ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS PREVENTION AND CONTROL OF HYPERTENSION AMONG MEMBERS OF THE ETHIOPIAN ARMY ASSIGNED FOR EACE KEEPING MISSION

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Assessment of knowledge, attitude and practice towards hypertension among members of the Ethiopian army assigned for peace keeping mission.

By Tadesse Guda

Approved by the examining board

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Abbreviation and Acronyms

AAU - Addis Ababa University

AOR Adjusted Odds Ratio

BP Blood Pressure

CHD Coronary Heart Disease

CHF Congestive Heart Failure

CI Confidence Interval

CVD Cardio Vascular Disease

DBP Diastolic Blood Pressure

GI Gastro-Interties

JNC Joint National Committee

KAP Knowledge, Attitudes, and Practices

NCD Non Communicable Disease

OR Odds Ratio

PAH Persons Aware of being Hypertensive

PUH Persons Unaware of Being Hypertensive

SD Standard Deviation

SBP Systolic Blood Pressure

SPH School of Public Health

SPSS Statistical Package for Social Science Research

TV Television

UN United Nations

WHO World Health Organization

Abstract

Back ground: 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 and by 2025, the number of hypertensive people is expected to increase by 60% and reach 1.56 billion people. The reason that Little is known about the knowledge ,attitude and practice towards prevention and control of hypertension among Army, this study assessed the gaps in knowledge, attitude and practice towards hypertension and associated factors among the army assigned for peace keeping mission.

Method: institution based cross sectional study was conducted between March 16 to April 12, 2015 among 420 sample of Ethiopian defense Force members assigned for peace keeping mission in Birr Shelko training center. Quantitative data were collected on knowledge, attitude and practice towards hypertension among study participants.

Data was analyzed using SPSS version 21. Descriptive statistics were used to summarize socio-demographic, characteristics of study participant. Knowledge, attitude and practice towards hypertension was determined using Bloom's taxonomy for cut of point (60-80). Logistic regression were used to identify factors associated with outcome variables. The result were reported by odds ratio (OR) and Statistical significance were declared at p-value less than 0.05.

Result : A total of 420 systematically sampled individuals were studied and found to have comprehensive knowledge score of 49.8% (±16.2 SD) Two hundred seventy five (65.5%) of the respondents had low level of knowledge, and cumulative mean percent of attitude score was 65.1% (±16 SD). Two hundred nine (49.8%) of the respondents had neutral attitude. The mean percent of practice score were 60.5% (±16.9 SD). Only 93(22.1%) had relatively better practice towards prevention of hypertension. Practice score of respondents found to have significant association with educational level, knowledge towards hypertension and attitude towards preventive practices at p value of 0.05.

Conclusion : Since the level of the knowledge regarding hypertension is low in more than half of respondents, strengthening health education program is essential. Knowledge about health feeding and health food, the importance of physical exercise should be given in health education.

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1. Introduction

1.1 Back ground

Hypertension is commonly referred to as high blood pressure(1). According to the seventh report of joint national committee prevention, detection, evaluation, and treatment of high blood pressure (JNC7) it is categorized in to four categories for adults of age greater than or equal to18 years(2). Normal blood pressure is SBP less than 120mm Hg and DBP less than 80 mm Hg, pre-hypertension is for patents on the cusp of developing hypertension and defined as a SBP of 120-139mm Hg or a DBP of 80-89mm Hg(3). Hypertension is defined as a systolic blood pressure equal to or above 140 mm Hg and/or diastolic blood pressure equal to or above 90 mm Hg. But it is divided as stage I with the SBP 140-159mm Hg or DBP 80-89mm Hg and stage II with SBP ≥ 160mm Hg or DBP of ≥ 100mm Hg (3). Normal levels of both systolic and diastolic blood pressure are particularly important for the efficient function of vital organs such as the heart, brain and kidneys and for overall health and wellbeing(3).

Hypertension is common public health problem globally(4). Also it is common in military personals(5). Study done on Brazilian Air force shows the prevalence of arterial hypertension was 22%(5). But a systematic review done among Brazilian adolescents by Magliiano et al. the prevalence of hypertension is 8% for total population(6).

According to WHO non communicable disease country profile 2011 Ethiopia is one of the low income countries and the prevalence of raised blood pressure is 35.2% for total population, 37.3% for male and 33.2 for female according to 2008 estimates (7).

Common risk factor for hypertension are obesity, weight gain, high sodium intake, low calcium and potassium intake, Alcohol consumption, psychological stress and low physical activity(4).

These behavioral risk factors are highly influenced by peoples working and living condition (1). Knowledge attitude and practice towards these behavioral risk factors have also big impact on the prevention of hypertension(8). In Ethiopia knowledge about the risks imposed by hypertension, awareness of their status among hypertensive patients and level of BP control was quite low(8).

The low level of knowledge, attitude and practice is mainly associated with illiteracy, low socioeconomic class of the individuals (8).

1.2 Statement of the problem.

Hypertension is a common and major global public health problem(1). 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(7). Hypertension doubles the risk of CVD, including coronary heart disease (CHD), congestive heart failure (CHF),ischemic and hemorrhagic stroke, renal failure, and peripheral arterial disease (7)

Study done in south west Ethiopia showed that the prevalence of hypertension was 16.9%. Among the hypertensive only 44.8% were aware of their hypertension, and the overall control rate of hypertension was only 22.4%(8). According to this study, knowledge ,attitude and practice towards prevention of hypertension is poor in the study participants(8). Study done on Kenyan army shows that 68% of army members who had participated in peace keeping mission were hypertensive when compared to 36%who had never been to peace keeping mission(9).

Members of the Ethiopian army are now days widely participating in peace keeping mission in different African countries. Mission may have its own risk factors to develop hypertension. Stress is also common in peace keeping mission as the time of the mission increases(9). All these factors will predispose the army members to hypertension unless the knowledge ,attitude and practice towards prevention of hypertension are good in the army. As the individuals knowledge, attitude and practice towards those risk factors are becomes good hypertension will be preventable (10).

There is indication of obesity among returnees from peace keeping mission. This could be due to nutritional change as per UN standard and sedentary life style in relatively peace areas. Nevertheless, prevalence of hypertension among returnee from peace keeping mission is not well documented in Ethiopia contexts. Moreover, little is known about the knowledge ,attitude and practice towards hypertension among Army. Hence the aim of this study was to assess the level of knowledge, attitude and practice towards hypertension among members of the Ethiopian Army assigned for peace keeping mission before they leave to the mission.

1.3 Significance of the study:

Since hypertension is a common cause of mortality globally and common in the army, this study assessed the gaps in knowledge, attitude and practice towards prevention and control of hypertension and associated factors among the army assigned for peace keeping mission. It is important in policy formulation for prevention and management of hypertension in the army. Identification of gaps in knowledge, attitude and practice towards prevention of hypertension can help in the development of health education and health promotion materials. It can be utilized in the army by defense health main directorate to address the deficiencies. The findings from this study are expected to increase the knowledge of army about hypertension risk factors and attitude towards preventive methods. Also used as base line study for further studies.

2. Literature review

2.1 Overview of hypertension

In 2008,approximately 40% of adults aged 25 and above had been diagnosed with hypertension worldwide, the number of people with the condition rose from 600 million in 1980 to 1 billion in 2008(1). The prevalence of hypertension is highest in the African Region at 46% among adults aged 25 and above, while the lowest prevalence at 35% is found in the Americas. Overall, high-income countries have a lower prevalence of hypertension 35% than other groups at 40%(1).

In the United States based on result of the national health and nutrition examination survey (NHANES) approximately 30%(Age adjusted prevalence) of adults or at least 65 million individuals have hypertension(4). Hypertension prevalence is 33% in non-Hispanic blacks,28.9%in non-Hispanic whites and 20% in Mexican Americans. The likelihood of hypertension increase with age, and among individuals age ≥ 60 the prevalence is 65%(4).

Modeled estimates of hypertension with an age-adjusted prevalence in Africa indicated the overall prevalence of hypertension have been increasing since 1990. In adults aged ≥20 years, in 1990 prevalence were 19.1% , in 2000 prevalence were estimated 24.3%,in 2010 with prevalence of 25.9% and projected to 25.3% by 2030(11).

The common risk factors for hypertension are obesity and weight gain, high sodium intake, low calcium and potassium intake, alcohol consumption, psychological stress and low physical activity also heritability blood pressure is in the range of 15-35%(4).

Study done in south west Ethiopia by Gudina et.al shows knowledge ,attitude and practice towards prevention of hypertension is poor in the study participants(8).

2.2 knowledge about Hypertension risk factors.

Studies done in different countries showed that the level of knowledge about hypertension in their population is low. A study done in Thailand by Aung et al. showed that more than 80% understand what hypertension is, 97% did not know if they had high blood pressure, 92% did not notice whether their relatives had hypertension, and 95% thought they were not at risk of hypertension (12).

Forty percent of overweight individuals did not know that being overweight is a risk factor for hypertension. More than 40% did not know that alcohol is a risk factor for hypertension(12).

A study done in Mongolia by Demaio et al showed that two-fifths 40% of participants rated their knowledge as high and felt they were 'very familiar' with the concept of blood pressure(13). On awareness regarding the risk posed to specific body organs from high blood pressure, \7754.2% are aware of the risks of blood pressure to the heart, kidneys and brain(13).

A study done by Shaika et al. on entry year students of medical university, showed that of 110 participants, stress, high cholesterol, obesity, and smoking were identified as risk factors by 75%, 74%, 74%, and 72%, respectively. Seventy-six (69%), considered high salt intake as a risk factor for hypertension, and 69 (62%) mentioned a high-calorie diet(14). Energy drink and coffee consumption were considered as risk factors by 71 (64%) and 51 (46%), respectively. Fifty two (47%) of the respondents were aware of physical inactivity being a risk factor, whereas, only 15 (13.6%) had knowledge of the risk of oral contraceptives for hypertension. Among the respondents 97 (88%) did not know the risk related to male gender, 66 (60%) the risk with increasing age, and 56 (50%) the risk of family history of cardiovascular diseases (14).

Another study done in Seychelles by Aubert et al. showed that 96% knew that salt and obesity were associated with hypertension and that hypertension was associated with cardio vascular disease occurrence, 79% of participants well recognized the benefit of physical exercise on blood pressure(15). Of all participants, 28% knew that hypertension only rarely has symptoms, whereas around a quarter thought that hypertension almost always has symptoms. About 10% could give values for their own blood pressure, and 14% could give a value for "normal" blood pressure (15).

Women tended to have better specific knowledge, although these values were low for both genders, 13% of women versus 8% of men could give a value for their own blood pressure, and 17% versus 11% could give a value for "normal" blood pressure values(15).

According to study done in India by Mahajan et al, out of 340 hypertensive patients, 287 (84.41%), 235 (69.1%) and 249 (73.23%) had poor score of knowledge, attitude and practice of Hypertension respectively. The low score of knowledge, attitude and practice is mainly associated with illiteracy, low socioeconomic class of the patients. Also, he found that the knowledge, attitude and practice score was less in females when compared to males(16).

