Original Research Article

Health Related Behaviors and Perceptions of Bangladeshi Non-medical Students about Coronary Artery Disease: A Qualitative Evaluation

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Abstract

It was a cross-sectional study of 223 non medical students to investigate not only acquaintance of coronary artery disease but also health associated behavior among Bangladeshi non medical undergraduate students. Among them 154 (69.05%) were male and 69 (30.94%) were female and 50 (22.42%) came from rural area and 173 (77.57%) came from urban area. Among them only 31% had normal body weight and most of them had family history of cardiac associated diseases. It is also found that their dietary habits and physical activities were not satisfactory. According to Perception of Risk of Heart Disease Scale (PRHDS), they did not feel cardiovascular disease (coronary artery disease) as major risk. The study indicates the need for heart disease awareness campaigns for university students to raise the preventive actions and adoption of healthy lifestyles. As they were almost healthy, they could easily alter their activities and lessen the risk of having heart disease.

Introduction

Cardiovascular diseases (CVDs) incorporate an assortment of medical conditions mainly comprising of coronary heart disease, rheumatic heart disease, and other numerous circumstances (Crouch et al., 2008). In 2008, more or less 17.5 million people died from CVD around the world, which is predictable to be about 23.3 million by the year 2030 (Khuwaja et al., 2003). Since most of its risk factors like blood pressure, diabetes are reversible and can be restricted at an premature stage, deaths caused by CVDs can be vetoed (Khan et al., 2006).

As it is known to all that cardiovascular disease in general refers to circumstances that engross blocked narrowed blood vessels which can escort to a heart attack and chest pain (angina) or stroke (Siddiqui et al., 2008). Other heart conditions those distress ones heart's muscle or even valves or rhythm, also are painstaking forms of heart disease (Beaglehole et al., 2007). Cardiac diseases are the mainly common root of mortality worldwide (Arikan et al., 2009). Followed by accidents and cancer in occurrence and pervasiveness, cardiovascular diseases (CVD) are the leading causes of death in developing countries (Jafar et al., 2005).

Among Bangladeshi population coronary artery disease is more common. Therefore it is necessary to educate non-medical students concerning the risk factors of

A. H. M. Mahmudur Rahman and Hasan Asjad Khan (2016) / Health Related Behaviors and Perceptions of Bangladeshi Non-medical Students about Coronary Artery Disease: A Qualitative Evaluation

5

coronary artery disease and the importance of scheming them at initial stages (Bergman et al., 2011). Regarding the behavior of medical students towards coronary artery disease, it can be found noteworthy awareness exists in the medical population but substantial inconsistency exists in pre-emptive measures adopted by them for coronary artery diseases (Aslam et al., 2004). Although coronary artery disease typically occurs in middle age or later, the risk can be reduced by living a healthy life style from early age. And it is needed to educate and direct all of them especially non medical students of Bangladesh properly to lead a healthy life. Some previous research works had been done on this type of aspects on cardiovascular disease in Bangladesh but exactly focusing coronary artery disease is very few.

Purpose

The aim of the study was to investigate health related behaviors of Bangladeshi non medical undergraduate students and their perceptions about cardiovascular disease especially coronary artery disease.

Materials and methods

The study was conducted from May 2016 to July 2016. It was a cross-sectional study and was conducted among various non medical undergraduate students attending different universities in Bangladesh. Among the participants most of them were from North South University and others were from University of Asia Pacific, BRAC University and Chittagong University of Engineering and Technology. A well-structured and self-administered questionnaire was created and provided to the students. The questionnaire required student responses concerning to awareness and basic knowledge and conception regarding coronary artery disease. It was voluntary survey as there was no ethical issue and sampling was done randomly. Data were collected through survey sheets and then transferred into the Microsoft Excel Spreadsheet 2010 (Microsoft Corp., USA). Analysis was done by using SPSS software version 16. The statistical analysis and graphical presentations were performed. Representation of the data was performed as percentage, frequency, mean and ratio.

