Frontiers in Health Informatics
ISSN-Online: 2676-7104
www.healthinformaticsjournal.com
2024; Vol 13: Issue 3
Open Access

Self-Care Behaviours Among Hypertension Patients Residing In A Rural Field Practice Area Of Belagavi- A Cross-Sectional Study

Rajesh R Kulkarni*[1], Abhinandan R Wali[2], Poornima B Khot[3], Sriram T R[4]
Affiliations: *1. Associate Professor, Department of Community Medicine, Jawaharlal Nehru Medical College, KAHER, Belagavi (corresponding author) rajesh2kulkarni@gmail.com
2. Associate Professor, Department of Community Medicine, Jagadguru Gangadhar Mahaswamigalu Moorsavirmath Medical College, KAHER, Hubballi, , abhinandanwali86@gmail.com
3. Assistant Professor, Department of Community Medicine, Jawaharlal Nehru Medical College, KAHER, Belagavi, drpoornima83@gmail.com
4. Postgraduate, Department of Community Medicine, Jawaharlal Nehru Medical College, KAHER, Belagavi

Cite this paper as: Rajesh R Kulkarni, Abhinandan R Wali, Poornima B Khot, Sriram T R (2024) Self-Care Behaviours Among Hypertension Patients Residing In A Rural Field Practice Area Of Belagavi- A Cross-Sectional Study. *Frontiers in Health Informatics, 13* (3), 1988-1996.

Abstract

Background: *Hypertension is a major public health problem worldwide. Uncontrolled hypertension can lead to severe cardiovascular complications. Regular practice of self-care behaviours is important for control of hypertension. Hence this study was performed to find out the practice of self-care behaviours among hypertension patients living in a rural field practice area.*

Methods: *This cross-sectional study was carried out between July- August 2022 among 200 hypertensive patients living in a rural field practice area. The patients' socio-demographic details were collected and their practice of self-care behaviours was assessed by a validated questionnaire: Hypertension-Self-care Profile (HBP SCP). Data was entered into Excel and analysis was done using SPSS version 23. Chi-square and correlation tests were performed.*

Results: *Females were 102 (51%). The mean age ± SD of the participants was 51.91 ± 11.778 years. Majority were Hindu (157, 78.5%), married (170, 85%), self-employed (71, 35.5%), and had no formal education (71, 35.5%). The mean score ± SD for self-care behaviours was 45.27 ± 5.470, with majority of the participants scoring below the mean (113, 56.5%). Education was found to be significantly associated with the mean score (p-value 0.003, Chi-square value 18.132). A significant correlation was identified between Body Mass Index level and mean score (-0.219, p-value 0.001).*

Conclusion: *Among the study participants the level of self-care behaviours for hypertension was found to be low. Targeted interventions like health education and enhanced follow-up and support are needed to improve the self-care behaviours of the patients.*

Keywords: *Hypertension, self-care, rural, education, BMI*

INTRODUCTION

Hypertension is a major public health problem worldwide. Around one billion people are affected globally, with two-thirds of them in low-income countries.[1] In India 65% of all deaths are due to non-communicable diseases.[2] Uncontrolled hypertension can lead to complications like stroke, heart disease, and kidney failure.[3] For reduction in incidence of and better management of hypertension, several self-care activities are recommended by the 8th Joint National Commission. These include: adherence to medication, bodyweight management, proper dietary intake, reduction in alcohol consumption, tobacco cessation, and adequate physical exercise.[4,5]

Hypertension self-care has been defined as "a dynamic and active process requiring knowledge, attitude, discipline, determination, commitment, self-regulation, empowerment and self-efficacy."[6] The assessment of self-care behaviours was done using the hypertension self-care profile (HBP-SCP)[7], on the following domains of self-care that are crucial to control blood pressure: medication taking, and lifestyle factors such as physical activity, low-sodium and low-fat diet, restricting alcohol consumption, non-smoking, self-monitoring of blood pressure, weight control, regular doctor visits, and stress reduction.[8-14]

In India, 21% of women and 24% of men aged 15 and above have hypertension. However, among diagnosed hypertension patients only about 7% of women and 6% of men are currently taking antihypertensive medicine, and among these only 1% of women and 1% of men have their blood pressure in the normal range.[2] Also, 67% percent of women and 54% of men said that their blood pressure was ever measured prior to the survey; 12% of women and 9% of men said that on two or more occasions they were told by a doctor or health professional that they have hypertension or high blood pressure. This reveals the gap in the knowledge, attitude and practice of self-care behaviours among hypertensive patients in India. Hence this study was performed to find out the practice of self-care behaviours among hypertension patients living in a rural field practice area of Belagavi, North Karnataka.

