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Knowledge, Attitude And Practice Towards Hypertension Prevention Among Non-Hypertensive Adults In Adet Town, Yilmana Densa District, West Gojjam Zone, Northwest Ethiopia, 2021

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BAHIR DAR UNIVERSITY COLLEGE OF MEDICINE AND HEALTH
SCIENCES SCHOOL OF PUBLIC HEALTH, DEPARTMENT OF
HEALTH SYSTEM MANAGEMENT AND HEALTH ECONOMICS
KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS
HYPERTENSION PREVENTION AMONG NON-HYPERTENSIVE
ADULTS IN ADET TOWN, YILMANA DENSA DISTRICT, WEST
GOJJAM ZONE, NORTHWEST ETHIOPIA, 2021.

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FULL TITLE OF THE RESEARCH PROPOSAL	ASESSMEMT OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS HYPERTENSION AMONG ADULTS IN ADET TOWN, YILMANA DENSEA DISSTRIC, WEST GOJJAM ZONE, NORTH WEST ETHIOPIA, 2021

Declaration

I, the under signed, declared that this is my original work, has never been presented in this or any other University, and that all the resources and materials used for the research, have been fully acknowledged.

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Approval of thesis for defense result

As members of the board of examiners, we examined this thesis entitled “knowledge, attitude and practice towards hypertension among non-hypertensive adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia” by Mengistu Ashebir. We hereby certify that the thesis is accepted for fulfilling the requirements for the award of the degree of Masters in General public health.

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Acronyms and Abbreviations

BP	Blood Pressure
CVDS	Cardio Vascular Diseases
DBP	Diastolic Blood Pressure
HTN	Hypertension
KAP	Knowledge, Attitude and Practice
LMICs	Low and Middle Income Countries
MmHg	Millimeter of Mercury
NCDS	Non-communicable Disease
WHO	World Health Organization

Abstract

Back ground: Hypertension, the most common incidentally diagnosed chronic disease, is a major risk factor for cerebro-vascular accidents as well as coronary heart diseases. Hypertension is prevalent in both high income and low- and middle-income countries, which causes 80% of deaths due to cardiovascular diseases. Prevention plays a vital role in controlling the disease, which can be accomplished by growing knowledge through public awareness which changes their attitude and practice.

Objective: The objective the study was to assess knowledge, attitude and practice and its associated factors towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021.

Methods: A community based cross-sectional study was carried out from March 11/2021 to April 10/2021. A total of 633 study participants were selected by multi stage sampling technique from five kebeles. The data were checked for completeness, and entered into Epi-Info Version 7.2 and analyzed using SPSS Version 23. Binary logistic regression model was fitted to identify factors associated with knowledge, attitude, and practice of hypertension. In bi-variable binary logistic regression analysis, independent variables with p-value < 0.25 were entered into multivariable logistic regression analysis. Variables with 95% confidence interval a p-value < 0.05 were considered as statistically significant.

Results: A total of 633 systematically sampled individuals were studied and 54%, 50.4% and 29.4% of them had good knowledge, favorable attitude and good practice towards hypertension respectively. Secondary education (AOR= 2.05, 95% CI: 1.05, 4.02), higher education (AOR= 4.49, 95% CI: 2.05, 9.84), information regarding life style modification (AOR= 2.15, 95% CI: 1.41, 3.29), Occupation (AOR= 2.09, 95% CI: 1.02, 4.31) and family history of hypertension (AOR= 4.25, 95% CI: 2.19, 8.27). were significantly associated with good knowledge. Sex (AOR=1.67, 95% CI: 1.18, 2.33), family history of hypertension (AOR= 1.90, 95% CI: 1.11, 3.23), knowledge (AOR=3.87, 95% CI: 2.69, 5.57) and practice (AOR=1.51, 95% CI: 1.03, 2.22) were associated with attitude. Primary education (AOR=4.28, 95% CI: 1.70, 10.77), secondary education (AOR= 5.25, 95% CI: 2.10, 13.09), higher education (AOR= 6.70, 95% CI: 2.72, 16.48), life style modification (AOR=1.90, 95% CI: 1.15, 3.13), knowledge (AOR=2.42, 95%

CI:1.62,3.65) and monthly income of 2001-4000 ETB (AOR=3.75, 95%CI: 1.65-8.53), monthly income of 4001-6001 ETB (AOR=2.69, 95%CI: 1.24-5.84) were associated with good practice.

Conclusion: In conclusion, almost half of respondents had good knowledge and attitude towards hypertension and fewer respondents had good practice towards prevention of hypertension. Educational level, having previous information regarding life style modification for prevention of HTN, having family history of hypertension and knowledge was the four common factors which were associated with KAP level of the respondents.

1. INTRODUCTION

1.1. Background

Hypertension (HTN) is characterized by the presence of a persistent elevation of systemic arterial pressure above a certain threshold value (SBP \geq 140mmHg and DBP \geq 90mmHG) (1). It is the most common incidentally diagnosed chronic disease, and is a major risk factor for cerebro-vascular accidents as well as coronary heart diseases, with two-thirds of all cerebro-vascular accidents attributable to poor hypertension control (2, 3). Hypertension is the main risk factor for cardiovascular diseases, increasing in prevalence when poorly regulated practically everywhere (4).

Hypertension is one of the most common chronic diseases and one of the most significant health related problems in world (5). While HTN is prevalent in both high income and low- and middle-income countries (LMICs), 80% of deaths due to cardiovascular diseases occur in LMICs (6, 7). Hypertension is a particularly significant health challenge in LMICs that are experiencing epidemiological transition from communicable to non-communicable diseases (8-10), such as Ethiopia.

Many people with HTN left undiagnosed because the disease do not show sign and symptom in the early stage (11). These increases the risk of complications such as renal failure, myocardial infarction, heart failure, stroke and premature death (12). In LMICs 75% of people live with HTN and have low awareness related to HTN, its treatment and control measures (13).

Hypertension in sub-Saharan Africa is a great problem, and in some countries it has been reported to be as high as 38 %. It is estimated that from 650 million people in SSA, between 10 to 20 million people might have hypertension (14). Hypertension is an important contributor to the rising burden of cardiovascular disease in SSA, which is expected to nearly double by the year 2030. Combating high burden of hypertension in SSA is most likely a cost-effective approach to hindering the societal and economic impact of cardiovascular disease in the region (15).

The prevalence of hypertension in Ethiopia estimated to be 19.6 %(16). Age adjusted prevalence of high blood pressure was 31.5% among males and 28.9% among females. However, only 35.2% of the hypertensive subjects were aware of their high blood pressure and only 11% were on treatment(17). Prevention plays a vital role in controlling the disease, which can be accomplished by growing knowledge through public awareness which changes their attitude and practice(18).

The level of KAP in different studies of different country looks low. For example, Around 46 percent of people have no knowledge about HTN and 54 percent of people are not aware about the seriousness of HTN to their health in Pakistan(19). In Sudan, from the general population 85.6 percent of people did not know sign and symptom of hypertension(20). In Ethiopia only 43.3 percent of individuals have knowledge about sign and symptoms of hypertension(21).

As studies showed there is also low attitude towards prevention of hypertension. In Malaysia 70.9 percent of individuals did not check their BP regularly (5). In Pakistan around 64 percent of individuals have negative attitude on physical exercise for better maintenance of healthy life and 62.8 percent of individuals disagree that salt intake have no implication on the prevention of hypertension(19).

1.2. Statement of the problem

Hypertension is a common and major global public health problem(22). Approximately 7.6% million deaths (13-15% of the total) and 92 million disability-adjusted life years worldwide were attributable to high blood pressure in 2001. By 2025 the number of hypertensive people is expected to increase by 60% and reach 1.56 billion people(23).

Low awareness may lead to low healthcare-seeking behavior which results in a high prevalence of undiagnosed HTN(15). Since lifestyle influences High Blood Pressure (HBP), if nothing is done, problem of stroke and sudden deaths would continue. There is a need for early diagnosis, prevention, and control. Hypertension can be prevented as

well as controlled through awareness, modification or elimination of unhealthy lifestyle habits(24).

A research on in Gezira state, Sudan found that only 20 % of individuals have knowledge on normal range of blood pressure(20). From Iran population only 63.4 % of people have knowledge in which physical exercise can prevent HTN(25).

In Ethiopia, only 41% people had information regarding hypertension and the majority which accounts 56.1% of population did not know the normal range of BP(21).Only 43.3 % of people have knowledge on sign and symptoms of hypertension (26).

The attitude towards HTN around the world varies in countries. As studies shows from the general population most of them do not have good attitude on the prevention of hypertension, for example in Zambia majority of the population which accounts 52.3% indicated no need to reduce table salt intake in their diets(27). On the other study conducted in Sudan in the perspective of attitude 78.4 % of individuals believe that high blood pressure cannot be avoided(20).

Very little of the general population had positive experience overall in terms of practice for hypertension prevention. Just 20.6% of the general population had checked their own blood pressure. Bad practice regarding routine checkup of blood pressure and urine examination as well as exercise could be due to a lack of value and knowledge of the need for it(28).

Practice towards prevention of HTN is not too significant in Bangladesh, 68.3% of the people never checked their BP and 94.2 percent of individual could not recall when they exercised(29). There are nearly one fourth people who are smokers and the same number are also alcohol drunker in Sudan(20). A research conducted in Ethiopia, Desie Town in 2016 on practice of adults towards prevention HTN showed that around 33.6% of individual did not check their blood pressure in their life time(30).

Regarding attitude towards prevention of hypertension 70.9 % from the total population do not check their BP routinely in Malaysia(5). In Sudan 16 % from the general population do not have knowledge in which avoiding extra added salts in diet can

prevent HTN (20). As study shows on the concern of hypertension prevention practice in Bangladesh remain low, around 68.3% from the total population never check their BP annually and 94.2% could not recall when they exercise(29). In Ghana 19.2% of the hypertensive patients did not know whether hypertension has a cure or not(31).

In Ethiopia most people did not perform hypertension prevention practice measures, for example 28.6% of the population did not perform physical exercise and 30% of the population used high amount of salts in their diet(30). Although the genetic predisposition to hypertension is non-modifiable and conveys lifelong CVD risk, the risk for hypertension is modifiable and largely preventable due to a strong influence by key environmental/lifestyle factors(32)

Decreasing the incidence of hypertension through of population-wide policies to minimize life style risk factors, including unhealthy alcohol usage, physical inactivity, overweight, obesity and high salt intake, is key to achieving this aim(33).

Currently there are a number of studies on Knowledge, attitude and practice towards hypertension in Ethiopia, but most of these studies deals with issues on only hypertensive patients that is no more study on knowledge, attitude and practice towards HTN concerning on non-hypertensive individuals. Even though there are some studies on general population, the findings of those studies do not include more variables to assess KAP of individuals towards HTN. In this study there are added variables which are not included in the previous studies (Family history and occupation).

Studies done in different countries in different settings showed that there is a gap in knowledge, attitude and practice towards the prevention of hypertension. Although hypertension is a common public health all over the world, there is no sufficient study done regarding the knowledge, attitude and practice towards prevention of hypertension especially in our country (Ethiopia).The proposed study would have a significant input in identifying and improving the gap in knowledge, attitude and practice towards hypertension in the population of Adet town.

1.3. Significance of the study

The results will reveal the baseline information of the community and may reveal the misconceptions or misbehaviors in relation to practice of hypertension. It is very important to identify these facts as these directly influence the future health care-related interventions. Moreover, results of the KAP study establish reference values on various health care parameters for use in future assessments.

In summary, it is justifiable to conduct a study on assessment of knowledge, attitude, and practice in relation to hypertension in a local community as this will reveal important unknown data on hypertension to guide future research studies and health-related interventions.

Understanding the knowledge, attitude and practice status of adults towards prevention of hypertension is important for community, government, and nongovernmental organizations and healthcare provider for health education and health promotion intervention. Ministry of health, health burro, and district health office program managers can use the result of this study to identify gaps related to KAP and to fill those gaps for those communities and for planning, evaluation, and monitoring of program.

2. Literature review

2.1. Overview of hypertension

In 2016, the global prevalence of HTN exceeded 1.3 billion. From the total of all deaths which accounts 12.8 percent, there are 7.5 million estimated deaths due to global hypertension. This accounts for 57 million disability adjusted life years (DALYS) or 3.7% of total DALYS. Globally, in 2016, the overall prevalence of hypertension was around 44 percent in adults aged 25 and over. The number of people with uncontrolled hypertension rose from 600 million in 1980 to almost 1.4 billion in 2016, due to population growth and ageing (34).

Millions of patients are affected by arterial hypertension and its associated cardiovascular complications in the world. According to the 2017 cardiovascular disease statistics of European Society, from the adult population of Germany 15-25 percent has high blood pressure. Even if there is the wide availability and easy accessibility of effective and well-tolerated antihypertensive drugs and good health promotion on lifestyle interventions, rates of adequate BP control remain unsatisfactorily poor (34).

