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Self-Care Practice And Associated Factors Among Hypertensive Patients Who Have Follow-Ups In Public Hospitals of Bahir-Dar City, Northwest Ethiopia, A Mixed Study

Gebremedhin, Hailu

BAHIR DAR UNIVERSITY
COLLEGE OF MEDICINE AND HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF HEALTH PROMOTION AND BEHAVIORAL SCIENCES

SELF-CARE PRACTICE AND ASSOCIATED FACTORS AMONG HYPERTENSIVE PATIENTS WHO HAVE FOLLOW-UPS IN PUBLIC HOSPITALS OF BAHIR-DAR CITY, NORTHWEST ETHIOPIA, A MIXED STUDY

BY: GEBREMEDHIN HAILU (BSC IN PUBLIC HEALTH)

A THESIS REPORT SUBMITTED TO THE DEPARTMENT OF HEALTH PROMOTION AND BEHAVIORAL SCIENCES SCHOOL OF PUBLIC HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN HEALTH PROMOTION.

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PRINCIPAL INVESTIGATOR: GEBREMEDHINHAILU ALAYU (BSc, PUBLIC HEALTH)

ADRESS: Email: gmedhinhailu@gmail.com

Phone: +251938151377/+251946870307

ADVISORS:

1. Mr. HORDOFA GUTEMA (MPH/HP, ASSISTANT PROFESSOR)

ADRESS: EMAIL: pthordeg@gmail.com

PHONE: +251911791775

2. Ms. LYDIA MELKAMU (MPH/HP, LECTURER)

ADRESS: EMAIL: Lydiabey45@gmail.com

PHONE: +251927596801

CANDIDATE'S DECLARATION FORM

Declaration

This is to certify that the thesis entitled "Self-Care Practice and Associated Factors Among Hypertensive Patients Who Have Follow-Ups in Public Hospitals of Bahir-Dar City, Northwest Ethiopia, A Mixed Study", submitted in partial fulfillment of the requirements for the degree of Master of public health in Health Promotion, Department of Health Promotion and behavioral sciences, school of public health, college of medicine and health science, Bahir Dar University, is a record of original work carried out by me and has never been submitted to this or any other institution to get any other degree or certificates. The assistance and help I received during the course of this investigation have been duly acknowledged.

_____	_____	_____
Name of the candidate	Date	Place

ADVISOR'S AND EXAMINER'S APPROVAL FORM

BAHIR DAR UNIVERSITY
COLLEGE OF MEDICINE AND HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF HEALTH PROMOTION AND BEHAVIORAL SCIENCES

Approval of thesis by advisors

I here by certify that I have supervised, read, and evaluated this thesis/dissertation titled "Self-Care Practice and Associated Factors Among Hypertensive Patients Who Have Follow-Ups in Public Hospitals of Bahir-Dar City, Northwest Ethiopia, A Mixed Study", by Gebremedhin Hailu Alayu prepared under my guidance. I recommend the thesis be submitted for final defense.

Advisor's Name	**Date**	**Signature**
1. Mr. Hordofa Gutema (MPH/HP, Assistant prof.)	_____	_____
2. Ms. Lydia Melkamu (MPH/HP, Lecturer)	_____	_____

Approval of thesis by the board of Examiners

We Recommend that the Thesis be Accepted as Fulfilling the Requirement for the degree of Master of Public Health in Health Promotion.

External examiner's name	Signature	Date
_____	_____	_____
Internal examiner's name	Signature	Date
_____	_____	_____
Chair person's name	Signature	Date

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ABSTRACT

Background: Hypertension also called high blood pressure is the sustained elevation of the blood pressure to ≥ 140/90 mmHg. It is the leading worldwide risk factor for cardiovascular disease and deaths. It is responsible for 13% of the total deaths and 7% of the global burden of disease. This can be easily reduced by strictly adapting the different mechanisms of hypertension self-care practices such as; adherence to prescribed anti-hypertension medications, lowering of salt diets, consumption of a balanced diet, avoiding harmful use of alcohol, performing regular physical exercises, and ceasing of tobacco smoking.

Objectives: to determine self-care practice and associated factors and to explore its barriers among hypertensive patients in public hospitals of Bahir Dar city, North West Ethiopia.

Methods and materials: An institution-based descriptive cross-sectional triangulated with the qualitative study was applied from March, 12 to April 12, 2021. A total of 415 participants selected from three of the study settings were involved. Data from structured questionnaire was entered into EpiData v3.01 and analyzed by using SPSS version 21. Univariable and multivariable binary logistic regression was done. The statistical significance of associations between variables determined using odds ratios with 95% confidence interval (CI) and p-values below 0.05. For the qualitative, part nn indepth interview was conducted among eight purposively selected individuals.

Results: good hypertension self-care practice was found in 44.8%. Age ≥ 60, secondary school and above, government employees, controlled blood pressure, good knowledge, strong social support, and good perceived health status were significant predictors for good hypertension self-care practice with AOR and 95% CI of 3.04 (1.26, 7.33), 7.82 (2.79, 21.98), (1.53, 14.90), 3.14 (1.70, 5.80), 2.27 (1.17, 4.41), 2.71 (1.31, 5.61), and 2.56 (1.35, 4.85) respectively. In addition lack of emotional stability and stress, financial problems, lack of commitment, lack of attention and inappropriate councelling from health professionals were among the major identified barriers.

Conclusions: less than half of the participants had good hypertension self-care practice. Strategies, programs and guidelines which can help clients understand the importance's of understanding of the multi-dimensional wellbeing in relation to different domains of hypertension self-care practices should be constructed. In addition, all patients should be intensively provided with adequate and tailored information on the recommended promising self-care practices and evaluated for obstacles to the adherence of such practices.

List of acronyms and abbreviations

AOR: Adjusted Odds Ratio....7
BP: Blood Pressure....2
CI: Confidence Interval....7
CVD: Cardio Vascular Disease....1
DALYs: Disability-AdjustedLlife Years....1
EFY: Ethiopian Fiscal Year....13
FHCSRH: Felege-hiwet comprehensive specialized referral hospital....13
HBP-SCP: High Blood Pressure Self-Care Profile....19
HSC: Hypertension Self-Care....2
HTN:Hypertension....1
IDI: In Depth Interview....16
JNC: Joint National Committee....2
NCDs: Non- Communicable Diseases....1
OR: Odds Ratio....7
OSSS: Oslo Social Support Scale....19
TGSRH: Tibebe Gihon specialized referral hospital....13

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1. INTRODUCTION

1.1 Background

Hypertension also called high blood pressure level is that the elevation of pressure within the arteries (1). It is sustained elevation of the blood pressure to ≥ 140/90 mmHg (2). It is the major risk factor for ischemic and hemorrhagic strokes, MI, heart failure, chronic kidney disease, peripheral vascular disease, cognitive decline, and premature death. It is the leading worldwide risk factor for cardiovascular disease (CVD) and mortality and is responsible for 13% of the total deaths and 7% of the global burden of disease (3).

Hypertension can be classified based on its cause into primary and secondary. The cause of primary hypertension is not known (4). The other one is secondary hypertension. It pertains to the relatively small number of patients, about 5-10%, of all hypertension. The main types of secondary hypertension are chronic kidney disease; renal artery stenosis; excessive aldosterone secretion; pheochromocytoma and sleep apnea (4, 5).

Hypertension is continuously becoming a worldwide urgent issue. By 2010, the global burden of hypertension was estimated at approximately 1.4 billion and is likely to substantially exceed 1.6 billion by 2025 (1). It is also a major contributor to the global burden of non-communicable diseases (NCDs). In 2016, It contributed to about 17.9 million (44%) deaths out of 40.9 million (71%) global deaths as a result of non-communicable diseases related mortalities (6). About 40 % of the world adult population lives with hypertension (7), and 28.5% are in high-income countries while 31.5% are in low-and middle-income countries (1). Accounting for up to 54% of stroke and 47% of ischemic heart disease as well as 13.5% disability-adjusted life years (DALYs) (8).

Africa continent seems to be the most affected region in the world. About 46% for both sexes combined. The age-standardized prevalence of hypertension is 25.9% among different population groups in sub-Saharan Africa (9). Hypertension is continued to be a public health problem in developing countries, including Ethiopia. The national overall prevalence of hypertension (HTN) in Ethiopia was 19.6% (10). In Bahir Dar, the prevalence of hypertension among the adult population was revealed to be 25.1% (11).

Self-care is the maintenance of healthy well-being in a patient's interest by making certain day to day decisions and actions to have control over their illness (12).

The movement towards self-management of a disease has been observed in literature since the 1990s. The proceedings of the National Conference on Self-Management of Chronic Disease, which was held in 2003 in Australia, confirmed that the medical approach to treating these diseases is prescriptive and authoritarian and does not consider the subjectivity of the carrier and the importance of self-management of care (13).

Studies have shown that Hypertensive self-care management practices are essential for the control of high blood pressure and its complications in individuals with hypertension. It encompasses a wide range of behaviors in addition to medication adherence and monitoring of symptoms, such as individuals' ability to manage physical, psychosocial, and lifestyle behaviors related to their condition (14). Hypertension self-care (HSC) has been defined as "a dynamic and active process requiring knowledge, attitude, discipline, determination, commitment, self-regulation, empowerment and self-efficacy" (15).

It has been recommended by the Joint National Committee (JNC) of seven as a key step in controlling high blood pressure (16). Major hypertensive self-care practices include adherence to anti-hypertensive medications, consumption of low-sodium and low-fat diet, exercise, limiting alcohol drinking, not smoking, weight reduction, self-monitoring blood pressure, regular healthcare visit, and reducing stress (3, 17).

1.2 Statement of the problem

Hypertension has been identified as the leading modifiable risk factor for cardiovascular disease and consequently represents a major cause of premature morbidity and mortality due to adverse cardiovascular and cerebrovascular events (18). Blood pressure (BP) control and management of hypertension can be achieved through antihypertensive drug treatment, which has proved to be clinically effective (19). However, recent evidence (including control rates across 12 countries) suggests that BP control through antihypertensive treatment is suboptimal, with at least 20% of that prescribed treatment failing to achieve control (20).

Hypertension is estimated to affect more than one in three adults aged 25 and over (or about one billion people) worldwide. Africa sees the highest prevalence of hypertension (46 percent of adults aged 25 and over), while the Americas the lowest (35 percent). Owing to

appropriate public policies and better access to health care, high-income countries have a lower prevalence of hypertension (35 percent) than low- and medium-income countries (40 percent) (21).

Hypertension is an iceberg disease that follows the "rule of halves" which is being silent i.e. asymptomatic in the incipient stage, so many people remain undiagnosed (22). In support of this statement, a qualitative study done in Brazil explored that sense of being ill is usually recognized by the clients through incidental measurement of blood pressure, hospital admission examinations, check-up consultations, or sometimes on the appearance of a physical and/or emotional malaise (23). Those who are diagnosed may not have access to treatment and who had access, may not be able to sustain the control over illness. Late detection of hypertension has a significant economic and social impact at the individual, family, community, and national levels due to premature death, disability, loss of income, and healthcare expenditure (22). The medical, economic, and human costs of untreated and inadequately controlled high blood pressure are enormous (24, 25). The total cost of hypertension in some countries is in the order of 2% of the country's gross domestic product, including treatment, medical consultations, and indirect costs such as wages lost as a result of disability or death (26). Africa is also suffering from financial crises as a result of CVDs including hypertension. According to one study in Africa, Sub-Saharan African countries spent on average about US$ 45 per capita on healthcare. The economic burden of CVDs was $390 per capita in South Africa and $6 per capita in Ethiopia (27).

Self-care is considered as a basic care for patients with chronic conditions to have a better quality of life by refraining from possibilities of disabilities and to reduce the rising health care expenditure. It has shown that it reduces primary care visits, outpatient visits by 17% and emergency department visit up to 50% (28).

However hypertensive patients often do not implement the recommended self-care practices (29) and ultimately suffer from uncontrolled blood pressure. According to a recent study, about 52.5% and 50% of hypertensive patients in Ayder hospital, Mekelle northern Ethiopia (30), and southwest Ethiopia live with uncontrolled blood pressure respectively (31).

Several factors are known to affect hypertension self-care practice which may include socio-demographic factors such as age, marital status, educational status, occupation, and health literacy, illness duration, empowerment factors such as self-efficacy (32-34), hypertension

knowledge (35, 36), and social support (33, 34, 37). Despite these facts: first, the studies done in Ethiopia are solely quantitative (29, 33, 36). Besides, there are important factors that affect hypertension self-care practices yet not fully or adequately addressed especially in our country's context which includes self-efficacy and perceived health status (33).To my knowledge, these important factors are not studied in our country and there are literatures that recommends the necessity of addressing them. Secondly, to my abilities of searching in different databases, there is no qualitative or mixed study that explores barriers of self-care practices among hypertensive patients in Ethiopia. There was also a research which recommended the necessity of qualitative study in this study topic (38).

