Original Research Article

Assessment of self-care practices among hypertensive patients: a clinic based study in rural area of Singur, West Bengal

Aparajita Dasgupta, Sembagamuthu Sembiah*, Bobby Paul, Ayon Ghosh, Bijit Biswas, Nazrul Mallick

Department of Preventive and Social Medicine, All India Institute of Hygiene and Public Health, Kolkata, West Bengal, India

*Correspondence:
Dr. Sembagamuthu Sembiah,
E-mail: semba9.ss@gmail.com

ABSTRACT

Background: Hypertension, also known as high blood pressure is a global public health concern. It is an important modifiable risk factor for cardiovascular disease and stroke. It remains silent, being generally asymptomatic during its clinical course and it accounts for a large proportion of cardiovascular deaths; lifestyle modification is the first line of intervention for all patients with hypertension, yet it was never been empirical. The aim of the study was to assess the pattern of self-care practices, if any and also to find out the factors associated with it, among the hypertensive patients in the outpatient department.

Methods: A clinic-based, observational, cross-sectional study was conducted at health center under RHU & TC, Singur, which is the rural field practice area of All India Institute of Hygiene and Public Health, Kolkata among 124 hypertensive subjects. Binary logistic regression was done to find out the factors associated with the self-care practices using SPSS software.

Results: In the present study, 62.9% of study participants suffering from hypertension had unfavourable self-care practices. Logistic regression showed age above 60 years (OR-3.1), primary level education (OR-5.6), poor socio economic status (OR-2.4), widow/separated (OR-3.3) and people with self-perceived poor health status (OR-2.8)had significant association with unfavourable self-care practices. After adjusting with other variables, age (AOR-2.3) and education (AOR-3.8) remained significant predictor of outcome.

Conclusions: The findings revealed that the self-care practices among hypertensive patients were unfavourable in rural area. This calls for a deep need in increasing the awareness about healthy lifestyle among hypertensive patients. This study provides key elements to affect policy changes and social interventions.

Keywords: Self-care practice, Hypertensive patients

INTRODUCTION

Hypertension is a common and serious health problem worldwide. Due to the globalization of unhealthy lifestyle nowadays non-communicable diseases leads to more morbidity and mortality than communicable diseases. Cardiovascular disease leads to approximately 17 million deaths a year, which is nearly 1/3rd of the total deaths worldwide.[1] Of these, 9.4 million deaths were due to complications of hypertension alone.[2]

The global prevalence of hypertension was around 22%,whereas in Indian men and women it was 25.9% and 24.8% in 2014.[3] It is estimated that the trend of hypertension projects from 118 million in 2000 to 214 million in 2025.[4] Another study in India showed

prevalence as 29.8% with significant differences in rural (27.6%) and urban (33.8%) regions.[5] Hypertension accounts for nearly 10% of all deaths and attributed to 16% of ischemic heart disease, 24% of acute myocardial infarctions and 29% of strokes in India.[6,7]

DLHS-4 (2012-2013) of West Bengal reports a prevalence rate of hypertension as 27.3% and 20.5% among urban and rural adults. In NFHS-4 (2015-2016), the prevalence was 15.5% and 12% among urban men and women and 12% and 9.6% among rural men and women. A majority of the rural population in India still had inadequate access to health care.

Hypertension is an iceberg disease which follows "rule of halves" which is being silent i.e. asymptomatic in the incipient stage, so many people remain undiagnosed. Those who are diagnosed may not have access to treatment and who had access, may not be able to sustain the control over illness. Late detection of hypertension has a significant economic and social impact at individual, family, community and national level due to premature death, disability, loss of income, and healthcare expenditure.[8]

Self-care is the maintenance of healthy well-being in patient's own interest by making certain day to day decisions and actions to have a control over their illness. The components of self-care are leading a healthy lifestyle, treating minor ailments, managing chronic conditions and care after hospital discharge.[9]

Self-care is considered as a basic care for patients with chronic conditions to have a better quality of life by refraining from possibilities of disabilities and to reduce the rising health care expenditure. It has shown that it reduces primary care visits, outpatient visits by 17% and emergency department visits up to 50%.[10]

Hypertension is a serious warning sign after which significant lifestyle changes are required. Previous studies had shown that compliance with hypertension self-care guidelines such as weight reduction, smoking cessation, low sodium diet, diet rich in fruit, vegetables and low-fat diet, physical activity and stress management can substantially control blood pressure.[11,12]

Most of the studies emphasize on the benefits of medication adherence alone, but very few studies have thrown light over the importance of healthy lifestyle that is essential in controlling hypertension. With this background, an attempt was made in the present study to assess the pattern of self-care practices and the factors associated with it, among hypertensive patients in a rural area of Singur, West Bengal.