A cross sectional study done in Karachi, Pakistan by Almas et al. showed that, 45.8%(99) men and 33%(71) women agreed that high blood pressure can be asymptomatic, 82.8%(184)men and 84%(186) women agreed that changing lifestyle improves blood pressure(17). One hundred sixty six (76%) men and 73.3(162) women agreed that hypertension is a lifelong disease, 77%(174) men and 72.8%(161) women agreed that anti hypertensive have to be taken for life. One hundred twenty six (57.3%) men and 50.4%(112)women said that high blood pressure is a part of aging The mean persent (SD) knowledge score in men was 21.8(4.9) and in women was 20.07(4.8)(17).

A study done on association between knowledge and drug adherence in Pakistan by Saleem et al showed that, out of the 385 patients 146 (37.9 %) were within the poor knowledge range, 236 (61.3 %) moderate and only 3 patients (0.8 %) showed adequate general knowledge about hypertension. Poor knowledge was apparent in responses to questions relating to onset and management(18).

A study done in a North Carolina by Viera et al. showed that 29% of respondents older than 65 years had lower hypertension knowledge, compared with 18% of those ages 45 to 65 and 22% of those younger than 45 years old. More than 29% of African-Americans had lower hypertension knowledge, compared with 19% of whites(19). One third of respondents with less than a high school education had lower hypertension knowledge, compared with 24% of high school graduates and 14.6% of those with some college(19).

Study done on rural Chinese adult by Li et al. showed that the percentage of respondents with correct responses to the hypertension knowledge questions ranged from 11.8% to 63.0% among non-hypertensive respondents. Of the respondents, 89.8% of non-hypertensive had a score of fewer than 50 points out of a possible 100. Furthermore, 25.1% of non-hypertensive respondents had scores of 0, that is incorrect answers to all 10 questions(20). The average hypertension knowledge score was 20.0% for non-hypertensive respondents. Of non hypertensive respondents 486(86.9%) respond correctly for normal value of BP and 306(54.8%) define hypertension correctly. Only a small proportion of respondents correctly answered questions about hypertension complications (*i.e.*, 36.5% for stroke, 38.9% for heart attack, 18.0% for kidney disease and 27.9% for eye disease among hypertensive respondents and 31.2% for stroke, 32.1% for heart attack, 11.8% for kidney disease and 19.6% for eye disease among non-hypertensive respondents). The average score varied by age, education and marital status (20).

A study done in Iran by Sabouhi et al on patients came to health care centers showed that knowledge score of HTN was moderate (26% < score < 50%) in 49.1% patients with mean of 50.5% (SD = 17.66). Half 49.1% knew the meaning of two numbers (values) that are usually reported for blood pressure level(21). More than fifty percent (57.7%) reported that normal top blood pressure level (systole) is equal or more than 140 mmHg, and 50.0% reported that normal bottom blood pressure level (diastole) is equal or more than 90 mmHg(21). Also 99.1% assumed that hypertension means high blood glucose level (diabetes), and 22.2% of patients reported that hypertension is an asymptomatic condition. Fifty-two percent believed that patients use different methods for lowering their blood pressure walking, using herbal drugs, diet therapy (21).

Study done in Nigeria by Marfo et al. showed that (60%), 62%and 59% of respondents were aware of lifestyle modification adjunct to the management of hypertension such as regular exercise; reduce salt intake and eating a diet high in fruits, vegetables and low in fat. respectively In addition 38% were aware of avoidance of cigarette smoking and 46% were aware of reduction in alcohol intake(22).

Another study done in Nigeria showed 69.4% believed hypertension could be cured once and for all, but31% did not believe so. While 46% knew treatment is lifelong (23).

According to a systematic review done by Kayima et al. in Africa, the lowest levels of awareness of hypertension were found in rural communities in Nigeria (8%), Uganda (10%) and Gabon (9%). The lowest prevalence of awareness in urban areas was 12.3% among slum dwellers in Nairobi(25). The highest awareness rates were found in the studies that considered elderly subjects reaching 81% in urban elderly populations of Tunisia. Generally, studies from North African countries showed the highest levels of awareness 71% among hypertensive patients. West and central Africa seemed to have the lowest levels of awareness of hypertension status(24).

Study done in Nigeria by Busari et al showed that (47.1%) had good knowledge of hypertension. However, 141 (58.8%) possessed good knowledge of their antihypertensive drugs. Knowledge of hypertension was better in women than in men (59.3% vs 40.7%) (25).

Study done in Nigeria by Ogechi Kate et.al revealed that adults in Owerri senatorial zone showed the mean knowledge on Concept of Hypertension is 65% and the mean knowledge on risk factors of hypertension is 62%(26). The mean score of adults with tertiary education (69.7%) was slightly higher than the mean score of those with secondary education (60.5%), without formal education (48.50%) and those with primary education (47.41%). This implies that adults with tertiary/university and secondary education had high level of knowledge while adults without formal education and primary education possessed moderate level of knowledge regarding the concept of hypertension.(26).

Study done by Abdullahi et al. in Nigeria showed that 84% believed that hypertension can cause stroke while 80% of the respondents agreed very much that severe hypertension can lead to heart attack which could lead to the death of the affected person(27). Only 40% agreed that hypertension can result to retinal failure. also showed positive relationship between level of education and awareness of complications of hypertension(27).

Another study done in Tanzania, Dar es Salaam by Mlunde Linda showed that 66.8% of the study population had knowledge on hypertension but only 19.75% had knowledge on the risk factors for hypertension(28). Slightly more than half of the study population reported to be

doing physical exercises, but (70.6%) of men exercising was found to be more than twice that of (29.9%) of women (28).

A study done in rural community of south west Nigeria showed that the common cardio vascular risk factors known in decreasing order of frequency among respondents were stress (43%), tobacco use (36%), excessive salt intake (3%), low consumption of fruits and vegetables (1.7%), obesity (1.6%), lack of exercise (1.2%), and dietary fat (1.1%). One thousand one hundred and twenty one (56%) could not identify a single risk factor. Only 10.5% of the respondents considered hypertension to be a potentially life threatening, 5.8% knew that it is mostly a silent disease, whilst 2.7% knew that treatment is for life long. Less than 1.5% knew that BP is high when ≥ 140/90mmHg and 0.8% had an idea of what their blood pressure was **(29).**

2.3 Attitude towards prevention of Hypertension

Study done in rural dwellers in Owerre-Nkwoji, Imo State Nigeria shows a positive attitude to hypertension prevention, 56.7% strongly agreed and 43.3% agreed that hypertension is of serious health concern, 16.7% strongly agreed and 43.3% agreed that it is important to check one's blood pressure regularly, and 13.3% strongly agreed 30.0% agreed that hypertension is not prevalent among young people(30).

A study done in Iran by Sabouhi et al on Patients came to public health care centers showed that attitude score of HTN was good (51% < score < 75%) in 58.2% patients with mean of 74.5% (SD = 7.48).About 38.9% believed that measuring SBP is more important, while 53.8% told that measuring DBP is more important. Approximately (80.8%) mentioned that reducing blood pressure (even a little bit) is effective in health promotion(21). About 56.6% named hypertension as a serious disease, and 44.4% believed that it is manageable with medications. Forty two percent respond that the type of diet is effective on blood pressure, 39.7% identified it as an inherited disease. About (60.3%) identified it as a cause of diabetes and renal dysfunction. 41.5% said that it is related to age(21). About (40.2%) had serious concern on their blood pressure rising. The most important reported factors to control hypertension were taking medication (73.1%), lowering stress (63.7%), diet (62.4%), quitting smoking (58.5%), losing weight (54.7%) and exercise (45.7%)(21).

2.4 Hypertension preventive practices

A study done in Thailand by Aung at el showed that only 20% of participants had had their blood pressure checked in the previous year, 67.79% of participants were current smokers, and 23.18% were nonsmokers. Among the current smokers, 38.12% did not know that smoking was a risk factor for hypertension (12).

A study done in Iran by Sabouhi et al on patients came to health care centers showed that practice score of HTN was high (very good/score >; 75%) in 49/2% patients with mean of 73.7% (SD = 11.27). Seventy percent of the participants mentioned that they have referred monthly to a doctor or health care provider for BP checkup(21). About eighty percent (80.3%) consumed their prescribed medications as ordered and 53.8% had never ceased or decreased their hypertensive medications when they felt better. 47.0% reported that they have often adhered to the doctor or health care provider's recommendation about hypertension management. Forty-four percent rarely have forgotten to take their drugs and 59% reported that they have never quitted their medications even if they felt bad after taking it. Fifty-three percent reported that there was always somebody at home to remind them to take their medications(21). About fifty percent (44.9%) reported that sometimes they had regular exercise while 31.6% rarely had regular exercise. Thirty six percent (36.8%) had always used law salt diet (15.4% have often adhered it). Thirty six (36.3%) have tried to decrease their stress according to doctor or health care provider's recommendation. And 70.9% report that that they have rarely quit medications base on family or friend's recommendation(21).

A study done in Seychelles by Aubert et al. Regarding reported practices, persons aware of being hypertensive visited a doctor more often than persons unaware of being hypertensive (5.6 visits versus 2.9 visits per year), and persons aware of being hypertensive had more often had their BP checked within the previous month than persons unaware of being hypertensive (40% versus 17%). persons aware of being hypertensive reported marginally more often than persons unaware of being hypertensive making an effort to eat small amounts of salt (70% versus 63%) (15).

A study done in Nigeria showed that, 81.5% took much table salt, but 18.5% did not. While 63% used a lot of condiments in cooking, 37% did not, 21% regularly took plenty of vegetables

but 79% did not, Whereas 22% took plenty of fruits, 78% did not. Although,13% adhered to dietary advice to lose weight,87% did not(23).

A study done in North Gondar (Ethiopia) by Awoke at el. showed that 32 participants (4.7%) declared that they were smoking cigarettes previously. Nineteen(2.8%) of participants were current smokers of whom 7 (36.8%) were smoking at least half a pack (10 or more cigarettes) every day(31). Concerning their alcohol use, 251(37.0%) were current users. One from every seven participants (16.9%) was involved in vigorous activities such as carrying or lifting heavy loads, and construction works(31). Nevertheless, only 24(20.9%) do so on a daily basis. Most participants (95%) use to walk for at least 10 minutes continuously every day. More than three quarters (76.9%) of participants reported using vehicles as main mode of transportation to their work places . Concerning dietary habits of respondents about 67.7% of respondents reported that they usually use vegetable oil for meal preparation while a similar proportion (67.6%) reported eating vegetables at least 1–3 days in a week. Half of the respondents (50.1%) do not eat fruits at all in any days of a week. Hundred and forty three (21.1%) respondents have reported excessive use of salt than other family members.(31, 32)

2.5 knowledge, attitude and practice towards risk factors of hypertension among uniformed people

A study done in India by Ray et al. on 130 officers and 637 other ranks showed that 35.4% of the officers and 14.2% of other ranks smokes cigarettes, 3.8% of the officers and 2.0% of other ranks drink alcohol (>3 drinks/week), 27.6% of officers and 30.5% of other ranks are non vegetarians, 48.5% of officers and 78.2% of other ranks use butter /ghee daily,0.8%of officers and 9.5% of other ranks are not engaged in exercise(33).

study done on Kenyan military showed that, there was significant association between hypertension and participation in peace keeping missions. Majority (68%) of subjects who participated in peace missions were hypertensive compared to 36.1% who had never been to peace missions (9).

