

## Hypertension in the Elderly: Prevalence, awareness and health seeking behaviour

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### Abstract :

**Background :** Hypertension is the commonest cardiovascular disorder, among elderly population. It is evident that the urban poor living in slums has poor access to healthcare, partly related to their poor purchasing ability.

**Objectives :** Present study was undertaken to determine treatment seeking behaviour and health expenditure incurred among elderly hypertensive.

**Material and methods :** A cross sectional descriptive study was conducted among elderly population aged 51 years and above in Urban slums of Moghbazar attached to Dhaka Community Medical College and Hospital from October to December 2013.

**Results :** Out of 1041 respondents, majority 604 (58.0%) were from the age group of 61 – 70 years. Their mean age was 61.77 years; (SD±6.038). Majority of the geriatrics respondents 624 (59.9%) were male and 417 (40.1%) were female. Most of the respondents 820 (78.8%) were illiterate, 144 (13.8%) were unemployed and 616 (59.2%) were from nuclear family. Their average monthly family income were 72.02.43, SD = ±2969.90 Taka. Of the 660 hypertensive's, 120 (18.2%) were newly diagnosed during he study and 540 (81.8%) were known hypertensive's. Of the 540 (81.8%) hypertensive patients only 180 (33.3%) took regular treatment, and 360 (66.7%) did not seek treatment regularly. Majority of patients (77.7%) visited hospital for obtaining treatment for hypertension. Regarding the opinion for expenditure, 458 (44%) gave their opinion for transportation cost as average, 487 (46.8%) and 498 (47.8%) respondents mentioned doctor's fee and medicine cost were high.

**Conclusion :** Appropriate strategies are important to diagnose early, initiate, aggressive treatment and making awareness of hypertension to reduce the prevalence and to lead a healthy life of elderly population in Urban slums.

**Key words :** Hypertension, treatment seeking behaviour, urban slum.

### Introduction :

Worldwide, the geriatric age group constitutes one of the most rapidly expanding segments of population. The increase in longevity due to improvement in socioeconomic conditions and health care facilities has lead to surge in geriatric population as well as related illnesses such as cardiovascular disease. Hypertension is one of the most important causes of mortality and morbidity in the elderly.<sup>1</sup> This non communicable disease is grouped into two main categories. These include primary and secondary hypertension. Primary hypertension is also known as essential hypertension and it affects ninety-five percent of persons suffering from the

disease. Causes of hypertension are not yet known, however, factors as age, high salt intake, low potassium diet, sedentary lifestyle, stress as well as genes have been found as contributing to hypertension.<sup>2</sup> High blood pressure occurring as a result to a consequence of another disorder or a side effect of medication is referred to as secondary high blood pressure. Such disorders may include renal failure or renovascular disease. This type of blood pressure is evident in about five to 10% of cases.<sup>3</sup> High blood pressure (BP) is a major public health problem in developing countries around the world and is one of the most important modifiable risk factor for cardiovascular diseases (CVDs).<sup>4</sup> As reported by World

Health Organization, hypertension is the third 'killer' disease, accounting for 1 in every 8 deaths worldwide. Analysis showed that about 26% of population globally is suffering from hypertension, and the prevalence is higher among developed as compared to developing countries.<sup>5</sup> It was predicted that the number of adults with hypertension will increase by about 60% to a total of 1.56 billion (1.54-1.58 billion) by 2025.<sup>6</sup> Age is a very important non-modifiable risk factor for development of hypertension. Blood pressure rises with age in both sexes and the rise are greater in those with higher initial blood pressure. Considering the influence of age on blood pressure the increase in systolic blood pressure is generally linear from thirty years old age, whereas the increase in diastolic blood pressure peaks in mid fifties in men and early sixties in women declining slightly thereafter.<sup>1</sup> One of the cornerstones of the primary prevention of CVDs has been screening for high BP and anti-hypertensive drug treatment. The benefits of anti-hypertensive drug therapy for older persons have been clearly established. Prior studies have shown that anti-hypertensive drug treatment for older hypertensive persons confers highly significant and clinically relevant reductions in cardiovascular morbidity and mortality rates. Nevertheless, a considerable percentage of older persons with hypertension are not detected or are not adequately treated for hypertension. Measures should be taken to diagnose hypertension and prevent or postpone its complications in this age group as the burden of hypertension is bound to increase due to increasing life expectancy rates. Health seeking behaviour of the elderly is influenced by their economic instability, reduced physical endurance, social isolation, reduced cognitive ability, dependency, and loneliness. This makes them more vulnerable to suffer or succumb to illnesses, which may be treatable, or whose disabling effects could be postponed.<sup>7</sup> The current study was carried out to document the prevalence of hypertension, to understand the health seeking behavior and expenditure on treatment in the elder population of in urban slum of Dhaka city.

