

**ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE
TOWARDS PREVENTION AND MANAGEMENT OF
HYPERTENSION AND ASSOCIATED FACTORS AMONG
POLICE OFFICERS IN ADDIS ABABA, ETHIOPIA, 2021.**

BY: - MELKAMSEW NIGAT TAYE (BSC N)

**A THESIS SUBMITTED TO ADDIS ABABA UNIVERSIY,
COLLEGE OF HEALTH SCIENCS SCHOOLOF NURSING AND
MIDWIFERY FOR PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR MASTERS OF SCIENCE DEGREE IN
CARDIOVASCULAR NURSING**

MAY, 2021

ADDIS ABABA, ETHIOPIA

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COLLEGE OF HEALTH SCIENCES
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PI: MELKAMSEW NIGAT TAYE (BSC N)

ADVISOR: Dr. AMSALE CHERE

CO. ADVISOR: BOKA DUGASSA

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APPROVAL SHEET

ADDS ABABA UNIVERSITY, COLLEGE HEALTH SCIENCES, SCHOOL OF NURSING AND
MIDWIFERY, DEPARTMENT OF NURSING

I, the undersigned MSc student, declare that I have submitted my original work on a title:
ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS
PREVENTION AND MANAGEMENT OF HYPERTENSION AND ASSOCIATED
FACTORS AMONG POLICE OFFICERS IN ADDIS ABABA, ETHIOPIA, 2021 for the
examination.

Submitted by:

MELKAMSEW NIGAT

Name of student

Signature

Date

This thesis work has been submitted for examination with my approval as an advisor.

Approved by:

AMSALE CHERI

Name of Major Advisor

Signature

Date

BOKA DUGASSA

Name of Co-Advisor

Signature

Date

NIGUSSE TADELE

Department Head

Signature

Date

APPROVAL BY THE BOARD OF EXAMINATION

This thesis by the title Assessment of knowledge, attitude and practice towards prevention and management of hypertension and associated factors among police officers in Addis Ababa, Ethiopia, 2021 is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of Masters in Cardiovascular Nursing.

INTERNAL EXAMINER:

YOHANNES AYALEW	BSc. MSc. Assit. prof	_____	_____
NAME	RANK	SIGNATURE	DATE

RESEARCH ADVISORS:

AMSALE CHERI	BSc. MSc., Associate Prof., PhD	_____	_____
NAME	RANK	SIGNATURE	DATE

BOKA DUGASSA	Lecturer	_____	_____
NAME	RANK	SIGNATURE	DATE

DEPARTMENT HEAD

NIGUSSE TADELE	MSc., Asst. Prof	_____	_____
NAME	RANK	SIGNATURE	DATE

STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

This thesis is submitted in partial fulfillment of the requirement for a graduate degree from the Addis Ababa University at College of Health Sciences, School of Allied Health Sciences department of Nursing and Midwifery. The thesis is deposited in the Addis Ababa University Digital Library and is made available to local, national and international scientific community. I solemnly declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

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Melkamsew Nigat

Name of student

Signature Date

Dr Amsale Cheri

Primary Advisor

M.Sc. Asst. Prof.

Rank

Signature Date

Boka Dugassa

Secondary Advisor

M.Sc. Asst. Prof.

Rank

Signature Date

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Abbreviation

CHD.....coronary heart disease

CHF..... Congestive Heart Failure

CVD..... Cardiovascular Disease

DBP.....Diastolic Blood Pressure

HTN..... Hypertension

JNC..... Joint National Committee

SBP..... Systolic Blood Pressure

WHO..... World Health Organization

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ABSTRACT

Background: Hypertension is a common global health problem and major cause of disability and death. Little is known about the knowledge, attitude and practice towards prevention and management of hypertension and associated factors among Police officers.

Objective: This study was intended to assess the knowledge, attitude and practice towards the prevention and management of hypertension and associated factors among police officers in Addis Ababa, Ethiopia 2020.

Method: Institutional based cross-sectional study was conducted between December 2020 and January 2021 among police officers who are members of Addis Ababa police commission. Five police sub commissions were randomly selected. Sample size was calculated using single population proportional formula and the calculated sample size for this study was 395. Study participants were selected using systemic sampling technique. Structured and pretested questionnaire was used for data collection. Data was analyzed using SPSS version 23. Descriptive statistics was used to summarize socio- demographic, characteristics of study participants. Knowledge, attitude and practice towards the prevention and management hypertension and association factor were determined using Bloom's taxonomy for cut of point (60-80). Chi was used to identify factors associated with outcome variables. Statistical significance was declared at p-value less than 0.05.

Result – a total of 395 police officers participated in the study with a response rate of 100% Majority of the participants were males (66.5%) and all of them attended formal education and majority of the respondents (88.35%) had collage certificate and above. Nearly sixty five percent (64.8%) of the respondents are married and slightly more than half (56.7%) had a working experience of less than ten years. The overall percentage of good knowledge attitude and practice of the respondents is 9%, 13.7% and 11.1 % respectively. Age, service year, monthly income and sex of the respondent has significant association with knowledge. Similarly, Drug habit and age has significant association with practice.

Conclusion and recommendation: small percentage of the respondents has good knowledge, attitude and practice towards prevention of hypertension age of the participant, service year monthly income and sex of the respondent with knowledge and similarly presence of drug habit and age had also significant association with practice of respondents towards the prevention of hypertension. Since the small percentage of police officers has good level of the knowledge regarding hypertension, the police

commission's health main directorate, health promotion and disease prevention directorate should need to strengthening health education programs.

Key words Hypertension, Knowledge, Attitude Practice

CHAPTER ONE

INTRODUCTION

1. Background

Hypertension is defined as increase in blood pressure greater than or equals to 160/95 mmHg according to the World Health Organization (1). It is a raise of 15mm of Hg pressure above the client's normal blood pressure (2). Hypertension is commonly referred to as high blood pressure (3).

The seventh report of joint national committee prevention, detection, evaluation, and treatment of high blood pressure (JNC7) classified blood pressure in to four categories for adults of age greater than or equal to 18 years (4). The first is normal blood pressure where the Systolic Blood Pressure (SBP) less than 120mm Hg and diastolic blood pressure (DBP) less than 80 mm Hg. The second category is pre-hypertension is for patients on the cusp of developing hypertension and defined as a SBP of 120-139mm Hg or a Diastolic Blood Pressure (DBP) of 80-89mm Hg. The third category is stage I hypertension and is defined as a systolic blood pressure between 140-159mm Hg or diastolic blood pressure between 90 and 99 mm Hg. Stage II hypertension is the fourth category where systolic blood pressure is greater than or equal to 160mm Hg or diastolic blood pressure is greater than or equal to 100 mmHg. Efficient function of vital organs such as the heart, brain and kidneys and for overall health and wellbeing is dependent on normal levels of both systolic and diastolic blood pressure (5).

Hypertension is a common public health problem globally (6). According to the world health report, by the year 2025 more than 1.56 billion people will suffer from hypertension as compared with the year 2000, there were 972 million people living with hypertension worldwide (7). The overall global prevalence among adults was recently estimated to be 26.6% in men and 26.1% in women. But its prevalence varies within different countries (8). It is estimated that "Ten million to 20 million may be affected; and considered as the continent's greatest health challenges after AIDS by the African Union (9).

Also, it is common in security personnel. A Study done on Brazilian Air force shows the prevalence of arterial hypertension was 22% (10). According to WHO, 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 (11). A systematic review studies revealed that the epidemiology of hypertension in Ethiopia varies from 9.3– 30.3% (12).

Obesity, weight gain, high sodium intake, low calcium and potassium intake, Alcohol consumption, psychological stress and low physical activity are common risk factors of Hypertension (13). Knowledge attitude and practice towards these behavioral risk factors have also big impact on the prevention of hypertension (14).

Hypertensive knowledge is information that an individual is aware of what hypertension is, factors that predisposes to it, the ability to identify and respond to meaning, risk factors, and preventive measures of hypertension. Information about hypertension and lifestyle changes should be provided to patients when they visit their health center (15). Lack of knowledge about hypertension adversely influences patients' awareness and behaviors, and is a major challenge in controlling hypertension (16). The low level of knowledge, attitude and practice is mainly associated with illiteracy, low socioeconomic class of the individuals (14).

1.2 Statement of the problem

Hypertension is a common and major global public health problem (3). In 2001 globally approximately 7.6%million deaths (13-15% of the total) and 92 million disability-adjusted life years worldwide were attributable to high blood pressure. It is estimated that by 2025 the number of hypertensive people is expected to increase by 60% and reach 1.56 billion people (11).