A study done by Mohammed in 2012 on Cardiovascular Disease Risk Factors among Nigerian Armed Forces Service men showed that smoking was readily identified as a risk factor by 70.6% , 87% of respondents identified stress as a risk factor, while 41.6% of respondents

identified obesity as risk factor, sedentary life-style and poor dietary intake use were identified with only 16.6% and 6.4% of respondents respectively(34). Forty two (51.2%) admitted taking alcohol, most taking more than ten units a week. About 93.9% engaged in exercise (mostly running), 52.4% take vegetables and fruit on a regular basis, 34.5% checked their body weights regularly And only 5% of all the respondents visited the hospital or clinic for routine medical check-up(34).

Studies done in different countries in different settings showed that there is a gap in knowledge, attitude and practice towards the prevention of hypertension. Hypertension is a common public health all over the world, but there is no sufficient study done regarding the knowledge, attitude and practice towards prevention of hypertension specially in our country (Ethiopia) army setting. The Ethiopian defense force members who participating in peace keeping mission are recruited from different parts of the country, from different units, and are representative of the whole army. A study done in some countries showed that individuals who participate in peace keeping mission has more chance to develop hypertension than individuals who do not. The proposed study would have a significant input in identifying and improving the gap in knowledge, attitude and practice towards hypertension in the army.

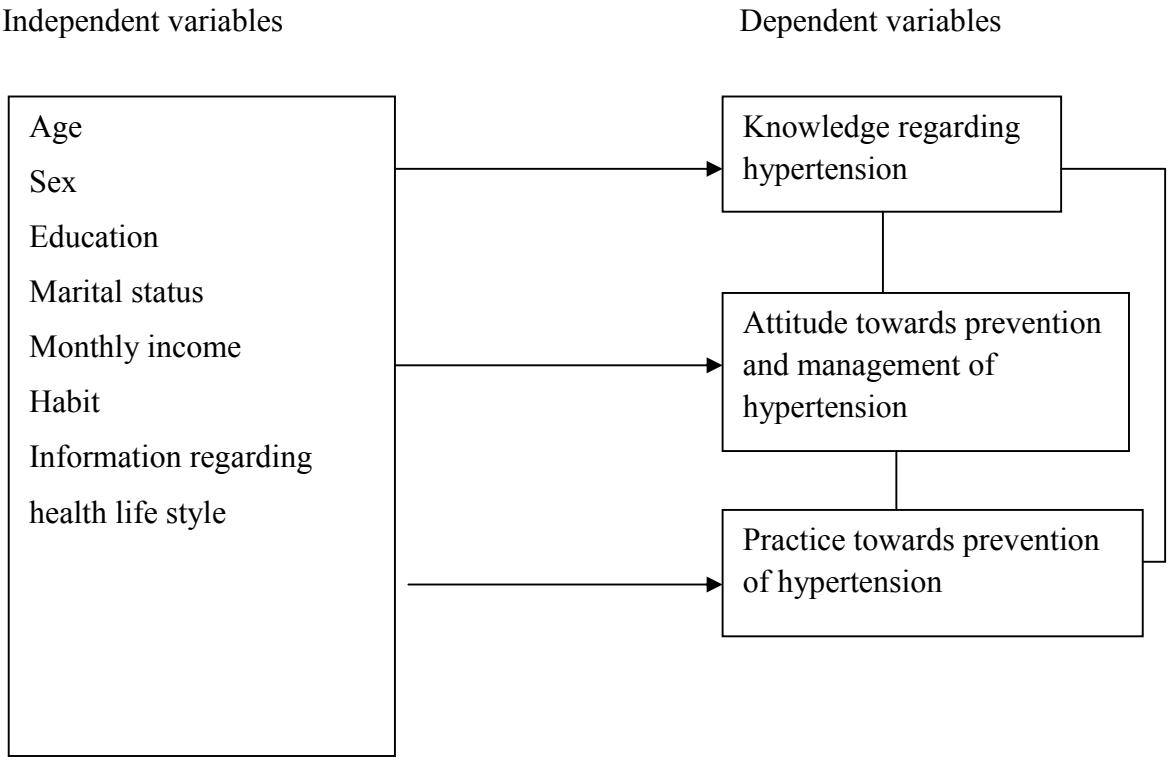

Figure 1. conceptual frame work indicating factors related to KAP of hypertension.

3.Objectives

3.1 General objective:

To assess knowledge, attitude and practice towards hypertension among members of the Ethiopian army assigned for peace keeping mission.

3.2 Specific objective :

1.To measure the level of knowledge, attitude, and practices towards prevention of hypertension.

2. To assess factors associated with knowledge, attitude and practices towards prevention of hypertension

4. Methods

4.1 Study area :

The study was conducted in Birr Sheleko Ethiopian defense force peace keeping training center located in north west of Ethiopia, Amhara regional state, west Gojjam zone, 422 Km from capital city Addis Ababa. It is one of the training centers located in each commands. It is the western command's training center. It has one hospital and one clinic for each battalion. The study period were from march 16 to April 12, 2015.

4.2 Study design :

The study was institution based cross sectional survey with 420 study participants. Study participants were identified and data were collected retrospectively using structured data collection tool to asses knowledge ,attitude and practice among Ethiopian Defense force members assigned for peace keeping mission who are in the training center. .

4.3 Study population: Target population were all Defense force members who are on service. All members of Ethiopian Defense force assigned for peace keeping mission were the source population and the study subjects were members of Ethiopian Defense force who are recruited from different army units for peace keeping mission and in Birr Sheleko training center during data collection period.

***Inclusion criteria*:** All defense force members assigned for peace keeping mission and are on training in Birr Sheleko training center.

***Exclusion criteria* :** Defense force members who are health professionals and are going to participate in peace keeping mission with the army was excluded.

4.3.4 Sample size determination:

The sample size required for the study was calculated based on the formula to estimate a single population proportions.

$$ni = \frac{(Z_{1-\alpha/2})^2 \times p \times (1-p)}{d^2} \qquad ni = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384$$

Where: n_i is the required sample size, $(z\alpha/2)^2$ is the reliability coefficient 95% that is(1.96), Proportion (P) = anticipated proportion of individuals having good knowledge, attitude and practice of hypertension, since there is no similar study done in similar settings (army), P was taken 0.5 and taking 5% (d =0.05) for the precision, considering 10% for non-response rate the final sample size was 420.

4.3.5 Sampling procedure and techniques:

Systematic random sampling technique was used to select the study participants from the registration book that contained 600 individuals with the order of their rank in the training center human resource department sampling frame.

4.4 Data collection procedure:

4.4.1 Instrument **:** Data was collected through face to face interview, using structured questionnaire which is adapted from previous similar studies. It contains Information about socio demographic characteristics, comprehensive knowledge of hypertension, attitude towards preventive measures and preventive practices. The data collection instrument was developed in English and translated to Amharic and later back translated to English by investigator to ensure accuracy and desired results. To evaluate the understandability and the applicability of the instruments one week prior to the main field work ,a pre-test was done on 10% of the sample size at Bushoftu on army members`. Following the analysis of the pre test study data, ambiguous or unclear questions was rephrased to make it more understandable.

4.4.2 Selection and training of data collectors:

Four 12 grade completed data collectors and one nurse as supervisor from the training center was recruited and trained for two day so as to make them familiar with the survey instrument and also the basic approach.

4.4.3 Variables

Dependent variables

- Knowledge of respondents about hypertension
- Attitude of respondents towards prevention of hypertension
- Practice of respondents towards prevention of hypertension.

Independent variables

Socio demographic:- age, sex, military rank, educational background, marital status, income, service year.

Behavioral**:-** smoking habit, alcohol consumption, physical exercise, nutritional habits.

4.4.4 Operational definitions

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

Overall knowledge:- It is the summary of all the 20 questions . Each question contains 1 point for positive response and 0 for negative response the total response contains 20 points

The overall knowledge of the study participants was assessed using the sum score of each outcome based on Bloom's cut-off point. The scores was classify into 3 levels as follow: Bloom's cut off point, 12-16 points (60%-80 %)

High level knowledge:- Knowledge score that fell above 16 points (80%.)

Moderate level knowledge:- Knowledge score that fell between 12-15 points (60%-79%)

Low level knowledge:- Knowledge score below 12 points (59%)

Attitude :Includes 15 items to assess the perception or outlook regarding causative factors and preventive measures of hypertension. All individual answers was summed up for total scores and calculate for means percent. The scores was classified into 3 levels (Positive Attitude, Neutral Attitude and Negative Attitude) according to Bloom's cut off point.

Positive Attitude - Attitude score fell between 80%-100%

Neutral Attitude - Attitude score fell between 60%-79%

Negative Attitude - Attitude score less than 59%

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, 10 questions was used to assess the experience and action of the respondent . Each question contains 1 point for positive life style practice and 0 point for negative life style practices. The total response score was 10 point and classified in to 3 according to Bloom's cut off point.

Good practice:- Practice score that fell above 9-10 scores(above 80%)

Fair practice :- Practice score that fell between 6-8(60% - 79%).

Poor practice :- Practice score that fell below 6(0-59%).

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

Non officer:- Individual who has the military rank below Lieutenant.

Lower officers:- Individuals who has the military rank from Lieutenant to Capitan.

Higher officers:- Individuals who has military rank from Major to Colonel.

4.5 Data processing and analysis:

Each questionnaire was checked for completeness, missed values and unlikely responses and then manually cleaned up on such indications before living the study area. Data was coded and entered in to Epi Info version 7. Data was cross checked for consistency and accuracy, after data clearing exported to SPSS version 21 for statistical analysis.

Descriptive statistics like frequencies, proportions and measures of dispersions was employed to describe socio-demographic, knowledge, attitude and practice variables. The degree of association between socio demographic and level of knowledge, attitude, practice variables measured using chi-square test, multinomial logistic regression was used for the variables which has significant association in chi- square test ,odds ratio with 95% confidence interval was imploded.

4.6 Ethical Consideration

Ethical clearance was obtained from Addis Ababa university college of health sciences school of public health research review board. A formal letter was written to all concerned authorities. As first step ,the researcher was communicated the person in charge on the office of Defense health main directorate and peace keeping center to get permission and briefly describe the aim of the study.

After obtaining permission from concerned bodies written consent was secured from Defense health main directorate and peace keeping center. Informed verbal consent was obtained from each respondent, after the purpose of the study is explained to him/her. Anonymity and confidentiality of the information was assured and privacy of each respondent was maintained throughout the data collection process. The sampled army members who gave verbal consent to participate in the study was interviewed face to face.