As 2014 report shows around one billion adults which is 22% of the world's population, have hypertension. In those with low socioeconomic status, it is slightly more prevalent in men (35). It is common in high, medium and low-income countries. In Africa, the rate of elevated blood pressure is highest which is 30% for both sexes and lowest in the WHO Region of the Americas accounts 18% for both sexes. Rates also vary significantly within WHO regions with rates in rural India 3.4% men and 6.8% women and as high as 68.9% men and 72.5% women in Poland. In Europe hypertension occurs in about 30-45% of people as of 2013(36).

Around 43 million people had hypertension in United States in 1995. But in 2004 and 2017 this figure had increased to 29 percent and 32 percent respectively which accounts 76 million United States adults(37). In United States, 44 percent of hypertension cases represented by Africa-American adults which is the highest rate in the world. From those Filipino Americans Adults were more affected While Us whites and Mexican Americans

were less affected groups (36). AS study conducted in rural and urban communities in high-, middle-, and low-income countries among of hypertensive patients 38.52% patients had a family history of hypertension(38). Other epidemiological studies in India at different time suggest that 20-60% of essential hypertension is inherited and remaining is acquired or environmental(39, 40)

2.2. Knowledge about hypertension

Studies done in different countries showed that the level of knowledge about hypertension in their population is low. Participants' occupation significantly predicted their level of knowledge about hypertension with those who had occupations and worked being more knowledgeable about the condition than those who had no occupation and no regular jobs(41). Fourty-Nine percent of adults in Ghana of the Ahoe community knows what hypertension mean and the majority (97.3%) of the study units indicated normal systolic blood pressure as less than 120mmHg and 74.1% shows normal diastolic pressure as less than 80mmHg(42). Around 89.1 percent of Malaysian has poor knowledge's about hypertension which is not adequate. From those population 63.6% and 97.3% know that smoking and dietary habits are the risk factors of hypertension(5).

Moreover, research on Iran found that 43.3 percent believe that no one is not at risk of hypertension, 24.4 percent say that obese people are at risk of hypertension, 13.2 percent know that people are exposed to hypertension without physical activity , 3.5% of individuals know that smoking is a cause of HTN, 10.1% claim that individuals with family background are at risk of HTN, 7.1% associate HTN with age (elderly) and 1.5% associate HTN with stress (25).

In Malaysia 37.3%, 84.5% and 52 percent of individuals associate memory loss, heart disease and cancer with hypertension respectively. 40.9 percent of population did not know physiological level of blood pressure. Furthermore 82.7% and 72.7% of the respondents knew that obesity greatly elevates the risk of hypertension and that the prevalence of hypertension increases with age, respectively(5).

A study in Pakistan showed that 54% of people were knowledgeable about the meaning of HTN and 46% were knowledgeable about the seriousness of the condition to their health. From the study population about 35 percent have knowledge on lowering BP to improve health and 54% believed that people can do things to lower their high BP. As the study shows SBP and DBP correctly identified by 34 percent and 32 percent of individual as the “top” and “bottom” number of their reading respectively (19).

A study conducted on Iran on participants' knowledge of hypertension prevention showed that 63.4 percent believe that regular exercise can prevent HTN, 76.3 percent argue that low salty and fatty diet can prevent HTN, 30.4 percent Saied that we can prevent hypertension by stopping smoking and 30.9 percent argue that regular BP monitoring can prevent HTN (25). In other study in Mongolia most study participants are unaware of the concept of blood pressure, only 40% of the participants have of rated their knowledge as high and felt they were ‘very familiar’ with the concept of blood pressure(43).

In Bangladesh 56.36 percent from the study population had proper knowledge on hypertension. During this study 56.7% participants have knowledge on the causation of HTN, 30% knows normal range of hypertension, 71.7% have knowledge salt as cause for hypertension, 57.5% believe that tobacco causes hypertension, 63.3% argue over weight predispose for hypertension, 64.2% knows importance of physical exercise for hypertension prevention and 39.3% have knowledge of symptom of hypertension(29).

Another study done on Iran showed that 7.7 percent of individuals have knowledge that myocardial infraction can result from HTN. A healthy diet, physical exercise, chemical drugs and herbal medicines were identified as essential treatment for hypertension by 68.6%, 50.5%, 30.9%, and 20.9% respectively. Source of information about hypertension showed that radio 14.9%, television 69.1%, health professionals 30.0%, friends and family 17% and teachers 13.9%. When we saw the respondents need of help from doctors shows 69.8% goes as soon as possible while 9.8% goes after 3-4 weeks(25).

As study conducted in Sudan indicates that 53.6% of participants got information from health professionals. 80%, 8.8%, 14.4%, 80%, 49.6% of participants had poor knowledge about definition of hypertension, risk factor of hypertension, sign and symptoms of

hypertension normal range of hypertension and complication of hypertension respectively(20). The symptoms of hypertension known by the respondents during study conducted on Iran are dizziness 43.8%, flushing 35.6%, weakness 19.1%, and fatigue 9.3%(28). While 85.6%, 50.4% and 80.4% of the participants know diagnosis of hypertension, how to control hypertension and normal range of hypertension respectively (20).

A cross sectional study conducted on Ethiopia among members of the Ethiopian army assigned for peace keeping mission showed that 83.8% of the respondents had information about health life style among those 63.35% had received information from health professionals 22.4% from media, 3.96% from friends, and only 1.44% from family. Stress is reported by 41% of participants as a risk factor that induces hypertension. Most of respondents 43.3% mentioned headache, dizziness and nausea are sign and symptom of hypertension. Out of total 73.1% of respondents said that blood pressure measurement is the diagnostic study of hypertension. (26).

A study conducted in Ethiopia, Amhara region Bahir Dar in 2016 revealed that 41% had information regarding hypertension. The majority 56.1% of them did not know the normal level of BP. Around Fifty three percent of the respondents explain hypertension as high BP while about eight of them interpret hypertension as high sugar(21).

As study conducted in Ethiopia among members of the Ethiopian army assigned for peace keeping mission 84 percent participants expressed average normal BP is 120 mmHg and 84 percent define hypertension as BP above 140/90mm Hg(26). Study conducted in Bahir Dar showed that 33 percent and 53 percent of participants mentioned stress and obesity as risk factor for HTN respectively. The complication of hypertension was not known to about twenty percent of the participants. seventy percent of the participant responded that hypertension was diagnosed by BP measurement with respect to the diagnosis of hypertension, while 1.6 percent of them felt that it was diagnosed by X-ray (21).

Fifty six percent argue that hypertensive patient should avoid salty and salty rich foods. In addition, 83.3% of respondents answered that Regular exercise and optimal caloric

intake is important to maintain normal body weight. Around 28.6% of the respondents answered that hypertension medications should be taken under stress situation. Most of the respondents which accounts 72.4% said hypertension medication should be taken as prescribed currently by doctor. 61.4% respondents have knowledge on a person should take rest and sleep for 7-12 hours per day and 76.4% of respondents said hypertension will not occur genetically(26).

2.3. Attitude towards Hypertension prevention

A Malaysian study found that the overall mean attitude score was 44.22 ± 5.05 , with a median of 46 and a minimum and maximum attitude score of 20 and 48, respectively. Among the respondents, whether they have hypertension, 95.5 percent were concerned about their health. Nonetheless, 75.5 percent of respondents shared a strong opinion that they would check BP even though they had no symptoms and 70.9 percent disagreed(5). Sixty three percent of studied individuals in Azare, Bauchi State agreed that age had its own factor for hypertension causation in which elderly people are prone to hypertension than the young adult(44). As a study on Sudan showed 56 percent, 84 percent, 79.2 percent, 75.2 percent, and 80.8 percent, respondents argued that stopping smoking and alcohol, avoiding additional added salts in diet, frequent BP checkup, daily exercise, weight loss help to prevent high blood pressure, respectively (20).

Among the respondents on which research conducted on Malaysia 95.5 percent agreed that the BP check was very important for health and hypertension prevention and 87.3 percent of them agreed that if they were still under stress, it was important to pay attention to their BP measurement, while only 63.6 percent agreed to do so if they were a smoker. Nearly 94.5 percent of respondents accepted that if they consumed nutritious food and got enough sleep every day, they would be less likely to develop hypertension in the future (5).

A cross sectional study in Pakistan found that 38.8% have no attitude on the value of daily BP regulation. 37.2% of people agree that salt consumption reduces hypertension, and 36% strongly agree to exercise regularly for a healthier life(19).

A research in Bangladesh illustrates that 68.3% of the respondents never checked their BP, 65.8% of the respondents visited doctor, 76.70% and 75% of the respondents never checked their Urine and Blood Sugar and 94.2% of the respondents could not recall when they exercise(29). A cross sectional study from Iran on attitude of participants showed that 86.6% argues on dangerousness of hypertension for patients while 9.3% do not argue on this. On the other hand 67.5% thought that hypertension as burden for society while 22% do not think that as hypertension a burden for society(28).

On other study of Iranian community 91.8% have attitude increasing vegetable intake, 84.5% regular physical activity, 39.1% think anti hypertension drugs should only use under stress situations, 83.6% think that for hypertension control patients should use antihypertensive drug all over life, 70.9% argue that for hypertension diagnosis the blood pressure should be measured and only the signs are not enough on the prevention of hypertension(45). On the other study conducted in Sudan in the perspective of attitude shows 78.4 percent of the participants denied that high blood pressure can be avoided. (20).

2.4. Practice towards prevention of hypertension.

As different studies in different countries shows hypertension practices considered as poor. A research in Bangladesh indicates that 68.3% of the respondents never checked their BP and 94.2% of the respondents could not recall when they exercised(29). In similar study of Pakistan most patients occasionally measured their BP which is 49.6%. On practice of healthy diet intake 48.3% moderate their salt intake and 46.5% avoid fatty foods during their meal. From the participants 39 percent and 21 percent have no history of alcohol consumption and cigarette smoking respectively. Indeed, only 35.6% frequently measured their body weight and 35.7% frequently performed physical exercise(19).

Different factors have contribution in hypertension prevention practice, level of education and hypertension prevention practice has significant association. As study in Zambia revealed that those that have attained tertiary education have better hypertension practice as compared to those who attained primary and secondary education. Only 4% of those

who attained tertiary education were classified “poor(27). Very few of the general population in Ambala had positive practice overall. Only 20.6% participants checked their own blood pressure(46). As study shows in the general population of Kabul City, most of the participants said that they check their blood pressure, when they fell ill and 75% of the participants mentioned that they visited a doctor a year ago for BP checkup(47).

A Study done in Ghana showed that 42.6 percent of people considered blood pressure as a personal health concern very seriously. However, 7.7 did not show any seriousness with blood pressure as a personal health concern. Around 52.6% hypertensive patients take medicine to keep blood pressure under control but 15.4% hypertensive did not take medicine to keep blood pressure normal. In these study 53.8 percent of participants practice life style modifications to prevent hypertension(31).

A research conducted in Sudan showed Practice toward BP checking was good, most of the participants, 82.4% had ever checked their BP. There were nearly one fourth participants who were smokers and the same number were also alcohol drinker, 2.4% of the participants smoked for years, 16.0% of the participants had history of regular exercise 3 days or more/week, 39.2% of the participants had practicing physical exercise more than 1 hour/day(20).

A research conducted in Ethiopia, Desie Town 2016 showed that 66.4 % of the participants had checked their blood pressure in life time. Twenty-eight percent of participants did not walk at least ten minutes continuously per day. Seventy percent of study participants do not use high amount of salts in their diet. 49.4 percent have history of alcohol consumption and 12.0% had smoked cigarette from these 41% of them have been smoking daily in the current time. 47.6% of individuals have history of consumption of khat. Almost the majority 73.8% of the participants have used saturated fats and oils for meal preparation in their home, in the other hand 47.6% of the respondents reported they did not use fruits and vegetables frequently as well as occasionally in their diet(30).

Other study in Bahir Dar which is conducted in 2016 revealed that 37.8% of the respondents had previously measured their blood pressure. Regarding to physical

exercise 30% of the respondents reported that they perform physical exercise regularly. 48.6% perform physical exercise for less than 30 minutes per day whereas 8.8% perform for one hour per day. From the study respondents 16.4% were addicted from different substances, of these 7.8% had alcohol addiction(21).

2.5. Factors associated with knowledge, attitude and practice

Studies conducted in different areas showed the educational status of respondent's as a predictors of knowledge towards hypertension. A study done in India and Sudan showed that respondent's educational status was predictor of knowledge towards hypertension(20, 48). These studies indicate respondents who had secondary and above education levels had a higher knowledge towards hypertension with the range of 17% to 35% when compared to respondent's educated primary and below.

Studies conducted in different parts of Ethiopia showed direct relationship between educational status of respondents and their knowledge towards hypertension(21, 26). Study conducted in Bangladesh showed that respondents who had family history of hypertension were more likely knowledgeable than those who had no family history of hypertension (29).

A study conducted in Iran showed that male participants were more likely to had good attitude compared with participants who were females(45). Participants who have good knowledge and practice had good attitude compared with those participants who had poor knowledge and practice as study conducted in Ethiopia and Sudan(20, 26).

Study conducted on Desie town on practice towards hypertension prevention showed that participants who were educated and had good knowledge were more likely prone to practice towards prevention of hypertension. Participants who had good knowledge were 3.3 times (AOR=3.257, 95% CI: 2.422, 4.429) more practiced as compared to individuals who were poor knowledge(30).

