ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF ALLIED HEALTH SCIENCES

DEPARTMENT OF NURSING AND MIDWIFERY

ADHERENCE TO SELF MANAGEMENT AND ASSOCIATED FACTORS AMONG HYPERTENSIVE PATIENTS ATTENDING CHRONIC FOLLOW UP UNITS OF PUBLIC HEALTH HOSPITALS IN ADDIS ABABA, ETHIOPIA, 2016

BY: ABEL TIBEBU (B.Sc.)

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A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES, SCHOOL OF ALLIED HEALTH SCIENCES, DEPARTMENT OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF SCIENCE IN ADULT HEALTH NURSING.

JUNE, 2016

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Abstract

Background - One of the most prevalent non communicable diseases is hypertension. The availability of effective antihypertensive medications didn‟t bring the expected outcomes in terms of controlling blood pressure. The rationale for these and other findings of uncontrolled hypertension direct towards poor adherence. The most neglected causes of uncontrolled hypertension are unhealthy lifestyles. Few studies are conducted to show the gap and magnitude of self-management adherence.

Objectives – This study tried to assess the self-management adherence of hypertensive patients attending follow up at chronic follow up units of public health hospitals in Addis Ababa, Ethiopia,2016.

Method – Institutional based cross sectional study was conducted in four public health hospitals which were selected by lottery method. The final calculated sample size was 416 which were proportionally allocated to each of the institutions and systematic random sampling was used. Data was checked, cleaned and entered in to Epidata software version 3.1, and was imported to SPSS version 21 software for analysis. The results of the descriptive statistics were expressed as percentages and frequencies. Associations between independent variables and dependent variables were analyzed using bivariate and multivariate analysis. The study was conducted from February 15 – April 15, 2016.

Results – The study included 404 respondents with 97% response rate. 210(52%) were male and mean age was 54±10.77 years. The respondents‟ adherence to lifestyle modifications and anti-hypertensive medications were 23% and 66.8% respectively. The lifestyle and medication related adherences were found to be better in females, patients who had comorbidities and have been knowledgeable about the disease and was poor among young adult respondents.

Conclusion and Recommendations – The rates of adherence to medication and life-style changes were generally found to be low. Educational sessions that especially focus on lifestyle modifications and ongoing support for patients should be designed and studies which assess all the components of self-management should be conducted for comparison among different subgroups.

Keywords – Self management, Adherence, Hypertension, Lifestyle modifications, Anti-hypertensive medications

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List of abbreviations and acronyms

AOR – Adjusted Odds Ratio

BP – Blood Pressure

COR – Crude Odds Ratio

CVD – Cardiovascular Diseases

CKD – Chronic Kidney Disease

DASH – Dietary Approaches to Stop Hypertension

ETB – Ethiopian Birr

HTN – Hypertension

MA – Medication Adherence

MMAS – Morisky"s Medication Adherence Scale

MNA- Medication Non Adherence

SCT – Social Cognitive Theory

WHO – World Health Organization

1. Introduction

1.1 Background

The incidence and fatality of non-communicable diseases is significantly escalating worldwide. According to a recent World Health Organization (WHO) report, these diseases are the preceding causes of morbidity and mortality, more than other causes combined (1). Though it has been thought that these diseases were rare in low and middle-income countries, results of different studies show significant number of deaths occur due to non-communicable diseases (1–3). In Ethiopia, out of the total number of deaths among age <70 years, 66.5% (males) and 63.2% (females) are accounted to non-communicable diseases.

One of the most common non communicable diseases affecting a large number of people is hypertension. According to the WHO, hypertension is defined as "a persistent raised systolic or diastolic blood pressure equal to or more than 140/90 mmHg in adults aged 18 years and over" (1,2). Hypertension is known to increase the likelihood of occurrence of cardiovascular diseases (CVDs) such as myocardial infarction, congestive heart failure as well as complications like stroke and chronic kidney disease (CKD) (2).

Prevalence of hypertension around the world is variable, with the lowest prevalence in Australia and northern American countries and the highest prevalence estimated among southern and northern African as well as middle eastern Asian countries (1).

The prevalence of hypertension is also increasing in Sub-Saharan African countries as well. The disease has been found to be more prevalent among people of urban residence. According to a recent finding, there were about 75 million adults living with hypertension in sub-Saharan Africa. This study estimated that the figure will rise to 125.5 million in the coming 10-15 years (6,7).

Findings of studies conducted in Ethiopia show, gradual increment in the total number of hypertension cases. According to a recent study, HTN was found to be the most prevalent non communicable disease with an overall prevalence of 19.1% (5). This increment is attributed to the rise of risk factors including smoking, obesity, and harmful use of alcohol and sedentary life style (1,5,6).

The concept of self-management is part of the chronic care model. It was used for the first time in the 1960‟s with the purpose of highlighting the active participation of patients in their disease management. Its major aim was to minimize the impact of chronic diseases on physical health status and functioning, allowing individuals to cope with the effects of disease. In addition it allows patients to tackle the progress of the disease before the emergence of severe complications.

Self-management activities are usually performed by the individuals and planned together with the healthcare providers. Nurses are key in this process as they play a chief role, in counseling and mentoring patients to achieve the desired outcomes (7).

One of the most important factors in effective management of hypertension is lifestyle modification. It includes patient‟s ability to adopt the Dietary Approaches to Stop Hypertension (DASH), adopt a low sodium diet, engage in physical activity, moderate alcohol consumption and cease smoking (8). Patients are expected to adhere to these activities in order to alleviate the burden imposed by their disease.

The DASH dietary pattern which has been proved to be effective by multiple randomized controlled trials (RCTs), emphasizes on a diet rich in fruits, vegetables, and low-fat dairy products and reduced saturated and total fat(9–11).

According to the seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, majority of patients with hypertension are either obese or do not exercise (11). This report also gave a strong evidence emphasizing the need for smoking cessation for a better BP control (12).

Though the exact pathway of causation of hypertension due to consumption of alcohol is not clear, it is well established that there is a strong association between the two variables according to multiple studies based on RCTs (11,13). Xin et al. also reported a dose-response relationship between alcohol reduction and blood pressure reduction (14).

Hypertension is a chronic illness that needs a person to adhere to medications. Individuals with hypertension should take medication as prescribed by health care providers (15). Along with growth of hypertensive patients, co-morbidity and mortality rates are also increasing significantly, this may be due to poor medication adherence.

1.2 Statement of the problem

Hypertension is one of the modifiable risk factors for CVD and renal diseases. However, awareness about treatment and control of hypertension is extremely low among developing nations like Ethiopia (16). In these countries, the once thought rare disease; hypertension is becoming a serious cause of morbidity and mortality. Even though there is undeniable threat imposed by non-communicable diseases like HTN, communicable diseases still take the lion‟s share in getting the attention from policymakers and foreign aid institutions (4).

Accumulated evidences show that early identification and self-management of chronic diseases like hypertension have been proved to be effective (15,17–20). Several trials have led to established clinical guidelines which dictate, following medication regimens, dietary and exercise regimens, smoking cessation and minimizing alcohol consumption (14,21–24). Despite the existence of these clinical guidelines, control of HTN still remains minimal.

Furthermore, the availability of effective antihypertensive medications didn‟t bring the expected outcomes in terms of controlling HTN (25). A survey done in Iran to assess the risk factors of non-communicable diseases revealed 94% of hypertensive cases were not controlled (26). Another local study conducted in Bedele town revealed, control rate of hypertension was only 22.4% (27). The rationale for these and other findings of uncontrolled HTN direct towards poor adherence to anti-hypertensive medications (25).

Adherence to anti- hypertensive medications is an effective intervention in managing the disease. WHO recommends proper attention to be given towards adherence issues more than the development of new treatment regimens. On average, the overall adherence to long-term therapies for chronic illnesses is 50% among the developed countries. In developing countries, the rates are thought to be lower (1).

Rather the most neglected causes of uncontrolled hypertension are unhealthy lifestyles. Most research on patient adherence with hypertension control guidelines focuses on medication, adverse events of the medication, and the patients‟ sense of well-being. Populations in low and middle countries are especially being affected through engagement to easily modifiable risk factors like unhealthy diet, tobacco use, harmful use of alcohol and physical inactivity.

There are only few studies that specifically address the issue of adherence with recommendations for healthy lifestyle (28). These limited number of studies conducted show lower adherence towards lifestyle modifications; with adherence to regular physical exercise being the least (15,28–30).

Results of leading such a lifestyle would be catastrophic as they would cause poor BP control and emergence of irreversible pathological complications. Additional to the impacts on personal health, it would have societal and economic influences as management of the crisis caused by these diseases would increase the use of complicated and costly health services (25).

Researchers tried to predict, factors that could impede or enhance adherence to self-management behaviors. Most of these studies gave emphasis on the influence of socio-demographic factors. A Turkish study identified, presence of three or more types of adherence was related to income level (OR= 0.297; 95%CI - 0.132-0.666; $p<0.001$) and presence of any other chronic disease (31). Another study in Addis Ababa, Ethiopia showed significant association among marital status, work status, duration of HTN and its treatment and medication adherence (17).

Even though socio-demographic factors have major impact on how patients deal with their illness, multiple independent factors that could influence patients‟ adherence to taking anti – hypertensive medications are hardly studied.

Though the issue of self-management and its adherence requires strong devotion and considerable attention, few studies are conducted to show the gap and magnitude of the problem. There is only one local study that assesses both adherence to lifestyle modifications and anti – hypertensive medications in Ethiopia. This study tried to assess adherence to self-management and its associated factors among adult hypertensive patients within public health care facilities in Addis Ababa.

1.3 Significance of the study

Self-management is a significant challenge to patients with hypertension. Hypertensive patients are expected to be able to modify their lifestyle, monitor their blood pressure and adhere to their treatment regimens. The identification of gaps in the area of adherence to self-management among hypertensive patients can guide policy makers to give emphasis towards this emerging issue and development of programs that play a key role in controlling cardiovascular and renal complications that are due to hypertension. It will also steer the direction of nursing interventions aimed at overcoming this issue. In addition, this study could be used as a baseline for future studies and be a cue for further studies to be done on hypertension or chronic diseases self-management in general.

2. Literature review

2.1 The concept of self-management

Self-management follows and emphasizes a person-centered model of care through the integration of tools and programs into routine care and practice. This element of the Chronic Care Model is about how people could be empowered to take control of their management and improve their confidence to manage. Effective self-management will include an assessment of a person‟s self-management capacity. Goal setting, action planning and problem solving skills will be used to promote behavior change (32).

2.2 Adherence

Although most researches have focused on adherence to medication, adherence also encompasses numerous health-related behaviors that extend beyond taking prescribed pharmaceuticals. The participants at the WHO Adherence meeting in June 2001 concluded by defining adherence as “the extent to which the patient follows medical instructions “(25).

2.2.1 Adherence to lifestyle modifications

There are few studies conducted which assess the overall adherence to recommended lifestyle modifications. A Turkish study which assessed diet, exercise, measurement, smoking and medication related adherences among 150 participants found out that each patient was adherent to at least one recommendation, while 11% of patients were adherent to one recommendation, 23% - to two, 29% - to three, 24% - to four and 13% to all the specified behaviors. Another study conducted in Saudi which assessed the adherence to lifestyle changes and medications among male hypertensive patients found out that only 6 out of 144 respondents complied to all the studied domains (29).

Adherence to DASH

A study conducted in Israel on 1125 patients revealed that 50% of the patients adhere to special dietary pattern (28). On the contrary, another study done in Bangladesh asserted that majority (65.5%) of the study participants didn‟t follow a special dietary modification pattern because of low economic income and not believing on the idea of restriction of foods (15).

Adherence to Exercise

One study done on self-management of hypertension among hypertensive patients in Bangladesh, put performance of regular exercise as one of the activities never practiced (77%) (15). This is a large number compared to a study in Ethiopia where more than half (56.3%) of the participants were not adherent to recommended exercise regimens (17). Out of 523 patients who participated in a study conducted in rural china 51.9 % of the subjects were engaging in physical exercise on most days of the week and slow walking was found to be the most common (77.8%)physical activity(33). Another study done in Israel (28), states that 537 patients out of 1125 respondents reported that they exercise.

Moderation of Alcohol intake

According to analysis of the 1999–2004 National Health and Nutrition Examination Survey that included adults aged 20–84 years who were free of cardiovascular disease and hypertension, alcohol consumption above recommended guidelines (more than 2 drinks per day in men and 1 drink per day in women) was associated with higher systolic blood pressure in both men and women (34).

A longitudinal study conducted over 20 years in southern California on older adults showed that participants consumed less alcohol as they aged, more males than females continued to consume higher amounts than recommended guidelines (35% and 24% respectively), a finding that held regardless of having a comorbid chronic illness such as HTN and diabetes (21). Due to societal and spiritual factors, the figures for alcohol consumption are very low in some parts of the world. Almost all patients (99.1%) of participants of a study in Bangladesh stated that they never drank alcohol. Another study done in china shows 77.9% of the participants abstained from drinking any alcohol(33).

Smoking cessation

Studies conducted in different parts of the world show variable figures regarding smoking cessation. A study conducted in Tell Aviv, Israel showed that 13 % of study participants who are hypertensive still smoke (28). Slightly increased number of smokers (22.1%) was found in a study conducted among 318 hypertensive patients in rural part of China (33). A study in Bangladesh shows that approximately 69.1% of participants never smoked cigarettes (15).

2.2.2 Adherence to anti – hypertensive medications

A study by Haynes et al. showed control of HTN was associated with taking at 80% of a prescribed regimen. Non-adherence rates for patients with HTN are reported to be 50% after 1-year and 85% after 5 years. It is one of the biggest challenges to the health care professionals to adhere the patients to prescribed regimens (35).

Anti – hypertensive medication adherence was assessed among 514 patients who receive secondary care in UK and the results showed that only 22% were non-adherent (36). Similar studies conducted in different developed countries show higher adherence levels (37,38). This is higher compared to a study done in China where 61.3% of the participants reported being adherent to anti-hypertensive medications (33). A population based study conducted in rural Bangladesh to describe hypertension and the factors affecting adherence to treatment among hypertensive patients, showed that from the 29960 individuals who participated 13.67% were hypertensive and of those who started treatment upon being diagnosed with hypertension, 26% discontinued the use of medication (39).

African studies conducted to assess anti-hypertensive medication adherence found lower adherence figures. For instance, a Nigerian study which involved 140 participants found out that adherence to medication and BP control rates were 42.9% and 35.0% respectively. (40). In another part of Nigeria, a community based study on 440 hypertensive patients revealed the level of compliance to be 51% among the participants (41).