Dissemination of results*:*

The finding of this study will be disseminated to AAU,SPH Defense health main directorate ,Ethiopian peace keeping center Furthermore, the finding will be presented on appropriate seminars, conferences and workshops. And publishing with scientific journal will be considered

5. Results

5.1. Socio demographic characteristics of the study subjects

The study result summarized in (Table 1) reveals socio-demographic characteristics of respondents. Two hundred seventy three respondents, (65%) were found between the age of 35-44. The mean age of the respondents was 36 (± 4.5 SD) years. Four hundred eighteen (99.5%) of the respondents were males. All of them attended formal education, and 207 (49.3%) were between grade 9-12. Two hundred thirty eight (56.8%) of the respondents are married, three hundred thirty four (79.5%) were non officers,. The mean monthly income of the respondents were 1776.6 (±424SD) ET birr, 300(71.4%) have no habit of substance use, but 57(13.6%) have smoking, 56(13.3%) have habit of drinking alcohol,7(1.7%) have habit of drinking alcohol and smoking cigarette.

Table 1. Socio demographic characteristics of participants, 2015.

Socio demographic variables	category	Frequency(%)	
Age	18-24	5	(1.2)
	25-34	131	(31.2)
	35-44	273	(65.0)
	45-54	11	(2.6)
Educational status	grade1-8	184	(43.8)
	grade9-12	207	(49.3)
	College and above	29	(6.9)
Marital status			
	Married	238	(56.7)
	Single	165	(39.3)
	divorced	17	(4.0)
Military rank	non officers	334	(79.5)
	lower officers	73	(17.4)
	higher officers	13	(3.1)
Service year	<10 years	68	(16.2)
	11-20 years	330	(78.6)
	≥20 years	22	(5.2)
Monthly income	<1500 ET birr	147	(35.0)
	1501-2000 ET birr	189	(45.0)
	≥2001 ET birr	84	(20.0)
Habit	cigarette	57	(13.6)
	alcohol	56	(13.3)
	Cigarette & alcohol	7	(1.7)
	none	300	(71.4)

5.2.Information about health life style

Three hundred fifty two (83.8%) of the respondents had information about health life style among those 223(63.35%) had received information from health professionals.

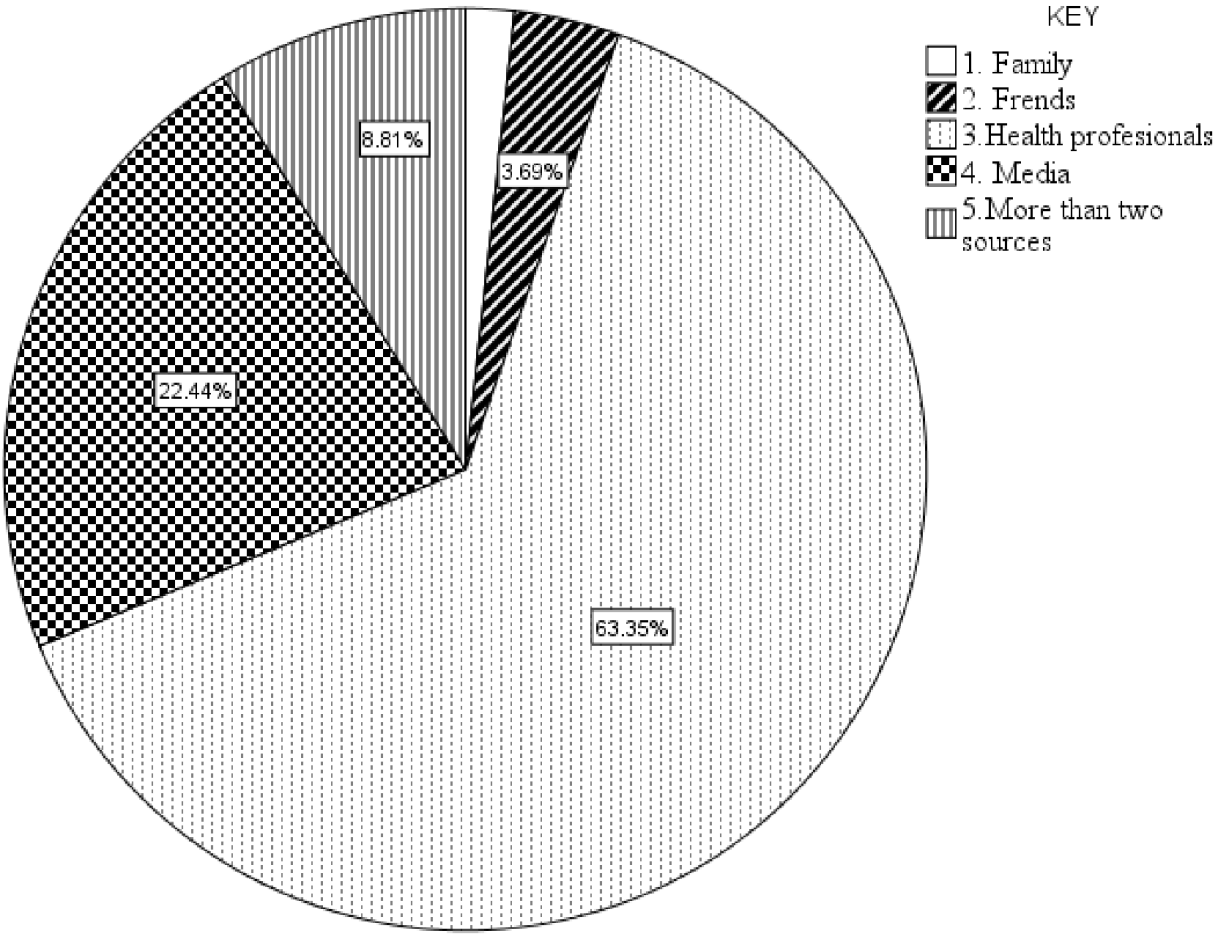

Figure 2. Source of information regarding health life style.

5.3. Knowledge of respondents about hypertension.

Knowledge of respondents summarized in (Table3) shows, three hundred fifty three (84%) of the respondents said that average normal BP is120/80 mmHg. Two hundred eighty (84%) define hypertension as BP above 140/90mm Hg. Stress is reported by 174(41%) of participants as a risk factor that induces hypertension. Most of respondents 182(43.3%) mentioned headache, dizziness and nausea are sign and symptom of hypertension. Respiratory dysfunction is the most frequently mentioned condition which can be developed due to hypertension. Out of total 307(73.1%) of respondents said that blood pressure measurement is the diagnostic study of hypertension.

Table 2. Respondent's comprehensive knowledge of hypertension, 2015.

Variables	Responses	Frequency(%)
Average normal BP	90/60 mmHg	16 (3.80
	120/80 mmHg	353 (84.0)
	140/90mmHg	11 (2.6)
	Don't know	40 (9.5)
What meant by HTN	BP above 140/90mmHG	280 (66.7)
	BP 120/80mmHg	13 (3.1)
	BP below 90/50mmHg	15 (3.6)
	Don't know	112 (26.7)
Risk factor of HTN	Stress	174 (41.4)
	Age	12 (2.9)
	Heredity	17 (4.0)
	Stress, age and heredity	122 (29.0)
	Don't know	93 (22.1)
Sign and symptom of HTN	Headache	27 (6.4)
	Dizziness	30 (7.1)
	Nausea	48 (11.4)
	Headache & dizziness	3 (0.7)
	Headache, Dizziness and Nausea	182 (43.3)
	Don't know	130 (31.0)
Evidence of target organ damage	Liver dysfunction	47 (11.2)
	GI dysfunction	22 (5.2)
	Respiratory dysfunction	183 (43.6)
	Renal dysfunction	44 (10.5)
	Don't know	123 (29.3)
Which on is diagnostic study of HTN	Blood test	40 (9.5)
	Urine test	5 (1.2)
	Chest x ray	31 (7.4)
	BP measurement	307 (73.1)
	Don't know	34 (8.1)
Which of the following methods are used to control hypertension.	Diet control	37 (8.8)
	Drug therapy	13 (3.1)
	Regular exercise	112 (26.7)
	Diet control & regular exercise	2 (0.5)
	Drug, diet and exercise	241 (57.4)
	Don't know	15 (3.6)
What is the nutritional therapy of hypertension ?	Water restriction	22 (5.2)
	Decrease salt intake	233 (55.5)
	Increase salt intake	16 (3.80
	decrease caloric rich food	104 (24.8)
	Don't know	42 (10.0)

Which of the following food should hypertensive pt avoid?	Salt reach and salty foods	235 (56.0)
	Spicy foods	25 (6.0)
	Pulses	38 (9.0)
	Vegetables	55 (13.1)
	Don't know	65 (15.5)
which of the following is salt rich food?	Pickles	182 (43.3)
	Milk	83 (19.8)
	Vegetables	12 (2.9)
	Rice	30 (7.1)
	Don't know	113 (26.9)
How much salt is given to hypertensive patent/day	0-2g	103 (24.5)
	2.1-4g	26 (6.20
	4.1-8g	3 (0.7)
	Don't know	288 (68.6)

5.4.Knowledge regarding life style modification.

Three hundred fifty(83.3%) of respondents answered that Regular exercise and optimal caloric intake is important to maintain normal body weight. One hundred sixty six(39.5%) of the respondents answered yoga and meditation as a best measure to reduce stress. Three hundred sixty one(86%) answered form of exercise that is good for hypertension is aerobics and jogging. One hundred twenty(28.6%) of the respondents answered that hypertension medications should be taken under stress situation. Three hundred four (72.4%) respondents said hypertension medication should be taken as prescribed currently by doctor. One hundred sixteen(27.6%) of respondents said hypertensive patent should rest after doing all work. For the question that how much hours should a person take rest and sleep per day 258(61.4%) respondents said 7-12 hrs. Three hundred twenty one (76.4%) of respondents said hypertension will not occur genetically. It is presented in (Table 4).

Table 3. Respondents knowledge regarding life style modification, 2015.

Variables	Responses	Frequency(%)
How can you maintain normal body weight?	Over eating	5 (1.2)
	Eating fatty foods	9 (2.1)
	Regular exercise & calorie intake	350(83.3)
	Don't know	54 (12.9)
How long should a person exercise daily?	1-14min	8 (1.9)
	15-29	14 (3.3)
	30-45	321 (76.4)
	46 and above	77 (18.3)
What is the best measure followed to reduce stress?	Involve in strenuous work	25 (6.0)
	Yoga and meditation	166 (39.5)
	Sleep including medication	3 (0.7)
	Watching TV	171 (40.7)
	Don't know	52 (12.4)
What form of exercise is good for hypertension?	Aerobics and jogging	361 (86.0)
	Weight bearing	14 (3.3)
	Driving	5 (1.2)
	Dancing	6 (1.4)
	Don't know	34 (8.1)
At what all time, hypertensive medications should be taken?	Under stress situation	120 (28.6)
	Life long	34 (8.1)
	during physical exertion	3 (0.7)
	Whenever pt feels bad	119 (28.3)
	Don't know	143 (34.0)
How does hypertensive patent take medications?	As per information got from other pt	11 (2.6)
	As per information got from books & journals	6 (1.4)
	As prescribed for disease long time ago	23 (5.5)
	As prescribed currently by doctor	304 (72.4)
	Don't know	75 (17.9)
How often should a hypertensive patent rest?	Complete bed rest	26 (6.2)
	Rest after doing all work	116 (27.6)
	Rest in between activities	97 (23.1)
	No need to exercise	15 (3.6)
	Don't know	165(39.3)
How much hours should a person take rest and sleep per day	1-6 hrs	16 (3.8)
	7-12 hrs	258 (61.4)
	13-18 hrs	9 (2.1)
	Don't know	137 (32.6)
Hypertension will occur genetically	No	321 (76.4)
	Yes	99 (23.6)

Mean of knowledge score was 49.8% (±16.2 SD) with minimum 5% and maximum 90% cumulative percent knowledge score. Two hundred seventy five (65.5%) of the respondents has low level comprehensive knowledge, based on blooms cut of point.