3. Conceptual framework

The conceptual framework represents the main study variables which serve as the backbone on which the entire study rests. The conceptual framework outlines the various risk factors of hypertension as well as the indicators of hypertension among individuals as shown in the figure 1 below.

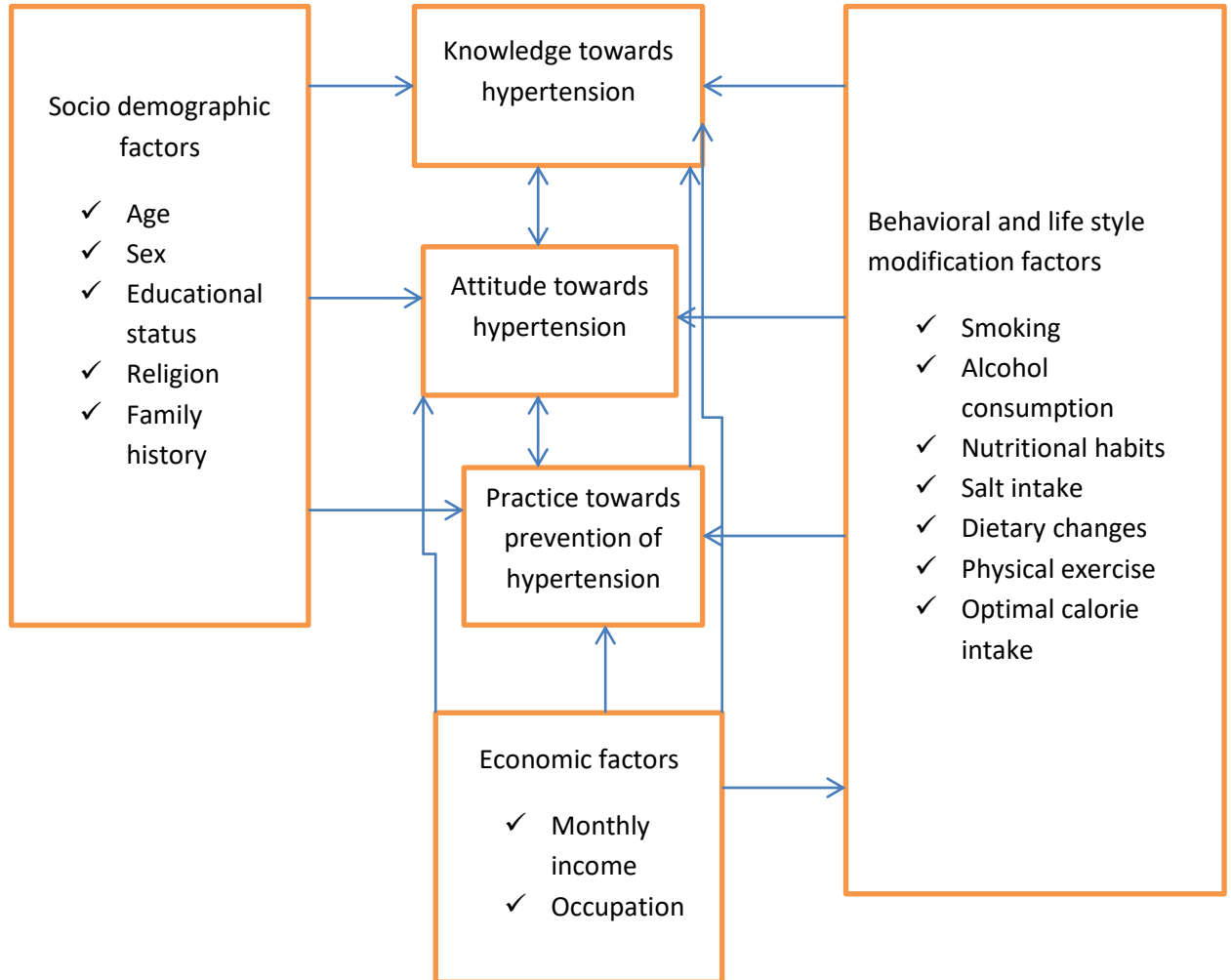


Figure 1: Conceptual frame work indicating factors related to KAP of hypertension in Adet town Yilmana Densa district, West Gojjam Zone, North West Ethiopia, 2021

4. Objectives

4.1. General objective

The general objective of the study was to assess knowledge, attitude and practice towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021

4.2. Specific objectives

1. To measure the level of knowledge towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021.
2. To measure the level of attitude towards hypertension among adults in Adet town, Yilmana Densa district, West gojjam Zone, Northwest Ethiopia, 2021.
3. To measure the level of practice towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021.
4. To identify factors associated with knowledge among adults in Adet town, Yilmana Densa district, West gojjam Zone, Northwest Ethiopia, 2021.
5. To identify factors associated with knowledge among adults in Adet town, Yilmana Densa district, West gojjam Zone, Northwest Ethiopia, 2021.
6. To identify factors associated with knowledge among adults in Adet town, Yilmana Densa district, West gojjam Zone, Northwest Ethiopia, 2021.

5. Methods and Materials

5.1. Study settings

The study was carried in yilmana densa Adet town, west gojjam of Amhara Region, Adet is located 228 km due North from Finote selam, the main town of West Gojjam zone and 43 km due East from Bahir Dar, the main town of Amhara national regional state. According to 2012-2013 budget year the total enumerated number of the population in the town is 55715(male =27802(49.9%), female =27913(50.1%). Among this adult population whose age greater than 18 constitute 14485 (26 %) of the total population. Based on health profile of Adet town Administrative health office, the town has one health center with five health posts, one district government hospital and 5 private primary clinics, 4 private medium clinics, 1 pharmacy and 5 drug stores which deliver routine preventive and curative health services to the community.

5.2. Study Design and Period

Community based cross-sectional study design was conducted from 11/03/ 2021 to 10/04/ 2021.

5.3. Population

5.3.1. Source population

All adults in age range of 18 years and above who resided in Adet Town.

5.3.2. Study population

All non-hypertensive adults age 18 and above who lived in the selected kebeles.

5.3.3. Study unit

Non hypertensive individuals whose age greater than 18 from the selected house hold

5.4. Eligibility Criteria

5.4.1. Inclusion criteria

All non-hypertensive adults' age 18 years and above whom are residents of Adet town were included.

5.4.2. Exclusion criteria:

Non-hypertensive individuals whose age 18 years and above with severe illness and mental illness who cannot respond at the time of study.

5.5. Sample size determination and sampling procedure

5.5.1. Sample size determination

Sample size was determined by using single population proportion formula and assuming (p) was taken 50% because there was no previous study done on knowledge, attitude and Practice towards Hypertension in non-hypertensive patients in Adet town as well as in Ethiopia in a community level. We have been taking into consideration, 95% confidence level and 5% degree of precision, and then the sample size was calculated as follows:

$n = (z\alpha/2)^2 p (p-1) / (d)^2$, where

p=the level of magnitude

d=margin of error

α =level of significance, so

$n = (1.96)^2 * 0.5(1-0.5) / (0.05)^2$

= 384 by adding 10% non-response rate and design effect 1.5, this equals to 633.

5.5.2. Sampling technique

Multi stage sampling technique was employed in selection of the study subjects from the five kebeles. In the first stage the sample size was allocated proportionally for the five kebeles and households were selected by systematic random sampling method with the K value of N/n ($14485/633=22$). In the 2nd stage individuals whose age is greater than 18 and non-hypertensive were selected by systematic random sampling from the selected households. Individuals whose age is greater than 18 and non-hypertensive were study units.

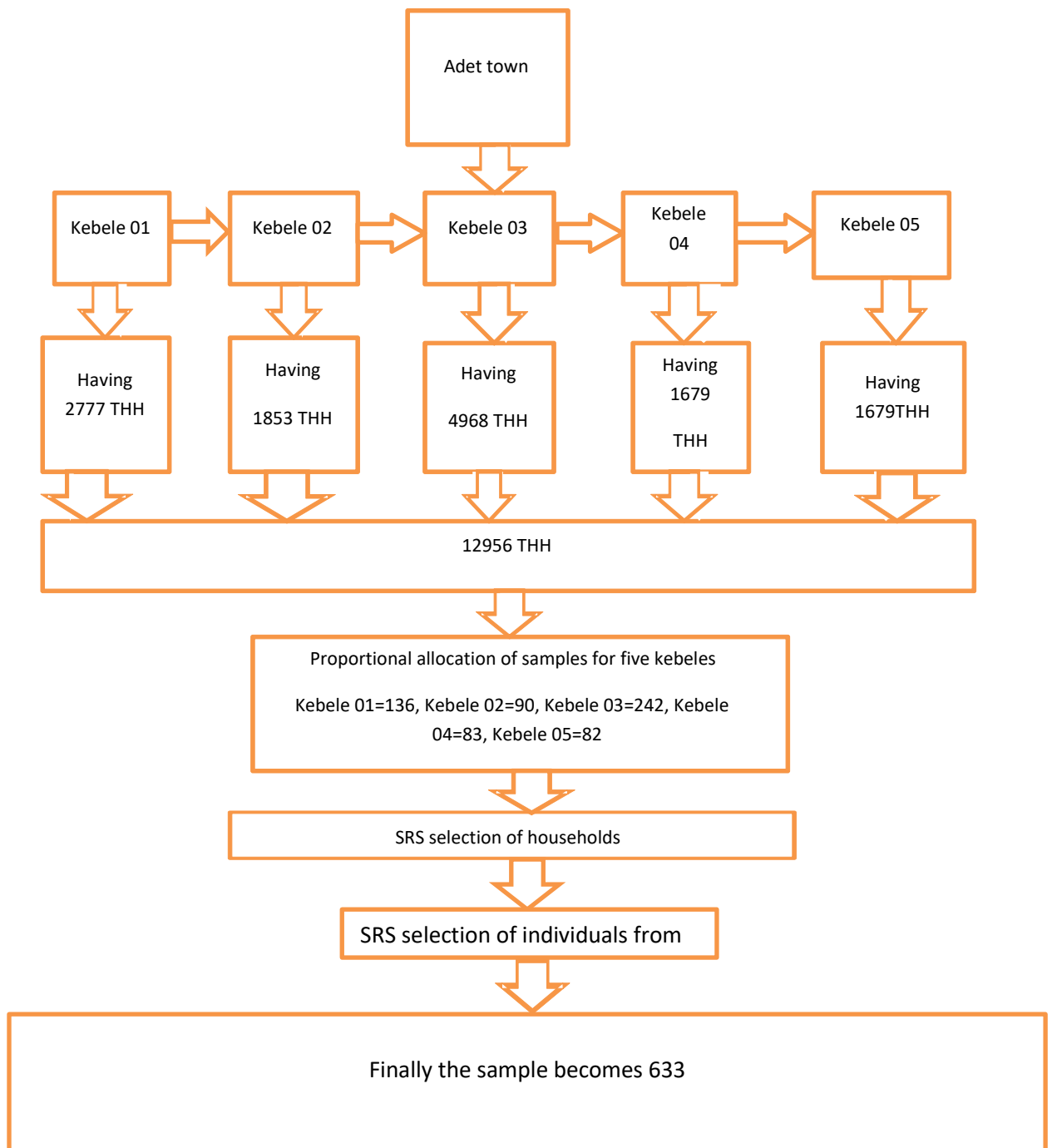


Figure 2: Schematic presentation of the sampling procedure on assessment of knowledge, attitude and practice towards hypertension prevention among adults in Adet town, Yilmana Densa district, West Gojjam Zone, North West Ethiopia, 2021.

5.6. Study Variables

5.6.1. Dependent variable

Knowledge

Attitude

Practice

5.6.2. Independent variables

Socio demographic: age, sex, educational status, marital status, religion, ethnicity, family history

Behavioral and life style factors: smoking habit, alcohol consumption, physical exercise, nutritional habits, high salt intake, dietary changes, and potassium intake and optimal calorie intake.

Economic factors: monthly income, Occupation.

5.7. Operational and terms definitions

Knowledge: It is information that an individual is aware of what is hypertension is and factors that predisposes to it. In this study was measured based on the ability of the respondent correctly identify and respond to meaning, risk factors, and preventive measures of hypertension.

Overall knowledge: Knowledge level was assessed from 30 correct answers by adding 13 correct answers from data regarding general knowledge about hypertension, 7 correct answers from data regarding management of hypertension, and 10 correct answers from data regarding life style modification. Finally, those who scored greater than and equal to mean score categorized as **good knowledge**, while those who scored less than the mean score were considered as having **poor knowledge(49)**.

Attitude: To assess their attitude level each attitude assessing questions were coded as 0 and 1. For example for the first question High blood pressure is preventable; the first two responses strongly agreed and agreed coded as “1” while the remaining three responses; uncertain disagree, strongly disagree were coded as “0”. Finally after adding the whole attitude the total score become 15. Therefore after looking the average attitude score those who scored > 7 were categorized in **favorable attitude**, while those who scored less than 7 as **unfavorable attitude**(49).

This section was utilized 5-point Likert scale to assess the attitude in terms of strongly agree, agree, uncertain, disagree and strongly disagree.