MATERIALS AND METHODS

Study design

This was a cross-sectional type of study.

Study period, area and participants

This study was carried out between July- August 2022. The study was carried out among 200 hypertensive patients living in a rural field practice area of Belagavi, North Karnataka. Patients who were diagnosed with hypertension in the past 1 year or more and have been prescribed antihypertensive medications were included in the study. Patients who had comorbidities and complication related to

hypertension were excluded from the study. The patients' details were obtained from the non-communicable diseases (NCD) register maintained at the PHC. Systematic random sampling was used to select the patients until the sample size was reached.

Study tools and Data analysis

The patients' socio-demographic details were collected and their practice of self-care behaviours was assessed by a validated questionnaire: Hypertension-Self-care Profile (HBP SCP).[7] Data was entered into Excel and analysis was done using SPSS version 23. Chi-square and correlation tests were performed.

Ethical clearance

The study was approved by the Institutional Ethics Committee.

RESULTS

Females were 102 (51%). The mean age ± SD of the participants was 51.91 ± 11.778 years. Majority were Hindu (157, 78.5%), married (170, 85%), self-employed (71, 35.5%), and had no formal education (71, 35.5%) (Table 1).

Majority of the participants, 154 (77%) were obese as per their Body Mass Index (BMI) values (Table 2).[15] At the time of recording most participants, 96 (48%) had their blood pressure (BP) values in the range 130-139/80-89; grade I hypertension.[16]

The mean score ± SD for self-care behaviours was 45.27 ± 5.470, with majority of the participants scoring below the mean (113, 56.5%) (Table 3).

Education was found to be significantly associated with the mean score (p-value 0.003, Chi-square value 18.132) (Table 1).

A significant correlation was identified between Body Mass Index level and mean score (-0.219, p-value 0.001) (Table 2).

Table 1. Socio-demographic details of the participants

S.No.	Variable	Frequency	Percentage
1	**Age**		
	31- 40	48	24
	41- 50	53	26.5
	51-60	51	25.5
	61-70	34	17

	71-80	14	7
2	**Sex**		
	Male	98	49
	Female	102	51
3	**Religion**		
	Hindu	157	78.5
	Muslim	37	18.5
	Others	6	3
4	**Marital Status**		
	Single	6	3
	Married	170	85
	Separated/ Divorced	9	4.5
	Widowed/ Widower	15	7.5
5	**Type of family**		
	Joint	84	42
	Nuclear	62	31
	Three-generational	45	22.5
	Broken	5	2.5
	Problem	4	2
6	**Education**	Pearson Chi-Square value: 18.132; p-value: 0.003*	
	No formal schooling	71	35.5
	Less than primary school	54	27
	Primary school completed	44	22
	Secondary school completed	16	8
	High school completed	12	6
	College/ university completed	3	1.5
	Postgraduate degree	0	0

7	**Occupation**		
	Government Employee	37	18.5
	Non-government Employee	24	12
	Self-employed	71	35.5
	Non-paid	7	3.5
	Student	47	23.5
	Homemaker	9	4.5
	Retired	5	2.5
	Unemployed	0	0

*Education is significantly associated with mean score at significance level of <0.005

Table 2. BMI and BP levels of the participants

S.No.	**Variable**	Frequency	Percentage
1	**Body Mass Index**	Pearson Correlation: -0.219; p-value: 0.001*	
	<18.5	2	1
	18.5 - 22.9	19	9.5
	23.0 - 24.9	25	12.5
	>25	154	77
2	Blood Pressure (in mmHg)		
	<120/80	28	14
	120-129/80	10	5
	130-139/80-89	96	48
	>140/90	66	33

*BMI level is significantly correlated with mean score at significance level of <0.005

Table 3. Self-care behaviours of the participants

S.No.	Variable	Frequency	Percentage
	Mean ± SD: 45.265 ± 1.51		

1	Above Mean	87	43.5
2	Below Mean	113	56.5

DISCUSSION

This study set out to find the level of self-care behaviours among patients with hypertension living in a rural field practice area of Belagavi, North Karnataka, using the HBP SCP questionnaire. Overall, the self-care behaviours were poor- majority scored below the mean.