METHODS

It is a clinic based observational study with cross-sectional design among hypertensive patients who attended Outpatient Department (OPD) of two sub-centres namely Diarah and Paltagarh under Rural Health Unit and Training Center, Singur which is the rural field practice area of All India Institute of Hygiene and Public Health (AIIHPH), Kolkata during the period of July and August of 2017. Hypertensive patients, who had history of hypertension for 6 months and who gave informed consent were included in the study. During OPD hours it was possible to interview only 6-8 hypertensive patients, as it took approx. 15-20 minutes to complete each interview.

The data was collected among 124 hypertensive patients using a pre-designed, pre-tested, structured schedule which consists of

- Socio demographic profile.
- Disease profile consists of questions regarding duration and family history of hypertension, co-morbidities such as diabetes and arthritis.
- Self-perceived health status assessed by a question with three point Likert response.
- Self-care practice was assessed by 12 questions which was adapted from Hypertension self-care activity level effects (H-SCALE), which is a self-report assessment designed to measure the self-care activities recommended by JNC 7.[13]

According to the local context and the objectives of the study, the measure was modified and then face and content validity was maintained by expert committee of Preventive and Social medicine, AIIH & PH. The tool was translated into local language (Bengali) maintaining semantic equivalence and pretesting of the questionnaire was done among 30 hypertensive patients in other sub-center clinics. It was revised based on the responses obtained in pre-testing and finalized for use in this study.

Operational definition of favourable and unfavourable self-care practice

Taking medication regularly, BP monitoring for ≥2 times/month, physical activity of ≥4 days in a week, trying to keep weight down, no smoking habit were considered as favourable self-care practice.

A scoring system was used to segregate the study participants as overall favourable and unfavourable self-care practice. Ultimately, 75th percentile was taken as cut off to label overall favourable (≥75th) and unfavorable (<75th) self-practice.

Statistical analysis

Data was analyzed using appropriate statistical methods using SPSS software (version 16.0). A scoring system was made to assess the self-care practices. Among the 12 items, few questions were given three-point Likert scale (always, sometimes, never) scored as 2, 1, 0 and the other questions as favorable and unfavorable type scored as 2, 0. The attainable score ranges from 0-24; higher the score, more the self-care practices. Descriptive statistics

were performed. Binary logistic regression analysis was performed to identify those factors associated with unfavorable self-care practices among hypertensive patients with significant level (p<0.05).

RESULTS

Study participants aged from 41 to 82 years with mean age 57 years and median age 60 years. 46.8% are homemaker and 35.4% are working people. 30.6% participants belonged to poorest percentile (<25th percentile). Mean per capita income of study participants was 1019.8 rupees (Table 1).

In terms of self-care practice, 58% and 34% had unfavourable medication adherence and BP monitoring. Around 29.1% and 28.2% never tried to avoid high salt and high-fat foods respectively. 48% and 19.4% always tried to avoid adding extra salt in food and to take boiled food instead of fried foods respectively. 36.3% consumed 5 servings of fruits and vegetables for more than 3 days a week.72.6% never practiced any stress relieving techniques such as deep breathing and meditation. Only 31.5% visited doctors for advice, others just came for medications (Table 2).

Table 1: Background characteristics of study participants [n=124].

