Cardiovascular Diseases and Drug Treatment Evaluation in Bangladesh's Northern and Southern Regions

Dr. Pankaj Tarachand Sharma

Associate Professor

Homoeopathic Medical College & Hospital, Jalgaon

Abstract: illnesses affecting the heart and blood arteries are collectively known as cardiovascular illnesses (CVDs). The hidden pandemic of cardiovascular disease is now afflicting Bangladesh. When it comes to controlling and preventing CVD, medications are essential. In this study, we surveyed people in both the northern and southern regions of Bangladesh to determine the prevalence of CVDs and the medications used to treat them. In this prospective study, we interviewed patients (ranging in age from 35 to 60) admitted to various well-known public and private hospitals in northern and southern Bangladesh for a history of coronary heart disease. We used standard questionnaires to evaluate patients' conditions and the drugs they frequently used for therapy. There were 63 individuals (177 men and 86 females) who were found to have diabetes, 200 who did not; 92 who had asthma, 97 who smoked, and 93 who tended to consume excessive amounts of salt. Heart attacks (MI), unstable angina (UA), high blood pressure (HTN), and stroke were the most often reported illnesses. On rare occasions, reports also included ischemic heart disease (IHD) and left ventricular failure (LVF). Drugs that were given the most often were β-blockers and diuretics. Patients with cardiovascular disease (CVD) in both northern and southern Bangladesh may benefit from this survey's unique and up-to-date data on patient characteristics and therapy.

Keywords: Cardiovascular Disease, Survey, Northern and Southern Part of Bangladesh

1. Introduction

The global prevalence of CVD exceeds 100 million persons [1]. Cardiovascular disease claims the lives of millions annually. Developing nations accounted for almost 50% of the fatalities [2]. South Asia accounts for around 25% of the fatalities [3]. Bangladesh is one of the most susceptible South Asian nations. There is a substantial coronary risk among Bangladeshi people. Even more concerning is the fact that this demographic lacks well-defined prevention intervention goals. Tertiary health care is also very expensive and scarce, which drastically limits access [4]. Cigarette smoking, which doubles the risk of cardiovascular disease (CVD), insufficient physical activity, poor diet, overweight, hypotension, hyperlipidemia, and hyperglycemia are among the major chronic disease determinates that have increased in prevalence due to underlying social, environmental, and economic changes [5, 6]. There is also a propensity for people in this area to consume more salt than the average. Through the use of standard questionnaires, we interviewed 263 patients from various districts in northern and southern Bangladesh, including Rajshahi, Dinajpur, Natore, Bogra, Chapainawabganj, Faridpur, Jessore, and Feni, to learn about their dietary habits and drug treatment for CVS disorder.

Methods

1.1. Participating Clusters

We selected northern and southern parts of Bangladesh for collecting data regarding CVD and their therapy. Data were collected from some randomly selected districts including Rajshahi, Dinajpur, Natore, Bogra and Chapainawabganj from northern region and from the districts of Faridpur, Jessore and Feni in southern region. PatientsThe screened population consisted of patients who were hospitalized in medical or surgical cardiology department. Patient's written informed consent was taken before participating interviews. We consulted with the patients and their relatives taken care of them.

On the availability of high quality data we worked on various governmental and non-governmental hospitals in various districts of northern and southern region of the countryas shown in table 1.

Table 1. Participants (patients) from various districts in northern and southern region of Bangladesh.

Region/District		Participants	Male		Female	
		Number	Number	%	Number	%
Northern	Rajshahi	48	34	70.83	14	29.16
	Chapainawabganj	27	10	37.03	17	62.96
	Natore	30	27	90.00	03	10.00
	Bogra	16	16	100.00	00	00.00
	Dinajpur	40	27	67.50	13	32.50
Southern	Jessore	35	30	85.75	05	14.28
	Faridpur	20	11	55.00	09	45.00
	Feni	47	32	68.08	15	31.91

1.2. Duration of the Survey

The survey was designed to include all consecutive consenting patients in the duration of one year.

1.3. Data Collection

For data collection, we prepared a simple data collection form with some standard questionnaires regarding treatment of CVD and associated complications. Patients' name, age, sex, type, diseases first diagnosed by physician, prescribed medicines, associated complications such as diabetes, asthma, disease period, disease status, genetic history, risk factors, food habit, etc. were included in the form.