A study which included 2 teaching hospitals in Ghana and Nigeria involved 357 patients as study participants portrayed the medication adherence to be 33.3%(42). A cross sectional study in Kenya which involved approximately similar number of participants showed that 62.4% of the respondents attending Kiambu District Hospital were fully adherent to treatment. Similarly a study in Tanzania shows that majority of patients (168 of 300, 56.0%) had high MA (43).

One could expect the magnitude of non-adherence to be high in Ethiopia. However, the numbers on few researches conducted in the thematic area show adherence is relatively higher than some other African countries. For example, a study conducted to assess the magnitude of adherence and the factors associated with non-adherence to anti- hypertensive medication in Dessie Hospital, found out that, from 100 individuals that participated, only 26% were non adherent (44). But percentages for adherence were lower in studies done at other health institutions in

Ethiopia. Studies done at Black lion (17) and Adama (45) referral hospitals show 69.2% and 59.5% of medication adherence among participants respectively.

2.3 Factors associated with self-management of hypertension

2.3.1 Socio-demography

Age

One study was conducted in the USA to assess the predictors of self-management behaviors among 165 older adults. This study revealed that there is a negative relationship between age and exercise (8). In contrast, a secondary data analysis in Israel found that age under 60 predicted low scores on healthy lifestyle behavior including exercise (28). Similarly, A Saudi study found that patients of ages under 65 were found to be more adherent to a healthy diet compared to the elderly ones (29).

Studies conducted in USA, Bangladesh, China and Nigeria portrayed a positive association between age increment and MA (33,39,46–48). Compared to this finding, a study conducted at Adama hospital found out age group 46 – 55 showed a statistically significant association with adherence to treatment of HTN (45).

Gender

Almost all studies conducted regarding adherence to lifestyle modifications and anti-hypertensive medications asserted that females were found to be better than men. For instance, a study conducted in China reported that males had lower self-care behaviors (33).

A community based study from Bangladesh found out that, non-adherence to treatment was higher among men than women (39). This is consolidated by studies from Bangladesh, Tanzania and Kenya, which revealed that females were more compliant to treatment than male participants (15,42,43).

Religion

Not so many studies are present which show associations among religion and adherence to self-management. However, these few studies conducted show better adherence among Muslim study

subjects (15). A cross sectional study done in 110 patients residing in Bangladesh has revealed that religion (Islam) is the reason for the minimal involvement of participants in consumption of alcohol and cigarette smoking. A local study conducted in Adama hospital depicted an association between Islam religion and adherence to treatment of HTN (45).

Marital status

A study conducted in the US revealed that being separated with spouses was found to be associated with having a higher DASH score (33). Another study from Nigeria partially contradicts this study in that respondents who were married at the time of data collection were more likely to practice salt restriction (49).

A study conducted in Black lion hospital, Addis Ababa, Ethiopia also tried to assess the factors associated with adherence to dietary restriction and exercise. It was found that respondents in widowed situations were 5 times more likely to adhere to diet related recommendations compared to divorced respondents. This local study also showed that married respondents were 2 times more likely to adhere to anti-hypertensive medication compared to divorced respondents (17).

Income and work status

A study conducted in turkey showed that the presence of three or more types of adherence to self-management was related to income level (31). Another study conducted at Black lion hospital, Addis Ababa showed, respondents who had private business were 72% less likely to adhere to medication management compared to governmental employed (17).

Time since diagnosis

The duration since being diagnosed with hypertension has effects on self-management. Some patients who had longer history of HTN were found to be better than new patients in adherence to self-management. For instance, a study from Bangladesh depicted that study subjects who had longer times since diagnosis (>6 years) were found more likely to be adherent to lifestyle modifications and anti-hypertensive medications (15). Another study from China also found out that those respondents who had shorter history of hypertension were found less likely to be adherent to recommended lifestyle modifications (33).

2.3.2 Social support

Social support is considered a complex and dynamic process that involves individuals and their social networks, working to satisfy their needs, provide and complement the resources they have and, thus, cope with new situations (50).

Researchers believe in the potential of social support as a component that helps reduce stress and favors the coping mechanisms of people with chronic diseases (51,52). Other authors confirm these ideas stating that social support encourages personal attitudes associated to health monitoring, information sharing and assistance in moments of crises, as well as health care in general (53).

Though it is known that having stable social support; which includes peers and families, is way more better in complying to prescribed chronic disease self-management practices, only recently have there been systematic studies of attempts to direct social support in order to improve compliance with antihypertensive therapy and required lifestyle modifications. These studies have not shown an independent effect on compliance of attempting to promote social support, but their results must be regarded as preliminary (54).

A single blind RCT study done in Thailand (51) to determine the effects of peer-support, self-management program on self-management behavior and blood pressure of older adults with essential hypertension. The result of this study shows that peer-support, self-management program affected self-management behaviors and blood pressures.

A community based study was conducted to assess the social support and management of hypertension in south-west Nigeria. It involved 440 hypertensive participants whose age were 25 years and older. Having a family member with hypertension was significantly associated with compliance to self-management behaviors (54). A result that is similar with the above findings (51,54) is seen in a study done on self-management of chronic diseases at three public health hospitals in Addis Ababa (55). This study shows in diabetic patients, social support significantly predicted health distress and activity limitation scores. Then it was found that social support significantly predicted, with significant amount of the variance in the value of health distress and activity limitation that among heart failure patients.

2.3.3 Self-efficacy

The concept of self-efficacy originated with Bandura‟s social cognitive theory (SCT). Bandura (56) defined self-efficacy as "beliefs in one‟s capabilities to organize and execute the courses of action required to produce given attainments." Self-efficacy may mediate the relationship between knowledge or abilities and activity performance or moderate the effectiveness of an intervention (57).

Very few studies are conducted which assess the effect of self-efficacy on chronic disease self-management. A study involving 190 African American respondents showed that good self-efficacy was statistically significantly associated with increased prevalence of adherence to medication, eating a low-salt diet, engaging in physical activity, not smoking, and practicing weight management techniques. This study also added that self-efficacy was strongly associated with adherence to five of six prescribed self-care activities (58).

A study done in Nigeria showed those respondents with high self-efficacy (88/262, 33.6%) had significantly higher adherence to medications than those with moderate and low self-efficacy (59). A local study conducted in three selected public hospitals of Addis Ababa found that self-efficacy significantly predicted self-management (55).

2.3.4 Co-morbidities

Hypertension is a disease which is mostly associated with comorbid conditions such as diabetes mellitus, stroke, chronic kidney disease, and coronary heart disease. Comorbidity is one patient-specific factor that affects hypertension control (15). These could be consolidated by a Kenyan study where significant associations were found between hypertension and comorbidity (42).

Different studies done, in different countries show selective association, between one co-morbidity and HTN. For instance, a Bangladesh study showed patients with cardiovascular comorbidity were less likely to be non-adherent to antihypertensive medication (39). A Turkish study stresses the afore mentioned result in that it revealed, the presence of three or more types of adherence was associated with presence of three or more types of adherence (31).

A local study conducted at Black lion hospital, Addis Ababa showed respondents with no co-morbidities were 3 times more likely to adhere to diet management than with other disease conditions. This study also shows significant association between comorbidities and exercise adherence (33).

2.3.5 Knowledge about hypertension

It is not uncommon to see hypertensive patients engage in unhealthy lifestyles such as excessive consumption of alcohol, sedentary lifestyle, and excess consumption of sodium, tobacco and cigarette smoking, consumption of foods rich in cholesterol and non-adherence of medications. Though not so many studies are present to determine the cause, some direct the issue towards lack of knowledge about hypertension and its self-management.

A cross sectional study in South Africa which included 110 patients found a surprising result where more than 50% of the respondents had been hypertensive for more than 5 years, and only 53% knew what medication they were currently on and 54% did not know what the ideal BP should be (60).

A relationship between knowledge on hypertension and self-care management practices was found in a study done in Jamaica, suggesting that approximately 5 percentages of the variance in self- care management practices can be accounted for by knowledge on hypertension (61). A Kenyan study showed significant association between knowledge of hypertension and medication adherence. This study asserted that, participants found to be knowledgeable about hypertension and its treatment were about 2.6 times more likely to be adherent to their treatment compared to those found to be non-knowledgeable (42). Another study from Kuwait showed that non-compliance to anti-hypertensive medications was associated with lack of knowledge about HTN (37).

Some studies also showed that there exists a strong relationship among life style modifications and patients‟ knowledge about the disease. For instance, a study in Israel revealed that respondent‟s knowledge on hypertension and its management had an independent effect on compliance with recommended lifestyle behaviors. This study confirmed that low scorers on the knowledge scale were found to be 72% less likely to adhere to healthy lifestyle behaviors (28).

2.4 Summary

Hypertension is one of the most commonly encountered chronic diseases. It is known to be the cause and risk factor of CVD and renal diseases. Worldwide, its prevalence is rising in an alarming rate and is becoming a cause of morbidity and mortality in developing countries like Ethiopia.

One of the components of the chronic care model that aims to empower patients for the betterment of their health status is self-management. It includes lifestyle modifications (dietary modification, regular exercise, moderation of alcohol consumption and cessation of smoking) and treatment with anti – hypertensive medications.

Even though self-management behaviors are proved to be effective, adherence issues remain an area of concern. WHO defines adherence as "the extent to which the patient follows medical instructions". Several factors could influence adherence to self-management among hypertensive patients. Studies conducted in different parts of the world found out socio-demographic, personal, social and behavioral factors may affect patients" adherence.

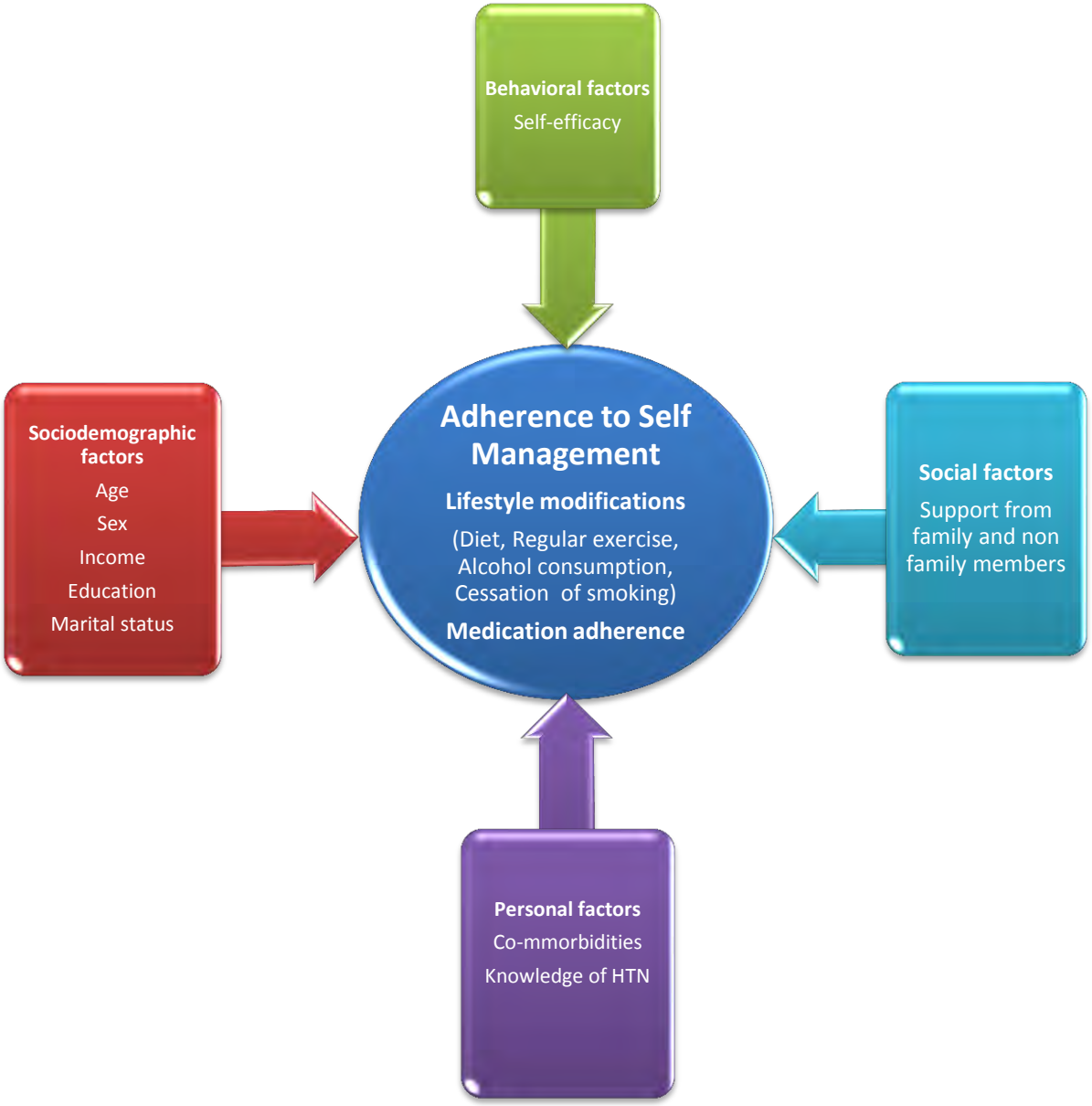

Figure 1: Proposed conceptual framework showing the factors associated with adherence to self management of hypertension; adapted from review of literatures (34,10,11,52,54)

3. Objectives

3.1 General objective

- To assess adherence to self-management and associated factors among hypertensive patients attending follow up at chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016.

3.2 Specific objectives

- To assess adherence to recommended lifestyle modifications among hypertensive patients attending follow up at public health hospitals in Addis Ababa, Ethiopia, 2016.
- To assess adherence to prescribed anti – hypertensive medications among hypertensive patients attending follow up at public health hospitals in Addis Ababa, Ethiopia, 2016.
- To determine factors associated with adherence to life style modifications among hypertensive patients attending follow up at public health hospitals in Addis Ababa, Ethiopia, 2016.
- To determine factors associated with adherence to anti-hypertensive medications among hypertensive patients attending follow up at public health hospitals in Addis Ababa, Ethiopia, 2016.

4. Methodology

4.1 Study Area and Period

Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), Addis Ababa city has a total population of 3,384,569. It lies at an altitude of 7,546 feet (2,300 meters). The City has surface area of about 530.14 km2. Languages spoken include Amharic (71.0%), Oromiffa (10.7%), Gurage (8.37%), Tigrigna (3.60%), Silt'e (1.82%) and Gamo (1.03%) (62). There are a total of 41 hospitals in the city, of which, 13 of them are public. This study involves the 12 public hospitals as they give hypertension follow up services. The study was conducted in chronic follow up units of Dagmawi Menilik, Tirunesh Beijing, Yekatit 12 and Zewditu memorial hospitals from February 15 to April 15, 2016.

