pacific perspective: redefining obesity and its treatment. Sydney: Health Communications Australia; 2000.
- Khan, M. S., Jafary, F. H., Jafar, T. H., Faruqui, A. M., Rasool, S. I., Hatcher, J., & Chaturvedi, N. (2006). Knowledge of modifiable risk factors of heart disease among patients with acute myocardial infarction in Karachi, Pakistan: a cross sectional study. *BMC cardiovascular disorders*, 6(1), 1-9.