

# Level of Self-care Practice and Associated Factors Among Hypertensive Patients in Jimma University Specialized Hospital, South West Ethiopia

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**Abstract:** Globally hypertension is a major public health problem and leading cause of mortality in developing countries. Self-care practice encourage hypertensive patients to have better quality of life by preventing complication and decrease health care expenditure. The aim of this study is to assess Self-care practice and associated factors among hypertension patients in Jimma university specialized hospital, south west Ethiopia. An institution based Cross sectional study was employed on 322 adult hypertensive patients using simple random sampling procedure between March to May, 2016. Data was analyzed using SPSS version 20.0. A p-value of <0.05 was considered as statistically significant. Adjusted odds ratio at 95% CI was considered to declare the independent effect of independents variables on the outcome. In this study, the overall participants with the recommended level of self-care practice were found to be 44.7%. Being employed [AOR = 2.032, 95% Confidence Interval [CI]: (1.162, 3.552), educational attainment (AOR = 3.730, 95% CI: (1.837, 7.576) and Presence of co morbidity diseases (AOR = 0.502, 95% CI: 0.2886, 0.8850) were factors significantly associated with self-care practice. This study revealed level of self-care practice were low among hypertensive patients. Occupation, educational status and comorbidity were factors significantly associated with Self-care practice. Hypertensive patients with low socioeconomic status, no formal educational attainment and with co-morbidity needs special attention to improve their self-care practice.

**Keywords:** Hypertension, Self-care, Practice, Jimma

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## 1. Introduction

Worldwide, hypertension is common and now regarded as a major public health problem [1]. It is an overwhelming global challenge and analysis of the global burden of hypertension revealed that over 25% of the world's adult population had hypertension in 2000, and the proportion is expected to increase to 29% by 2025 [2]. Hypertension is usually a chronic disease which can lead to long term complications and it is the leading cause of death and the second leading cause of lost disability adjusted life-years worldwide [3].

Hypertension is a leading cause of death in developing countries. According to the World Health Organization, more

than 80% of deaths from hypertension and associated cardiovascular diseases now occur in low and middle-income countries and this is particularly common among people of low socio-economic status [4].

Based on world health organization (WHO), one method to control hypertension is to involve patients in their own self-care practice [5, 6]. Self-care practice encourage patients with variety of illness to have better quality of life by preventing complication and decrease health care expenditure. It has shown that it reduces primary care visits or outpatient visits by 17% and emergency department visits up to 50% [7].

Different finding encourage compliance with hypertension self-care practice such as weight reduction, smoking cessation, low salt diet, and physical activity can contribute

to controlling blood pressure [8, 9]. A clinic based study in rural area of Singur, West Bengal revealed that primary level education, poor socio economic status, widow/separated and people with self-perceived poor health status had significant association with unfavorable self-care practices [10].

Another study in Saudi Arabia showed that awareness, Knowledge and self-management practices were found to be significantly poor among old age groups (above 50 years), males and less educated patients [11].

Although different treatment option present to manage hypertension, hypertension control is still poor, with less controlled blood pressure witnessed. Hypertension self-management behaviors comprising medication adherence, self-blood pressure monitoring, and lifestyle modifications involving diet, exercise, and tobacco are critical components of recommended hypertension treatment and have been associated with significant improvements in hypertension control [12].

Most of the studies conducted identifies medication adherence alone, but limited study on importance of self-care that is essential in controlling hypertension. Considering this current study aims to assess level of self-care practice and the factors associated among hypertensive patients in Jimma University Specialized Hospital, South West Ethiopia, 2016.

## 2. Methods

### 2.1. Study Design, Period and Setting

An institution based cross sectional study was conducted between March to May, 2016. The study was conducted in Jimma University Specialized Hospital which is found in Jimma town, Ethiopia. As one of the outpatient services, the hospital has specialty clinics where patients with specific chronic disease are referred for follow-up. Hypertension clinic is one of those clinics which give service for patients with hypertension disorder.

### 2.2. Study Population, Sample Size and Sampling Procedure

The study population were hypertensive patients whose aged greater than 18 years and put on treatment for at least 3 months in hypertension clinic of Jimma University Specialized Hospital.

The sample size was determined using a single population proportion formula by assuming that 50% proportion of the patients practiced self-care practice with 95% confidence interval and 5% margin of error. Using population correction formula because the source population is less than ten thousand and adding 10% non-response rate the sample size was 322.

The study participants were selected using simple random sampling technique by considering the total adult hypertensive follow-up patients which are 1342 in Jimma University Specialized Hospital as sampling frame. First of all the list of patients was obtained from the registration books of the patients registered for follow up in hospitals and study subjects were selected by lottery method.