#### Methodology :

The present study was a cross sectional study conducted in urban slums of Moghbazar attached to Dhaka Community Medical College and Hospital. The study was conducted during October 2013 to December 2013. All the elderly 1041 aged 51 years and above were included for the study to know the overall prevalence of hypertension. Only the known hypertensive's since last one year based on history or clinical reports and residing in the study area for at least 6 months

were included as study participants. The identification of known hypertensive's was self reported and on physician report. Elderly individuals who were critically ill and unable to comprehend questions were excluded. Written informed consent was obtained from all the participants. Information on socio demographic variables, health expenditure and treatment seeking behaviour was recorded using pre tested and pre designed questionnaire. Blood pressure in newly diagnosed cases was measured using the auscultatory method with a standardized mercury sphygmomanometer and an appropriate sized cuff encircling at least 80% of the arm in the seated posture, with feet on the floor and arm supported at heart level. The reading at which korotkoff sound is first heard was considered as systolic blood pressure and at which the korotkoff sound disappears was taken as diastolic blood pressure. Three readings were taken at three minutes interval and the lowest of the three was taken as the final value. A person was labeled as hypertensive if the systolic BP  $\geq$  140 mmHg and/or diastolic BP  $\geq$  90 mmHg as per the JNC-VII criteria.<sup>8</sup> Collected data were checked, verified & then enter into the computer. Only the fully completed questionnaire was entered into the computer for final analysis which was carried out with the help of SPSS (Statistical Package of Social Science, version-17) windows software program.

#### Results :

Socio-demographic characteristics of the study subject Out of 1041 respondents, majority 604(58.0%) were from the age group of 61-70 years. Remaining other respondents, 285(27.4%) and 152(14.6%) were in the age group 51-60 years and  $\geq$ 70 years respectively. Their mean age was 61.77 years; (SD $\pm$  6.038). Majority of the geriatrics respondents 624(59.9%) were male and 417 (40.1%) were female. Regarding educational status, 820(78.8%) were illiterate and only 221(21.2%) geriatrics people partially or fully completed primary level of education. Among the respondents till at work, most 144(13.8%) were unemployed. More than half (n=897, 86.2%) of the respondents were employed like domestic work, day labor, rickshaw/van puller, small business, housewife and others. The average monthly family income of the respondents were 7202.43, SD=  $\pm$  2969.90 Taka. Majority 616(59.2%) respondents were from nuclear family. (Table-1).

**Table 1: Socio demographic characteristics of respondents (n=1041)**

Variables	Frequency	Percent
<b>Age group</b>		
51-60 years	285	27.4
61-70 years	604	58.0
$\geq$ 70 years	152	14.6



Mean = 61.77; (SD = ± 6.038)

<b>Sex</b>		
Male	624	59.9
Female	417	40.1
<b>Religion</b>		
Islam	998	95.9
Hindu	40	3.8
Christian	2	0.2
Buddhist	1	0.1
<b>Educational qualification</b>		
Illiterate	820	78.8
Literate	221	21.2
<b>Occupation</b>		
Unemployed	144	13.8
Rickshaw/van puller	140	13.4
Domestic worker	144	13.8
Small business	271	26.0
Day labour	148	14.2
House wife	154	14.8
Others	40	3.8
<b>Monthly income</b>		
Taka ≤ 4000	178	17.1
Taka 4001-6000	247	23.7
Taka 6001-8000	370	35.5
Taka 8001-10000	127	12.2
Taka >10000	119	11.4
Mean = 7202.43, (SD= ± 2969.90)		
<b>Type of family</b>		
Nuclear	616	59.2
Joint	425	40.8