Practice: - is the overt behavior, habit or custom that a person does, follow up or carry out in his/her daily life in prevention of hypertension. It was measured based on previous health seeking behavior, decisions and action taken to prevent hypertension, when we come to practice; there were 6 questions used to assess the practice level of the study participants. The score level of 3 and above have **good practice** and less than 3 were categorized as having **poor practice** towards hypertension(49).

Hypertension: Blood pressure of 140/90 mm Hg and above taken at least on two occasions at 30- minute interval

Non hypertensive: Those with systolic blood pressure less than 140 mmHg or diastolic blood pressure less than 90 mmHg, or the ones who did not take antihypertensive medications were considered as hypertensive patients(50).

5.8. Data collection procedures

5.8.1. Data collection instruments and data collection procedures

Data were collected using a structured questionnaire adapted from different guidelines, and similar researches(20, 26) that were done previously and modified accordingly, and it was developed in English then translated in to local language Amharic version and back to English by translators. Data were collected using a pre-tested and structured interviewer administered questionnaire. Face-to-face interview was conducted with the

local language, Amharic. Six data collectors and two supervisors were participated in the data collection. Interviews were done privately to maintain confidentiality and to avoid peer pressure.

During data collection study units were selected by systematic random sampling method from selected households who were not hypertensive. In order to identify whether hypertensive or not, we asked a question “do you have history of hypertension previously, are you taking anti hypertension medication ?” if the answer is yes we did not include him/her in the study but if the answer is no we include him/her in the study.

Even if most of the participants were civil servants and merchants who know their average monthly income in cash, there were farmer participants (5.5%) during this study who had cash as well in-kind income. To calculate their average income we add what they had as source of income within a year and we divide the total for 12 months.

5.9.Data Quality Control

To assure the quality of data, six data collectors and two supervisor who have experience on data collection were employed and orientation on data collection, data handling and recording was given prior to data collection. To assure the quality of data supervisors and investigator were closely supervise data collection procedure daily. Each questionnaire and data sheets was checked prior to the entry of the data. Incorrectly filled questionnaires that miss major contents of the study were not included in the study. The questionnaire was pre- tested about 5 % of the sample size and revised accordingly to ensure internal validity of the study. Interviewers were undertaking pretest. Then the interviewers and the investigator were met to discuss issues and resolve questionnaire problems.

5.10. Data management and statistical analysis

The data were checked for consistency, entered and cleaned with Epi-Info Version 7.2, and then exported to SPSS version 23 for statistical analysis. Descriptive summaries such as frequency, percentage, proportion, mean and standard deviation were computed to present the data using texts, table, graph and chart. Binary logistic regression model was

fitted to identify factors associated with hypertension prevention practice. Binary logistic regression analysis was carried out and each independent variable with p-value less than 0.25 were entered into multivariable logistic regression analysis to identify factors associated KAP of hypertension. Adjusted odds ratios with 95% confidence intervals were used to declare statistical significance. Model fitness was assessed with Hosmer and Lemeshow test, and multicollinearity was diagnosed using variance inflation factor. In the multivariable logistic regression analysis, a p-value less than 0.05 were considered as statistically significant.

5.11. Ethical consideration

Ethical approval was obtained from the Institution Review Board of the College of Medicine and Health Science, Bahir Dar University. Then a formal letter of support was obtained from the Amhara public health institute, the West Gojjam zone health department, and from Yilmana Densa district Health office. The Keble administrators also informed about the study. Informed verbal consent from each study participants were obtained after explaining the main purposes of the study. The information collected from respondents kept confidential.

5.12. Results Dissemination

The results of the study will be presented to the public defense and the final edition will be submitted to Graduate School of Bahir Dar University and yilmana densa health department and institutions involved in the study through hard copies. In addition, the manuscript will be submitted to a peer reviewed scientific journal for publication.

6. Results

6.1. Socio-demographic characteristics

The response rate of study participants and the mean age of study participants were 97.5% and 33.5 ± 10.6 SD respectively. Three hundred ten (49%) of the respondents were females. When we look the educational level of study participants, 13.6% were illiterate and 31.8% had higher educational level. Three hundred and fifty five (56.1%) of the respondents were married. Most of study participants (70.8%) were Orthodox in religion. Two hundred one (31.8) respondents were civil servants. Family history of hypertension was present in 12.5% of study participants. The mean monthly income of the respondents was 5607 (± 2667 SD) ETB. From the total respondents 161(25.4%), 129(20.4%) and 343(54.2) had bad habit, good habit and no habit respectively. (**Table 1**)

Table 1: Socio-demographic characteristics of study participants in study conducted on knowledge, attitude, and practice towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam zone, North West Ethiopia, 2021.

Variable	Categories	Frequencies	Percent
Age	18-24	133	21.0
	25-34	207	32.7
	35-44	183	28.9
	>45	110	17.4
Sex	male	323	51.0
	female	310	49.0
Education	Illiterate	86	13.6
	Primary Education	167	26.4
	Secondary Education	169	28.3
	Higher Education	201	31.7
Marital status	single	221	34.9
	married	355	56.1
	Divorced	28	4.4
	Widowed	29	4.6
Religion	Orthodox	448	70.8
	Muslim	169	26.7
	Protestant	16	2.5
Habits	Bad habit	161	25.4
	Good habit	129	20.4
	No habit	343	54.2
Occupation	Civil servants	201	31.8
	merchant	234	37.0
	farmer	35	5.5
	student	132	20.8
	other	31	4.9
Family history of hypertension	yes	79	12.5
	no	554	87.5
Monthly income	<=2000	79	12.5
	2001-4000	134	21.2
	4001-6001	173	27.3
	>6001	247	39.0

6.2. Previous information regarding life style modification and Source of information about healthy life style modification for prevention of HTN

Four hundred eighty four participants (76.5%) had information regarding life style modification for prevention of HTN, from these 349(55.1%) received from health professionals.

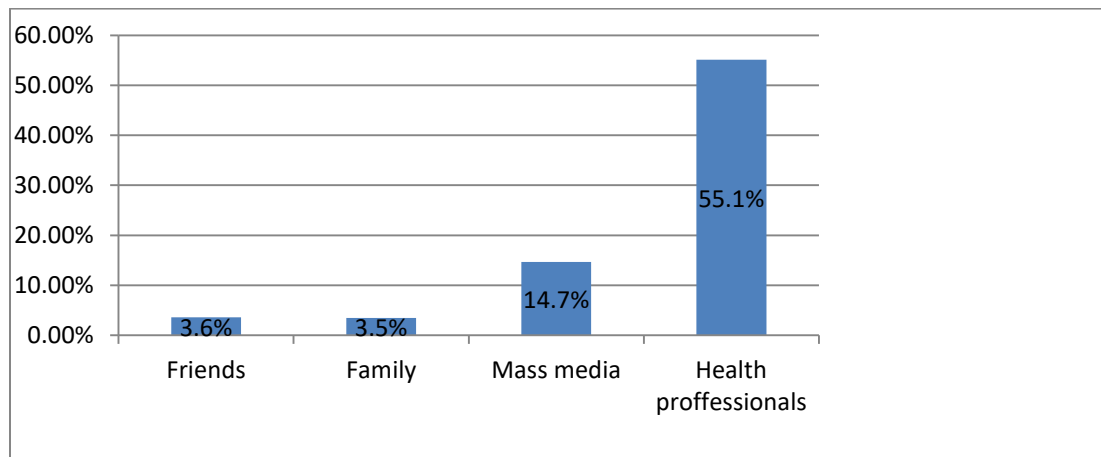


Figure 3: Study participant's source of information regarding life style modification towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, North Zest Ethiopia, 2021

6.3. Knowledge on management hypertension and lifestyle modification

The result of current study shows that 54.0% of respondents have good knowledge about Hypertension in general, its management, and lifestyle modification. Knowledge of respondents shows, three hundred seventy three (58.9%) of the respondents said that average normal BP is 120/80 mmHg. Two hundred eighty five (45.0%) define hypertension as BP above 140/90mm Hg. Stress is reported by 396 (62.6%) of participants as a risk factor that induces hypertension. Most of the respondents which account 341 (53.9%) mentioned headache as symptom of hypertension. Cerebro-vascular dysfunction is mentioned by 329 (52%) of participants which can be developed due to hypertension. From the total respondents 388(61.3%) of respondents said that blood pressure measurement is the diagnostic study of hypertension.

Dietary control and regular exercise were mentioned as methods used to control hypertension by 38.4% and 30.0% respondents respectively. Decrease salt intake was mentioned as the nutritional therapy of hypertension by 71.7% study participants. Salt rich and salty foods should be avoided in hypertensive patients were correctly responded by 56.6% study participants. Most of study participants (77.6%) responded as hypertensive patients should take 0-2 tea spoon salts daily.

Regular exercise and optimal calorie intake was mentioned as ways to maintain normal body weight by 87.0% respondents. Four hundred study participants said a person should exercise greater than 30 minutes daily. Yoga and meditation was mentioned as main ways to reduce stress and Aerobics was indicated as the best method of exercise to reduce hypertension by 86.7% participants. Only 13.4% of respondents said hypertensive medication should be taken as life long way to manage high blood pressure. Rest in between activities was indicated as the best ways of rest in hypertensive patients. Almost half (49.8%) of study participants said that a person should sleep from 6 to 10 hours daily. And only 35.9 percent of study participants mentioned genetics as a cause of hypertension. (Table 2)

Table 2: Respondents knowledge towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, North West Ethiopia, 2021

R.N	Variable	Categories	Frequencies	Percent
General knowledge on hypertension				
	Normal range of blood pressure	90/60 mmHg	44	7.0
		120/80 mmHg	373	58.9
		140/90 mmHg	18	2.8
		I do not know	198	31.3
	Hypertension	above 140/90 mmHg	285	45.0
		120/80 mmHg	60	9.5
		90/50 mmHg	64	10.1
		I do not know	224	35.4
	Risk factor of hypertension	Stress	396	62.6
		Age	76	12.0
		Hereditary	19	3.0
		Stress and age	13	2.1
		stress and Hereditary	7	1.1
		Stress age and hereditary	51	8.1
		don't Know	71	11.2
	Sign and symptom of hypertension	Headache	341	53.9
		Dizziness	108	17.1
		Nausea	41	6.5
		Headache, dizziness	32	5.1
		Headache and Nausea	6	.9
		Headache, Dizziness and Nausea	30	4.7
		Don't Know	75	11.8
	Target organ damage	Liver dysfunction	41	6.5
		Cerebro vascular dysfunction	329	52.0
		Respiratory dysfunction	47	7.4
		Renal dysfunction	48	7.6
		I don't know	168	26.5
	Hypertension diagnostic method	Blood test	161	25.4
		Urine test	10	1.6
		Chest X-ray	23	3.6
		BP measurement	388	61.3
		Do not Know	51	8.1
Hypertension management questions				
	Hypertension control method	Diet Control	243	38.4
		Drug Therapy	96	15.2
		Regular Exercise	190	30.0

	Diet, drug & regular exercise	75	11.8
Nutritional therapy of hypertension	Don't know	29	4.6
	Water restriction	44	7.0
	Decrease salt intake	454	71.7
	Increase salt intake	15	2.4
	Decrease calorie reach	91	14.4
Foods that hypertension patient avoid	foods		
	Don't know	29	4.6
	Salt reach and salty foods	358	56.6
	Spicy foods	50	7.9
	Pulses	85	13.4
Salt rich foods	Vegetables	93	14.7
	Don't know	47	7.4
	Pickles	425	67.1
	Milk	18	2.8
	Vegetables	9	1.4
Amount of salt that hypertensive patient take/day(tea spoon)	Rice	46	7.3
	Don't Know	135	21.3
	0-2	491	77.6
	2.1-4	119	18.8
	4.1-8	23	3.6
Data regarding life style modification			
Normal weight maintaining mechanism	Over eating	17	2.7
	Eating fatty foods	17	2.7
	Regular exercise and optimal calorie intake	551	87.0
	Calorie restriction	34	5.4
	Don't know	14	2.2
Length of exercise per day (minutes)	1-14	48	7.6
	15-29	185	29.2
	30-45	355	56.1
	>46	45	7.1
Measures to reduce stress	Involve in strenuous work	39	6.2
	Yoga and meditation	353	55.8
	Administering sleep inducing medication	22	3.5
	Watching television	200	31.6
	Don't know	19	3.0
Good form of exercise for hypertension	Aerobics (walking, jogging)	549	86.7
	Weight bearing	19	3.0
	Driving	8	1.3
	Dancing	24	3.8
	Don't know	33	5.2

Hypertension medication taking time	Under stress situation.	209	33.0
	As life long way to manage high blood pressure.	85	13.4
	When activities require physical exertion.	46	7.3
	Whenever a patient feels bad.	205	32.4
	Don't know	88	13.9
Ways hypertensive patients to take medication	As per information got from other hypertensive patents.	98	15.5
	As per information got from books and journals.	36	5.7
	Taking medications which were prescribed for the disease long time ago.	14	2.2
	Taking the medications which are currently prescribed by the doctor.	485	76.6
Time of hypertensive patients to take rest	Complete bed rest.	143	22.6
	Rest after doing all the work.	82	13.0
	Rest in between activities.	291	46.0
	No need to exercise.	73	11.5
	Don't know	44	7.0
Length of time in which a person take rest per day(hours)	1-5	142	22.4
	6-10	315	49.8
	>11	176	27.8
Hypertension will occur genetically	Yes	227	35.9
	No	406	64.1

Table 3: Knowledge level of study participants regarding to hypertension, Adet town, Yilmana Densa, West Gojjam Zone, North West Ethiopia, 2021

Scale	Frequency	Percent
Poor knowledge	288	45.5
Good knowledge	345	54.5

6.4. Response to attitude related questions

The result of current study shows that 50.4% of respondents have favorable attitude towards hypertension. Two hundred seventy eight (43.9%) of respondents strongly agreed to the statement " high blood pressure is preventable", one hundred twenty six (19.9%) strongly agreed to the statement "stopping smoking and alcohol helps to prevent hypertension", 103(16.3%) strongly agreed to the statement "avoiding salt in their food is good" while 242(38.2%) disagreed to the statement "it is good to use extra added cooking oil". Attitude of respondents towards prevention of hypertension is shown in (Table 4).