4.2 Study Design

- Institutional-based cross sectional study was conducted.

4.3 Population

4.3.1 Target population

- All hypertensive patients who were on follow up at public health hospitals in Addis Ababa, Ethiopia.

4.3.2 Study population

- Selected patients who fulfilled the inclusion criteria and were available during the time of data collection.

4.3.3 Study units

- Patients

4.4 Inclusion and exclusion criteria

4.4.1 Inclusion criteria

All hypertensive patients who were 18 years and older and were on medical treatment (anti-hypertensive) at least for six months period before commencement of the study were recruited.

4.4.2 Exclusion criteria

Patients with cognitive impairment and those who refused to participate were immediately excluded from the study.

4.4 Sample size determination

The size of study participants who were recruited in to the research was calculated using the single population proportion formula separately. After comparing p – values for diet related adherence, medication adherence and exercise adherence, sample size was calculated considering a p-value of 0.437 (to get the largest sample size) (17), level of confidence of 95%, and margin of error 5%:

$$\text{Sample size (n)} = \frac{Z^2 * p * q}{d^2}$$

Where p - Proportion of patients who adhere to self-management practices

q- Proportion of patients who don‟t adhere to self-management practices

d- Margin of error

n- Minimum sample size

Substituting the values for each of these variables in the above formula, the sample size is estimated to be 378. Adding non response rate of 10%, the final sample size is 416.

4.5 Sampling technique

There are 12 public health hospitals that give chronic follow up services in Addis Ababa city. Out of these, 4 are selected using lottery method (simple random sampling). The study was conducted on the selected public health hospitals‟ chronic follow up units. The number of study units for each unit was proportionally allocated (based on the number of patients coming per

month) and those who were part of the final sample size were selected using systematic random sampling

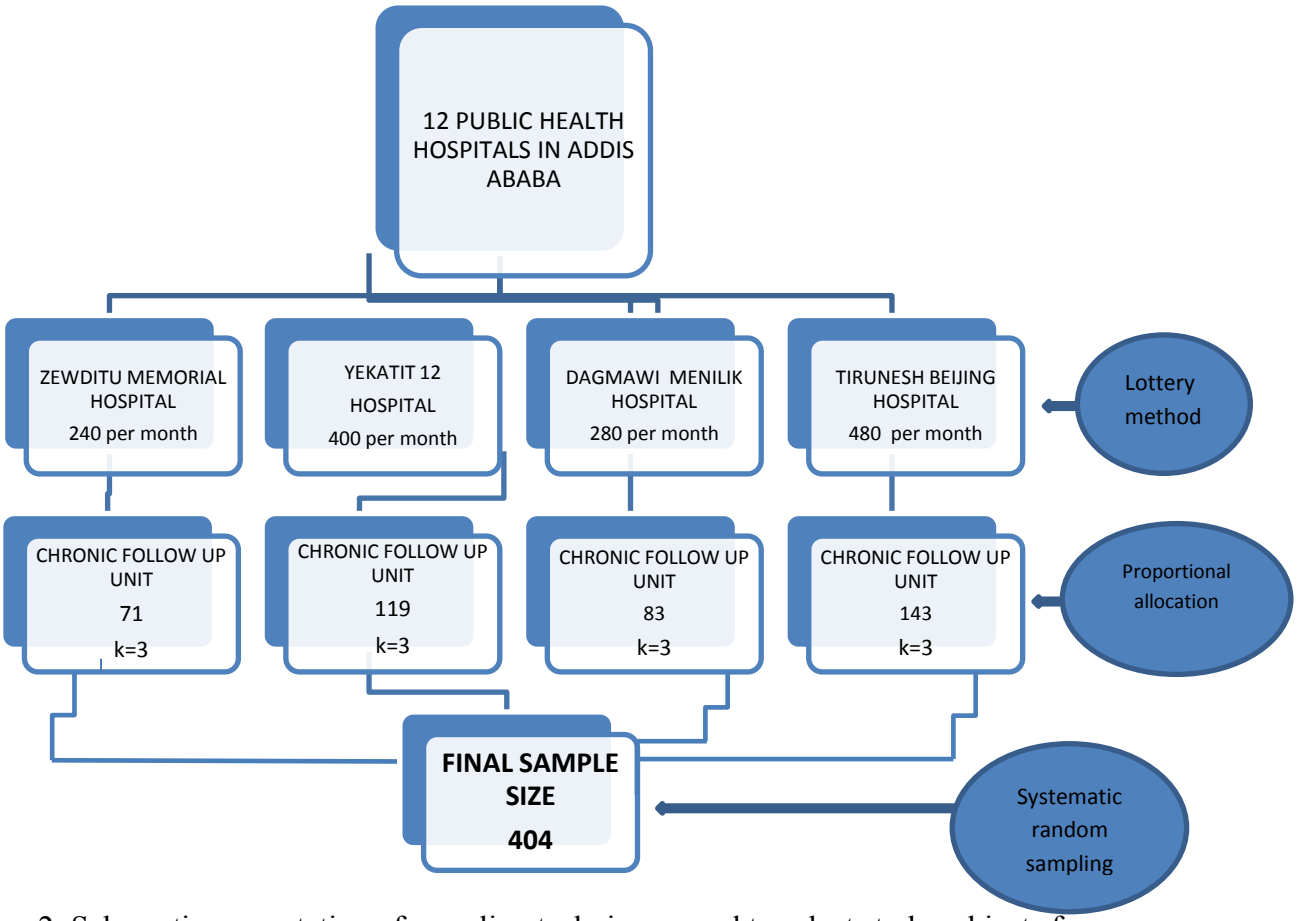

Figure 2: Schematic presentation of sampling techniques used to select study subjects from public health hospitals in Addis Ababa, 2016

4.6 Variables of the study

4.6.1 Dependent Variable

- Adherence to self-management of hypertension
    - Adherence to recommended lifestyle modifications
    - Adherence to prescribed anti – hypertensive medications

4.6.2 Independent Variables

- Socio-demographic factors
    - Age, sex, marital status, religion, ethnicity, level of education
- Personal factors
    - Comorbidities, knowledge about the disease, duration of hypertension, type and duration of anti – hypertensive medication intake
- Behavioral factors
    - Self-efficacy
- Social factors
    - Support from families and non-family members of the society

4.7 Operational Definitions

Adherence: The extent to which a person‟s behavior (taking medication and executing lifestyle changes) corresponds with recommendations from health care providers.

Adherence to lifestyle modifications: respondents who adhere to diet, exercise, smoking and alcohol consumption related recommendations.

- ***DASH***: a diet rich in fruits, vegetables; low sodium, reduced saturated and total fat.
- ***Diet-related adherence***: In this study, those respondents who reported, they usually or always consumed a diet rich in vegetables, grains and fruits; rarely or never consumed salt; rarely or never consumed foods rich in spices and saturated fat were considered to be adherent.
- ***Exercise-related adherence***: respondents who reported, they exercise for $\geq$30 minutes per day; at least three times per week.
- ***Smoking-related adherence***: respondents who reported, they either never smoked or stopped smoking.
- ***Alcohol consumption related adherence***: respondents who reported, they either never consumed alcohol or whose overall score on FAST $\leq$ 3 were taken as adherent to moderation of alcohol consumption.

Adherence to anti-hypertensive medications: respondents with a score of 0 on the Morisky 4 item self-reported MA scale were taken as adherent to prescribed anti – hypertensive medications.

Co-morbidities: respondents with one or more medical conditions in addition to HTN.

Knowledge about hypertension: respondents with scores above the mean value on hypertension evaluation of lifestyle and management (HELM) scale were taken as having good knowledge about hypertension.

Social support: is the support gained from family and non-family members. In this study, respondents whose score was above the mean value on the Duke Social Support and Stress scale were taken as having social support.

Self-efficacy: is the belief in one‟s capabilities to organize and execute the courses of action required to produce given attainment. In this study, respondents who scored above the mean value on the six items Chronic Disease Self-Efficacy Scale were considered as having good self-efficacy to cope up and manage their disease.

4.8 Data Collection Instruments

Structured interviewer administered questionnaire was used to collect data on adherence to self-management and associated factors. All the questions were prepared in English and were translated to the language of Amharic by experts‟ who are fluent in both language and back translated to English to see its consistency.

Adherence to life style modification was assessed in terms of four components including the DASH and low sodium diet, regular exercise, minimizing alcohol consumption and cessation of smoking. Since there were no available standard questionnaires to assess adherence to lifestyle modifications, it was prepared by the principal investigator from review of pertinent literatures (3,63,15,17).

The Fast Alcohol Screening Test (FAST) – (Cronbach‟s alpha = 0.77; Test–retest reliability = 0.8) which is a short version of the Alcohol Use Disorders Identification Test (AUDIT) was used to assess moderation of alcohol consumption (64). It contains 4 items and a score of 0 for

„Never", 1 for „Less than monthly", 2 for „Monthly", 3 for „Weekly" and 4 for „Daily or almost daily" was given.

The hypertension evaluation of lifestyle and management (HELM) scale which has 14 items was used as a tool to assess respondents" knowledge (65). The questions were modified to 10 as the questions „7 and 8" were country specific and questions „12 and 13" did not meet with the study objectives. The tool contains selected response items with the right answer coded as „1" and wrong answer as „0".

The Duke Social Support and Stress Scale which contains 12 items was used to assess support gained from family, friends or significant others. Responses were coded as follows: "none"=0, "some"=1, "a lot"=2, "yes"=2, "no"=0 and "there is no such person"=0. Blank responses were considered as "0", The support score was calculated by summing the six responses in both sections (family and non-family support); based on the reply to the last question, 2 was added to the family or non-family support. The resulting total was divided by 22 and multiplied by 100 to give a 0 to 100 score (66).

The six items Chronic Disease Self-Efficacy Scale was used to measure self-efficacy. The reported internal consistency reliability was 0.91(67). Originally each item contained a 10-point scale ranging from „„totally unconfident"", "unconfident", "not sure", confident and „„totally confident"". The alternatives were modified to five (completely unconfident was scored 1, unconfident was scored 2, not sure was scored 3, confident was scored 4 and totally confident was scored 5).

The Morisky 4 item self-reported MA scale (alpha-reliability = 0.61, and concurrent validity; Pearson correlation = 0.64; $p < 0.05$) was used to assess patients" MA, where total scores of ≥ 3 indicated low adherence; 1 or 2 = medium adherence and 0 = high adherence (68).

4.9 Data collection methods

Data was collected by using face to face interview. The investigator was responsible for the overall management of the project; the development of the final questionnaire; securing participation of selected patients; identifying, training and assignment of data collectors and supervisors.

The Data collectors were four trained diploma nurses who were assigned at each of the four hospitals‟ chronic follow up units and were supervised by three BSc. nurse professionals. The principal investigator was making the overall supervision daily. The purpose of the training was to ensure that all the data collectors had the same information about the study instrument and followed the same interview procedures. The training dealt with the purpose of the study, confidentiality and how to approach and forward questions to clients.

4.10 Data quality Assurance

Both the data collectors and supervisors were trained for two days on the objective and methodology of the research, data collection approach. The questionnaire was translated to Amharic language and back translated into English by another person to check for consistency.

Pretest was conducted in 5% of the samples in a health care institution that was not included in the final study. The data collection instrument was assessed for completeness, consistency, and applicability and was ratified accordingly. The study procedures protected the patient's privacy by allowing anonymous and voluntary participation.

4.11 Data processing and analysis

Data was checked, cleaned and entered in to Epidata version 3.1 software, then was imported to SPSS version 21.0 software for analysis. Incomplete and inconsistent data was excluded from the analysis. Descriptive statistics was used to describe the sample. The results of the descriptive statistics were expressed as percentages and frequencies. Associations between independent and dependent variables were analyzed first using bivariate analysis to identify factors which were associated with the outcome variable. Those variables which were found to have an association with the outcome variable at $P<0.2$ were entered to multivariate logistic regression to test for independent association. The magnitude of the association between the different independent variables in relation to dependent was measured using odds ratios and 95% confidence interval (CI) and P values below 0.05 were considered to be statistically significant.

4.12 Ethical consideration

Ethical clearance was obtained from the Research and Ethics Committee of the department of Nursing and midwifery of AAU and official letter was sent to the selected public health hospitals. After getting permission from the hospitals to participate in the study, verbal and written consent was obtained for willingness of patients to participate. The patients‟ privacy was maintained by conducting the interview in a private place and they were informed that there won‟t be any incentive or harm for their participation in this study. Finally, participants‟ identity was kept anonymous throughout the data collection and analysis process.

4.13 Dissemination plan

The final result of this research was presented to the community of department of nursing and midwifery of AAU. It was disseminated to the school library and respective hospitals. Finally, it will be published in peer reviewed journals for further utilization.

5. Results

1. Socio-demographic characteristics of participants

Out of the total patients who were attending chronic follow up units of public health hospitals during the study period, 404 eligible clients were included in the study, with response rate of 97%. Analysis was made based on the 404 completed questionnaires. The study consisted of 210 (52%) males. The mean age of the respondents was 54 ± 10.77 years while majority of the respondents (58.9%) were in 40 - 59 age group. About 155 (38.4%) of the respondents were Amhara by ethnicity. Majority of the respondents 251(62.1%) were orthodox by religion and 256 (63.4%) were married. Out of the respondents 112(27.7%) attended college or university and 109 (27%) of respondents manage their private business. One hundred twelve (28%) respondents have an income ≥3000 Ethiopian Birr (ETB) and 75(18.6%) did not have regular income and live with support from others **Table 1**.

Table 1: Socio demographic characteristics of respondents attending chronic follow up units of public health hospitals, Addis Ababa, Ethiopia, 2016 (n=404)

Variables		Frequency	Percent
Age in years	21-39years	33	8.2
	40-59years	238	58.9
	≥60 years	133	32.9
Sex	Male	210	52
	Female	194	48
Religion	Orthodox	251	62.1
	Islam	94	23.3
	Protestant	50	12.4
	Other (Catholic, Jovah)	9	2.2
Ethnicity	Oromo	141	34.9
	Amhara	155	38.4
	Tigre	48	11.9
	Gurage	36	8.9
	Other(Silte,Wolayta,Sidama)	24	5.9
Marital status	Single	34	8.4
	Married	256	63.4
	Divorced	44	10.9
	Widowed	70	17.3
Educational level	Can‟t read and write	62	15.3
	Read and write only	81	20.0
	Primary	65	16.1
	Secondary	84	20.8
	College/University	112	27.7
Work status	Governmental employee	80	19.8
	Private employee	68	16.8
	Private business	109	27.0
	Non-employed	85	21.0
	Retired	62	15.3
Monthly income	No regular income	75	18.6
	<999 ETB	79	19.6
	1000-1999 ETB	80	19.8
	2000-2999 ETB	58	14.4
	≥3000 ETB	112	27.7

2. Personal characteristics of participants

Table 2 shows, out of the total 404 respondents, 198 (49%) were hypertensive for four or more years and 183(45.3%) were on hypertensive treatment for a similar amount of time. Majority (93.8%) of respondents take one to two types of antihypertensive medications. 224 (55.4%) respondents have comorbid diseases. The mean score for knowledge was found to be 4.83 and 229 out of the 404 participants were found to be knowledgeable about hypertension in general. 55.4% of the respondents had co-morbidities, of which, diabetes mellitus was found to be the most frequent comorbidity with 57.1% of the respondents having it; 12.2% have coronary artery disease, 11.1% had a history of stroke, 2.1% have CKD and 17.4% had other comorbid diseases.