Hypertension doubles the risk of cardio vascular disease (CVD), including coronary heart disease (CHD), congestive heart failure (CHF), ischemic and hemorrhagic stroke, renal failure, and peripheral arterial disease (11).

A study, in Ethiopia showed that 84.41% and 73.23% of the study participants had poor score of knowledge and self -care practice of Hypertension respectively. The low score of knowledge and practice was mainly due to illiteracy, low socioeconomic class of the patients. Also, it was found that the knowledge and practice score was less in females when compared to males (17)

Another study done in south west Ethiopia showed 16.9% of the respondents were hypertensive and only 44.8% were aware of their hypertension. The study also revealed that the knowledge, attitude and practice towards prevention of hypertension is poor (14).

Different studies among security personnel showed different results. A study among Kenyan army shows that 68% of army members were hypertensive (18). Another study among members of the Ethiopian army also showed that 65.5% of the respondents had low level of knowledge, 49.8% of the respondents had neutral attitude and only 22.1% had relatively better practice towards prevention of hypertension (17).

1.3 Significance of the study

Hypertension is a common cause of mortality globally. Identification of gaps in knowledge, attitude and practice towards prevention of hypertension can help in the development of health education and health promotion materials, this study will assess the knowledge, attitude and practice towards prevention and management of hypertension and associated factors among police officer in Addis Ababa Ethiopia

CHAPTER TWO

2. LITERATURE REVIEW.

2.1 Overview of hypertension

Hypertension is the silent killer diseases worldwide and is a major risk factor for many other diseases like cardiovascular diseases, stroke, renal diseases, and many others (19).

It is an important public-health challenge worldwide. Prevention, detection, treatment, and control of this condition should receive high priority (20).

The magnitude of hypertension varies around the world (21). 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% (3).

A national health and nutrition examination survey in the United States showed approximately 30 % (Age adjusted prevalence) of adults or at least 65 million individuals have hypertension (6).

Modeled estimates of hypertension 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(22).

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(6). 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 (14).

Hypertension is one of the most important cardiovascular risk factors but its control is still a challenge all around the world. Control Hypertension, an iceberg disease could be described as the „sleeping snake“- which bites when it wakes up (23). It has been estimated that almost a third of B.P. – related deaths occur from

coronary heart disease. It is also estimated that a 3 mm Hg reduction in systolic B.P. could lead to an 80% reduction in stroke mortality and a 5 percent reduction in mortality from coronary heart disease (24).

Hypertension progressively and permanently damages target organs, leading to life-threatening complications and death. chronic diseases, such as hypertension, necessitate lifelong drug intake and changes in lifestyle. A lack of knowledge about hypertension negatively influences patients' awareness and behaviors, and is a major obstacle in controlling the disease (16).

2.2 Knowledge about Hypertension risk factors.

Knowledge can be defined as facts, information and skills acquired through experience or education that moves towards the theoretical or practical understanding of the subject (25).

Different studies in different parts of the world showed different knowledge levels. A study done in a North Carolina 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 (26). 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 (26).

A study done in Iran among patients came to health care centers showed that nearly half of the respondents had moderate knowledge in HTN (27).

A study conducted among cardiac patients in Karachi, Pakistan showed adequate knowledge about HTN was adequate and 48% of the patients could not recall their BP value and were unable to report whether their BP value is elevated or normal (25).

Another study done in Pakistan showed that 37.9 % had poor knowledge, and only 0.8 % showed adequate general knowledge about hypertension. Poor knowledge was apparent in responses to questions relating to onset and management (28).

A study done in India showed 84.41 % had poor score of knowledge of hypertension respectively. The low score of knowledge mainly associated with illiteracy, low socioeconomic class of the patients. Also, he found that the knowledge was less in females when compared to males (29).

A study done among police officers in Thailand 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 (30).

Another study in Nepal shows that 56% of the respondents were aware about the meaning of hypertension and 58% thought that the most common age group susceptible for hypertension is middle age group (40 to 59yrs). One third of the respondents thought that it is due to hereditary and stress (31).

A study in Malaysia demonstrates that, 61.5% of the respondents were able to recall their recent blood pressure and 67.7% were aware of the target blood pressure, which showed that the majority of the respondents are interested in their blood pressure readings (32).

Study in India on Assessment of KAP, Risk Factors and Associated Co-Morbidities in Hypertensive Patients. Shows; dizziness was the most common symptoms while a heart problem was most common complication known to patients (23).

A study in Ghana showed 73.8% of the respondents knew that stress could lead to hypertension. And 73% of the participants did not know that lack of physical activity could increase one's risk of acquiring hypertension as well as drinking too much alcohol (31).

Another study done in Dares Salaam; Tanzania showed that 66.8% of the respondents had knowledge on hypertension but only 19.75% had knowledge on the risk factors for hypertension (33).

Similarly, a study done in Nigeria showed the mean knowledge on Concept of Hypertension is 65% and the mean knowledge on risk factors of hypertension is 62%. 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%) (34).

A cross-sectional survey in southwest Ethiopia showed the overall knowledge of hypertension was 35.1%, and the rates of hypertension treatment and hypertension control were 23.7% and 15.5%, respectively (12).

2.3 Attitude towards prevention of Hypertension

A Study done in Nigeria showed a positive attitude to hypertension prevention, 56.7% strongly agreed that hypertension is of serious health concern and only 16.7% strongly agreed to the fact that, it is important to check one's blood pressure regularly. Similarly, one third of the respondents agreed that hypertension is not prevalent among young people (35).

Another study done in Iran showed that more than half of the respondents (58.2%) had good attitude on HTN. About one third believed that measuring SBP is more important, while 53.8% told that measuring DBP is more important. More than 80 % of the participants indicated reducing blood pressure (even a little bit) is effective in health promotion (27).

2.4 Hypertension preventive practices

Self-care is the process of engaging individuals to take full responsibility of managing aspects of their health by adopting skills and behaviors that prevent disease, limit illness and restore health. These includes taking medicine as prescribed, monitoring blood pressure response to therapy, and adopting lifestyle recommendations increasing exercise, decreasing salt intake (31).

A study done in Thailand showed that only 20% of participants had had their blood pressure checked in the previous year. The study also showed that only 3.72% of study subjects had a sedentary lifestyle and nearly 70% of the population was smokers. More than half of the population consumed alcohol (61.48% males and 40.91% females) (30).

Another study done in Iran showed that nearly half of the participants had high practice score of HTN (with mean of 73.7% (SD = 11.27). Similarly, about forty-five percent (45%) reported that sometimes they had regular exercise while 31.6% rarely had regular exercise. Thirty-six percent (36.8%) had always used low salt diet (27).

A study in India shows most of the patients not doing blood pressure measurement and eye check-up regularly (23).

A study in Southwestern Nigerian showed that only 18.6% of participants were on BP lowering medications and 6.7% had access to home monitoring devices. None of the respondents was enrolled in a smoking cessation program; neither of them was on statins since blood cholesterol had never been measured in any of them (36). Another study done in Nigeria also showed that, 81.5% of the respondents took much table salt (37).

A study done in North Gondar (Ethiopia) showed that most of the participants (95%) use to walk for at least 10 minutes continuously every day. Similarly, about 67.7% of respondents reported that they usually use vegetable oil for meal preparation (38). Another study in Addis Ababa showed that more males (12.5%) than females (9.4%) reported that they add salt to their plate after food has been served. Overall, 10.7%, 95% CI (9.7, 11.6) adults reported regularly adding salt to their plate (39).

2.5. Associated factors that affect Knowledge, Attitude and practice towards hypertension

A study in India shows that there was a significant association between self-care management practices with sex and bad habits of the research subjects but no significant association with their age, educational status, marital status, diet consumed, medications followed and previous knowledge regarding self-care management (20). Social support was consistently related to adherence to medications, exercise and diet in a study done in Korea (40).

A study in South Africa suggests that perceived benefit of exercise, level of education, access to recreational facilities and neighborhood environment contribute to level of self-care practice among hypertensive patients which are not limited to (41).

A study in Gondar Hospital, Northwest Ethiopia the multivariate logistic regression showed that as the distance from the hospital (how far or near) had significant association with self-care practice (42).

2.6 Conceptual Frame Work

Factors that affect Knowledge, attitude and practices includes socio demographic/economic factors including age, gender, educational status, marital status, income, habit, information regarding healthy life style (41).