Table 4. Knowledge score of respondents,2015.

Score	Frequency	Percent
Low level knowledge	275	65.5
Moderate level knowledge	131	31.2
High level knowledge	14	3.3

5.5. Attitude towards hypertension.

Two hundred eighteen (51.9%) of respondents strongly agreed to the statement " high blood pressure is preventable", one hundred thirty eight (32.9%) agreed to the statement "stopping smoking and alcohol helps to prevent hypertension",169(40%) agreed to the statement "avoiding salt in their food is good" while 169(40.2%) disagreed to the statement "it is good to use extra added cooking oil". Attitude of respondents towards prevention of hypertension is shown in (Table 6).

Table 5. Respondents attitude towards prevention of hypertension, 2015.

Statements	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
High blood pressure is preventable	218(51.9%)	163(38.8%)	35(8.3%)	3 (0.7%)	1 (0.2%)
Stopping of smoking and alcoholism helps to prevent hypertension	124(29.5%)	138(32.9%)	83(19.8%)	58(13.8%)	17(4%)
It is good to avoid extra added salts in your diet.	141(33.6%)	169(40.2%)	61(14.5%)	42(10%)	7(1.7%)
It is good to use extra Cooking oil in your diet.	36(8.6%)	57(13.6)	116(27.6%)	169(40.2%)	42(10%)
It is good to have whole fruits rather than to have deserts and sweets.	120(28.6%)	146(34.8%)	87(20.7%)	56(13.3%)	11(2.6%)
BP should be checked periodically	211(50.2%)	149(35.5%)	42(10%)	11(2.6%)	7(1.7%)
Hypertensive patient can take fat rich food	22(5.2%)	25(6%)	59(14%)	183(43.6%)	131(31.2%)
It is good to include green leafy vegetable in your daily diet	206(49%)	148(35.2%)	48(11.4)	14(3.3%)	4(1%)
Regular exercise helps to prevent hypertension	250(59.5%)	129(30.7%)	28(6.7%)	6(1.4%)	7(1.7%)
Hypertensive patients need to abstain from their jobs	37(8.8%)	31(7.4%)	43(10.2%)	202(48.1%)	107(25.5%)
Hypertensive patients need to maintain their weight within normal limits	189(45%)	176(41.9%)	39(9.3%)	9(2.1%)	7(1.7%)
Hypertensive patients should keep away from stress inducing situation	213(50.7%)	165(39.3%)	26(6.2%)	11(2.6%)	5(1.2%)
Lack of proper rest and sleep does not affect BP	49(11.7%)	48(11.4%)	61(14.5%)	178(42.4%)	84(20%)
Hypertension patients should abstain from sexual relation ship	46(11%)	25(6%)	42(10%)	193(46%)	114(27.1%)
Change in life style help to prevent High blood pressure	190(45.2%)	164(39%)	45(10.7%)	16(3.8%)	5(1.2%)

Mean of attitude score was 65.1% (±16 SD) with minimum 40% and maximum 97% cumulative percent attitude score. Two hundred nine (49.8%) of the respondents has neutral attitude towards preventive measures of hypertension based on blooms cut of point. presented in (Table 7).

Table 6. Attitude score of respondents,2015.

Score	Frequency	Percent
Negative attitude	141	33.6
Neutral attitude	209	49.8
Positive attitude	70	16.7

5.6. Practice towards prevention of hypertension.

Three hundred eighty eight (92.4%) of the respondents have ever cheeked their BP, among whom 307(79.1%) cheeked in this month. Eighty four (20%) of the respondents were current smokers, of which 38(45.2%) smoked about 6-10 years, and forty seven (55.9%) smokes 6-10 cigarette per day. Two hundred sixty six(63.3%) of respondents drink alcohol, where. 140(52.6%)of them drinks less than one glass of alcohol /week. The summary of practice towards hypertension is presented in (Table 8)

Table 7. Respondents practice towards prevention of hypertension, 2015.

Variables	Responses	Frequency	(%)
Have you ever cheeked your BP?	No	32	(7.6)
	Yes	388	(92.4)
If yes when?	In this month	307	(79.1)
	In the last six month	69	(17.7)
	Before six month	12	(3.0)
Do you smoke cigarette currently?	No	336	(80.0)
	Yes	84	(20.0)
How long you smoked cigarette?	1-5 years	14	(16.0)
	6-10 years	38	(45.2)
	11-15 years	16	(19.0)
	16-20 years	12	(14.2)
	21-30	4	(4.7)
how many cigarettes/day?	1-5cigarett	20	(23.8)
	6-10 cigarette	47	(55.9)
	11-15 cigarette	12	(14.2)
	16-20 cigarette	4	(4.7)
	I don't remember	2	(2.3)
Are you drinking alcohol?	No	154	(36.7)
	Yes	266	(63.3)
How often you drink?	Less than one drink /week	140	(52.6)
	1-3 drink/week	90	(33.8)
	4-6 drink /week	24	(9.0)
	7 or more drink/week	12	(4.5)
How often you add salt to your food?	Never	217	(51.7)
	Rarely	108	(25.7)
	Sometimes	38	(9.0)
	Often	29	(6.9)
	Always	28	(6.7)
How many days you do physical exercise per week?	1-2 days	11	(2.6)
	3-4 days	123	(29.3)
	5-7 days	99	(23.6)
	I don't remember	187	(44.5)
For how many minutes you do exercise /day?	Less than 30 minutes	172	(41.0)
	30-60 minutes	187	(44.5)
	Don't remember	61	(14.5)

* One drink is equal to at least 1 glass of wine, can/bottle of beer, a shot (50g) of cognac or ouzo or equivalent.

Mean percent of practice score was 60.5% (±16.9 SD). One hundred eighty five (44%) had fair practice towards preventive measures of hypertension.

Table 8. Respondents practice score, 2015.

Scale	frequency	percent
Poor practice	142	33.8
Fair practice	185	44.0
Good practice	93	22.1

5.7. Factors associated with knowledge towards hypertension.

Having information about health life style has significant association with knowledge of respondents at X^2 = 24.8 ,p vale of (0.001), df=2 presented in table 6. Monthly income has also significant association with knowledge, X^2 = 40.0, at P value (0.001) ,df = 4. It is presented in (Table10)

Table 9: Chi-square test result for the association between knowledge towards hypertension and Scio demographic characteristics of respondents,2015.

Variable	1-59 % N(%)	60-79 % N(%)	80 % and above N(%)	x^2	P-value
Age group					
18-24	1(20)	4(80)	0(0)		
25-34	91(68.7)	35(26.7)	5(3.8)		
35-44	178(65.2)	88(32.2)	7(2.5)		
45-54	5(45.5)	4(36.4)	2(18.2)	15.4	0.017
Level of education					
grade1-8	184(100)	0	0		
grade 9-12	91(44)	114(55.1)	2(0.9)		
collage and above	0(0)	17(58)	12(41.4)	304.9	0.001
Marital status					
single	114(69.1)	43(26)	8(4.8)		
married	151(63.4)	82(34.5)	5(2.1)		
divorced	10(58.8)	6(35)	1(5.8)	7.2	0.305
Military rank					
non officers	249(74.5)	80(24)	5(1.4)		
lower officers	26(35.6)	41(56.2)	6(8.2)		
higher officers	0(0)	10(77)	3(23)	75.4	0.001
Service years					
1-10 years	44(64.7)	20(29.4)	4(5)		
11-20 years	227(68.8)	97(29.4)	6(1.8)		
20 and above	4(18.2)	14(63.6)	4(18.2)	34.0	0.001*
Level of income					
<1500	107(72.8)	36(24.5)	4(2.7)		
1501-2000	137(72.5)	49(25.9)	3(1.6)		
>2001	31(43.5)	46(51.6)	7(4.8)	40.0	0.001**
Information about health life style					
no	62(91)	4(5.9)	2(2.9)		
yes	213(60.5)	127(36.1)	12(3.4)	24.9	0.001**
Habit					
Smoking	44 (77.2)	13(22.8)	0(0)		
Drinking alcohol	45(80.4)	11(19.6)	0(0)		
None	183(61)	103(34.3)	14(4.7)	16.3	0.012

Note:- * Variables which have expected cells less than 5 more than recommended percent.
** Significant at p value <0.05%

Factors associated with attitude towards hypertension.

Level of education, has significant association with attitude at $X^2 = 29$, P value (0.001) ,df = 4, the rest socio demographic variables are not significant at p value of 0.05.Monthly income has significant association with knowledge about hypertension at p value of 0.05 presented in(Table 10)

Table 10. Chi-square test for the association between attitude towards prevention of hypertension and Scio demographic characteristics of respondents,2015.

variable	1-59 % N(%)	60-79 % N(%)	80 % and above N(%)	x^2	P-value
Age group					
18-24	0(0)	4(80)	1(20)		
25-34	43(32.8)	57(43.5)	31(23.7)		
35-44	98(35.9)	116(42.5)	59(21.6)		
45-54	1(9.1)	8(72.7)	2(18.2)	8.0	0.238
Level of education					
grade1-8	73(39.7)	86(46.7)	25(13.6)		
grade 9-12	66(31.9)	89(43)	52(25.1)		
collage and above	3(10.3)	10(34.5)	16(55.2)	29.0	0.001**
Marital status					
single	64(38.8)	67(40.6)	34(20.6)		
married	70(29.4)	112(47.1)	56(23.5)		
divorced	8(57)	3(21.4)	3(21.4)	7.88	0.280
Military rank					
non officers	118(35.3)	151(45.2)	65(19.5)		
lower officers	21(28.8)	28(38.4)	24(32.9)		
higher officers	3(23.1)	6(46.2)	4(30.8)	7.19	0.126
Service years					
1-10 years	19(27.9)	37(54.4)	12(17.6)		
11-20 years	119(36.1)	138(41.8)	73(22.1)		
20 and above	4(18.2)	10(45.5)	8(36.4)	7.44	0.114
Level of income					
<1500	45(30.6)	78(53.1)	24(16.3)		
1501-2000	75(39.7)	70(37)	44(23.3)		
>2001	18(21.4)	39(46.4)	27(32.1)	22.57	0.001**
Information about health life style					
no	62(91)	4(5.9)	2(2.9)		
yes	213(60.5)	127(36.1)	12(3.4)	24.9	0.001*
Habit					
Smoking	27(47.4)	26(45.6)	4(7.0)		
Drinking alcohol	24(42.9)	26(46.4)	6(10.7)		
Smoking and drinking	1(14.)	2(28.6)	4(57.1)		
None	89(29.7)	155(29.7)	56(18.7)	19.9	0.003*

Note:- . * Variables which have expected cells less than 5 more than recommended percent.
** Significant at p value <0.05.