Therefore, the purpose of this study was to determine the magnitude and associated factors of hypertension self-care practice by incorporating the stated deficient factors and to explore its barriers among patients who have follow-ups in public hospitals in Bahir Dar city, Ethiopia.

1.3 Significance of the study

This study will have a great contribution to the understanding of how patients are executing activities that help cope with their condition and what factors are hindering them from performing scientifically well-recommended actions.

The findings of this research will help professionals in the health system to develop self-care management practice guidelines to educate hypertensive patients, improve their action and their communication with the patient to ensure a better influence on self-care behavior. The contribution of this study to the improvement of health and self-care through acquiring healthy behaviors among the young and elderly in controlling one's blood pressure will not be undermined.

2. LITERATURE REVIEW

2.1. Hypertension self-care practices

People with chronic diseases tend to develop a set of learning and strategies that enable them to live with the disease and self-management can influence the level of maintenance and improvement of their health condition (23). Hypertension self-care practice includes medication taking and life-style modification activities such as; Low-salt diet, Physical activity, Weight management, regular doctor visits, stress reduction, and cessation of smoking and alcohol consumption (39-41).

A clinic-based study on the Assessment of self-care practices among hypertensive patients in a rural area of Singur, West Bengal showed that 62.9% of study participants who were suffering from hypertension had unfavorable self -care practices (42). Another study from south India shown that self-management practices to be average or good among 60.6% of cases. Good compliance with treatment was seen in 78.7% of cases and blood pressure was in control in 72.4% of cases. A regular check of weight (once in six months) was done by 49.8% and regularity with exercises (at least 3 times a week for at least 30 minutes) was done by 51.1% participants (43).

A study from Pokhara, western Nepal, self-care practices among the study population was revealed. To control blood pressure more than 70% of respondent did not take alcohol/smoking, majority (80.6%) respondent took low fat and low salt diet, more than half (59.7%) respondents monitored blood pressure regularly, 58.2% of respondent used measures to reduce stress, from them most of the respondents used to watch television. Almost eighty-five percent of the respondents took medicine regularly. About the antihypertensive medicine, 16.4% discontinued the medicine, and 4.5% of the respondents used to change the dose of the medicine by themselves (44).

Another study done in Nigeria revealed that among 298 respondents, a minority (11.4%) of the respondent adhere to medication 14.1 % had a high practice of lifestyle modification (7). Another study done in Lagos, Nigeria revealed poor practice of diet and salt restriction among the participants (92.1%). In addition, 89.5% of the participants had poor exercise practice, whereas the participants had relatively good alcohol consumption behavior (60.5%), and weight management practices (57.9) (45).

A study from Addis Ababa found that 23% of the respondents adhered to all studied lifestyle recommendations; 69.1% of the respondents adhered to diet-related recommendations; ~85.9% of participants were nonsmokers or ceased smoking, and 74.8% of the participants were adherent to moderation of alcohol consumption. The majority (68.6%) of the subjects did not engage in regular physical exercise for at least 3 days of the week with a minimum of 30 min duration. Walking (55.3%) was the most common physical activity among those who were found to be adherent. The study found that the adherence rates of recommended HTN lifestyle modifications were 60% for behaviors related to dietary modification, smoking, and alcohol consumption and were much lower for activities related to physical exercise (46).

A study conducted in South Ethiopia among 205 participants to assess self-care management practices and associated factors among hypertensive patients. The study revealed low lifestyle modification practice 56(27.7%) among hypertensive patient regarding weight control, treatment adherence, regular physical activity, abstaining from smoking and alcohol and changes in eating only (16.1%) of the participants practice regular exercise 30 min per day for most of the days in a week (47).

A study done from Mekelle, northern Ethiopia, revealed that good self-care practice was found only among 20.3% of respondents. Adherence to not smoking, antihypertensive medication, alcohol abstinence, dietary management, physical exercise, and weight management was found to be 99.1%, 74.10%, 67.20%, 63.10%, 49.4%, and 40.6% respectively (29). On the contrary, a study done in the University of Gondar specialized referral hospital showed improved self-care practices to control hypertension which was 59.4% (36).

A study conducted among patients in public health facilities of Dessie town, Ethiopia revealed that 51% of the respondents had poor hypertension self-care practices (33).

2.2. Factors associated with and barriers to hypertension self-care practices

Self-care practices have variables that include low-salt diets, reduced caffeine consumption, cessation of tobacco smoking, stress management, physical activity, weight management, and increasing compliance with treatment regimens. Studies assessing hypertensive patients' perceptions of factors influencing their self-management have demonstrated that barriers are multifactorial (48, 49).

2.2.1. Socio-Demographic factors

Socio-demographic factors are known to have influences on self-care practices of hypertensive patients. Such factors include gender, age, marital status, occupational status, and educational status (7, 29, 33, 50).

A clinic-based study on the Assessment of self-care practices among hypertensive patients in a rural area of Singur, West Bengal showed that age above 60 years were three times more likely to have unfavourable self-care practice compared to younger participants, participants who attended less than primary level education were about four times mor likely to have unfavorable self-care practices as compared to those respondents who attended primary level education and above. Marital status was also significant predictor of hypertension self-care practice. Either widowed or divorced participants were about three time more likely to have unfavorable self-care practice of hypertension compared to married participants (42).

According to a study done in south India, self-management practices and compliance were found to be significantly poor among participants whose age was above 50, males, less educated, unemployed, unskilled, or retired patients (43).

A study done in Dessie, Ethiopia revealed that Divorced participants were about 88% less likely to have good self-care practice compared to those who were single. In addition the study revealed that participants who had traditional clergy-based teaching were 2.2 times more likely to have good self-care practice compared to those who were unable to read and write (33).

A study on lifestyle modifications and factors associated with hypertensive patients attending chronic follow-up units of selected public hospitals in Addis Ababa, Ethiopia shown that Female respondents were found two times more likely to be adherent to recommended lifestyle modifications when compared to their male counterparts. Unemployed respondents were found less likely to be adherent than the employed ones. Respondents in the old aged adult group were found to be six times more adherent than respondents in the young adult age group (46).

Another study done in Ayder feferal hospital, Mekelle revealed that sel-care practice to be associated with sex in which females were found about 2.3 times more likely to have good self-care practice than males, age in which respondents whose age were less than 65 years were about 3 times more likely to have good self-care practice than patients greatere than or equal to 65 years old, and educational status in which participnts who had college and above education were found to be about 4.2 times more likely to have good self-care practice than unable to read and write. In addition, the study revealed that participants whose blood pressure was controlled were about three times more likely to have good hypertension self-care practices compared to those participants whose BP was uncontrolled (29).

2.2.2. Knowledge about hypertension and its management practices

A qualitative study aimed to explore hypertensive patients' perspectives on quality use of medication and issues related to hypertension management at the community level in Malaysia, found that poor medication adherence and different strategies were taken to overcome the barriers towards adherence. The use of herbal and traditional therapies was perceived as an alternative method in controlling blood pressure instead of taking antihypertensive medication. The participants were found to have poor knowledge of the side effect and mechanism of action of hypertensive medication (51).

A study done in Mekelle, Ethiopia revealed that good knowledge was found about 6 times more positively associated with good self-care practice than poor knowledge (29) another study done on recommended lifestyle adherence among hypertensives in public health facilities in Addis Ababa found that compared to the non-knowledgeable respondents, respondents who had good knowledge to be about thirteen times more likely to be adherent (46). According to a hospital-based cross-sectional study conducted in Gondar specialized referral hospital revealed that higher frequency of good self-care practice was observed among those who had good hypertension knowledge (36).

2.2.3. Empowerment factors (Self-efficacy)

Empowerment is a complex concept that can be defined as a combination of influencing factors, including self-efficacy (34). It is a process by which people can gain control over their lives and enables patients to take on increased responsibilities for their daily self-care (52).

A study conducted among Filipinos in the United States showed that self-efficacy, or the individual's perceived confidence in carrying out self-care behaviors that relate to managing a chronic illness including HTN significantly contributed to the regression model that accounted for 29.5% of the variance in HTN self-care (53). A study conducted in local communities in china revealed that a ten unit increase in self-efficacy was related to an increased for performing a regular physical exercise (37).

Chronic disease management requires the individual to perform varying forms of self-care behaviors. Self-efficacy, a widely used psychosocial concept, is associated with the ability to manage chronic disease. According to a study done among African-Americans over half (59%) of participants reported having good self-efficacy to manage their hypertension. Hypertension self-efficacy is strongly associated with adherence to five of six prescribed self-care activities among African Americans with hypertension. Ensuring that African Americans feel confident that hypertension is a manageable condition and that they are knowledgeable about appropriate self-care behaviors are important factors in improving hypertension self-care and blood pressure control (54).

2.2.4. Social support

Several studies report that social support is a predictor of compliance and positive health behavior (33, 34, 55, 56).

According to a study done in Korea to assess the predictors of self-care among hypertensive patients, significant positive correlations with social support (34). A study conducted in local communities in china revealed that each 10-unit increase in family social support to be associated with about 1.4 and 1.33 for medication adherence and measuring BP regularly, respectively (37). Another study done in Dessie, Ethiopia revealed that respondents who had good social support were more likely to engage in favorable hypertension self-care practices(33).

2.2.5. Other health-related factors

Other general health-related factors which include; illness duration, family history of HBP, information related to HBP, place to make exercise, and presence of co-comorbidities are also known to affect the levels of self-care practices among hypertensive clients (7, 29, 33, 46, 57).

According to a study done in Dessie, Ethiopia found that participant who had no access to self-care related information were about 92% less likely to have good self-care practice. It also shown that participants who had a convenient place for exercise to be about 3 times more likely to have good self-care practice compared to those who had not (33).

Duration since the time of diagnosis was also a predictor for self-care practices of hypertension. A study done in Ayder comprehensive specialized referral hospital, Ethiopia showed that respondents with ≥ 4 years of disease duration were about three times more likely to practice good self-care as compared to those with less than two years of disease duration (29). According to a study done in Addis Ababa to assess adherence to recommended lifestyle modifications and factors associated with hypertensive patients attending chronic follow-up units of selected public hospitals; a longer time since diagnosis was found to be significantly associated compared to shorter-duration since diagnosis.

Presence or absence of certain Respondents with no comorbidities were found to be 76% less likely to be adherent than those who had them (AOR =0.24, 95% CI: 0.11, 0.50) (46).

A qualitative study done in US explored that patients' daily-lived experiences such as an isolated lifestyle, serious competing health problems, a lack of habits and routines, barriers to exercise and prioritizing lifestyle choices interfered with optimal hypertension self-management (48). Another qualitative study conducted in colombia among hypertensive patients explored barriers to accessing treatment included co-payments for medication; costs of transport to health care facilities; unavailability of drugs; and poor access to specialist care (58).

2.3. Conceptual framework of the study

The conceptual framework of the study is developed from different related literatures as follows.