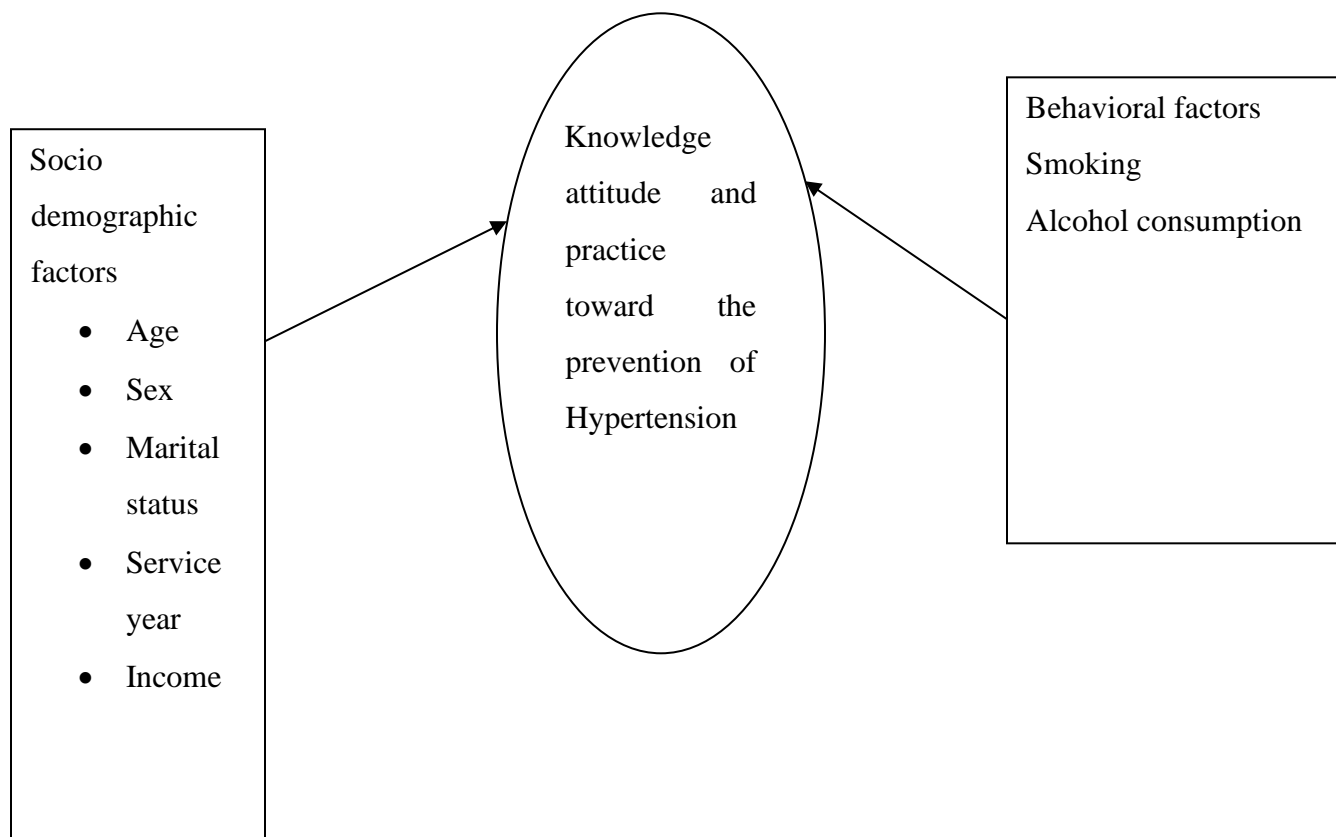


Figure 1: Conceptual framework on factors affecting Knowledge, attitude and practices of control and prevention of HTN developed from different literatures (41-, 43_).

CHAPTER THREE

3. Objectives of the Study

3.1 General Objective

The aim of this study is to assess the knowledge, attitude and practice towards the prevention and management of hypertension and associated factors among Police officers in Addis Ababa city, Ethiopia, 2021.

3.2 Specific Objectives

The specific objectives of this study were

1. To assess the level of knowledge about prevention and management of hypertension among Police officers in Addis Ababa city, Ethiopia, 2021.
2. To determine the attitude towards prevention and management of hypertension among Police officers in Addis Ababa city, Ethiopia, 2021.
3. To assess the practices towards prevention and management of hypertension among Police officers in Addis Ababa city, Ethiopia, 2021.
4. To assess factors affecting the knowledge, attitude and practices towards prevention and management of hypertension among Police officers in Addis Ababa city, Ethiopia, 2021.

CHAPTER FOUR

4.Methods

4.1 Study area and period:

This study was carried out in Addis Ababa the capital city of Ethiopia. The city has a subtropical highland climate. According to 2017 estimation, Addis Ababa has a population of 6.6 million people (43). There are two police commissions in the city namely the Addis Ababa police commission and The Federal police commission. The Addis Ababa police commission was established in January 1999 after a ‘charter of national and regional states’ proclamation No.7/1992 was issued. Currently there are more than 5400 officers serving under the commission in ten sub cities (44). Five police sub commissions namely Bole subcity police commission, Nifas silk lafto sub-city police commission, AkakiKality sub-city police commission, Lideta sub city police commission and Kolfekeraniyo police commission were randomly selected. The study period was from December 2020 to January 2021.

4.2 Study design:

A cross-sectional study was carried out to assess the knowledge, Attitude and practice towards prevention and management of Hypertension and associated factor among Police officers in Addis Ababa city, Ethiopia 2021.

4.3. Population

4.3.1. Source Population

The source populations were all police officers in Addis Ababa city, Ethiopia.

4.3.2. Study Population

The study populations were all police officers who meet the inclusion criteria and work in the selected police commissions Addis Ababa city, Ethiopia.

4.4. Inclusion and Exclusion Criteria

4.4.1. Inclusion Criteria

All Police officers working in the police commissions in Addis Ababa city, fulltime workers having work experience of greater than 6 months were included, and have willingness to participate in the study.

4.4.2. Exclusion Criteria

Those officers who were health professionals, those who are on annual leave, maternity leave, study leave, sick leave.

4.5. Sample size and sampling procedure:

The maximum sample size for this study was obtained using single population proportion formula:

$$n_o = \frac{Z^2 (\alpha/2)^2 * p (1-p)}{d^2}$$

d²

Where,

The level of confidence 95% ($Z_{\alpha/2} = 1.96$)

P=the assumption will be 50% since as to the researcher knowledge there is no study done in similar setting

d = Margin of error between the sample and population 5%.

$$\frac{(1.96)^2 * 0.5(1-0.5)}{(0.05)^2} = 384$$

$$(0.05)^2$$

Since the number of police officers under Addis Ababa Police commission is less than 10,000 population reduction /correction formula was used.

$$nf = (\text{final sample size}) \frac{n}{(1+n/N)}$$

N is the population size, that is the total number of police officers working in Addis Ababa police commission (N = 5400).

$$nf = 384 / (1+384/5400) = 359$$

The 10% non-response rate was considered. (359+36=395)

The final sample size with 10% non-response rate was 395

Five police sub commissions were randomly selected by lottery method. Proportional number of samples was allocated to each sub commissions based on the number of police officers in each sub commission. Study participants from each selected police sub commission were selected using systemic random sampling technique. The first participant was selected by lottery method.

4.6. Study Variables

4.6.1. Dependent Variables

- ✓ Knowledge of respondents about the prevention and management of hypertension
- ✓ Attitude of respondents towards prevention and management of hypertension
- ✓ Practice of respondents towards prevention and management of hypertension.

4.6.2. Independent Variables

- ✓ Socio demographic: - age, sex, educational background, marital status, income, service year.
- ✓ Behavioral: - smoking habit, alcohol consumption.

4.7. Operational definitions

Knowledge: - was measured based on the ability of the respondent to correctly identify and respond to meaning, risk factors, and preventive measures of hypertension. By using Bloom's cut off point, the scores were classified into 3 levels as follow:

- 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: was assessed the perception or outlook regarding causative factors and preventive measures of hypertension. The scores were classified into 3 levels 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%.

Practice: - was measured based on previous health seeking behavior, decisions and action taken to prevent hypertension. The total response score was 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.

Police Officer: is a man, or a woman who is an employee of a police force.