Table 4: Respondents attitude towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021

R.N	Statements	Strongly agree SA(1)	Agree A(2)	Uncertain UC(3)	Disagree DA(4)	Strongly disagree SDA(5)
	High blood pressure is preventable	278(43.9)	241(38.1)	100(15.8)	11(1.7)	3(.5)
	Stoppage of smoking and alcoholism helps to prevent hypertension	126(19.9)	300(47.4)	151(23.9)	52(8.2)	4(.6)
	It is good to avoid extra added salts in your diet.	103(16.3)	405(64.0)	54(8.5)	62(9.8)	9(1.4)
	It is good to use extra cooking oil in your diet.	11(1.7)	91(14.4)	165(26.1)	242(38.2)	124(19.6)
	It is good to have whole fruits rather than to have deserts	80(12.6)	335(52.9)	153(24.2)	55(8.7)	10(1.6)

and sweets.					
BP should be checked periodically	208(32.9)	366(57.8)	46(7.3)	13(2.1)	0
Hypertensive patient can take fat rich food	9(1.4)	55(8.7)	122(19.3)	272(43.0)	175(27.6)
It is good to include green leafy vegetable in your daily diet	222(35.1)	396(62.6)	10(1.6)	5(.8)	0
Regular exercise helps to prevent hypertension	187(29.5)	366(57.8)	67(10.6)	12(1.9)	1(.2)
Hypertensive patients need to abstain from their jobs	14(2.2)	118(18.6)	171(27.0)	210(33.2)	120(19.0)
Hypertensive patients need to maintain their weight within normal limits	144(22.7)	348(55.0)	128(20.2)	11(1.7)	2(.3)
Hypertensive patients should keep away from stress inducing situation	203(32.1)	301(47.6)	86(13.6)	40(6.3)	3(.5)
Lack of proper rest and sleep does not affect BP	16(2.5)	159(25.1)	176(27.8)	127(20.1)	155(24.5)
Hypertension patients should abstain from sexual relation ship	13(2.1)	85(13.4)	201(31.8)	223(35.2)	111(17.5)

Change in life style help to prevent high blood pressure	177(28.0)	381(60.2)	66(10.4)	8(1.3)	1(.2)
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Table 5: Attitude level of study participants regarding to hypertension, Adet town, Yilmana Densa district, West Gojjam Zone, North West Ethiopia, 2021

Scale	Frequency	Percent
Unfavorable	314	49.6
Favorable	319	50.4

6.5. Response to practice related questions

The result of current study shows that 29.4% of respondents have good practice for Hypertension. One hundred ninety three (30.5%) of the respondents have ever checked their BP, among whom only 42(21.8%) checked in this month. Thirty two (5.1%) of the respondents were current smokers, of which 10(31.2%) smoked about 1 years, and 17 (53.1%) smokes 5-10 cigarette per day. One hundred fifty five (24.5%) of respondents drink alcohol, where. 38(24.5%) of them drinks Seven or more drinks a week. The summary of practice towards hypertension is presented in (Table 6).

Table 6: Respondents practice towards hypertension prevention among adults in Adet town, Yilmana Densa district, West Gojjam Zone, North West Ethiopia, 2021

R.N	Variable	Categories	Frequeencie s	Perce nt
	Blood pressure checkup	Yes	193	30.5
		No	440	69.5
	Time of checkup	In this month	42	21.8%
		In the last six months	77	39.9%
		Before six months	74	38.3%
	Cigarate smoking	Yes	32	5.1
		No	601	94.9

Duration of smoking(in years)	1	10	31.2
	2	10	31.3
	3 and above	12	37.5
Amount of cigarette smoke per day (stick)	1-4	15	46.9
	5-10	17	53.1
Alcohol drinking	Yes	155	24.5
	No	478	75.5
Amount of drink per week (one portion of alcohol is having at least 1 glass of wine, can/bottle of beer, a shot (50g) of cognac or ouzo), local beer or arekie	Less than one drink a week	30	19.4
	One to three drinks a week	66	42.6
	Four to six drinks a week	21	13.5
	Seven or more drinks a week	38	24.5
Duration of salt adding in food without trying it	never	164	25.9
	rarely	189	29.9
	sometimes	77	12.2
	often	123	19.4
	always	77	12.2
Number of days in which a person do physical activities, brisk walking or walking in a week	1-2	110	17.4
	3-4	85	13.4
	5-7	21	3.3
Length of minute within exercise	<30 minutes	112	17.7
	30 minutes to 1 hour	91	14.4
	>1 hour	3	.5
	Don't know/not sure	10	1.6

Table 7: Practice level of study participants regarding to hypertension, Adet town, Yilmana Densa district, West Gojjam Zone, North West Ethiopia, 2021

Scale	Frequency	Percent
Poor	447	70.6
Good	186	29.4

6.6. Factors associated with Knowledge of respondents towards hypertension

Bivariable and multivariable analysis was done to identify significant factors. Five independent variables were entered to multivariable logistic regression models. In multivariable logistic regression analysis four explanatory variables namely educational level, having previous information regarding life style modification for prevention of HTN, occupational status and having family history of hypertension were associated with good knowledge. Those respondents with Secondary education status were 2.05 times (AOR= 2.05, 95% CI: 1.05, 4.02) and those respondents with higher educational status were 4.49 times (AOR= 4.49, 95% CI: 2.05, 9.84) knowledgeable towards hypertension compared to those respondents who were illiterate respectively. Respondents having previous information regarding life style modification for prevention of HTN were 2.15 times knowledgeable towards hypertension compared to participants who had no previous information regarding life style modification for prevention of HTN (AOR= 2.15, 95% CI: 1.41, 3.29). Respondents who were student in occupation were 2.09 more likely knowledgeable compared to those who were civil servants (AOR= 2.09, 95% CI: 1.02, 4.31), while those who were farmers were less likely knowledgeable compared to those who were civil servants (AOR= 0.15, 95% CI: 0.038, 0.62). Those respondents having family history of hypertension had higher odds to knowledge towards hypertension compared to those who had no family history of hypertension which is 4.25 times higher (AOR= 4.25, 95% CI: 2.19, 8.27). Farmers were less likely knowledgeable compared to civil servants towards hypertension (AOR=0.15, 95% CI: 0.038, 0.62). (Table 8)

Table 8: Factors associated with knowledge in study conducted on knowledge, attitude, and practice towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021.

Variables	Knowledge		COR (95% CI)	AOR (95% CI)
	Poor	Good		
Educational level				
Illiterate	60	26	1	
Primary Education	96	71	1.71(0.98,2.96)	1.56(0.83,2.93)
Secondary Education	74	105	3.27*(1.89,5.66)	2.05**(1.05,4.02)
Higher Education	58	143	5.69*(3.27,9.88)	4.49**(2.05,9.84)
Previous information regarding life style modification for prevention of HTN				
Yes	194	290	2.56*(1.75,3.73)	2.15**(1.41,3.29)
No	94	55	1	1
Occupational status				
Civil servants	67	134	1	1
Merchant	129	105	.41*(.28, .60)	0.99(0.54,1.83)
Farmer	32	3	.05*(.01, .16)	0.15**(.038,0.62)
Student	43	89	1.04(.65, 1.65)	2.09(1.02,4.31)
Other*	17	14	.41(.19, .89)	0.85(0.35,2.08)
Family history of hypertension				
Yes	17	62	3.49*(.16, .50)	4.25**(2.19,8.27)
No	271	283	1	
Average Monthly income (ETB)				
<2000	49	30	1	1
2001-4000	76	58	1.25(.71, 2.20)	0.600(0.30,1.19)
4001-6000	68	105	2.52*(1.46, 4.36)	1.19(0.62,2.31)
>6001	95	152	2.61*(1.55, 4.40)	1.23(0.64,2.36)

* Variables p-value having less than 0.05 in Bivariable logistic regression

** Variable P-value having less than 0.05 in Multivariable logistic regression

6.7. Factors associated with Attitude of respondents

Bivariable and multivariable analysis was done to identify significant factors. Five independent variables were entered to multiple logistic regression models. In multiple logistic regression analysis four explanatory variables namely sex, having family history of hypertension, knowledge score and practice were associated with attitude. Male respondents were 1.67 times (AOR=1.67, 95% CI: 1.18, 2.33) prone to attitude compared to females. Those respondents who had family history of hypertension were 1.9 times (AOR= 1.90, 95% CI: 1.11, 3.23) more likely to had higher attitude compared to participants who had no family history of hypertension. Those participants having good knowledge were 3.87 times (AOR=3.87, 95% CI: 2.69, 5.57) more likely to had higher attitude compared with those who have poor knowledge and those having good practice were 1.51 times (AOR=1.51, 95% CI: 1.03, 2.22) more likely to had higher attitude compared with those who had poor practice. (Table 9)

Table 9: Factors associated with attitude towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021.

R. N	Variables	Attitude		COR (95%CI)	AOR (95%CI)
		Favorable	Unfavorable		
	Sex				
	Male	144	179	1.5*(1.10,2.07)	1.67(1.18,2.33)
	Female	170	140	1	1
	Family history of hypertension				
	Yes	24	55	2.52*(1.52,4.10)	1.90**(1.11,3.23)
	NO	290	264	1	1
	Knowledge				
	Poor	192	96	1	1
	Good	122	223	3.73*(2.63,5.08)	3.87**(2.69,5.57)
	Practice				
	Poor	242	205	1	1
	Good	72	114	1.87*(1.32,2.65)	1.51**(1.03,2.22)
	Monthly income				

<=2000	47	32	1	1
2001-4000	73	61	1.23(0.69,2.16)	0.96(0.53,1.73)
4001-6001	79	94	1.75*(1.02,2.99)	1.19(0.67,2.12)
>6001	115	132	1.69*(1.01,2.82)	1.27(0.75,2.20)

* Variables p-value having less than 0.05 in Bivariable logistic regression

** Variable P-value having less than 0.05 in Multivariable logistic regression

6.8. Factors associated with practice of respondents

Bivariable and multivariable analysis was done to identify significant factors. Six independent variables were entered to multivariable logistic regression models. In multivariable logistic regression analysis four explanatory variables namely educational level, having previous information regarding life style modification for prevention of HTN, monthly incomes and knowledge score were associated with practice. Those study participants with primary education status were 4.28 times (AOR=4.28, 95% CI: 1.70, 10.77), those with secondary educational status were 5.25 times (AOR= 5.25, 95% CI: 2.10, 13.09) and those with higher educational status were 6.7 times (AOR= 6.70, 95% CI: 2.72, 16.48) higher to implement practice towards hypertension prevention compared to those who are illiterate respectively.

Similarly respondents having previous information regarding life style modification for prevention of HTN were 1.9 times (AOR=1.90, 95% CI: 1.15, 3.13) higher to implement hypertension prevention practice compared to those who had no previous information regarding life style modification for prevention of HTN. In addition respondents who had monthly income of 2001-4000 ETB were 3.75 times (AOR=3.75, 95%CI: 1.65-8.53) and those with monthly income of 4001-6000 ETB were 2.69 times (AOR=2.69, 95%CI: 1.24-5.84) higher to implement hypertension prevention practice compared to those who had monthly income of <2000ETB respectively and those participants who had good knowledge towards hypertension were 2.42 times (AOR=2.42, 95% CI:1.62,3.65) prone to practice compared to those had poor knowledge.(Table 10).

Table 10: Factors associated with practice towards hypertension among adults in Adet town, Yilmana Densa district, West Gojjam Zone, Northwest Ethiopia, 2021.

