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SOCIO-DEMOGRAPHIC CHARACTERS OF HYPERTENSIVE (HTN) PATIENTS ATTENDING IN A GENERAL PRACTITIONERS CHAMBER IN RAJSHAHI METROPOLITAN AREA

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ABSTRACT

Background: Hypertension is a major risk factor of cardiovascular disease and one of the leading causes of deaths from non-communicable diseases. Impact of socio-dempgraphic disparities on hypertension outcome has been well established. ***Objective:*** This study was aimed to describe the socio-dempgraphic characteristics of hypertensive patients attending in a general practitioners chamber of Rajshahi metropolitan area. ***Methods:*** This cross sectional type of descriptive study was conducted during the period of January, 2019 to December, 2019 in a general practitioners chamber in Rajshahi Metropolitan Area, Rajshahi, Bangladesh. Total number of 110 hypertensive patients enrolled purposively for this study. After taking informed written consent data of socio-demographic characters were collected through face to face interview using a semi-structured questionnaire. ***Results:*** Among the 110 hypertensive

patients majority were illiterate (38.2%), married (80%), female (73%) and house wife (60.9%). Most (30.9%) of the patients were in 4th decade. 38.2% of the hypertensive patients were illiterate, 27.3% completed the primary education, 13.6% completed SSC, 4.5% completed HSC and rest 16.4% were graduate. Anthropometric measures revealed maximum (38.2%) patients were over weighted. Hypertension was under control in case of maximum (57.3%) patients. ***Conclusion:*** This study revealed that socio-demographic characters are directly related to the development of hypertension. So middle aged (4th decade), illiterate, over weighted housewives need more awareness to prevent development of hypertension.

KEYWORDS: Hypertension, Socio-demographic characters, Blood pressure.

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INTRODUCTION

Hypertension is a chronic non communicable diseases characterized by rise of systolic blood pressure (SBP) ≥140mmHg and diastolic blood pressure (DBP) ≥90mmHg.[1,2] Blood pressure considered as normal if SBP is <130mmHg and DBP <85mmHg. Individuals having SBP 130-139mmHg and DBP 85-59mmHg are termed as high normal BP or pre-hypertension. Hypertension is a major risk factor for coronary heart diseases, stroke, kidney diseases and cognitive impairment.[3] Every 20 mmHg increase in systolic or 10 mmHg increase diastolic in blood pressure can double the mortality from both coronary heart disease and stroke.[1]

There is no specific cause in 90-95% hypertensive patients and this type of hypertension is called primary or essential hypertension. In essential hypertension genetic influence, advanced age, excessive salt intake, heavy alcohol consumption, obesity and lack of exercise are the main contributing factors. In the rest 5% hypertensive patients there are specific causes like endocrine diseases, renal impairment, drugs, obesity and coarctation of aorta etc.[4]

About 26% of world populations are suffering from hypertension and it is responsible for 7.1million deaths per year. In Bangladesh the prevalence is about 17.8% and it is increasing day by day.[3] Fate of uncontrolled hypertension is ranging from disability to death. Ischemic

heart diseases (IHD), heart failure, stroke, renal impairment and retinopathy are well established outcome of uncontrolled hypertension.[5] Death from complications of hypertension accounts for 12.8% per year globally.[6] Changes in life style, food habit, dependency on drug, lack of physical exercise are the main contributing factor for developing hypertension among Bangladeshi people.[5] In most cases hypertension usually remains asymptomatic. It is detected during patients visit to health care facilities for routine physical checkup or other health related problems.[3] This hidden nature of this disease can causes silent damage to the target organs like heart, brain and kidney. Although primary hypertension has no definitive cause there are some contributory risk factors. Some of these risk factors like age, sex, race, genetic factor are not modifiable. On the other hand obesity, excessive salt intake, lack of physical exercise can be modified by changes in life style.

General practitioners are one of the front line health care providers in the community. They provide personal and primary medical care to individuals and families. A general practitioner not only gives treatment to his patients but also helps them to make decision in critical health situations. Because hypertension is one of the chronic disabling diseases life style modifications, proper drug therapy and regular follow up are important measures to improve its management in community. But there is no adequate data about the role of risk factors for development of hypertension in our country. In this point of view general practitioners can play an important role for creating awareness, prevention and management of hypertension in the community.[7] So this current study was designed to determine the association of socio-demographic characters of hypertensive patients attending in a general practitioners chamber in Rajshahi metropolitan area.

METHODS

A cross sectional study was conducted during January 2019 to December 2019 in a general practitioners chamber in Rajshahi Metropolitan Area, Rajshahi, Bangladesh to determine the socio-demographic, clinical characteristics and status of control of hypertension in rural population. Purposive sampling technique was adopted to select 110 hypertensive patients. Data were collected through face to face interview using a semi-structured questionnaire. Informed written consent was taken from the study subjects before data collection.