Of the 660 hypertensive's, 120(18.2%) were newly diagnosed during the study and 540(81.8%) were known hypertensive's. The newly diagnosed cases were excluded from the study and only 540 known hypertensive were included for study. The newly diagnosed cases were advised regarding the measures to control hypertension and prompt treatment and indicated cases were referred to the Dhaka Community Medical College and Hospital. Of the 540(81.8%) hypertensive patients only 180 (33.3%) took regular treatment, and 360(66.7%) did not seek treatment regularly. About 180 (33.3%) participants who took

treatment of which, 17.8% took treatment once a year, 6.7% every 6 months, 5.5% every 3 months and only a mere 3.3% took treatment every month. Among 360 patients, who were not taking treatment regularly, reasons being financial constraints in 66.7% of participants and lack of a health facility nearby in 19.4% of them. And 13.9% of them were unaware of treatment facilities. Majority of patients (77.7%) visited hospital for obtaining treatment for hypertension. Only 14.8% visited clinic, 5.6% in NGO, and rest 1.9% consorted alternate systems of medicine from pharmacy. Decision for treatment seeking was done by themselves in only 35 (19.5%) of cases, whereas 145(80.5%) of people took treatment due to pressure from their children, friends, spouses and relatives.

**Table 2: Health seeking behaviour and adherence to treatment (n=1041)**

Variables	Frequency	Percent
<b>Condition</b>		
Hypertensive	660	63.4
Non hypertensive	381	36.6
<b>Prevalence of hypertension</b>		
Newly diagnosed	120	18.2
Known hypertensive	540	81.8
<b>Taking treatment regularly</b>		
Yes	180	33.3
No	360	66.7
<b>Reasons for not taking treatment regularly</b>		
Financial	240	66.7
Lack of health facilities	70	19.4
Unaware	50	13.9
<b>Timing of treatment</b>		
Once a year	32	17.8
6 month	12	6.7
3 month	10	5.5
1 month	06	3.3
<b>Health seeking place</b>		
Hospital	420	77.7
Clinic	80	14.8
NGO	30	5.6
Pharmacist	10	1.9
<b>Decision for treatment seeking</b>		
Themselves	35	19.5
Other family members	145	80.5

Regarding the opinion of the geriatric people for expenditure, out of 1041 respondents, majority 458(44%) gave their opinion for transportation cost as average, 487(46.8%) and 498(47.8%) respondents mentioned doctor's fee and medicine cost were high.

**Table 3. Distribution of the geriatrics people by opinions on expenditure**

Variable	High		Average		Not Bearable		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Transportation	256	24.6	458	44.0	327	31.4	1041	100.0
Doctor's fee	487	46.8	289	27.8	265	25.5	1041	100.0
Medicine	498	47.8	282	27.1	261	25.1	1041	100.0

### Discussion :

Hypertension is a condition that can be easily and speedily diagnosed and can be successfully treated to prevent complications. Insidious onset, lack of awareness of the risk factors and of the disease, reluctance to consult a physician, inadequate treatment and follow up is common problems in the community. Hence, it is important to know the magnitude of the problem as population aging has received an increasing attention in recent years, particularly in developing countries. The descriptive cross-sectional study was to determine the treatment seeking behaviour, prevalence and awareness among elderly hypertensive in urban slum of Dhaka city. Out of 1041 respondents, majority 604(58.0%) were from the age group of 61-70 years. Their mean age was 61.77 years; (SD± 6.038). A study conducted in an urban slum of central India by Singh JP, Singh Brig. PN, et al.<sup>9</sup> where 65.50% belonged to the age group of 60-69 years and comprised the majority. Majority of the geriatrics respondents 624(59.9%) were male and 417 (40.1%) were female. Similar observations were observed by study done by Sanjiv Kumar Barman in Bihar, India.<sup>10</sup> Out of 1041 respondents, 998(95.9%) were Muslim and only 40(3.8%) were Hindu. According to BBS-2009 and Dhaka University Institutional Repository found the similar statistics.<sup>11-12</sup> Regarding educational status, 820(78.8%) were illiterate and only 221(21.2%) geriatrics people partially or fully completed primary level of education. A community survey conducted by Ahmed S, et al.<sup>13</sup> where more than half (64.2%) of the respondents were illiterate and 23.9% completed primary level of education. Among the respondents till at work, more than half (n=897, 86.2%) of the respondents were employed like domestic work, day labor, rickshaw/van puller, small business, housewife and others. This goes on line with results from an urban community of Kishanganj, Bihar, India; whereas majority of the study population were daily