Factors associated with practice towards hypertension.

Level of education has significant association with practice towards prevention of hypertension $X^2 =$ 28.9, at P value (0.001) ,df = 4. Also monthly income has significant association with knowledge about hypertension. The rest socio demographic variables has no significant association with practice at p value of 0.05 presented in table (13).

Table 11. Chi-square test for the association between practice towards prevention of hypertension and Scio demographic characteristics of respondents 2015.

variable	1-59 % N(%)	60-79 % N(%)	80 % and above N(%)	x^2	P-value
Age group					
18-24	0(0)	4(80)	1(20)		
25-34	43(32.8)	57(43.5)	31(23.7)		
35-44	98(35.9)	116(42.5)	59(21.6)		
45-54	1(9.1)	8(72.7)	2(18.2)	8.0	0.238
Level of education					
grade1-8	73(39.7)	86(46.7)	25(13.6)		
grade 9-12	66(31.9)	89(43)	52(25.1)		
collage and above	3(10.3)	10(34.5)	16(55.2)	29.0	0.001**
Marital status					
single	64(38.8)	67(40.6)	34(20.6)		
married	70(29.4)	112(47.1)	56(23.5)		
divorced	8(53.3)	5(33.3)	2(13.3)		
widowed	0(0)	1(50)	1(50)	7.88	0.280
Military rank					
non officers	118(35.3)	151(45.2)	65(19.5)		
lower officers	21(28.8)	28(38.4)	24(32.9)		
higher officers	3(23.1)	6(46.2)	4(30.8)	7.19	0.126
Service years					
1-10 years	19(27.9)	37(54.4)	12(17.6)		
11-20 years	119(36.1)	138(41.8)	73(22.1)		
20 and above	4(18.2)	10(45.5)	8(36.4)	7.44	0.114
Level of income					
100-1500	45(30.6)	78(53.1)	24(16.3)		
1501-2000	75(39.7)	70(37)	44(23.3)		
>2001	22(26.2)	37(44)	25(29.8)	13.19	0.010**
Information about health life style					
no	23(33.8)	32(47.1)	13(19.1)		
yes	119(33.8)	153(43.5)	80(22.7)	0.502	0.778
Habit					
Smoking	52(91.2)	4(7.0)	1(1.8)		
Drinking alcohol	17(30.4)	34(60.7)	5(8.9)		
Smoking and drinking	7(100.0)	0(0)	0(0)		
None	66(22.0)	147(49.0)	87(29.0)	126.3	0.0001*

Note :-* Variables which have expected cells less than 5 more than recommended percent.
** Significant at p value <0.05%

Multinomial logistic regression test shows that education has significant association with practice score of respondents given that the other socio demographic variables in the model are held constant . The odds ratio comparing elementary to collage and above AOR 14.2 [CI: 3.7,55.0], high school to college and above AOR 6.4 [CI: 1.7,23.5] for poor practice relative to good practice. Also the odds ratio comparing elementary to collage and above AOR 5.4 [CI: 2.1,14.2], high school to college and above AOR 2.9 [CI: 1.2,7.1] for fair practice relative to good practice score is presented in (Table 13).

Table 12. Multinomial logistic regression test result for the association between practice towards hypertension with educational level of respondents , 2015.

Variables		P value	AOR	95% confidence interval.
Poor practice	Elementary	.0001	14.2	[3.7,55.0]
	High school	.006	6.4	[1.7,23.5]
	College and above	.	1	.
Fair practice	Elementary	.001	5.43	[2.1,14.2]
	High school	.020	2.89	[1.2,7.1]
	College and above	.	1	.

The reference category is good practice.

Multinomial logistic regression shows that knowledge towards hypertension has significant association with practice score of respondents except for moderate level knowledge relative to high level knowledge . The rest variables comparing poor practice to good practice, fair practice to good practice for low level knowledge relative to high level knowledge with AOR 9.4[CI: 1.9,45.9] P value 0.006 and AOR 5.3 [CI: 1.5,18.3] P value 0.009 have significant association respectively. It is presented in (Table 14).

Attitude towards prevention of hypertension has significant association with practice score of respondents. Odds ratio comparing poor practice to good practice, fair practice to good practice for negative attitude relative to positive attitude with AOR 4.6[CI:2.1, 10.1] P value 0.001 and AOR 3.0 [CI:1.4, 6.2] P value 0.001 have significant association respectively. Presented in (Table 14).

The comparison between neutral attitude relative to positive attitude ,poor practice to good practice, fair practice to good practice, with AOR 2.8[CI:1.3, 5.7] P value 0.006 and AOR 2.5 [CI: 1.3, 4.7] P value 0.006 have significant association respectively It is presented in (Table 14).

Table 13. Multinomial logistic regression test result for the association between practice with knowledge and attitude towards prevention, 2015.

	Variables	P value	AOR	95% confidence interval
Low level knowledge	Intercept	.000		
	Poor practice	.006*	9.39	[1.92, 45.93]
	Fair practice	.009*	5.26	[1.51, 18.31]
	Good practice	.	1	.
Moderate level knowledge	Intercept	.000		
	Poor practice	.150	3.28	[0.65,16.56]
	Fair practice	.082	3.08	[0.86,10.91]
	Good practice	.	1	.
The reference category is High level knowledge.				
Negative attitude	Intercept	.397		
	Poor practice	.000*	4.61	[2.10,10.12]
	Fair practice	.003*	2.99	[1.45,6.15]
	Good practice	.	1	.
Neutral attitude	Intercept	.077		
	Poor practice	.006*	2.77	[1.34,5.70]
	Fair practice	.006*	2.45	[1.29,4.67]
	Good practice	.	1.	.
The reference category is positive attitude				

* significant

6. Discussion

In our study cumulative mean percent of knowledge score was 49.8% (±16.2 SD). Two hundred seventy five (65.5%) of the respondents have low level knowledge, The findings of this study indicates that the knowledge towards hypertension of the respondents is considerably lower when compared with previous studies done in a North Carolina, Iran, Mongolia and Nigeria (19,21,13,25).The possible explanation for this discrepancy may be due to the difference in study setting.

I n this study cumulative mean percent of attitude score was 65.1% (±16 SD) . Two hundred nine (33.6%) of the respondents has negative attitude, which is better than the study done in India (16). But in a line with study done in Iran (16,21). The possible explanation for discrepancy between the results may occurred due to the study setting. Since army live in common and life style is guided by military disciplines, these disciplines will have positive impact to develop some positive attitudes.

In this study cumulative mean percent of practice score was 60.5% (±16.9 SD). Ninety three (22.1%) of respondents had good practice towards preventive measures of hypertension. It is better than study done in India and Iran (16,21). This discrepancy may be occurred that, since the study participants are army members and they are in training center some military disciplines like regular physical exercise, screening tests for hypertension, etc are by default measured as a part of practice.

Multinomial logistic regression shows that there was significant difference in practice score of respondents according to their level of education, given that the other socio demographic variables in the model are held constant. Respondents with elementary educational level was 14.2 times more prone to poor practice and 5.4 times more prone to fair practice towards prevention of hypertension than good practice. Respondents with high school educational level was 6.4 times more prone to poor practice and 2.9 times more prone to fair practice towards prevention of hypertension than good practice. Study done in Nigeria support that the association between practice towards prevention of hypertension and level of education. It shows the significant difference between primary, secondary and tertiary education levels in the practice towards prevention of hypertension (35).

The multinomial regression test result also shows that there was significant difference in practice score of respondents according to their level of knowledge towards hypertension. Poor practice score is 9.3 times more observed in respondents with low level knowledge, and 3.3 times more

observed in respondents with moderate level knowledge than in respondents with high level knowledge towards hypertension. This result is supported by the study done in Nigeria, individuals who have better knowledge towards hypertension are more engaged in preventive practices (35).

There is significant association between practice of respondents towards prevention of hypertension and their attitude. Poor practice score was 4.6 times more observed in respondents with negative attitude and 2.8 times more observed in respondents with neutral attitude towards prevention of hypertension. Fair practice score was 3.0 times more observed in respondents with negative attitude and 2.5 times more observed in respondents with neutral attitude than respondents with positive attitude towards prevention of hypertension. The impact of attitude towards hypertension on practice towards prevention practices was supported by study done in Nigeria(35).

7.Strength and limitation of the study.

7.1. Limitations

- Lack of standardized questionnaires.
- Some questionnaires will need long term memories that will lead the respondents to introduce recall biases.

7.2. Strengths

- The response rate of this study was 100%.
- This study used as a base line study for army regarding knowledge of hypertension.

8. Conclusion

In conclusion, more than half of the study participants has low knowledge towards prevention of hypertension when compared with other studies done in different countries. Respondents practice towards prevention of hypertension was associated with the their level of education, knowledge towards hypertension and attitude towards prevention of hypertension . As the educational level of respondents increases the practice towards prevention of hypertension were found to be better.

Knowledge about risk lifestyle behaviors (excess alcohol, excess salt intake, sedentary lifestyle, smoking, unhealthy nutrition) are the main cause of high blood pressure even though there are other hereditary factors. Lifestyle modification education Should be one of the main focuses of education. Knowledge content deficiencies that we identified could guide development and improvement of educational programs for army with the goals of increasing the awareness of hypertension and promoting health life style.

9. Recommendation

Since the level of the knowledge regarding hypertension is low. The Defense health main directorate, health promotion and disease prevention directorate should need to strengthening health education programs. Knowledge about health feeding and health food, the importance of physical exercise and other important knowledge regarding prevention of hypertension should be given to the army members in health education. The content and method of health education given should investigated and evaluated in terms of long term knowledge and behavioral change**.**

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Annex

Annex I: Informed consent agreement

Hello, my name is.....and I am going to conduct an interview with you on behalf of Ato Tadesse Guda a post graduate Student at Addis Ababa university, school of public health .He is now conducting a research entitled "knowledge , attitude and practice towards prevention and control of hypertension among members of army to peace keeping mission". I would like to ask you some questions about hypertension . Although some of the questions are sensitive and private, your honest and genuine response will highly be appreciated and credited, as it will help to make realistic analysis and to propose very practical suggestions, The purpose of this interview is to conduct scientific research that may help us to identify the gaps in knowledge ,attitude and practice of hypertension in prevention methods among the army .It help us to forward some recommendations to concerned bodies that will help to improve the existing efforts.

I received permission from Defense health main directorate and peace keeping mission offices. The interview will just take about 30 minutes.. I would also like to inform you that your name is not written on the paper and Your answer will be completely confidential, and if at any time during the interview you want to stop answering questions ,you are free to do so.

If you are willing to participate, you will be requested to provide written informed consent before the interview.

If you have any question or if something is not clear please feel free to ask . You can contact the investigator and ask any query you have at any time.

Are you willing to participate in the interview?