1.4. Statistical Analysis

In our study, we mainly observed the most occurring diseases such as MI, UA, Stroke and HTN and their drug therapies and plotted the total percentage of these diseases comparing between the northern and southern part of Bangladesh.

2. Results and Discussion

2.1. Comparison of CVD Between Northern and SouthernRegion of Bangladesh

The percentage of CVD between northern and southern region of Bangladesh were compared as shown in Fig. 1A. Among various CVD, the percentage of MI was highest (approximately 40%) in both northern and southern parts. However, there were no significant variations of CVD in different regions.

2.2. Comparison of Cardiovascular (CVS) Drugs Used Between Northern and Southern Part of Bangladesh

The percentage of the use of CVS drugs including diuretics, beta-blockers, antiplatelet, anti-anginal and antihypertensive drugs are plotted in Fig. 1B. The tendency of the use of CVS drugs in northern part was higher in all cases as compared to the southern part.
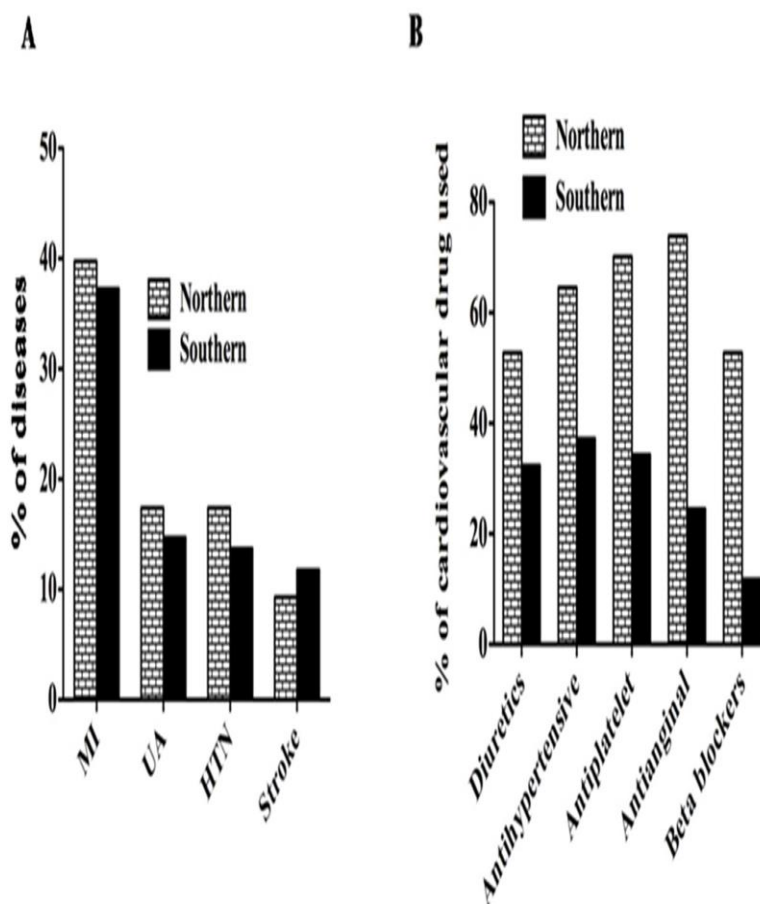

Fig. 1. Comparison on percentage (%) of CVDs between northern and southern parts of Bangladesh. Myocardial infarction (MI) was considerably higher in both northern and southern parts of Bangladesh as compared to other CVDs.

2.3. Comparison of CVD Occurring Each District of theNorthern and Southern Part of Bangladesh

We compared the prevalence of CVD among different districts in northern part of Bangladesh. As shown in Fig. 2A, we found that the prevalence of MI and UA was higher in Rajshahi and Bogra districts as compared to others. Whereas HTN was higher in Chapainawabganj and stroke in Natore as compared to others.