Table 2: Personal characteristics of respondents in chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016 (n=404)

Variables		Frequency	Percent
Time since diagnosis	Less than two years	49	12.1
	Two to four years	157	38.9
	Four or more years	198	49.0
Duration of anti-hypertensive treatment	Less than two years	56	13.9
	Two to four years	165	40.8
	Four or more years	183	45.3
No of types of medications	Less than or equal to two	379	93.8
	Greater than two	25	6.2
	Total	404	100
Comorbidities	Present	224	55.4
	Absent	180	44.6
Knowledge about HTN	Good	229	56.7
	Poor	175	43.3

3. Behavioral and social characteristics of participants

The mean scores for self-efficacy and social support were calculated and adopted as influencing factors and entered into multiple logistic regression model to examine their relationship with, or influence on the key variables under examination, adherence to lifestyle recommendations and prescribed medications.

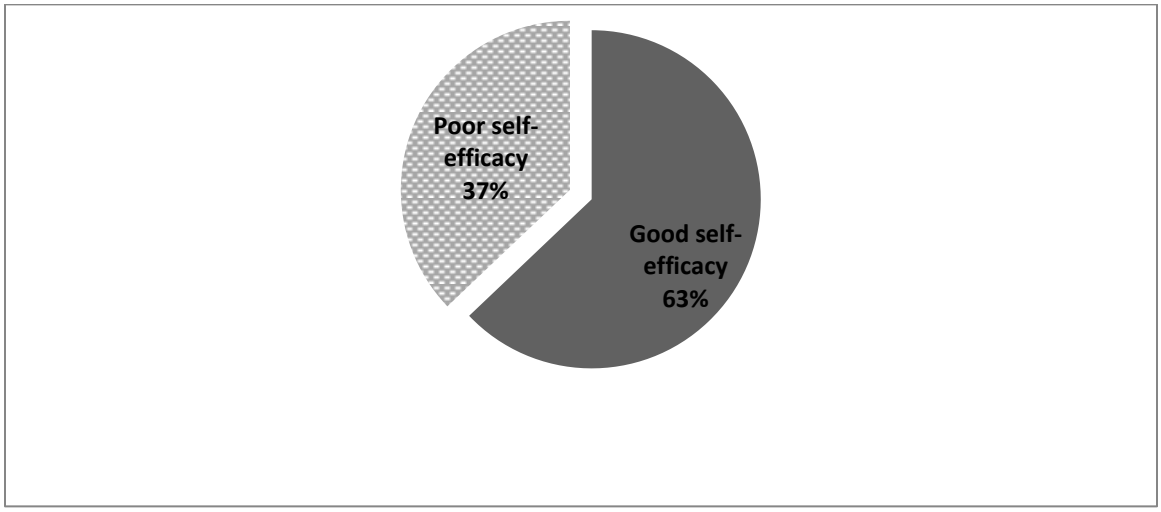

Figure 3: Self-efficacy of respondents attending chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016.

The mean score for the 6 item chronic disease self-efficacy scale was computed based on the response of participants and was found to be 19.45±3.93 The respondents who have scored above the mean on the chronic disease self-efficacy scale were 254 (62.9%)**Figure 3**.

Similarly the total mean score of respondents‟ social support on the Duke‟s social support and stress scale was 44.66±19.63. Approximately half of the respondents (50.5%) got support from family and (or) family members.

3. Adherence to recommended lifestyle modifications

This study found out that 23% of the respondents were found to be adherent to all studied lifestyle recommendations. 69.1 % of the respondents were adherent to diet related recommendations. Approximately 85.9% of participants were nonsmokers or ceased smoking, 74.8% of the participants were adherent to moderation of alcohol consumption. Majority (68.6%) of the subjects do 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 out that the adherence rates of recommended hypertension lifestyle modifications were greater than 60% for behaviors related to dietary modification, smoking and alcohol consumption, and rates were much lower for activities relating to physical exercise **Table 3**.

Table 3: Adherence to lifestyle recommendations among hypertensive patients attending chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016 (n=404).

Variables		Frequency	Percent
Adherence to lifestyle modifications	Adherent	93	23.0
	Non adherent	311	77.0
Diet related adherence	Adherent	277	69.1
	Non adherent	127	30.9
Exercise related adherence	Adherent	127	31.4
	Non adherent	277	68.6
Smoking	Ceased	347	85.9
	Didn‟t cease	57	14.1
Alcohol consumption	Moderated	302	74.8
	Not moderated	102	25.2

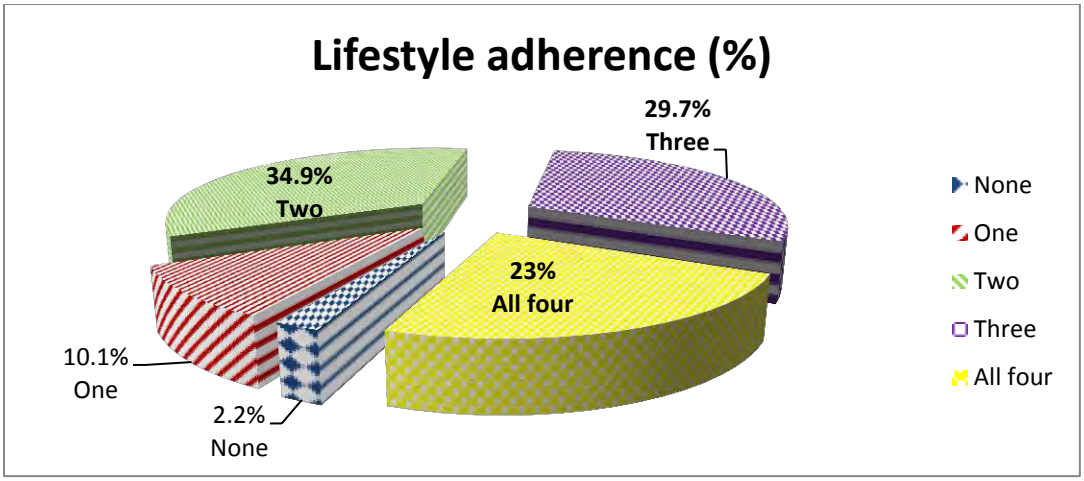

Figure 4: Percentage of respondents‟ adherence to the types of lifestyle recommendations in public health hospitals in Addis Ababa, Ethiopia, 2016.

In reference to **Figure 4**, majority (34.9%) of the study participants were adherent to two components of recommended lifestyle modification followed by those who adhered to three components (29.7%). Respondents who were non adherent to all components of lifestyle modification were 2.2% and 10.1% were adherent to only one type of recommendation. Overall adherence to all components (diet, exercise, smoking and alcohol consumption related) was 23%.

3.1 Adherence to diet

Majority of respondents included fruits, vegetables, grains and beans in their diet since been diagnosed with HTN. Almost all respondents rarely or never consumed foods that contain high saturated fat and more than 60% of them rarely or never consumed spicy food since being diagnosed. Those respondents who never or rarely used sat in their food were 87.6% **Table 4**.

Table 4: The response of participants on diet related recommendations in chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016 (n=404).

Variables	Never	Rarely	Usually	Always
How often do you include fruits, vegetable, grains, and beans in your diet after diagnosis	7(1.7%)	113(28%)	240(59.4%)	44(10.9%)
How often do you consume foods that contain high saturated fat?	85(21%)	299(74%)	18(4.5%)	2(.5%)
How often do you consume spicy foods since being diagnosed?	66(16.3%)	192(47.5%)	131(32.4%)	15(3.7%)
How often do you consume salt in your food?	19(4.7%)	31(7.7%)	109(27%)	245(60.6%)

3.2 Adherence to Exercise

Table 5 portrays 34.9% of the respondents reported that they perform physical exercise; out of which, the majority (90.1%) claimed they exercise for at least three times per week and an approximately similar number of respondents (90.8%) confirmed that they engage in an exercise which at least takes 30 minutes.

Table 5: The response of participants‟ on exercise related issues who were attending follow up in chronic follow up units of public health hospitals of Addis Ababa, Ethiopia, 2016.

Variables		Frequency	Percent
Do you perform physical exercise at all?	Yes	141	65.1
	No	263	34.9
How often do you exercise?	< 3 times per week	14	9.9
	≥3 times per week	127	90.1
For how long do you exercise per session?	<30min per day	13	9.2
	≥30 min per day	126	90.8

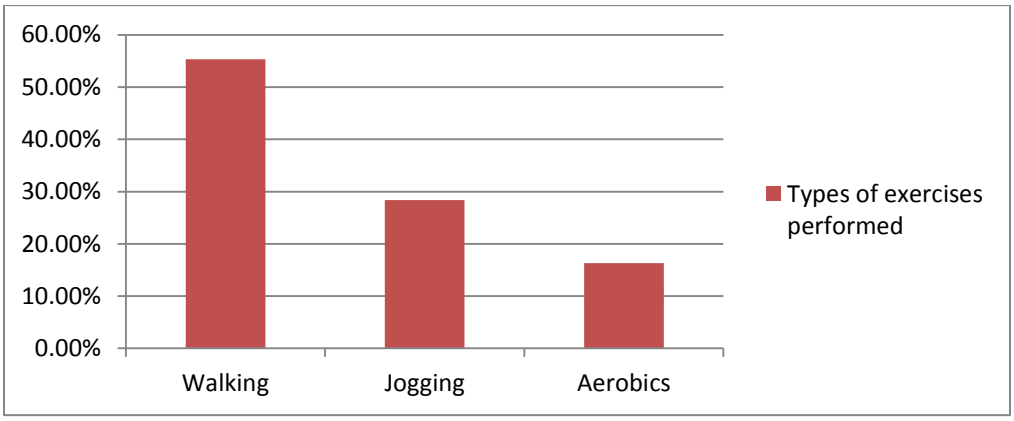

Figure 5: Types of activities performed by respondents attending chronic follow up units of public health hospitals of Addis Ababa, Ethiopia, 2016

In this study, walking was found to be the most common (55.3%) type of activity among respondents who affirmatively reported on exercise, followed by jogging (28.4%) and aerobics (16.3%) respectively **Figure 5**.

3.3 Smoking cessation

Table 6 shows that out of the total 404 respondents 265 (65.6%) of the respondents never smoked cigarettes. Out of those who were smokers, 57 (59 %) still smoke and 26 (45.6%) didn't try to quit smoking.

Table 6 - The response of participants on cigarette smoking among hypertensive patients attending chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016.

Variables		Frequency	Percent
Have you ever smoked cigarettes?	Yes	139	34.4
	No	265	65.6
Do you still smoke cigarettes?	Yes	57	41
	No	82	59
Have you tried to quit smoking?	Yes	31	54.4
	No	26	45.6

3.4 Moderation of alcohol

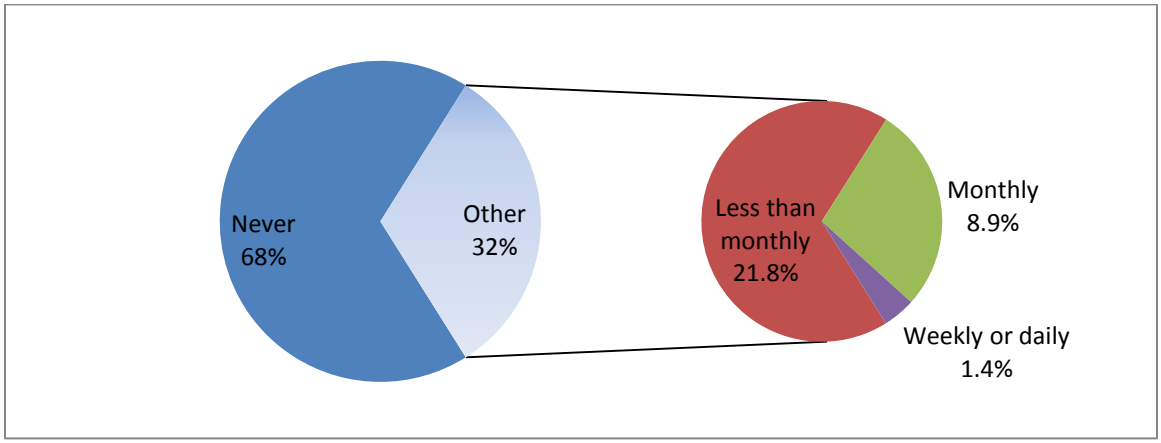

Figure 6: Response on harmful drinking habits on Fast Alcohol Screening Test among hypertensive patients attending chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016.

Figure 6 shows that 68% of the respondents never engaged in harmful drinking (≥8 drinks for men and ≥6 for women) on one or more occasions. Among those who consumed with similar amount of drinks per single occasion, 21.8% done it less than monthly, 8.9% done it monthly and 1.4% weekly or daily.

Out of the 130 respondents who reported that they consumed alcohol, majority (91.5%) never had history of inability to remember what happened when drank the night before; 56.9 % and 20.8% of these respondents confirmed that a relative / friend / doctor / health worker was concerned about their drinking and advised them to cut down on their drinking on one and more than one occasions respectively.

