

## Brief Research Communication

# A Cross sectional study of Blood Pressure in a community of Chittagong city in Bangladesh

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## Abstract

This cross-sectional study of blood pressure was undertaken among adults aged 18 to 92 years in a community of Bayezid Bostami thana in Chittagong city of Bangladesh. Using interviewing method the use of antihypertensive medications was enquired. The observed results of 333 portico pants are presented as frequency and proportions. Nearly 19.5% of the studied population had elevated diastolic BP of more than 90 mm Hg. Around 43.5% of the studied population were on antihypertensive medications. It is necessary to periodically screen the population for hypertension and in the process promote healthy lifestyles to prevent cardiovascular and renal complications.

**Key-words:** Cross sectional study, blood pressure, antihypertensives.

## Introduction

Blood pressure (BP) is the product of cardiac output and systemic vascular resistance. In hypertension or high blood pressure condition there is persistently elevated blood pressure in the arteries. The cardiac output is on the higher side in the younger age group whereas age advances the systemic vascular resistance increased and the increased in vascular stiffness plays a dominant role.<sup>[1]</sup> The objectives of the study are to measure the distribution of BP among the adults living in Bayezid Bostami thana of Chittagong district and to find the proportion of them using antihypertensive medications.

## Material and Methods

The study site was located in a community of Bayezid Bostami thana of Chittagong district. Chittagong district was established in 1666 and

Bayezid Bostami thana named after the persian sufi Bayezid Bostami and is one among the 16 thanas in the districts. This thana is 17.58km.<sup>[2]</sup> According to the 2011 census, the population of this thana is 211,355.

This cross-sectional study was conducted during February and March 2015. For this work, a convenience sample of 333 people was taken from different location in this community. The subjects were seated comfortably for at least a few minutes, and blood pressure was measured using a standard mercury sphygmomanometer and stethoscope. The antihypertensivemedications taken by the participants were enquired through an interview. This survey study was logistically supported by the Department of Pharmacy, International Islamic University Chittagong. The blood pressure measurement and interview was done after oral consent of participants.

## Results

The age of 154 men studied ranged from 18 to 79-184 women from 18-92 years. Most of the study participants were aged below 60 years and 14 (4.2)% were aged beyond 60 years. Table 1 and 2 presents the distribution of systolic and diastolic BP of the studied sample of Bayezid Bostami thana in Chittagong. The systolic BP of 71.1% of the men

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in the study population was below 140 mm Hg compared to 84% of the women. Similarly the diastolic BP of 74 % of men and 86.2% of women was below 90 mm Hg. The diastolic BP of 26% of the male population and 13.8% of the female population elevated above 90 mm Hg and in the hypertensive range. Table 3 shows the pattern of antihypertensive drug usage among the study population. There were 145 (43.5%) people in the sample using antihypertensive medications. Around 35.7% of the men and 33.2% of the women were on antihypertensive medications. Nearly 43.6% of the hypertensive among men were prescribed with Angiotensin II receptor blockers which included losartan or valsartan compared to 28.3% among women. Whereas 33.3% of the women who had hypertension were on calcium channel blockers which included amlodipine nifedipine compared to 23.6% among men<sup>1</sup>

## Discussion

The descriptive study of blood pressure

distribution among a sample of people residing in Bayezid Bostami thana in Chittagong city of Bangladesh shows that raised BP is common in this population. The fact that 19.51% of them having a raised diastolic BP of more than 90 mm Hg poses a risk for coronary heart disease, stroke, peripheral arterial disease and renal disease. Studies in North America have shown that hypertension is the major contributor to myocardial infarction and stroke events. Hypertension can be detected by screening the population. Hence it is important that promotion of routine and periodic BP check up among the people in the community are undertaken. The screening programme provides opportunity to educate the community about the prevention and control of high BP. It provides an opportunity to promote healthy life styles to prevent hypertension which includes salt restriction, weight reduction, moderation in alcohol consumption and regular physical activity. Also promoting regular use of appropriate antihypertensive medications among the identified hypertensives are necessary to prevent the consequences of the disease.

**Table 1.** Distribution of blood pressure among males (n=154)

Systolic BP (mm Hg)	no.(%)	Diastolic BP (mm Hg)	no. (%)
< 120	52 (34.0)	< 80	68 (44.2)
120 - 139	57 (37.1)	80 - 89	46 (29.8)
140 - 159	28 (18.3)	90 - 99	30 (19.5)
≥160	10(6)	≥100	10(6.5)

**Table 2.** Distribution of blood pressure among females (n=181)

Systolic BP (mm Hg)	no.(%)	Diastolic BP (mm Hg)	no. (%)
< 120	105 (58.0)	< 80	122 (67.4)
120 - 139	47 (26.0)	80 - 89	34(18.8)
140 - 159	18 (10.0)	90 - 99	18 (10.0)
≥160	11(6.0)	≥100	07(3.8)

**Table 3.** Usage of antihypertensive medications among the participants in Chittagong

Antihypertensive	Male n(%)	Female n(%)
Diuretics	06(11.0)	04(6.7)
Sympatholytics and adrenergic blockers	12(21.8)	19(31.7)
Calcium channel blockers	13(23.6)	20(33.3)
Angiotensin II receptor blocker	24(43.6)	17(28.3)
	55(35.7)	66(33.2)

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