SELF-CARE BEHAVIOR AND ASSOCIATED FACTORS AMONG ADULT HYPERTENSIVE PATIENTS ATTENDING JIMMA UNIVERSITY SPECILIZED HOSPITAL, SOUTHWEST ETHIOPIA, 2016

BY:

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COLLEGE OF HEALTH SCIENCE

DEPARTMENT OF NURSING AND MIDWIFERY

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Abstract

***Background**: Hypertension remains one of the most important preventable contributors of morbidity and mortality. Self-care behavior, a key concept in health promotion, refers to decisions and actions that an individual can take to cope with a health problem or to improve his or her health. In Ethiopia Studies on self-care behaviors are limited this study may be an input.*

***Objective**: To assess self-care behavior and associated factors among adult hypertensive patients attending Jimma university specialized hospital, 2016.*

***Method:** Institutional based cross-sectional study was conducted on 330 hypertensive patients who have follow-up at JUSH chronic illness follow-up clinic from March 09 to April 13, 2016. The participants were selected using systematic sampling method. Self-care behaviors were measured using the H-SCALE (Hypertension Self-Care Activity Level Effects), which was developed to assess the behavioral activities recommended for optimal management of high blood pressure. Data were collected by interviewing participants during exit time and reviewing their medical records. The data analyzed using SPSS version 20.0. Descriptive statics, and bivariable and multivariable logistic regression were done.*

***Results-**More than half (59.4%) of participants reported adhering to medication recommendations and 52.7% of subjects were physically active. Following practices related to weight management was less frequent, (33.6%) and adherence to low-salt diet recommendations was also low (32.1%). Majority were nonsmokers (94.8%) and 86.4% abstained from alcohol. Participants who adhere to medication more likely older 3.2 (95% CI 1.53, 6.73). Females 2.11 (95% CI 1.23, 3.59) times were more likely to adhere to low salt. Females were 40% (95% CI 0.39, 0.94) less likely to adhere to exercise.*

Conclusion and recommendation

Hypertensive still face challenges related to hypertensive self-care behaviors particularly weight management, low salt intake and exercise Patients with shorter history of hypertension, younger and being males have lower self-care behaviors. All health professionals and the hospital should pay more attention to patients recently diagnosed with hypertension as well as younger and male patients.

***Key Words:** self-care behavior, hypertension, Jimma University teaching hospital, Ethiopia*

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Table of Contents pages

Abstract I

Acknowledgments II

Acronyms VI

List of tables VII

List of figures VIII

CHAPTER ONE: INTRODUCTION 1

1.1 Background 1

1.2 Statement of the Problem 2

1.3. Significance of the Study 4

CHAPTER TWO: LITERATURE REVIEW 5

2.1. Socio-Demographic Characteristics 5

2.2. Physical Exercise 5

2.3. Weight Management Practice 6

2.4. Alcohol Abstaince 6

2.5. Smoking 7

2.6. Salt Intake 7

2.7. Medication Adherence 8

2.8. Disease Related Characteristics 8

2.9. Knowledge Related Characteristics 8

2.10. Conceptual Framework 10

CHAPTER THREE: OBJECTIVES OF THE STUDY 11

3.1 General Objective 11

3.2 Specific Objective 11

CHAPTER FOUR: METHODS AND MATERIALS 12

4.1 Study Area and Period 12
4.2 Study Design 12
4.3 Population 12
4.3.1 Source Population 12
4.3.2 Study population 12
4.3.3 Inclusion and Exclusion Criteria 12
4.3.3.1 Inclusion Criteria 12
4.3.3.2Exclusion Criteria 13
4.4 Sample Size and Sampling Technique 13
4.5. Measurement and Variables 14
4.5.1 Variables 14
4.5.1.1 Dependent Variables 14
4.5.1.2 Independent Variables 14
4.5.2. Data Collection Instrument 15
4.5.3. Data Collection Procedure 15
4.6 Data Processing, Analysis and Presentation 16
4.7 Data Quality Assurance 16
4.8 Operational Definitions and Definition of Terms 17
4.10. Dissemination Plan 18
CHAPTER FIVE: RESULTS 19
5.1. Socio Demographic Characteristics 19
5.2. Disease Related Factors 20
5.3. Knowledge Related Factors 21
5.4. Medication Related Characteristics 22
5.5. Proportions of Self-Care Behaviours 22

5.6. Factors Related to Self-Care 23
CHAPTER SIX: DISCUSSIONS 29
Strength and Limitations 35
Strengths 35
Limitations 35
CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS 36
Conclusions 36
Recommendations 36
References 38
Annexes 45
I. Patient Information Sheet 45
II. Patient Informed Consent form 46
III. Questionnaire English Version 47

Acronyms

BP – Blood Pressure

BMI – Body Mass Index

CHD – coronary heart disease

CVD – coronary vascular disease

DM – Diabetes Mellitus

DBP – diastolic blood pressure

JUTH – Jimma University Teaching Hospital

JNC7-seventh joint national committee

NCD- non-communicable diseases

SBP – systolic blood pressure

SPSS – statistical Package for the Social Sciences

List of tables

Table 1: Frequency distribution of socio demographic characteristics of hypertensive patients on treatment at JUSH from March 9, 2016 to April 13, 2016. 19

Table 2: comorbidity and duration of hypertension of hypertensive patients on treatment at JUSH, 2016. 20

Table 3: Participants' response on self-care behavior questions at JUSH, 2016. 21

Table 4: Frequency of complications mentioned by hypertensive patients on treatment at JUSH from March 9, 2016 to April 13, 2016 22

Table 5: Frequency of number of drugs taken by hypertensive patients on treatment at JUSH, 2016. 22

Table 6: Associations between demographic and health characteristics and medication adherence of hypertensive patients on treatment at JUSH, 2016. 24

Table 7: Associations between demographic and health characteristics and low salt diet adherence of hypertensive patients on treatment at JUSH, 2016. 25

Table 8: Associations between demographic and health characteristics and alcohol abstaince of hypertensive patients on treatment at JUSH, 2016. 26

Table 9: Associations between demographic and health characteristics and weight management practice of hypertensive patients on treatment at JUSH, 2016. 27

Table 10: Associations between demographic and health characteristics and physical exercise of hypertensive patients on treatment at JUSH, 2016 28

Table 11: Associations between demographic and health characteristics and non-smoking of hypertensive patients on treatment at JUSH, 2016. 28

List of figures

Figure 1 a conceptual framework of the study developed after searching different literatures... 10

Figure 2 self-care activities of participants at JUSH from March 9 to April13..... 23

CHAPTER ONE: INTRODUCTION

1.1 Background

Hypertension is defined as a systolic blood pressure greater than 140 mm Hg and a diastolic pressure greater than 90 mm Hg based on the average of two or more accurate blood pressure measurements taken during two or more contacts with a health care provider (1). Self-care behavior, a key concept in health promotion, refers to decisions and actions that an individual can take to cope with a health problem or to improve his or her health (2).Hypertension is one of the most significant risk factors for cardiovascular disorders (3-11).

Blood pressure (BP) values increase with age and persistently elevated BP value is very common among the elderly. The lifetime risk of developing hypertension among those 55 years of age and older who are normotensive is 90 % (12). For most patients (90%) hypertension results from unknown pathophysiological etiologies and around 10% of hypertensive cases have a specific cause (13, 14).

Lifestyle modification (regular exercise, smoking caseation, moderation of alcohol, adequate fruit intake and low salt intake), regular use of anti-hypertension medication, and regular blood pressure checkup are the important aspects self- care behavior (6, 10, 11).

Self-care behaviors are critical for the prevention of high BP and are an indispensable part of the management of those with hypertension (6). Scientific studies have consistently demonstrated that a modest reduction in salt intake lowers blood pressure in people with hypertension (6, 11). Weight loss can lower blood pressure, increase the efficacy of antihypertensive medication and improve cardiovascular risk factor, and 30 minutes physical activity most day of the week contributes to weight loss and reduces the risk of cardiovascular disease (CVD) and the overall mortality. Elimination of alcohol is very important part of self-care behavior because alcohol is a risk factor for hypertension, contributes excess calories, can reduce efficacy of antihypertensive medications and increase the risk of stroke (11).

Increasing awareness and diagnosis of hypertension, and improving control of blood pressure with appropriate treatment, are considered critical public health initiatives to reduce cardiovascular morbidity and mortality (15).

1.2 Statement of the Problem

Developing countries are increasingly faced with the double burden of none communicable chronic diseases (NCDs) including hypertension and other cardiovascular diseases, along with infection and malnutrition (6, 19-24). Hypertension remains one of the most important preventable contributors to disease and death (4, 25). The prevalence of hypertension continues to increase worldwide (2, 8, 19, 20). Its prevalence worldwide is projected to increase from approximately 1.0 billion in 2000 to 1.5 billion by 2025 (2). In addition to this the global prevalence of hypertension in 2014 is 22% (26), almost three-quarters of people with hypertension live in developing countries (12).

In African the prevalence of hypertension among adults aged 25 and older is 46% (27). Where there is limited health resource and where people have a very low awareness of hypertension and poor blood pressure control (28). In Ethiopia comparable estimates of prevalence of raised blood pressure (population aged 18+ years), in 2010 is 30.4 (26). Approximately 30%, 27.9%, and 22.4%, of adults in Addis Ababa, Gonder, and Durame, respectively have hypertension, BP above 140/90 mmHg (29, 30, 31).

Uncontrolled hypertension is a major risk factor to coronary heart disease, acute myocardial infarction, peripheral vascular disease, stroke, congestive heart failure and renal failure (12, 17, 32, 33). Globally cardiovascular disease accounts for approximately 17 million deaths a year (34), of which, complications of hypertension account for 9.4 million deaths. Hypertension is responsible for at least 45% of deaths due to heart disease (total ischemic heart disease mortality is shown), and 51% of deaths due to stroke (34). Despite the availability of effective therapies, hypertension control remains elusive (8, 11, 25, 37).

Many modifiable factors contribute to the high prevalence rates of hypertension. They include eating food containing too much salt and fat, inadequate intake of fruits and

vegetables, overweight and obesity, harmful use of alcohol, physical inactivity, psychological stress, socioeconomic determinants, and inadequate access to health care (26).

Worldwide, detection, treatment and control of hypertension are inadequate, owing to weaknesses in health systems, particularly at the primary care level. In 2013 the world health assembly adopted comprehensive nine voluntary global targets for 2025. A 25% relative reduction of cardiovascular disease and a 25% reduction in prevalence of raised blood pressure were among the targets. In order to achieve these targets, population-wide policies and interventions are required to address these modifiable risk factors (26).The major approach that may improve blood pressure (BP) control is patients' involvement in their own care(40, 41).

The overall goal of treating hypertension is to reduce hypertension-associated morbidity and mortality (6, 13, 14). Scientific studies have consistently shown the health benefits of lowering blood pressure through population-wide and individual (behavioral and pharmacological) interventions (16−18). For instance, a reduction in systolic blood pressure of 10 mmHg is associated with a 22% reduction in coronary heart disease and 41% reduction in stroke in randomized trials (17), and a 41–46% reduction in cardiometabolic mortality (18) in epidemiological studies.

Despite the benefits of evidence-based hypertension self-care behaviors in improving BP, hypertensive patients generally have low compliance with the suggested self-care behaviors. In developing countries although studies on the prevalence, awareness, and treatment of hypertension have been widely reported recently, (42–44).

Despite recent evidences that indicate hypertension and elevated blood pressure are increasing partly because of the increase in risk factors including smoking, obesity, and harmful use of alcohol and lack of exercise (8, 11, 46). To our knowledge studies related to self-care behavior among hypertensive patients in Africa and Ethiopia are limited, thus the aim of the study is assessment of self-car behavior and associated factors among hypertensive patients attending chronic illness follow-up clinic of JUTH.

1.3. Significance of the Study

Though, self-care behavior in hypertensive patient is vital studies related this area is limited in Ethiopia. Thus, this study will be an input.

The output of this study can provide information for health planners for developing policies on support for self-care that suggest what practical action can be taken, and provide ideas on how to support self-care.

It can also help patients and health care providers to gain a better understanding about the self-care behavior of hypertensive patients. Moreover it will have also a great relevance on minimizing hospitalization and improving the quality of life of the hypertensive patients.

It also informs health care providers about the status of care and initiates their motivation to improve the level of hypertensive care. Eventually it serves as a base line for further research

CHAPTER TWO: LITERATURE REVIEW

Hypertension is the largest risk factor for cardiovascular diseases, growing in prevalence and poorly controlled virtually everywhere (5, 47, 48, 49). Controlled blood pressure prevents cardiovascular risks (5, 49, 50). Adoption of healthy lifestyles by all persons is critical for the prevention of high BP and is an indispensable part of the management of those with hypertension (6).

2.1. Socio-Demographic Characteristics

The variables mostly identified by literatures which are associated to self-care behaviors are age, gender, BMI, co morbidity, medication adherence, alcohol, smoking, physical activity, weight management and salt intake.