4.8. Data Collection Technique and Tools

A structured and pretested self-administered questionnaire was first prepared in English and then translated to the local language Amharic by linguistic professionals the questionnaire was adapted from previous studies conducted in other settings and had four sections: Socio demographic characteristics, comprehensive knowledge of hypertension prevention, attitude towards preventive measures and preventive practices about Hypertension (16).

The overall knowledge of the study participants was assessed using a summary of 20 questions each question containing 1 point for positive response and 0 for negative response.

Similarly, 15 items were used to assess the perception or outlook regarding causative factors and preventive measures of hypertension. All individual answers were summed up for total scores and calculate for means percent. The scores were classified into 3 levels (Positive Attitude (80%-100%), Neutral Attitude (60%-79%) and Negative Attitude (less than 59%)) according to Bloom's cut off point (16).

Practice 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.

Two supervisors and four data collectors, who had BSc degree in nursing, were recruited to assist in the data collection process. Three days before the actual data collection period a one-day training was given for the supervisors and data collectors on the objectives of the study, the questions and extent of explanations, the way to keep privacy and confidentiality and other ethical issues. The supervisors coordinated the overall data collection processes.

4.9. Data Quality Assurance

To ensure the quality of data, the questionnaire was pretested on 5% (19) of the sample size, among members of the Federal police commission officers in Addis Ababa who were not included in the selected study setting, 2 weeks before the actual data collection period. The result of the pretest was discussed and all the necessary amendments were made on, the instructions, contents, order and grammatical issues based on the pretest results.

During the study period, all data was checked for completeness, accuracy, clarity and consistency by the supervisors and the principal investigator immediately after the data is collected. The principal investigator and the supervisors closely monitored the data collection process. Double data entry and validation was performed to assure the quality of data and the data was intensively cleaned before analysis.

4.10. Data Processing and Analysis

After data collection, the data was coded and entered into a computer using Epi-data 3.1 Statistical program and was exported to SPSS Version 23 for further analysis. Then; mean median, standard deviation and proportion was calculated. Linear regression analysis was run to assess the association between the independent and dependent variables. Chi square was calculated to determine strength of association between independent and dependent variables and 95% confidence interval was utilized to guide interpretation of results. P-value of less than 0.05 was taken as a cutoff point to declare statistically significant association between independent and dependent variables. And finally, the result was presented by using texts, tables and graphs.

4.11. Ethical Consideration

Ethical clearance was first obtained from Addis Ababa University (AAU), College of Health Sciences, Department of Nursing and Midwifery research review board and concerned others to obtain permission and cooperation during the data collection process. Then, the letters were taken to Addis Ababa Police Commission to obtain ethical clearance to conduct the study. Informed oral consent was obtained from each study subject prior to the data collection process after the purpose of study has been explained and they become briefed about the confidentiality of their responses and the importance of providing the right information to help the study achieve its objective. All participants were asked for their willingness to

participate in the study and were told that it will not have any risk on them. Confidentiality of the information was assured and privacy of the respondent was maintained.

4.12. Dissemination of Findings

The result of the study will be submitted to AAU College of health sciences, Department of Nursing and Midwifery then, it will be disseminated to Police commissions in Addis Ababa city, Ethiopia the study area, and to all other concerned bodies who may utilize the findings in one way or another as deemed necessary. Again, it will be presented at AAU and other research symposiums. Finally, it will also be sent for publication to a reputable journal.

CHAPTER FIVE

5.Results

5.1. Socio demographic characteristics of the study subjects

Three hundred ninety-five police officers were included in the study making the response rate 100%. The mean age with standard deviation of the respondents was 32.95 ± 7.04 . Among them one hundred thirty (32%) were between the age of 35 -44 years. Majority of the participants were males (66.5%) and all of them attended formal education and majority of the respondents (88.35%) had collage certificate and above. Nearly sixty five percent (64.8%) of the respondents are married and slightly more than half (56.7%) had a working experience of less than ten years.

The mean monthly income of the respondents was 5056 (± 1617 SD) ET birr, only 26(6.58%) had habit of substance use, among them 3(11.5%) have smoking, and 23 (88.5%) have habit of drinking (table 1).

Table 1. Socio demographic characteristics of participants, 2021.

Socio-demographic variables	category	Frequency (%)	
Age	18-24	35	(8.9)
	25-34	202	(51.1)
	35-44	130	(32.9)
	45-54	26	(6.6)
	>=55	2	(0.5)
Educational status	grade1-8	16	(4.1)
	grade9-12	30	(7.6)
	College and above	349	(88.3)
Marital status	Married	256	(64.8)
	Single	127	(32.2)
	Divorced/separated	12	(3.0)
Service year	<10 years	224	(56.7)
	11-20 years	171	(43.3)
	≥20 years	-	-
Monthly income	<5000 ET birr	204	(51.6)
	≥5000 ET birr	191	(48.4)
Habit	cigarette	3	(0.8)
	Alcohol	23	(5.8)
	Cigarette & alcohol	-	(-)
	None	369	(93.4)

5.2 Knowledge of respondents about hypertension.

This study shows, majority (82%) of the respondents said that average normal BP is 120/80 mmHg and 70.1% of them defined hypertension as BP above 140/90mm Hg.

Stress is reported by 185(46.8%) of participants as a risk factor that induces hypertension. Half of respondents 198(50.1%) mentioned headache, dizziness and nausea are sign and symptom of hypertension. Majority of the respondents (44.1%) said they don't know evidence of organ damage followed by renal dysfunction and respiratory dysfunction (21.8% and 21.5% respectively.) most of the respondents (70%) said blood pressure measurement is the diagnostic study of hypertension. (table2)

Table 2. Respondent's comprehensive knowledge of hypertension, 2021

Variables	Responses	Frequency (%)
Average normal BP	90/60 mmHg	3 (0.80)
	120/80 mmHg	324 (82.0)
	140/90mmHg	14 (3.5)
	Don't know	54 (13.7)
What meant by HTN	BP above 140/90mmHG	277 (70.1)
	BP 120/80mmHg	24 (6.1)
	BP below 90/50mmHg	13 (3.3)
	Don't know	81 (20.5)
Risk factor of HTN	Stress	185 (46.8)
	Age	22 (5.6)
	Hereditry	18 (4.6)
	Stress, age and hereditry	31 (7.1)
	Don't know	55 (22.1)
Sign and symptom of HTN	Headache	3 (0.8)
	Dizziness	30 (7.6)
	Nausea	6 (1.5)
	Shortness of breath blood in urine and chest pain	25 (6.3)
		38 (9.6)
	Headache, Dizziness and Nausea	198 (50.1)
	Don't know	123 (31.2)
Evidence of target organ damage	Liver dysfunction	41 (10.4)
	GI dysfunction	9 (2.3)
	Respiratory dysfunction	85 (21.5)
	Renal dysfunction	86 (21.8)
	Don't know	174 (44.1)
Which one is diagnostic study of HTN?	Blood test	70 (17.7)
	Urine test	- (1.2)
	Chest x ray	- (7.4)
	BP measurement	283 (71.6)
	Don't know	42 (10.6)
Which of the following methods are used to control hypertension.	Diet control	85 (21.5)
	Drug therapy	25 (6.3)
	Regular exercise	248 (62.8)
	Drug, diet and exercise	14(3.5)
	Don't know	23 (5.8)
	Water restriction	3 (0.8)
	Decrease salt intake	320 (81)
	Increase salt intake	61 (15.5)

What is the nutritional therapy of hypertension?	decrease caloric rich food	8 (2.0)
	Don't know	3 (0.8)
Salt reach and salty foods		316 (80.0)
Which of the following food should hypertensive pt. avoid?	Spicy foods	12 (3.0)
	Pulses	2 (0.5)
	Vegetables	25 (6.3)
	Don't know	40 (10.1)
which of the following is salt rich food?	Pickles	168 (42.5)
	Milk	14 (3.5)
	Vegetables	8 (2.0)
	Rice	24 (6.1)
	Don't know	181 (45.8)
How much salt is given to hypertensive patient/day	0-2g	-
	2.1-4g	-
	4.1-8g	-
	Don't know	395 (100)

5.2.1. Knowledge regarding life style modification.

Majority of the respondents (87.6%) answered that Regular exercise and optimal caloric intake is important to maintain normal body weight and slightly more than half of the respondents (58.5%) answered yoga and meditation as a best measure to reduce stress.

Majority of the respondents (88.9%) answered form of exercise that is good for hypertension is aerobics and jogging and nearly three-quarter selected exercise with 30–45-minute duration.

