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SCHOOL OF PUBLIC HEALTH

**KNOWLEDGE, ATTITUDE AND PREVENTION
PRACTICE OF HYPERTENSION AMONG
OUTPATIENT CLIENTS AT WEREDA 13 GERJI
HEALTH CENTER, BOLE SUB-CITY, ADDIS
ABABA, ETHIOPIA**

BY- NARDOS ABERA (MEDICAL INTERN)

APRIL 2026, ADDIS ABABA, ETHIOPIA

SCHOOL OF PUBLIC HEALTH

**Knowledge, Attitude and Prevention Practice of
Hypertension among Outpatient Clients at Wereda 13
Gerji Health Center, Bole Sub-City, Addis Ababa,
Ethiopia**

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**A Student Research Thesis To Be Submitted To The School Of Public
Health, SPHMMC, In Partial Fulfillment Of The Requirement For The
Degree Of Doctor Of Medicine**

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St. Paul's Hospital Millennium Medical College

School of Public Health

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Declaration

I, the undersigned student, declare that this research project is my original work in partial fulfillment of the requirement for the Degree of Doctor in Medicine, MD. I also declare that it has never been presented in this or any other higher institution and that all resources and materials used in the research work have been duly acknowledged.

Name of the student: Nardos Abera (Medical Intern)

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Approval of Advisors

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Table of Contents

ACKNOWLEDGEMENT.....	5	Field Code Changed
List of Figures	10	Field Code Changed
Figure 1: Conceptual framework -----21	10	Field Code Changed
ABBREVIATIONS AND ACRONYMS.....	11	Field Code Changed
ABSTRACT.....	12	Field Code Changed
1. INTRODUCTION.....	13	Field Code Changed
1.1 Background	13	Field Code Changed
1.2 Statement of the problem.....	14	Field Code Changed
1.3 Justification of the study.....	15	Field Code Changed
2. LITERATURE REVIEW	17	Field Code Changed
2.1 Knowledge, attitude and prevention practice of hypertension globally	17	Field Code Changed
2.2 Knowledge, attitude and practice of hypertension in Africa	18	Field Code Changed
2.3 Knowledge, attitude and practice of hypertension in Ethiopia.....	19	Field Code Changed
2.4 Conceptual framework	20	Field Code Changed
3. OBJECTIVES	21	Field Code Changed
3.1 General Objective	21	Field Code Changed
3.2 Specific Objectives.....	21	Field Code Changed
4. METHODOLOGY	22	Field Code Changed
4.1 Study design	22	Field Code Changed
4.2 Study Area and Period.....	22	Field Code Changed
4.3 Source and Study Population.....	22	Field Code Changed
4.4 Inclusion and Exclusion Criteria	23	Field Code Changed
4.5 Sample Size Determination	23	Field Code Changed
4.6 Sampling Procedure.....	24	Field Code Changed
4.7 Variables of the Study	24	Field Code Changed
4.8 Operational Definitions	25	Field Code Changed
4.8.1 Knowledge of Hypertension:.....	25	Field Code Changed

4.8.2 Attitude Towards Hypertension:	26	Field Code Changed
4.8.3 Practice of Hypertension:	26	Field Code Changed
4.9 Data Collection Tools and Procedures	26	Field Code Changed
4.9.1 Data Collection Tool	26	Field Code Changed
4.9.2 Data Collectors	27	Field Code Changed
4.9.3 Pre-testing.....	27	Field Code Changed
4.9.4 Data Quality Control	27	Field Code Changed
4.9.5 Data Processing and Analysis	28	Field Code Changed
4.10 Ethical Considerations.....	28	Field Code Changed
4.11 Dissemination of Findings.....	28	Field Code Changed
5. RESULT	30	Field Code Changed
5.1 Socio-demographic Characteristics	30	Field Code Changed
Table 2: Socio-demographic characteristics (Educational level, occupation and monthly income) of participants	31	Field Code Changed
5.2 Knowledge of hypertension.....	32	Field Code Changed
5.3 Attitude regarding hypertension	35	Field Code Changed
5.4 Prevention practice regarding hypertension	38	Field Code Changed
6. DISCUSSION	43	Field Code Changed
6.1 Knowledge of hypertension.....	43	Field Code Changed
6.2 Attitude of hypertension.....	44	Field Code Changed
6.3 Practice regarding hypertension	46	Field Code Changed
6.4 Strength and limitation	47	Field Code Changed
7. CONCLUSION	49	Field Code Changed
8. RECOMMEDATION	50	Field Code Changed
9. REFERENCES	51	Field Code Changed
10. ANNEX	55	Field Code Changed
Individual Consent Form.....	55	Field Code Changed
Section A: Demographic section.....	57	Field Code Changed
Section B: Knowledge About Hypertension	57	Field Code Changed