Variables	Practice		COR (95% CI)	AOR (95% CI)
	Poor	Good		
Educational level				
Illiterate	80	6	1	1
Primary Education	126	41	4.34*(1.76,10.69)	4.28**(1.70,10.77)
Secondary Education	124	55	5.91*(2.43,14.38)	5.25**(2.10,13.09)
Higher education	117	84	9.57*(3.98,22.98)	6.70**(2.72,16.48)
Previous information regarding life style modification for prevention of HTN				
Yes	323	161	2.47*(1.55,3.95)	1.90**8(1.15,3.13)
No	124	25	1	1
Average Monthly income (ETB)				
<2000	70	9	1	
2001-4000	87	47	4.20*(1.939,16)	3.75**(1.65,8.53)
4001-6000	122	51	3.25*(1.51,7.00)	2.16(0.96,4.84)
>6001	168	79	3.66*(1.74,7.69)	2.69**(1.24,5.84)
Knowledge				
Poor	192	96	1	1
Good	122	223	3.10*(2.13,4.50)	2.42**(1.62,3.65)

* Variables p-value having less than 0.05 in Bivariable logistic regression

** Variable P-value having less than 0.05 in Multivariable logistic regression

7. Discussion

This study revealed knowledge, attitude and practice and associated factors towards hypertension among adults in Adet town, Yilmana densa district, North West; Ethiopia. The result of this study shows that 54.0% of respondents have good knowledge regarding hypertension in general, its management, and lifestyle modification. The result of this study is in line with a study conducted in Bangladesh (56.36%)(29). More than half of the respondents had proper knowledge on hypertension, the findings of this study indicates that the knowledge towards hypertension of the respondents is considerably higher when compared with previous studies done in Mongolia (which is only 40%)(43).

And it is also higher than a study conducted in Malaysia at which around 89.1 percent of Malaysian has poor knowledge's about hypertension(5). The possible explanation for this discrepancy may be due to that, those study participants from different countries may have differences in health education program design, health literacy and access to health workers and Medias.

Knowledge of respondents shows, three hundred seventy three (58.9%) of the respondents said that average normal BP is 120/80 mmHg which indicates good knowledge about normal range of blood pressure. However, this is lower than a study conducted in Periurban Community of the Ho Municipality in Ghana(42), and relatively higher than a study conducted in Bangladesh (39.3%)(29). The possible explanation for this discrepancy may be due to the fact that there is time gap and socio-demographic variations across the countries. Two hundred eighty five (45.0%) define hypertension as BP above 140/90mm Hg. .

Having knowledge towards hypertension was influenced by different factors. Among this educational level, having previous information regarding life style modification for prevention of HTN and having family history of hypertension were the most important one. Participants with secondary and higher educational status were more likely to had knowledge on hypertension compared with those who were illiterates. This is consistent with study conducted in Ethiopia among Ethiopian army and Bahir dar city(21, 26). A consistent finding was also found from researches out of Ethiopia, conducted in Sudan

and India(20, 48). This consistency might be due to that as ones educational level increases they are more likely to be exposed with different information regarding health and health related awareness. This due to the fact that as educational level increases, they are more exposed to different seminars, discussions, leaflets and magazine and mass Medias irrespective of socio-demographic variations(51).

Occupational status also had association with knowledge. Farmers were less likely knowledgeable compared to those who were civil servants; this might be due to variation in educational status because as we know the truth in our community, educational level of farmers is less likely poor while civil servants have formal educational level which makes them knowledgeable than farmers.

Students were more likely knowledgeable as compared to civil servants. This might be due the fact that the more reading habit of students for their educational purpose as well as for general knowledge. In the contrary as one left from school and become civil servant habit of reading decreases as well as knowledge towards something decreases. This result is consistent with study conducted in Bangladesh and Malaysia(5, 29). This consistency might be due to that being a student enables to get more knowledge in different aspects which is universal across country. In addition since most students are in stage of adolescent they are eager to know more about something which is true throughout the world that makes students knowledgeable.

Similarly participants having family history of hypertension were more likely to had knowledge compared to those who had no family history of hypertension. This is in agreement with findings from previous study conducted in Bangladesh(29). Consistency is due to the fact that if people have family members who had hypertension, they are more likely to be exposed with the knowledge due to different reasons, for example during caring a patient at health organization they got different information's which lead them to had knowledge about hypertension(52).

The result of this study shows that 50.4% of respondents have overall favorable attitude towards hypertension which is less than study conducted on members of Ethiopian army (61.5%) (26). This discrepancy might be due to educational level of respondents because

all members of Ethiopian army had formal educational level while in this study there were illiterate participants (13.6%).

To have good attitude towards hypertension was influenced by four different factors, namely sex, family history of hypertension, knowledge and practice. Male participants were more likely prone to good attitude compared with participants who were females. This is consistent with study conducted in Iran(45). The reasons of good attitude in male than female might be due to educational level variations of males and females(53).

This finding also showed participants who had good knowledge and practice towards hypertension were more likely to had good attitude compared with those participants who had poor knowledge and practice. This is in agreement with findings from previous studies in Ethiopia, on members of Ethiopian army and study conducted in Sudan(20, 26). This is due to the fact that when individual had knowledge on certain issue his or her attitude increases towards that irrespective of geographical location.

The result of current study shows that 29.4% of respondents have good practice for Hypertension. Four hundred forty (69.5%) of the respondents have never checked their BP which showed poor practice of the community towards checking their status. Similarly, a research done in Bangladesh also indicates that 68.3% of the respondents never checked their BP (29) and Pakistan (50.4%)(19) Bahir Dar(68.2%)(21). However, some studies showed high level of checking practice showing that most have good habit of checking their blood pressure Sudan (82.4%)(20) and Kabul city (75%)(47). This might be due to difference in socio demographic characteristics.

Thirty two (5.1%) of the respondents were current smokers, of which 10(31.2%) smoked about 1 years, and 17 (53.1%) smokes 5-10 cigarette per day. This figure is significantly lower than a study conducted in Sudan showing that there were nearly one fourth participants who were smokers. One hundred fifty five (24.5%) of respondents drink alcohol where 38(24.5%) of them drinks Seven or more drinks a week which is higher than a study conducted in s Sudan in which only 4.8% drink alcohol one to three times a week(20).

One hundred twelve (17.7%) of the respondents reported that they perform physical exercise less than 30 minutes, 91(14.4%) perform physical exercise for 30 minutes to an hour per day whereas 3(0.005%) perform for one hour per day which is lower than study conducted in Desie town which shows 30% of the respondents reported that they perform physical exercise regularly, 48.6% perform physical exercise for less than 30 minutes per day and 8.8% perform for one hour per day (30). The discrepancy might be due to difference in study setting because this study conducted at Woreda town level while Desie is zonal town in which there were many respondents who had knowledge about physical exercise.

This study showed that participants who were educated and had good knowledge were more likely prone to practice towards prevention of hypertension. This is in line with study conducted Desie(30), Ethiopia. This is obviously the fact that most peoples who had good knowledge about the particular things, initiate to do so.

8. Limitation of the study

Limitations

- ✓ Some questionnaires need memories that lead the respondents to introduce recall biases. For example
 - Amount of alcohol drunk per day, week....
 - Blood pressure checkup time

9. Conclusion

In conclusion, almost half of respondents had good knowledge and attitude towards hypertension and fewer respondents had good practice towards prevention hypertension. Educational level, having previous information regarding life style modification for prevention of HTN, having family history of hypertension and knowledge was the four common factors which were associated with KAP level of the respondents.

10. Recommendations

To Regional and Zonal Health Bureau

1) Public health education to improve KAP of the community towards hypertension is needed in collaborating with private and nongovernmental organizations who works on non-communicable disease including HTN.

2) Implementing strategy for hypertension screening at least for adults visiting health institutions for various reasons by increasing capacity of health organizations which deliver service routinely. (For example availing enough human power and instruments like BP apparatus)

To private and NGOS

They have to support and collaborate on awareness creation with Government to address prevention of HTN, for example engage in action plan preparation by identifying gaps towards KAP of hypertension and monitor and evaluate the action plan, participate on preparation of behavioral changing material like leaflets which increase KAP of the communities.

To Adet town Administration and Woreda health office

Since the level of practice towards hypertension is low, the town administration and Woreda health office should need to strengthening health education programs. The content and method of health education given should investigate and evaluate in terms of long term knowledge and behavioral change. To run this program the Woreda health office should assign NCDs officer who plan and monitor the program. The office should also establish effective action plan to strengthen multi sectorial collaboration to increase level of knowledge, attitude and practice to the community.

To Adet town community

- 1).All adults should better to check their blood pressure.
- 2).All adults should give attention on healthy diet, alcohol moderation, salt reduction, regular physical activities.

To researchers

Conduct more research supplemented with qualitative data on Knowledge, attitude and practice towards hypertension to formulate guidelines which used to increase level of knowledge, attitude and practice to the community.

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12. ANNEXES

ENGLISH VERSION

I: Participant Information Sheet

Good morning/ good afternoon? My name is _____. Currently, I am a graduate student at Bahir Dar University, College of Medicine and Health Sciences, School of public health, Department of health system management and health economics. And now I am conducting a research on assessing knowledge, attitude and practice towards hypertension in Adet administrative town.

Title of the research: Assessment of knowledge, attitude and practice towards hypertension among adults in Adet administrative town, North West Ethiopia, 2020.

Objective: To assess knowledge, attitude and practice towards hypertension prevention among adults in yilmana densa, Adet Administrative town, Amhara Region; Ethiopia, 2020

Participants:

Potential Risks: There is no foreseen risk by being participating in this study.

Benefits: No financial benefits are related to this study. But by participating in this study, you will acquire or increase knowledge related to hypertension.

I would like to ask you a few questions. Your honest response to the questions can make the study to achieve its objective. All the information that you give will be kept confidential and private. Only the principal investigator and interviewer will have access to the information. You are kindly requested to respond voluntarily. You can also choose not to participate in this study or if you become uncomfortable during the study, you will be allowed to leave the study at any time. At any time if you have questions, you can contact me by using the following addresses.

Mengistu Ashebir Mobile: 0910121161/0942339018, E-mail: mengieashebir@gmail.com

II: Informed consent Bahir Dar University, College of Medicine and Health Sciences, School of public health, Department of health system management and health economics.

I here with declare that:

- ✓ The objectives of this study are explained to me and are clear.
- ✓ The contents of the consent are verified to me to participate in the study. I understand that participation in this study is completely voluntary and that I may withdraw at any

time without supplying reasons. I agree to participate in this study to be interviewed, provided my privacy is guaranteed. When signing this consent form to participate in the study, I promise to answer honestly to all reasonable questions and not provide any false information or in any other way purposely mislead the researcher.

Signature of the participant _____ date _____

Signature of the investigator _____ date _____

Annex II: Interview questionnaires (English version)

Part I: - Socio demographic data

Instruction: - I request you kindly to go through each question and give your responses by placing a tick mark (√) against the box provided.

No	Variable	Response	Code	Skip to
101	Age	-----age		
102	Sex	1)Male 2) Female	1 2	
103	Education	1)Illiterate 2)Grade1-6 3)Grade7--8 4)9-10 5)11-12 6) Diploma and above	1 2 3 4 5 6	
104	Marital status	1)Single 2)Married 3)Divorced 4) Widowed	1 2 3 4	
105	Religion of the respondent	1) Orthodox 2) Muslim 3) Protestant 4) If other specify	1 2 3 4	
106	Ethnicity	1)Amhara	1	

		2)Oromo 3)Tigri 4) If any other specify	2 3 4	
107	Habits	1)Smoking 2) Alcohol 3) high salt intake 4) dietary change 5)potassium intake 6) None	1 2 3 4 5 6	
108	Previous information regarding life style modification for prevention of HTN	1)Yes 2) No	1 2	
109	If yes from whom Source of health information	1) Friends 2) Family members 3) Mass media 4) Health professionals 5) Other	1 2 3 4 5	
110	What is your job	1) Civil servant 2) Merchant 3) Farmer 4) Student 4) If other specify	1 2 3 4 5	
111	Do you have family history of	1) Yes 2) No	1 2	

	hypertension			
112	Source of information	1) Television 2) Radio 3) Magazines	1 2 3	
113	How much is the average monthly income of the family?	----- Ethiopian birr		

Part III - Knowledge questionnaire

No	Variable	Response	CODE	Skip to
201	What is the normal range of blood pressure?	1.90/60 mmHg 2.120/80 mmHg 3.140/90 mmHg 4. I do not know	1 2 3 4	
202	What is meant by hypertension?	1.above 140/90 mmHg 2.120/80 mmHg 3.90/50 mmHg 4.I do not know	1 2 3 4	

203	which is the risk factor of hypertension given below?(Multiple answer is possible)	1) Stress 2) Age 3) Hereditary 4) Stress & age 5) stress & hereditary 6) Age & hereditary 7) Stress, age & hereditary 8) I don't know	1 2 3 4	
204	Which is the sign and symptom present in hypertensive patient?(multiple answer is possible)	1) Headache 2) Dizziness 3) Nausea 4) Headache & dizziness 5) Headache & nausea 6) Dizziness & nausea 7) Headache, dizziness & nausea 8) I don't know	1 2 3 4	
205	What evidence of target organ damage is present?	1) Liver dysfunction 2) Cerebro vascular dysfunction 3) Respiratory dysfunction 4) Renal dysfunction 5) Don't know	1 2 3 4 5	
206	What is the prompt	1) Blood test	1	

	diagnostic study of hypertension?	2) urine test 3) chest x-ray 4) BP measurement 5) Do not Know	2 3 4 5	
II DATA REGARDING MANAGEMENT OF HYPERTENSION.				
207	Which of the following methods are used to control hypertension?	1) Diet control 2) Drug therapy 3) Regular exercise 4) Diet, drug & regular exercise 5) Don't know	1 2 3 4 5	
208	What is the nutritional therapy of hypertension?	1) Water restriction 2) Decrease salt intake 3) Increase salt intake 4) Decrease calorie reach foods 5) Don't know	1 2 3 4 5	
209	Which of the following food should a hypertensive patient avoid?	1) Salt reach and salty foods 2) Spicy foods 3) pulses 4) Vegetables 5) Don't know	1 2 3 4 5	
210	Which of the following is a salt rich food?	1) Pickles 2) Milk 3) Vegetables 4) Rice 5) Don't know	1 2 3 4 5	