Height was measured to the nearest 0.5 cm by a non-stretchable tape, standing on a flat surface, without shoes, feet together and back against the wall. Weight was taken to the nearest 0.5 kg with light clothing and without shoes by bathroom scales placed on a flat

surface. Body Mass Index (BMI) was calculated as weight in kilograms divided by height in meters square. BMI was categorized according to World Health Organization (WHO) recommendations: underweight (≤18.50), normal (18.6–25), overweight (25.1–30), and obese (>30). Blood pressure (BP) measurements were taken using a aneroid sphygmomanometer on left arm in comfortable sitting position. Left arm was placed on a flat surface at heart level. An arm cuff was placed over the bare left upper arm approximately one inch above the antecubital fold with the artery mark positioned directly over the brachial artery. After closing the valve inflation of the cuff done upto 20-30mmHg above the point at which radial pulse disappear. Then the chest piece was placed in the antecubital fossa below the cuff. Deflate the cuff was done gradually at a rate of 2-3 mmHg per second. The onset of Korotkoff sounds was recorded as the systolic pressure and the disappearance of these sounds as diastolic pressure. Who was on antihypertensive medication was labeled as known hypertensive. On the other hand participants with systolic BP above 140mmHg and diastolic BP over 90mmHg and who were not on antihypertensive medication was labeled as newly hypertensive. The population Data analysis was conducted using Statistical Package for Social Sciences (SPSS) software. A *P* value of ≤.05 was taken for statistical significance. The data were processed using SPSS version 19.

RESULTS

Overall, 110 adult known and new hypertensive patients attending in a general practitioners chamber in Rajshahi Metropolitan area were included in this study. Among the study subjects, 80 (73%) were female and 30 (27%) were male (Figure-1). Majority (30.9%) of the participants were in age group of 41 to 50 years (Table-I). Out of 110participants, 88(80%) were married, 21 (19.1%) were widow and rest 1(0.9%) was divorced (Table-I). There is no unmarried patient among the participants. Out of 110 HTN patients 38.2% were illiterate, 27.3% completed the primary, 13.6% completed SSC, 4.5% completed HSC and rest 16.4% were graduate (Figure-2). In this study 60.9% patients were housewife, 10.9% were day laborer and 10.9% were service holder. Anthropometric measurement showed that 38.2% of the patients were overweight (BMI 25-29.9), while 28.2% were obese (BMI >29.9) and only 33.6% had normal weight (BMI 18.5-24.9). None of the respondents was underweight.

Mean systolic blood pressure (SBP) and mean diastolic blood pressure (DSP) of the respondents were recorded as 143.59 ± 21.26 mm of Hg (range100–230) and 87.09 ±10.50 mm of Hg respectively (range 60–120). 57.3% (n-63) patients had achieved the target for

both SBP and DBP(SBP <140mm of Hg and DBP <90 mm of Hg). 16.4% (n-18) of the patients had uncontrolled BP (SBP ≥140mmHg and DBP ≥90mmHg). 15.5% (n-17) had elevated SBP and 11% (n-10) had elevated DBP. While only one of the participants had severe hypertension (BP >180/110 mm of Hg) **(Table – II).**

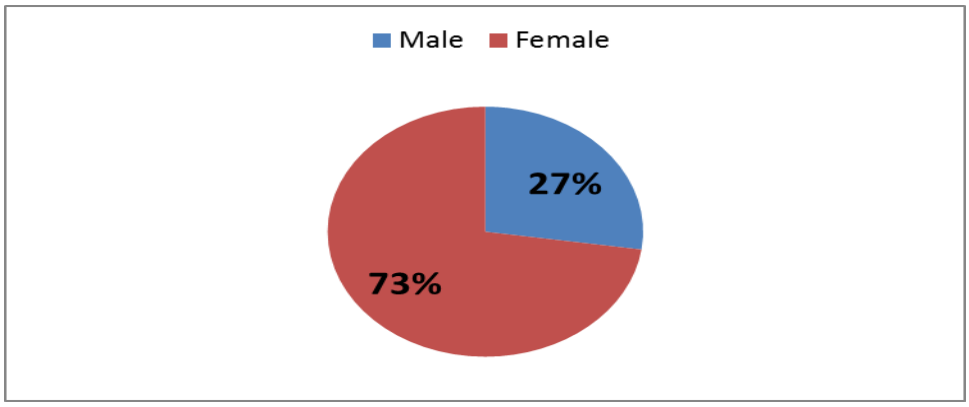

Figure-1: Distribution of sex among the patients.