Section C: Attitude about hypertension.....	59
Section D: Practice Towards Hypertension.....	60

Field Code Changed

Field Code Changed

List of Table

Table 1 : Socio-demographic characteristics (age, sex and marital status) of participants-----	29
Table 2: Socio-demographic characteristics (educational level, occupation and monthly income) of participants -----	30
Table 3 : Knowledge assessing normal blood pressure, asymptomatic nature and prevention of hypertension among participants -----	31
Table 4 : Knowledge of risk factor of hypertension among participants-----	32
Table 5 :Knowledge of complications of hypertension among participants---	32
Table 6 : Knowledge level of hypertension among participants-----	33
Table 7: Multivariate logistic regression analysis factors associated with knowledge level-----	34
Table 8 : Attitude regarding hypertension among participants ----	35
Table 9 : Attitude level of hypertension among participants-----	36
Table 10: Multivariate logistic regression analysis factors associated with attitude level-----	37
Table 11: Prevention practices of respondents-----	38
Table 12: Practices regarding dietary habits and substance use-----	39
Table 13: Prevention practice level of hypertestion among participants-----	39

Table 14: Multivariate logistic regression analysis factors associated with prevention practice level-----	40
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List of Figures

Figure 1: Conceptual framework -----20

ABBREVIATIONS AND ACRONYMS

BMI - Body mass index

BP - Blood pressure

HIV- Human immuno-deficiency virus

HTN- Hypertension

IRB - Institutional review board

KAP - Knowledge, attitude and practice

LMIC - Low and middle-income countries

OPD - Outpatient department

SPHMMC - St. Paul's Hospital Millennium Medical Collage

WHO - World Health Organization

ABSTRACT

Background: Worldwide, 1.28 billion adults are affected by hypertension, mostly in low- and middle-income countries, yet many remain undiagnosed or untreated. Although several studies have reported the burden of hypertension in Ethiopia, there is only limited evidence regarding awareness levels, attitude and prevention practice of the community.

Objective: To assess the knowledge, attitude, and prevention practice (KAP) regarding hypertension among outpatients at Wereda 13 Gerji Health Center, Bole Sub-City.

Method: A cross-sectional study was conducted among 422 outpatient clients using a structured, interviewer-administered questionnaire covering socio-demographic characteristics, and KAP regarding hypertension. Participants were selected using a simple random sampling technique. Data were analyzed using descriptive statistics to summarize socio-demographic characteristics and KAP levels. Bivariate and multivariate logistic models were used to assess and identify associations and independent predictors of KAP levels.

Results: The study found that 44.3% of participants demonstrated good knowledge, 81.3% exhibited a favorable attitude, and 65.5% showed good practice regarding hypertension. A significant knowledge gap was observed concerning the asymptomatic nature of hypertension and 91.3% of participants reported not seeking medical check-ups. Key independent predictors for good knowledge included higher educational status and monthly income. A favorable attitude was significantly predicted by older age, higher educational status and good knowledge. Good practice was independently predicted by older age, female sex and good knowledge.