Two fifth (40.8%) of the respondents don't know when hypertension medications should be taken under stress situation and most of them (71.9%) said hypertension medication should be taken as prescribed currently by doctor. More than one fifth (26.8%) of respondents said hypertensive patient should rest after doing all work. For the question that how much hours should a person take rest and sleep per day, more than half of the respondents (51.9%) said 7-12 hrs. and slightly more than half (51.9%) of respondents said hypertension will not occur genetically. (Table3).

Table 3. Respondent’s knowledge regarding life style modification, 2021.

Variables	Responses	Frequency (%)
How can you maintain normal body weight?	Overeating	2 (0.5)
	Eating fatty foods	4 (1)
	Regular exercise & calorie intake	346(87.6)
How long should a person exercise daily?	Don’t know	43 (10.9)
	1-14min	7 (1.8)
	15-29	35 (8.9)
What is the best measure followed to reduce stress?	30-45	287 (73)
	46and above	66 (16.3)
	Involve in strenuous work	8 (2.0)
	Yoga and meditation	231 (58.5)
What form of exercise is good for hypertension?	Sleep including medication	2 (0.5)
	Watching TV	69 (17.5)
	Don’t know	85 (21.5)
	Aerobics and jogging	350 (88.6)
At what all time, hypertensive medications should be taken?	Weightbearing	7 (1.8)
	Driving	1 (0.3)
	Dancing	6 (1.5)
	Don’t know	31 (7.5)
How does hypertensive patient take medications?	Under stress	75 (19)
	situation Lifelong	89 (22.5)
	during physical exertion	6 (1.5)
	Whenever pt. feels bad	64 (16.2)
How often should a hypertensive patient rest?	Don’t know	161 (40.8)
	As per information got from other pt.	20 (5.1)
	As per information got from books & journals	16(4.1)
	As prescribed for disease longtime ago	11 (2.1)
How much hours should a person take rest and sleeper day	As prescribed currently by doctor	284 (71.9)
	Don’t know	64(16.2)
	Complete bed rest	41 (10.4)
Hypertension will occur genetically	Rest after doing all work	106 (26.8)
	Rest in between activities	113 (28.6)
	26 (6.6)	
Hypertension will occur genetically	No need to exercise	109(27.3)
	Don’t know	169 (42.8)
	1-6hrs	203(54.4)
Hypertension will occur genetically	7-12hrs	23(5.8)
	13-18hrs	

No	205(51.8)
Yes	190(48.1)

Mean of knowledge score was 61.5% (± 16.13 SD) with minimum 0% and maximum 95% cumulative percent knowledge score. More than half (56.7%) of the respondents have moderate comprehensive knowledge, based on blooms cut of point.

Table 4. Knowledge score of respondents, 2021.

Score	Frequency	Percent
Low level knowledge	132	33.4
Moderate level knowledge	224	56.7
High level knowledge	39	9.9

5.3 Attitude towards hypertension.

Slightly more than half (51.4%) of respondents strongly disagreed to the statement " high blood pressure is preventable", and one third (30.4%) disagreed to the statement "stopping smoking and alcohol helps to prevent hypertension", similarly two fifth (40%) strongly disagreed to the statement "avoiding salt in their food is good" while 35.7% agreed to the statement "it is good to use extra added cooking oil". Table 5.

Table 5. Respondents attitude towards prevention of hypertension, 2021.

Statements	Strongly disagree	Disagree	Uncertain	agree	Strongly agree
High blood pressure is Preventable	203(51.4%)	145(36.7%)	39(9.9%)	4 (1.0%)	4 (1.0%)
Stopping of smoking and alcoholism helps to prevent Hypertension	168(42.5%)	120(30.4%)	70(17.7%)	31(7.8%)	6(1.5%)
It is good to avoid extra added salts in your diet.	158(40%)	139(35.2%)	56(14.2%)	37(9.4%)	5(1.3%)
It is good to use extra cooking oil in your diet.	20(5.1%)	46(11.6)	104(26.3%)	141(35.7%)	84(21.3%)
It is good to have whole fruits rather than to have deserts and sweets.	145(36.7%)	116(29.4%)	82(20.8%)	35(8.6%)	17(1.8%)
BP should be checked periodically	207(52.4%)	115(29.1%)	41(10.4%)	25(6.3%)	7(1.8%)
Hypertensive patient can take fat rich food	13(3.3%)	16(4.1%)	78(19.7%)	143(36.2%)	145(36.7%)
It is good to include green leafy vegetable in your daily diet	185(46.8%)	148(37.5%)	48(12.2)	11(2.8%)	3(0.8%)
Regular exercise helps to prevent hypertension	248(62.8%)	97(24.6%)	39(9. %)	8(2.0%)	3(0.8%)
Hypertensive patients need to abstain from their jobs	14(3.5%)	14(3.5%)	67(17%)	156(39.5%)	144(36.32%)
Hypertensive patients need to maintain their weight within normal limits	217(54.9%)	113(28.6%)	41(10.4%)	18(4.6%)	6(1.5%)
Hypertensive patients stress inducing situation	256(54.9%)	113(28.6%)	41(10.4%)	18(4.6%)	6(1.5%)
Lack of proper rest and sleep does not affect BP	44(11.1%)	36(9.1%)	56(14.2%)	133(33.7%)	126(31.9%)
Hypertension patients should abstain from sexual relation ship	21(5.3%)	23(5.8%)	79(20%)	137(34.7%)	135(34.2%)
Change in life style help to prevent High blood pressure	191(48.4%)	117(29.6%)	53(13.4%)	26(6.6%)	8(2%)

Mean of attitude score was 38.8% ($\pm 25.6SD$) with minimum 0% and maximum 85% cumulative percent attitude score. Majority (74.7%) of the respondents has negative attitude towards preventive measures of hypertension based on blooms cut of point and only nearly fourteen percent has positive.

Table 6 **Table 6.** Attitude score of respondents, 2021.

Score	Frequency	Percent
Negative attitude	295	74.7
Neutral attitude	46	11.6
Positive attitude	54	13.7

5.4 Practice towards prevention of hypertension.

More than half (57.5%) of the respondents have ever checked their BP, among whom 36.7% checked in this month. Less than five percent of the respondents were current smokers, of which all smoked about 1-5 years, and 92.9% smokes 1-5 cigarette per day. Nearly two fifth (38%) of respondent's drink alcohol (Table 7)

Table 7. Respondents practice towards prevention of hypertension, 2021.

Variables	Responses	Frequency	(%)
Have you ever checked your BP?	No	168	(42.5)
	Yes	227	(57.5)
If yes when?	In this month	84	(36.7)
	In the last six months	69	(30.1)
	Before six months	74	(33.2)
Do you smoke cigarette currently?	No	379	(95.9)
	Yes	16	(4.1)
How long you smoked cigarette?	1-5 years	16	(100)
How many cigarettes/days?	1-5cigarett	13	(92.9)
	6-10 cigarette	3	(7.1)
Are you drinking alcohol?	No	245	(62.0)
	Yes	150	(38.0)
How often you drink?	Less than one drink /week	72	(48)
	1-3 drink/week	52	(34.7)
	4-6 drink /week	16	(10.7)
	7 or more drink/week	10	(6.6)
How often you add salt to your food?	Never	144	(36.5)
	Rarely	90	(22.8)
	Sometimes	30	(7.6)
	Often	48	(12.2)
	Always	83	(20.9)
How many days you do physical exercise per week?	1-2 days	350	(89.5)
	3-4 days	28	(7.10)
	5-7 days	13	(3.30)
	I don't remember	4	(0.10)
For how many minutes you do exercise /Day?	Less than 30 minutes	88	(22.3)
	30-60 minutes	103	(26.1)
	Don't remember	204	(51.6)

* 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 55.2% (± 17.5 SD) and more than half had poor practice towards preventive measures of hypertension (Table 8).

Table 8. Respondents practice score, 2021.

Scale	Frequency	percent
Poor practice	212	53.7
Fair practice	139	35.2
Good practice	44	11.1

5.5 Factors associated with knowledge towards hypertension.

Age of the participant has significant association with knowledge of respondents at $X^2 = 22.3$, p value of (0.004), df=8, service year at $X^2 = 25$, p value of (0.000), df=2. Similarly monthly income has also significant association with knowledge, $X^2 = 14.2$, at P value (0.001), df = 2 and sex of the respondent has significant association with knowledge at $X^2 = 14.2$, p value (0.007), df=4. table (9).