211	How much salt is given to hypertensive patient/day?	-----Tea spoon		
III. Data regarding life style modification				
212	How can you maintain normal body weight?	1) Over eating 2) Eating fatty foods 3) Regular exercise and optimal calorie intake 4) Calorie restriction 5) Don't know	1 2 3 4 5	
213	How long should a person exercise daily?	-----minutes		
214	What is the best measure followed to reduce stress?	1) Involve in strenuous work 2) Physical exercise 3) Administering sleep including medication 4) Watching television 5) Don't know	1 2 3 4 5	
215	What form of exercise is good for hypertension?	1) Aerobics (walking, jogging) 2) Weight bearing 3) Driving 4) Dancing 5) Don't know	1 2 3 4 5	
216	At what all time, hypertensive medications should be taken?	1) Under stress situation. 2) As life long way to manage high blood pressure. 3) When activities require	1 2 3 4 5	

		physical exertion. 4) Whenever a patient feels bad. 5) Don't know		
217	How does hypertensive patient take medications?	1) As per information got from other hypertensive patents. 2) As per information got from books and journals. 3) Taking medications which were prescribed for the disease long time ago. 4) Taking the medications which are currently prescribed by the doctor.	1 2 3 4	
218	How often should a hypertensive patient rest?	1) Complete bed rest. 2) Rest after doing all the work. 3) Rest in between activities. 4) No need to exercise. 5) Don't know	1 2 3 4 5	
219	How much time should a person take sleep per day?	-----hrs.		

220	Hypertension will occur genetically	1) True	1	
		2) False	2	

Part IV: - Attitude scale

Instruction: - Tick (√) the column which corresponds to participant's option to the statement

given below the response ranges from strongly agree (SA) to strongly disagree (SDA)

SL NO	Statements	Strongly agree SA(1)	Agree A(2)	Uncertain UC(3)	Disagree DA(4)	Strongly disagree SDA(5)
301	High blood pressure is preventable					
302	Stoppage of smoking and alcoholism helps to prevent hypertension					
303	It is good to avoid extra added salts in your diet.					
304	It is good to use extra cooking oil in your diet.					
305	It is good to have whole fruits rather than to have deserts and sweets.					
306	BP should be checked					

	periodically					
307	Hypertensive patient can take fat rich food					
308	It is good to include green leafy vegetable in your daily diet					
309	Regular exercise helps to prevent hypertension					
310	Hypertensive patients need to abstain from their jobs					
311	Hypertensive patients need to maintain their weight within normal limits					
312	Hypertensive patients should keep away from stress inducing situation					
313	Lack of proper rest and sleep does not affect BP					
314	Hypertension patients should abstain from sexual relation ship					

315	Change in life style help to prevent high blood pressure					
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PART V:-PRACTICE TOWARDS HYPERTENSION

S.no	Questions	Answers	code	Skip to
401	Have you ever checked your BP	1) Yes 2) No	1 2	If No to Q 403
402	If yes when	1) In this month 2) In the last six months 3) Before six months	1 2 3	
403	Do you currently smoke cigarettes?	1) Yes 2) No	1 2	If No to Q406
404	How long do you smoke?	_____years		
405	How many cigarettes do you currently smoke per day?	_____Cigarettes		
406	Are you drinking alcohol	1) Yes 2) No	1 2	If no toQ408

407	<p>On average, how often do you usually drink alcohol (one portion of alcohol is having at least 1 glass of wine, local bear (tela), can/bottle of beer, a shot (50g) of cognac or ouzo, Arekie)? (Read all options, check one answer)</p>	<p>1) Less than one drink a week 2) One to three drinks a week 3) Four to six drinks a week 4) Seven or more drinks a week 5) Never</p>	<p>1 2 3 4 5</p>	
408	<p>How often do you add salt to your food without trying it? (Read all options, check one answer)</p>	<p>a) Never b) Rarely c) Sometimes d) Often e) Always</p>	<p>1 2 3 4 5</p>	
409	<p>During the last 7 days, on how many days did you</p>	<p>1) _____ Days per week 2) Do not know, not sure</p>	<p>1 2</p>	

	do physical activities?	3)Refuse to answer	3	
410	On the days that you exercised, how many minutes did you usually spend exercising per day?	a) Less than 30 minutes b) From 30 minutes to 1 hour c) More than 1 hour d) Don't know/not sure e) Refuse to answer	1 2 3 4 5	

ክፍል አንድ፣ የተሳታፊዎች መረጃ መስጫ ቅጽ-በአማርኛ

እንደምን አደሩ/ዋሉ? መንግስቱ አሸብር እባላለሁ። በባህርዲር ዩኒቨርሲቲ ጤና ሳይንስ

ኮሌጅ፣ የህብረተሰብ ጤና ትምህርት ክፍል በአጠቃላይ የህብረተሰብ ጤና የ2ኛ ዓመት የማስትሬት ዲግሪ ተመራቂ ተማሪ ነኝ። በአሁኑ ሰዓት በአዴት ከተማ አስተዳደር እድሜያቸው ከ 18 አመት በላይ በሆኑ ነዋሪዎች ላይ በደም ግፊት በሽታ ዙሪያ ስላላቸው አጠቃላይ እውቀት፣ ዝንባሌ እና ተግባር ለመገምገም የሚያስችል መረጃ ለመሰበሰብ ነዉ። የሚሰበሰበው መረጃ ሙሉ በሙሉ በሚስጥር የሚያዝ መሆኑን እናረጋግጥልዎታለን። የእርስዎ ስም፣ መለያ አድራሻ አይመዘገብም። መረጃ መስጠት ካልፈለጉ መብትዎ ነዉ። መመለስ ያልፈለጉትን ጥያቄ መዘለል/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።

የጥናቱ ርዕስ፡- እድሜያቸው ከ 18 አመት በላይ የሆኑ ነዋሪዎች በደም ግፊት በሽታ ዙሪያ ያላቸው አጠቃላይ እውቀት፣ ዝንባሌ እና ተግባር በአዴት ከተማ አስተዳደር፣ ምእራብ ጎጃም ዞን አማራ ብሄራዊ ክልላዊ መንግስት፣ኢትዮጵያ፣2013

የጥናቱ ዓላማ፡- ነዋሪዎች ስለ ደም ግፊት ያላቸውን እውቀት፣ ዝንባሌ፣ ተግባር እና ተዛማጅ ችግሮች ማወቅ.

ተሳታፊዎች፡- እድሜያቸው ከ 18 አመት በላይ የሆኑ እና በቁሚነት ነዋሪ የሆኑት ይሆናሉ።

የጎንዮሽ ጉዳት፡- በዚህ ጥናት መሳተፍ ምንም አይነት ጉዳት የለውም።

ጥቅማ ጥቅም፡- በዚህ ጥናት መሳተፍ ምንም አይነት ገንዘብ አያስገኝም። ነገር ግን በዚህ ጥናት መሳተፍ ስለ ደም ግፊት እውቀት ያገኛሉ ወይም ያለዎትን እውቀት ያዳብራሉ። ስለዚህ የተወሰኑ ጥያቄዎችን ልጠይቅዎት እፈልጋልሁ። የእርስዎ በእውነት ላይ የተመሰረተ መልስ ለዚህ ጥናት መሳካት ጉልህ አስተዋጽኦ ያደርጋል። እርስዎ የሚሰጡት መረጃ ከጥናት አድራጊውና ቃለ መጠይቅ አድራጊው በስተቀር በማንኛውም መልኩ ለሌላ 3ኛ ወገን ተላልፎ አይሰጥም። በሙሉ ፈቃደኝነት እንዲሳተፉ እየጠየቅሁ፣ ያለመሳተፍ ወይም በማንኛውም ጊዜ ራስዎን ከጥናቱ የማግለል ሙሉ መብት አለዎት። ማንኛውም ግልጽ ያልሆነ ጥያቄ ካለዎት በሚከተለው አራሽዬ ማግኘት ይችላሉ።

መንግስቱ አሸብር፤ ስ.ቁ 0910121161 ኢሜል፣mengieashebir@gmail.com

የስምምነት መግለጫ ፎርም - በአማርኛ

በባህርዲር ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና ትምህርት ክፍል በአጠቃላይ የህብረተሰብ ጤና ዲፓርትመንት ድህረ ምረቃ ፕሮግራም እኔ ስሜ ከዚህ በታች የተገለጸው፤ የዚህ ጥናት ዓላማ በደንብ የተብራራልኝ ሲሆን የጥናቴንም ዓላማ ተረድቻለሁ። በዚህ ጥናት ላይ መሳተፍ በሙሉ ፈቃደኝነት ላይ የተመሰረተ መሆኑን በሚገባ የተረዳሁ ሲሆን በማንኛውም ጊዜ ከጥናቱ ራሴን የማግለል መብት እንዳለኝ አውቄአለሁ። ስለሆነም የምሰጠው መረጃ እስከተጠበቀ ድረስ በዚህ ጥናት ለመሳተፍ ተስማምቻለሁ። በዚህ ጥናት ለመሳተፍ ስምምነቴን ስገልፅ ለምጠየቀው ጥያቄ በእውነት ላይ የተመሰረተ መልስ ለመስጠት የተስማማሁ መሆኔን አረጋግጣለሁ።

ስም-----

ፊርማ-----

ቀን-----

የጥናቱ ተሳታፊዎች በጥናቱ ለመሳተፍ ፈቃደኛ ከሆኑ መጠይቁን ይጀምሩ።

የጥናቱ ተሳታፊ ፈቃደኛ መሆናቸውን የሚያረጋግጥ የመረጃ ሰብሳቢው/አጥኚው

ስም-----

ፊርማ-----

ቀን-----

የቃለ ምልልሱ ውጤት

- 1. የተሟላ ----- 2. በከፊል የተሟላ----- 3. ፍቃደኛ ያልሆነ -----
- 4. ሌላ -----
- 2. ክፍል ሁለት ቃለ መጠይቅ

ተ.ቁ	ሽሪያብል	አማራጭ	ከድ	ወደ ቀጣይ ጥያቄ ይለፉ
101	እድሜ	-----አመት		
102	ጾታ	1) ወንድ 2) ሴት	1 2	
103	የትምህርት ደረጃ	1) ማንበብ እና መጻፍ የማይችል 2) ከ1-6ኛ ክፍል 3) ከ7-8ኛ ክፍል 4) ከ9-10ኛ ክፍል 5) ከ 11-12 ክፍል 6) ኮሌጅ እና ከዚያ በላይ	1 2 3 4 5 6	
104	የጋብቻ ሁኔታ	1) ያላገባ/ች 2) ያገባ/ች 3) የፈታ/ች 4) በሞት የተለዩ	1 2 3 4	
105	የተሳታፊዉ ሀይማኖት	1) ኦርቶዶክስ 2) ሙስሊም 3) ፕሮቴስታንት 4) ሌላ ካለ ይጠቀስ	1 2 3 4	
106	ብሄርዎ ምንድን ነዉ	1) አማራ 2) ኦሮሞ 3) ትግራይ 4) ሌላ ካለ ይጠቀስ	1 2 3 4	

107	ልማድ	1) ሲጋራ 2) አልኮል 3) ጨው በብዛት መጠቀም 4) የምግብ ለውጥ ማድረግ 5) ፖታሽየም ያለባቸው ምግቦችን ማዘወተር 6) ምንም ልማድ የለኝም	1 2 3 4 5 6	
108	ስለ ጤናማ አኗኗር ዘይቤ መረጃ አግኝተው ያውቃሉ?	1) አዎን 2) የለም	1 2	
109	መረጃ አግኝተው ከሆነ ከማን አገኙት?	1) ከጓደኛ 2) ከቤተሰብ አባላት 3) ከመገናኛ ብዙሀን 4) ከጤና ባለሙያ 5) ከሌላ	1 2 3 4 5	
110	የሚተዳደሩበት የስራ ድርሻ ምንድን ነው?	1) የመንግስት ሰራተኛ 2) ነጋዴ 3) አርሶ አደር 4) ተማሪ 5) ሌላ ካለ ይጠቀስ	1 2 3 4 5	
111	በቤተሰብዎ የደም ግፊት ታሪክ አለዎት?	1) አወን 2) የለም	1 2	

112	የመርጃ ምንጭዎት ምንድን ነው?	1) ቴሌቪዥን 2) ሬድዮ 3) መጋዚን	1 2 3	
113	የቤተሰቡ ወርሃዊ የገቢ መጠን ስንት ነው?	----- የኢትዮጵያ ብር		