Conclusion: While outpatient clients at Wereda 13 Gerji Health Center generally possess favorable attitudes towards hypertension, there is a notable lack of knowledge, particularly concerning the asymptomatic nature of the disease and a gap in the adoption of healthy behaviors. These findings highlight the urgent need for targeted public health interventions that not only enhance understanding but also actively translate positive attitudes into consistent healthy practices. **Key words:** Hypertension, Knowledge, Attitude and Practice

1. INTRODUCTION

1.1 Background

Hypertension, commonly known as high blood pressure, is a chronic medical condition that is characterized by persistently elevated arterial blood pressure. Traditionally a diagnosis of hypertension is established when a person's systolic blood pressure is consistently at or above 140 mm Hg and/or their diastolic blood pressure is at or above 90 mm Hg following repeated examination(1). It should be noted that these classifications are not based on single readings but are confirmed by two or more averaged readings taken on at least two separate occasions(2).

One of the most concerning aspects of hypertension is its asymptomatic nature. World health organization (WHO), indicates that 46% of adults with hypertension are unaware of their condition. And, only 42% are diagnosed and treated, and roughly 21% have it under control(3). This is because individuals with high blood pressure experience no noticeable symptoms, even when their blood pressure reaches dangerously high levels. This lack of overt signs means that people can live with hypertension for years without being aware of their condition; hence, hypertension is stated to be a silent killer. Despite the absence of immediate symptoms, uncontrolled hypertension can lead to severe and life-threatening complications including stroke, heart attack, heart failure and kidney disease(4). Therefore, effective management including both non-pharmacological and pharmacological treatments, is essential as it reduces the risk of cardiovascular disease events and mortality by 20% to 40%(5).

Hypertension remains a major global public health challenge, affecting over a billion adults worldwide, with the majority living in low-and middle-income countries(3). In Ethiopia, studies report prevalence ranging from 9% to 30%, yet a large proportion of patients (37% to 78%) are unaware of their condition(6). This gap highlights critical KAP issues: limited knowledge about hypertension risk factors, negative attitudes toward routine screening, and poor practices in lifestyle modification and adherence to treatment. Addressing these dimensions is essential for effective prevention and management strategies.

1.2 Statement of the problem

Hypertension is a major global public health concern and one of the significant contributors of burden of non-communicable diseases(3). Worryingly a large proportion of these individuals especially those residing in low and middle income countries remain undiagnosed and inadequately managed(3). Complications of uncontrolled hypertension collectively account for millions of deaths annually and represent a heavy burden on healthcare systems, particularly in resource-limited settings(7).

Despite medical advances, there are still significant gaps in public awareness, attitudes towards prevention and adoption of healthy practices related to hypertension. There remains a lack of knowledge of risk factors like sedentary behavior, unhealthy diets, obesity, tobacco use and excessive alcohol consumption(8–11). Negative attitudes such as underestimating the seriousness of hypertension or disregarding medical advice hinder disease prevention(9,10,12). Poor practices including unhealthy lifestyle, not getting screened lead to increased risk of developing hypertension and hinder early detection(8–13).

In Ethiopia, hypertension has become an increasingly significant health challenge. Its prevalence varies across regions due to differences in lifestyle, diet, and access to healthcare. Many individuals remain undiagnosed, and among those who are aware of their condition, only a limited proportion achieve proper blood pressure control(6). This highlights the urgent need to strengthen not only detection and treatment but also community knowledge, attitudes, and prevention practices related to hypertension.

The effectiveness of prevention and control programs is closely linked to individuals' knowledge, attitudes, and prevention practices (KAP)(14). Adequate knowledge enables people to recognize risk factors and symptoms; positive attitudes encourage health-seeking behavior and adherence to medical advice; and appropriate practices support lifestyle modifications such as reduced salt intake, regular physical activity, adherence to medications, and routine blood pressure monitoring(15). Inadequate KAP, however, undermines the effectiveness of even well-designed health interventions(16).

At the facility level, the KAP of patients plays a crucial role in the management of chronic conditions such as hypertension. Wereda 13 Gerji Health Center, located in Addis Ababa, serves a diverse population with varying socio-demographic and cultural backgrounds. Yet little is known about the KAP of its outpatients with respect to hypertension. This gap limits the ability of healthcare providers to implement effective counseling and health promotion strategies, resulting in missed opportunities for prevention and improved disease control.