Variables		No. (%)
Age (in completed years) Mean (SD) 57.65 (10.57); Median 60; Range 41-82	41-50	41 (33.1)
	51-60	27 (21.8)
	61-70	42 (33.9)
	>71	14 (11.3)
Sex	Male	51 (41.1)
	Female	73 (58.9)
Educational status (median years of schooling– 5 years)	Illiterate	49 (29.5)
	Primary	12 (9.7)
	Middle	48 (38.7)
	Secondary	13 (10.5)
	Higher secondary & above	2 (1.6)
Occupation	At home	22 (17.7)
	Homemaker	58 (46.8)
	Farmer	16 (12.9)
	Unskilled (labor)	19 (15.3)
	Semi-skilled*	9 (7.3)
Per capita income in percentiles. (in Rupees) (Mean (SD) 1019.8 (388.7))	< 25th (<750)	38 (30.6)
	25th-50th (750-899))	27 (21.7)
	50th-75th (900-1249)	33 (26.7)
	>75th (>1250)	26 (20.9)
Marital status	Currently married	83 (66.9)
	Widow	38 (30.6)
	Separated	3 (2.4)
Type of family	Nuclear	41 (33.9)
	Joint	83 (66.9)
Perceived health status	Good	21 (16.9)
	Fair	62 (50)
	Poor	41 (33.1)
Family history of HTN	Yes	41 (33.1)
	No	83 (66.9)
Presence of any other disease	Yes	65 (52.4)
	No	59 (47.5)
Duration of hypertension (Median years–5)	<5	80 (64.5)
	≥5	44 (35.5)

*Semi-skilled: clerk, businessman, shopkeeper, jewel maker.

78 (62.9%) participants had unfavorable self-care practice. Univariate logistic regression shows people age above 60 years OR [*odd's ratio*](CI)[*95% confidence interval*]-3.1 (1.4-6.7), less than primary level education OR (CI)-5.6 (2.5-12.9), poorest percentile OR (CI)-2.4 (1.1-5.7), widowed, separated OR (CI)-3.3(1.3-8), participants with self-perceived poor health status OR (CI)-2.8 (1.2-6.7) had increased odds of unfavourable

self-care practice. In multivariable logistic regression, after adjustment with significant variables, age AOR [adjusted odd's ratio] (CI)-2.3 (1.02-5.3), education AOR (CI)-3.8 (1.4-10.1) remained significant. The model is fit to explain the factors determining unfavourable self-care practices. (Hosmer- Lemeshow statistic–0.6) These factors explain about 26% variation in unfavourable self-care practice (Nagelkerke R^2=0.258) (Table 4).

Table 2: Distribution of study participants according to their self-care practices [n=124].

Self-care practices	Favourable [score-2] No. (%)	Unfavourable [score-0] No. (%)	
Medication adherence	52 (41.9)	72 (58.1)	
Frequency of BP monitoring	82 (66.1)	42 (33.9)	
Physical activity	22 (17.8)	102 (82.2)	
Trying to keep weight down	37 (29.8)	87 (70.2)	
Smoking habit	87 (70.2)	37 (29.8)	
	Always [score2]	Sometimes [score1]	Never [score-0]
Avoid high salt foods	21 (16.9)	67 (54)	36 (29.1)
Avoid extra salt in food	59 (47.8)	52 (41.9)	13 (10.5)
Avoid high fat foods	21 (16.9)	68 (54.8)	35 (28.2)
Taking boiled food instead of fried foods.	24 (19.4)	80 (64.5)	20 (16.1)
Consuming fruits and vegetables	45 (36.3)	70 (56.5)	9 (7.3)
Deep breathing, meditation practice	5 (4)	29 (23.4)	90 (72.6)
Visit for doctors advise	39 (31.5)	55 (44.4)	30 (24.2)

Table 3: Scoring distribution of self-care practice of study participants [n=124].

Scores	Value/s
Attainable score	0-24
Attained score	3-22
25th percentile	8
50th percentile	10
75th percentile	13

Table 4: Factors associated with unfavourable self-care practice among study participants [n=124].