መመሪያ: - ጥያቄውን በደንብ ከተረዱ በኋላ ከተሰጡት ምርጫዎች ውስጥ በመልስዎ ላይ (✓)

ምልክት ያስቀምጡ:

ክፍል አራት: የእዉቀት መለኪያ ቃለ መጠይቅ

ተ.ቁ	ጥያቄ	አማራጭ	ኮድ	ወደ ቀጣይ ይለፉ
201	አንድ ጤናማ ሰዉ የደም ግፊት ስንት በስንት ነው?	1) 90/60 ሚሜሜ 2) 120/80 ሚሜሜ 3) 140/90 ሚሜሜ 4) አላዉቀዉም	1 2 3 4	
202	የደም ግፊት በሽታ ማለት ምን ማለት ነው?	1) የደሙ ግፊት 140/90 ሚሜሜ በላይ ሲሆን 2) የደሙ ግፊት 120/80 ሚሜሜ ሲሆን 3) የደሙ ግፊት 90/50 ሚሜሜ ሲሆን 4) አላዉቀዉም	1 2 3 4	
203	ለደም ግፊት በሽታ ተጋላጭነት መንስኤ የሆነዉ የቱ ነው?	1) ጭንቀት 2) እድሜ 3) የዘር ሀረግ	1 2 3 4	

		4) ጭንቀትና እድሜ 5) ጭንቀትና የዘር ሀረግ 6) እድሜና የዘር ሀረግ 7) ጭንቀት፡-እድሜና የዘር ሀረግ 8) አላዉቀዉም	5 6 7 8	
204	የደም ግፊት ህመም የሚያሳየዉ ስሜት እና ምልክት የቱ ነዉ?	1) የራስምታት 2) መፍዘዝ 3) ማቅለሽለሽ 4) የራስ ምታትና መፍዘዝ 5) የራስ ምታትና ማቅለሽለሽ 6) መፍዘዝና ማቅለሽለሽ 7) የራስ ምታት፡-መፍዘዝና ማቅለሽለሽ 8) አላዉቀዉም	1 2 3 4 5 6 7 8	
205	በደም ግፊት የሚጠቁ የሰዉነት ክፍሎች የትኞቹ ናቸዉ?	1) የጉበት ተግባር መታወክ 2) የነርቭና የልብ ስራ መታወክ 3) የመተንፈሻ አካላት መታወክ 4) የኩላሊት ተግባር መታወክ 5) አላዉቀዉም	1 2 3 4 5	
206	የደምን ግፊት ለማወቅ የትኛው አይነት ምርመራ መደረግ አለበት?	1) የደም ምርመራ 2) የሽንት ምርመራ 3) የደረት ራጅ ምርመራ 4) የደም ግፊትን መለካት 5) አላዉቀዉም	1 2 3 4 5	
207	የደም ግፊት በሽታን	1) አመጋገብን ማስተካከል	1	

	ለመቆጣጠር የሚጠቅመዉ ዘዴ የቱ ነዉ?	2) መድሀኒት መዉሰድ 3) የአካል ብቃት እንቅስቃሴ ማዘዉተር 4) አመጋገብን ማስተካከል፡-መድሀኒት መዉሰድ፡-የአካል ብቃት እንቅስቃሴ ማዘዉተር 5) አላዉቀዉም	2 3 4 5	
208	የደም ግፊት ህመምተኛ መከተል ያለበት የአመጋገብ ስርዓት የትኛዉ ነዉ?	1) ትንሽ ዉሀ መጠጣት 2) ጨዉ ያልበዛበት ምግብ መመገብ 3) ጨዉ የበዛበት ምግብ መመገብ 4) ሀይል ሰጪ ምግቦችን መቀነስ 5) አላዉቀዉም	1 2 3 4 5	
209	የደም ግፊት ህመምተኛ መመገብ የሌለበት ምግብ የትኛዉ ነዉ?	1) ጨዉ የበዛበት ምግብ 2) ቅመም የበዛበት ምግብ 3) ጥራጥሬ 4) አትክልት 5) አላዉቀዉም	1 2 3 4 5	
210	ከሚከተሉት ዉስጥ ጨዉ የበዛበት ምግብ የትኛዉ ነዉ?	1) ሆምጣጤ የበዛበት ሰላጣ 2) ወተት 3) አትክልት 4) ፍዝ 5) አላዉቀዉም	1 2 3 4 5	

211	የደም ግፊት ያለበት ሰው በቀን ምን ያህል ጨዋ መውሰድ አለበት?	-----ግራም		
212	የሰውነታችንን ክብደት እንዴት መቆጣጠር እንችላለን?	1) ብዙ በመመገብ. 2) ስብ የበዛባቸውን ምግቦችን በመመገብ 3) የአካል ብቃት እንቅስቃሴ አዘውትሮ መስራት እና በቂ ሀይል ሰጪ ምግብ መመገብ 4) አላውቀዋል	1 2 3 4	
213	በቀን ለምን ያህል ደቂቃ የአካል ብቃት እንቅስቃሴ መስራት ጥሩ ነው?	ለ----- ደቂቃ		
214	ጭንቀትን ለመቀነስ የሚጠቅመው የትኛው ነው?	1) ከባድ ስራ መስራት 2) እስፖርታዊ እንቅስቃሴ ማድረግ 3) መድሀኒት ወስዶ መተኛት 4) ቴሌቪዥን መመልከት 5) አላውቀዋል	1 2 3 4 5	
215	ለደም ግፊት ህመማን ተስማሚ የሆነው የአካል ብቃት እንቅስቃሴ	1) የእግር ጉዞ እና ሶመሶማ ፍጭ 2) ክብደት ማንሳት 3) መኪና ማሸከርከር	1 2 3 4 5	

	የትኛው ነው?	4) ዳንስ /ጭፈራ/. 5) አላውቀዋል.		
216	የደም ግፊት በሽታ መድሀኒት መወሰድ ያለበት መቼ ነው?	1) የጭንቀት ስሜት ሲሰማ ብቻ. 2) ዘወትር ለእድሜ ልክ. 3) አድካሚ ስራ ሲስራ ብቻ. 4) ጥሩ ስሜት አልሰማ ሲል. 5) አላውቀዋል	1 2 3 4 5	
217	የደም ግፊት ህመምተኛ መድሀኒት አወሰደ መሆን ያለበት እንዴት ነው?	1) ከሌሎች ህመማን ባገኘው መረጃ መሰረት 2) ከመጻሕፍት እና ከ መጽሔት ባገኘው መረጃ መሰረት 3) ከረጅም ጊዜ በፊት በታዘዘለት መሰረት. 4) በቅርብ ጊዜ ሀኪሙ ባዘዘለት መሰረት. 5) አላውቀዋል	1 2 3 4 5	
218	የደም ግፊት ህመምተኛ እረፍት ማድረግ ያለበት ሁኔታ እንዴት ነው?	1) አልጋ ላይ በመተኛት ማረፍ. 2) ከስራ በኋላ ማረፍ. 3) በስራ መሀከል ማረፍ. 4) እንቅስቃሴ ማድረግ የለበትም. 5) አላውቀዋል	1 2 3 4 5	
219	አንድ ሰው በቀን	-----ሰዓት		

	ለምን ያህል ሰዓት እረፍት ቢያደርግ ጥሩ ነዉ?			
220	የደም ግፊት በሽታ በዘር ይተላለፋል።	1) እስማማለሁ 2) አልስማማም	1 2	

ክፍል አምስት :- የዝንባሌ ቃለ መጠይቅ

መመሪያ:- የሚከተለው ቃለ ምልልስ በጣም እስማማለሁ፤ እስማማለሁ፤ እርግጠኛ አይደለሁም፤ አልስማማም እና በጣም አልስማማም የሚሉ አማራጮች አሉ፡ ጥያቄዉን አንብብዉ ከተረዱት በኋላ የ(✓) ምልክት በአማራጩ አኳያ ባለዉ ቦታ ያስቀምጡ ።

ተ.ቁ	ጥያቄ	በጣም እስማማለሁ (1)	እስማማለሁ (2)	እርግጠኛ አይደለሁም (3)	አልስማማም (4)	በጣም አልስማማም (5)
301	የደም ግፊት በሽታን መከላከል ይቻላል።					
302	ሲጋራና አልኮልን ባለመጠቀም የደም ግፊት በሽታን መከላከል ይቻላል።					
303	በምግብ ላይ ተጨማሪ ጨዉ ያለመጠቀም ጥሩ					

	ነዉ።					
304	ዘይት የበዛበት ምግብ መመገብ የደም ግፊት በሽታን ለመከላከል ጥሩ ነዉ።					
305	ጣፋጭ ምግቦችን በመተዉ ፍራፍሬ ብቻ መጠቀም የደም ግፊት በሽታን ለመከላከል ጥሩ ነዉ።					
306	በተወሰነ ጊዜ የደም ግፊትን መለካት አስፈላጊ ነዉ።					
307	የደም ግፊት ህመሙን ስብነት ያላቸዉን ምግቦች ቢመገቡ ጥሩ ነዉ።					
308	አረንጓዴ አትክልቶችን					

	በእለት ምግባችን ዉስጥ ማካተት አስፈላጊ ነዉ።					
309	አካል ብቃት እንቅስቃሴ ማድረግ የደም ግፊት በሽታን ይከላከላል።					
310	የደም ግፊት ሀመም ያለባቸዉ ሰዎች ስራ መስራት የለባቸዉም።					
311	ደም ግፊት ሀመም ያለባቸዉ ሰዎች ክብደታቸዉን መቆጣጠር አ ለባቸዉ።					
312	የደም ግፊት ሀመም ያለባቸዉ ሰዎች ጭንቀት ከሚፈጥሩ ነገሮች መራቅ አለባቸዉ።					
313	እረፍት እና					

	እንቅልፍ ማጣት በደም ግፊት መጠን ላይ ተጽዕኖ የላቸዉም።					
314	የደም ግፊት ያለባቸዉ ሰዎች የግብረ ስጋ ግንኙነት ማድረግ የለባቸዉም።					
315	የአኗኗር ዘይቤን ማስተካከል የደም ግፊት በሽታን ለመከላከል ይጠቅማል።					

ክፍል ስድስት፡ ተግባርን የሚለኩ ጥያቄዎች።

ለሚከተሉት ጥያቄዎች ትክክለኛውን መልስ ያክብቡ።

ተ.ቁ	ጥያቄዎች	ምርጫ	ከድ	ወደ ቀጣይ ጥያቄ እልፍ
401	የደም ግፊትዎን ተለክተው ያውቃሉ?	1) አዎ 2) ተለክቼ አላውቅም	1 2	
402	አዎ ከሆነ መልስዎ መቼ?	1) በዚህ ወር ውስጥ 2) ባለፈው 6 ወር ውስጥ 3) ከ 6 ወር በፊት	1 2 3	
403	ሲጋራ ያጫሳሉ?	1) አዎ 2) አላጫስም	1 2	
404	አዎ ከሆነ መልስዎ ለምን ያህል ጊዜ አጫሱ?	1) ለ-----አመታት		
405	የሚያጫሱ ከሆነ በቀን ምን ያህል ሲጋራ ያጫሳሉ?	-----ሲጋራዎች በቀን		
406	አልኮል ይጠጣሉ?	1) አዎ 2) አልጠጣም	1 2	
407	አዎ ከሆነ መልስዎ	1) አንድ መጠን በሳምንት	1	

	<p>በአማካይ ምን ያህል ይጠጣሉ? /መገለጫ:-</p> <p>አንድ መጠን</p> <p>የሚባለው ቢያንስ 1 ብርጭቆ ወይን፣ 1 ብርጭቆ ጠላ፣ 1ጠርሙስ ቢራ፣ ወይም 50 ሲሲ ኡዞ፣ ጂን፣አረቂ የመሳሰሉ አልኮሎች ማለት ነዉ።</p>	<p>2) ከ1-3 መጠን በሳምንት</p> <p>3) ከ 4-6 መጠን በሳምንት</p> <p>4) ከ7 መጠን በላይ በሳምንት</p>	<p>2</p> <p>3</p> <p>4</p>	
408	<p>በምግብ ላይ ተጨማሪ ጨው ይጠቀማሉ?</p>	<p>1) አልጠቀምም</p> <p>2) አልፎ አልፎ</p> <p>3) አንዳንድ ጊዜ</p> <p>4) አብዛኛውን ጊዜ</p> <p>5) ዘወትር</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	
409	<p>ባለፈው ሳምንት ውስጥ ለምን ያህል ጊዜ የአካል ብቃት እንቅስቃሴ ሠሩ?</p>	<p>1) -----ቀናት በሳምንት</p>		
410	<p>የአካል ብቃት እንቅስቃሴ ሰርተዉ ከሆነ ለምን ያህል ደቂቃ በቀን ሰርተዋል?</p>	<p>1) ከ30 ደቂቃ ላነሰ ጊዜ</p> <p>2) ከ30 ደቂቃ-1 ሰአት</p> <p>3) ከ አንድ ሰአት በላይ</p> <p>4) አላዉቀዉም/እርግጠኛ አይደለሁም</p> <p>5) ለመመለስ ፈቃደኛ አይደለሁም</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	