This study seeks to address this gap by assessing the knowledge, attitudes, and prevention practices regarding hypertension among outpatients at Wereda 13 Gerji Health Center. By generating localized, context-specific evidence, it will inform the development of targeted interventions aimed at enhancing awareness, fostering positive health behaviors, and improving patient engagement in the management of hypertension. Ultimately, these efforts will contribute to reducing hypertension-related morbidity and mortality, alleviating pressure on the healthcare system, and advancing Ethiopia's broader goal of combating non-communicable diseases.

1.3 Justification of the study

Assessing the current KAP related to hypertension provides the necessary foundation for designing targeted educational, behavioral, and clinical interventions. Despite numerous studies on the prevalence and risk factors of hypertension, there remains a notable scarcity of research specifically evaluating KAP within the Ethiopian context. Understanding how individuals perceive, respond to, and manage hypertension is essential to developing interventions that are both effective and contextually appropriate.

This study seeks to fill this critical knowledge gap by generating localized, context-specific data on the levels of knowledge, attitudes, and practices related to hypertension among outpatients at Wereda 13 Gerji Health Center. The findings will identify barriers and facilitators to proper hypertension management, provide baseline information on KAP, and inform the design of evidence-based strategies to improve prevention, detection, and control of the condition.

By providing insight into the community's understanding and behaviors regarding hypertension, this research will contribute to the development of culturally relevant and operationally effective interventions. Ultimately, the study aims to support efforts to reduce hypertension-related morbidity and mortality in Gerji and similar communities, serving as a foundation for broader public health initiatives.

2. LITERATURE REVIEW

2.1 Knowledge, attitude and prevention practice of hypertension globally

Across diverse settings: including Malaysia, Afghanistan, Bangladesh and Nepal- studies consistently show that awareness of hypertension as a disease is generally high, yet detailed knowledge of normal blood pressure values and risk factors remains limited(17–19). For example, while respondents in Malaysia and Afghanistan widely recognized hypertension as a major risk factor for cardiovascular disease, stroke and renal failure, fewer correctly identified normal blood pressure ranges(17,18). In Bangladesh, knowledge of salt intake and obesity as risk factors was relatively strong(19), whereas in Nepal, knowledge scores were significantly higher in metropolitan areas compared to rural ones(20), highlighting geographic disparities.

Attitudes toward hypertension were generally positive in all four countries mentioned above(17–20). Respondents in Malaysia expressed concern about their health if diagnosed and emphasized the importance of regular blood pressure checks, while those in Afghanistan strongly supported lifestyle modifications such as reducing salt intake and increasing fruit and vegetable consumption(17,18). In Bangladesh, most adults reported favorable attitudes toward prevention(19), and in Nepal(20), students demonstrated good attitudes despite varying knowledge levels.

Preventive practices, however, lagged behind knowledge and attitudes. In Malaysia, regular exercise and dietary control were limited despite awareness of risk factors(17). In Afghanistan, many respondents reported irregular medical checkups and poor adherence to low-salt diets(18). In Bangladesh, most adults rarely checked their blood pressure or exercised(19), while in Nepal, similar gaps between awareness and practice were noted among students(20). These findings underscore a global challenge: translating knowledge and positive attitudes into consistent preventive behaviors.

2.2 Knowledge, attitude and practice of hypertension in Africa

Across African countries such as Nigeria, Ghana, and Zimbabwe general awareness of hypertension is high, with most respondents reporting familiarity with the condition(8–10,12). For example, studies in Nigeria and Ghana found awareness rates above 80%, while similar findings were reported in Zimbabwe(9,10,12). However, this awareness often doesn't extend to accurate knowledge. Misconceptions about the asymptomatic nature of hypertension are common: in Ghana, more than half of respondents didn't know hypertension could be symptom-less, and in Zimbabwe, only a small minority correctly identified it as asymptomatic. Such gaps contribute to delayed detection and management(10,12).

