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Original Article

Survey of Risk Factors among the Female Patients of Coronary Heart Diseases Attending in Dhaka National Medical Institute Hospital

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Abstract :

Objectives: The objective of this study was to explore the presence of risk factors among the female patients of a tertiary care hospital in old Dhaka city. Study design: Cross sectional study. Place and duration of the study: From February 2011 to January 2012 in Cardiology In-Patient Department in Dhaka National Medical Institute Hospital. Sampling technique with sample size: Convenient sampling technique was adopted with the sample size 201. Methodology: Written pre-tested interviewer administered questionnaires, stethoscope, sphygmomanometer; measuring tape and weight measuring machine were used as data collection tools. Data were collected by face to face interview, from the records of reports and physical examinations.

Results: Higher portion of respondents (31.8%) were in 51-60 years of age. More than two-thirds (70%) of the respondents were menopausal and one-tenth were taking hormone replacement therapies. Almost all of the fertile female respondents were taking oral contraceptive pills. More than two-third of the respondents (74.1%) were hypertensive. Only one-third (32.8%) exercised regularly and more than half of the respondents (51.8%) had more than normal BMI.

Conclusion and recommendation: The study findings suggested the vulnerability of female to coronary heart diseases. Therefore, steps should be taken in increasing the awareness about coronary heart diseases among the female.

Key words: coronary heart disease, risk factors

Introduction :

Coronary Heart Disease (CHD) is the leading cause of mortality and morbidity in industrialized countries, and it is emerging as a prominent public health problem in developing countries. Bangladesh has undergone a remarkable demographic transition over the last three decades. Striking changes have also been observed in the lifestyle and food habit in our population[1]. Coronary heart disease is no longer considered a disease that affects just men. Cardiovascular diseases affect more women than men and are responsible for more than 40% of all deaths in American women[2]. K. Park defined CHD as, "impairment of heart function due to inadequate blood flow to the heart compared to its needs, caused by obstructive changes in the coronary circulation to the heart"[3]. CHD may present as stable angina, unstable angina, myocardial infarction, heart failure, arrhythmia and sudden death. There are some factors which determine the development of disease. These factors are "Not modifiable" and "Modifiable" risk factors[3].

Table 1 Classification of risk factors[3]

Not modifiable	Modifiable
Age	Cigarette smoking
Sex	High blood pressure
Family history	Elevated serum cholesterol
Genetic factors	Diabetes

Personality (?)	Obesity Sedentary habits Stress

Table 2 Definition of blood pressure[4]

Category	Systolic blood pressure (mm Hg)	Diastolic blood pressure (mmHg)
Blood pressure		
Normal	<130	<85
High normal	130-139	85-89
Hypertension		
Grade 1 (mild)	140-159	90-99
Grade 2 (moderate)	160-179	100-109
Grade 3 (severe)	≥180	≥110

The current study was done only to explore the presence of risk factors among the women. Women need to be aware of the risk factors for coronary heart disease and the importance of making lifestyle changes that may reduce those risks.

Methodology :

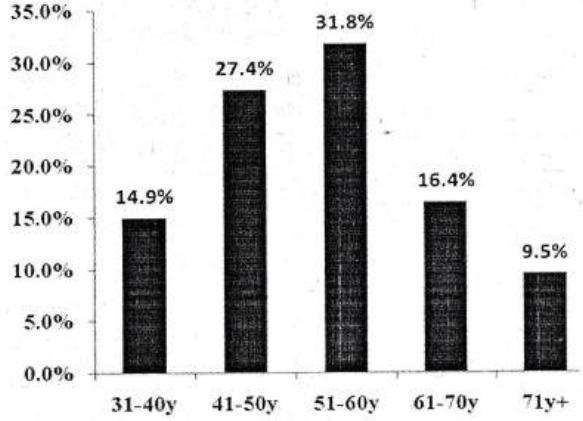
This cross sectional type of descriptive study was carried out to assess risk factors present in the female patients attending in Cardiology In-Patient Department of a tertiary care hospital. Dhaka National Medical Institute Hospital was the study place and selected by convenient sampling technique. This study was conducted from February 2011 to January 2012. The data collection period was one month and all the female patients admitted in cardiology department during that period were included in this study. The sample size was 201. Data were collected on risk factors such as age, cigarettes smoking, blood pressure, serum cholesterol, diabetes, obesity and physical exercise. Written questionnaires, stethoscope, sphygmomanometer with a rubber cuff of appropriate size, measuring tape and Bathroom weight measuring machine were used as data collection tools. Data were collected by face to face interview, records from reports and physical examinations. Hypertension was defined as a systolic blood pressure ≥140 mmHg or a diastolic blood pressure ≥90 mmHg or pharmacological treatment of hypertension[4].

For assessing obesity, Body Mass Index (BMI) was calculated as weight/height^2 (kg/m^2). The statistical analysis was done by frequency table and graphs with SPSS program.