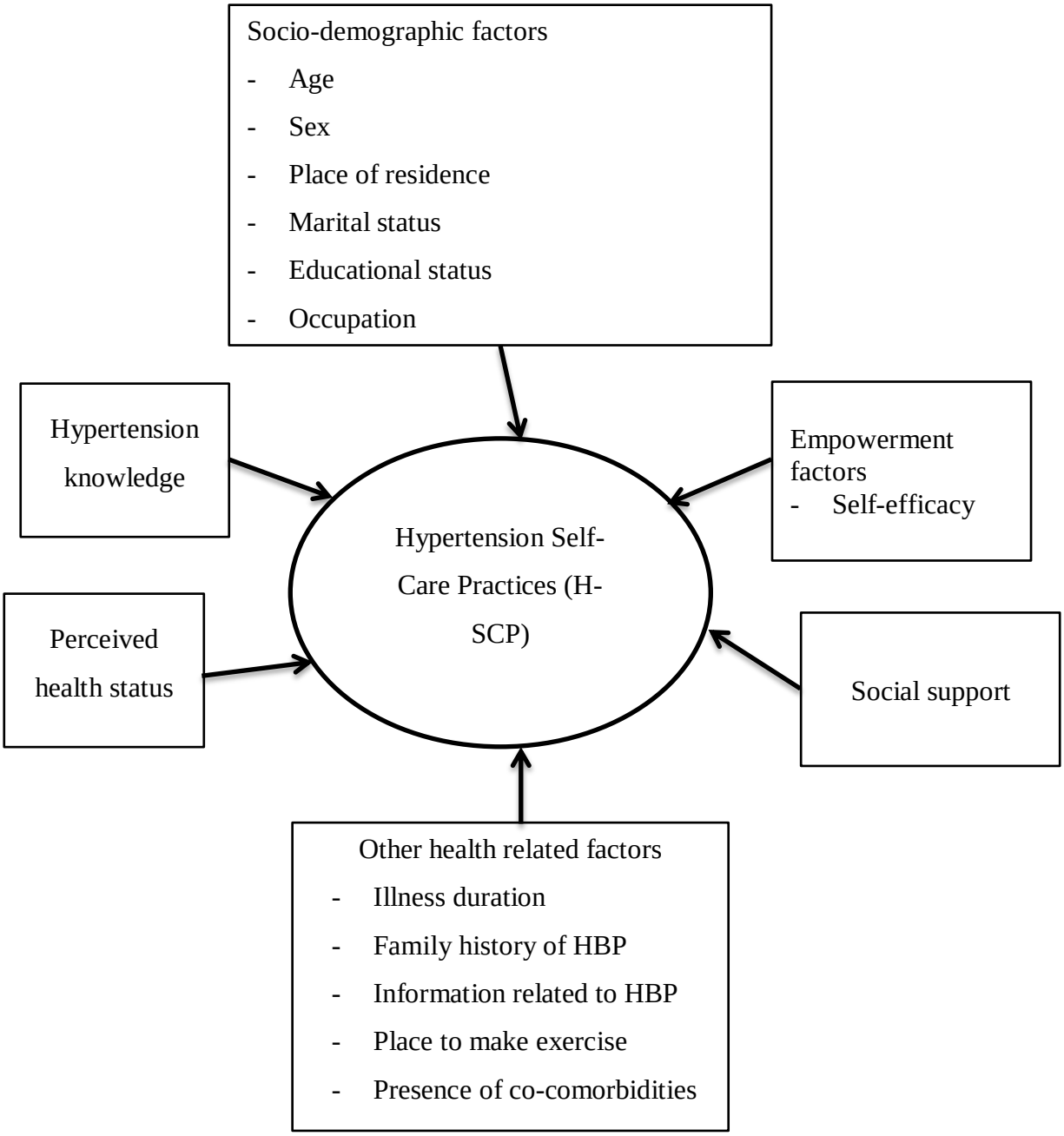

Figure 1: Conceptual framework of hypertension self-care practices and associated factors

3. OBJECTIVES

3.1. General objective

To assess the magnitude of self-care practices and associated factors among hypertensive patients who have follow-ups in public hospitals in Bahir-Dar, Amhara, northwestern Ethiopia, 2021.

3.2. Specific objectives

- ✓ To determine the magnitude of self-care practices of hypertensive patients
- ✓ To identify factors associated with hypertension self-care practices of hypertensive patients and
- ✓ To explore barriers of hypertension self-care practices of hypertensive patients

4. METHODS AND MATERIALS

4.1. Study area & period

This study was conducted in public hospitals in Bahirdar city, Northwest Ethiopia from March, 12 to April, 12, 2021G.C. the city has three public hospitals in which the two are specialized and the other one is a primary hospital. These hospitals are namely Felege-hiwet comprehensive specialized referral hospital (FHCSRH), Tibebe Gihon specialized referral hospital (TGSRH), and Adis alem primary hospitals. Bahir-dar is located approximately 578 km north-northwest of Addis Ababa. According to Ethiopian fiscal year (EFY) of 2012, the city has around 324,323 populations, of which 51.3% (166,388) of them are females and the remaining 48.7% (157,945) are males (59). Felege-hiwet and Tibebegihon specialized hospitals are known to provide services on four major wards namely internal medicine, surgery, pediatrics, and gynecology and obstetrics. In addition to these services, it provides different services for different chronic diseases including hypertension. Felege Hiwot hospital has two hypertensive care clinics while Ttibebe Gihon has one hypertensive care clinic. Adis-alem hospital is a primary hospital and it is known to provide services under four wards and it has one hypertensive care clinic which provides five days services every week. The total numbers of hypertensive patients who have follow-ups in Felege-hiwot, Tibebe Gihon, and Adis-alem hospitals are 4,540, 1388, and 2579 respectively (60-62). So the total source population for this study is 8507. On average; Felege hiwot, Tibebe Gihon, and Adis-Alem hospitals serve approximately 408, 130, and 235 hypertensive clients each month respectively.

4.2. Study Design:

An institution-based cross-sectional supported by qualitative method was applied.

4.3. Source Population:

All hypertensive patients who had follow-ups in public hospitals in Bahir Dar city

4.4. Study Population

Quantitative part: All selected hypertensive patients who had follow-ups in public hospitals in Bahir Dar city at the time of data collection.

Qualitative part: purposively selected particicipants that weren't involved in the quantitative study.

4.5. Inclusion and Exclusion Criteria

4.5.1. Inclusion criteria

All hypertensive patients who had follow-ups in public hospitals of Bahir Dar city.

4.6. Sample Size and Sampling Technique

4.6.1. Sample Size Determination

For the quantitative part: The sample size was calculated using the formula for a single population Proportion:

$$n_o = \frac{\left(Z\,{}^{\alpha}/_{2}\right)^2 \times p(1-p)}{d^2}$$

Where n_o= required sample size for a very large population (N> 10000), Z = critical value for normal distribution at 95% confidence level which equals to 1.96 at α =0.05, P= prevalence of hypertension self-care practice, and d = 0.05 (5% margin of error)

Assumptions: With the assumptions of 95% CI, 5% desired precision, established prevalence of poor H-SCP among patients in public health facilities of Dessie town, Ethiopia which was 51% (P=0.51), (33), the formula yields n_o= 385. The stated P- value was selected because it was found to yield maximum sample size after reading different similar literatures.

The sample size for the second objective:

Variables	% Outcome in unexposed	AOR	Power 80%	Sample size
Knowledge regarding HTN & its SCPs (29)	30.3	6.196	80%	50
Illness duration (29)	25.3	2.728	80%	156
Social support (33)	25.1	2.2	80%	281
Sex (46)	50.5	2.290	80%	216

As it is shown above, comparatively the sample size for the first objective was greater than that of the second objective. So the required sample size was 384.006~385. Adding 10% of the non-response rate the final total sample size was calculated to be 423.

For the qualitative component, 8 individuals were involved in the IDI based on the general rule in qualitative research (saturation), continue to sample until not getting any new information or no longer gaining new insights (63).

4.6.2. Sampling Procedure

For the quantitative part, 423 study participants was selected by using a systematic random sampling method. These participants were proportionally allocated to the study areas as shown in figure 2.

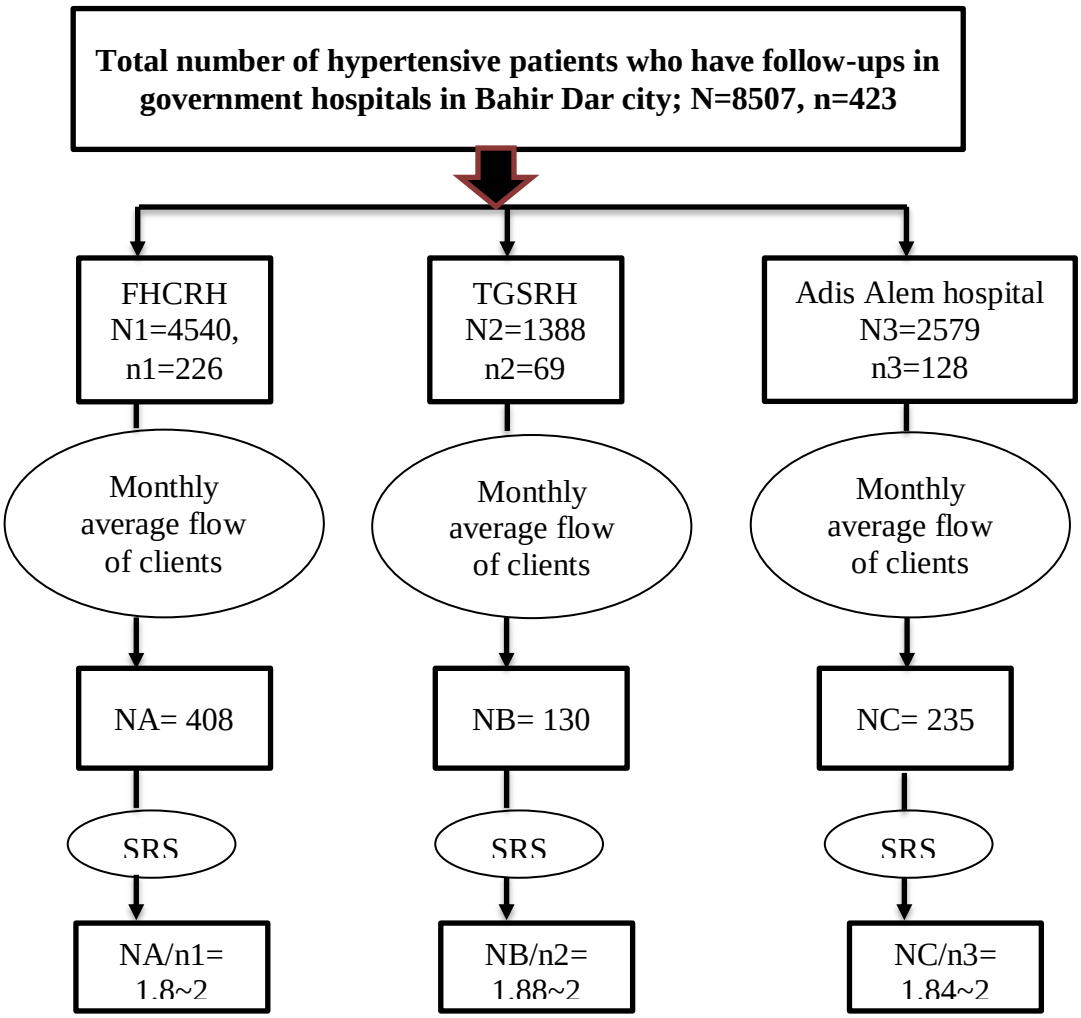

Figure 2: Schematic representation of sampling technique

The respective required number of participants was selected systematically. I.e. every other patient was involved. To do this first; the card numbers of patients who were appointed to visit the health facilities during the data collection period was requested to use it as a sampling frame. Second; from this list of cards, the first participant involved was selected by using simple random sampling. Finally, every other patient was interviewed to collect the needed data.

Qualitative part: Purposive sampling technique through hetrogenous sampling method was used to select study participants for the qualitative part of the study. I say this to mean that I

involved the clients in the in depth interview (IDI) by considering their age, sex, place of residence duration of their illness, and presence or absence of other comorbidities.

4.7. Data Collection tools

Quantitative part: face-to-face interviews using a structured questionnaire which was developed from different similar literature and articles were adapted to assess the level of hypertensive self-care practices and their associated factors of hypertensive patients.

The questionnaires were prepared in English and translated to the Amharic language. The instrument had four main sections.

Section one: socio-demographic variables which included age, sex, marital status, educational status, and occupation were assessed.

Section two: was about health profile characteristics which included family history of HBP, measured BP, sources of information related to HTN, duration of illness, presence of other comorbidities, and availability of a place for physical exercise.

Section three: was about hypertensive self-care practice. The behavioral scale of Hypertension Self-Care Profile (HBP-SCP) was used to measure the self-care practice of participants in this study. The HBP-SCP is a 20-item measure with each question having 4 response options: not at all = 1, sometimes = 2, often = 3, and always = 4 (64).

Section four: was about items that assess H-SCP associated factors.

Four data collectors were recruited by the principal investigator. These data collectors were supervised by the principal investigator and two other additional supervisors.

Qualitative part: To explore the barriers prohibiting clients from experiencing adequate self-care practices to cope with their condition, an in-depth interview (IDI) was conducted using a semi-structured, open-ended questionnaire which was developed by the PI. I prefered this method of data collection because first; this method is more preferable in addressing a specific research question or focused research topic i.e. in my case barriers of self-care practice among hypertensive clients, second; the participants which I intend to involve are geographically dispersed, and Third; fear of the spread of COVID 19 and emergence of the new strain of that virus even though still not reported in our country in which precaution is better. The interview guideline was constructed by the principal investigator by using how and why's. The principal investigator utilized a digital audio recorder at the time of data collection to make documentation of the data.