Knowledge of risk factors also varies(8,10,12). Stress was frequently cited as a primary cause in Nigeria and Zimbabwe, while recognition of established risk factors such as salt intake, poor diet, and physical inactivity was inconsistent(9,10). In Nigeria, fewer than half identified salt intake as a risk factor, whereas in Ghana and Zimbabwe reported no knowledge of risk factors at all, underscoring uneven understanding across populations(8,10,12).

Attitudes toward hypertension reveal both positive recognition and persistent challenges. In Ghana, most respondents acknowledged the adverse health consequences of hypertension, yet many demonstrated poor attitudes toward prevention and management(12). Similarly, in Zimbabwe, traditional beliefs and reliance on herbal medicine strongly influenced perceptions, while in Ghana, community beliefs shaped treatment-seeking behaviors(10,12). Despite these barriers, evidence suggests that positive attitudes can predict preventive practices: in Ghana, favorable attitudes were the strongest predictor of blood pressure checks(12).

Preventive practices remain limited across the region(8–10,12). In Ghana, few participants reported regular blood pressure measurement, and many sought healthcare only when unwell rather than for preventive screening(12). In Zimbabwe, unhealthy dietary habits such as adding salt at the table were reported(10). These findings highlight a consistent gap between

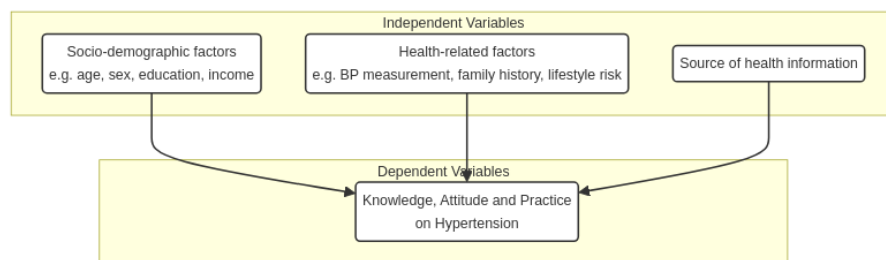
awareness and action, with lifestyle behaviors and healthcare-seeking practices failing to align with knowledge and attitudes.

2.3 Knowledge, attitude and practice of hypertension in Ethiopia

Evidence from Ethiopia highlights important regional differences in knowledge and preventive practices(11,13). In Dessie, awareness and engagement were relatively higher: two-third of participants had ever checked their blood pressure, and half demonstrated good preventive practices(13). Yet unhealthy behaviors were widespread, including limited physical activity, high salt intake, alcohol use, cigarette smoking and khat chewing(13). Dietary patterns were also concerning, with frequent use of saturated fats and low fruit and vegetable consumption. Preventive practices were strongly influenced by sex, occupation and knowledge with women and those more knowledgeable more likely to adopt healthier behaviors(13).

In contrast, findings from Bahir Dar revealed more pronounced gaps(11). Only 41% respondents had any information about hypertension and more than half didn't know the normal blood pressure range(11). Recognition of risk factors was limited, with relatively few identifying stress or obesity, and one-fifth unaware of potential complications(11). Preventive practices were also weaker compared to Dessie: fewer respondents had ever measured their blood pressure, and regular exercise was uncommon, often less than 30 min daily(11). Substance use was notable with addictions to alcohol and other substances reported. Overall, the majority demonstrated poor knowledge and poor preventive practices, underscoring significant disparities between urban centers in Ethiopia(11,13).

2.4 Conceptual framework



3. OBJECTIVES

3.1 General Objective

To assess the knowledge, attitude, and prevention practice (KAP) towards hypertension among patients visiting outpatient department (OPD) at Wereda 13 Gerji Health Center, Bole Sub-City, Addis Ababa.

3.2 Specific Objectives

1. To determine the level of knowledge about hypertension among outpatients at Wereda 13 Gerji Health Center.
2. To describe the attitudes towards hypertension among outpatients at Wereda 13 Gerji Health Center.
3. To evaluate prevention practices related to hypertension among outpatients at Wereda 13 Gerji Health Center.