Results and discussion

The total number of the students was 223 (n=223). Among them 154(69.05%) were male and 69 (30.94%) were female. It is also noted that 2.23:1 was the male-female ratio. All of the students were 18 years to 30 years old and most of them (n=127) were between 22 years to 25 years and 23.8 was their mean age. If we consider their living area, we can find that 50 (22.42%) students came from rural area and 173 (77.57%) students from urban area (Fig. 1). These factors are considered as demographic variables. Body Mass Index (BMI) is one of the most important factors in all aspects. In this study according to their BMI, only 31% students had normal body weight while 11% students had under weight and 56% students had over weight. There were 2% students who were considered obese (Fig. 2). Though ratio of being obese was low but ratio of having normal weight was not satisfactory at all.
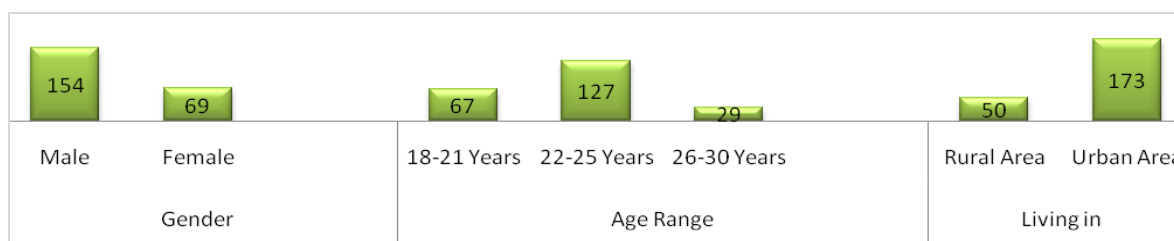

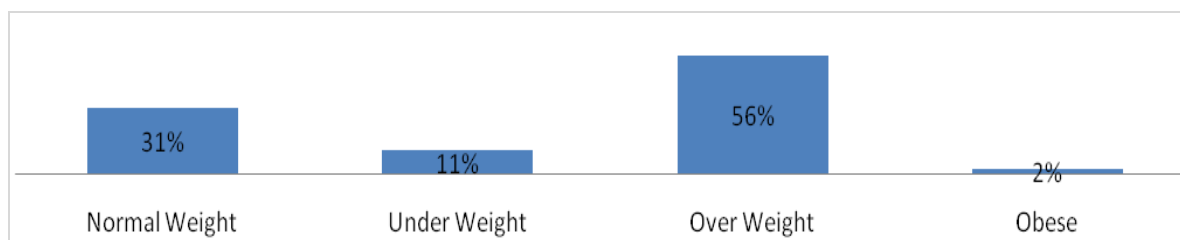**Fig. 1:** Demographic variables.

Fig. 2: Body mass index of respondents.

A. H. M. Mahmudur Rahman and Hasan Asjad Khan (2016) / Health Related Behaviors and Perceptions of Bangladeshi Non-medical Students about Coronary Artery Disease: A Qualitative Evaluation

6

If we concentrate on their family history, we can find out that 12% students had only family history of blood pressure, 47% students had only diabetes, and 16% students had only cardiovascular diseases. By the mean time, 8% students had family history of diabetes and blood pressure both and 9% students had family history of cardiovascular diseases and blood pressure both and 7% students had family history of diabetes and cardiovascular diseases both. Only 1% students did not have any family disease history of disease which could relate with