4.8. Study Variable:

4.8.1. Dependent variable

Hypertension self-care practice

4.8.2. Independent variables

- Socio-demographic variables (Age, sex, marital status, place of residence, educational status, and occupation),
- Empowerment factor (self-efficacy), - Knowledge,
- Social support, - Perceived health status, and
- Other health-related factors (illness duration, family history of HBP, source of information related to HBP, availability of a place to make exercise, and presence of co-comorbidities).

4.9.Data Analysis and Processing

Quantitative part: the template was created by and entered into EpiData v3.01 software. Then data was exported to SPSS version 21 for analysis. Descriptive statistics such as frequencies, percentages, mean values, and standard deviations computed for respondent characteristics and other measured study variables. The outcome variable i.e. H-SCP was dichotomized into good and poor based on the analyzed mean scores. Binary logistic regression was done to see the associations between the outcome variable and each of the explanatory variables. The statistical significance of associations between variables was determined using odds ratios with 95% confidence interval (CI) and p-values below 0.05. then those independent variables with less than or equal to 0.2 was selected to became a candidate for multivarible logistic regression (33). Again after doing multivariable logistic regression, the statistical significance of associations between variables was determined using odds ratios with 95% confidence interval (CI) and p-values below 0.05.

For the qualitative part, First of all, the researcher managed the data by creating and organizing files through data collection, transcription, and translation. Then the translated data were read and reread until the full meaning of the contents understood. Codes were attached to each quotes of the participants. Data was displayed to capture the variation, or richness, of each code. Data reduction done to distill the information to make the most essential concepts and relationships, and finally; the data was interpreted. To facilitate this analysis Atlas ti.7 software was used.

Quantitative and qualitative data were collected simultaneously, analyzed side by side, and finally, results of each data source combined to give meaning (63).

4.9.1. Data quality control

Quantitative part: Before the actual data collection commences, the questionnaire was pre-tested on 5% (22) of the sample size in Han health center. After the pretest, the questionnaire was accordingly modified. The data obtained from pretest wasn't included in the final analysis.

The pretest was conducted to ensure the completeness of the data collecting instrument. Training was given to the data collectors and supervisors before the actual data collection on the contents of the questionnaires and how to maintain confidentiality and privacy of the study subjects. Every day after data collection, questionnaires were reviewed and checked for completeness, accuracy, and clarity by the PI, supervisors, and data collectors.

Qualitative part: the rigor and trustworthiness of the study was ensured by considering the criteria of credibility, dependability, conformability, and transferability (65). To ensure credibility, data was collected from different background perspectives of respondents. to ensure dependability; accurate documentation by minimizing spelling errors through frequent check described. The analyzed and interpreted data was continuously peer-reviewed. Conformability was achieved by using quotes (linking the words of the participants and with the discoveries). The digital records of the interviews are not deleted to enable others to track the process. Transferability was achieved by providing evidence, detailed description of the study starting from sampling to data analysis to provide opportunities for replication or to determine the generalizability of results.

Both the quantitative and qualitative data are stored in a secured place for confidentiality and in time of need for a backup of the data.

4.10. Operational definitions

Hypertension self-care practice: was measured by the 20-item measure of Hypertension Self-Care Profile (HBP-SCP) and those who scored above the mean are considered to have favorable/good self-care practices (33).

Knowledge: was measured by the overall summation of 12 items of true/false bases after reverse coding of the negatively worded items and those respondents who scored above the mean were considered as having good knowledge towards hypertension and its self-care practices (36).

Perceived social support: was measured by the 3-item measure of Oslo social support scale (OSSS-3) and participants are classified as having low, moderate, and strong social support (66).

Self-efficacy: was measured by summing of results 5-item measures which were rated from 1-10 and those respondents who scored mean and above were considered to have high self-efficacy (54).

Perceived health status: was measured by summing of results 12-item measures of the short form (SF-12) health survey and participants who scored mean and above were considered to have good perceived health status (67).

4.11. Ethical considerations

Ethical approval was obtained from the Ethical committee of Bahir Dar University, College of Medicine and Health Sciences from the office of chief academic and research diractor on march 5, 2021 and the letter is registered under reference number of /11116/1.4.4. The IDI was conducted in a separate area from the follow-up room after the selected patient completed his/her treatments. For both the quantitative and qualitative parts, the interviewees were informed about the objectives and data collection procedures. Informed consent was obtained from each of the participants. The participants were allowed to consider their participation and they were allowed to withdraw from the study when they wished to do so. Participant's name or personal identifier wasn't included in the IDI and structured interviews to ensure participants' confidentiality. All transcripts and other data were/are kept in a locked file.

5. RESULTS

5.1. Quantitative Results

5.1.1. Socio-demographic characteristics of respondents

From a total of 423 sampled participants, 415 hypertensive patients who had follow-ups in public hospitals of Bahir Dar city participated in the study, which makes a response rate of 98.1%. Out of the total respondents 213 (51.3%) were females (Table 1). The mean age of the study population was 53.52 + 13.7 SD years. Majority of the participants were married accounted for 234 (56.4%). Of all the respondents 276 66.5%) were residents of urban areas. As to the educational status 149 (35.9%), 113 (27.2%) of the participants were unable to read and write and attended college and above respectively. One hundred eight (26%) of the respondents were government employees (Table1).

Table 1: Socio-demographic characteristics of respondents for quantitative study in public hospitals of Bahir Dar city, North West Ethiopia June, 2021 (n=415)

Variables		Number	Percent
Sex	Male	202	48.7
	Female	213	51.3
Age	<=40	82	19.8
	41-59	183	44.1
Mean = 53.52 ± 13.7 SD	>=60	150	36.1
Marital status	Single	45	10.8
	Married	234	56.4
	Divorced	67	16.1
	Widowed	69	16.6
Residence	Urban	276	66.5
	Rural	139	33.5
Education	'Unable To Read And Write'	149	35.9
	'Able To Read And Write'	53	12.8
	'Primary School'	46	11.1
	'Secondary School'	54	13.0
	'College or Above'	113	27.2
Occupation	Farmer	82	19.8
	Government Employee	108	26.0
	Private Employee	84	20.2
	Daily Laborer	12	2.9
	House wife	76	18.3
	Other	53	12.8

5.1.2. Health profile related characteristics

Out of 415 respondents 157 (37.8%) had family history of hypertension. All of the participants had access to health education. The average duration of illness of the respondents was 5.98 ± 4.404 years. One hundred forty two (34.2%) of the respondents were with at least one possible comorbidities. Only 81(19.5%) of the study participants had available place for physical exercise. The mean systolic and diastolic blood pressure of the participants was 138.2 and 85.3 mmhg respectively (Table 2)

Table 2: Health profile related characteristics of respondents in public hospitals of Bahir Dar city, North West Ethiopia June, 2021 (n=415)

Variables		**Number**	**Percentages**
Family history of HBP	Yes	157	37.8
	No	258	62.2
Source of health information	Books	37	8.9
	Magazines	8	1.9
	Electronic media	123	29.6
	Health education	415	100.0
Duration of illness; mean = 5.98 ± 4.404, Minimum=1 yr, maximum= 22 yrs.			
Place for physical exercise	Yes	88	21.2
	No	327	78.8
Presence of comorbidities	Diabetes mellitus	88	21.2
	Chronic kidney disease	25	6.0
	Chronic heart failure	31	7.5
	Stroke	11	2.7
	Overall	142	34.2
Measured SBP(in mmhg)	Mean=138.23 ±12.105		
Measured DBP(in mmhg)	Mean= 85.29 ± 7.576		

5.1.3. Hypertension self-care practice

The overall mean of hypertension self-care practice was 52.9±10.7. Among the 415 study participants, 186(44.8%) had good Hypertension self-care practice with confidence interval (CI) of (40.0, 49.6) at 5% level of significance. among all of the respondents involved in the study, 112 (27%) of them never engaged in regular physical exercise. 129 (31.1%) and 158 (38.1%) of the participants were practicing the consumption of less than 1 teaspoon of table salt per day always and most of the times respectively. From the entire participant, 187 (45.1%) of them always practiced the recommended moderation of alcohol consumption. Only 44 (10.1%) of the respondents were engaged in the consumption of 5 or more servings of fruits and vegetables daily (Table 3). Majority of the participants never checked their

blood pressure at home which accounted for 289 (69.6%). Majority of the respondents practice non-smoking which accounted for 378 (91.1%) (Table 3).

Table 3: Distributions of hypertension self-care practices of hypertensive patients in public hospitals of Bahir Dar city, North West Ethiopia June, 2021 (n=415)

Practices	**Frequencies (%)**			
	Always	**Often**	**Sometimes**	**Not at all**
Take part regular physical activity (e.g., 30 minutes of walking 4–5 times per week)?	73(17.6)	107(25.8)	123(29.6)	112(27)
Read nutrition facts label to check information on sodium content?	55(13.3)	94(22.7)	66(15.9)	200(48.2)
Eat low-salt foods (e.g, fresh vegetables)?	131(31.6)	192(46.3)	85(20.5)	7(1.7)
Limit the use of high-salt condiments?	99(23.9)	131(31.6)	127(30.6)	58(14)
Eat less than 1 teaspoon of table salt per day?	129(31.1)	158(38.1)	77(18.6)	51(12.3)
Avoid consuming fatty foods?	70(16.9)	193(46.5)	139(33.5)	13(3.1)
Eat fewer foods that are high in fat (e.g., red meat, butter)?	78(18.8)	162(39)	138(33.3)	37(8.9)
Replace traditional high-fat foods (e.g., deep-fried chicken) with low-fat products (e.g., baked chicken)?	40(9.6)	70(16.9)	126(30.4)	179(43.1)
Use bake or steam instead of frying when cooking?	95(22.9)	108(26)	81(19.5)	131(31.6)
Read the nutrition label to check info on fat products (e.g., butter, red meat)?	60(14.5)	77(18.6)	71(17.1)	207(49.9)
Eat 5 or more servings of fruits and vegetables daily?	22(5.3)	20(4.8)	153(36.9)	220(53)
Practice moderation in drinking alcohol daily (2 glasses or less for men; 1 glass or less for women)?	187(45.1)	69(16.6)	69(16.6)	90(21.7)
Practice non-smoking?	378(91.1)	8(1.9)	13(3.1)	16(3.9)
Check your blood pressure at home?	89(21.4)	22(5.3)	15(3.6)	289(69.6)

Remember to take your blood pressure medicine?		251(60.5)	136(32.8)	6(1.4)	22(5.3)
Remember to fill your prescriptions?		331(79.8)	56(13.5)	15(3.6)	13(3.1)
Keep your weight down?		77(18.6)	121(29.2)	100(24.1)	117(28.2)
Monitor situations that cause a high level of stress (e.g., arguments, death in the family) resulting in blood pressure elevation?		71(17.1)	161(38.8)	86(20.7)	97(23.4)
Engage in activities that can lower stress (e.g., deep breathing, meditation?		140(33.7)	196(47.2)	52(12.5)	27(6.5)
See a doctor regularly?		140(33.7)	196(47.2)	52(12.5)	27(6.5)
Overall mean		**52.87**			
Scored	**Above mean**	**186(44.8%)**			
	Below mean	**229(55.2%)**			

5.1.4. Factors associated with Hypertension self-care practice

First; Univariable binary logistic regression was done and it was followed by multivariable binary logistic regression with those variables that were found to be significant with a p-value of ≤0.2. In the univariable regression process; gender, age, marital status, educational status, occupational status, residence, family history of HBP, duration since diagnosis, availability of place for physical exercise, sources of information for regulating HBP, hypertension status, knowledge, social support, perceived health status, and self-efficacy were significant predictors for hypertension self-care practices. Whereas in the multivariable logistic regression process; only age, educational status, occupational status, hypertension status, knowledge, social support, and perceived health status were significant predictors. Backward LR method was used to identify the independent predictors of hypertension self-care practice. The model containing the best predictors was fit to explain the factors determining good self–care practices (Hosmer- Lemeshow statistic = 0.372) (Table 4).

In this study; participants whose age was 41-59 and sixty and above were about 3 and 2.3 times more likely to have good H-SCP than younger population whose age was less than or equal to forty 2.3 (AOR = 2.32, 95% CI = 1.03, 5.20) and (AOR = 3.22, 95% CI = 1.29, 8.06) respectively. Respondents who attended primary school, secondary school, and college and above were about 2.9, 5.9, and 7.8 times more likely to have good hypertension self-care

practices as compared to those respondents who can't read and write respectively with (AOR = 2.91, 95% CI = 1.35, 6.29), (AOR = 5.90, CI = 2.10, 16.58), and (AOR = 7.82, 95% CI = 2.79, 21.98), respectively. As to occupational status; government employees were about 4.8 times more likely to engage in good self-care practices of hypertension (AOR = 4.77, 95% CI = 1.53, 14.90) (table 4).