4. Adherence to anti-hypertensive medications

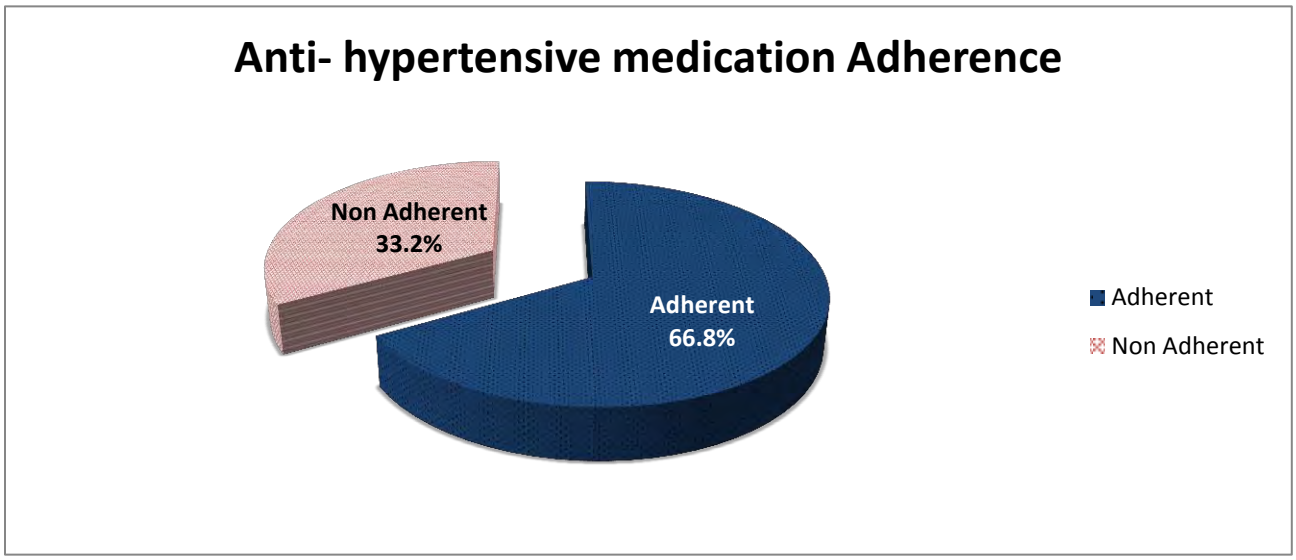

Figure 7: Antihypertensive medication adherence among hypertensive patients attending chronic follow up units of public health hospitals in Addis Ababa, Ethiopia, 2016.

The figure above shows that, out of the total 404 participants, 270(66.8%) were adherent to regimens whereas the remaining 33.2 % were not adherent to prescribed anti-hypertensive medications.

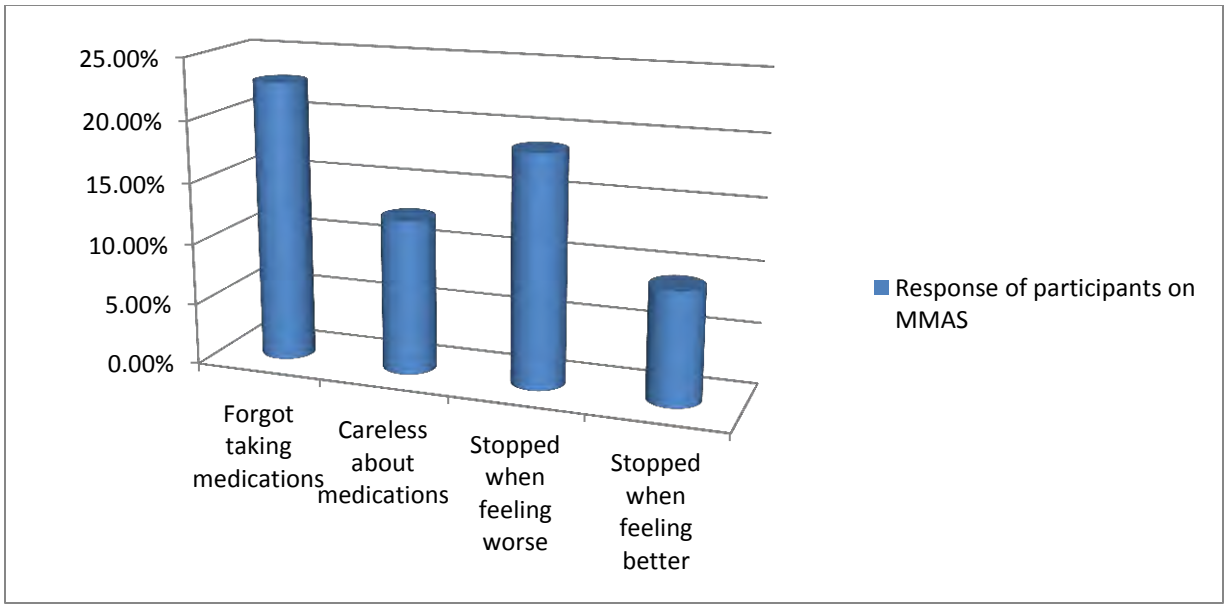

Figure 8: Response of study participants on the MMAS attending follow up at public health hospitals of Addis Ababa, Ethiopia, 2016.

The figure above (**Figure 8)** shows, participants‟ response as per the Morisky medication adherence scale. Out of the 404 respondents, 22.8% forgot taking medicines regularly, 12.6% were careless about taking their medications, 18.8% stopped medication on feeling worse and 9.2% stopped on feeling better.

5. Factors associated with adherence to lifestyle modifications

Table 7 shows the demographic, personal, social and behavioral factors associated with lifestyle adherence. After controlling possible confounding effects of other covariates, sex, age, work status, time since diagnosis, co-morbidity, knowledge about the disease, self-efficacy and social support were found to be significantly associated with lifestyle adherence. Female respondents were found 2 times more likely to be adherent to recommended lifestyle modifications when compared to their male counterparts (AOR=2.29, 95% CI: 1.10, 4.75). Unemployed respondents were found less likely to be adherent than the employed ones. Respondents in the old aged adult group were found 6 times to be adherent than respondents in the young adult age group (AOR=5.72, 95% CI: 1.16, 28.14). Longer time since diagnosis was also found to be significantly associated compared to shorter duration since diagnosis. Respondents with no comorbidities were found 76% less likely to be adherent than those who had them (AOR=0.24, 95 CI: 0.11, 0.50, P=0.000). Those respondents who had good knowledge were 13 times more

likely to be adherent (AOR=13.27, 95% CI: 4.12, 42.72, P=0.000) compared to the non-knowledgeable respondents. The participants who had good self-efficacy were found 4 times more likely to be adherent than those who had poor self-efficacy. Having support from the society was also associated with adherence to lifestyle modifications as the respondents who had support were about 11 times more likely to be adherent (AOR=10.70 95% CI: 4.59,24.96)

Table 7- Association of adherence to lifestyle modifications by selected characteristics, among hypertensive patients in public health hospitals of Addis Ababa, Ethiopia 2016.

Variables	Lifestyle adherence		COR (95%CI)	AOR (95%CI)
	Adherent N (%)	Non adherent N (%)		
Sex				
Male	164(52.7)	46(49.5)	1.00	1.00
Female	147(47.3)	47(50.5)	1.14(0.72,1.81)	**2.290(1.10,4.75)***
Age in years				
21-39	5 (5.4)	28(9)		1.00
40-59	61(65.6)	177(56.9)	1.93(0.71,5.22)	2.24(0.62,8.06)
>60	27(29.0)	106(34.1)	1.43(0.50,4.04)	**5.72(1.16,28.13)***
Marital status				
Not cohabited	20(21.5)	128(41.2)	1.00	1.00
Cohabited	73(78.5)	183(58.8)	2.553(1.482,4.40)	1.23(0.58,2.62)
Education				
No formal education	8(8.6)	135(43.4)	1.00	1.00
Formal education	85(91.4)	176(56.6)	8.15(3.82,17.40)	2.19(0.63,7.62)
Work status				
Employed	78(83.9)	179(57.6)	1.00	1.00
Unemployed	15(16.1)	132(42.4)	0.26(0.14,0.47)	**0.18(0.05,0.60)***
Time since diagnosis				
Less than two years	3(3.2)	46(14.8)	1.00	1.00
Two to four years	45(48.4)	112(36.0)	6.16(1.82,20.88)	**7.14(1.56,32.78)**
Four or more years	45(48.4)	153(49.2)	4.51(1.34,15.19)	**4.59(1.00,20.97)***
Comorbidities				
Yes	69(74.2)	155(49.8)	1.00	1.00
No	24(25.8)	156(50.2)	0.35(0.21,0.58)	**0.24(0.11,0.50)****
Knowledge				
Poor knowledge	4(4.3)	171(55.0)	1.00	1.00
Good Knowledge	89(95.7)	140(45.0)	27.18(9.738,75.85)	**13.26(4.12,42.71)****
Self-efficacy				
Good efficacy	11(11.8)	139(44.7)	1.00	1.00
Poor Efficacy	82(88.2)	172(55.3)	6.02(3.09,11.75)	**3.92(1.61,9.56)***
Social support				
Not supported	9(9.7)	191(61.4)	1.00	1.00
Supported	84(90.3)	120(38.6)	14.86(7.20,30.65)	**10.70(4.59,24.96)****

- ***AOR= statistically significant at p<0.05, **AOR= statistically significant at p<0.001***

5. Factors associated with adherence to anti-hypertensive medication

After controlling possible confounding effects of other covariates, sex, age, number of types of medications and knowledge about hypertension were independently associated with anti-hypertensive medication adherence. Female respondents were two times more likely to be adherent than their male counterparts (AOR=2.18, 95%CI=1.33, 3.58). With regard to age group, middle aged (AOR= 3.15, 95%CI= 1.34, 7.37) and older adults (AOR= 4.09, 95%CI= 1.47, 11.39) were found more likely to be adherent than young adults. Respondents who were taking more than two types of anti-hypertensive medications were found 68% less likely to be adherent than those who took less types of medications (AOR= 0.315, 95%CI= 0.118, 0.845). Knowledge about the disease was found to be a significantly associated factor, as the respondents who had good knowledge were found 3 times more likely to be adherent to prescribed medication regimens (AOR= 3.378, 95 CI: 1.971, 5.789, P=0.000) **Table 8.**

Table 8: Associations between socio-demographic, personal, social and behavioral factors and adherence to anti – hypertensive medications among patients attending follow up at public health hospitals in Addis Ababa, Ethiopia, 2016

Variables	Medication adherence		COR (95%CI)	AOR (95%CI)
	Adherent	Non Adherent		
Sex				
Male	125(46.3)	85(63.4)	1.00	1.00
Female	145(53.7)	49(36.6)	2.01(1.32,3.08)	**2.18(1.33,3.58)***
Age				
21-39years	17(6.3)	16(11.9)	1.00	1.00
40-59years	167(61.9)	71(53.0)	2.21(1.06,4.63)	**3.15(1.34,7.37)**
≥60 years	86(31.9)	47(35.1)	1.72(0.80,3.72)	**4.09(1.47,11.39)**
Marital status				
Not cohabited	107(39.6)	41(30.6)	1.00	1.00
Cohabited	163(60.4)	93(69.4)	0.67(0.43,1.04)	0.47(0.28,1.78)
Level of education				
No formal education	84(31.1)	59(44)	1.00	1.00
Formal education	186(68.9)	75(56)	1.74(1.14,2.67)	1.88(0.90,3.90)
Work status				
Employed	175(64.8)	82(61.2)	1.00	1.00
Unemployed	95(35.2)	52(38.8)	0.86(0.56,1.31)	1.15(0.55,2.41)
No of types of medications				
≤ two	259(95.9)	120(89.6)	1.00	1.00
>two	11(4.1)	14(10.4)	0.36(0.16,0.83)	**0.32(0.12,0.85)***
Knowledge				
Poor knowledge	89(33.0)	86(64.2)	1.00	1.00
Good Knowledge	181(67.0)	48(35.8)	3.64(2.36,5.63)	**3.38(1.97,5.80)****
Self-efficacy				
Good efficacy	87(32.2)	63(47)	1.00	1.00
Poor efficacy	183(67.8)	71(53)	1.87(1.22,2.85)	1.12(0.68,1.85)
Social support				
Not supported	124(45.9)	76(56.7)	1.00	1.00
Supported	146(54.1)	58(43.3)	1.54(1.02,2.34)	1.49(0.91,2.44)

- ***AOR= statistically significant at p<0.05, **AOR= statistically significant at p<0.001***

6. Discussion

Hypertension is a chronic condition that leads to serious complications if the person cannot control and manage the blood pressure. Hypertension management consists of two main parts; pharmacological therapy and lifestyle modifications (1).

The mean age of the participants in this study was 54 ± 10.77years, which supports that the disease mostly affects those individuals in their late middle adulthood and above. Out of the 404 respondents 52% were male consolidating the results of different studies that the prevalence of hypertension is higher in males than females (2,15,27,49).

This study tried to assess the prevalence of adherence to self-management activities among hypertensive patients in terms of adherence to anti-hypertensive medications and lifestyle modifications.

Adherence to lifestyle modifications

The overall adherence (including diet, exercise, smoking cessation and moderation of alcohol consumption) in this study was only 23%. A Saudi study found out that only 4.2% of respondents were adherent to all types of lifestyle recommendations (29) . This discrepancy could be explained by methodological factors where the later included small sample of only male participants.

This study asserted diet related adherence to be explained by consuming foods low in sodium, fat, spicy foods; including more fruits, vegetable, grains, and beans in the diet and reading nutritional facts on food labels. The prevalence of diet related adherence in this study was 69.1%. This is comparable to a study done in Addis Ababa where 64.7% of the respondents were found to be adherent. In contrast, a study done in Bangladesh found that majority (65.5%) of the study participants didn‟t follow a special dietary modification (9). The discrepancy between the two local studies and the study from Bangladesh could be due to the difference between the dietary habits between the two countries and residence of study participants.

In this study, the exercise related adherence was 31.4%. Similar studies conducted in Israel and China found a 47.7% and 51.9% adherence respectively (28,33). The possible explanation could be related to cultural differences and lack of organized setup in living areas in developing countries like Ethiopia. The finding of this study was almost similar to a study from Turkey

where 31% of the participants were adherent to exercise. A study from Bangladesh put performance of regular exercise as one of the activities never practiced (77%) (15). This could be due to the residency of those respondents in Bangladesh was rural area. A local study done in one public health hospital in Addis Ababa found a 43.7% adherence to exercise (17). This consolidates reports asserting sedentary lifestyle is increasing in low and middle income countries like Ethiopia causing an escalation on the prevalence of chronic diseases like HTN (69,70).

Smoking is one of the important risk factors for CVDs including hypertension. A large portion (85.9 %) of respondents in this study had ceased smoking or never smoked before. Findings related to cessation of smoking are in line with studies conducted in Bangladesh, China, Turkey and Israel, where majority of the respondents were found to be adherent (15,31,28,33).

In this study respondents who moderated their alcohol consumption were found to be 74.8%. Almost all patients (99.1%) of participants of a study in Bangladesh stated that they never drank alcohol. This discrepancy could be explained by cultural and religious factors.

Adherence to anti-hypertensive medications

Non-adherence to medication is a major factor that impedes control of blood pressure in more than two-thirds of hypertensive individuals (1,2). Comparative to adherence to recommended lifestyle modifications, there are many studies done in different parts of the world assessing adherence to medications.