Age and sex are among the most common socio-demographic characteristics of a patient that can predict adherence to self-care behavior. A number of studies in America and china have shown that older age and female gender were associated to self-care behaviors in patients with hypertension (40, 41). Another study conducted in Israel showed age was associated to self-care behavior but sex and educational status did not have significant effect on self-care behavior (51). Study done in Kenya showed more men smoked and consumed alcohol than female (9).over weight and obesity were another variable which associated with self-care behavior. Studies done in Israel and Korea showed BMI greater than 25 were 24% and 49% respectively (51, 52). Similar study done in Kenya 63% of women and 34.8% of men were overweight and obese (9).

2.2. Physical Exercise

Regular aerobic exercise can help reduce blood pressure (3, 6). Different scientific studies reported different effect of physical activity on blood pressure control. Everyone who is able should engage in regular aerobic physical activity such as brisk walking at least 30 minutes per day most days of the week (6). A clinical trial study conducted in Korean Americans middle age of the population at base line data 13.3% of the participants were engaged in physical exercise (five or more days per week)(52). A cross sectional study which was conducted in china and 186 African Americans hypertensive patients 51.9%, 52.2% of the participants respectively involved in physical activities (40, 41). Another study conducted in hypertensive patients of Kenya 91.8% of the

participants had adequate physical activities but in Nigeria and Ethiopia only 9.3% and 36.3% of the participants respectively had adequate physical activity (9, 53, 62). Studies done in China and India showed gender and age were associated to physical exercise respectively (40, 64).

2.3. Weight Management Practice

Weight loss of as little as 10 lbs (4.5 kg) reduces BP and/or prevents hypertension in a large proportion of overweight persons, although the ideal is to maintain normal body weight (6).A cross sectional study conducted in 186 hypertensive African Americans 30.1% of the participants were engaged in weight management practice (41). Another study conducted in Nigeria showed 13% of the participants respectively were adherent to weight management (53). Systematic review of life style factor and the prevention of hypertension in Iran showed almost all clinical trial studies on weight management and their BP level were associated, every 1% decrease in body weight lowers systolic blood pressure by an average of 1 mmHg (68). However, in JUTH weight management practice not assessed and this study assessed weight management practice using standard tool.

2.4. Alcohol Abstaince

Alcohol intake should be limited to no more than 1 oz (30 ml) or 3 unit ethanol, the equivalent of two drinks per day in most men and no more than 0.5 oz (one drink) per day in women and lighter weight persons(6). Survey conducted in 556 Australia hypertensive patients 52.7% of the participants' drunken alcohol (61). Another cross sectional study conducted in China and African Americans showed 77.9% and 65% of the participants respectively abstain from drinking alcohol (40, 41). Clinical trial study conducted in Korean Americans at the base line data alcohol intake (greater than ten drinks per week) of the participants was 4.3 %(52). However this study does not include all adult age. Another study conducted in Kenya 84.8% of the participants was low alcohol consumer (9). Population based survey study on hypertensive risk factors done in Ethiopia (gilgel gibe) among 303 hypertensive patients 12.5% of the participants' drunk alcohol and study done Jimma university specialized hospital chronic illness follow up clinic 89.2% participants were compliant with instructions about alcohol

consumption (54, 62). Studies done in China, African Americans and India showed gender and age were associated with alcohol consumption (40, 41, 64). In addition study done in African Americans showed duration of hypertension and marital status were associated to alcohol consumption (41).

2.5. Smoking

Studies conducted in, China, , US African Americans, Israel, Korea and Australia revealed 22.7%, 20.8%, 13%,11.1% and 25.3%, of the hypertensive participants respectively were smokers (40, 41. 51, 52, 61). Another study conducted in Kenyan and Nigerian hypertensive participants 20.3%, 27.8% were smokers respectively (9, 65). Though the proportion of smokers among hypertensive patients is low in Ethiopia (5% among males and 4.5% among females) (54), it is as high as 52% among Sudanese (55). Studies done in Ethiopia revealed cigarette smoking and khat chewing were associated with high blood pressure (54, 56, 57). Study done in African Americans showed gender, age, duration of hypertension and educational status were associated to smoking (41).

2.6. Salt Intake

High salt diets are also associated with high blood pressure (3, 11). For which dietary sodium should be reduced to no more than 100 mmol per day (2.4 g of sodium) (6). A study conducted in China showed 81.1% of the participants avoid salt intake while cooking and eating (40), Whereas, 39.1% of Korean American hypertensive patients ate salty food all or most of the time (52). Secondary data analysis of hypertensive patient of Israel 45% of the participants follows special diet (low calories, low fat, salt free etc.) (51). A cross sectional study which was done in African Americans 22% of the participants experienced low salt intake (41). In Ethiopia, study had done in Jimma University Specialized hospital showed from 314 hypertensive patient 54.8% were not having salt restriction (62). Studies done in China showed gender and age were associated to salt intake (40). Similarly, study done in African Americans showed duration of hypertension were associated with salt intake (41).

2.7. Medication Adherence

Poor adherence to antihypertensive medication is one possible reason why success in clinical trials has not been translated into everyday practice. Despite many years of study, questions remain about why patients do or do not take medicines and what can be done to change their behavior. A cross sectional study conducted from Beijing, china and African Americans from the study participants 61.3%, 58.6% of hypertensive patients were adherent to their antihypertensive medication respectively (40,41). Cross sectional study conducted in Democratic republic of Congo from the study participant's medication adherence to prescribed medication were 46.8% (60). In Ethiopia a study done in Gondar university and Jimma University chronic disease clinic medication adherence among hypertensive patients ware 55.5% and 64.6% respectively (29, 62). Studies done in china and African Americans showed age and duration of hypertension were associated with medication adherence (40, 41). Similarly, studies done in Gondar University and Jimma university gender was associated to medication adherence (29, 62).

2.8. Disease Related Characteristics

Poor control of commorbdities in hypertensive patients contributes to significant cardiovascular morbidity and mortality. Improving control of both commorbdities and hypertension has been found very effective in reducing morbidity and mortality (46). Study done in Bangladesh among hypertensive patient participated they had developed at least one comorbidity such as coronary artery diseases, diabetes, stroke, or chronic kidney diseases (10). Another comparison cross sectional study done in Canada showed being diabetes associated with self-care behavior in the management of BP (58). Similarly, study conducted in Gondar University and JUSH showed subjects with comorbidities were non adherent to medications (29, 62).

Studies conducted in hypertensive of rural china and Korean Americans showed being hypertensive for longer duration were associated to self-care behavior (40, 59).

2.9. Knowledge Related Characteristics

Hypertensive patient knowledge about life style risk factors has its own impact on the practice of self-care behavior. Therefore, studies done in Sudan and democratic republic

of Congo showed knowledge about lifestyle risk factors were associated to self-care behavior (55, 60). Another study done in Nigeria 58% of hypertensive patients participated in the study revealed they did not have knowledge on the impact of lifestyle risk factor on blood pressure and which was associated with poor self-care behavior (53).

The major limitation of the study done at JUTH on compliance to anti-hypertensive treatment were only factors for medication compliance were analyzed by logistic regression, but factors for other lifestyle modifications like exercise, smoking, weight management, alcohol, low salt intake not analyzed using logistic regression model. The use of a multivariate procedure strengthens the internal validity of the study. The above limitations of the study was addressed by standardized measurement H-SCALE.

2.10. Conceptual Framework

The conceptual framework consists of patient related factors, knowledge on self-care activities and disease related factors. The conceptual framework developed by reviewing different literatures which are associated to self-care behaviors in hypertensive patient.

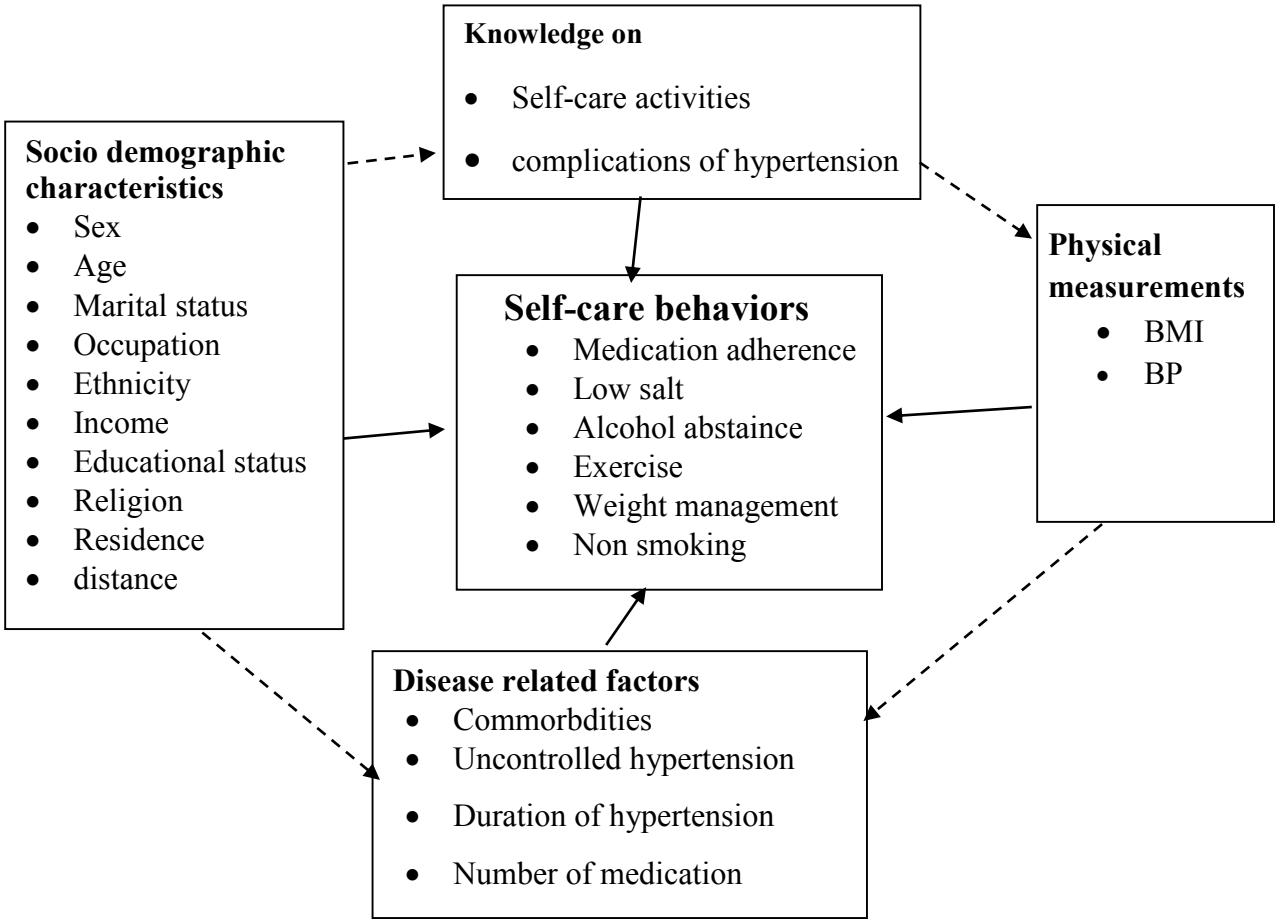

Figure 1 a conceptual framework of the study developed after searching different literatures

CHAPTER THREE: OBJECTIVES OF THE STUDY

3.1 General Objective

- ✓ To assess self-care behavior and associated factors among adult hypertensive patients attending Jimma University specialized Hospital from March 09 to April 13, 2016.

3.2 Specific Objective

- ✓ To determine level of self-care behaviors among adult hypertensive patients attending JUSH.
- ✓ To identify associated factors of self-care behaviors among adult hypertensive patients attending JUSH.

CHAPTER FOUR: METHODS AND MATERIALS

4.1 Study Area and Period

This study was conducted from March 09 to April 13, 2016 at the outpatient hypertension follow up clinic of Jimma University Specialized Hospital (JUSH). The hospital is located at 352 km Southwest of Addis Ababa, capital of Ethiopia. The hospital has catchment population of around 15 million from Oromia, Southern Nations Nationalities of Ethiopia, Gambellla and Benishangul. It is teaching and referral hospital, providing services for approximately 15,000 inpatient, 160,000 outpatient attendants, 11,000 emergency cases and 4500 deliveries in a year coming to the hospital from the catchment population of about 15 million people. It is also the training center for undergraduate and postgraduate medical students, dentists, nurses, pharmacists, and others. It has approximately 1500 clinical and non-clinical staffs. The hospital has a total of around 500 beds. A total of 21 units in the hospital and chronic follow up clinic is one of the units. Chronic follow up clinic includes hypertension, DM, heart failure, epilepsy, dermatology. A total of 9709 patients follow in the clinic from these 1782 hypertensive patients.

4.2 Study Design

A facility based cross sectional study design was conducted.

4.3 Population

4.3.1 Source Population

The source population for this study was all hypertensive patients who have follow-up in JUSH chronic illness follow up clinic.

4.3.2 Study population

The study population of the study was all sampled hypertensive patients who were on follow-up appointment at JUSH chronic illness follow-up clinic from March 09 to April 13 2016 that fulfills the inclusion criteria.

4.3.3 Inclusion and Exclusion Criteria

4.3.3.1 Inclusion Criteria

Hypertensive patients who were meeting the following criteria were included in the study:

- ✓ Hypertensive patient's ≥18 years and on follow for at least the last 6 months were recruited in the study.