Table 9: Chi-square test result for the association between knowledge towards hypertension and Socio demographic characteristics of respondents,2021.

Variable	1-59 % N (%)	60-79 % N (%)	80%and above N (%)	χ^2	P-value
Age group					
18-24	21(61.8)	11(32.4)	2(5.9)		
25-34	66(32.7)	112(55.4)	24(11.9)		
35-44	42(32.3)	77(59.2)	11(8.5)		
45-54	3(11.1)	22(81.5)	2(7.4)	22.3	0.004**
>=55	0	2(100)	0		
Service years					
1-10 years	98(43.8)	106 (47.3)	20(8.9)		
11-20 years	34(19.9)	118(69)	19(56.7)		
20 and above	0(0)	0(0)	0(0)	25.04	0.000*
Level of income					
<5000	84(41.2)	107(52.5)	13(6.4)		
>=5000 birr	48(25.1)	117(61.3)	5(13.6)	14.2	0.001*
Sex					
Male	73(27.9)	165(63)	24(9.2)		
Female	58(44.3)	59(45)	14(10.7)	14.16	0.007*

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

5.6 Factors associated with attitude towards hypertension.

No association was found between different socio demographic variables and attitude of the respondents

5.7 Factors associated with practice towards hypertension.

Drug habit has significant association with practice towards prevention of hypertension $X^2= 18.2$, at P value (0.001), $df = 4$. Also, age has significant association with practice about hypertension. The rest socio demographic variables have no significant association with practice at p value of 0.05 presented in table (10).

Table 10. Chi-square test for the association between practice towards prevention of hypertension 2021

Variables	1-59% N (%)	60-79% N (%)	80 and above N (%)	X_2	P-value
Age group 18-24					
	17(50)	13(38.2)	4(11.8)		
25-34	117(57.9)	64(31.7)	21(10.4)		
35-44	69(53.1)	50(38.5)	11(8.5)		
45-54	7(25.9)	12(44.4)	8(29.6)	17.5	0.026*
>=55	2(100)				
Habit Smoking					
	1(33.3)	0	2(66.7)		
Drinking alcohol	19(82.6)	4(17.4)	0		
None	192(52)	135(36.6)	42(11.4)	18.22	0.001*

Note: -

* Variables which have expected cells less than 5 more than recommended percent?

** Significant at p value <0.05%

CHAPTER SIX

6. Discussion

This study aimed to assess the knowledge, attitude and practice towards the prevention and management of hypertension among Police officers in Addis Ababa city, Ethiopia-

This study showed the cumulative mean percent of knowledge score was 61.5% (± 16.2 SD) this finding is higher than to a study done among army offices in Ethiopia where the cumulative mean percent of knowledge score was 49.8% ± 16.2 SD (45). But the finding is lower than a study in Malaysia where the commutative mean percent of knowledge score was 74.33 (SD=6.25) (46) and only ten percent of the respondents had good knowledge regarding the prevention of hypertension. This finding is lower than a study done in Nigeria where 26.3% of the respondents had good knowledge (47). The possible explanation for this discrepancy may be due to the difference in study setting

In this study cumulative mean percent of attitude score was 38.8% (± 1256.9 SD) Slightly more than ten percent (11.6%) of the respondents has positive attitude. These findings were lower than the findings of a study done in Nigeria where 25.3% of the respondents had positive attitude (48) and similar with an Ethiopian study where 16.7% of the respondents had positive attitude (45)

The study also showed only eleven percent of the respondents had good practice towards the prevention of hypertension this finding is lower than the study in Ethiopia where 22.1% of respondents had good practice towards preventive measures of hypertension (45).and higher than the study in Nigeria where only 1.3% of the respondents had good practice (46).

This discrepancy may be occurred that, since the study participants are police members and they are in training center some police disciplines like regular physical exercise, screening tests for hypertension, etc are by default measured as a part of practice.

Age of the participant has significant association with knowledge of respondent's p vale of (0.004), service year at p value of (0.000). Similarly monthly income has also significant association with knowledge at P value (0.001) and sex of the respondent has significant association with knowledge at p value (0.007). This

finding is in contrast with the study done in Ethiopia where there were no association between knowledge of the respondents and age, sex, service year (45) but a study done in Nigeria showed a significant association between knowledge of the respondents with age. (48). Regarding attitude, the current study found no association between attitude and different variables. This is similar with the study done in Ethiopia where except for level of education (which is significant at P value (0.001) ,other socio demographic variables are not significant at p value of 0.05(45) similarly the study in Nigeria also showed association between level of education an attitude of the participants at P value of 0.018 (47). The current study also showed a significant association between practice of respondents towards the prevention of hypertension with presence of drug habit at p-value of 0.001, age at P-value of 0.0026 .This finding is in line with the study in Nigeria where age is significantly associated with practice at P-value of 0.0034) and in contrast with the Ethiopian study where only level of education has significant association with practice towards prevention of hypertension at P value (0.001) and other factors are not significantly associated(45).

CHAPTER SEVEN

7. Limitation and strength

7.1. Limitation

- Lack of standardized questionnaires.
- Some question needs long term memories that will lead the respondents to introduce recall biases.
- Lack of recent literatures on the topic
- The study design was cross sectional and therefore it cannot establish cause and effect relationships.

7.2. Strengths

- This study can be used as a base line study for police commissioner regarding knowledge of hypertension.
- The study had also tried to explore the factors affecting the police officer's knowledge attitude and practice towards the prevention of hypertension

CHAPTER EIGHT

8. Conclusion and Recommendation

8.1. Conclusion

In conclusion, small percentage of the respondents has good knowledge, attitude and practice towards prevention of hypertension when compared with other studies done in different countries.

Respondent's knowledge towards prevention of hypertension was associated with sex, age service year and income of the respondents. Similarly practice of the respondents towards prevention of hypertension was associated with drug habit and age of the respondents but no association was found between attitude of participants towards prevention of hypertension with different sociodemographic variables.

8.2. Recommendation

The police commission's health main directorate, health promotion and disease prevention directorate should need to strengthening health education programs. Knowledge about healthy feeding and healthy foods, the importance of physical exercise and other important knowledge regarding prevention of hypertension should be given to the police officers in health education. The content and method of health education given should be investigated and evaluated in terms of long-term knowledge and behavioral change.

For researchers

Prospective studies should be done to assess the knowledge attitude and practice of police offices and its associated factors in depth.

CHAPTER NINE

9.Reference

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CHAPTER TEN

ANNEX

Annex I: Informed consent agreement

Is it interview or self-administered questionnaire?

Greetings, you are being asked to in a study assessing

Hello, my name is.....and I am inviting you to participate in the study on behalf of MelkamsewNigat a post graduate Student at Addis Ababa University (AAU), College of Health Sciences, Department of Nursing and Midwifery. She is now conducting a research entitled "knowledge, attitude and practice towards prevention and control of hypertension among police officers ". The questionnaire is self-administered, and may take an average 20 minutes. 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 officers .It helps us to forward some recommendations to concerned bodies that will help to improve the existing efforts.

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 me or you can contact the investigator and ask any query you have at any time.

Tel: 0911069341

Email: melkam.nigat@yahoo.com

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 the respondent -----

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 -----

ANNEX II: Consent form

I understand the nature of the study, benefits, and my right to voluntary participation, confidentiality and withdrawal from the study without any victimization. I have had the opportunity to ask questions and answered to my satisfaction.

I hereby freely consent to take part in this study.