Results :

More than half of respondents (57.7%) were more than 51years of age (Figure 1).

Figure 1: Distribution of the respondents according to age



One-third of the respondents (37.3%) were previously smoker and 27.3% stopped smoking (Table 3). About one-fourth (27.9% for systolic blood pressure and 26.4% for diastolic blood pressure) of respondents had normal blood pressure. Rests of them were from high normal to hypertensive of different grades (Table 4).

Table 3 Distribution of the respondents according to cigarettes smoking

Previously smoker; N (%)	Current smoker				
	Cigarettes (Sticks per day); N (%)				
	Currently smoker	Below 5	6-10	11-15	More than 16
75 (37.3)	20 (10)	9 (4.5)	7 (3.5)	3 (1.5)	1 (0.5%)

Table 4 Distribution of the respondents according to their blood pressure

Category	Systolic blood pressure (mm of Hg); N (%)	Diastolic blood pressure (mm of Hg); N (%)
Blood pressure		
Normal	56 (27.9)	53 (26.4)
High normal	51 (25.4)	31 (15.4)
Hypertension		
Grade 1 (mild)	72(35.8)	57 (28.4)
Grade 2 (moderate)	17(8.5)	40 (19.9)
Grade 3 (severe)	5(2.5)	20 (10.0)

More than half (52.2%) of the respondents had hyperlipidemia, though 31.3% of the reports were not available despite the interest of researcher (Table 5).

Table 5 Distribution of the respondents according to serum cholesterol

Normal (<200 mg/dl); N(%)	200-300 mg/dl; N(%)	> 300 mg/dl; N (%)	Missing value; N (%)
33 (16.5)	75 (37.2)	30 (15)	63 (31.3)

More than two-thirds (70.7%) of the female respondents were menopausal. Among menopausal women 10% were taking hormone replacement therapies. Rest of the women was fertile and 28.9% were taking oral contraceptive pills. Less than one-third of the female respondents (30.3%) had history of hypertension in their pregnancy period. Higher portion of the respondents (74.1%) were hypertensive. Only one-third (32.8%) exercised regularly (Table 6).

Table 6 Distribution of the respondents according to their various characteristics

Variables	Yes; N (%)	No; N (%)
Menopausal stage	142 (70.7)	59 (29.4)
Hormone replacement therapy	15 (7.5)	184 (91.5)
Oral contraceptive pills	58 (28.9)	143 (71.2)
History of hypertension	149 (74.1)	52 (25.9)
History of hypertension during pregnancy	61 (30.3)	140 (69.7)
History of diabetes mellitus	78 (38.8)	123 (61.2)
Physical exercise	66 (32.8)	135 (67.2)

More than half of the respondents having more than normal Body Mass Index (BMI) (51.8%) (Table 7).

Table 7 Distribution of the respondents according to their BMI

BMI of patient (Kg/m^2); N (%)					
<18.5 (Underweight)	18.5-24.99 (Normal)	25-29.99 (Pre-obese)	30-34.99 (Obese stage 1)	35-39.99 (Obese stage 2)	>40 (Obese stage 3)
7 (3.4)	90 (44.8)	80 (39.8)	19 (9.5)	4 (2.0)	1 (0.5)

Discussion

This study was done to assess the presence or absence of risk factors among the female patients of coronary heart diseases admitted in a tertiary hospital in old Dhaka city. Maximum respondents were in 51-60 years of age in this study. A cohort study done in USA found that risk of developing coronary heart diseases was increased with age[5]. The two-thirds of the female respondents were menopausal in this study. Researchers have connected this pattern to decreasing levels of the female hormone estrogen during menopause[2]. Smoking is a major risk factor for cardiovascular disease. Cigarette smoking combined with the use of birth control pills has also been shown to increase the risk of heart attack or stroke[2]. In this study more than two-third of respondents were found from high normal to hypertensive of different grades. A cohort study done in Asia pacific found that for every 10-mm Hg increase in SBP, there was a 24% (95% CI, 21%–27%) increase in the risk of coronary heart disease[6]. Higher portion (74.1%) of the respondents was hypertensive. Although high blood pressure cannot be cured, it can be controlled with diet, exercise, and, if necessary, medicines. More than half (52.2%) of the respondents had hyperlipidemia. Obesity is a strong predictor for heart disease, especially among women. It is one form of malnutrition very common in both developed and developing countries[1]. A plan of diet and exercise is the best way to safely lose weight. The current study showed that more than half of the respondents (51.8%) had more than normal body weight. And two-third of the respondents (67.2%) did not do physical exercise.

There are some factors responsible for coronary heart diseases which were not explored due to limited time and resources.

Conclusion:

This cross sectional study revealed that there was mentionable presence of all known risk factors. Obesity was an important characteristic of patients of coronary heart disease. Female of reproductive age should be encouraged using non hormonal contraceptive methods. Campaign about necessity of low salt intake along with benefit of regular physical exercise can be arranged.

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