[ ] Yes, Go to the next page

[ ] No, Thank them and interrupt the interview

Signature of the consenting interviewer----------

100F.Result of the interview: 1. Completed 2. Partially completed

3. The interviewee refused 4. Others----------

Data collector's Name: 1. ---------- Signature ----------

2. ---------- ---------- Signature ----------

Supervisor's name---------- Signature ----------

English version *Questionnaire*

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	Answer	Skip to
101	Age	----------age			
102	Sex	a) Male b) Female	1 2	( ) ( )	
103	Education	a) Illiterate b) Grade 1-6 c)Grade 7--8 d) 9-10 e) 11-12 f) Degree and above	1 2 3 4 5 6	( ) ( ) ( ) ( ) ( ) ( )	
104	Marital status	a) Single b) Married c) Divorced d) Widowed	1 2 3 4	( ) ( ) ( ) ( )	
105	Military rank	a) Non officer. b) Lower officer . c) Higher officer	1 2 3	( ) ( ) ( )	
106	Service year.	----------years			
107	Monthly income	a) < 1000 ET Birr b) 1001-2000 ET Birr c) 2001-3000 ET birr d) >3001 ET Birr	1 2 3 4	( ) ( ) ( ) ( )	

108	Habits	a) Smoking b) Alcohol c) None	1 2 3	( ) ( ) ( )	
109	Previous information regarding life style modification	a) Yes b) No	1 2	( ) ( )	
110	Source of health information	a) Friends b) Family members c) Mass media d) Health professionals e) Other	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	

Part II:- Knowledge questionnaire

Instruction :- Kindly go through the questions given below and tick (√) against appropriate answer. Each correct answer carries 1 mark

No	Variable	Response	CODE	Answer	Skip to
201	What is the normal range of blood pressure?	------/-----mm Hg			
202	What is meant by hypertension?	------/-----mm Hg			
203	which is the risk factor of hypertension given below?	a) Stress b) Age c) Hereditary d) Stress, age and heredity e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
204	Which is the sign and symptom present in hypertensive patent?	a) Headache b) Dizziness c) Nausea d)Headache, dizziness & nausea e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
205	What evidence of target organ damage is present?	a) Liver dysfunction b) GI dysfunction c) Respiratory dysfunction d) Renal dysfunction e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
206	What is the prompt diagnostic study of hypertension?	a) Blood test b) Urine test c) Chest x-ray d) BP measurement e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( )	
	II ***DATA REGARDING MANAGEMENT OF HYPERTENSION***.				

207	Which of the following methods are used to control hypertension?	a) Diet control b) Drug therapy c) Regular exercise d) Diet, drug & regular exercise e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
208	What is the nutritional therapy of hypertension?	a) Water restriction b) Decrease salt intake c) Increase salt intake d) Decrease calorie reach foods e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
209	Which of the following food should a hypertensive patent avoid?	a) Salt reach and salty foods b) Spicy foods c) pulses d) Vegetables e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
210	Which of the following is a salt rich food?	a) Pickles b) Milk c) Vegetables d) Rice e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
211	How much salt is given to hypertensive patient/day?	------gm			
	III. ***Data regarding life style modification***				
212	How can you maintain normal body weight?	a) Over eating b) Eating fatty foods c) Regular exercise and optimal calorie intake d) Calorie restriction e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	

213	How long should a person exercise daily?	----------minuts			
214	What is the best measure followed to reduce stress?	a)Involve in strenuous work b) Yoga and meditation c) Administering sleep including medication d) Watching television e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
215	What form of exercise is good for hypertension?	a) Aerobics (walking, jogging) b) Weight bearing c) Driving d) Dancing e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
216	At what all time, hypertensive medications should be taken ?	a) Under stress situation. b) As life long way to manage high blood pressure. c)When activities require physical exertion. d) Whenever a patent feels bad. e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
217	How does hypertensive patient take medications ?	a) As per information got from other hypertensive patents. b) As per information got from books and journals. c) Taking medications which were prescribed for the disease long time ago. d) Taking the medications which are currently prescribed by the doctor.	1 2 3 4	( ) ( ) ( ) ( )	

		e) Don't know	**5**	( )	
218	How often should a hypertensive patient rest?	a) Complete bed rest. b) Rest after doing all the work. c) Rest in between activities. d) No need to exercise. e) Don't know	1 2 3 4 5	( ) ( ) ( ) ( ) ( )	
219	How much time should a person take rest and sleep per day?	----------hrs			
220	Hypertension will occur genetically	a) True b) False	1 2		

Part III :- *Attitude scale*

Instruction :- Tick (√) the column which corresponds to participants option to the statement given below the response ranges from strongly agree (SA) to strongly disagree (SDA)

SL NO	Statements	Strongly agree SA	Agree A	Uncertain UC	Disagree DA	Strongly disagree SDA
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					

PART IV:-PRACTICE TOWARDS HYPERTENSION

	Questions	Response	Skip to
401	Have you ever cheeked your BP	a) Yes b) No	If No to Q 403
402	If yes when	a) In this month b) In the last six month c) Before six month	
403	Do you currently smoke cigarettes?	a) Yes b) No	If No to Q406
404	How long do you smoke?	a) _____years_____month b) Don't know/not sure/ c) Refuse to answer	
405	How many cigarettes do you currently smoke per day?	a) _____Cigarettes b) Don't know/not sure/ c) Refuse to answer	
406	Are you drinking alcohol	a) Yes b) No	If no toQ408
407	On average, how often do you usually drink alcohol (one portion of alcohol is having at least 1 glass of wine, can/bottle of beer, a shot (50g) of cognac or ouzo)? (Read all options, check one answer)	a) Less than one drink a week b) One to three drinks a week c) Four to six drinks a week d) Seven or more drinks a week e) Never	
408	How often do you add salt to your food without trying it? (Read all options, check one answer)	a) Never b) Rarely c) Sometimes d) Often e) Always	
409	During the last 7 days, on how many	a) _____Days per week	

	days did you do physical activities such as brisk walking or walking?	b) Don't know, not sure, c) Refuse to answer	
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) Other(specify)_____ e) Don't know/not sure f) Refuse to answer	

Annex II :- Amharic version questionnaire

ክፍል አንድ፡- የስምምንት መግለጫ

ቀን.....ሰዓት.....የቃለመጠይቅመለያ ቁጥር.....

እንደምን አደሩ/ዋሉ?

ስሜ.....ይባላል የስራ ባልደረባዬ ደግሞ ታደሰ ጉዳ ይባላሉ ;; በአዲስ አበባ ዩኒቨርሲቲ የህብረተሰበ ጤና ሳይንስ ትምህርት ቤት ተማሪ ናቸዉ;; ዛሬ ወደ ሰላም ማስከበር ተልዕኮ የሚሰማሩ የመከላከያ ስራዊት አባላት በደም ግፊት በሽታ ዙሪያ ስላላቸዉ አጠቃላይ እዉቀት፤ ዝንባሌ እና ተግባር ለመገምገም የሚያስችል መረጃ ለመሰበሰብ ነዉ;;

የሚሰበሰበዉ መረጃ ሙሉ በሙሉ በሚስጥር የሚያዝ መሆኑን እናረጋግጥልዎታለን;; የእርስዎ ስም፤ መለያ አድራሻ አይመዘገብም;; መረጃ መስጠት ካልፈለጉ መብትዎ ነዉ;; መመለስ ያልፈለጉትን ጥያቄ መዝለል/ማለፍ/ ይችላሉ;; ይሁን እንጂ የእርስዎ ትብብር እና ትክክለኛ ምላሽ ጥናቱና ምርምሩ እንዲሳካ ትልቅ አስተዋጽኦ ይኖረዋል;; ስለዚህ ለሚቀርብልዎት ጥያቄ ትክክለኛ መልስ ለመስጠት ፍቃደኛ ሆነዉ በትዕግስት እንዲመልሱልን እንጠይቅዎታለን፡፡

ቃለ መጠይቁ በግምት 30 ደቂቃ ይፈጃል፡፡ ጥያቄ አለዎት?

በጥናቱ ውስጥ ለመሳተፍ ፍቃደኛ ነዎት?

አዎ ☐ ወደ ሚቀጥለው ገፅ ይለፉ አይደለሁም ☐ አመሰግናለሁ

የስምምነት ፍቃዱን የወሰደው (የተቀበለው) ጠያቂ

ስም ---------- ፊርማ----------

የቃለ ምልልሱ ውጤት

1. የተሟላ ---------- 2. በከፊል የተሟላ---------- 3. ፍቃደኛ ያልሆነ ----------

4. ሌላ ----------

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

የተቆጣጣሪዉ ስም ---------- ፊርማ ----------

ክፍል ሁለት ቃለ መጠይቅ

መመሪያ:- ጥያቄዉን በደንብ ከተረዱ በኋላ ከተሰጡት ምርጫዎች ዉስጥ በመልስዎ ላይ(√) ምልክት ያስቀምጡ;;

101. እድሜ.----------

102. ጾታ ወንድ ☐ ሴት ☐

103. የትምህርት ደረጃ ----------

ሀ/ ማንበብ እና መጻፍ የማይችል ☐ ለ/ከ1-6ኛ ክፍል ☐ ሐ/ ከ7-8ኛ ክፍል ☐

መ/ ከ9-10ኛ ክፍል ☐ ሠ/ ከ11-12ኛ ክፍል ☐ ረ/ ኮሌጅ እና ከዚያ በላይ ☐

104. የጋብቻ ሁኔታ

ሀ/ ያላገባ/ች ☐ ለ/ ያገባ/ች ☐ ሐ/ የፈታ/ች ☐ መ/ በሞት የተለዩ ☐

105. ወታደራዊ ማእረግ

ሀ/ የበታች ሹም ☐ ለ/ መስመራዊ መኮንን ☐ ሐ /ከፍተኛ መኮንን ☐

106. የአገልግሎት ዘመን----------ዓመት

107. ወርኃዊ ገቢ ---------- ብር

108. ልማድ

ሀ/ሲጋራ ☐ ለ/አልኮል ☐ ሐ/ ሌላ ልማድ ☐ መ/ ምንም ልማድ የለኝም ☐

109. ስለ ጤናማ አኗኗር ዘይቤ መረጃ አግኝተዉ ያዉቃሉ?

ሀ. አዎ ☐ ለ/ አላዉቅም ☐

110. መረጃ አግኝተዉ ከሆነ ከማን አገኙት?

ሀ/ ከጓደኛ ☐ ለ/ ከቤተሰብ አባላት ☐ ሐ/ ከመገናኛ ብዙሀን ☐

መ/ ከጤና ባለሞያ ☐ ሠ/ ሌላ ----------

ክፍል ሶስት ቃለ መጠይቅ

201. አንድ ጤናማ ሰዉ የደም ግፊት ስንት በስንት ነዉ?

ሀ/90/60ሚሜሜ ☐ ለ/120/80ሚሜሜ ☐ ሐ/ 140/90 ሚሜሜ ☐
መ/ አላዉቀውም ☐

202. የደም ግፊት በሽታ ማለት ምን ማለት ነዉ?

ሀ/ የደሙ ግፊት 140/90 ሚሜሜ በላይ ሲሆን ☐

ለ/ የደሙ ግፊት 120/80ሚሜሜ ሲሆን ☐

ሐ/ የደሙ ግፊት 90/50 ሚሜሜ ሲሆን ☐ መ/ አላዉቀውም ☐

203. ለደም ግፊት በሽታ ተጋላጭነት መንስኤ የሆነዉ የቱ ነዉ?