wage earners or daily labourer (35%), while (23.75%) have their own business and others are working as agricultural labourers (18.75%).<sup>14</sup> The average monthly family income of the respondents were 7202.43, SD= ± 2969.90 Taka. This was quite similar in relation to per capita income of Bangladesh<sup>14</sup> Most 616(59.2%) respondents were from nuclear family. Similar type of family was reported by studies conducted in urban elderly population.<sup>15</sup>

Of the 660 hypertensive's, 120(18.2%) were newly diagnosed during the study and 540(81.8%) were known hypertensive's. The newly diagnosed cases were excluded from the study and only 540 known hypertensive were included for study. The newly diagnosed cases were advised regarding the measures to control hypertension and prompt treatment and indicated cases were referred to the Dhaka Community Medical College and Hospital. A Surat slum based study showed that the prevalence of hypertension among the elderly was found to be 73.3%.<sup>16</sup> Of the 540(81.8%) hypertensive patients only 180 (33.3%) took regular treatment, and 360(66.7%) did not seek treatment regularly. Similar observation were observed in a community based study in North-West Rajasthan among geriatric population where only 37.2% of the hypertensive were taking any form of medical treatment.<sup>1</sup> Among one third participants, 17.8% took treatment once a year, 6.7% every 6 months, 5.5% every 3 months and only a mere 3.3% took treatment every month. This observation is more close to Baliga SS et al (2013)<sup>17</sup>. Among 360 patients, who were not taking treatment regularly, reasons being financial constraints in 66.7% of participants and lack of a health facility nearby in 19.4% of them. And 13.9% of them were unaware of treatment facilities. Non-availability of medicine (34%), distance (24%) and poor quality of treatment (10%) were the main reasons for non-utilization of Government health facilities.<sup>18</sup> Majority of respondents (77.7%) visited hospital for obtaining treatment for hypertension. Only 14.8% visited clinic, 5.6% in NGO, and rest 1.9% consorted alternate systems of medicine from pharmacy. Whereas another study<sup>19</sup> showed that 65% took medication from government hospitals and 32% from chemist shop.

Decision for treatment seeking was done by themselves in only 35 (19.5%) of cases, whereas 145(80.5%) of people took treatment due to pressure from their children, friends, spouses and relatives. Study of Sunyna S showed that preferred information sources by patient are important in his informed decision making for health care seeking.<sup>20</sup> Regarding the opinion of the geriatric people for expenditure, out of 1041 respondents, majority 458(44%) gave their opinion for transportation cost as average, 487(46.8%) and 498(47.8%) respondents mentioned doctor's fee and medicine cost were



high. While M.Taj Uddin et al.<sup>21</sup> mentioned that about 70.75% respondents considered that cost of medicines in Bangladesh is high, whereas 26.3% felt satisfied that correlates to the study. The treatment of hypertension in developing countries is unaffordable for the average worker. Thus, the need for understanding the disease and controlling it with preventive measures is the key to the reduction of high prevalence in developing country.

#### Conclusion and Recommendation :

Strategies should be identified to diagnose hypertension at an early stage and prevent or postpone its complications in this age group as burden of hypertension is bound to increase due to increasing life expectancy rates. So that the overall well-being of the ageing population can be improved. The findings from this study made the researchers to make the following recommendation:

- Ensure economic security of the elderly.
- Improve transportation options for elders by identifying barriers, gaps and assets and by implementing collaborative efforts on the local, regional and state levels.
- Support the use of technology for care delivery, access to information, opportunities to participate in the community, and targeted services that focus on an aging population.
- Enhance and promote a community culture that supports people as they age and recognizes them as an asset.

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