cardiovascular disease (Fig. 3). It is known to all that behavioral factors are always considered highly. Among various behavioral factors smoking habit, dietary habits and physical activities are in front. In this study it is found that 42% students had smoking habit while only 17% students regulated their dietary fat and only 19% students regulated their dietary salt. Their regular or daily physical activities ratio was very unpleasant. It is because only 5% of the students responded positive while 95% did not   (Fig. 4).
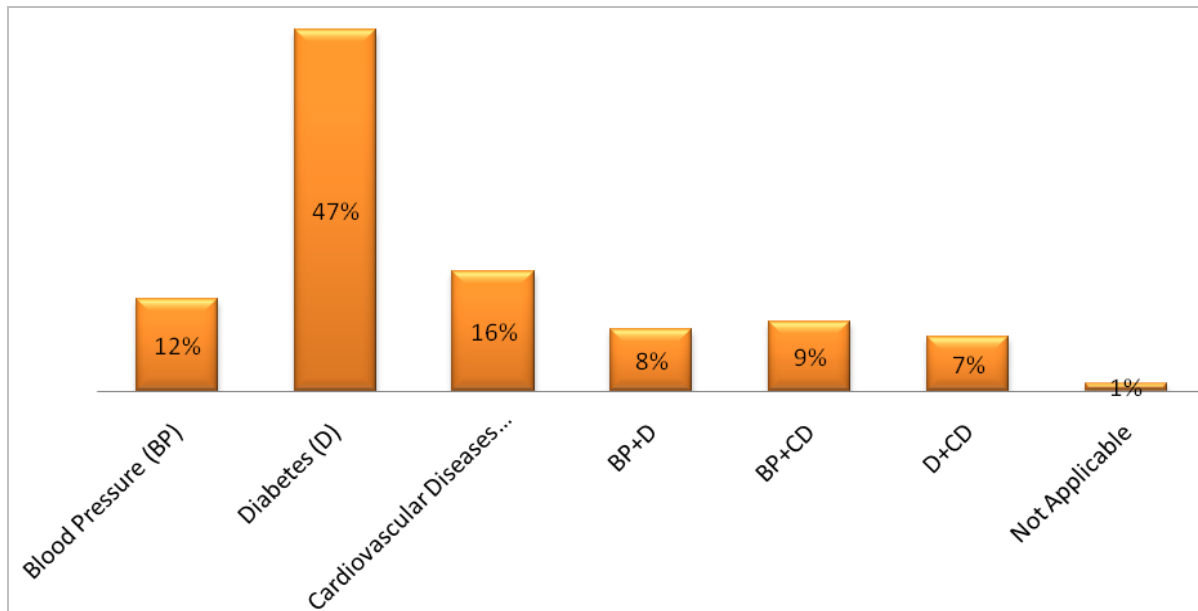

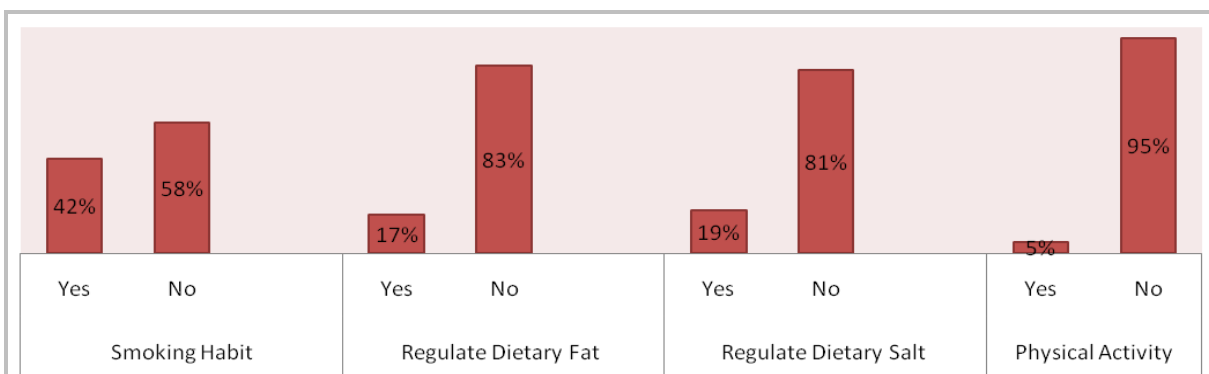**Fig. 3:** Family history of respondents.

Fig. 4: Behavioral factors.

To know their perception and point of view Perception of Risk of Heart Disease Scale (PRHDS) was used. See details given in Table 1.

Their responses through this scale were categorized by four ways. They were: strongly agree, agree, disagree, and strongly disagree, and 100% of

participants of this study group responded through this scale. It is easily articulate that their conception was not clear yet because their responses were not proper most of the cases. Through this scale it was came forward that they did not even considered cardiovascular disease as a major risk. And this could be considered as a threat.