4.3.3.2Exclusion Criteria

- ➢ Hypertensive patients who are seriously ill to complete interview

4.4 Sample Size and Sampling Technique

- ➢ The minimum sample size required was calculated using single proportion sample size estimating formula. For population >10000

$$n = \frac{\left(Z_{1-\alpha/2}\right)^2 P(1-P)}{d^2}$$

- ➢ Since the total population is < 10000(1782) using correction formula the final sample size will be given as:

$$n_f = \frac{N\left(Z_{1-\alpha/2}\right)^2 P(1-P)}{d^2(N-1)+\left(Z_{1-\alpha/2}\right)^2 P(1-P)}$$

- ➢ Where:

- n is minimum sample size
- P is estimate of the prevalence rate for self-care behavior and from the given self-care behaviors medication adherence gives the maximum sample size which is 0.555. this finding was reported in study done at JUSH (62)
- d is the margin of sampling error tolerated which is 0.05
- $Z_{1-\alpha/2}$ is the standard normal variable at (1-α) % confidence level and α is 5%
- Usually 95% confidence level is used = 1.96
- N total number of hypertensive patients on follow up = 1782

- ➢ Therefore n_f=313

Taking 10% of total sample size as non-response rate in to consideration the minimum sample size required for the study was 345. Systematic sampling technique was used to recruit our sample from 900 hypertensive patients who have appointment during our data collection period. The **k (**sampling interval) value was calculated by dividing 900 to 345, then **k** taken with value 2. Samples were collected by taking every 2nd patients since the **k** value of the sample was 2.The first patient was selected randomly from the first two using lottery method in the log book.

4.5. Measurement and Variables

4.5.1 Variables

4.5.1.1 Dependent Variables

Self-care behaviors

4.5.1.2 Independent Variables

- ✓ Secoidemographic profile
  - Sex
  - Age
  - Marital status
  - Ethnicity
  - Occupation
  - Income
  - Educational status
  - Religion
  - Residence
  - Distance
  - BMI
  - BP
- ✓ Knowledge on
  - Self-care behaviors
  - complications of hypertension
- ✓ Diseases related characteristics
  - Comorbidity
  - Duration of hypertension
  - Uncontrolled hypertension
  - Number of medication

4.5.2. Data Collection Instrument

For data collection the H-SCALE (Hypertension Self-Care Activity Level Effects) was used after customized to the local condition (41). The questionnaire has 6 categories of self-care activities (medication adherence, low salt intake, physical activities, smoking cessation, weight management, alcohol abstain) recommended by the JNC7. Medication adherence contains 3 items each score 7 and ranging 0-21. Low salt intake contains 9 items with each score of 7 and total score 63, and physical activity assessed by 2 items each of scoring 7 and ranging 0-14. Similarly, weight management practice contains 10 items ranging score 10-50.

From study done in United States of America all activity domains had acceptable reliability: medication usage (α = .93), physical activity (α = .82), eating a low salt diet (α = .71), and weight management (α = .90). In our study we checked reliability: medication usage (α=0.79), low salt (α = 0.72), physical activity (α = 0.83), and weight management (α = 0.89). But, for socio-demographic, comorbidity and knowledge on self-care variables questionnaires were developed by reviewing literatures.

4.5.3. Data Collection Procedure

Structured interviewer administrative questioner was used for the collection of the data. The questioner was translated in to local languages (Amharic and Afan Oromo) to solicit information on socio demographic, life style and other variables. The Amharic and Afan Oromo version was again translated back to English to check for consistency of meaning.

Data for this study were collected interviewing participants and reviewing patient medical records. Height of the participants was measured at standing upright position. Weight of participants was also measured while wearing light clothes using a secagmbh and co.kg Germany 7862021994 model portable weight scale. The average BP measurement was taken from three consecutive BP measured values. Diagnosis of commorbdities like diabetes, renal impairment, heart failure and other target organ damages were based on the confirmation of the attending physician put on the medical records. Data for this study were collected by four BSc nurses, and one senior BSc nurse was recruited as supervisor.

4.6 Data Processing, Analysis and Presentation

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 20.0. First data were checked for completeness and consistence. It was edited, cleaned, coded and entered using EPI data manager and EPI data entry client statistical software package then exported in to SPSS for analysis.

Descriptive analysis, including frequencies and percentages were done and presented in tables and figures. Bivariable logistic regression analysis was done to determine association of self-care behaviors and independent variables and also multivariable logistic regression analysis was used to determine the independent predictors of self-care behaviors. Variables having P-value less than 0.25 in the bivariable analysis were remained in the multivariable model to control the effect of confounders.

The 95% CI used to show the accuracy of data analysis. P value < 0.05 considered as statistically significant.

4.7 Data Quality Assurance

To assure data quality, 4 data collectors and 1 supervisor were recruited in JUSH from medical and surgical ward; training and orientation were given to data collectors and supervisor for one day. Pre-test was conducted from 5% of the sample before the actual data collection carried out in Jimma university specialized hospital. Based on the finding amendments and arrangements were made on the data collection tool. The principal investigator and supervisor were closely supervising the data collection process on a daily basis. At the end of each data collection days the principal investigator also checked the completeness of filled questionnaires and whether recorded information makes sense to ensure the quality of the data collected. Besides this, the principal investigator was carefully entered into epidata manager and thoroughly clears the data before the commencement of the analysis.

4.8 Operational Definitions and Definition of Terms

Self-care behavior: includes medication adherence, physical activity, and alcohol abstain, smoking cessation, low salt intake and weight management (40, 41). Subjects who score 4 and above out of 6 considered good self-care practice (67).

Medication adherent: a person who takes the recommended medication, takes at the same time and takes the recommended dose for each score of 7, and 21out of 21 considered adherent (41).

Adherent to low salt diet: 9 items with 63 total score and mean calculated, 6 and above considered adherent (person who takes salt free diet while cooking and eating for at least 6 or more days out of seven days (41).

Adherent to physical activity: a person who did at least 30 minutes total physical activity and specific exercise activity (like swimming, walking or biking) for each score of 7 and 8 or more out of 14 (41).

Alcohol abstainer: Participants who reported not drinking any alcohol in the last 7 days or who indicated that they usually did not drink at all (41).

Weight management: total of 10 items with likers scale from strongly disagree to strongly agree and adding the responses with agree (4) and strongly agree (5), who score 40 and above out of 50 will be consider as adherent (41).

Smoker: who smoke the last 7 days considered smoker (41).

Knowledge on self-care activities: there are total of 8 question which weight knowledge on self-care behaviors, those who mention four and above out of eight considered knowledgeable (51).

Knowledge on complication of hypertension: subjects asked to mention the complications of hypertension, those who mention two and above considered knowledgeable (5).

Uncontrolled Hypertension: a sustained high blood pressure (SBP≥140 or DBP ≥90mmHg) or (SBP≥130 or DBP≥80) in the presence of comorbidities (DM and CKD) (1, 6).

Obese: if a person has BMI >30kg/m2 or waist circumference > 102 cm for men and > 88 cm for women (26).

Overweight: if a person has BMI within the range from 25–29.9 kg/ m2 (26).

4.9 Ethical Consideration

Ethical clearance and approval of the study was obtained from Jimma University ethical review board, College of Health Sciences before starting the actual data collection. Subsequent permission granted from JUSH to access data and interview patients. Participation of patients in this study was entirely voluntary and confidential and private information like name and address were protected. Non participation did not affect participants' care at the clinic. Each participant was asked verbal informed consent before data collection. The right of participants to withdraw from the interview or not to participate was respected. All interviews were carried out separately to keep the patients privacy.

4.10. Dissemination Plan

The finding of the study will be submitted to the Jimma University, college of health sciences department of nursing and midwifery. The finding will be presented during thesis defense, as a partial fulfillment of Master degree in adult health nursing. The research output will be presented on different relevant scientific conferences and will also be published on peer reviewed reputable journal.

CHAPTER FIVE: RESULTS

5.1. Socio Demographic Characteristics

In this study, from a total of 345 participants 330 had complete interviewing, with response rate of 95.5%.

As shown in table 1 *below* 174 (52.7%) of the participants were females. Around half (51.2%) the participants were greater than or equal to sixty years of age. Two hundred sixteen (65.5%) of the participants were married, 155 (47.0%) of the participants were Muslim and 126(38.2%) were orthodox Christian in religion (table 1).

Table 1: Frequency distribution of socio demographic characteristics of hypertensive patients on treatment at JUSH from March 9, 2016 to April 13, 2016.

Characteristics	Number (n=330) and percentage (%)
Age category	
18-40 years	71(21.5)
41-59 years	90 (27.3)
>=60 years	169 (51.2)
Gender	
Female	174(52.7)
Male	156(47.3)
Marital status	
Single	10(3.0)
Married	216(65.5)
Divorced	38(11.5)
widowed	66(20.0)
Educational level	
Not read and write	139(42.1)
Primary education(1-8grade)	100(30.3)
Secondary education(9-12 grade) and above	91(27.6)
Religion	
Muslim	155(47.0)
Orthodox	126(38.2)
Protestant and others	49(14.8
occupation	
House wife	82(24.8)
Government employee	74(22.4)
Farmer	74(22.4)
Retired and jobless	52(15.8)
Merchant	38(11.5)
NGO employee	10(3.0)

Ethinicity	
Oromo	186(56.4)
Amhara	43(13.0)
Kaffa	35(10.6)
Dawro	36(10.90
Other(Yem, Guragie and Siltie)	30(9.1)
Residence	
Urban	191(57.9)
Rural	139(42.1)
Income(birr)	
<500	51(15.5)
500-999	119(36.0)
>=1000	160(48.5)
BMI	
18.5-24.99	217(65.5)
25-29.9&>=0	113(34.5
Distance(km)	
<5	158(47.9)
>=5	172(52.1)

5.2. Disease Related Factors

Out of 330, 198 (60.0%) participants were without evidence of commorbdities, but 115 (34.8%) with one and 17 (5.2%) with two or more commorbdities. Commorbdities like DM, CKD (chronic kidney disease) and peripheral neuropathy were majorly identified. More than half (56.7%) of the participants had lived with hypertension for less than 10 years. The prevalence of uncontrolled hypertension was 52.7% (table 2).

Table 2: comorbidity and duration of hypertension of hypertensive patients on treatment at JUSH, 2016.

Characteristics	Number (N=330) and percentage (%)
Presence of commorbdities	
None	198(60.0)
One or more	132(40.0)
Duration of hypertension	
<10 year	187(56.7)
>=10 year	143(43.3)
Hypertension	
uncontrolled	174(52.7)
controlled	156(47.3)

5.3. Knowledge Related Factors

Around 2/3rd of participants knew the negative impact of alcohol (67.6%) and smoking (65.5), but low response on the negative effect of khat (35.5%). Table 3. Shows that 219 (66.4%) of the participant were knowledgeable on self-care behaviors, and among these 115 (52.5%) were females.

Table 3: Participants' response on self-care behavior questions at JUSH, 2016.

Knowledge on self-care behaviors (n=330)	Frequency of response (%)
Characteristics	Correct (%)
Medication is needed to treat hypertension?	317(96.1)
Being overweight is risk to raise blood pressure	217(65.8)
Salt consumption raises blood pressure?	234(70.9)
Physical exercise helps reduce blood pressure?	205(62.1)
Smoking cigarettes has a negative effect on persons with hypertension?	216(65.5)
Khat chewing has a negative effect -on persons with hypertension?	117(35.5)
Drinking alcohol has a negative effect on -persons with hypertension?	223(67.6)
A diet which contains fruits and vegetables is -good for a person with hypertension?	287(87.0)
The overall knowledge on self-care behavior(n=330)	
Knowledge on self-care behaviors	frequency (%)
knowledgeable	219(66.4)
not knowledgeable	111(33.6)

One hundred forty three (43.3%) of the participants knew some of the complications of hypertension like heart failure, kidney disease, eye disease and paralysis (Table 4).

Table 4: Frequency of complications mentioned by hypertensive patients on treatment at JUSH from March 9, 2016 to April 13, 2016

Knowledge on complication(n=330)	
Characteristics	
Number of Complications mentioned	frequency (%)
0(I don't know)	19(5.8)
1	168(50.8)
2	69(20.9)
3	48(14.5)
4	17(5.2)
5	9(2.7)
Overall knowledge on complication(n=330)	
Knowledge on complications	frequency (%)
Knowledgeable	143(43.3)
Not knowledgeable	185(56.7)

5.4. Medication Related Characteristics

Regarding the medication taken, 41 (12.4%) of the subjects have been taking only one drug while 43.9% and 43.6% of them were on two and three and above drugs, respectively.

Number of drugs taken (n=330)

Table 5: Frequency of number of drugs taken by hypertensive patients on treatment at JUSH, 2016.

Number of drugs	frequency (%)
1	41(12.4)
2	145(43.9)
3 and above	144(43.6)

5.5. Proportions of Self-Care Behaviours

One hundred seventy five (53%) of the participants were adhered to four and above out of six self-care behaviors. The proportions rates of individual hypertension self-care behaviors showed 32.1% of the participants reported low salt intake, 33.6% of participants followed good weight management practices, 86.4% of the participants abstained from drinking any alcohol, 94.8% of participants were nonsmokers. More than half of the participants (59.4%) reported being adherent to their anti-hypertension

medication protocols and 52.7% of the subjects were engaged in physical exercise on most days of the week. (Figure 2).