A cross-sectional study done in Kerala between 2019-2020 among 690 hypertensive patients from five of eleven randomly selected block panchayats of Kollam district, concluded that compliance to self-care practices are less than optimal in the study population. This is in line with the current study, where 56.5% of the participants scored below the mean for self-care practices.[17]

A clinic-based cross-sectional study conducted in 2017 at health center under Rural Health Unit & Training Center, Singur, which is the rural field practice area of All India Institute of Hygiene and Public Health, Kolkata, among 124 hypertensive subjects, concluded that self-care practices among hypertensive patients were unfavourable in rural area. They reported that 62.9% of the study participants had unfavourable self-care practices. This is higher that the present study findings of 56.5%.[18]

A systematic review and meta-analysis done in Ethiopia, including research papers published until July 2020, which reviewed 12 papers with total population of 3938 hypertensive patients, reported that only 44% of them had good self-care practices. Similarly, in the present study, 43.5% scored above the mean for self-care practices.[19]

A cross-sectional study done in January 2012 at four health centers in Mangalore, Karnataka among 315 hypertensive patients reported “average or good” self-care practices in 60.6% of the study participants. This value is higher than the present study. The reason may be because they have conducted this study among the hypertensive patients who attended the outpatient department at the health centers, it might be assumed that people who attend OPDs at health centers might show good self-care practices compared to those at the community who may not attend. The present study was carried out in the community and hence might show a lower value.[20]

In the present study education was significantly associated with self-care practices. Other studies show similar association with education.[21-23] The present study also showed a significant correlation between BMI levels and self-care practices. This is corroborated by the NFHS-5 data, which said there is a consistent and steep increase in the prevalence of hypertension with increases in the BMI for both women and men; 40% of obese men and 28% of obese women are hypertensive.[2]

This study showed a lower level of self-care practices among hypertensive patients, and it was

associated with education, which may be explained as due to cognitive differences between patients with formal schooling and those without- who cannot read or write may overlook sources of information such as posters, flyers, and other written materials.

The strength of the study is that it has been carried out in the community to know the real status of the practice of self-care among hypertension patients, as hypertension follows the rule of halves, if patients that come to clinical setup alone are included it may not reveal the complete picture. A limitation of the study is that comorbidities or complication were not studied, as the severity or grade of the comorbidity/ complication may affect the level of self-care practiced by the patient.

CONCLUSION

Among the study participants the level of self-care behaviours for hypertension was found to be low. Targeted, patient-specific interventions like health education, enhanced follow-up and support are needed to improve the self-care behaviours and to better control the BP and prevent complications.

AUTHOR CONTRIBUTIONS

1. Rajesh R Kulkarni- Drafting the work and revising it critically for important intellectual content
2. Abhinandan R Wali- Substantial contribution to the conception and design of the work
3. Poornima B Khot- Substantial contribution to the conception and design of the work
4. Sriram T R- Interpretation of data and manuscript writing

REFERENCES

1. Kaptoge S, Pennells L, De Bacquer D, Cooney MT, Kavousi M, Stevens G, et al. World Health Organization cardiovascular disease risk charts: revised models to estimate risk in 21 global regions. Lancet Glob Health. 2019;7(10):e1332–e1345.
2. NFHS-5 Data: https://dhsprogram.com/pubs/pdf/FR375/FR375.pdf
3. Olsen MH, Angell SY, Asma S, et al. A call to action and a lifecourse strategy to address the global burden of raised blood pressure on current and future generations: the Lancet Commission on hypertension. Lancet. 2016;388:10060. doi:10.1016/S0140-6736(16)31134-5
4. Irwan AM, Kato M, Kitaoka K, Ueno E, Tsujiguchi H, Shogenji M. Development of the salt-reduction and efficacy-maintenance program in Indonesia. Nurs Health Sci. 2016;18(4):519–532. doi:10.1111/nhs.12305
5. James PA, Oparil S, Carter BL, et al. 2014 Evidence-based guideline for the management of high blood pressure in adults: report from the panel members appointed to the Eighth Joint National Committee (JNC 8). J Am Med Assoc. 2014;311(5):507–520.
6. Balduino AFA, Mantovani MF, Lacerda MR, Meier MJ. Conceptual analysis of self-management of hypertensive individuals. Rev Gaúcha Enferm. 2013;34(4):37–44.