ሀ/ ጭንቀት ☐ ለ/ እድሜ ☐ ሐ/ የዘር ሀረግ ☐
ሠ/አላዉቀውም ☐

204. የደም ግፊት ህመም የሚያሳየዉ ስሜት እና ምልክት የቱ ነዉ?

ሀ/ የራስምታት ☐ ለ/ መፍዘዝ ☐ ሐ/ ማቅለሽለሽ ☐
ሠ/ አላዉቀውም ☐

205. በደም ግፊት የሚጠቁ የሰዉነት ክፍሎች የትኞቹ ናቸዉ?

ሀ/ የጉበት ተግባር መታወክ ☐ ለ/ የአንጀት ተግባር መታወክ ☐

ሐ/ የመተንፈሻ አካላት መታወክ ☐ መ/ የኩላሊት ተግባር መታወክ ☐
ሠ/አላዉቀውም ☐

206. የደምን ግፊት ለማወቅ የትኛው አይነት ምርመራ መደረግ አለበት?

ሀ/ የደም ምርመራ ☐ ለ/ የሽንት ምርመራ ☐

ሐ/ የደረት ራጅ ምርመራ ☐ መ/ የደም ግፊትን መለካት ☐ ሠ/ አላዉቀውም ☐

207. የደም ግፊት በሽታን ለመቆጣጠር የሚጠቅመዉ ዘዴ የቱ ነዉ?

ሀ/ አመጋገብን ማስተካከል ☐ ለ/ መድሀኒት መዉሰድ ☐

ሐ/የአካል ብቃት እንቅስቃሴ ማዘዉተር ☐ ሠ/ አላዉቀውም ☐

208. የደም ግፊት ህመምተኛ መከተል ያለበት የአመጋገብ ስርዓት የትኛዉ ነዉ?

ሀ/ ትንሽ ዉሀ መጠጣት ☐ ለ/ ጨዉ ያልበዛበት ምግብ መመገብ ☐
ሐ/ ጨዉ የበዛበት ምግብ መመገብ ☐ መ/ ሀይል ሰጪ ምግቦችን መቀነስ ☐
ሠ/ አላዉቀዉም ☐

209. የደም ግፊት ህመምተኛ መመገብ የሌለበት ምግብ የትኛዉ ነዉ?

ሀ/ ጨዉ የበዛበት ምግብ ☐ ለ/ ቅመም የበዛበት ምግብ ☐

ሐ/ ጥራጥሬ ☐ መ/አትክልት ☐ ሠ/ አላዉቀዉም ☐

210. ከሚከተሉት ዉስጥ ጨዉ የበዛበት ምግብ የትኛዉ ነዉ?

ሀ/ ሆምጣጤ የበዛበት ሰላጣ ☐ ለ/ ወተት ☐ ሐ/ አትክልት ☐
መ/ ሩዝ ☐ ሠ/ አላዉቀዉም ☐

211. የደም ግፊት ያለበት ሰዉ በቀን ምን ያህል ጨዉ መዉሰድ አለበት? ---------ግራም

212 .የሰዉነታችንን ክብደት እንዴት መቆጣጠር እንችላለን?

ሀ/ ብዙ በመመገብ ☐ ለ/ ስብ የበዛባቸዉን ምግቦችን በመመገብ ☐

ሐ/ የአካል ብቃት እንቅስቃሴ አዘዉትሮ መስራት እና በቂ ሀይል ሰጪ ምግብ መመገብ ☐
መ/ አላዉቀዉም ☐

213. በቀን ለምን ያህል ደቂቃ የአካል ብቃት እንቅስቃሴ መስራት ጥሩ ነዉ? ለ----------ደቂቃ

214. ጭንቀትን ለመቀነስ የሚጠቅመዉ የትኛዉ ነዉ?

ሀ/ ከባድ ስራ መስራት ☐ ለ/ የዮጋ እስፖርት መስራት ☐

ሐ/ መድሀኒት ወስዶ መተኛት ☐ መ/ ቴሌቪዥን መመልከት ☐ ሠ/ አላዉቀዉም ☐

215. ለደም ግፊት ህመማን ተስማሚ የሆነዉ የአካል ብቃት እንቅስቃሴ የትኛዉ ነዉ?
ሀ/ የእግር ጉዞ እና ሶመሶማ ሩጫ ☐ ለ/ ክብደት ማንሳት ☐ ሐ/ መኪና ማሽከርከር ☐
መ/ ዳንስ /ጭፈራ/ ☐ ሠ/ አላዉቀዉም ☐

216.የደም ግፊት በሽታ መድሀኒት መወሰድ ያለበት መቼ ነዉ?

ሀ/ የጭንቀት ስሜት ሲሰማ ብቻ ☐ ለ/ ዘወትር ለእድሜ ልክ ☐

ሐ/ አድካሚ ስራ ሲሰራ ብቻ ☐ መ/ ጥሩ ስሜት አልሰማ ሲል ☐

ሠ/ አላዉቀዉም ☐

217. የደም ግፊት ህመምተኛ መድሀኒት አወሳሰድ መሆን ያለበት እንዴት ነዉ?

ሀ/ ከሌሎች ህሙማን ባገኘዉ መረጃ መሰረት ☐

ለ/ ከመጻህፍት እና ከ መጽሄት ባገኘዉ መረጃ መሰረት ☐

ሐ/ ከረጅም ግዜ በፊት በታዘዘለት መሰረት ☐ መ/ በቅርብ ግዜ ሀኪሙ ባዘዘለት መሰረት ☐
ሠ/አላዉቀዉም ☐

218. የደም ግፊት ህመምተኛ እረፍት ማድረግ ያለበት ሁኔታ እንዴት ነዉ?

ሀ/ አልጋ ላይ በመተኛት ማረፍ ☐ ለ/ ከስራ በኋላ ማረፍ ☐

ሐ/ በስራ መሀከል ማረፍ ☐ መ/ እንቅስቃሴ ማድረግ የለበትም ☐

ሠ/ አላዉቀዉም ☐

219. አንድ ሰዉ በቀን ለምን ያህል ሰዓት እረፍት ቢያደርግ ጥሩ ነዉ? ----------ሰዓት

220. የደም ግፊት በሽታ በዘር ይተላለፋል። ሀ/ እስማማለሁ ☐ ለ/አልስማማም ☐

ክፍል አራት ፡- ቃለ መጠይቅ

መመሪያ፡- የሚከተለዉ ቃለ ምልልስ በጣም እስማማለሁ፤ እስማማለሁ፤ እርግጠኛ አይደለሁም፤ አልስማማም እና በጣም አልስማማም የሚሉ አማራጮች አሉት;; ጥያቄዉን አንብብዉ ከተረዱት በኋላ የ(√) ምልክት በአማራጩ አኳያ ባለዉ ቦታ ያስቀምጡ ;;

ተራ ቁጥር	ጥያቄ	በጣም እስማማለሁ	እስማማለሁ	እርግጠኛ አይደለሁም	አልስማማም	በጣም አልስማማም
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 ግዜ የደም ግፊትን መለካት አስፈላጊ ነዉ;;					
307	የደም ግፊት ህመማን 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 ህመም ያለባቸዉ ሰዎች ስራ መስራት የለባቸዉም;;					

311	የደም ግፊት ህመም ያለባቸዉ ሰዎች ክብደታቸዉን መቆጣጠር አለባቸዉ;					
312	የደም ግፊት ህመም 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 ማግረግ የለባቸዉም;;					
315	የአኗኗር ዘይቤን ማስተካከል የደም ግፊት በሽታን ለመከላከል ይጠቅማል;;					

ክፍል አምስት፡- ቃለ መጠይቅ

መመሪያ ፡-ጥያቄዎቹን አንብበዉ ከተረዱ በኋላ በመልስዎ ትይዩ ባለዉ ቦታ ላይ የ(√) ምልክት ያስቀምጡ;;

401. የደም ግፊትዎን ተለክተዉ ያዉቃሉ?

ሀ/ አዎ ☐ ለ/ ተለክቼ አላዉቅም ☐

402. አዎ ከሆነ መልስዎ መቼ?

ሀ/ በዚህ ወር ዉስጥ ☐ ለ/ ባለፈዉ 6 ወር ዉስጥ ☐ ሐ/ ከ 6ወር በፊት ☐

403. ሲጋራ ያጨሳሉ? ሀ/ አዎ ☐ ለ/ አላጨስም ☐

404. አዎ ከሆነ መልስዎ ለምን ያህል ግዜ አጨሱ?

ሀ/ ለ--------አመታት/ለ------ወራት ለ/ አላሰታዉሰዉም/አላዉቀዉም ☐

405. የሚያጨሱ ከሆነ በቀን ምን ያህል ሲጋራ ያጨሳሉ?

ሀ/----------ሲጋራዎች ለ/ አላስታዉሰዉም ☐ ሐ/ መናገር አልፈልግም ☐

406. አልኮል ይጠጣሉ? ሀ/ አዎ ☐ ለ/ አልጠጣም ☐

407. አዎ ከሆነ መልስዎ በአማካይ ምን ያህል ይጠጣሉ? /መገለጫ፡- አንድ መጠን የሚባለዉ ቢያንስ 1 ብርጭቆ ወይን፣ 1ጠርሙስ ቢራ፣ ወይም 50 ሲሲ ኡዞ፣ ጂን የመሳሰሉ አልኮሎች ማለት ነዉ;;/

ሀ/ አንድ መጠን በሳምንት ☐ ለ/ ከ1-3 መጠን በሳምንት ☐

ሐ/ ከ 4-6 መጠን በሳምንት ☐ መ/ ከ7 መጠን በላይ በሳምንት ☐

408. በምግብዎ ላይ ተጨማሪ ጨዉ ይጠቀማሉ?

ሀ/ አልጠቀምም ☐ ለ/ አልፎ አልፎ ☐ ሐ/ አንዳንድ ግዜ ☐
መ/ አብዛኛዉን ግዜ ☐ ሠ/ ዘወትር ☐

409. ባለፈዉ ሳምንት ዉስጥ ለምን ያህል ግዜ የአካል ብቃት እንቅስቃሴ ሠሩ?

ሀ/ ----------ቀናት በሳምንት ለ/ አላስታዉስም/ አላዉቅም ☐

410. የአካል ብቃት እንቅስቃሴ ሰርተዉ ከሆነ ለምን ያህል ደቂቃ በቀን ሰርተዋል?

ሀ/ ከ30 ደቂቃ ላነሰ ግዜ ☐ ለ/ ከ30 ደቂቃ-1 ሰአት ☐ ሐ/ አላስታዉሰዉም ☐

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical Conduct of the research project and for provision of required progress reports as Per terms and conditions of the Research Publications Office in effect at the time of Grant is forwarded as the result of this application.

Name of the student: Tadesse Guda

Date 05/06/2015 Signature _____

Approval of the primary Advisor

Name of the primary advisor: Dr Ayele Belachew

Date. 05/06/2014 Signature _____