Similarly, we compared the prevalence of CVD among different districts in southern part of Bangladesh (Fig. 2B). We found that the prevalence of MI was higher in Faridpur district as compared to others. Whereas HTN was higher in both Faridpur and Jessore as compared to Feni. However, the patients of Feni district has higher tendency of stroke.
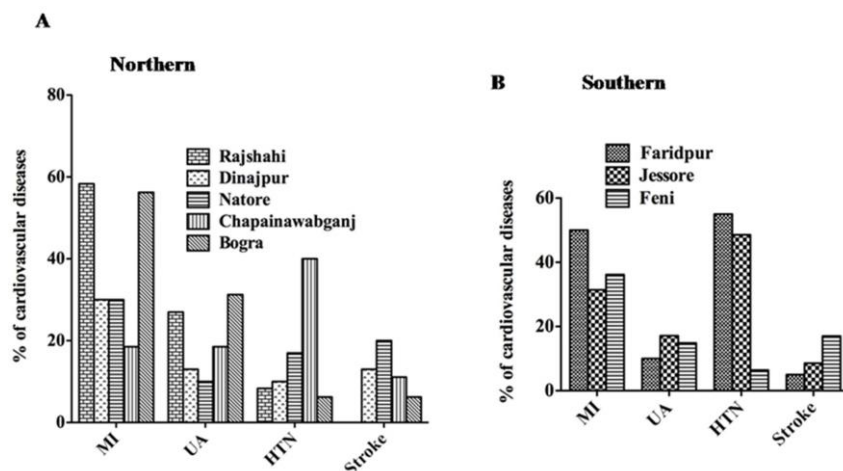

Fig. 2. *Percentage (%) of CVD occur each district in northern and southern part of Bangladesh.*

2.4. Comparison of CVS Drugs used Each District inNorthern and Southern Part of Bangladesh

Here, we assessed the use of CVS drugs among different districts in northern and southern part of Bangladesh. As shown in Fig. 3A, the use of antiplatelet drug was higher inBogra but lowest of antihypertensive and beta-blocker drugs. In the southern part of Bangladesh, the use of CVS drugs among the patients of Faridpur and Jessore districts were higher than Feni (Fig. 3B).
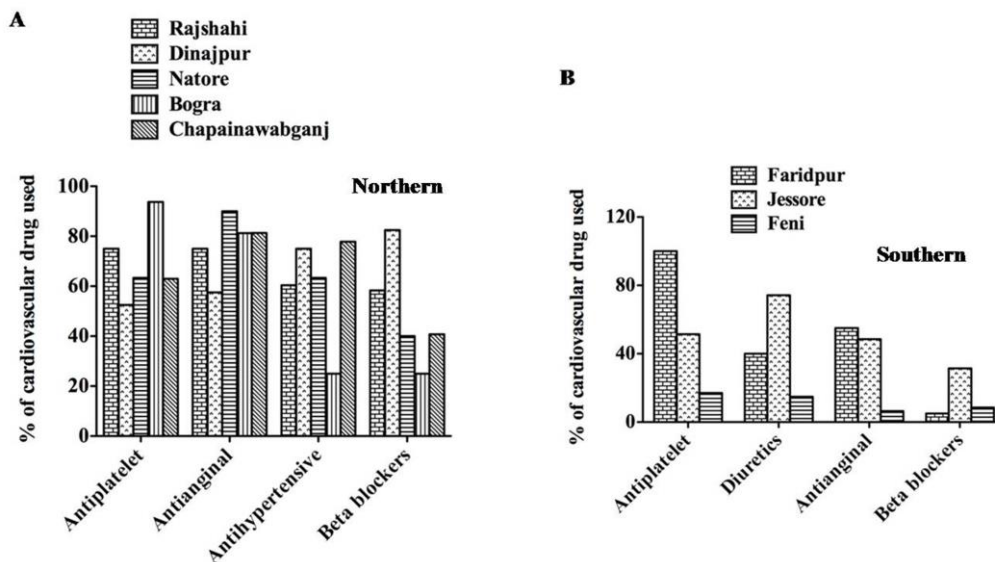

Fig. 3. *Comparison on the percentage (%) of CVS drugs used each district in northern and southern parts of Bangladesh.*