Agreed _____

Don't agree _____

Date_____

Respectfully,

ANNEX III: English version Questionnaire

Part I: -Sociodemographic 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	Skip to
101	Age		
102	Sex	1. Male 2. Female	
103	Education	1. Illiterate 2. Read and write 3. Grade1-6 4. Grade7-8 5. 9-10 6. 11-12 7. Certificate 8. Diploma 9. Degree and above	
104	Marital status	1. Single 2. Married 3. Divorced 4. Widowed	
105	Service year.		
106	Monthly income		
107	Drug habit	1. Smoking 2. Alcohol 3. None	

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	
201	What is the normal range of blood pressure?	-----/ ---- mmHg	
202	What is meant by hypertension?	-----/ ---- mmHg	
203	which is the risk factor of hypertension given below?	<ol style="list-style-type: none"> 1. Stress 2. Age 3. Hereditary 4. Stress, age and heredity 5. Don't know 	
204	Which is the sign and symptom present in hypertensive patient?	<ol style="list-style-type: none"> 1. Headache 2. Dizziness 3. Nausea 4. Headache, dizziness & nausea 5. Don't know 	
205	What evidence of target organ damage is present?	<ol style="list-style-type: none"> 1. Liver dysfunction 2. GI dysfunction 3. Respiratory dysfunction 4. Renal dysfunction 5. Don't know 	
206	What is the prompt diagnostic study of hypertension?	<ol style="list-style-type: none"> 1. Blood test 2. Urine test 3. Chest x-ray 4. BP measurement 5. Don't know 	
207	Which of the following methods are used to control hypertension?	<ol style="list-style-type: none"> 1. Diet control 2. Drug therapy 3. Regular exercise 4. Diet, drug & regular exercise 	

		5. Don't know	
208	What is the nutritional therapy of hypertension?	<ol style="list-style-type: none"> 1. Water restriction 2. Decrease salt intake 3. Decrease calorie reach foods 4. Increase salt intake 5. I don't know 	

209	Which of the following food should a hypertensive patient avoid?	<ol style="list-style-type: none"> 1. Salt reach and salty foods 2. Spicy foods 3. pulses 4. Vegetables 5. Don't know 	
210	Which of the following is a salt rich food?	<ol style="list-style-type: none"> 1. Pickles 2. Milk 3. Vegetables 4. Rice 5. Don't know 	
211	How much salt is given to hypertensive patient/day?		
212	How can you maintain normal body weight?	<ol style="list-style-type: none"> 1. Over eating 2. Eating fatty foods 3. Regular exercise and optimal calorie intake 4. Calorie restriction 5. Don't know 	
213	How long should a person exercise daily?		
214	What is the best measure followed to reduce stress?	<ol style="list-style-type: none"> 1. Involve in strenuous work 2. Yoga and meditation 3. Administering sleep including Medication 4. Watching television 5. Don't know 	
215	What form of exercise is good for hypertension?	<ol style="list-style-type: none"> 1. Aerobics (walking, jogging) 2. Weight bearing 3. Driving 4. Dancing 5. Don't know 	

216	At what time, hypertensive medications should be taken?	<ol style="list-style-type: none"> 1. Under stress situation. 2. As life long way to manage high blood pressure. 3. When activities require physical exertion. 4. Whenever a patient feels bad. 5. Don't know 	
217	How does hypertensive patient take medications?	<ol style="list-style-type: none"> 1. As per information got from other hypertensive patients. 2. As per information got from books and journals. 3. Taking medications which were prescribed for the disease long time ago. 	
		<ol style="list-style-type: none"> 4. Taking the medications which are currently prescribed by the doctor. 5. I don't know 	
218	How often should a hypertensive patient rest?	<ol style="list-style-type: none"> 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 	
219	How much time should a person take rest and sleep per day?	-----hrs.	
220	Hypertension will occur Genetically	<ol style="list-style-type: none"> 1. True 2. False 	

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 checked your BP	1. Yes 2. No	If No to Q 403
402	If yes when	1. In this month 2. In the last six months 3. Before six months	
403	Do you currently smoke cigarettes?	1. Yes 2. No	If no to Q406
404	How long do you smoke?	1. years month 2. Don't know/not sure/ 3. Refuse to answer	
405	How many cigarettes do you currently smoke per day?	1. Cigarettes 2. Don't know/not sure/ 3. Refuse to answer	

406	Are you drinking alcohol	<ol style="list-style-type: none"> 1. Yes 2. No 	If no toQ408
407	<p>On average, how often do you usually drink alcohol</p> <p>(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)</p>	<ol style="list-style-type: none"> 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 	
408	How often do you add salt to your food without trying it? (Read all options, check one answer)	<ol style="list-style-type: none"> 1. Never 2. Rarely 3. Sometimes 4. Often 5. Always 	
409	During the last 7 days, on how many	1.....Days per week	
	days did you do physical activities such as brisk walking or walking?	<ol style="list-style-type: none"> 2. Don't know, not sure, 3. Refuse to answer 	
410	On the days that you exercised, how many minutes did you usually spend exercising per day?	<ol style="list-style-type: none"> 1. Less than 30minutes 2. From 30 minutes to 1hour 3. More than 1 hour 4. Other(specify) 5. Don't know/not sure 6. Refuse to answer 	

ANNEX: IV Amharic version Questionnaire አማርኛ ቃለመጠይቅ መመሪያ: እባክዎን ጥያቄውን በደንብ

ከተረዱ በኋላ ከተሰጡት ምርጫዎች ውስጥ በመልሰዎ ላይ (✓) ምልክት ያስቀምጡ፡፡

ተቁ	ጥያቄ	መልስ
101	እድሜ	
102	ጾታ	1. ወንድ 2. ሴት
103	የትምህርት ደረጃ	1. ማንበብ እና መጻፍ የማይችል 2. ማንበብ እና መጻፍ የሚችል 3. ከ1-6ኛ ክፍል 4. ከ7-8ኛ ክፍል 5. ከ9-10ኛ ክፍል 6. ከ11-12ኛ ክፍል 7. ሰርቲፊኬት 8. ዲፕሎማ 9. ኮሌጅ እና ከዚያ በላይ
104	የጋብቻ ሁኔታ	1. ያላገባ/ች 2. ያገባ/ች 3. የፈታ/ች 4. በሞት የተለዩ
105	የአገልግሎት ዘመንዓመት
106	ወርሳዊ ገቢብር
107	ልማድ	1. ሲጋራ 2. አልኮል 3. ሌላ ልማድ 4. ምንም ልማድ የለኝም

ክፍል ሁለት ቃለ መጠይቅ

ተቁ	ጥያቄ	መልስ
201	አንድ ጤናማ ሰው የደም ግፊት ስንት በስንት ነው?	<ol style="list-style-type: none"> 90/60ሚሜሜ 120/80ሚሜሜ 140/90 ሚሜሜ አላዉቀዉም
202	የደም ግፊት በሽታ ማለት ምን ማለት ነው?	<ol style="list-style-type: none"> የደም ግፊት 140/90 ሚሜሜ በላይ ሲሆን የደም ግፊት 120/80ሚሜሜ ሲሆን የደም ግፊት 90/50 ሚሜሜ ሲሆን አላዉቀዉም
203	ለደም ግፊት በሽታ ተጋላጭነት መንስኤ የሆነዉ የቱ ነዉ?	<ol style="list-style-type: none"> ጭንቀት እድሜ የዘር ሀረግ አላዉቀዉም
204	የደም ግፊት ህመም የሚያሳየዉ ስሜት እና ምልክት የቱ ነዉ?	<ol style="list-style-type: none"> የራስ ምታት መፍዘዝ ማቅለሽለሽ አላዉቀዉም
205	በደም ግፊት የሚጠቁ የሰውነት ክፍሎች የትኞቹ ናቸዉ?	<ol style="list-style-type: none"> የጉበት ተግባር መታወክ የአንጅት ተግባር መታወክ የመተንፈሻ አካላት መታወክ የኩላሊት ተግባር መታወክ አላዉቀዉም
206	የደምን ግፊት ለማወቅ የትኛው አይነት ምርመራ መደረግ አለበት?	<ol style="list-style-type: none"> የደም ምርመራ የሽንት ምርመራ የደረት ራጅ ምርመራ የደም ግፊትን መለካት አላዉቀዉም
207	የደም ግፊት በሽታን ለመቆጣጠር የሚጠቅመዉ ዘዴ የቱ ነዉ?	<ol style="list-style-type: none"> አመጋገብን ማስተካከል መድሀኒት መውሰድ