### 2.3. Data Collection Tools

Data were collected using structured questionnaire prepared in local language after reviewing different literatures. The questionnaire covered a range of topics including sociodemographic factors and self-care practice question. Level of self-care practice was assessed by 12 questions which were 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 Joint National committee-7 (JNC 7) [[13]]. Level of self-care practice was classified as a 'good practice' and 'poor practice'. Respondents were labeled to have "good" 'self-care practice if they scored above the mean in all recommended self-care questions.

### 2.4. Data Collectors and Quality Control

The data was collected by five nurses working in Jimma University Specialized Hospital other than chronic illness department through face to face interview and record review. A training of 2 days was given to recruited data collectors and supervisors. The training mainly focused on equipping the trainees with information about the objective of the study, techniques of interview, collection of data, and relevant ethical issues. The data collection tool was pretested on 5% of the study subjects in other hospitals. During the pre-test, the acceptability and applicability of the procedures and tools were evaluated. All questioners were regularly checked for completeness, clarity, and consistency by the respective supervisors.

### 2.5. Data Processing and Analysis

Data was edited and entered using Epidata 3.1 version then exported to SPSS version 20 for analysis. Frequency distribution was used to organize the data and present the responses obtained. Moreover bivariate logistic regression was done to examine the association between dependent and independent variables. After running bivariate logistic regressions, all variables with  $p < 0.25$  was considered as a candidate for the final model and corresponding p-value of  $< 0.05$  was considered as statistically significant. Adjusted odds ratio at 95% CI was considered to declare the independent effect of independent variables on the outcome. Finally, results were presented using charts and tables.

### 2.6. Ethical Standards Disclosure

The study was reviewed and approved by Jimma University, College of Health and Medical Sciences, Institutional Health Research Ethical Review Committee. Written consent was obtained from each patient before initiation of data collection. To maintain confidentiality of information names and other identifiers were not used in the questionnaire

## 3. Results and Discussion

From a total sample 322 participants were interviewed yielding 98% response rate. More than half were in age

group 41-60 year 171 (53.1%), male 176 (54.7%) and 214 (66.5%). Regarding the educational status those who can read and write accounts about 248 (77%). (Table 1)

**Table 1.** Socio demographic characteristic of hypertensive patients in Jimma University Specialized Hospital, March to April 2016 (n=322).

Variable	Profile	Frequency	
		N	%
Age	18 – 40 years	69	21.4
	41 – 60 years	171	53.1
	>=60 years	82	25.5
Sex	Male	176	54.7
	Female	146	45.3
Religion	Muslim	183	56.8
	Orthodox	120	37.3
	Protestant	15	4.7
	Other	4	1.2
Ethnicity	Oromo	214	66.5
	Amhara	49	15.2
	Dawuro	28	8.7
	Yem	21	6.5
	Others	10	3.1
Marital status	Married	284	88.2
	Single/widowed/divorced	38	11.8
Education	Cannot read and write	74	23
	Can read and write	248	77
Occupation	Unemployed	183	56.8
	Employed	139	43.2
Monthly income (in Birr)	< 1000	191	59.3
	>=1000	131	40.7

### 3.1. Level of Self-care Practice Among Hypertensives Patients

In this study only 44.7% hypertensive patients had good self-care practice to control their blood pressure. Of the study participant involved in this study about 40.4% of patients were taking their medication regularly. (Table 2).

**Table 2.** Distribution of hypertensive patients about habit of doing self-care practice in Jimma University Specialized Hospital, March to April 2016 (n=322).

Self-care practices question		Responses	Frequency	
			N	%
Taking Medication regularly		yes	130	40.4
		No	192	59.6
Smoking		Yes	9	2.8
		No	313	97.2
Alcohol drinking		Yes	15	4.7
		No	307	95.3
Dietary habit	Fat meal intake	Yes	59	18.3
		No	263	81.7
	Fast food intake	Yes	153	47.5
		No	169	52.5
	Salt diet intake	Yes	95	29.5
		No	227	70.5
	Vegetables intake	Yes	107	33.2
		No	215	66.8
Monitoring blood pressure		Yes	80	24.8
		No	242	75.2
Physical exercise		Yes	247	76.7
		No	75	23.3
Try to have weight loss		Yes	263	81.7
		No	59	18.3
Using Measure to reduce stress		Yes	191	59.3
		No	131	40.7
Have enough sleep		Yes	75	23.3
		No	247	76.7
Over all self-care practice		Good	144	44.7
		Poor	178	55.3

### 3.2. Factors Associated with Self-care Practice Among Hypertensive Patients

Logistic Regression was used aiming at identifying associated factors of self-care practice. Age, sex, marital status, occupation, educational status, monthly income, duration of illness, BMI, co-morbidity status and history of medication side effects were entered into the final model. According to the result of the multivariable analysis occupation, educational status and co-morbidity were independent factors of self-care practice among hypertensive patients.