Table 1. Perception of Risk of Heart Disease Scale (PRHDS)

PRHDS	Strongly disagree	Disagree	Agree	Strongly agree
1. There is a possibility that I have heart disease (coronary artery disease).	53%	36%	9%	2%
2. There is a good chance that I will get heart disease (coronary artery disease) during the next 10 years.	16%	39%	43%	2%
3. A person who gets heart disease (coronary artery disease) has no chance of being cured.	6%	14%	62%	18%
4. I have a high chance of getting heart disease (coronary artery disease) because of my past behaviors.	38%	45%	11%	6%
5. I feel sure that I will get heart disease (coronary artery disease).	15%	59%	10%	16%
6. Healthy lifestyle habits are unattainable.	42%	48%	9%	1%
7. It is likely that I will get heart disease (coronary artery disease).	22%	29%	35%	14%
8. I am at risk for getting heart disease (coronary artery disease).	5%	39%	30%	26%
9. It is possible that I will get heart disease (coronary artery disease).	32%	35%	18%	15%
10. I am not doing anything now that is unhealthy to my heart.	11%	17%	50%	22%
11. I am too young to have heart disease (coronary artery disease).	7%	35%	28%	30%
12. People like me do not get heart disease (coronary artery disease).	17%	37%	28%	18%
13. I am very healthy so my body can fight off heart disease (coronary artery disease).	21%	43%	27%	9%
14. I am not worried that I might get heart disease (coronary artery disease).	17%	31%	40%	12%
15. People my age are too young to get heart disease (coronary artery disease).	19%	17%	43%	21%
16. People my age do not get heart disease (coronary artery disease).	24%	30%	29%	17%
17. My lifestyle habits do not put me at risk for heart disease (coronary artery disease).	16%	67%	13%	4%
18. No matter what I do, if I am going to get heart disease (coronary artery disease), I will get it.	51%	40%	7%	2%
19. People who don't get heart disease (coronary artery disease) are just plain lucky.	37%	51%	10%	2%
20. The causes of heart disease (coronary artery disease) are unknown.	23%	61%	9%	7%

The basic focus of this study was health related behavior of non medical students and their perceptions about coronary artery disease. Smoking, heredity, stress, caffeine overuse, age, inappropriate nutrition leading to obesity and unhealthy lifestyle habits, hypertension, diabetes, hyperlipidemia are the chief risks of developing coronary artery disease for both gender (Lawes et al., 2008). Hypertension is measured as the single most significant factor for developing coronary artery disease because it accounts for 47% of heart disease around the globe (Kardia et al., 2003). For an individual to obtain heart disease, family history of heart disease is an imperative predictor (Awad and Al-Nafisi, 2014).

A previous research pointed out that depending on the number and type of relatives considered, comparative risk for heart diseases ranges on or after 2.0 to 9.0 amongst persons who account a family history for heart disease (Zhang et al., 2007). Small responsiveness among non-medical students and their irrelevant adoptive behavior can be well thought-out to hold back

the main risk facets for cardiovascular diseases (Vaidya et al., 2013).

Beside this, Physical inactivity is one of the key risk factor for coronary artery disease (Batlish et al., 2007). According to existing American Heart Association (AHA, 2016) recommendations, reasonable exercise of at least 150 minutes per week otherwise dynamic exercise of 75 minutes per week helps to get better cardiovascular health and studies have confirmed that sedentary lifestyle is a major hazardous risk factor for equally men and women foremost to obesity and cardiovascular diseases. This can amplify in equally morbidity and mortality (Juonala et al., 2013).

Conclusion

The study demonstrates a high ordinariness of cardiac related diseases improper dietary intake, in family history, and physical inactivity among non medical undergraduates in Bangladesh. Our study makes clear that cardiovascular disease especially coronary artery

disease is not thought as major risk by non medical students. It can be said that lack of knowledge, physical immobility, and high positive family history may be root to be the target population horizontal to coronary artery disease disease. The study indicates the need for heart disease awareness campaigns for university students to raise the precautionary actions and espousal of healthy lifestyles so as to lower the incidence of cardiovascular diseases in Bangladesh. Universities may offer the last prospect to reach students as a group to influence lifestyle changes. Despite the fact that students were normally healthy, they could get better their practice of health-promoting behaviors.

Conflict of interest statement

Authors declare that they have no conflict of interest.

Acknowledgement

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