4. METHODOLOGY

4.1 Study design

This research utilized a quantitative cross-sectional approach to assess the level of knowledge, attitude and prevention practice of hypertension among outpatients at Wereda 13 Gerji Health center.

4.2 Study Area and Period

The research was carried out at Wereda 13 Gerji Health Center, a primary healthcare facility located in Wereda 13, Bole Sub-City, Addis Ababa, Ethiopia. This center provides outpatient services to the surrounding community; the catchment area being 52,000. The health center provides services to 400-500 patients per day. It has 8 doctors, 45 nurses, 15 health officers, 10 midwives, 6 laboratory technicians and 7 pharmacists. The services provided include adult and under 5 outpatient service, emergency care service, family planning, adult and youth health service, delivery service, postnatal care, cervical cancer screening, vaccination service, HIV diagnosis and medication provision and tuberculosis medication provision.

Data was collected in November and analyzed until February, ensuring adequate time for data collection, and analysis.

4.3 Source and Study Population

Source Population

- The source population consisted of all adult outpatients (aged 18 years and above) who visited Wereda 13 Gerji Health Center during the study period for various healthcare services.

Study Population

- The study population comprised of systematical randomly selected outpatients from the source population who meet the inclusion criteria and provide informed consent to participate in the study.

Study unit

- An individual outpatient who completed the structured questionnaire during the study period.

4.4 Inclusion and Exclusion Criteria

Inclusion Criteria

- Adult outpatients aged 18 years and above visiting Wereda 13 Gerji Health Center during the study period.
- Patients who were willing to participate in the study and complete the questionnaire.

Exclusion Criteria

- Outpatients who were critically ill or in emergency situations requiring immediate medical attention.
- Individuals with severe mental illness or cognitive impairment that prevents them from understanding and responding to the questionnaire.
- Patients who had already been diagnosed with hypertension and were currently on anti-hypertensive medication.
- Individuals who didn't consent to involve in the study

4.5 Sample Size Determination

The sample size was determined using the single population proportion formula. To ensure sufficient power for each of the three primary outcomes, separate sample sizes were calculated for knowledge, attitude and practice domains using distinct, context-specific prevalence(P) values derived from the literature. The proportion for good knowledge

(P=0.154) was based on a finding from a study done in Bahir dar, Ethiopia(11). And the proportion for good practice (P=0.042) was also sourced from the same study(11). The final sample size for this study was the largest value obtained from these three separate calculations.

- ❖ The prevalence estimate (P) for knowledge, attitude and practice will be 0.154, 0.5, and 0.042 respectively
- ❖ Margin of error (d): 5% (0.05).
- ❖ Confidence level: 95% ($Z_{\alpha/2} = 1.96$).

Formula: $n = (Z_{\alpha/2})^2 * p * (1-p) / d^2$

Sample size was calculated for knowledge, attitude and practice separately and the value was 200, 384 and 62. The highest value among the three which is 384 was taken. The non-response rate was considered to be 10% making the final sample size 422.

4.6 Sampling Procedure

A simple random sampling technique was employed to select study participants from the outpatient department of Wereda 13 Gerji health center. A list of eligible outpatients visiting the department during the data collection period was used as a sampling frame. Each patient was assigned a unique identification number and the required number of participants was selected using a random number generator. This approach ensured that every outpatient had an equal chance of being included in the study, thereby minimizing selection bias.

4.7 Variables of the Study

Dependent Variables

- ❖ Knowledge of hypertension
- ❖ Attitude towards hypertension
- ❖ Practice of hypertension

Independent Variables:

- ❖ Socio-demographic characteristics (e.g., age, sex, education level, occupation, income)
- ❖ Health-related factors (e.g., blood pressure measurement practice, family history of hypertension, life-style and behavior risk)
- ❖ Source of health information