This study established that 66.8% of the respondents were found to be adherent to their hypertension medication. This findings of other studies conducted in different parts of the world are varied; UK (88%), USA (77%), Kuwait (88.6%), and India (73%) (36–38). Adherence in developed countries could be higher than developing countries probably due to the socio-economic variations and better awareness about the disease.

African studies done to assess adherence to anti-hypertensive medications found out different adherence figures. A Kenyan study with 327 respondents found out a 64.2% adherence level while a Nigerian and Tanzanian studies found the adherence rates to be 51% and 56% respectively (41–43). This discrepancy could be explained by methodological variations among these studies.

A similar study conducted in Addis Ababa, Ethiopia found out an approximately similar proportion of respondents who were adherent to their anti-hypertensive medications (69.2%) (17). Other local studies conducted in Adama and Jimma towns found 59.5% and 52.9% adherence rates respectively (35,45). The variation between this particular study and the other local studies could be explained by the higher number of respondents in this study and the urban residency of study participants which allowed them to be more aware about medication adherence.

Factors associated with recommended lifestyle modifications

This study found out that females were more likely to adhere to lifestyle modifications. Different studies are in line with this finding. For instance, a Chinese study found out, males were poor in engagement to lifestyle components. The National Health and Nutrition Examination Survey conducted in USA from 2011-2012 depicted, more women than men were treating their hypertension and had it under control(46). The rationale given by this study, for the afore mentioned argument is that females had better adherence to self-management. Partial support for gender related differences could be gained from a study in Bangladesh where female participants were found to have higher scores than males in self-management practices(15).

Middle and adult respondents were found to be more adherent when compared to young adult respondents. A study from Israel supports this finding, in that age < 60 predicted low scores on healthy lifestyle behaviors. The reason for age related differences could be further explained by the increased awareness about management and control of HTN that comes with increased age and maturity.

Unemployed respondents among the respondents of this study were found to be less adherent to lifestyle modifications when compared to those who were employed in different institutions. The reason for this discrepancy could be

In this study, those respondents who reported that they have been diagnosed longer period since diagnosis with hypertension for a of time were found more likely to be adherent. This is comparable with studies from Bangladesh and China where those respondents who had shorter history of hypertension were found less likely to be adherent to recommended lifestyle modifications (33,39).

Hypertension knowledge is an integral component of the chronic care model. Knowing about the disease prevention and control is an important component of the management (1). There was a significant association among respondents‟ knowledge and adherence to lifestyle modifications in this study. A study from Israel, confirmed knowledge on hypertension and its management predicted low scores on healthy lifestyle behavior. Additional study from Jamaica partially supports these findings as knowledge of hypertension and self-care management, were found to be associated (66).

A study conducted in Addis Ababa found out that people with comorbidities were less likely to be adherent to lifestyle recommendations (33). Surprisingly, contradictory result was found in this study depicting respondents having one or more comorbidity were found more likely to be adherent to all the lifestyle recommendations. This discrepancy could be explained by methodological factors (sum of four lifestyle recommendations vs. separate analysis of two lifestyle recommendations). Furthermore, different studies found out that patients with comorbidities visit health care providers more frequently and pay more attention to their health conditions, as this was evidenced by better adherence to lifestyle modifications (31,29).

Some researchers have suggested that social support provided by family or non-family members, and one‟s belief in managing disease processes may be essential contributors in motivating people to adopt and maintain diet recommendations and exercise regimes (56). In this study, adherence to lifestyle recommendations was also positively associated with self-efficacy and social support.

Factors associated with adherence to anti-hypertensive medications

The findings of this study show that female respondents were found more likely to be adherent to hypertension treatment than their male counterparts. This is in line with a study from Kenya where female respondents were found to be more adherent than males. A Bangladesh study also found that more men were non-adherent to anti-hypertensive treatment than women.

This study found that respondents who were taking less than two types of anti-hypertensive medications were more adherent than those who were taking more than two types of medications. A similar Kenyan study consolidates the findings of this study, as it found that those who took one or two anti-hypertensive medications were about 2.2 times more adherent than those who took three or more antihypertensive medications.

Participants who were found to have good knowledge about hypertension and its management were also found more likely to be adherent to their treatment compared to those who were found to be poorly knowledgeable. Other studies from Kuwait and Kenya support the finding of this study, in that they found a positive association between lack of knowledge about HTN and non-compliance to treatment.

In this study, middle and old aged adults were found more likely to be adherent to anti-hypertensive medications compared to young adults. This finding is similar to results of studies carried out in different parts of the world which found out that age increment was associated with better adherence (33,39,46–48).

7. Strengths and limitations

Strengths

This study considered both components of HTN self-management; medication and lifestyle modifications, which were mostly studied separately in other studies. The study also included important influencing factors like knowledge about the disease and social support. Furthermore, the findings of this study could be generalized to patients who were attending follow up at public health hospitals of Addis Ababa.

Limitations

The study didn‟t include hypertensive patients who were attending follow up in private health facilities. In addition it did not consider hypertensive patients who did not visit the health institutions during the time of the study. The cross sectional study design used could not express cause and effect relationships. Also, research methodologies involving self-reported measures depend largely on individuals‟ memory, and recall bias may exist.

8. Conclusion

This study found out a 23% and 66.8% adherence to recommended lifestyle modifications and prescribed anti – hypertensive medications respectively. This figures show that adherence rates are very low especially with regard to lifestyle modifications. The factors impeding or enhancing the two outcome variables were thoroughly analyzed. Comorbidity, knowledge about the disease, self-efficacy and social support were found to be significantly associated with lifestyle adherence; whilst sex, age, number of types of medications and knowledge were associated with MA. Relatively unstudied predictors like knowledge about the disease, self-efficacy and social support were also found to be significantly associated with life style recommendations.

9. Recommendations

For policy makers

- Establishment of care delivery systems that allow for training in adherence management, as well as a means of accurately assessing adherence.

For health care providers

- Design educational sessions that especially focus on lifestyle modifications and ongoing support for patients
- Providing appropriate client/family education on all recommended lifestyle recommendations

For future studies

- More research in different segment of populations and in different parts of the country should be done to investigate the problem in further and design interventional activities accordingly.
- Studies which assess all the components of self-management should be done for comparison among different subgroups.
- Emphasis on the impact of interventions targeting those subgroups noted to be at higher risk of poor adherence to hypertension self-management e.g. males, respondents who had less self-efficacy and those not knowledgeable and not supported by their family or non-family members.
- Emphasis on the organizational and health care provider related factors (not well covered in this study but are associated with adherence to hypertension self-management.

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Annex I

Information sheet

Hello. My name is _____and I am here on behalf of Abel Tibebu, a post graduate student from Addis Ababa University, College of Health Sciences, department of Nursing and Midwifery. I am conducting a study on adherence to self-management and associated factors among hypertensive patients following up at this hospital. The result that will come out of this study will be used by the hospital to base their rational decision to develop appropriate strategies to combat this problem. The research is intended to benefit the community including the people that will be participating in this research and will introduce no risk to the participant. The questionnaire requires maximum of 30 minutes to complete. Your participation is entirely voluntarily, and you can quit from the study any time you want. You will have no penalty if you fail to show desire to participate. I, however, do hope that you will participate in the study since the data that will come from you will be important for us. Your name and other personal identity will not be used, and hence the information we will collect from you will completely be kept confidential and will not be disclosed to any third person other than the people participating in this study. For any question you want to ask us, you can use the contact address here under.

May I now begin the interview?

If yes, continue interviewing

If No, thank and stop interviewing

How long have you been taking anti – hypertensive medications?

If < 6 months, thank and stop interviewing.

If ≥ 6 months, continue interviewing

Name of the interviewer _____ Sign. _____ Date _____

Address of the principal investigator

Abel Tibebu

Tel:0913243086

Email: ABTI2222@GMAIL.COM

Consent form

I have well understood the condition stated above. I understand that there is no risk on participating and no incentives are given upon my participation in the study. Therefore, I am willing to participate in the study.

Signature _____

Date: ----------

Annex II

Questionnaire (English version)

Questionnaire identification number _____

PART 1 – Socio-demography

This section is about sociodemographic characteristics of the respondent. Tick(√) on the responses from the given alternatives.

No	Questions	Category
001	Sex of the respondent	1= Male ☐ 2 = Female ☐
002	Age of the respondent	
003	Religion	1 = Orthodox ☐ 2 = Islam ☐ 3 = Protestant ☐ 4 = Catholic ☐ 9 = Other ☐ (Specify) _____
004	Marital status	1 = Single ☐ 2 = Married ☐ 3 = Divorced ☐ 4 = Widowed ☐
005	Ethnicity	1 = Oromo ☐ 2 = Amhara ☐ 3 = Tigre ☐ 4 = Gurage ☐ 9 = Other… ☐ (Specify) _____
006	Level of education	1 = Illiterate ☐ 2 = Read and write ☐ 3 = Primary ☐ 4 = Secondary ☐ 5 = College/University ☐ 99 = Other ☐ (Specify) _____
007	Work status	1 = Governmental employee ☐ 2 = Private employee ☐ 3 = Private business ☐ 4 = Non-employed ☐ 5 = Retired ☐ 99 = Other ☐ (Specify) _____

008	Monthly income	1= No regular income ☐ 2 = <999 ETB ☐ 3 = 1000-1999ETB ☐ 4 = 2000-2999ETB ☐ 5 = ≥ 3000 ETB ☐

PART II – Health related assessment

This section is about the general health condition of the respondent. Pose the questions to the respondent and fill the given answer on the space provided.

No	Questions	Category
101	What was the respondent"s blood pressure measurement today?	_____ mmHg
102	What is the respondent"s BMI?	
103	How long has it been since you were diagnosed with hypertension	
104	How long have you been taking anti-hypertensive medications?	
105	How many types of anti-hypertensive medications do you take?	
106	Do you have any of these comorbidities?	1= No comorbidities ☐ 2= Diabetes mellitus ☐ 3 = CKD ☐ 4 = Stroke ☐ 5 = Coronary artery disease ☐ 99 = Others… ☐ (Specify) _____

PART III– Knowledge about hypertension

This section is about knowledge regarding hypertension, measurement of BP and its management. Tick (√) on the box in front of the alternative that is given as an answer by the respondent (Only **one answer** should be prompted)

No	Questions	Category
201	A person is considered to have hypertension if either their systolic blood pressure is 140 or their diastolic is 90 or higher on two separate occasions.	1=True ☐ 0=False ☐
202	Uncontrolled hypertension can lead to which of the following:	0=Lung cancer ☐ 1 = Kidney failure ☐ 0 = High cholesterol ☐ 0 = Diabetes ☐
203	Most people can tell when their blood pressure is high because they feel bad.	0 = True ☐ 1 = False ☐
204	Which of the following increases your risk of having hypertension?	0 = Weight lifting ☐ 0 = Drinking >2 cups of coffee a day ☐ 0 = Smoking a pack of cigarettes ☐ 1 = Gaining 6 kg on your weight ☐
205	People with hypertension do not need to take medicine if they exercise regularly	0 = True ☐ 1 = False ☐
206	Which of the following statements about taking blood pressure medicine is TRUE?	0 = Blood pressure medicine should always be taken with food ☐ 1 = More than one type of blood pressure medicine can be taken at the same time ☐ 0 = Blood pressure medicine works best if it is taken at bedtime ☐ 1 = Blood pressure medicine should not be taken if a person drank alcohol that day ☐
207	An overweight 60-year-old man has hypertension. He drinks one bottle of beer and 4 cups of regular coffee a day. He adds regular table salt to his food at most meals. Which one of the following changes is the most likely to lower his blood pressure?	1 = Lose 4 kg ☐ 0 = Stop drinking alcohol ☐ 0 = Switch to decaffeinated coffee ☐ 0 = Stop consuming salt ☐

208	Which one of the following changes to your diet is most likely to lower blood pressure?	1 = Eat more fruits, vegetables, whole grains, and low-fat dairy products ☐ 0 = Eliminate spicy foods ☐ 0 = Drink one glass of red wine daily ☐ 0 = Drink herbal tea instead of coffee ☐
209	Which one of the following statements about exercise and blood pressure is TRUE?	0 = People who are on their feet most of the day will not benefit from exercise ☐ 1 = Exercising for 30 minutes every day lowers blood pressure more than exercising for 30 minutes, 3 days a week ☐ 0 = Weight lifting should be avoided by people with high blood pressure ☐ 0 = When exercising, you must raise your heart rate to at least 100 beats a minute to improve blood pressure ☐
210	Blood pressure is measured with two numbers, an upper number and a lower number. It is usually written as upper／lower. If someone is told that their goal blood pressure is 120 ／ 80, when have they reached that goal?	1 = When the upper is below 120 and the lower is below 80 ☐ 0 = When the upper is below 120, even if the lower is over 80 ☐ 0 = When the lower is below 80 even if the upper is over 120 ☐ 0 = When the average of the upper and the lower is <100 ☐

PART IV – Self efficacy

This section is concerned with respondent‟s self-efficacy to deal with hypertension. Tick (√) on the alternatives. Please elaborate the following possible answers for the respondent.

- **Totally unconfident** – if the respondent is not self-assured at all to cope up with the disease process
- **Unconfident** – if the respondent have no self-assurance
- **Not sure** – if the respondent is not sure about the answer to the question
- **Confident** – if the respondent is self-assured to cope up with disease process
- **Totally confident** – if the respondent highly self-assured about coping with disease process

No	Questions	Totally unconfident	Unconfident	Not sure	Confident	Totally Confident
301	How confident are you that you can keep the fatigue caused by your disease from interfering with the things you want to do?					
302	How confident are you that you can keep the physical discomfort or pain of your disease from interfering with the things you want to do?					
303	How confident are you that you can keep the emotional distress caused by your disease from interfering with the things you want to do?					
304	How confident are you that you can keep any other symptoms or health problems you have from interfering with the things you want to do?					
305	How confident are you that you can do the different tasks and activities needed to manage your health condition so as to reduce you need to see a doctor?					
306	How confident are you that you can do things other than just taking medication to reduce how much you illness affects your everyday life?					