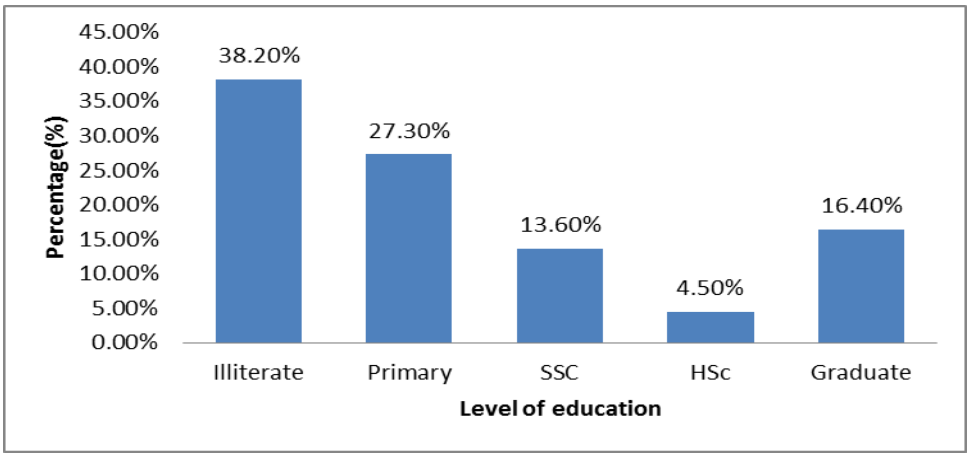

Figure-2: Level of education among participants.

Table-I: Distribution of patients according to age.

Age in years	Number of patients (n)	Percentage (%)
21-30	8	7.3
31-40	24	21.8
41-50	34	30.9
51-60	27	24.5
61-70	14	12.7
>70	3	2.7
Total	**110**	**100.0**

Table-II: Status of hypertension (HTN) control among respondents.

Status of HTN	Number of patients(n)	Percentage (%)
Controlled	63	57.3
Uncontrolled	18	16.4
Elevated systolic BP	17	15.5
Elevated diastolic BP	11	10.0
Severe HTN	1	0.9
Total	**110**	**100.0**

DISCUSSION

This study was aimed to observe the socio-demographic, clinical characteristics and blood pressure control status of hypertensive patients attending in a general practitioners chamber in Rajshahi Metropolitan Area, Rajshahi, Bangladesh. A total of 110 known hypertension patients were selected purposively. Among them 30 were male and 70 were female. In our study, majority (30.9%) of the participants were in middle age group (41 to 50 years), 88patients (80%) were married and 60.9% patients were housewife and 7.3% were businessman.

In a similar cross sectional study the investigators determined the socio-demographic, clinical characteristics and status of control of hypertension in rural population. Total 103 patients, 51.5% female and 48.5% male were enrolled in their study. Mean age of the respondents was 59.97±11.12 years, with 64% of them were included in the age group of 51 to 70 years. Their findings were almost similar to our findings.[1] In another cross sectional study researchers estimated the prevalence, subtypes and socio-demographic determinants of hypertension among adults. The mean age of the study population was 36.3±15.7 years. In their study males slightly predominated females (51.4% vs. 48.6%) that was dissimilar to our study. More than half of them were not employed, and the unemployment was significantly more common among women. Lack of exercise may be an important contributor to the high prevalence of hypertension in females. Moreover, a man with a higher income was less likely to have hypertension and men with relatively lower income experienced more occupational and relationship stress, together with an unhealthy lifestyle.[2]

In our study most of the patients were (38.2%) overweight (BMI 25-29.9), while 28.2% were obese (BMI >29.9) and only 33.6% had normal weight (BMI 18.5-24.9). None of the respondents was underweight. In a cross sectional community based survey, the investigators found increased risk of developing hypertension in obese person compared to non-obese participants. They also found that being older than 40 years of age increase risk for

developing hypertension and this age related risk was even higher in persons older than 60 years of age. They concluded that old age, alcohol consumption and physical inactivity were independent risk factors for hypertension.[3] In another study experimenters determined the prevalence, risk factors, characteristics and treatment practices of known adult hypertensive in Saudi Arabia. They enrolled 4719 subjects in their study and among them 542 (11.5%) subjects were known hypertensive or detected by health workers in the past 12 months. They found hypertension was significantly associated with age, gender, geographical location, education, employment, diabetes, physical inactivity, excess body weight, and ever smoking. They recommended a comprehensive approach is needed to prevent, early detect, and control the disease targeting, the risk factors, and predictors identified.[4]

Education is an important socioeconomic determinant of hypertension. In this study out of 110 hypertensive patients 38.2% were illiterate, 27.3% completed the primary, 13.6% completed SSC, 4.5% completed HSC and rest 16.4% were graduate. In a previous study proved that the educational programs were effective in increasing knowledge, improving self-management, and controlling detrimental lifestyle habits of the patients with hypertension.[5]