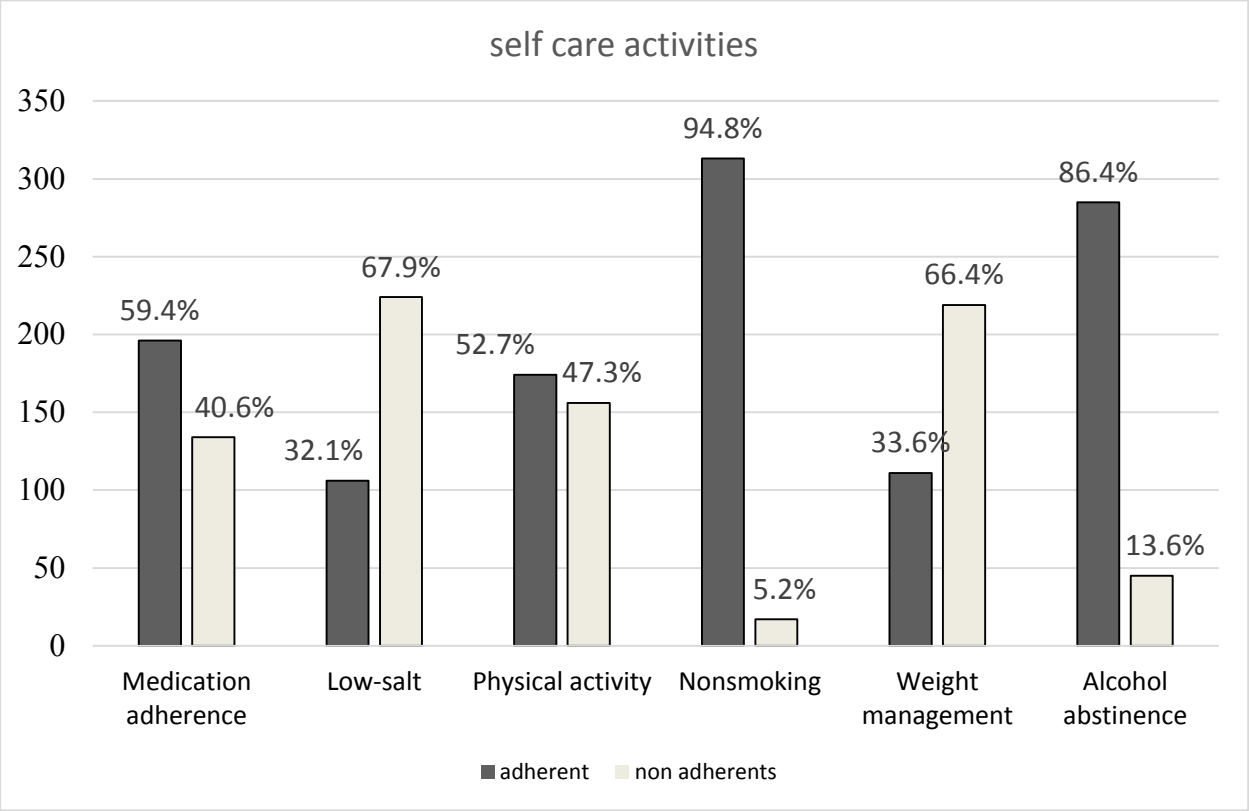

Figure 2 self-care activities of participants at JUSH from March 9 to April13

5.6. Factors Related to Self-Care Behaviours

Using bivariate logistic regression analyses, adherers and non-adherers in each of the hypertension self-care behaviors were compared using the demographic and health-related characteristics. Further multivariate logistic regression was done.

Factors Related to Medication Adherence

Participants who were 65 years and above were 3.21(95% CI1.53-6.73) times more likely adherent to their antihypertensive medications than age group between 18 and 40, those who lived with the condition for 10 and above years were 12.81(95% CI 6.32-25.95) times more likely adherent to antihypertensive medications than subjects with less than 10 years duration of hypertensive. Subjects with one or more comorbidities were 2.14 (95% CI 1.12-4.09) times more likely adherent to their medication than those with no commorbdities and who were knowledgeable about self-acre behaviors were

2.44(95% CI 1.29-4.61) times more likely adherent to their antihypertensive medications (table 8).

Table 6: Associations between demographic and health characteristics and medication adherence of hypertensive patients on treatment at JUSH, 2016.

Predictors	Medication		COR (95% CI)	AOR(95%CI)	p
	Non adherent	adherent			
Age					
18-40	47(35.1)	24(12.20	(1)	(1)	
41-59	45(33.6)	45(23.0)	1.96(1.03,3.72)*	1.53(.70,3.33)	0.284
>=60	42(31.3)	127(64.8)	5.92(3.24,10.82)*	3.21(1.53,6.73)**	0.002
Gender					
Male	79(59.0)	77(39.3)	(1)	(1)	
Female	55(41.0)	119(60.7)	2.22(1.42,3.47)*	1.21(0.66, 2.23)	0.535
marital status					
Others	40(29.9)	74(37.8)	(1)	(1)	
Married	94(70.1)	122(62.2)	0.70(0.44,1.12)	0.88(0.46, 1.66)	0.684
BMI					
18.5-24.99	95(70.9)	122(62.2)	(1)	(1)	
25-29.99& >=30	39(29.1)	74(37.8)	1.48(0.922,2.37)	1.33(0.72, 2.44)	0.362
Duration of Htn					
<10 years	120(89.6)	67(34.2)	(1)	(1)	
>=10 years	14(10.4)	129(65.8)	16.50(8.83,30.90)*	12.81(6.32,25.95)**	<0.0001
Commorbdities					
None	94(70.1)	104(53.1)	(1)	(1)	
One and above	40(29.9)	92(46.9)	2.08(1.31,3.31)*	2.14 (1.12,4.09)**	0.021
Knowledge on complication					
Not knowledgeable	90(67.7)	95(48.7)	(1)	(1)	
Knowledgeable	43(32.3)	100(51.3)	2.20(1.39,3.49)*	1.41(0.76, 2.62)	0.272
Knowledge on self-care behaviors					
Not knowledgeable	58(43.3)	53(27.0)	(1)	(1)	
Knowledgeable	76(56.7)	143(73.0)	2.06(1.29,3.28)*	2.44(1.29,4.61)**	0.006

*significant at p<0.05, **independent predictor at p<0.05, COR-crud odds ratio, AOD-adjusted odds ratio, Htn-hypertension

Factors Related to Low Salt

Women were 2.11(95% CI 1.23-3.59) times more likely to adhere to low salt diet than men. Adherent to low salt diet were more with subjects with primary educational level compared to those with no formal education (table 8).

Table 7: Associations between demographic and health characteristics and low salt diet adherence of hypertensive patients on treatment at JUSH, 2016.

Predictor variables	Low salt		COR (95% CI)	AOR(95% CI)	p
	Non adherent	adherent			
Age					
18-40	55(24.6)	16(15.1)	(1)	(1)	
41-59	58(25.9)	32(30.2)	1.89(.94,3.84)	1.76(0.83, 3.72)	0.141
>=60	111(49.6)	58(54.7)	1.79(.95,3.41)	1.68(0.85, 3.32)	0.139
Gender					
Male	119(53.1)	37(34.90	(1)	(1)	
Female	105(46.9)	69(65.1)	2.11(1.31,3.41)*	2.11(1.23,3.59)**	0.006
Educational level					
Not read and write.					
Primary.	96(42.9)	43(40.6)	(1)	(1)	
Secondary. and	53(23.7)	47(44.3)	1.98(1.16,3.37)*	2.37(1.33,4.20)**	0.003
above	75(33.5)	16(15.1)	0.48(0.25,0.91)*	0.54(0.27,1.09)**	0.090
BMI					
18.5-24.99	152(67.9)	65(61.3)	(1)	(1)	
25-29.99 &>=30	72(32.1)	41(38.7)	1.33(0.82,2.15)*	1.09(0.65, 1.82)	0.757
Income(birr)					
<500	27(12.1)	24(22.6)	(1)	(1)	
500-999	87(38.8)	32(30.2)	0.41(0.21,0.82)*	0.44(0.22, 0.91)	0.027
>=1000	110(49.1)	50(47.2)	0.51(0.27,0.97)*	0.77(0.38, 1.58)	0.479

*significant at p<0.05, **independent predictor at p<0.05, COR-crud odds ratio, AOD-adjusted odds ratio

Factors Related to Alcohol Abstaince

Participants who abstained from alcohol were 7.39 (95% CI 2.88-18.91) times more likely to be women than men. Older participant age range from 41 to 59 were three 2.98 (1.26, 7.03) times and greater than or equal to sixty were 6.78 (95% CI 2.61-17.65) times more likely to be alcohol abstainer as compare to younger's. Being from urban residence were 63% less likely to be alcohol abstainer 0.37 (95% CI 0.16-0.83).

Table 8: Associations between demographic and health characteristics and alcohol abstaince of hypertensive patients on treatment at JUSH, 2016.

Predictors	Alcohol abstain		OR (95% CI)	AOR (95% CI)	p
	Non adherent	adherent			
Age					
18-40	23(51.1)	48(16.8)	(1)	(1)	
41-59	12(26.7)	78(27.4)	3.12(1.42,6.83)*	2.98 (1.26,7.03)**	0.013
>=60	10(22.20	159(55.8)	7.62(3.39,17.12)*	6.78 (2.61,17.65)**	<0.0001
Gender					
Male	38(84.4)	118(41.4)	(1)	(1)	
female	7(15.6)	167(58.6)	7.68(3.32,17.79)	7.39 (2.88,18.91)**	<0.0001
Educational level					
Not read and write.	14(31.1)	125(43.9)	(1)	(1)	
Primary.	12(26.7)	88(30.9)	0.82(0.363,1.86)	1.61(0.62, 4.22)	0.331
Secondary and above	19(42.2)	72(25.3)	0 .42(.20,0.89)	1.13(0.44, 2.89)	0.804
Residence					
Urban	161(56.5)	30(66.7)	0.65(.34,1.26)	0.37 (0.16, 0.83)**	0.016
Rural	124(42.1)	15(33.3)	(1)	(1)	
Income(birr)					
<500	3(6.7)	48(16.8)	(1)	(1)	
500-999	12(26.7)	107(37.5)	0.557(0.15,2.66)	0.68(0.16, 2.85)	0.600
>=1000	30(66.7)	130(45.6)	0.27(0.08,0.93)	0.55(0.14, 2.18)	0.391
Duration of Hyperbaton					
<10 years	35(77.8)	152(53.3)	(1)	(1)	
>=10 years	10(22.2)	133(46.7)	3.06(1.46,6.42)*	1.38(0.56, 3.42)	0.483

*significant at p<0.05, **independent predictor at p<0.05, COR-crud odds ratio, AOD-adjusted odds ratio

Factors Related to Weight Management

In multivariable regression of weight management practice subjects with uncontrolled hypertension were 62 %(95% CI 0.23-0.63) times less likely to adhere to weight management practice when compared to those with controlled hypertension. But, subjects who were knowledgeable on complication of hypertension were 1.75 (95% CI 1.10-2.92) times more likely to adhere to weight management (table 11).

Table 9: Associations between demographic and health characteristics and weight management practice of hypertensive patients on treatment at JUSH, 2016.

Predictors	Weight management		COR (95% CI)	AOR (95% CI)	P
	Non adherent	adherent			
Residence					
Urban	58(52.3)	133(60.7)	0.71(0.45,1.12)	0.68(0.42, 1.11)	0.124
Rural	53(47.7)	86(39.30	(1)		
Education					
Not read and write	98(44.7)	41(36.9)	(1)	(1)	
Primary(1-8)	67(30.6)	33(29.7)	1.18(0.68,2.05)	1.34(0.75, 2.40)	0.326
Secondary and above	54(24.7)	37(33.3)	1.64(0.94,2.85)	1.70(0.94, 3.08)	0.080
Knowledge on complication					
Not knowledgeable	129(59.4)	56(50.5)	(1)	(1)	
knowledgeable	88940.6)	55(49.5)	1.44(.91,2.28)	1.75(1.10,2.92)**	0.030
Knowledge on self-care behaviors					
Not knowledgeable	80(36.5)	31(27.9)	(1)	(1)	
knowledgeable	139(63.5)	80(72.1)	1.49(.91,2.44)	1.58(0.94, 2.66)	0.088
Uncontrolled hypertension					
Controlled	90(41.1)	66(59.5)	(1)	(1)	
Uncontrolled	129(58.9)	45(40.5)	0.48(0.29,0.76)*	0.38(0.23,0.63)**	<0.0001

*significant at p<0.05, **independent predictor at p<0.05, COR-crud odds ratio, AOD-adjusted odds ratio

Factors Related to Exercise and Non-Smoking

Non-adherers of physical exercise were 40% more likely to be women (95% CI 0.39,-0.94). This study also showed that non-adherers of physical exercise were more likely to be those with one and above (OR 0.57, 95% CI 0.36,-0.88) commorbdities (table 12). Knowledgeable on self-care behaviors were 3.13 (95% CI 1.11-8.86) times more likely to be non-smoker as compared to those not knowledgeable. Participants who were nonsmokers were more likely to be with longer duration of hypertension and women as compared to the non-adherent participants (table 13).