Blood pressure status during the study period was found to be a significant predictor of self-care practices towards hypertension. As result respondents with controlled blood pressure i.e. a systolic blood pressure of less than 140 mmhg and a diastolic blood pressure of less than 90 mmhg were around 3.1 times more likely to have favorable hypertension self-care practices as compared to those participants whose blood pressure was uncontrolled (≥ 140/90 mmhg) (AOR = 3.14, 95% CI = 1.70, 5.80) (table 4).

Participants who had good knowledge about hypertension and its self-management practices were about 2.3 times more likely to engage in favorable hypertension self-care practices (AOR = 2.27, 95% CI = 1.17, 4.41 (table 4).

Social support was also one of the significantly associated predictors of self-care practice of hypertensive clients. Participants who had strong social support were about 2.7 times more likely to have good hypertension self-care practices as compared to those respondents with low social support (AOR = 2.71, 95% CI = 1.31, 5.61) (table 4).

Participants who had good perceived health status were about 2.6 times more likely to engage in good hypertension self-care practices as compared to those clients who had poor perceived health status (AOR = 2.56, 95% CI = 1.35, 4.85) (table 4).

Table 4: Bivariable and multivariable logistic regression showing actors associated with self-care practices of hypertensive patients in Public hospitals of Bahir Dar city, North West Ethiopia June, 2021 n= 415

Variable	**Categories**	**Self-care practice**		**COR at 95% CI**	**AOR at 95% CI**	**P-value**
		Good(n)	**Poor (n)**			
Gender	Male	106	96	1	1	
	Female	80	133	0.55 (0.37, 0.81)	0.84 (0.45, 1.57)	0.576
Age	≤40	46	36	1	1	
	41-59	107	102	0.77 (0.46, 1.31)	2.32 (1.03, 5.20)	0.042
	≥60	33	91	0.38 (0.22, 0.66)	3.04 (1.26, 7.33)	0.013
Marital status	Single	27	18	1	1	
	Married	132	102	0.86 (0.45, 1.65)	1.77 (0.62, 5.09)	0.287
	Divorced	16	51	0.21 (0.09, 0.48)	1.01 (0.30, 4.44)	0.986
	Widowed	11	58	0.13 (0.05, 0.30)	0.86 (0.23, 3.23)	0.825
Residence	Urban	147	129	1	1	
	Rural	39	100	0.34 (0.22, 0.53)	1.33 (0.54, 3.25)	0.537
Educational status	Illiterate	23	126	1	1	
	Primary school	34	65	2.86 (1.56, 5.26)	2.91 (1.35, 6.29)	0.006
	Secondary school	32	22	7.97 (3.95, 16.1)	5.90 (2.10, 16.58)	0.001
	College/above	97	16	33.2 (16.6, 66.3)	7.82 (2.79, 21.98)	0.000
Occupation	Farmer	18	64	1	1	
	Government Employee	96	12	28.4 (12.83, 63)	4.77 (1.53, 14.90)	0.007
	Private Employee	33	51	2.30 (1.16, 4.55)	1.36 (0.53, 3.52)	0.522
	Housewife	16	60	0.95 (0.44, 2.03)	0.61 (0.24, 1.60)	0.316

	Other	23	42	1.36 (0.72, 2.58)	1.94 (0.73, 5.16)	0.185
Family Hx of HBP	Yes	93	64	1	1	
	No	93	165	0.39 (0.26, 0.58)	1.02 (0.52, 1.94)	0.995
Sources of information	Health education	100	166	1	1	
	HE & others	86	63	2.27 (1.51, 3.41)	0.72 (0.37, 1.39)	0.323
Duration of illness	< 5 years	92	92	1	1	
	≥ 5 years	94	137	0.69 (0.46, 1.01)	1.24 (0.61, 2.52)	0.549
Place of exercise	Yes	27	202	1	1	
	No	54	132	0.43 (0.26, 0.69)	0.97 (0.46, 2.06)	0.941
BP control	Uncontrolled	103	174	1	1	
	Controlled	83	55	2.55 (1.68, 3.88)	3.14 (1.70, 5.80)	0.000
Knowledge	Poor	24	130	1	1	
	Good	162	99	8.86 (5.37, 14.6)	2.27 (1.17, 4.41)	0.015
Self-efficacy	Low	34	143	1	1	
	High	152	86	7.43 (4.7, 11.75)	0.92 (0.42, 1.99)	0.825
Perceived health status	Poor	31	132	1	1	
	Good	155	97	6.8 (4.27, 10.85)	2.56 (1.35, 4.85)	0.004
Social support	Low	37	118	1	1	
	Moderate	68	70	3.1 (1.88, 5.1)	1.65 (0.82, 3.33)	0.055
	Strong	81	41	6.3 (3.72, 10.67)	2.71 (1.31, 5.61)	0.007

5.2. Qualitative results

5.2.1. Socio-demographic characteristics

In the qualitative part, eight purposively selected hypertensive clients who were not involved in the quantitative study were involved in the IDI. The indepth interview took an average of 15 minutes. Five of the respondents were males. Six of them were married and two of them had comorbidities (Table 5).

Table 5: Socio-demographic characteristics of clients involved in qualitative study of H-SCP, in public hospitals of Bahir Dar city, North Western June, 2021 (n=8)

S. no	Code	Sex	Age	Institution	Residence	Duration of illness	Marital status	Occupational status	Educational status	Comorbidities
1.	P 1	M	50	FHCRH	Urban	24	Married	Gov.t employee	MA	Dm
2.	P 2	M	65	FHCRH	Urban	15	Married	Government employee/lowyer	12+1	No
3.	P 3	F	48	FHCRH	Urban	9	Married	Govornment employee/police	12	No
4.	P 4	F	29	FHCRH	Rural	3	Married	Farmer	Illiterate	No
5.	P 5	M	80	AA1ºH	Rural	2	Divorced	Farmer	Illiterate	CKD
6.	P 6	M	60	TGSRH	Urban	1	Married	Government employee/Teacher	12+4	CHF
7.	P 7	M	55	TGSRH	Urban	2	Married & separated	Prisoner	Diploma	No
8.	P 8	F	25	TGSRH	Rural	7 months	Single	Farmer	illiterate	No

5.2.2. Barriers of hypertension self-care practices

Following the data collection in Amharic by using the indepth interview, word by word transcription done, translated into English, read and reread it. Atlas ti.7 software was utilizedand the following three themes were explored among the indepth interview of eihgt study participants. These thems are listed and discussed as follow.

1. Individual barriers
2. Health facility barriers, and
3. Social and/or economic barriers

5.2.2.1. Individual level barriers

One of the main barriers of hypertension self-care practices at individual level was lack of knowledge/awareness about how to manage their condition. Practices which were repeatedly explained by the respondents were only as they should take medications regularly; restrict salt during preparing their foods; and limit excessive consumption of alcohol.

*"the only thing I know to control my condition [hypertension] is to take medications ordered by the doctors and I do know nothing else'' (*29 years old, female, P4)

Lack of emotional stability and stress was also stated as a main barrier to the performance of self-management of hypertension.

> *".... Being emotional is often the thing that really hurts me because things like this happen out of my control. I understand that I have this problem as a problem, but even I try not to do that it really happens and this makes me not to care to my condition and consequently sometimes leads my blood pressure even to worsen". (*50 years old, male, P1)

Another client who was a prisoner in sebatamit maremiya bet and following his treatment in Tibebe Gihon hospital stated about the stress which was leading him to feel not confortable or not to follow the recommended H-SCP. He said that

> *"Sometimes stress at me, especially if I don't find my family,…because my families are living at rent and when I watch my family suffering as a result of increased costs of expenditure… I got stressed and even sometimes forget taking my medications and doing physical exercises which I usually perform with my other prison mates". (*55 years old, male, P7)

Lack of committement and determination towards different self-care practices was also another identified individual level barrier.

*"…and it takes determination. Sometimes laziness, sometimes getting up in the morning… and doing physical exercise is not comfortable". (*65 years old, male, P2)

The other personal barriers identified were related to the nature of their work.

*"I am a teacher and the medication they [doctors] gave me is ordered to be taken twice a day one tablet at a time and that makes me to have a frequent urination. At this time while I am giving a lecture I can't interrupt the class. So what I decided is to reduce the dose of the medication into a half on my own. Consequently my blood pressure didn't show any improvement as time goes…". (*60 years old, male, P6)

Day to day perceived health status and satisfaction of foods were also identified individual level barriers. Participants tend to direct their self-care practices based on their day to day perceptions of their health. i.e. phs help them to adjust their self-care practices.

".... Sometimes when I became very sick I eat foods without salts and feel normal. Then when I feel improved, again I increase the amount of salt. That's why I told you it has coming and going mannercomes. (Bamegagebem ene enja yale chew yedero ftft new slemnbabal eyebelahu lmut elalehu endegena degmo medhanit eyeqamku new mndn new yhn yakl entn yemilegn elalew)". (a 48 years old, female, P3)

".... when I feel uncomfortable, experience headache, or get board…I try to defend myself by saying that there is something wrong with my actions. Then I either go out and refresh or do physical exercise". (50 years old, male, P1)

5.2.2.2. Institutional barriers

Under this theme such barriers of hypertension self-care practices discussed by/with the clients include lack of attention from health professionals and improper councelling of patients. In support of this perspective, a participant narrated that

"we meet doctors once every three months or every four months… Doctors are also uncomfortable for us[patients]. In one room, four doctors and four clients are examined together. It is not easy for the client to express his heart, but other than that, as a personal friend, I have many medical friends and relatives, so I have not had so many problems". (A 50 years old, male, P1)

5.2.2.3. Social and/or economic barriers

Such barriers include lack of family support, peer pressure, finanitial problems, problems related to the nature of their work.

Lack of support from families was identified to be one of key barriers for self-care practice of hypertension. In support of this concept a participant narrated that

"…. the source of frustration is the family. The source of the food is also the family. What is wrong with the family is that they can be sometimes unwilling to prepare low or salt free foods for people like me [hypertensive patients] and sometimes they can forget and add to much salt. As a result there were times I forced to eat the foods prepared for the whole family… there were also times I decided to eat out of home otherwise. What is out there is also not working as well as it should. Stop eating out or you are ready to eat salty things…" (a 65 year old, male, P2)

Pressures that came from friends including colleagues and neighbors were stated as contributing barriers to not perform different self-care practices.

"… I have a problem with food and drinks. When I tell them [his friends] that I shouldn't eat and/or drink a certain foods/drinks they try to convince me by saying "just it is for only one or two days and it will not have that much effect on your health." Again when I resist to this extent they label me as (ante degmo kifu amel alebh). Then finally in order not to offend my friends, sometimes I try to chill with them." *…"* (a 50 year old, male, P1)

Financial problems like inadequate money to buy vegitables and/or fruits and sport equipments which are helpful to facilitate physical exercise and that are recommended by the professionals were also another barriers explored at this level.

*"…it is difficult to eat vegitables and fruit five time per day. Because the increased cost of expenditure. If you see the price for 1kg of banana is 40 ETB and for 1kg of orange is 80 ETB. Even if I buy such fruits one or twice a week or a month, there are children in the house and they need it. So instead of eating myself I usually give it to the children". (*60 years old, male, P6)

*"… But to do regular physical exercise, sports equipment need to be used. It takes places to do it and this might be difficult as I can't afford for it". (*65 years old, male, P2)

6. DISCUSSION

This study was intended to determine the magnitude of self-care practice and assess the factors associated with such practices in public hospitals of Bahir Dar city, north western Ethiopia by using a cross sectional study triangulated with a qualitative one. It revealed that the overall mean of hypertension self-care practices to be 52.87% and good hypertension self-care practices was found in 44.8% with 95 CI being between 40.0 and 49.6. this finding goes in line with studies conducted in Dessie (33) and lagos, Nigeria(45) in which good hypertension self-care practice was found to be 47.4% and 48.7% respectively. This finding is higher than the studies done in Mekelle (29), Addis Ababa (46), south Ethiopia (47), Nigeria (68), and Singur(West Bengal) (42). On the contrary this finding is lower than the findings of such studies done in Gondar (36), and india(43). This incongruence might be mainly due to discrepancy of health related information being provided and/or received, and the differences in the tools that were utilized to assess the outcome variable in question. The increased level of uncontrolled hypertension may also explain for the low magnitude of good self-care.