In this study recorded mean systolic blood pressure (SBP) and mean diastolic blood pressure (DBP) of the respondents were higher than normal value (120/80mmofhg). 57.3% (n-63) patients had achieved the target for both SBP and DBP (SBP <140mm of Hg and DBP <90 mm of Hg). 16.4% (n-18) of the patients had uncontrolled BP (SBP ≥140mmHg and DBP ≥90mmHg). 15.5% (n-17) had elevated SBP and 11% (n-10) had elevated DBP. Only one of the participants had severe hypertension (BP >180/110 mm of Hg). Our findings were not consistent with some study. In a cross sectional study conducted on 103 rural patients researchers found none of the 103 patients had achieved the target for SBP (Systolic blood pressure) control (180/110 mm of Hg), all of whom were female. In urban area there are more health facilities nearby the people, people are more concerned about their health and education facilities are more compared to rural area.[1]

In another cross-sectional survey researchers investigated the status of hypertension and related risk factor disparities between urban and rural areas of northeast China. Compared to urban areas, hypertension was more prevalent and the awareness, treatment, control rates were lower in rural areas. The mean SBP and DBP were 142.9±22.6 mmHg and 85.4±11.6 mmHg in the overall population. The mean SBP and DBP were significantly higher in rural areas compared with those in urban areas (145.1±23.3 mmHg vs 137.6±19.9 mmHg, and

86.2±11.9 mmHg vs 83.4±10.6 mmHg, respectively, $p<0.001$). They concluded that age, sex, religion, income, physical activity and educational status are important determinants for developing hypertension among rural and urban people.[6]

Our findings were in partial agreement with a study conducted on rural people. The investigators found that none of the 103 respondents had achieved the target for Systolic blood pressure control (<140mm of Hg) and only 21.4% of the patients had achieved the target for diastolic blood pressure (<90 mm of Hg). They also found that none of the diabetic hypertensive patients had achieved the target SBP control (<130mm of Hg) and only one diabetic patient had achived target for DBP (<80mm of Hg). Overall five patients were found to have uncontrolled and severe hypertension (BP >180/110 mm of Hg) in their study and all of them were female.[1]

In another similar study conducted on 225 hypertensive patients the researchers assessed hypertension control and factors associated with hypertensive patients. The mean age of the patients was 55.2 years and half of them had a family history of hypertension in that study. The researchers found that 22.2% of the respondents had their blood pressure well controlled and most of them were on combination antihypertensive therapy. They concluded that older age was associated with good BP control and factors like middle age and treatment modification contributed to the low BP control.[9]

CONCLUSION

Hypertension is more prevalent amongthe over weighted, illiterates, housewives between 41-50 years of age. Proper education and life style modification may reduce the prevalence of hypertension. This study was conducted in only single general practitioners chamber on limited number of subjects for short period of time. As a result, it may not represent the actual picture of whole community. Further researches should be done on large number of hypertensive patients for a long period of time in both private and government medical college hospital as well as chambers.

REFFERENCES

1. Ahmed NU, Rahman M, IslamM DU et al. Socio-demographic, clinical characteristics and status of hypertension control among rural hypertensive patients. Faridpur Med Coll J., 2011; 6(1): 05-09.

2. Al-Ghuzi AS, Al-Asadi JN. Prevalence and socio-demographic determinants of hypertension in Thi-Qar Governorate: A Household Survey. Am J Adv Drug Deliv, 2014; 2(6): 802-815.
3. Islam JY, Zaman M, Haq SA, Ahmed S, Al- Quadir Z. Epidemiology of hypertension among Bangladeshi adults using the 2017 ACC/AHA Hypertension Clinical Practice Guidelines and Joint National Committee 7 Guidelines . Journal of Human Hypertension, 2018; 32: 668–680.
4. Al-Hamdan N, Saeed A, Kutbi A, Choudhry AJ, Nooh R. Characteristics, risk factors, and treatment practices of known adult hypertensive patients in Saudi Arabia. Int JHypertens, 2010; 2010: 1-7.
5. Princewel F, Cumber SN, Kimbi JA et al. Prevalence and risk factors associated with hypertension among adults in a rural setting: the case of Ombe, Cameroon.Pan Afr Med J., 2019; 34(147): 1-9.
6. Babaee Beigi MA, Zibaeene zhad MJ, Aghasadeghi K, Jokar A, Shekarforoush S, Khazraei H. The effect of educational programs on hypertension management. Int Cardiovasc Res J., 2014; 8(3): 94-98.
7. General practice (GP). https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/general-practice-gp.
8. Xing L, Jing L,Tian Y, Lin M et al. Urban–Rural disparities in status of hypertension in northeast China: a population-based study. Clin Epidemiol, 2019; 11: 801-820.
9. Horsa BA, Tadesse Y, Engidawork E. Assessment of hypertension control and factors associated with the control among hypertensive patients attending at Zewditu Memorial Hospital: a cross sectional study. BMC Res Notes, 2019; 12: 1-6.