Table 10: Associations between demographic and health characteristics and physical exercise of hypertensive patients on treatment at JUSH, 2016

Predictors	exercise		OR (95% CI)	AOR (95% CI)	p
	Non adherent	adherent			
Gender					
Male	63(40.4)	93(53.4)	(1)	(1)	
Female	93(59.6)	81(46.60	0.59(0.38,0.91)*	0.60 (0.39,0.94)**	0.024
Duration of Hypertension					
<10	80(51.3)	107(61.5)	(1)	(1)	
>=10	76(48.7)	67(38.5)	0.66(0.43,1.02)	0.72(0.46, 1.14)	0.161
commorbdities					
None	82(52.6)	116(66.7)	(1)	(1)	
One and above	74(47.4)	58(33.3)	0.55(0.36,0.87)*	0.57(0.36,0.88)**	0.013

*significant at p<0.05, **independent predictor at p<0.05, COR-crud odds ratio, AOD-adjusted odds ratio

Table 11: Associations between demographic and health characteristics and non-smoking of hypertensive patients on treatment at JUSH, 2016.

Predictors	Non-smoking		OR (95% CI)	AOR 95% CI)	p
	Non Adherent	Adherent			
Gender					
Male	15(88.2)	141(45.0)	(1)	(1)	
Female	2(11.8)	172(55.0)	9.15(2.06,40.68)*	6.38 (1.39,29.19)**	0.017
Residence					
Urban	184(58.8)	7(41.2)	2.04(.76,5.49)	1.58(0.56, 4.51)	0.391
Rural	129(41.2)	10(58.8)	(1)	(1)	
Duration of hypertension					
<10 years	16(94.1)	171(54.6)	(1)	(1)	
>=10 years	1(5.9)	142(45.4)	13.29(1.74,101.42)*	8.49(1.11, 66.60)**	0.042
Knowledge on self-care behaviors					
Not knowledgeable	10(58.8)	101(32.3)	(1)	(1)	
knowledgeable	7(41.2)	212(67.7)	2.99(1.11,8.11)*	3.13 (1.11,8.86)**	0.031

*significant at p<0.05, **independent predictor at p<0.05, COR-crud odds ratio, AOD-adjusted odds ratio

CHAPTER SIX: DISCUSSIONS

The H-SCALE survey instrument was used with good face validity and reliability for the 6 self-care activity domains for hypertension. In this study, we aimed at determining the prevalence of self-care behaviors among hypertensive patients. From the study participants the prevalence of self-care behaviors were greater than 70% for behaviors related to smoking and alcohol abstinence, but lower for self- care behaviors like medication adherence, weight management, physical exercise and low salt intake.

The results from our analyses showed older age, female gender, who were knowledgeable and subjects with a longer duration of hypertension were associated with good self-care behavior. These findings were consistent with previous research (40, 41). It is possible that patients who have endured hypertension longer have learned more about coping with hypertension.

Thus, in order to promote self-care behavior, male patients and subjects who have been recently diagnosed with hypertension should be carefully evaluated.

In clinical trials, antihypertensive therapy has been associated with reductions in (1) stroke incidence, averaging 35–40 percent; (2) myocardial infarction (MI), averaging 20–25 percent; and (3) HF, averaging >50 percent (6). The proportion of medication adherence in this study was 59.4% which is in line with the study done in China Beijing, (61.3%) and among African Americans (58.6%) (40, 41). Similarly the finding is quite similar with findings in local study conducted at JUSH (55.5%) and Adama, Ethiopia (59.5%) (62, 65).

It is higher than the findings depicted in democratic republic of Congo (46.8%) (60). the difference might be due to the difference in selection of inclusion criteria (1 month duration on treatment), and difference in study settings which from 25 health facilities. But, it is lower than what has been reported from Gonder University hospital (29). This might be due to the study participants, in Gondar university majority (63%) were female because females more of with indoor work and easy to remember, which might affect the level of adherence to medication.

The finding that older adults are more likely to be adherent to blood pressure medication regimens is consistent with previous research done in China and JUSH (41,

62). Our finding showed that participants with long duration were more likely to be adherent with medication regimens, which is consistent with other research done in China and African Americans (40, 41). Knowledge on self-care behaviors have been cited as factors hindering individuals from taking their BP medicine as prescribed, and participants knowledgeable were more likely to be adherent to medication which is in line study done in Korean Americans (52).

We have found that in the presence of commorbdities the odds of adherence to antihypertensive medication are increased. This is in line with study done in Bangladesh (63). But, quite different with studies done in Gondar University and JUSH (29, 62). The reason could be numerous; patients with commorbdities visit health care providers more frequently because of perception of risks and they pay more attention to their health conditions, and therefore more likely to continue medication in general. In addition it might be due to time difference and current countries concern on non-communicable disease, and the increment of technology which may help subjects to be aware the risk of non-adherence.

Excess consumption of dietary sodium is associated with increased risk of hypertension and cardiovascular disease. World health organization recommends a reduction in salt intake to less than 5 g/day (sodium 2 g/ day) to reduce blood pressure and the risk of coronary heart disease and stroke (26).

This study showed the proportion of low salt intake 32.1%. But, this finding is quite different with other studies done in China, African Americans (USA), Israel, Korean Americans, and JUSH (Ethiopia) (40, 41, 51, 52, 62). This might be due to the difference in selection of the participants like age and duration of treatment, and difference in measuring tool used. In china inclusion criteria was subjects with age greater than 35 and duration of treatment 12 months. In African Americans sample size was low (186). Similarly, in Israel telephone interview with high sample size (1125) were used, which may lead to misinformation. Socio-economic difference might be another reason b/c developed countries are highly exposed to processed foods than low income countries like Ethiopia. Evidence showed national mean consumption of salt were greater than 4.25g/day in Asian countries, but less than 2.75g/day in Ethiopia (26).

But, majority of developed countries has their Owen policies and strategies to reduce salt consumption at national level. Similarly, developed countries has better awareness on salt consumption, its risk and overall hypertension complication.

Our finding is low when compare with previous study conducted in JUSH. The difference might be due to material difference used b/c in this study low salt intake was assessed using H-SCALE with 9 items, but in JUSH no such kind of scale was used.

In our sample adhered to a low-salt diet were higher in women as compared to the non-adherent male participants. This is in line with study done in China (40). Subjects with no formal educational status were non adherent to low salt diet when compared with primary education. But, the reverse when we compare with subjects secondary school and above the reason might be due to social desirability bias because educational people never reveal their familiarity. Additionally, the reason might be due to resistance to accept advice from health professionals. This is in line with finding depicted in Canada; subjects with primary education and lower were more likely to receive recommendation than higher level of education (58).

There is good evidence that regulatory policies to reduce specific nutrients in foods (e.g. salt, certain fats) are beneficial, useful and effective in changing population dietary patterns (26). For example, Hungary introduced a Public Health Product Tax in 2011 that referred to the salt content of various processed food products and drinks. Also in 2013, the Ministry of Public Health and Social Wellbeing in Paraguay enacted a mandatory reduction of 25% of salt content in wheat flour used in widely consumed bread and wheat-based products (69). So, findings has great implications to set Key measures by policy makers and health care professionals to reduce salt consumption.

Majority (86.4%) of the participants were alcohol abstainers, which is in line with researches done in Kenya, Gilgel Gibe, Ethiopia and JUSH (9, 54, 62). This finding is inconsistent with other studies in conducted in China, African Americans, Korean Americans and Australia (40, 41, 52, 61). The difference might be due to socio cultural difference. Similarly, being developed country has its own impact on alcohol consumption. In general, the greater the economic wealth of a country, the more alcohol is consumed and the smaller the number of abstainers is (26).

Alcohol abstinence was higher both in women and older adults. This is consistent with study done in China and African Americans (40,411). In our study Alcohol abstinence was higher in rural subjects when compared to urban. This might be due to accessibility and socio-cultural difference among the subjects. Rapid unplanned urbanization also tends to promote the development of hypertension as a result of the harmful use of alcohol (27).

Alcohol use is associated with the risk of hypertensive disease, atrial fibrillation and hemorrhagic stroke, yet; on the other hand, lower levels, and particular patterns, of alcohol consumption in some populations may lower the risk of ischemic heart disease and ischemic stroke and associated mortality. However, controversy remains on the potential beneficial effect of low alcohol intake on cardiovascular diseases (26). Though, our study showed there is no association between alcohol and commorbdities around fifty percepts of drinkers have at least one comorbidities. Thus, heavy alcohol users should be closely evaluated for signs of hypertension.

Findings of this report has great implication for policies and practices. Recent years have brought substantial advances in our understanding of the risk relations of alcohol consumption and specific disorders. The contraindications of heavy drinking occasions now include the consequence of risks. The popularly believed connection between drinking and raised BP has now received substantial scientific support. Governments will give emphasis on cost-effectiveness policy options to reduce the harmful use of alcohol. This finding helps for Health professionals to play an important role in reducing the harmful use of alcohol, by assessing and monitoring levels and patterns of alcohol consumption in patients and by intervening with brief interventions.

In our study the proportion of weight management practice was 33.6% which is in line studies done in African Americans (30.1%), but higher than the finding reported in Nigeria (13%) (61, 65). The difference might be due to different in parameters measured. No standardized tool was used in Nigeria, but in our study H-SCALE with 10 questions was used to assess weight management practice. Multivariate logistic regression showed subjects with uncontrolled hypertension were non adherent to weight management practice. Systematic review of life style factor and the prevention of

hypertension in Iran supported our finding, almost all clinical trial studies on weight management and their BP level were associated, every 1% decrease in body weight lowers systolic blood pressure by an average of 1 mmHg (68). Participants who were Knowledgeable on complication of hypertension more likely adhered to weight management practice. This is in line with study done India (64).

Regular physical activity is a key determinant of energy expenditure and is therefore fundamental to energy balance, weight control and prevention of obesity (26). Slightly more than half of the sample (52.7%) reported engaging in at least 30 minutes of physical activity plus doing some other specific forms of exercise. which is in line with findings of study done in China (51.9) and African Americans (52.2) (40, 41). But, this finding is higher than the findings from the studies done in Korea and Nigeria (52, 53). The difference might be due to selection of inclusion criteria like age which was greater than 35 in Nigeria study and between 40 & 64 in Korea study. Exclusion of Youngers may result in low proportion of physical exercise. Overall, older people were less active than younger people: this is evidenced by WHO report, 19% of the youngest age group did not meet the recommended level, compared to 55% of the oldest age group (26). Similarly, both studies did not use H-SCALE to measure physical exercise.

This finding is also higher than previous report depicted at JUSH. The possible reasons might be due to inclusion criteria which was including participants between three and six months duration of treatment. So, subjects with short duration of treatment considered low awareness on the important of exercise. Measuring tool difference also another reason which was only with one item question because it does not separately identify regular physical exercise for at least 30 minutes and specific exercise like waking. In addition the time gap with the introduction of technologies might improve their knowledge on self-care behavior. Non adherences to physical exercise were more likely among females than males. This is in line with study done Delhi, India (64).

Similarly, subjects with one or more commorbdities were less likely to adhere to physical exercise. The presence of comorbidities may result subjects to be tired and exacerbating of the pain. For example the presence of heart failure in hypertensive patients may result low cardiac output. Without adequate CO, the body cannot respond

to increased energy demands, and the patient becomes easily fatigued and has decreased activity tolerance. Fatigue also results from the increased energy expended in breathing and the insomnia that results from respiratory distress, coughing, and nocturia (1). Evidences also showed physical inactivity is the major risk factor for development of complication in hypertensive patients (27).

Majority of participants who adhered to exercise were due to specific exercise (e.g. walking). Physical activity is critical to the maintenance of weight loss and is important for overall reduction in cardiovascular risk; 60–90 minutes per week of walking can reduce CHD mortality by about 50 percent (6). Findings has implication on policies and practices. The cost effective policies and interventions for reducing insufficient physical activity is required.

In this study of the proportion of non-smoking was 94.8% which is quite similar to studies done in Gilgel Gibe, Ethiopia and JUSH (54, 62). But, it is higher when compared with other research done in China (41). This might be due to the difference selection of the participants who were above 35 years because in China at national level smoking status is higher in older age when compare with Youngers (26). Socio-cultural difference might be another difference. Participants who were nonsmokers were more likely to be with long duration of hypertension, which is consistent with study done in African Americans (41). Women were more likely to be adherent as compared to the non-adherent of male participants. This is in line with study done among china and African Americans (40, 41).

Knowledge on self-care behaviors were one of the predictor for non-smoking in our study. These findings imply that future intervention should include education for patients on risk of smoking. Smoking raises BP acutely, and the level returns to baseline about 15 minutes after stopping. For overall cardiovascular risk reduction, patients should be strongly counseled to quit smoking (6).

This study has important implications for current levels of clinical practice in JUSH, and public health burden of the disease may be reduced significantly with implementation of effective and sustainable self-care practice programs. This is because strict adherence to self-care behavior recommendations, an integral part of

comprehensive hypertensive care has been proven to enhance clinically meaningful blood pressure control.