Factors	Total No.(%)	Unfavourable self-care practice. No. (%)	OR (95% C.I.)	AOR[#] (95% C.I.)
Age (≥60 years)	65 (52.5)	49 (75.4)	3.1 (1.4-6.7)[*]	2.3 (1.02-5.3)* (p=0.04)
Sex (female)	73 (58.9)	46 (63)	1.01 (0.4-2.1)	
Education (≤primary level)	61 (49.2)	50 (82)	5.6 (2.5-12.9)*	3.8 (1.4-10.1)* (p=0.006)
Occupation (unemployed)	80 (64.6)	52 (65)	1.2 (0.6-2.7)	
Socioeconomic status (poorest percentile)	38 (30.6)	29 (76.3)	2.4 (1.1-5.7)*	1.6 (0.6-4.1)
Marital status (widow/separated)	41 (33.1)	32 (80)	3.3 (1.3-8)*	1.1 (0.3-3.4)
Type of family (nuclear)	41 (33.1)	30 (73.2)	1.9 (0.8-4.5)	
Perceived health status (poor)	41 (33.1)	32 (78)	2.8 (1.2-6.7)*	1.4 (0.5-4.0)
Duration of hypertension (≥ 5 years)	44 (35.5)	30 (68.2)	1.4 (0.6-3.1)	
No family history of HTN	83 (66.9)	54 (65.1)	1.3 (0.6-2.8)	
History of any other disease.	65 (52.5)	43 (67.2)	1.5 (0.7-3.1)	
Nagelkarke R^2		0.261		

*Statistically significant (P<0.05); OR– odd's ratio; CI– confidence interval; AOR- adjusted odd's ratio. [#]For multivariate binary logistic regression, only those independent variables were included in the model that were significant in bivariate analysis.

DISCUSSION

This study is first of its kind among the rural population in Singur block, West Bengal which describes the self-care practices. This may facilitate new ideas towards self-care management programs for hypertension, an area which is still not empirical in West Bengal. This study elicits each and every domain described by JNC 7 for self-care practices. As most of the studies done before, describes each domain separately, but in this study, all the domains were used to make a composite level of self-care practice.

In this study, certain socio-demographic factors were associated with unfavourable self-care practice such as older people, who are dependent groups so their health is ignored. Due to the lack of awareness, people studied up to primary level and low socio-economic status, people living alone and the people who perceived poor health status had unfavourable self-care practice.

This study showed males were having more self-care practices than females, whereas the study done in Delhi showed females are practising more, it is because, in the rural area, the health of women is ignored when compared with men. The people, who perceived good and poor health status is 16% and 34%, whereas in that study, it was about 1% and 29%. When comparing the specific practices such as favourable physical activity and people never adding extra salt in food is way higher than this study. The difference is due to rural- urban location and literacy level of people.[14]

Another study done in Nepal showed increased number in all domains of self-care practices. This is due to healthy lifestyles such as their food habits and physical activity. The study was conducted in a tertiary hospital, so the patients are well aware of their health status and health-seeking behavior is more among them.[15]

The study conducted in Mumbai shows a high proportion of unfavourable self-practice, as it is conducted in a slum, They have unhealthy lifestyle when compared to rural people especially in food habit and there is a lack of awareness about the importance of health.[16]

Another study conducted in a tertiary hospital in Chennai, showed high frequencies of favourable self-care such as 89% were non-smokers, 75% avoid adding extra salt, whereas in this study only 47.8% avoid extra salt. This is due to the education, socio-economic status and health concern of city people.[17]

The study conducted in a rural population of China showed every domain is on the higher side when compared with this study. The difference is because of their healthy lifestyle.[18]

This study, however, has several limitations. First, this study is a clinic-based survey so it does not represent the whole population. Second, as this was a cross-sectional design, causality could not be determined. Third, the data in this study were obtained through a self-report questionnaire, and therefore, recall bias was inevitable to some extent. Last, in this study, we used our own criteria according to the context of objectives of the study to assess the self-care practices.

CONCLUSION

This study reveals that the self-care practice is unfavourable in rural area. The main reason is the lack of awareness about the benefits of non-pharmacological remedies to control hypertension. Research on hypertension self-care practice is vital, given that it can provide information for developing new multilevel models on support for self-care, suggest what practical actions can be taken. All patients should be evaluated for obstacles to adherence and self-management, and referred for further counseling. Patient and family education about antihypertensive therapy should be based on the patient's level of understanding and affordability.

Hypertension is an Iceberg disease. Therefore, a stringent public health effort is a need for the detection, control, and prevention of complications of hypertension. Due to lack of manpower especially in rural areas, basic health workers can be trained for detection of hypertension, followed by strengthening of public health surveillance. In view of the enormous public health benefits of blood pressure control, it is an immediate need to give more importance to the self-care management of hypertension.

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