Employed patients were 2.03 more likely to have good self-care practice (AOR=2.03, 95% CI: 1.16, 3.55) than unemployed patients. On the other hand, hypertensive patients who can read and write were 3.73 times more likely to practice good self-care activities (AOR=3.73, 95% CI: 1.84, 7.57) as compared to those who were not able to read and write. Patients with co-morbidity were 50% less likely to practice self-care activities (AOR=0.5, 95% CI: 0.29, 0.88) as compared to those without co-morbidity. (Table 3).

**Table 3.** Factors affecting level of self-care practice among hypertensive patients in Jimma University Specialized Hospital, March to April 2016 (n=322).

Variable	Self care practice		Crude OR (95% CI)	Adjusted OR (95% CI)
	Good	Poor		
Sex				
Male	79	97	1.015 (0.653, 1.578)	0.661 (0.375, 1.166)
Female	65	81	1	1
Age				
18 – 40	37	32	1	1
41 – 60	66	105	0.544 (0.309, 0.956)	0.550 (0.289, 1.046)
>=60	41	41	0.865 (0.455, 1.642)	1.437 (0.659, 3.131)
Marital status				
Married	128	156	1.128 (0.569, 2.238)	0.862 (0.388, 1.913)
Single/separated	16	22	1	1
Occupation				
Unemployed	62	121	1	1
Employed	82	57	2.808 (1.779, 4.430)	2.032 (1.162, 3.552)*
Educational status				
Illiterate	17	57	1	1
Literate	127	121	3.519 (1.939, 6.388)	3.730 (1.837, 7.576)*
Monthly income				
< 1000	74	117	1	1
>=1000	70	61	1.814 (1.157, 2.846)	1.271 (0.729, 2.217)
Duration of illness				
< 5 years	102	115	1	1
>=5 years	42	63	1.330 (0.829, 2.135)	0.659 (0.386, 1.126)
Body Mass Index				
< 18	11	8	1	1
18 -24.99	102	126	0.589 (0.228, 1.518)	0.528 (0.187, 1.489)
25 -29.99	26	39	0.485 (0.172, 1.368)	0.492 (0.157, 1.540)
>=30	5	5	0.727 (0.156, 3.386)	0.549 (0.102, 2.952)
Co-morbidity				
Yes	46	86	0.502 (0.31, 0.793)	0.503 (0.2886, 0.885)*
No	98	92	1	1
History of medication side effects				
Yes	17	35	0.547 (0.292, 1.024)	0.682 (0.333, 1.397)
No	127	143	1	1

\*p-value<0.05

The current study was undertaken to highlight the level of self-care practice and associated factors among hypertensive population. In this study 46.7% of the participants had good self-care practice. This figure is high when compared to study conducted in Durame and Nigist Elleni Mohamed Memorial General Hospitals, SNNPR, Ethiopia which was 27.3% [14] and this difference may be due to educational back ground of patients and level of awareness about benefits

of self-care practice. Another study conducted in North Carolina revealed similar prevalence rates of recommended hypertension self-care activities were greater than 50% for behaviors related to medication adherence, physical activity, not smoking, and alcohol abstinence [15]. In contrary to this finding another study conducted in Mumbai shows a high proportion of unfavorable self-practice, as it is conducted in a slum [16] this difference might be due to cultural and

geographical variation.

Results from multiple logistic regression analysis showed that occupational status, educational status, and co morbidity were significantly associated with self-care practice. The results of the analysis showed employed patients was 2.03 more likely to practice self-care activities compared to unemployed and this finding is comparable with another study conducted in West Bengali with (OR-2.4). This could be due to individuals who have no occupation could face to manage their self-care activities properly and could not get favorable setups to do physical exercise.

Regarding educational status those Patients who can read and write was 3.7 more likely to practice self-care activities compared to those who are unable to read and write and this finding is similar with study conducted in West Bengal and in Saudi Arabia found that self-management practices were significantly poor among less educated [11, 14]. This might be individuals who have better level of education know more about self-care management activities.

In this study patient with co-morbidity was 50% less likely to practice self-care activities (AOR=0.5, 95% CI: 0.2886, 0.885) compared to patients without comorbidity and this is in line with study conducted in south Ethiopia and Addis Ababa Black Lion Hospital [14, 17]. This might be comorbidities can worsen the conditions of the patient and make them unable to adhere to self-care activities.

## 4. Conclusion

This study revealed level of self-care practice is below average among the hypertensive patients. Occupation, educational status, and comorbidity were factors significantly associated with level of self-care practice. Hypertensive patients with low socioeconomic status, no formal educational attainment and with co-morbidity needs special attention to improve their self-care practice in order to control high blood pressure.

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## Author Contributions

Anwar Abdulwahed conceived and designed the study, interpreted the data and drafted the manuscript. Anwar Seid helped in literature searches, provided critical review and comments on the manuscript. All authors contributed toward data analysis and critically revising the paper.

## Disclosure

The authors declare that they have no conflicts of interest.

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