Finally, informing policy makers about the study findings would increase their commitments to the recruitment of dieticians, experienced nurses and educators in our chronic follow up clinic. Potential focus for future interventions must include public health policy to support promotion of modest regular exercise, food labeling, avoiding smoking, decreasing excess alcohol consumption and increase public awareness on the fatal consequences of not adhering to self-care behavior recommendations, since health policy and legislation play an important role in implementing lifestyle measures.

Strength and Limitations

Strengths

This paper is the first to have full report on self-care behaviors in Ethiopia. Validated H-SCALE was used for six self-care behaviors. Finally, findings may enhance future hypertension interventions in Ethiopia.

Limitations

The study is cross sectional study and has some limitations like social desirability bias. Due to self-presentation concerns, patients may understate socially undesirable activities like non-adherence; but, efforts was made to minimize it during data collection. Similarly, self-care behaviors were reported by patients and there is no objective parameter that can be used to validate its accuracy. For example, 24-hour urinary sodium excretion method remains the standard for salt intake assessment.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Better adherence to self-care behaviors is one effective way to control hypertension. Majority of our participants abstained from smoking and alcohol consumption but, the rate of adherence to medication, low salt intake and physical exercise still needs improvement.

Overall adherence to self-care behaviors were fifty three percent, which is small there is a strong need for patient education to enhance self-care behavior and to prevent disability and death.

Knowledge on self-care practices is basically an important factor for enhancement of self-care practice. Subjects who were knowledgeable on self-care behaviors have good practice on the overall self-care behavior.

Patients with shorter history of hypertension, younger and being males have lower self-care behaviors.

Men, Youngers and patients without comorbidities non-adhered to medications.

Overall, females were less active than men's and subjects with one or more comorbidities have no sufficient physical activity practice.

Smoking practice was higher among males and with short duration of hypertension, and still awareness creation program is needed.

Male and subjects with urban residence have high alcohol consumption when compared with female and rural residence respectively.

Recommendations

Health Care Provider

- Health care providers should intently focus on the proper advice of the patients regarding self-care behaviors.
- Health care providers should establish strategies to provide hospital based and home based health education regarding self-care behaviors.
- Primary care providers and public health practitioners should pay more attention to patients recently diagnosed with hypertension as well as Youngers and male patients.

Jimma University Specialized Hospital

- The hospital should develop its own guideline that properly address specifically for chronic illness like hypertension that ensures the provision of quality care.
- The hospital should provide laboratory facilities that can help health care providers to provide quality care for the patients.
- The hospital should facilitate involvement of adult health nursing specialist to enhance self-care practice and to improve quality of care.

For Researchers -The present findings also call for further research on self-care behaviors. Most importantly, different methodologies should be used to explore the effects observed here. Qualitative studies of health professionals and non-adherents in self-care behaviors in clinical contexts may also help to identify systemic issues in the treatment of non-adherents.

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Annexes

I. Patient Information Sheet

Name of the principal investigator: Nega Yimer Tawye

Name of study area: Jimma University Teaching Hospital, hypertensions follow up clinic

Research budget covered by: Jimma University

- ✓ **Research objective**: To assess self-care behavior and associated factors among hypertensive patients at Jimma University teaching Hospital from March 09 to April 13 2016.

Significance of the study: The study will be used to develop guide line for better level of hypertension care and help to practice self-care behaviors among hypertensive patients. It will also have great relevance as a base line for interventions of healthcare programs targeting improved hypertension control at large.

Study procedure: The data collectors will interview patients using questioners after obtaining consent from the patient. Then data will be extracted from medical records.

Risks: No risks except the time that patient spend during the interview.

Participant right: The patient has a right to stop the interview at any time, or to skip any question that he/she does not want to answer.

Benefit: The study is beneficial for the patient in improving quality of service delivery in future visits. It informs health care providers about the status of care. It also can be used as a source of information for the hospital and policy makers.

Incentives: You will not be provided any specific incentive for taking part in the research other than acknowledgment.

Confidentialities: The study result will not include patient's name and address and any information communicated will be kept confidential.

Agreement: Patients are expected to be fully voluntary to participate in the study.

Whom to contact: If you have any kind of inconvenience about the study, you can contact the following individuals:

1. Mr. Fikadu Balcha, Adult Health Nurse Specialist, Jimma University (adviser of the study)

- Tel: 0911004133
- email: fikadubalcha@gmail.com

2. Mr. Nega Yimer(principal investigator)

- Tel: 0917988561
- Email: yimernega@gmail.com

II. Patient Informed Consent form

Jimma University, College of health sciences, Department of Midwifery and Nursing

A structured Questionnaire for Data Collection on assessment of self-care behavior and associated factor at JUSTH, 2016

Hello, my name is _____. I am working in the research team of Jimma University. I would like to interview you a few questions about your experience and opinion of self-care behaviors in follow up clinic. The objective of this study is to assess self-care behavior and associated factors among hypertensive patients. Your cooperation and willingness for the interview is helpful in identifying problems related to the subject matter. The interview will take about 30minutes. Your name will not be written in this form. All information that you give will be kept strictly confidential. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. If you feel discomfort with the interview please feel free to drop it any time you want. Do you have any questions on what we talked so far?

Now, do you agree to participate in the survey?Yes _____ No _____ If no, respect the decision and thank her/him .If yes continue the interview.

Interviewer name _____ signature _____ Date_____

Supervisor name _____ signature _____ Date_____

III. Questionnaire English Version

Jimma University

College Health Sciences Department of nursing and midwifery

Adult health nursing Postgraduate Program Greetings!

My name is Sr. / Ato ---------- I am data collector for master student Nega Yimer currently working his research work for graduation in adult health nursing in Jimma University, College of Health Sciences, and Department of nursing and midwifery. The objective of the research is to assess self-care behavior and associated factors among hypertensive patients at Jimma University Specialized Hospital, Southwest Ethiopia. I would like to assure you that the study is confidential. I will not keep a record of your name and address. You have a right to stop the interview at any time, or to skip any question that you do not want to answer. Your correct answer to the questions can make the study achieve its goals. Therefore, you are kindly requested to respond genuinely and voluntary with patience. The interview may take few minutes. I would greatly appreciate your help in responding to this study.

Result of the interview: 1. Completed 2. Partially completed

3. The interviewee refused 4. Others_____

Questionnaire English Version

Instruction: Tick (√) in the box provided and fills the blank spaces by asking the patient.

1. Respondent identification code (MRN): .....

Instruction: Tick (√) in the box provided and fills the blank spaces by asking the patient.

Part I - Participants' Socio demographic Characteristics and awareness of hypertension related Variables

Serial. no.	Questions	Alternative choices for Response	Skip to
101	Age	----------yr	
102	sex	1. Male 2. Female	
103	Marital status	1. Divorced 2. Married 3. Single 4. Widowed	
104	What is your religion?	1. Orthodox 2. Protestant 3. Muslim 4. catholic 5. others(specify) _____	
105	What is the highest education level you completed?	1. No formal education 2. Primary education (1-8 grade) 3. Secondary education (9-12 grade) 4. college and above	
106	What is your current occupation?	1. government employee 2. NGO employee 3. Merchant 4. Farmer 5. House wife 6. Others (specify)_____	
107	Ethnicity	1. Oromo 2. Amhara 3. Kaffa 4. Dawro 5. Others specify …..	
108	Residence	1. urban	

		2. rural	
109	How much is your monthly income	----------Birr(ETB)	
110	How long it had been since you were diagnosed with hypertension?	-------years/months	
111	How long it had been since you started taking anti-hypertensive drug?	…… years/months	
112	Have you ever been told by a doctor or other health professional that you had hypertension before coming to start treatment?	1. Yes 2. No	
113	How your current illness (HTN) for the first time was detected?	1. During routine check-up 2. After complaint 3. Others, (specify)……	
114	What is average distance between your home and health institution you monitored?	……..(KM)	

Part II. Knowledge on self-care activities (true /false)

NO.	Questions	Alternative Choices for Response	Skip to
201	Medications are needed to treat hypertension	1. True 2. False 3. Don't know	
202	Being overweight is risk to raise blood pressure.	1. True 2. False 3. Don't know	
203	Salt consumption raises blood pressure	1. True 2. False 3. Don't know	
204	Physical exercise helps reduce blood pressure.	1. True 2. False 3. Don't know	
205	Smoking cigarettes has a negative effect on persons with hypertension.	1. True 2. False 3. Don't know	
206	Khat chewing has a negative effect on persons with hypertension.	1. True 2. False 3. Don't know	

207	Drinking alcohol has a negative effect on persons with hypertension.	1. True 2. False 3. Don't know	
208	A diet which contains fruits and vegetables is good for a person with hypertension.	1. True 2. False 3. Don't know	
209	Which Complications of hypertension do you know**?**	1. Heart attack 2. stroke 3. renal failure 4. eye disease 5. stress 6. Others ……	

Part III - Hypertension—Self-care Activity Level Effects (H-SCALE) Items

NO.	Questions	Alternative Choices for Response	Skip to
	Medication Usage How many of the past 7 days did you: from 0-7 days		
301	Take your blood pressure pills? -		
302	Take your blood pressure pills at the same time every day?		
303	Take the recommended number of blood pressure pills?		
Low-salt Diet How many of the past 7 days did you…from 0-7days			
304	Follow a healthy eating plan as prescribed by physician?		
305	Eat potato chips, salted nuts, or salted popcorn?		
306	Eat smoked meats or smoked fish?		

307	Eat salted vegetables		
308	Eat ≥5 servings of fruits and vegetables?		
309	Eat store bought or packaged bakery goods?		
310	Salt your food at the table?		
311	Add salt to food when you're cooking?		
312	Avoid eating fatty foods?		
Physical Activity How many of the past 7 days did you…from 0-7days			
313	Do at least 30 minutes total of physical activity?		
314	Do a specific exercise activity (such as swimming, walking, or biking) other than what you do around the house or as part of your work?		
Smoking			
315	Are you currently smoking?	1. yes 2. no	
316	If yes, how many of the past 7 days did you smoke…from 0-7 d		

Weight management. 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

		1	2	3	4	5
317	I am careful about what I eat.					
318	I read food labels when I grocery shop.					
319	I exercise in order to lose or maintain weight.					
320	I have cut out drinking sugary sodas and sweet tea.					
321	I eat smaller portions or eat fewer portions.					
322	I have stopped buying or bringing unhealthy foods into my home.					
323	I have cut out or limit some foods that I like but that are not good for me.					
324	I eat at restaurants or fast food places less often.					
325	I substitute healthier foods for things that I used to eat.					
326	I have modified my recipes when I cook.					
327	**Alcohol** **Have you drinking alcohol**			1. yes 2. no		If no skip to Q 331
328	On average, how many days per week do you drink alcohol?					
329	On a typical day that you drink alcohol, how many drinks do you have?					
330	What is the largest number of drinks that you've had on any given day within the last month?					

331	Currently, do you chew Khat?	1. Yes 2. No	
332	How many times per month do you check your blood pressure?		

Part IV. Physical Measurements

401	Height (cm)	…….cm
402	Weight (kg)	…….kg

Part V- Clinical data review from registered follow up card of the patient

501	What is the current health status of the patient (presence of comorbid cases)?		
502	Number of drugs ordered/taken by the patient		
503	Blood Pressure measured in the last three visits including data collection day	1) 1st…….mmHg 2) 2nd……..mmHg 3) 3rd…….mmHg	

Thank you very much!!!!

QUESTIONNAIRE AMHARIC VERSION

<u>የታካሚ መረጃ ወረቀት</u>

የተመራማሪ ስም: ነጋ ይመር

ጥናት የሚካሄድበት ቦታ: ጂማ ዩኒቨርስቲ ቲቺግ ሆስፒታል

የትናቱ በጀት ከፋይ: ጂማ ዩኒቨርስቲ

የትናቱ አላማ:ደም ግ ፊትን በራስ የመቆጣጠር ባህሪ ና ተገዳኝ ነገሮችን መለየት።

የጥናቱ መቀመጫ:ጥናቱ ለበለጠ የደም ግፊት ቁጥጥር መምርያ ማኗል ለመመስረት እና የደም ግፊት መቆጣጠርያ መድሃኒቶችን ለማቅረብ ይተቅማል።በተጨማሪ ለበለጠ የጤና አጠባበቅ መርሃግብር የደምግፊትን አቆጣጠር ስርአት ለማሻሻል እንደማመሳከሪያ ያገለግላል።

የጥናቱ ሂደት: መረጃ ሰብሳቢ ሰዎች የተሳታፊውን ፍቃድ ካገኙ በኋላ በማስጠየቅያ ወረቀት ቃለመጠይቅ ያረጋሉ።ከዛ በመቀጠል ከመዝገብ ካርዱ የተመዘገበውን መረጃ ይወስዳሉ።

ጉዳት: ጥናቱ ምንም አይነት ጉዳት የለውም።

የተሳታፊ መብት:ተሳታፊው ቃለመጠይቁን በፈለገው ሰአት ማቋረጥ እንዲሁም ያልፈለገውን ጥያቄ አለመመለስ ይችላል።.