7. Han HR, Lee H, Commodore-Mensah Y, Kim M. Development and validation of the Hypertension Self-care Profile: a practical tool to measure hypertension self-care. J Cardiovasc Nurs. 2014;29(3):E11-E20. doi:10.1097/JCN.0b013e3182a3fd46
8. Fan AZ, Mallawaarachchi DS, Gilbertz D, Li Y, Mokdad AH. Lifestyle behaviors and receipt of preventive health care services among hypertensive Americans aged 45 years or older in 2007. Prev Med. 2010;50(3):138–142.
9. Joint National Committee (JNC VII) on Detection, Evaluation, and Treatment of High Blood Pressure. The seventh report of the joint national committee on detection, evaluation, and treatment of high blood pressure. Washington DC: NIH Publications; 2003
10. Crespo CJ, Smit E, Andersen RE, Carter-Pokras O, Ainsworth BE. Race/ethnicity, social class and their relation to physical inactivity during leisure time: Results from the third national health and nutrition examination survey, 1988–1994. Am J Prev Med. 2000;18(1):46–53.
11. Chobanian AV, Bakris GL, Black HR. The seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure. Hypertension. 2003;42:1206–52.
12. Funk KL, Elmer PJ, Stevens VJ, et al. PREMIER--a trial of lifestyle interventions for blood pressure control: Intervention design and rationale. Health Promot Pract. 2008;9(3):271–280.
13. Jen KL, Brogan K, Washington OG, Flack JM, Artinian NT. Poor nutrient intake and high obese rate in an urban African American population with hypertension. J Am Coll Nutr. 2007;26(1):57–65.
14. Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999–2004. JAMA. 2006;295(13):1549–1555.
15. Aziz N, Kallur SD, Nirmalan PK. Implications of the revised consensus body mass indices for asian indians on clinical obstetric practice. J Clin Diagn Res. 2014;8(5):OC01-OC3.
16. Whelton PK, Carey RM, Mancia G, Kreutz R, Bundy JD, Williams B. Harmonization of the American College of Cardiology/American Heart Association and European Society of Cardiology/European Society of Hypertension Blood Pressure/Hypertension Guidelines: Comparisons, Reflections, and Recommendations. Circulation. 2022;146(11):868-877.
17. Chacko S and Jeemon P. Role of family support and self-care practices in blood pressure control in individuals with hypertension: results from a cross-sectional study in Kollam District, Kerala [version 1; peer review: 2 approved]. Wellcome Open Res 2020, 5:180
18. Dasgupta A, Sembiah S, Paul B, Ghosh A, Biswas B, Mallick N. Assessment of selfcare practices among hypertensive patients: a clinic based study in rural area of Singur, West Bengal. Int J Community Med Public Health 2018;5:262-7.
19. Tadesse DB, Gerensea H. Self-care practice among hypertensive patients in Ethiopia: systematic

review and meta-analysis. Open Heart 2021;8:e001421.

20. Joseph N, Chiranjeevi M, Sen S, Singh P, Saini M, Beg S. Awareness on Hypertension and its Self-Management Practices Among Hypertensive Patients Attending Outreach Clinics of a Medical College in South India. Kathmandu Univ Med J (KUMJ). 2016;14(55):202-209.
21. Melaku T, Bayisa B, Fekeremaryam H, Feyissa A, Gutasa A. Self-care practice among adult hypertensive patients at ambulatory clinic of tertiary teaching Hospital in Ethiopia: a cross-sectional study. J Pharm Policy Pract. 2022;15(1):23. Published 2022 Mar 22. doi:10.1186/s40545-022-00421-3
22. Anowie F, Darkwa S. The knowledge, attitudes and lifestyle practices of hypertensive patients in the Cape Coast Metropolis-Ghana. J Sci Res Rep. 2015;8(7):1–15.
23. Crowley MJ, Gurubber JM, Olsen MK, Bosworth HB. Factors associated with non-adherence to three hypertension self-management behaviors: preliminary data for a new instrument. J Gen Intern Med. 2012;28(1):99–106.