The study also found that the socio-demographic variables specifically Age, educational status, and occupation to be significant predictors of hypertension self-care practice. Participants whose age was between 41 to 59 and greater than or equal to 60 were around 2.3 and 3.2 times more likely to engage in favorable self-care practices as compared to younger participants whose age was less than or equal to 40. This finding goes in line with a study done in Addis Ababa public hospitals (46), Ghana (69), and Israel (70). On the other hand this finding is in contradiction with studies done in Mekelle (29), South Ethiopia (47), and India (43) in which older clients were more likely to be found with poor self-care practices and recommended life style modifications to control hypertension. This discrepancy might be due to the differences in participants' age categorization and sample size.

Respondents who attended primary school, secondary school, and college and above were about 2.9, 5.9, and 7.8 times more likely to have good hypertension self-care practices as compared to those respondents who can't read and write respectively. This findings goes in line with studies done in Mekelle (29), and Dessie (38) in which participants who had an educational status of college and above had 4.21, 4.85, more good self-care practice than those who cannot read and write. The findings are also consistent with studies conducted in Ghana (69), India (42), China (71), and Saudi Arabia (72). On the other hand, results from a

study done in south Ethiopia seemed contradictory in which clients with no formal education were two (2) times more likely to practice the recommended life style modifications (47).

As to occupational status; compared with farmers, government employees were about 3.4 times more likely to engage in favorable self-care practices of hypertension. This meight be explained by the increased knowledge of government employees on hypertension self-care management practices in the study.

Respondents with controlled blood pressure (BP <140/90 mmhg) were around 3.1 times more likely to have favorable hypertension self-care practices as compared to those participants whose blood pressure was uncontrolled (≥ 140/90 mmhg). This finding goes in line with a study conducted in Mekelle in which clients with such BP 2.73 more likely associated with good self-care practice (29). This result might explain the possibilities that HTN is controllable and reduced by good self-care practices.

Knowledge was also found to be a significant factor for H-SCP. It was found that participants who had good knowledge about hypertension and its self-management practices were about 2.3 times more likely to engage in favorable hypertension self-care practices. In support of this premise; the qualitative analysis also explored that lack of knowledge about hypertension and its self-management practices such as inadequate knowledge on the amount of salt to be consumed per day and the mounts and types of regular physical exercises that should be undertaken to be a major barrier. The quantitative finding is lower than the result found from Mekelle (29), south Ethiopia (47) and Addis Ababa (73) in which Good knowledge was 6.19, 6.19, 13 times more associated to good self-care practice respectively and higher than a study conducted in Dessie teaching and referal hospital in which Good knowledge was about 1.8 times more associated to good self-care practice (38).

In this study, Social support was also one of the significantly associated predictors of self-care practice of hypertensive clients. Participants who had strong social support were about 2.7 times more likely to have good hypertension self-care practices as compared to those respondents with low social support. This was supported by a result from the qualitative part in which clients expressed the potential barriers that were facing to them from their friends, colleagues, and families which included forgetting to prepare food with appropriate amount of salt, pressuring clients to engage in unfavorable self-care practices like to drink alcohol and eat fat containing foods. This finding was found to be less than that of the findings from Addis Ababa in which Having support from the society was associated with adherence to

lifestyle modifications as the respondents who had support were about 11 times more likely to be adherent (46). This discrepancy might be mainly explained by the difference in the tools used by the researchers to assess social support.

Clients who had good perceived health status were about 2.6 times more likely to engage in favorable hypertension self-care practices as compared to those clients who had poor perceived health status. On the contrary one study conducted in West Bengal, India (42) revealed the absence of association between perceived health status and hypertension self-care practice. This descripancy meight be due to the difference in socio-demographic characteristics of the respondents, tools utilized to assess perceived health status, and sample size in which the stated research was done in relatively small participants (124). The finding is also in contrary with the qualitative findings in which participants stated by relating poor day-to-day perceived health status to be an alarming condition to modify their self-care practices, meaning having poor perceived health status opens the dore for the examination of their practices and directing them to fill their gaps in controlling their conditions.

7. Strengths and limitations of the study

7.1. Strengths

Mixed study design was used.

7.2. Limitations

Recall, about time of initiation, about duration and patterns of hypertension self-care practice are the potential recall bias. Social desirability bias since the self-care practices of the study participants were based on self-reports.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1. Conclusions

In this study, only 44.8% of the respondents had good hypertension self-care practices. Age, educational status, occupational status, hypertension status, knowledge, social support, and perceived health status were significant predictors of hypertension self-care practices.

Lack of knowledge/awareness about how to manage their condition, lack of emotional stability and stress, lack of commitment, lack of family support, pear pressure, financial problems, barriers related to their nature of work, and lack of attention and improper councelling by health professionals.

8.2. Recommendations

For Policy makers

- ✓ Shall create strategies, programs and guidelines which can help clients understand the importance's of understanding of the multi-dimensional wellbeing in relation to different domains of hypertension self-care practices.

For Amhara regional health buruea and APHI

- ✓ Shall create programs to increase hypertensive self-care practices. This can be achieved by tailored information dissemination on up to-date means of self-care practices. There shall also be a means of regular evaluation of its practical actions.

For Health care providers:

- ✓ Shall act as a mediators and encouragers of the relationships of clients with their family members and significant others. This can be done by creation of hypertension support groups and associations in order to share their expriences.
- ✓ To increase the magnitude of good hypertension self-care practices, Health-care providers in the hospitals should give special attention for the proper hypertension self-care practices. In addition, all patients should be intensively provided with adequate and tailored information on the recommended promising self-care practices and evaluated for obstacles to the adherence of such practices.

Future researchers:

- ✓ Applications of models and involvement of broad population, may be at regional or country level are prompted.

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ANNEXES

Annex 1: Informed Consent for quantitative research survey

Dear sir/madam

Hello. My name is _____. I am a post-graduate student at Bahir-Dar University College of medicine and health sciences, department of health promotion and behavioral sciences. As a part of academic requirements, I am conducting research on self-care practices and associated factors among hypertensive patients in Bahir Dar city public hospitals namely FHCRH, TGSRH, and Addis Alem primary hospitals.

As a result, I am interviewing these hypertensive clients. I would appreciate your participation in this survey. This information will help to identify levels, associated factors, and explore barriers to favorable hypertension self-care practices. Usually, this interview takes upto_____ minutes.

Your name will not be written in this form and the information you give is kept confidential. If you do not want to answer, all or some of the questions you do have the right to do so. However, your support and willingness in responding to my questions during the survey have paramount importance for the success of my study.

Thank you very much for your cooperation and assistance in this endeavor.

Now, do you want to ask me anything about the survey?

Would you be willing to participate? 1. Yes 2. No

Interviewer name: …….

Signature: ……..

Date: ……

Annex 2: Structured questionnaire for the quantitative research part

SECTION I: socio-demographic characteristics

S.No	Questions	Responses	Skip to
101	Age	_____years	
102	Sex	1. Male 2. Female	
103	Marital status	1. Single 2. Married and together 3. Divorced 4. Widowed	
104	Place of residence	1. Urban 2. Rural	
105	Educational status	1. Unable to read & write 2. Traditional clergy-based teaching 3. Primary school 4. Secondary school 5. University/college	
106	Occupation	1. Farmer 2. Government employee 3. Private employee 4. Merchant 5. Housewife 6. Other_____	
107	Average monthly income (in ETB)	_____	

SECTION II: Health-Related Data Assessment Form

201	Do you have family history of HBP?	1. Yes 2. No	
202	Where do you get information related to your current condition (HBP)?	1. Book 2. Newsletter 3. Health education 4. Electronic media (TV, Radio..) 5. No information	
203	How long have you been diagnosed as having HBP?	_____years	
204	Do you have a place that you make exercise?	1. Yes 2. No	
205	Do you have one or more of the following co-morbidities?	1. Diabetes mellitus 2. Chronic kidney disease 3. Chronic heart failure 4. Stroke 5. Chronic liver disease 6. Other_____ 7. None	
206	What is the measured blood pressure of the respondent (take it from card in mmHg)?	_____mmHg	

<u>SECTION III</u>: Self-Care Practice Assessment Form

Direction: Listed below are common recommendations for persons with hypertension. How often do you do the following?		**1. Not at all** **2. Sometimes** **3. Often** **4. always**
301	Take part in regular physical activity (e.g., 30 minutes of walking 4–5 times per week)?	
302	Read nutrition facts label to check information on sodium content?	
303	Eat low-salt foods (e.g., homemade soups, fresh vegetables)?	
304	Limit the use of high-salt condiments?	
305	Eat less than 1 teaspoon of table salt per day?	
306	Avoid consuming fatty foods?	
307	Eat fewer foods that are high in fat (e.g., red meat, butter)?	
308	Replace traditional high-fat foods (e.g., deep-fried chicken) with low-fat products (e.g., baked chicken)?	
309	Use broil, bake or steam instead of frying when cooking?	
310	Read the nutrition label to check info on fat products (e.g., butter, red meat)?	
311	Eat 5 or more servings of fruits and vegetables daily?	
312	Practice moderation in drinking alcohol daily (2 glasses or less for men; 1 glass or less for women)?	
313	Practice non-smoking?	
314	Check your blood pressure at home?	
315	Remember to take your blood pressure medicine?	
316	Remember to fill your prescriptions?	
317	Keep your weight down?	
318	Monitor situations that cause a high level of stress (e.g., arguments, death in the family) resulting in blood pressure elevation?	
319	Engage in activities that can lower stress (e.g., deep breathing, meditation?	
320	See a doctor regularly?	

<u>SECTION IV</u>: Items to Assess Factors Associated With Hypertension Self-Care Practices

A. Items used to assess the knowledge regarding hypertension and its self-care practices		1. True 2. False
401	Hypertension is a serious condition that can lead to complications?	
402	An individual with hypertension should not have check-ups regularly?	
403	A patient with hypertension needs to have a reliable means of blood pressure monitoring between visits to their health care provider?	
404	A blood pressure level of above 130/90 is considered normal?	
405	A blood pressure level of less than 120/80 is considered to be high?	
406	Cigarette smoking has negative health consequences for a person with hypertension?	
407	Drinking alcohol has a good effect on persons with hypertension?	
408	Increased physical exercise actually increases the blood pressure of a person with hypertension?	
409	A diet that contains fruits and vegetables is good for a person with hypertension?	
410	A diet consisting of low-fat milk and whole wheat bread is good for a person with hypertension?	
411	Corned beef and salted meat are good for a person with hypertension?	
412	A meal rich in green bananas, baked chicken, and beans is good for a person with hypertension?	

B. Oslo social support scale (OSSS-3)		
413	How many people are so close to you that you can count on them if you have great personal problems?	1 'none' 2 '1–2' 3 '3–5' 4 '5+
414	How much interest and concern do people show in what you do?	1 'none' 2 'little' 3 'uncertain' 4 'some' 5 'a lot'

415	How easy is it to get practical help from neighbors if you should need it?	1 'very difficult' 2 'difficult' 3 'possible' 4 'easy' 5 'very easy'

B. Items used to assess self-efficacy regarding hypertensive self-care practice; To be rated from 1 to 10		
416	I am confident that I can do all the things necessary to manage my high blood pressure regularly.	
417	I am confident that I can judge when changes in my high blood pressure mean I should visit a doctor.	
418	I am confident that I can do the different tasks and activities needed to manage my high blood pressure to reduce my need to see a doctor.	
419	I am confident that I can reduce the emotional distress caused by my high blood pressure so that it does not affect my everyday life.	
420	I am confident that I can do things other than just taking medication to reduce how much my high blood pressure affects my everyday life.	

C. Item used to assess perceived health status.		
421	In general, would you say your health is:	1= Very good, 2= Good, 3= fair, 4= bad, 5= very bad
	Does your health now limit you in these activities?	
422	Moderate activities such as moving a table.	1= A lot, 2= A little, 3= Not at all
423	Climbing several stairs/mountains.	1= A lot, 2= A little, 3= Not at all
	During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health (4&5) and emotional health (6 &7)?	
424	Accomplished less than you would like.	1= yes 2= No
435	Were limited in the kind of work or other activities.	1= yes 2= No

426	Accomplished less than you would like.	1= yes 2= No
427	Did work or activities less carefully than usual.	1= yes 2= No
428	During the past 4 weeks, how much did pain interfere with your normal work?	1= Not at all, 2= A little bit, 3= Moderately, 4= Quite a bit, 5= Extremely
	How much of the time during the past 4 weeks…	1= All of the time, 2= Most the time, 3= Much of the time 4= Some of the time, 5= A little of the time , 6= None of the time
429	Have you felt calm & peaceful?	
430	Did you have a lot of energy?	
431	Have you felt down-hearted and blue?	
432	Your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?	

Annex 3: Oral Informed Consent for IDI

Title of research study _____

This interview is for a research study that is being done by me as a part of my academic requirement.