ጥቅም:ጥናቱ ለቀጣይ ግዜ ጥራት ያለውን አገልግሎት ለመስጠት ይጠቅማል።.

ማበረታቻ:በጥናቱ ላይ ተሳታፊ በመሆን የሚሰጥ ምንም አይነት ማበረታቻ የለውም።.

ምስጢር ጠባቂነት: ጥናቱየተሳታፊውን ስም፣አድራሻ እና ሌላ ያስተላለፈውን መልእክት በተገቢው መልክ ይጠብቃል።

ስምምነት: ታካሚው በሙሉ ፍላጎት ተሳታፊ እንደሚሆን ይጠበቃል።.

ለተጨማሪ መረጃ የዚህ ጥናት አስተባባሪዎች ማነጋገር ይችላሉ።

1. አቶ ፍቃዱ ባልቻ: በጂማ ዩኒቨርስቲ የነርስግ ትምህርት ክፍል መምህር እና የጥናቱ አስተባባሪ

- ስልክ: 0911004133
- ኢሜል: fikadubalcha@gmail.com

2. አቶ ነጋ ይመር:
- ስልክ: 0917988561
- ኢሜል: yimernega@gmail.com

Informed consent Amharic version

ጅማ ዩኒቨርስቲ ጤና ሴንስ ኮሌጅ የሚድዋይፈሪ እና ነርሲንግ ትምህርት ክፍል

<u>የፈቃደኝነት ማረጋገጫ</u>

ጤና ይስጥልኝ , _____ እባላለሁ ፡፡ በጅማ ዩኒቨርሰቲ በሚደረገው ይጥናት እና ምርምር ቡድን አባል ነኝ ፡፡ ደም ግፊትን በራስ የመቆጣጠር ባህሪ እና ሌሎች ተጋዳኝ ነገሮችን በተመለከተ ለመጤቅ አንዳንድ ጥያቄዎችን ያጥለሁ ፡፡ የጥናቱ አላማ ደም ግፊትን በራስ የመቆጣጠር ባህሪ እና ሌሎች ተጋዳኝ ነገሮችን ሁኔታዎችን ለመለየት ነው፡፡ ከዚህም ጋር በተያያዘ አንተ/ቺ የምታደርጊሊኝ ትብብር እነዚዕን ሁኔታዎች እንዳውቅ ይረዳኛል ፡፡ መጠየቁ ቢበዛ 30 ደቂቃ የሚወስድ ሲሆን የአንተ/ቺ ስም በመጠየቁ ላ አይገልፅም ፡፡ አንተ/ቺ የምትሰጠኝ የምትሰጪኝ መረጃ ምስጥራዊነት የተረጋገጠ ነው ፡፡ ለጥናቱ መረጃ መስጠት በርሶ ሙሉ ፈቃደኝነት ላይ የተመሰረተ ነው ፡፡ እንዲሁም መመለስ የማይፈልጉትን ጥያቄ አለመመለስ ይችላሉ ፡፡ በመጠይቁ ወቅትም በየትኛውም ሰአት የማቋረኝ መብት የተጠበቀ ነው ፡፡ ከላይ የሰጠውትን መረጃ በሚመለከት ማንኛውም ጥያቄ አለ ?

ለመሳተፍ ፍቃደኛ ኖት

አዎ ---------- አይደለውም ---------- ፡፡ መልሱ /ሷ አይደለውም ከሆነ አመሰግን/ኝ ፡፡ መልሱ /ሷ አዎ ከሆነ የመጠይቁን መጀመር ይችላል ፡፡

- የጠያቂው ሙሉ ስም ---------- ፊርማ ---------- ቀን ----------
- የተቆጣጣሪው ሙሉ ስም ---------- ፊርማ ---------- ቀን ----------

ሀ. የታካሚ ማህበረሰባዊ ጥያቄዎች/ባህርያቶች

መምርያ: በተዘጋጀውን √ ሳጥን ምልክትያድርጉ በተጨማሪ ታካሚውን በመጠየቅ ክፍት ቦታውን ይምሉ።

ተራ ቁጥር	ጥያቄዎች	መልስ	YlF
101	እድሜዎት ስንት ነው?	……አመት	
102	ጾታ	1. ወንድ▢ 2. ሴት▢	
103	የጋብቻዎ ሁኔታ	1. ያላገባ▢ 2. ያገባ▢ 3. የተፋታ▢ 4. ባሏ/ሚስቱ የሞተባት/በት▢	
104	ሃይማኖትዎ ምንድ ነው?	1. ኦርቶዶክስ▢ 2. ፕሮቲስታንት▢ 3. ሙስሊም▢ 4. ካቶሊክ ▢ 5. ሌሎች _____	
105	ከፍተኛ የትምህርት ደረጃዎ ስንት ነው?	1. መደበኛ የትምህርት ደረጃ የለኝም▢ 2. ከ1_8▢ 3. ከ9-12▢ 4. ዲፕሎማ እና ከዛ በላይ▢	
106	ስራዎ ምንድን ነው?	1. መንግስት ሰራተኛ▢ 2. መንግስተዊ ያልሆኑ ድርጅት ሰራተኛ▢ 3. ነጋዴ▢ 4. ገበሬ▢ 5. የቤት እመቤት▢ 6. ሌላ ጥቀስ_____	
107	ብሄርዎ ምንድን ነው?	1. ኦሮሞ 2. አማራ 3. ካፋ	

		4. ደውሮ 5. ሌላ ጥቀስ----------	
108	አድርሻዎት የት ነዉ ?	1. ከተማ 2. ገጠር	
109	ወርሃዊ ገቢዎ ስንት ነው?	_____ብር	
110	ደም ግፊትዎ ከታወቀ ስንት ግዜ ሆነ?	……አመታት/ወራት	
111	መድሀኒት መውሰድ ከጀመሩ ስንት ግዜ ሆነ	……አመታት/ወራት	
112	መድሀኒት ከመጀመረዎ በፊት በዶክተር ወይም ሌላ ባለሞያ ደም ግፊት እንዳለዎት ተነግሮወታል	1. አዎ 2. አልተነገረኝም	
113	እንዴት ነበር ለመጀመርያ ግዜ ደም ግፊትዎን ያወቁት	1. በክትትል ግዜ 2. ምልክት መታየት ሲጀምር 3. ሌላ ምክንያት ካለ(ይጥቀሱ)---------- --	
114	ከምትኖሩበት እስከ የደም ግፊትዎን እስከምትከታተልበት ጤና ድርጅት ያለው አማካኝ ርቀት ምን ያህል ነው	----------(ኪ.ሜ)	

ለ. ዕውቀትን የሚለኩ ጥያቄዎች

ተራ ቁጥር	ጥያቄዎች	መልስ	
201	የደም ግፊት መድሀኒት ደም ግፊትን ለማከም አስፈላጊ ነው?	1. እውነት 2. ሀሰት 3. አላውቅም	
202	ከልክ በላይ መወፈር የደም ግፊት እንዲጨምር ምክኒያት ይሆናል?	1. እውነት 2. ሀሰት 3. አላውቅም	
203	ጨው መጠቀም የደም ግፊት ይጨምራል?	1. እውነት 2. ሀሰት 3. አላውቅም	
204	የአካል እንቅስቃሴ ማድረግ የደም ግፊት ይቀንሰል?	1. እውነት 2. ሀሰት 3. አላውቅም	
205	ሲጋራ ማጨስ የደም ግፊት ላለባቸው ሰዎች አሉታዊ ተጽኖ(ጉዳት) አለው?	1. እውነት 2. ሀሰት 3. አላውቅም	
206	ጫት መቃም የደም ግፊት ላለባቸው ሰዎች አሉታዊ ተጽኖ(ጉዳት) የለውም?	1. እውነት 2. ሀሰት 3. አላውቅም	
207	አልኮል መጠጣተ የደም ግፊት ላለባቸው ሰዎች አሉታዊ ተጽኖ(ጉዳት) አለው?	1. እውነት 2. ሀሰት 3. አላውቅም	
208	የደም ግፊት ላለባቸው ሰዎች ፍራፍሬ ና አትክልት መመገብ ጥሩ ነውአለው?	1. እውነት 2. ሀሰት 3. አላውቅም	
209	የደም ግፊት የሚያመጣቸው ችግሮች ይጥቀሱልኝ	1. የልብ ችግር 2. የኩላሊት ችግር 3. ጭቅላት ውስጥ ደም መፍሰስ 4. የአይን ችግር 5. ጭንቀት 6. ሌላ ----------	

ሐ. ራስህን ከመጠበቅ የተያያዙ ጥያቄዎች

ተ.ቁ	ጥያቄ	መልስ	
መድሀኒት የተመለከተ ጥያቄዎች ላለፉት ሰባት ቀናት ስንቶቹን ነው (0- 7 ቀናት)			
301	የደም ግፊት መድሀኒት የወሰዱት ለምን የህል ቀናት ወሰዱ?		
302	የደም ግፊት መድሀኒት በያንዳንዱ ቀን በተመሳሰይ ሰዓት የወሰዱት		
303	ትክክለኛ የታዘዘላቸው የኪኒን መጠን የወሰዱት		
አመጋገብን የተመለከተ ጥያቄ ላለፉት ሰባት ቀናት ስንቶቹን ነው (0- 7 ቀናት)			
304	ጤናማ አመጋብ ስርዐት በሀኪም ትአዛዘ መሰረት የተከተሉት ለምን የህልቀናት?	……	
305	ጨው ያለባቸው ለውዝ፣ ቆሎ፤ ፈንዲሻ ወይም የተጠበስ ድንች ተመገቡት		
306	ቆንጣ ስጋ ወይም አሳ የተመገቡት		
307	ጨው የተቀላቀለበት አትክልት የተመግቡት		
308	በቀን ከአምስት ግዜ በላይ ፍራፍሬ ና አትክልት የተመገቡት		
309	ከዳቦ ቤት የሚወጡ እና የታሸጉ ምግቦችን የተመገቡት		
310	በሚመገቡበት ግዜ ምግብ ላይ ጨው የጨመሩት		
311	ሲያበስሉ ጨው የጨመሩት		
312	ፈጮማ /ቅባት ነክ ምግቦችን ያልተጠቀሙት		
የአካል እንቅስቃሴ የተመለከተ ጥያቄ ላለፉት ሰባት ቀናት ስንቶቹን ነው (0- 7 ቀናት)			
313	ቢያንስ ለ 30 ደቂቃ የአካል እንቅስቃሴ ያደረጉት		
314	የተለየ እንቅስቃሴ ያደረጉት ለምሳሌ ዋና. የተወሰነ የእግር ጉዞ ወይም ሳይክል		
ሲጋራን የተመለከተ ጥያቄ ላለፉት ሰባት ቀናት ስንቶቹን ነው (0- 7 ቀናት)			
315	ሲጋራ ያጨስሉ.	1.አዎ 2.አላጨስም	
316	አዎ ከሆነ ላለፉት ሰባት ቀናት ስንቶቹን ነው ሲጋራ ያጨሱት		

	የሰውነትን ክብደት መቆጣጠር በተመለከተ የሰውነት ክብደት ለመቀነስ ወይም ለመቆጣጠር	በጣም አልስማማም	አልስማማም	የተቆጠበ	እስማማለሁ	በጣም እስማማለሁ	
		1	2	3	4	5	
317	ለምመገባቸው ምግቦች እጠነቀቃለሁ						
318	የታሸጉ ምግቦች ስገዛ እሸጉ ላይ ያለውን ፅሁፍ ላነባለሁ						
319	የአካል እንቅስቃሴ አደርጋለሁ						
320	ስካር ያላቸውን ወይም እንደ ሻሂ ያሉ መጠጥ አልጠጣም						
321	የተወሰነ መጥኘ እመገባለሁ						
322	ጤናማ ያልሆኑ ምግቦችን ወደ ቤት አላስገባም						
323	እርስዎ የምትወዳቸው ግን ለጤና ጥሩ ያልሆኑ ምግቦች አቁመዋል ወይም ቀንሰዋል						
324	የምግብ ቤቶች ምግብ ብዙ ግዜ አልመገብም						
325	ለምመገባቸው ምግቦች ሁሉ ጤናማ የሆኑ ምግቦችን እተካልሁ						
326	ምግብ ሳበስል ተጠንቅቄ ነው						
	አልኮልን የተመለከተ ጥያቄ						
327	አልኮል ይጠጣሉ			**1.አዎ** **2. አልጠጣም**			**አልጠጣም ከሆነ ወደ ጥ331**
328	ላለፉት ሰባት ቀናት ስንቶቹን ነው አልኮል የጠጡት(0- 7 ቀናት)			……..			
329	በሚጠጡበት ወቅት በቁጥር በአንድ ቀን ስንት ግዜ ይጠጣሉ			……			
330	ባለፈው ወር ከፍተኛ የጠጡት በአንድ ቀን ስንት ግዜ ነው			…….			
331	ጫት ይቅማሉ			1. አዎ **2.** አልቅምም			
332	የደም ግፊትዎን በወር ስንት ግዜ ይለካሉ						

ሐ. አካላዊ ልኬት

401	ቁመት	……ሰ. ሜ	
402	ክብደት	…… ……ኪ.ግ	

መ. ከታካሚው ካርድ የሚወሰዱ መረጃዎች

ተ.ቁ	**ጥያቄ**	**መልስ**	
501	ሌላ ተጨማሪ ህመም		
502	የሚወስደው መድሀኒት ብዛት		
503	የደም ግፊት መጠን ላለፉት ሶስት ተከታታይ ቀናት	**1ኛ ----------** ሚ.ሜ ሜርኩሪ(systol/diastol) **2ኛ----------**ሚ.ሜ ሜርኩሪ(systol/diastol) **3ኛ----------**ሚ.ሜ ሜርኩሪ(systol/diastol)	

INFORMED CONSENT FORM (AFAAR OROMO VERSION)

Gaaffilee Qorannoo Afaan Oromootiin Qophaa'an

Yuuniversitii Jimmaa Kolleejjii Fayyaatti Muummee Barnoota Nursiingiifi Midwaayiferii

Gaaffiloonni armaan gadii gaaffilee odeeffannoo waa'ee dhukkuba dhiibbaa dhiigaa akkasumas amaloota of eeggannoof gufuu tahuu danda'an walitti qabuuf fala barbaaduuf kan qophaa'eedha.