PART V – Social support

This section is about support gained from family and non-family members. After stating the family or non-family member, tick on :-

- **None -** if there is no support at all from the stated individual
- **Some** – if there is minimal support from the stated individual
- **A lot** – if the individual stated is very supportive.
- **NA** – if there is no such family or non-family member

No	**Questions**				
Do you get support from these family members?		**None (0)**	**Some (1)**	**A lot (2)**	**NA (0)**
401	Your wife, husband, or significant other person				
402	Your children or grandchildren				
403	Your parents or grandparents				
404	Your brothers or sisters				
405	Your other blood relatives				
406	Your relatives by marriage (for example: in-laws, ex-wife, ex-husband)				
Do you get support from these non-family members?					
407	Your neighbors				
408	Your co-workers				
409	Your religious peers				
410	Your other friends				
411	Do you have one particular person whom you trust and to whom you can go with personal difficulties?	Yes No → 501			
412	Which of the above types of person is he or she?	Family member Non family member			

PART VI – Adherence to dietary modifications

This section is about adherence to dietary modifications. Tick on the response given by the respondent as an answer. The question on salt consumption is categorized into four alternatives:

- **Never** – if the respondent entirely avoids the behavior
- **Rarely** - if the behavior is performed sometimes performs
- **Usually** - if the behavior is performed most of the time
- **Always** - if the behavior is performed all the time

No	Questions	Never	Rarely	Usually	Always
501	Do you include fruits, vegetable, grains, and beans in your diet after your diagnosis with hypertension?				
502	How often do you consume foods that contain high saturated fat (e.g., cheese, coconut oil, cottonseed oil, mutton fat etc.) since being diagnosed?				
503	Do you consume spicy foods since being diagnosed				
504	Do you consume salt in your food?				
505	Do you read nutritional Facts on food labels to compare the amount of sodium in products				

Part VII – Respondent's adherence to exercise

No	Questions	Category	Coding	Skip
601	Do you perform physical exercise at all?	Yes No	1 0 →	 701
602	How often do you exercise?	<Three times per week Three times per week > Three times per week	0 1 1	
603	What type of exercise do you perform?	1 Walking 2 Jogging 3 Cycling 9 Others… (Specify) _____		
604	For how long do you exercise per session?	<30 min ≥30min	0 0	

Part VIII – Adherence to cessation of smoking

This section is about adherence to cessation of smoking. Tick (√) on the responses

No	Questions	Category	Coding	Skip to
701	Have you ever used tobacco?	Yes No	1 0 →	 801
702	Do you still smoke cigarettes?	Yes No	1 0 →	 801
703	Have you tried to quit smoking?	Yes No	1 0	

Part IX – Adherence to moderation of alcohol consumption

This section is about adherence to moderation of alcohol consumption. Tick (√) on the responses given by the respondent.

Before starting this part, ask what kind of alcohol drink is mostly preferred by the respondent. If never drank or stopped drinking alcohol, pass to Part X.

- 1 drink = 1/2 pint (1 bottle) of beer or 1 glass of wine, „Tela", „Tej" or 1 single spirits

No	Questions	Never	Less than Monthly	Monthly	Weekly	Daily or almost daily	Skip to
801	How often do you have 8 drinks (men) / 6 drinks (women) or more on one occasion??						If never skip to 1001
802	How often in the last year have you not been able to remember what happened when drinking the night before?						
803	How often in the last year have you failed to do what was expected of you because of drinking?						
804	Has a relative / friend / doctor / health worker been concerned about your drinking or advised you to cut down on your drinking?	No Yes, on one occasion Yes, on more than one occasion					

PART X – Adherence to medications

This section is concerned with the respondents adherence to prescribed anti – hypertensive medications. Tick on the responses given by the respondent.

No	Questions	Category	Coding
901	Do you ever forget to take your medicine?	Yes No	1 0
902	Are you careless at times about taking your medicine?	Yes No	1 0
903	Sometimes if you feel worse when you take the medicine, do you stop taking it?	Yes No	1 0
904	When you feel better do you sometimes stop taking your medicine?	Yes No	1 0

THANK THE RESPONDENT FOR PARTICIPATING

Annex III

Amharic version of information and consent sheet

የመረጃ መግለጫ ቅፅ

ቀን.....ሰዓት.....የቃለመጠይቅ መለያ ቁጥር.....

እንደምን አደሩ/ዋሉ?

ስሜ.....ሲሆን የስራ ባልደረባዬ አቤል ጥበቡ ይባላል፡፡በአዲስ አበባ ዩኒቨርሲቲ በነርሲንግ እና ሚድዋይፍሪ ትምህርት ቤት የድህረ ምረቃ ተማሪ ሲሆን የመመረቂያ ፅሁፉን ወደ መንግስት ሆስፒታሎች ለደም ግፊት በሽታ ክትትል የሚመጡ ታካሚዎች በበሽታው ላይ ስላላቸው አጠቃላይ ግንዛቤ ፣ ምን ያህል መድሃኒቶችን ያለ ማቋረጥ እንደሚወስዱ እና በቋሚነት ስለሚደረጉ የአኗኗር ዘይቤ ለውጦች እና ተያያዥ ጉዳዮች ላይ ይሰራል፡፡ የሚሰበሰበዉ መረጃ ሙሉ በሙሉ በሚስጥር የሚያዝ መሆኑን እናረጋግጥልዎታለን፡፡ 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 እንዲመልሱልን እንጠይቅዎታለን፡፡

ቃለ መጠይቁ በግምት 30 ደቂቃ ይፈጃል፡፡ ጥያቄ አለዎት?

በጥናቱ ውስጥ ለመሳተፍ ፍቃደኛ ነዎት?

ፍቃደኛ ካልሆኑ አመሰግነው ያሰናብቱ **አዎ** ካሉ ይቀጥሉ

የግፊት መድሃኒቶችን ለምን ያህል ጊዜ ወሰዱ?

< 6 ወራት ካሉ አመሰግነው ያሰናብቱ ≥ 6 ወራት ካሉ ይቀጥሉ

የመረጃ ሰብሳቢዉ ስም ---------- ፊርማ ----------

መጠይቁን በሚመለከት ማንኛውም አይነት ችግር ካለ በሚከተለው አድራሻ ያሳውቁ

የጥናቱ ባለቤት፡- አቤል ጥበቡ

ስልክ ቁጥር - 0913243086/0962268169

ኢሜይል - ABTI2222@GMAIL.COM

የስምምነት መግለጫ ቅፅ

ከላይ የተጠቀሰውን መረጃ በደንብ ተገንዝቢያለሁ፡፡ በዚህ ጥናት በመሳተፌ የማገኘው ጥቅማጥቅምም ሆነ የሚደርስብኝ ጉዳት አለመኖሩን ስለተረዳሁ በጥናቱ ላይ ለመሳተፍ ፍቃደኝነቴን በፊርማዬ አረጋግጣለሁ፡፡

የተጠያቂው ፊርማ _____

የስምምነት ፍቃዱን የወሰደው (የተቀበለው) ጠያቂ

ስም ---------- ፊርማ----------

Annex IV
Questionnaire (Amharic version)

የመጠይቅ መለያ ቁጥር _____

ክፍል 1 - የተጠያቂ ማህበራዊ መረጃ

የሚከተሉትን ጥያቄዎች በመጠየቅ አማራጭ መልሶች ፊት ለፊት ባለው ሳጥን ላይ ላይ ምልክት ያድርጉ፡፡ አማራጭ መልስ ለሌላቸው ጥያቄዎች የተሰጠው ክፍት ቦታ ላይ የተጠያቂውን መልስ ያስቀምጡ፡፡

ቁጥር	ጥያቄዎች	አማራጭ መልስ
001	የተሳታፊው ፆታ	1 =ወንድ ☐ 2 =ሴት ☐
002	ዕድሜ	
003	ኃይማኖት	1 = ኦርቶዶክስ ☐ 2 = ሙስሊም ☐ 3 = ፕሮቴስታንት ☐ 4 = ካቶሊክ ☐ 9 = ሌላ ☐ ----------
004	የትዳር ሁኔታ	1 = ያላገባ ☐ 2 = ያገባ ☐ 3 = የፈታ ☐ 4 = በሞት የተለየ ☐
005	ብሔር	1 = ኦሮሞ ☐ 2 = አማራ ☐ 3 = ትግሬ ☐ 4 = ጉራጌ ☐ 9 = ሌላ ☐ ----------
006	ወርሃዊ ገቢ	1 = ምንም ገቢ ☐ 2 = < 999 ብር ☐ 3 = 1000-1999 ብር ☐ 4 = 2000-2999 ብር ☐ 5 = >3000 ብር ☐
007	የትምህርት ደረጃ	1 = ያልተማረ ☐ 2 = ማንበብና መፃፍ ☐ 3 = የመጀመሪያ ደረጃ ☐ 4 = የሁለተኛ ደረጃ ☐ 5 = ኮሌጅ/ዩኒቨርስቲ ☐ 9 = ሌላ ☐
008	የስራ ዓይነት	1 = የመንግስት ተቀጣሪ ☐ 2 = የግል ተቀጣሪ ☐ 3 = የግል ሥራ ☐ 4 = ስራ የሌለው /ላት/ ☐ 5 = ጡረተኛ ☐

ክፍል 2 - አጠቃላይ የጤና ሁኔታ

ይህ ክፍል የተጠያቂው አጠቃላይ ሁኔታ ላይ ያተኩራል፡፡ ለጥያቄ ቁጥር 101 አስፈላጊውን ልኬት በማረግ በእርሶ በጠያቂው የሚሞላ ሲሆን ቀሪዎቹን ጥያቄዎች ተጠያቂው የሚመልሳቸው ይሆናሉ፡፡

ቁጥር	ጥያቄዎች	መልስ
101	በእለቱ የተለካው የግፊት መጠን	
102	ደም ግፊት እንዳለቦት ካወቁ ምን ያህል ጊዜ ሆኖታል?	
103	ለደም ግፊት የሚሰጠው መድሀኒቶችን ለምን ያህል ጊዜ ወሰዱ?	
104	ስንት ዐይነት የደም ግፊት መድሀኒቶችን ይወስዳሉ?	
105	ሌላ የታወቀ ተያያዥ በሽታ አለቦት?	1 = ምንም የለም ☐ 2 = ስኳር ☐ 3 = የኩላሊት ስራ ማቆም ☐ 4 = የአእምሮ ☐ 5 = የልብ ደም ቧንቧ መጥበብ ☐ 99 = ሌላ ካለ ይጠቀስ ☐ ----------

ክፍል - 3 ስለ ደም ግፊት በታ ያለ ግንዛቤ

ይህ የመጠየቅ ክፍል ተሳታፊው ስለ ግፊት መድሃኒቶች አወሳሰድ ፣ ስለ ኑሮ ዘይቤ ለውጦች እንዲሁም ስለ ደም ግፊት በሽታ ያለውን አጠቃላይ ግንዛቤ ይፈትሻሉ፡፡ ከተሰጡት አማራጮች ውስጥ **አንዱ ብቻ** መልስ ሊሆን እንደሚችል ካስረዱ በኋላ ጥያቄውን ይጀምሩ እንዲሁም በተሳታፊው መልሶች ጎን ባለው ሳጥን ውስጥ ምልክት (√) ያድርጉ፡፡

ቁጥር	ጥያቄዎች	አማራጭ መልስ
201	አንድ ሰው የደም ግፊት የሚባለው በሁለት የተለያዩ ጊዚያት ያለው የደም ግፊት ልኬት መጠን ከ140/90 በላይ ሲሆን ነው	1 = እውነት ☐ 0 = ሐሰት ☐
202	የደም ግፊትን በአግባቡ አለመቆጣጠር ለየትኛው ተያያዥ በሽታ ያጋልጣል?	0 = የሳንባ ካንሰር ☐ 1 = የኩላሊት መድከም ☐ 0 = የኮሎስትሮል መጨመር ☐ 0 = የስኳር በሽታ ☐
203	የደም ግፊት ህመምተኞች የግፊት መጠናቸው መጨመሩን በሚሰማቸው መጥፎ ስሜት ማወቅ ይችላሉ፡፡	0 = እውነት ☐ 1 = ሐሰት ☐
204	ከሚከተሉት ውስጥ ለደም ግፊት በሽታ የበለጠ አጋላጭ የሆነው የትኛው ነው?	0 = ክብደት ማንሳት ☐ 0 = በቀን ከሁለት ሲኒ ቡና በላይ መጠጣት ☐ 0 = 1 ፖኮ ሲጋራ ማጨስ ☐ 1 = 6 ኪ.ግ ያህል ክብደት መጨመር ☐

205	የደም ግፊት ያለባቸው ሰዎች በቋሚነት የአካል ብቃት የሚሰሩ ከሆነ መድሀኒት መውሰድ አይጠበቅባቸውም።	0 = እውነት ☐ 1 = ሐሰት ☐
206	ከሚከተሉት ውስጥ ለደም ግፊት ሰለሚወሰዱ መድሀኒቶች ትክክል የሆነውን የትኛው ነው?	0 = መድሀኒቶች ምን ጊዜም ከምግብ ጋር መውሰድ አለባቸው ☐ 1 = በአንድ ጊዜ ከአንድ በላይ መድሀኒቶችን መውሰድ ሊያስፈልግ ይችላል ☐ 0 = መድሀኒቶች ከእንቅልፍ በፊት መውሰድ ያላቸው ጥቅም ይጨምራል ☐ 0 = በሽተኛው በቀን ውስጥ መጠጥ ከወሰደ መድሃኒቱን መውሰድ የለበትም ☐
207	አንድ ክብደቱ የጨመረ የ60 ዓመት የደም ግፊት በሽተኛ ብዙ ጊዜ በምግቡ ውስጥ ጨው ይጠቀማል ፣ በቀን 1 ጠርሙስ ቢራ እንዲሁም 4 ስኒ ቡና ይጠጣል። ከሚከተሉት የትኛው ተግባር በበለጠ ግፊቱን ለመቀነስ ይረዳዋል?	1 = 4 ኪ.ግ ክብደት መቀነስ ☐ 0 = መጠጥ ማቆም ☐ 0 = ቡና አለመጠጣት ☐ 0 = ጨው አለመጠቀም ☐
208	የተኛው የአመጋገብ ለውጥ ግፊትን ለመቀነስ በተሻለ ይረዳል?	1 = ቅጠላ ቅጠል ፣ፍራፍሬ፣ እና ጥራጥሬን አብዝቶ መመገብ ☐ 0 = ቅባት ያላቸውን ምግቦች ፈፅሞ ማስወገድ ☐ 0 = በቀን አንድ ብርጭቆ የወይን ጠጅ መጠጣት ☐ 0 = ከቡና ይልቅ ሻይ መጠጣት ☐
209	ከሚከተሉት ውስጥ ስለ አካላዊ እንቅስቃሴ እና ግፊት ትክክል የሆነው የቱ ነው?	0 = ብዙ ጊዜ ሰራቸውን ቆመው የሚያከናውኑ ሰዎች የአካል ብቃት እንቅስቃሴ አያስፈልጋቸውም ☐ 1 = በሳምንት 3 ቀን ለ30 ደቂቃ የሚደረግ እንቅስቃሴ የተሻለ ግፊትን ለመቀነስ ይረዳል። ☐ 0 = ክብደት ማንሳት /ብረት መግፋት/ ለደም ግፊት በሽተኞች ፊፅሞ የተከለከለ ነው ☐ 0 = በእንቅስቃሴ ጊዜ ግፊትን በተሻለ ለመቀነስ የልብ መት መጾ እና ከዛ በላይ መሆን አለበት። ☐
210	የአንድ ግለሰብ የደም ግፊት ልኬት መጠን የላይኛው ከ120/80 ማለፍ የለበትም ሲባል ምን ማለት ነው።	1 = የላይኛው ከ120 በታች የታችኛው ከ80 በታች መሆን አለበት ☐ 0 = የላይኛው ከ126 በላይ የታችኛው ከ80 በታች መሆን አለበት ☐ 0 = የላይኛው ከ126 በታች የላየኛው ከ80በላይ መሆን አለበት ☐ 0 = የሁለቱ አማካይ ከ100 ማነስ አለበት ☐