This research will gather information on hypertensive clients' self-care practices to cope with their condition. I am talking to people who have their follow-ups in the government hospital in Bahir Dar city.

The interview will include questions on the barriers to hypertension self-care practices. It will take most people about _____ minutes/hours to finish the interview.

The names of people who agree to be interviewed will not be recorded.

Your participation is voluntary, and there is no penalty for refusing to take part. (If you do not take part, it will not affect any health care that you would normally receive.)

You may refuse to answer any question in the interview or stop the interview at any time.

_____ _____

(Signature of the person obtaining consent) (Date)

Annex 4: Semi-structured questionnaire for an in-depth interview

<u>Section I</u>: characteristics of IDI participants

S.no	Participant code	Sex	Age	Place of residence	Illness duration	Marital status	Occupation	Family history of HBP
1.	P1							
2.	P2							
3.	P3							
4.	P4							
5.	P5							
6.	P6							
7.	P7							
8.	P8							

<u>Section II</u>: open-ended questions to explore perceived barriers of hypertension self-care practices

1. How did you first recognize you have hypertension?

   _____

2. What do you know about the ways of self-managing hypertension?

   _____

3. What things do you do to cope with your condition (hypertension)?

   _____

4. What do you think the barriers to not performing the mechanisms of hypertension self-care that you know?

   _____

   - ✓ What does prevent you from limiting your dietary salt?

   _____

   - ✓ What things do prevent you from being careful about the foods you consume to manage your weight?

   _____

   - ✓ What makes you not fill your prescriptions regularly as directed by your physician?

   _____

   - ✓ What does prevent you from performing regular physical exercise?

   _____

   - ✓ What things do prevent you from limiting your alcohol consumption?

   _____

- ✓ What things do prevent you from stopping cigarette smoking?

_____

5. How do you express the role of people around you (family, friends, and significant others) in helping you to manage your condition?
   - ✓ Rol (challenges or supports) of your family (Husband/wife, father, mother, son, daughter, grandparents…)?

     _____
   - ✓ Role (challenges or supports) of your friends?

     _____
   - ✓ Role (challenges or supports) of your other significant others (religious leaders, doctors, edir/equb leaders…?

     _____
6. What does prevent you from making decisions to perform the discussed hypertension self-care practices?

_____

7. What do you think about the results in your health status if you perform the recommended hypertension self-care practices?

_____

Thank you for your cooperation!

Annex 5: ለቁጥር ነክ ምርምር/ጥናት መረጃ-ፈቃድ መግለጫ

የተከበሩ ተሳታፊያችን እንደምን ኣደሩ/ዋሉ? ስሜ_____ይባላል። በባህር-ዳር ዩኒቨርሲቲ በሕብረተሰብ ጤና ትምህርት ቤት በጤና ማበልጸግ እና የስነ-ባህርይ ሳይንስ የሁለተኛ ዲግሪ የሁለተኛ ዓመት ተማሪ ነኝ። ዛሬ በፈለገ-ህይወት፣ ጥበበ ግዮን እና በአዲስ አለም ሆሰፒታሎች የደም ግፊት ታካሚዎች ላይ ራስን የመንከባከብ ተግባራት እና ተጓዳኝ ምክንያቶቻቸው ላይ ለመገምገም የሚያስችል መረጃ ለመሰበሰብ እዚህ ተገኝቻለሁ።

የሚሰበሰበዉ መረጃ ሙሉ በሙሉ በሚስጥር የሚያዝ መሆኑን አረጋግጥሎታለሁ። የእርስዎ ስም፤ መለያ አድራሻ አይመዘገብም። መረጃ መስጠት ካልፈለጉ መብትዎ ነዉ;; መመለስ ያልፈለጉትን ጥያቄ መዝለል/ማለፍ/ ይችላሉ። ይሁን እንጂ የእርስዎ ትብብር እና ትክክለኛ ምላሽ ጥናቱና ምርምሩ እንዲሳካ ትልቅ አስተዋጽኦ ይኖረዋል። ስለዚህ ለሚቀርብልዎት ጥያቄ ትክክለኛ መልስ ለመስጠት ፍቃደኛ ሆነዉ በትዕግስት እንዲመልሱልኝ እጠይቅዎታለሁኝ። ቃለ መጠይቁ በግምት ____ ደቂቃ ይፈጃል።

ጥያቄ አለዎት? በጥናቱ ውስጥ ለመሳተፍ ፍቃደኛ ነዎት?

አዎ_____ ወደ ሚቀጥለው ገፅ ይለፉ አይደለሁም _____ አመሰግናለሁ

የስምምነት ፍቃዱን የወሰደው (የተቀበለው) ጠያቂ

ስም _____ ፊርማ_____

ቀን_____

Annex 6:ለቁጥር ነክ ምርምር የተዋቀረ መጠይቅ

ክፍል አንድ፡- የማህበራዊ ሁኔታ ቃለ መጠይቅ

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ወደ...እለፍ
101	እድሜ	_____ዓመት	
102	ጾታ	1. ወንድ 2. ሴት	
103	የጋብቻ ሁኔታ	1. ያላገቡ 2. ያገቡ 3. የተፋቱ 4. የትዳር አጋርዎ የሞተቦት	
104	የሚኖሩበት ቦታ	1. ከተማ 2. ገጠር	
105	የትምህርት ደረጃ	1. ማንበብና መጻፍ የማይችሉ 2. ማንበብና መጻፍ የሚችሉ 3. አንደኛ ደአጃ የጨረሱ 4. ሁለተኛ ደረጃ የጨረሱ 5. ኮሌጅ ወይም ዩንቨርሲቲ የጨረሰኡ	
106	የስራዎ ሁኔታ	1. አርሶ አደር 2. የመንግስት ሰራተኛ 3. የግል ሰራተኛ 4. ነጋዴ 5. የቤት እመቤት 6. ሌላ ግለጽ_____	
107	አማካይ ወርሓዊ ገቢ (የኢትዮጵያ ብር)	_____	

ክፍል ሁለት፡- አጠቃላይ ጤና ነክ ሁኔታዎችን የሚዳስስ ቃለ መጠይቅ

201	ደም ግፊት ያለው የቤተሰብ አባል አልዎት?	1. አዎ 2. የለም	
202	ስለ ደም ግፊትዎ አጠቃላይ መረጃ ከየት ያገኛሉ?	1. ከመጻህፍት 2. ከጋዜጣ 3. የጤና አስተምህሮ 4. ኤሌክትሮኒክ ሚዲያዎች 5. ከምንም	
203	የደም ግፊት በሽታ እንዳለብዎ ካወቁ ምን ያህል ጊዜ ሆኖታል?	_____አመት	
204	የአካል ብቃት እንቅስቃሴ የሚያደርጉበት ቦታ ኣሎት?	1. አዎ 2. የለም	
205	ከተዘረዘሩት ተጓዳኝ በሽታዎች ያለዎት አለ?	1. የስኪር በሽታ 2. የኩላሊት በሽታ 3. የልብ ድካም በሽታ 4. ስትሮክ 5. ሌላ_____ 6. ምንም	
206	የታካሚው የደም ግፊት ምን ያህል ነው (ከካርድ ይውሰዱት)?	_____mmHg	

ክፍል ሶስት፡- የራስ እንክብካቤ ተግባር ቃለ መጠይቅ

አቅጣጫ፡- ከዚህ በታች የተዘረዘሩት የደም ግፊት ላላቸው ሰዎች የተለመዱ ምክሮች ናቸው ። የሚከተሉትን ምን ያክል ጊዜያት ያደርጋሉ?		**1. ምንም 2. አንዳንዴ 3. አብዛኛዉን 4. ሁልጊዜ**
301	በመደበኛ የአካል ብቃት እንቅስቃሴ ውስጥ ይሳተፋሉ (ለምሳሌ ፣ ለ 30 ደቂቃዎች በእግር ጉዞ በሳምንት ከ4-5 ጊዜ ማድረግ)?	
302	የሚገዟቸው የምግብ ምርቶች ላይ ምን ያህል የጨው ምጠን እንዳላቸው የተለጠፉ መረጃዎችን ያነባሉ?	
303	ከፍተኛ የጨው መጠን ያላቸው ምግቦችን ከመመገብ ይቆጠባሉ?	
304	ከፍተኛ ጨው ያላቸው ቅመሞችን አጠቃቀም ይገድባሉ ለምሳሌ ምጥን ሽሮዎች ላይ?	
305	በቀን ከ 1 የሻይ ማንኪያ ያልበለጠ ጨው ይጠቀማሉ?	

306	ቅባታማ የሆኑ ምግቦችን ከመመገብ ይቆጠባሉ?	
307	ቅባታማ የሆኑ ምግቦችን (ለምሳሌ ቀይ ሥጋ ፣ ቅቤ) የበዛባቸው ምግቦችን በጥቂቱ ይመገባሉ?	
308	በከፍተኛ ቅባታማ የሆኑ ምግቦችን (ለምሳሌ ቅቤ የበዛበት የደሮ ወጥ) በዝቅተኛ ቅባት ምርቶች (ከአታክልት የተሰሩ ቅባቶችን) ይተካሉ?	
309	ምግቦችን በሚያበስሉበት ጊዜ ከመጥበስ ይልቅ በመቀቀል ወይም በእንፋሎት ይጠቀማሉ?	
310	በታሸጉ ስብ ነክ ምግቦችን ላይ መረጃ ለመመርመር የተለጠፉ የአመጋገብ መለያዎችን ያነባሉ?	
311	ፍራፍሬዎችን እና አትክልቶችን በየቀኑ 5ጊዜ ወይም ከዚያ በላይ ይመገባሉ?	
312	መጠነኛ የሆነ አልኮል ይጠጣሉ ማለትም ለወንዶች ከ 2 ብርጭቆ ያልበለጠ ፣ለሴቶች ከ 1 ብርጭቆ ያልበለጠ)?	
313	ሲጋራ ከማጨስ እራሶን ይከለክላሉ?	
314	የደም ግፊትዎን በቤትዎ ይለካሉ?	
315	የደም ግፊትዎን መድሃኒት አስታውሰው ይወስዳሉ?	
316	መዳኒትዎን በታዘዙበት ልክ ይወስዳሉ?	
317	ክብደትዎን ይቆጣጠራሉ?	
318	የደም ግፊት ከፍ እንዲል የሚያደርጉ ከፍተኛ ጭንቀቶችን (ለምሳሌ ፣ ክርክሮች ፣ በቤተሰብ ውስጥ ሞት) የሚያስከትሉ ሁኔታዎችን ይቆጣጠራሉ?	
319	ውጥረትን ሊቀንሱ በሚችሉ እንቅስቃሴዎች ውስጥ ይሳተፋሉ (ለምሳሌ ፣ በጥልቅ መተንፈስ ፣ ማሰላሰል፣ ወደ ሃይማኖት ቦታዎችን መሄድ)?	
320	ሐኪም ያማክራሉ?	

ክፍል አራት፦ የራስ እንክብካቤ ተግባራት ጋር የተዛመዱ ምክንያቶች የሚዳስሱ ቃለ መጠይቆች

ሀ) ከፍተኛ የደም ግፊት ራስን መንከባከብን አስመልክቶ ዕውቀትን የሚገመግሙ ጥያቄዎች አቅጣጫ፦ 1= እውነት፣ 2= ሐሰት		
401	የደም ግፊት ወደ ውስብስብ ችግሮች የሚያመራ ከባድ ህመም ነው??	
402	የደም ግፊት ያለበት ግለሰብ በየጊዜው ምርመራ ማድረግ የለበትም?	
403	የደም ግፊት ላለበት ህመምተኛ የጤና ባልሙያዎችን በሚጎበኙበት ጊዜ አስተማማኝ የደም ግፊት መቆጣጠሪያ ዘዴ ማግኘቱ አስፈላጊ ነው?	
404	ከ 130/90 በላይ የሆነ የደም ግፊት መጠን እንደ መደበኛ/ትክክለኛ ይቆጠራል?	
405	ከ 120/80 በታች የሆነ የደም ግፊት መጠን ከፍ ያለ ነው ተብሎ ይታሰባል?	
406	ሲጋራ ማጨስ የደም ግፊት ባለባቸው ሰዎች ላይ አሉታዊ ተጽዕኖ ያሳድራል?	
407	አልኮል መጠጣት ከፍተኛ የደም ግፊት ባለባቸው ሰዎች ላይ ጥሩ ውጤት አለው?	
408	መደበኛ የአካል ብቃት እንቅስቃሴ ማድረግ የደም ግፊትን እንዲጨምር ያደርጋል?	
409	ፍራፍሬዎችን እና አትክልቶችን የያዘ ምግብ ደም ግፊት ላለው ሰው ጥሩ ነው?	
410	የስንዴ ቂጣ ያካተተ አመጋገብ የደም ግፊት ላለው ሰው ጥሩ ነው?	
411	ጨማ መመገብ የደም ግፊት ላለው ሰው ጥሩ ነው?	
412	ሙዝ እና ባቄላ መመገብ የደም ግፊት ላለው ሰው ጥሩ ነው?	