		<ol style="list-style-type: none"> 3. የአካል-ብቃት እንቅስቃሴ ማዘወተር 4. አላዉቀዉም
208	የደም ግፊት ህመምተኛ መከተል ያለበት የአመጋገብ ስርዓት የትኛዉ ነዉ?	<ol style="list-style-type: none"> 1. ትንሽ ዉሀ መጠጣት 2. ጨዉ ያልበዛበት ምግብ መመገብ 3. ጨዉ የበዛበት ምግብ መመገብ 4. ሀይል ሰጪ ምግቦችን መቀነስ
209	የደም ግፊት ህመምተኛ መመገብ የሌለበት ምግብ የትኛዉ ነዉ?	<ol style="list-style-type: none"> 1. ጨዉ የበዛበት ምግብ 2. ቅመም የበዛበት ምግብ 3. ጥራጥሬ 4. አትክልት 5. አላዉቀዉም
210	ከሚከተሉት ዉስጥ ጨዉ የበዛበት ምግብ የትኛዉ ነዉ?	<ol style="list-style-type: none"> 1. ሆምጣጤ የበዛበት ሰላጣ 2. ወተት 3. አትክልት 4. ሩዝ 5. አላዉቀዉም
211	የደም ግፊት ያለበት ሰዉ በቀን ምን ያህል ጨዉ መዉሰድ አለበት?ግራም
212	የሰዉ ነታችን ከብደት እንዴት መቆጣጠር እንችላለን?	<ol style="list-style-type: none"> 1. ብዙ በመመገብ 2. ስብ የበዛባቸዉን ምግቦችን በመመገብ 3. የአካል ብቃት እንቅስቃሴ አዘዉትሮ መስራት እና በቂ ሀይል ሰጪ ምግብ መመገብ 4. አላዉቀዉም
213	በቀን ለምን ያህል ደቂቃ የአካል ብቃት እንቅስቃሴ መስራት ጥሩ ነዉ?	ለ.....ደቂቃ
214	ጭንቀትን ለመቀነስ የሚጠቅመዉ የትኛዉ ነዉ?	<ol style="list-style-type: none"> 1. ከባድ ስራ መስራት 2. የዮጋ ስፖርት መስራት 3. መድሀኒት ወስዶ መተኛት 4. ቴሌቪዥን መመልከት 5. አላዉቀዉም

215	ለደም ግፊት ህመምን ተስማሚ የሆነው የአካል ብቃት እንቅስቃሴ የትኛው ነው?	<ol style="list-style-type: none"> 1. የእግር ጉዞ እና ሶመሶማ ሩጫ 2. ክብደት ማንሳት 3. መኪና ማሽከርከር 4. ዳንስ /ጭፈራ/ 5. አላዉቀዉም
216	የደምግፊት በሽታ መድሀኒት መውሰድ ያለበት መቼ ነው?	<ol style="list-style-type: none"> 1. የጭንቀት ስሜት ሲሰማ ብቻ 2. ዘወትር ለእድሜ ልክ 3. አድካሚ ስራ ሲሰራ ብቻ 4. ጥሩ ስሜት አልሰማ ሲል 5. አላዉቀዉም
217	የደም ግፊት ህመምተኛ መድሀኒት አወሳሰድ መሆን ያለበት እንዴት ነው?	<ol style="list-style-type: none"> 1. ከሌሎች ህመምን ባገኘው መረጃ መሰረት 2. ከመጻሕፍት እና ከመጽሔት ባገኘው መረጃ መሰረት 3. ከረጅም ጊዜ በፊት በታዘዘለት መሰረት 4. በቅርብ ጊዜ ህኪሙ ባዘዘለት መሰረት 5. አላዉቀዉም
218	የደም ግፊት ህመምተኛ እረፍት ማድረግ ያለበት ሁኔታ እንዴት ነው?	<ol style="list-style-type: none"> 1. አልጋ ላይ በመተኛት ማረፍ 2. ከስራ በኋላ ማረፍ 3. በስራ መሀከል ማረፍ 4. እንቅስቃሴ ማድረግ የለበትም 5. አላዉቀዉም
219	አንድ ሰዉ በቀን ለምን ያህል ሰዓት እረፍት ቢያደርግ ጥሩ ነው?ሰዓት
220	የደም ግፊት በሽታ በዘር ይተላለፋል	<ol style="list-style-type: none"> 1. እስማማለሁ 2. አልስማማም

ክፍልሶስት :- ቃለመጠይቅ

መመሪያ:- የሚከተለው ቃለምልልስ በጣም እስማማለሁ፤ እስማማለሁ፤ እርግጠኛ አይደለሁም፤

አልስማማም እ ናበጣም አልስማማም የሚሉ አማራጮች አሉት; ጥያቄውን አንብብዎ ከተረዱት በኋላ የ (✓) ምልክት በአማራጩ ባለው ቦታ ያስቀምጡ።

ተራ ቁጥር	ጥያቄ	በጣም እስማማለሁ	እስማማለሁ	እርግጠኛ አይደለሁም	አልስማማም	በጣም አልስማማም
301	የደም ግፊት በሽታ መከላከል ይቻላል።					
302	ሲጋራንና አልኮልን ባለመጠቀም የግፊት በሽታን መከላከል ይቻላል					

303	በምግብ ላይ ተጨማሪ ጨው ያለመጠቀም ጥሩ ነው።					
304	ዘይት የበዛበት ምግብ መመገብ የደም ግፊት በሽታን ለመከላከል ጥሩ ነው					
305	ጣፋጭ ምግቦችን በመተው ፍራፍሬዎችን ብቻ መጠቀም የደም ግፊት በሽታን ለመከላከል ጥሩ ነው					
306	በተወሰነ ጊዜ የደም ግፊትን መለካት አስፈላጊ ነው።					
307	የደም ግፊት ህመማን ስብ የበዛበት ምግብ ቢመገቡ ጥሩ ነው					
308	አረንጓዴ አትክልቶችን በየእለት ምግብ ማካተት አስፈላጊ ነው					

309	የአካል እቅስቃሴ ማድረግ የደም ግፊት በሽታን ይከላከላል					
310	የደም ግፊት ህመም ያለባቸው ሰዎች ስራ መስራት የለባቸውም					
311	የደም ግፊት ህመም ያለባቸው ሰዎች ክብደታቸውን መቆጣጠር አለባቸው;					
312	የደም ግፊት ህመም ያለባቸው ሰዎች ጭንቀት ከሚፈጥሩ ነገሮች መራቅ አለባቸው;					
313	እረፍት እና እንቅልፍ ማጣት በደም ግፊት መጠን ላይ ተጽዕኖ የላቸውም።					
314	የደም ግፊት ያለባቸው ሰ ዎች የግብረ ስጋ ግንኙነት ማግረግ የለባቸውም።					
315	የአኗኗር ዘይቤን ማስተካከል የደም ግፊት በሽታን ለመከላከል ይጠቅማል።					

ክፍል አራት፡- ቃለመጠይቅ

መመሪያ ፡-እባክዎን ጥያቄዎቹን አንብበዉ ከተረዱ በኋላ በመልስዎት ባለዉ ቦታ ላይ የ (✓) ምልክት ያስቀምጡ፤

ተራ ቁጥር	ጥያቄ	መልስ
401	የደም ግፊትዎን ተለክተዉ ያዉቃሉ?	1. አዎ 2. ተለክቼ አላዉቅም
402	አዎ ከሆነ መልስዎ መቼ?	1. በዚህ ወር ዉስጥ 2. ባለፈዉ 6ወር ዉስጥ 3. ከ 6ወር በፊት
403	ሲጋራ ያጨሳሉ?	1. አዎ 2. አላጨሰም
404	አዎ ከሆነ መልስዎ ለምን ያህል ጊዜ አጨሰሉ?	1. ለ-----አመታት 2. ለ-----ወራት 3. አላስታዉሰዉም /አ ላዉቀም
405	የሚያጨሰሉ ከሆ ነበቀን ምን ያህል ሲጋራ ያጨሳሉ?	1. -----ሲጋራዎች 2. አላስታዉሰዉም 3. መናገር አልፈልግ ም
406	አልኮል ይጠጣሉ?	1. አዎ 2. 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።	1.አንድ መጠን በሳምንት 2. ከ1-3 መጠን በሳምንት 3.ከ 4-6 መጠን በሳምንት 4.ከ7 መጠን በላይ በሳምንት
408	በምግብዎ ላይ ተጨማሪ ጨዉ ይጠቀማሉ?	1. አልጠቀምም 2. አልፎ አልፎ 3. አንዳንድ ጊዜ 4. አብዛኛዉን ጊዜ 5. ዘወትር

409	ባለፈው ሳምንት ውስጥ ለምን ያህል ጊዜ የአካል ብቃት እንቅስቃሴ ሠሩ?	<ol style="list-style-type: none"> 1. -----ቀናት በሳምንት 2. አላስታወስም/ አላወቅም
410	የአካል ብቃት እንቅስቃሴ ሰርተዉ ከሆነ ለምን ያህል ደቂቃ በቀን ሰርተዋል?	<ol style="list-style-type: none"> 1. ከ30 ደቂቃ ላነሰ ጊዜ 2. ከ30 ደቂቃ-1 ሰአት 3. አላስታወሰዉም