ክፍል - 4 - የተጠያቂው በራስ የመተማመን ሁኔታ

ቀጥሎ የቀረቡት ጥያቄዎች ከደም ግፊት በሽታ ጋር በተያያዘ የተሳታፊውን በራስ መተማመን ሁኔታ የሚዳስሱ ናቸው። የሚከተሉትን አማራጭ መልሶች ለተሳታፊው ካብራሩለት በኋላ ወደ ጥያቄዎቹ ይለፉ። በተሳታፊው መልሶች ስር ምልክት (√) ያድርጉ።

- **ፈፅሞ አልተማመንም** ማለት የተገለፀውን ተግባር ለማከናወን ምንም ዓይነት በራስ መተማመን የላቸውም
- **አልተማመንም** ማለት የተገለፀውን ተግባር ለማከናወን የተወሰነ በራስ መተማመን የላቸውም
- **እርግጠኛ አይደለሁም** ማለት የተገለፀውን ተግባር ለማከናወን በራስ መተማመን የላቸውም
- **እተማመናለሁ** ማለት የተገለፀውን ተግባር ለማከናወን በራሳቸው ይተማመናሉ
- **በጣም እተማመናለሁ** የተገለፀውን ተግባር ለማከናወን በከፍተኛ ደረጃ በራሳቸው ይተማመናሉ

ቁጥር	ጥያቄዎች	ፈፅሞ አልተማመ -ንም	አልተማ- መንም	እርግጠኛ አይደለሁም	እተማመናሁ	በጣም እተማመናሁ
301	ህመሞ የሚያስከትሎቦት ድካም ማድረግ የሚፈልጉትን ነገር ከማድረግ እንዳያግዶት ምን ያህል በራሶ ይተማመናሉ?					
302	አካሎ ላይ ምቾት የማያሰጦ ወይም ህመሞ የሚፈልጉትን ነገር ከማድረግ እንዳያግዶ ለመቋቋም ምን ያህል በራሶ ይተማመናሉ?					
303	በህመሞ ምክንያት የሚያጋጥሞ የስሜት መረበሽ የሚፈልጉትን ነገር ከማድረግ እንዳያግዶ ለመቋቋም ምን ያህል በራሶ ይተማመናሉ?					
304	ሌሎች የጤና ችግሮች ወይም የህመም ምልክቶች የሚፈልጉትን ነገር ከማድረግ እንዳያግዶ ለመቋቋም ምን ያህል በራሶ ይተማመናሉ?					
305	የተለያዩ ተግባራትንና እንቅስቃሴዎችን በማከናወን ጤናዎን በመጠበቅ የህክምና እርዳታ ፍላጎቶን ለመቀነስ ምን ያህል በራሶ ይተማመናሉ?					
306	መድሃኒት ከመጠቀም ዉጪ ህመሞ የቀን ከቀን ህይወቶ ላይ የሚያመጣዉን ተጽእኖ ለመቀነስ ምን ያህል በራሶ ይተማመናሉ?					

ክፍል 5 – ከማህበረሰብ ስለሚገኝ ድጋፍ

ይህ የመጠይቅ ክፍል ተሳታፊው ከቤተሰብ እና ከቤተሰብ ውጪ ካሉ አካላት ምን ያህል ድጋፍ ያገኛሉ የሚለውን ይዳስሳል ወደ መጠይቁ ከማለፎት በፊት በአማራጭ መልሶች ላይ የሚከተለውን ማብራሪያ ይስጡ፡፡ በተሳታፊው መልሶች ስር ምልክት (√) ያድርጉ፡፡

- **ምንም አይደግፉኝም** - የምጠቅስልዎ አካል ፈፅሞ ድጋፍ የማይሰጦ ከሆነ
- **ትንሽ ይደግፉኛል** - የምጠቅስልዎ አካል አልፎ አልፎ (የተወሰነ) ድጋፍ የሚሰጥዎ ከሆነ
- **ሁሌም ከጐኔ ናቸው** - የምጠቅስልዎ አካል ሁልጊዜ (ብዙ ጊዜ) ድጋፍ የሚሰጥዎ ከሆነ
- **ጥያቄው አይመለከተኝም** - የምጠቅስልዎ አካል በህይወትዎ ውስጥ ከሌለ

ቁጥር	ጥያቄዎች				
ከነዚህ የቤተሰብ አባላት ምን ያህል ድጋፍ ያገኛሉ?		ምንም አይደግፉኝም (0)	ትንሽ ይደግፉኛል (1)	ሁሌም ከጐኔ ናቸው (2)	ጥያቄው አይመለከተኝም (0)
401	ባለቤትዎ/ፍቅረኛዎ				
402	ልጆችዎ /የልጅ ልጆችዎ				
403	እናትዎ/አባትዎ/አያቶችዎ				
404	ወንድምዎ/ እህትዎ				
405	ሌላ የስጋ ዘመድዎ				
406	በጋብቻ የተዛመዱዎት /የሚስት እናት/አባት ወዘተ...../				
ከእነዚህ ከቤተሰብ ውጪ ካሉ አካላት ምን ያህል ድጋፍ ያገኛሉ					
407	ጐረቤቶችዎ				
408	አብርዎት የሚሰሩ				
409	የሀይማኖት አቻዎችዎ(ጓደኞችዎ)				
410	ጓደኛዎ				
411	ችግር ቢሚገጥምዎት ጊዜ ሊረዳዎት የሚችል ወይም የሚተማመኑበት ሰው አለ?	አለ የለም → 501			
412	ከላይ ከተጠቀሱት ውስጥ የቱ ነው?	የቤተሰብ አባል ከቤተሰብ ውጪ	2 2		

ክፍል 6 ከደም ግፊት በሽታ ጋር በተያያዘ ስለሚደረግ ቋሚ የአመጋገብ ለውጥ

የሚከተሉት ጥያቄዎች ከደም ግፊት ጋር በተያያዘ የሚደረጉ የአመጋገብ ዘይቤ ለውጦች ላይ ያተኩራል፡፡ ለተሳታፊው በአማራጮቹ ላይ ማብራሪያ ከሰጡ በኋላ ወደ ጥያቄዎቹ ይለፉ፡፡ በተሳታፊው መልሶች ስር ምልክት (√) ያድርጉ፡፡

- **ምንም አላደርግም** - የተጠቀሰውን የአመጋገብ ዘይቤ ፈፅሞ የማይተገብሩት ከሆነ
- **አልፎ አልፎ አደርገዋለሁ** - የተጠቀሰውን የአመጋገብ ዘይቤ የተወሰነ የሚተገብሩት ከሆነ
- **አብዛኛውን ጊዜ አደርገዋለሁ** - የተጠቀሰውን የአመጋገብ ዘይቤ ብዙ ጊዜ የሚተገብሩት ከሆነ
- **ሁሌም አደርገዋለሁ** - የተጠቀሰውን የአመጋገብ ዘይቤ ሁሌም የሚተገብሩት ከሆነ

ቁጥር	ጥያቄዎች	ምንም አላደርግም	አልፎ አልፎ አደርገዋለሁ	አብዛኛውን ጊዜ አደርገዋለሁ	ሁሌም አደርገዋለሁ
501	የደም ግፊት እንዳለብዎት ካወቁ በኃላ ፍራፍሬ፣ ጥራጥሬ እና ቅጠላ ቅጠል ምን ያህል ይጠቀማሉ?				
502	ስብነት ያላቸው ምግቦች (እንደ ጮማ፣አይብ፣ ....የመሳሰሉትን) ምን ያህል ይጠቀማሉ				
503	ቅመማ ቅመም የበዛባቸው ምግቦች ይመገባሉ				
504	በምግብዎ ውስጥ ጨው ይጠቀማሉ				
505	በተለያዩ የምግብ ሽቀጦች ላይ ሊፃፍ የሚችለውን የጨው መጠን ያነባሉ?				

ክፍል 7- በቋሚነት የሚደረግ የአካል ብቃት እንቅስቃሴ

የሚከተሉትን ጥያቄዎች ከቀረቡት አማራጮች ጋር ለተሳታፊዎች ያቅርቡላቸው፡፡ በመልሶች ጎን በሚገኙት ሳጥኖች ወስጥ ምልክት (√) ያድርጉ፡፡

ቁጥር	ጥያቄዎች	አማራጭ መልስ	ወደ ጥያቄ.... እለፍ
601	የአካል ብቃት አንቅስቃሴ ያደርጋሉ	1 = አደርጋለሁ ☐ 0 = አላደርግም ☐ →	701
602	በየስንት ጊዜው እንቅስቃሴ ያደርጋሉ	0 = በሳምንት ከ3 ቀን በታች ☐ 1 = በሳምንት 3 ቀን ☐ 1 = በሳምንት ከ3 ቀን በላይ ☐	
603	ምን አይነት እንቅስቃሴ ያደርጋሉ	እርምጃ ☐ ሶምሶማ ☐ ብስክሌት መንዳት ☐ ሌላ ☐	
604	በቀን ለምን ያህል ጊዜ ይንቀሳቀሳሉ	0 = ‹ 30 ደቂቃ ☐ 1 = ›30 ደቂቃ ☐	

ክፍል 8 በቋሚነት ሲጋራን ስለማቆም

የሚከተሉት ጥያቄዎች በቋሚነት ሲጋራን ስለማቆም ላይ ያተኩራሉ፡፡ እያንዳንዱ ጥያቄ ሁለት አማራጭ መልሶች አሉት፡፡ በተሳታፊው የተሰጠው መልስ ላይ ምልክት (√) ያድርጉ፡፡

ቁጥር	ጥያቄዎች	አማራጭ መልስ	ወደ ጥያቄ.... እለፍ
701	ሲጋራ አጭሰው ያውቃሉ	1 = አውቃለሁ ☐ 0 = አላውቅም ☐ →	801
702	አሁንም ሲጋራ ያጨሳሉ	1 = አጨሳለሁ ☐ 0 = አላጨስም ☐ →	801
703	ሲጋራ ማጨስ ለማቆም ምክረው ያውቃሉ	1 = አላውቅም ☐ 0 = አውቃለሁ ☐	

ክፍል 9 በቋሚነት የአልኮል መጠጥ አወሳሰድን ስለመመጠን

የሚከተሉት ጥያቄዎች የአልኮል መጠጥ አወሳሰድ ላይ ያተኩራሉ፡፡ ተሳታፊው መጠጥ ጠጥተው የማያውቁ ከሆነ ወይም ካቆሙ ወደ ክፍል 10 ይለፉ፡፡ ጥያቄዎችን ከመጀመርዎ በፊት ተሳታፊው የሚያዘወትሩትን መጠጥ ይጠይቁ፡፡

- 1 መጠጥ - 1 ጠርሙስ ቢራ ወይም 1 ብርጭቆ ወይን/ጠላ/ጠጅ ወይም 1 መለኪያ አረቄ/ጅን/ቮድካ/ውስኪ

ቁጥር	ጥያቄዎች	ምንም የለም (0)	በወር ከ1 ጊዜ በታች (1)	በወር 1 ጊዜ (2)	በየሳምንቱ (3)	በሳምንት ከ2 ጊዜ በላይ (4)	ወደ ጥያቄ.... እለፍ
801	በአንድ ጊዜ 8 እና ከዛ በላይ (ለወንዶች)፤ 6 እና ከዛ በላይ (ለሴቶች) የሚጠጡበት አጋጣሚ ምን ያህል ነው						
802	ባለፈው ዓመት ውስጥ መጠጥ ጠጥተው ከዛ ቀን በፊት ያደረጉትን ነገር የረሱበት አጋጣሚ ምን ያህል ነው						
803	ባለፈው ዓመት ውስጥ በመጠጥ ምክንያት ከስራ የተስተጓጎሉበት አጋጣሚ ምን ያህል ነው						
804	ባለፈው ዓመት ውስጥ ዘመዶችዎ/ጓደኛዎ / ሀኪምዎ ወይም ሌላ የጤና ባለሙያ የመጠጥ አጠቃቀምዎ አሳስቡዋቸው ያውቃል ወይም የመከርዎት አጋጣሚ አለ	0 = ምንም የለም ☐ 1 = አንድ አጋጣሚ አለ ☐ 2 = ከአንድ በላይ አጋጣሚ አለ ☐					

ክፍል 10 ለደም ግፊት የሚሰጡ መድሀኒቶችን በአግባቡ በቋሚነት ሳያቋርጡ ስለመውሰድ

የሚከተሉት ጥያቄዎች ለደም ግፊት የሚሰጡ መድሀኒቶችን በአግባቡ በቋሚነት ሳያቋርጡ ስለመውሰድ ላይ ያተኩራሉ፡፡ እያንዳንዱ ጥያቄ ሁለት አማራጮች አሉት፡፡ በተሳታፊው የተሰጠው መልስ ላይ ምልክት (√) ያድርጉ፡፡

ቁጥር	ጥያቄዎች	አማራጭ መልስ
901	የግፊት መድሃኒቶች መውሰድ ረስተው ያውቃሉ?	1 = አውቃለሁ ☐ 0 = አላውቅም ☐
902	ስለ ግፊት መድሃኒት አወሳሰድዎ የሚገባውን ትኩረት ይሰጣሉ?	0 = እሰጣለሁ ☐ 1 = አልሰጥም ☐
903	የግፊት መድሀኒት ወስደው ምቾት ካልተሰማዎት መድሃኒቱን ያቆሙታል?	1 = አቆማለሁ ☐ 0 = አላቆምም ☐
904	ከግፊት ጋር በተያያዘ የሚሰማዎት ህመም በማይኖርበት ጊዜ መድሃኒቶችን መውሰድ ያቆማሉ?	1 = አቆማለሁ ☐ 0 = አላቆምም ☐

ተሳታፊውን ለትብብራቸው ከልብ አመስግነው ያሰናብቱ