ለ/ ማህበራዊ ድጋፍ (OSSS-3)		
413	የጤናዎ ሁኔታ በሚባባስቦት ጊዜ ሊደርሱላቸው እንደሚችሉ የሚተማመኑባቸው ምን ያህል ቅርብ ሰዎች አሎት?	1. ‘የለም’ 2. ‘1-2’ 3. ‘3-5’ 4. ‘5+
414	ሰዎች እርስዎ በሚያደርጉት ነገር ምን ያህል ፍላጎት እና አሳቢነት ያሳያሉ?	1. ‘የለም’ 2. ‘ትንሽ’ 3. ‘እርግጠኛ ያልሆነ’ 4. ‘አንዳንድ’ 5. ‘ብዙ’
415	እርዳታ በሚያስፈልግዎት ጊዜ ከጎረቤቶች ተግባራዊ እርዳታ ለማግኘት ምን ያህል ቀላል ነው?	1. ‘በጣም ከባድ’ 2. ‘ከባድ’ 3. ‘ይቻላል’ 4. ‘ቀላል’ 5. ‘በጣም ቀላል’

ሐ/ ከፍተኛ የደም ግፊት ራስን መንከባከብን አስመልክቶ የራስን ውጤታማነት መገምገምያ፡- ከ 1 እስከ 10 ደረጃ የሚሰጥ		
416	የደም ግፊቴን በቋሚነት ለመቆጣጠር አስፈላጊ የሆኑትን ሁሉ ማከናወን እችላለሁ ።	
417	የደም ግፊቴን ሁኔታ በማየት ሀኪም መጎብኘት ሲኖርብኝ መወሰን እችላለሁ ።	
418	በሀኪም የምታይበትን ጊዜያትን ለመቀነስ ስል የደም ግፊቴን ለመቆጣጠር የሚያስፈልጉኝን የተለያዩ የራስ እንክብካቤ ዘዴዎችንና ተግባሮችን ማከናወን እችላለሁ ።	
419	በደም ግፊቴ ምክንያት የሚመጣውን የስሜት መቃወስ በዕለት ተዕለት ሕይወቴ ላይ ተጽዕኖ እንዳያሳድርብኝ መቆጣጠር እችላለሁ።	
420	የደም ግፊቴ በዕለት ተዕለት ሕይወቴ ላይ የሚኖረውን ተጽዕኖ ለመቀነስ መድሃኒት ከመውሰዴ በተጨማሪ የተለያዩ የራስ እንክብካቤ ዘዴዎችንና ተግባሮችን ማከናወን እችላለሁ ።	

መ/ የተገነዘበ የጤና ሁኔታ		
421	በአጠቃላይ ጤናዎ እንዴት ነው ብለው ያስባሉ/ይገነዘባሉ?	1. በጣም መጥፎ ፣ 2. መጥፎ 3. ፍትሃዊ ፣ 4. ጥሩ ፣ 5. በጣም ጥሩ
	የሚከተሉትን እንቅስቃሴዎች ከማድረግ የጤናዎ ሁኔታ በምን ያክል ይገድብዎታል?	
422	መጠነኛ እንቅስቃሴዎች እንደ ጠረጴዛን ማንሳት፣	1 = በጣም ፣ 2 = በትንሹ ፣ 3 = በጭራሽ
423	ብዙ ደረጃዎችን ወይም ዳገትን መውጣት	1 = በጣም ፣ 2 = በትንሹ ፣ 3 = በጭራሽ
	ባለፉት 4 ሳምንታት ውስጥ በአካላዊ ጤንነትዎ (4 እና 5) ወይም በስሜታዊ ጤንነትዎ (6 እና 7) የተነሳ በሥራዎ ወይም በሌሎች መደበኛ የዕለት ተዕለት እንቅስቃሴዎችዎ የሚከተሉት ችግሮች አጋጥመዎት ነበር?	
424	ከሚፈልጉት በታች እንድያከናውኑ አድርግዎታል።	1= ኣዎ 2= አይ
425	ምንም ስራ አልሰራሁም ይላሉ?	1= ኣዎ 2= አይ
426	ከሚፈልጉት በታች ተከናውኗል።	1= yes 2= No
427	ከተለመደው ያነሰ ሥራ ወይም እንቅስቃሴዎች ሰርተዋል ።	1= yes 2= No

428	ባለፉት 4 ሳምንታት ውስጥ ህመም በተለመደው ሥራዎ ውስጥ ምን ያህል ጣልቃ ገብቷል?	1. በጭራሽ 2. ትንሽ 3. በመጠነኛ 4. በጣም 5. እጅግ በጣም
ባለፉት 4 ሳምንታት ውስጥ ስንት ጊዜ …		1. ሁል ጊዜ 2. ብዙ ጊዜ 3. ደና የሚባል ጊዜ 4. የተወሰነ ጊዜ 5. ጥቂት ጊዜ 6. አንድም ጊዜ
429	የተረጋጋ እና ሰላማዊ ስሜት ተሰማዎት?	
430	ብዙ ጉልበት ነበረዎት?	
431	ዝቅ ያለ ስሜት ተሰማዎት?	
432	አካላዊ ወይም ስሜታዊ በሆኑ ችግሮች የተነሳ ከማህበራዊ እንቅስቃሴ እንደ ዘመድ እና ጓደኞችን መጠየቅ ከመሳሰሉት ተገደቡ	

Annex 7: ጥልቀት ያለው ቃለ መጠይቅ ለማድረግ እና መረጃ ለመቀበል በቃል የሚወሰድ ፈቃድ

የጥናቱ ስም_____

ስሜ_____ ይባላል። በባህርዳር ዩኒቨርሲቲ የሕክምና እና ጤና ሳይንስ ኮሌጅ በሕብረተሰብ ጤና ትምህርት ቤት በጤና ማበልጸግና ስነ-ባህርይ ሳይንስ ትምህርት ክፍል የሁለተኛ ዲግሪ ተማሪ ነኝ። እንደ አንድ የትምህርቴን መስፈርት በባህር ዳር ከተማ በሚገኙ የመንግስት ሆስፒታሎች ውስጥ ክትትል የሚደረግላቸውን የደም ግፊት ታካሚዎችን ቃለ ምልልስ እያደረግኩኝ እገኛለው ።

ቃለመጠይቁ የደም ግፊት ራስን የመንከባከብ ልምዶች/ተግባሮች ላይ ያሉ እንቅፋቶችን በተመለከተ ጥያቄዎችን ያጠቃልላል። ቃለመጠይቁን ለመጨረስ ብዙ ሰዎች___ ደቂቃዎች / ሰዓታት ያህል ይወስዳል።

ቃለ መጠይቅ ለማድረግ የተስማሙ ሰዎች ስም አይመዘገብም ።

የእርስዎ ተሳትፎ በፈቃደኝነት ነው ፣ እናም ለመሳተፍ ፈቃደኛ ባለመሆኑ ቅጣት የለውም።

(የማይሳተፉ ከሆነ በመደበኛነት የሚያገኙትን ማንኛውንም የጤና እንክብካቤ አይነካም)

በቃለ-መጠይቁ ውስጥ ማንኛውንም ጥያቄ ለመመለስ እምቢ ማለት ወይም በማንኛውም ጊዜ ቃለመጠይቁን ማቆም ይችላሉ። ይሁን እንጂ የእርስዎ ትብብር እና ትክክለኛ ምላሽ ጥናቱና ምርምሩ እንዲሳካ ትልቅ አስተዋጽኦ ይኖረዋል። (የቃል ስምምነት ጥቅም ላይ በሚውልበት ጊዜ ለጉዳዮች የተለየ የእውቂያ ቁጥሮች ዝርዝር ይስጡ ።

ፈቃድ የሚያገኝበት ሰው ፊርማ _____ (ቀን) _____

Annex 8: በጥልቀት ቃለ መጠይቅ ለማድረግ በከፊል የተዋቀረ መጠይቅ

የማህበራዊ ስነ-ህዝብ መረጃዎች

ተ.ቁ	የተሳታፊ ኮድ	ጾታ	ዕድሜ	የሕመም ዘመን	የጋብቻ ሁኔታ	የስራ አይነት	የቤተሰብ የደም ግፊት ታሪክ
9.	ተ1						
10.	ተ2						
11.	ተ3						
12.	ተ4						
13.	ተ5						
14.	ተ6						
15.	ተ7						
16.	ተ8						

ክፍል II-የደም ግፊት ራስን የመንከባከብ ልምዶች/ተግባራት መሰናክሎችን የሚመረምሩ ጥያቄዎች

1. የደም ግፊት እንዳለብዎ በመጀመሪያ እንዴት ተገነዘቡ?

   _____

2. የደም ግፊትን በራስ ስለመቆጣጠር መንገዶች ምን ያውቃሉ?

   _____

3. የደም ግፊትዎን ለመቋቋም ምን ምን ነገሮች ያደርጋሉ?

   _____

4. እርስዎ የሚያውቁትን የደም ግፊት ራስን የመንከባከብ ዘዴዎችን ላለማከናወን እንቅፋቶች ምን ይመስሉዎታል?

   _____

   - ✓ የአመጋገብ ጨውዎን ከመገደብ/ከመመጠን ምን ይከለክሎታል?

     _____

   - ✓ ክብደትዎን ለመቆጣጠር የሚመቹ የአመጋገብ ስርዓቶችን ከመተግበር ምን ይከለክሎታል?

     _____

   - ✓ የሚታዘዝሎትን መድሃኒቶች በሐኪምዎ መመሪያ መሠረት አዘውትረው ላለመሰድ ምን ምን ምክንያቶች ይከለክሎታል?

     _____

- ✓ መደበኛ የአካል ብቃት እንቅስቃሴ እንዳያደርጉ ምን ይከለክሎታል?-

  _____

- ✓ የአልኮል መጠጥዎን እንዳይገድቡ የሚያድርግዎትን ምክንያቶች ምንድን ናቸው?

  _____

- ✓ ሲጋራ ማጨስን እንዳያቆሙ የሚያደርጓችሀው ነገሮች ምንድን ናችሀው?

  _____

5. ሁኔታዎን ለመቆጣጠር እንዲረዱዎት በአካባቢዎ ያሉ ሰዎች (ቤተሰብ ፣ ጓደኞች ፣ እና ሌሎች የእርሶ ሌሎች ቅርብ የሆኑ ሰዎች) ያላቸዉን ሚና እንዴት ይገልጹታል?

   - ✓ የቤተሰብዎ ሚና ማለትም (የአባት ፣ እናት ፣ ወንድ ልጅ ፣ ሴት ልጅ ፣ አያቶች ፣….) ያላቸዉን ሚና እንዴት ይገልጹታል?

     _____

   - ✓ የጓደኞቻቸዉን ሚና እንዴት ይገልጹታል?

     _____

   - ✓ የሌሎች ለእርሶ ጠቃሚ/ቅርብ የሆኑ ሰአዎች ማለትም የሃይማኖት መሪዎች ፣ ሐኪሞች ፣ የስራ ባልደረባዎች፣ እና የዕቁብና የእድር አባላቶችና መሪዎች…) ያላቸዉን ሚና እንዴት ይገልጹታል?

     _____

6. ከላይ የተወያየንባቸው የደም ግፊት የራስ እንክብካቤ ተግባራት ለመስራት እንዳይወስኑ የሚከለክሏቸው ነገሮች ምን ምን አሉ ?

   _____

7. የደም ግፊት የራስ እንክብካቤ ተግባራት በግባቡ ብያከናዉኑ በተናዎ ላይ አላቸው ብለው የሚያስቧቸው ዉጤቶች እንዴት ይገልጹታል?

_____

ለትብብርዎ እናመሰግናለን!

Annex 9: Reliability test of the tools

Table 6: Reliability test of tools utilized to assess Hypertension self-care practice and associated factors among hypertensive patients who have followups in public hospitals of Bahir Dar city, North West Ethiopia, June 2021

S.No	Variables	Number of items	Chronbach's alpha
1.	Hypertension self-care practice	20	0.879
2.	Knowledge	12	0.789
3.	Social support	3	0.766
4.	Self-efficacy	5	0.945
5.	Perceived health status	12	0.912