Cardiovascular diseases (CVDs) are the leading cause of death globally [7]. There are several risk factors for CVDs, such as: age, gender, tobacco use, physical inactivity, excessive alcohol consumption, unhealthy diet, obesity, family history of CVD, raised blood pressure (hypertension),

raised blood sugar (diabetes mellitus), raised blood cholesterol (hyperlipidemia), psychosocial factors, poverty and low educational status, and air pollution [7-11].The data from this survey allow a contemporary insight into the different aspects of the disease. The survey reports have demonstrated prevalence of various CVDs in the representative districts of northern and southern part of Bangladesh. There was no noteworthy difference of the CVDs between northern and southern part of Bangladesh. Here, we found the high rates of MI than other CVDs both in northern and southern part of Bangladesh. It may be due to the difference of food habit, life style, and socioeconomic status of the inhabitants. High dietary intakes of saturated fat, trans-fats and salt and low intake of fruits, vegetables and fish are linked to cardiovascular risk. The World Health Organization attributes approximately 1.7 million deaths worldwide to low fruit and vegetable consumption [7]. The amount of dietary salt consumed is also an important determinant of blood pressure levels and overall cardiovascular risk [7]. There is evidence that higher consumption of sugar is associated with higher blood pressure and unfavorable blood lipids [12]. Therefore, it may not be surprising that the difference of CVDs occurrence between northern and southern districts is due to the differences of those factors. From the survey it is also reported that the use of CVS drugs was higher in the districts of the northern part of Bangladesh as compared to the southern part.

3. Conclusions

Expenditures on healthcare and global health are severely impacted by CVD. It is, however, being handled to a significant extent with the help of a number of drugs, improved surgical procedures, identification and prevention, and dietary and lifestyle improvements. Understanding the overall circumstances of CVDs and their current treatment approach among southern and northern portions of Bangladesh was aided by this prospective survey, which assisted in efficiently managing and curing CVDs.

References

[1] In 2001, Yusuf, Reddy, Ôunpuu, and Anand published a study. The first portion of the global burden of cardiovascular illnesses covers broad topics such as the epidemiologic shift, risk factors, and the influence of urbanization. Results: 2746–2753.
(2001, p. 2), World Health Organization. Improving the performance of health systems: the 2001 World Health Report. Global Health Organization, Geneva.
The authors of the cited work are McGeigue, Miller, and Marmot (1989). Coronary heart disease in South Asians living abroad [1]. Published in the Journal of Clinical Epidemiology, 42: 597-609.

(Haq MU, Haq K., 1999). A governance problem threatens South Asian human development. The center for human development. Press of Oxford University, Karachi.
It was published in 2006 by Lopez et al. [5]. Disease burden and risk factor analysis on a global and regional scale: a comprehensive review of population health data. The Lancet, 2006, 367, 1714–57. The Lancet 367: 1714–1757 is the citation.
In 2005, Ezzati, Vander Hoorn, Lawes, and colleagues published a study. Looking at nutritional concerns in connection to economic growth on a global scale: reevaluating the "Diseases of Affluence" concept. e133, published in PLoS Medicine.
Mendis, Puska, and Norrving (2011). Number seven. National Institutes of Health. Preventing and Controlling Cardiovascular Disease: A Global Atlas (PDF). Threeteen to eighteen pages long. Produced by the World Health Organization in partnership with the World Federation of Heart and Stroke.
The sources used are Kelly BB. from the Institute of Medicine and Fuster (2013). The Importance of Cardiovascular Health Promotion in Low-Resource Countries for Global Health Equity. Publication: National Academies Press, Washington, D.C.
In 2002, Howard and Wylie-Rosett published a study. An official statement from the American Heart Association's Committee on Nutrition about sugar and cardiovascular disease, as sent to healthcare providers by the Council on Nutrition, Physical Activity, and Metabolism. The journal circulation has an article citing the study as 106: 523-527.
[10] Finks et al. (2012) were joined by Macaulay, Trujillo, Airee, Chow, and Moranville. Important papers on dietary modifications that affect mortality from cardiovascular disease. The article is published in Pharmacotherapy and has a page number (32).
In 2012, Michas, G., and Mozaffarian, R. published a study. Risk of coronary artery disease and type 2 diabetes as it relates to processed and unprocessed red meats—a recent evidence review! News about atherosclerosis now 1:14: 515–524.
[12]In 2014, Te Morenga, Howatson, Jones, and Mann published a study. Review and meta-analysis of randomized controlled trials examining the impact of dietary carbohydrates on blood pressure and lipids: a cardiometabolic risk assessment. Journal of Clinical Nutrition in the United States 100: 65-79.