Waraqaa Odeeffannoo

Akkam ooltan/bultan, maqaan kiyya_____ jedhama. Garee qorannoo jimmaa yuuniversitii keessa kanin hojjedhu yommuun tahu kaayyoon dhufeefis gaaffilee waa'ee dhukkuba dhiibbaa dhiigaa akkasumas amaloota of eeggannoof gufuu ta'uu danda'an walitti qabuuf ta'a. kaayyoon qorannoo kanaas dhukkuba dhiibbaa dhiigaa irratti hundaa'ee amaloota fiduu danda'an qorachuu, akkasumas amaloota of eegganoof gufuu tahan qorachuufi fala barbaaduu ta'a. Bu'aa qorannaa kanaaf hirmaannaan keessan baay'ee barbaachisaadha. Odeeffannoo kana walitti qabuufis daqiiqaa 30 qofa kan fudhatu yoo tahu, waraqaa odeeffanoo irratti maqaa keessan barreessuun hin barbaachisu. Odeeffanoon isin irraa walitti qabamus nama biraaf gonkumaa hin dhiyaatu, kanaaf iccitiin keessan eegamaadha. Hirmaannaan keessanis fedhii keessan irratti kan hundaa\e yoo tahu gaaffiin isin deebisuuf hin feene yoo jiraate deebisuu dhiisuuf mirgi keessan eegamaadha. Gidduu odeeffannoon walitti qabamuttis yoo ta'e odeeffannoo keessan kennuu dhiisuuf mirga gahaa qabdu. Wanta waliin haasofne ilaalchisee gaaffiin qabdan jiraa?

Unka Walii Galtee Afaanii

Odeeffannoo kana irratti hirmaachuuf fedha qabduu?

Eeyyee_____ Lakkii_____ yoo deebiin lakkii ta'e mirga hirmaataa eegii galatoonfadhu, yoo deebiin isaanii eeyyee ta'e odeeffannoo walitti qabuu itti fufi.

Maqaa odeeffannoo walitti qabaa_____Mallattoo_____Guyyaa_____

Maqaa supervaayizarii_____ Mallattoo_____ Guyy**aa**_____

QUESTIONNAIRE AFAAN OROMO VERSION

Gaaffilee

Hospitaala Yuunivarsiitii Jimmaatti amaloota dhiibbaa dhiigaa to'atamuu hin dandeenye ilaalchisee kunuunsa dhuunfaa fi dhimmoota isaan wal qabatan iyyaaffachuuf odeeffannoo fuunaanuuf gaaffilee qophaa'an. Bara 2016.

Gaaffii hadholeen da'umsaaf dhufan gaafataman

Kutaa 1 ffaa: Gaaffiiwwan armaan gaditti dhiyaatan odeeffannoo walii galaa ilaallata

No	**Gaaffilee**	**Deebii/filannoowwan**	**Gara**
101	Umriin kee meeqa?	---------- waggaa	
102	Saala	1.Dhiira 2.Dhalaa	
103	Haalli fuudhaaf heerumaa	1. Walhiikneerra 2. Heerumeera 3. Hin heerumne 4. Abbaan warraa narraa du'e	
104	Amantaan kee maali?	1.Ortodoksii 2. Pirootestant 3. Musiliima 4. Kaatoolikii 5.Kanbiraa, adda baasi…	
105	Sadarkaan barumsaa hammami?	1. .Barumsa idilee hin qabu 2. Kutaa 1-8 3. Kutaa 9 – 12 4. Kolleejjii fi isaa oli	
106	Hojiin kee maali?	1.Hojjetaa dhaabbata mootummaa 2.Dhaabbata miti mootummaa 3.Daldalaa 4.Qotee bulaa 5.Haadha warraa 6. Kanbiraa, adda baasi.....	
107	Qomoon kee maali	1. Oromoo 2. Amaaraa 3.Kafaa . 4.Daawuroo . 5.Kanbiraa, adda baasi----------	
108	Bakki jireenyaa kee eessa?	1.Magaalaa 2.Baadiyyaa	
109	Galiin kee waggaatti hammami?	---------- qarshii	

110	Dhiibbaa dhiigaa qabaachuun kee erga ogeessa fayyaan mirkanaa'ee yeroo ammamii tureera?	----------waggaa/ji'a	
111	Erga qoricha dhiibbaa dhiigaa fudhachuu eegaltee yeroo ammamii tureera	…….waggaa/ji'a	
112	Utuu qoricha dhiibbaa dhiigaa fudhachuu hin eegaliin dura,ogeessi fayyaa dhibee kana qabaachuukee sitti himeeraa?	1. Eyyen 2. Lakkii	
113	Yeroo jalqabaatiif dhibee kana qabaachuun kee akkamiin siif beekame?	1. Yeroo sakatta'insaaf mana yaalaa deemetti 2. Erga dhibamuu koo himadhee booda 3. Kan biraa, adda baasi……	
114	Giddugaleessaan fageenyi mana kee fi dhaabbata fayyaa hordoffii itti taaifattu gidduu jiru ammami	……..(KM)	

Kutaa 2 ffaa. Gaaffileen armaan gadii waa'ee beekumsa kee ati of eeggannoo ofii keetiif gootu irratti hundaa'a. Gaaffii dhiyaateef "dhugaa" ykn "soba" jedhi.

Lakk.	Gaaffilee	Filannoowwan	
201	Qorrichii dhiibbaa dhigaaf laatamu dhiibaa dhiigaa nihir isaa?	1. Dhugaa 2. Soba 3. Hin beeku	
202	Ulfaatina qaamaa baaay'ee dabaluun dhiibbaan dhiigaa akka dabalu gochuu danda'a	1. Dhugaa 2. Soba 3. Hin beeku	
203	Soogidda nyaachuun dhiibbaa dhiigaa dabaluu danda'a	1. Dhugaa 2. Soba 3. Hin beeku	
204	Sochii qaamaa hojjechuun dhiibbaa dhiigaa hir'isuu danda'a	1. Dhugaa 2. Soba 3. Hin beeku	

205	Tamboo xuuxuun nama dhibee dhiibbaa dhiigaa qaburratti rakkoo hamaa fida	1. Dhugaa 2. Soba 3. Hin beeku	
206	Caatii qaamuun nama dhibee dhiibbaa dhiigaa qaburratti rakkoo hamaa fida	1. Dhugaa 2. Soba 3. Hin beeku	
207	Alkoolii dhuguun nama dhibee dhiibbaa dhiigaa qaburratti rakkoo hamaa fida	1. Ddhugaa 2. Soba 3. Hin beeku	
208	Nyaanni muduraa fi kuduraa qabu nama dhiibbaa dhiigaa qabuuf gaaariidha	1. Dhugaa 2. Soba 3. Hin beeku	
209	Rakkoo walxaxaa dhiibbaa dhiigaan wal qabatee dhufu keesaa maalfaa beekta? **(deebii tokkoo ol filachuun ni danda'ama)**	1.Dhibee onnee 2.Dhiigni sammuu keessatti dhangala'uu 3. Dhibee kalee 4.Dhibee ijaa 5.Dhibee dhiphina sammuu 6.Kanbiraa , adda baasi……	

Part III - Gaaffilee Dhiibbaa dhiigaa "Self-care Activity Level Effects (H-SCALE)" ilaalan.

NO.			
Itti fayyadamummaa qorichaa Guyyoota torban darban keessatti si'a meeqaf: 0 hanga guyyaa 7			
301	Qorichaa dhibbaa dhiigaa kee fuudhatte?		
302	Qorichaa dhibbaa dhiiga kee yeroo hunda sa'atii wal fakkataatti fuudhatte?		
303	Qorichaa dhiibbaa dhiiga kee lakkoofsan ajaajame fuudhatte?		

Nyaata ashaboo xiqqaa qabu Guyyoota torban darban keessatti si'a meeqaf: 0 hanga guyyaa 7			
304	Sagantaa nyaataa ogeessi fayyaa sif ajaje hordoftee?		
305	Chiipsii dinnichaa, ocholonii ashaboon makame, akaawwii boqolloo ashaboon makamee nyaattee?		
306	Foon itti arfamee ykn foon qurxummii itti arfamee nyaattee?		
307	Kuduralee ashaboo qaban nyaattee?		
308	Guyyaatti si'a shanii fi isa oliif fuduraalee nyaattee?		
309	Nyaata saamsaman ykn mana daabbooti bahan nyaattee?		
310	Nyaata kee ashaboo itti gootee nyaattaa?		
311	Yeroo nyaata kee bilcheessitu ashaboo itti dabaltee?		
312	Nyaata coomaa lagattee?		
Sochii qamaa Guyyoota torban darban keessatti si'a meeqaf: 0 hanga guyyaa 7			
313	Shochii qamaa yoo xiqqatee daqiiqaa 30f hojjataa?		
314	Sochii qamaa xixiqqaa kan akka bishaan daakuu, deemsa miilaa fi saayikilii hoofuu kan naannoo manatti hojjatturra adda ta'e hojjattee?		
xuuxuu			
315	Ammaa ni xuuxxaa?	1.Eeyyee 2.Lakkii	
316	Yoo deebiin kee eeyyee ta'ee torbee darbetti si'a meeqa xuuxxee?		

Hordoffii ulfaatina qaamaa ulfaatina kee hir'isuuf ykn eeguuf..

Sirriitti itti walii hin galu….1 walii hin galu..2 ittis walii hin galuu /waliin gala….3 itti walii gala..4 sirriittan itti walii gala…5

		1	2	3	4	5
317	Nyaatan nyaadhuuf of eeggannoon keenna					
318	Nyaatan suuqiidha bitu dubbiseen bita					
319	Ulfaatina koo hir'isuuf/eeguuf sochii qamaan godha.					
320	Dhugaatii ashaboo qabuufi shayee mi'awaa dhiiseera.					
321	Hamma tokkoo ykn baayee xiqqoon nyaadha.					
322	Nyaata fayyummaaf hin taane bituus ta'ee manatti fiduu dhiiseera.					
323	Nyaata fayyuumma koof hin taane garuu baay'ee jaaladhu xiqqoo xiqqoo/gonkumaa lagadheera.					
324	Nyaata mana nyaataa ykn nyaata arifatee bilchaatu xiqqoo xiqqoon fayyadama.					
325	Nyaata fayyuumma kootif ta'uu jijjiiradheen fayyadama?					
326	Yeroon nyaata bilcheessuu jiijjirama argamsiisan jira.					

alkoolii

Dhugaatin alkoolii kan ittin ibsamu: buttullee biiraatin, guyyaa 0 hanga torbaa

327	Dhugaatiialcoholi ni dhugduu	1.eeyyee 2.lakkii	
328	Gidduu galeessatti torbeetti guyyaa meeqaf alkoolii dhugdaa?		
329	Guyyaa dhugdeettii dhugaatii meeqa dhugdaa?		
330	Guyyaa baayee dhugee jettuu ji'a darbee keessatti guyyaatti meeqa dhugdee?		
	Jimaa		
331	Amma jimaa ni qamaataa?	1. eeyyee 2. lakkii	

332	Sakatta'insa dhiibbaa dhiigaa ji'atti yeroo meeqa taasifatta?	3.	

Part IV. Madaala qaamaa

401	dheerina	…….cm
402	ulfaatina	…….kg

Kutaa V odeeffannoo kilinikaa kaardii dhukkubsataa irraa guutamu.

501	Yeroo ammatti dhukkubsataan gita fayyaa maalii irra jira?	1. Dhiibbaa dhiigaa qofa 2. dhiibbaa dhiiga fi sukkaraa 3. dhiibbaa dhiigaa fi dhukkuba kalee 4. kan biro haa ibsamu……	
502	Baayiina qorichaa ajajame/ dhukkbsataan fudhatuu		
503	Dhiibbaa dhiiga hordooffii sadan darbani kan ammaa dabalatee	1. ffaa----------mmHg(sistoolikii/diyaastolikii) 2. 2ffaa----------mmHg (sistoolikii/diyaastolikii) 3. 3ffaa----------mmHg(sistoolikii/diyaastolikii)	

Galatoomaa !!!!