4.8 Operational Definitions

Several studies assessing community knowledge, attitude and practice (KAP) towards hypertension have used structured questionnaires with similar scoring and classification methods. In a study conducted in Nigeria, Zimbabwe and Ghana(8,10,12) knowledge was measured through questions on awareness, risk factors, complications and prevention, with correct responses scored as 1 and incorrect or “don’t know” responses scored as 0. Total scores were categorized as poor, or good based on percentage thresholds. Comparable approaches were reported in a study done in Ethiopia(14) where KAP domains were measured using structured items on awareness, beliefs and preventive practice such as diet, physical activity, salt reduction, alcohol and tobacco use and blood pressure monitoring. These studies applied percentage-based classification systems (good $\geq 50\%$ and poor $< 50\%$) and Likert-scale measures for attitude assessment. The present study adopted these established methods and aligned its operational definitions with prior validated KAP research and with WHO/World Hypertension League frameworks for hypertension prevention and control.

4.8.1 Knowledge of Hypertension:

- Assessed using a six questions from section B of the questionnaire, covering awareness of hypertension, normal blood pressure levels, asymptomatic nature, risk factors, complications, and prevention/control measures.
- Scoring: correct answers scored as 1 and incorrect/don't know as 0. Total scores will be categorized as good or poor based on predefined cut-off points(13) maximum score being 6.

- Good knowledge : answering $\geq 50\%$ of the questions correctly (a score of ≥ 3 out of 6)
- Poor knowledge: answering $<50\%$ of the questions correctly (a score of 0, 1 or 2)

4.8.2 Attitude Towards Hypertension:

- Measuring using 6 items in Section C of the questioner on a 5-point Likert scale (strongly agree to strongly disagree), addressing beliefs and perceptions about hypertension prevention, lifestyle modification, blood pressure monitoring, and medication adherence(12). The maximum possible score for each question being 5.
- Classification
 - Positive attitude: answering $\geq 50\%$ of total questions correctly (a score of ≥ 15)
 - Negative attitude: answering $<50\%$ of total questions correctly (a score of <15)

4.8.3 Practice of Hypertension:

- ✓ Evaluated using 10 items form Section D of the questioner, including; blood pressure measurement history (ever, last check), routine health check-ups, lifestyle behavior (physical activity, diet, salt intake, alcohol use, smoking, khat chewing)(11,13), maximum score being 10.
- ✓ Classification(13)
 - ✓ Good practice: answering $\geq 50\%$ of the questions (a score of ≥ 5)
 - ✓ Poor practice: answering $<50\%$ of the questions (a score of <5)

4.9 Data Collection Tools and Procedures

4.9.1 Data Collection Tool

A structured, interviewer-administered questionnaire was used to collect data on socio-demographic characteristics, knowledge, attitude, and practice regarding hypertension. The questionnaire was be adapted from previously validated tools used in similar KAP

studies(11,13) and was translated into Amharic (local language). The questionnaire included sections on:

- Socio-demographic characteristics:
 - Age, sex, education level, occupation, marital status, income, etc.
- Knowledge:
 - Questions assessing participants' understanding of hypertension, its risk factors, asymptomatic nature, complications, and prevention.
- Attitude:
 - Questions exploring participants' beliefs and perceptions about hypertension prevention, lifestyle modification, blood pressure monitoring, and medication adherence.
- Practice:
 - Questions on participants' history of blood pressure measurement, routine health check-ups, and lifestyle behavior.

4.9.2 Data Collectors

Data was collected by trained health extension workers and volunteers who are fluent in Amharic. Training covered the study objectives, data collection procedures, ethical considerations, and proper administration of the questionnaire.

4.9.3 Pre-testing

The questionnaire was pre-tested on 5% of the calculated sample size at Dill Fere health center with a similar outpatient profile to assess its clarity, comprehensibility, and cultural appropriateness. Necessary modifications were made based on the pre-test findings.

4.9.4 Data Quality Control

To ensure data quality, the following measures were implemented:

- Training of Data Collectors: Comprehensive training was provided to data collectors.
- Supervision: Daily supervision was conducted by the principal investigator and supervisors to ensure adherence to data collection protocols.
- Daily Review: Completed questionnaires were reviewed daily for completeness, consistency, and accuracy.

4.9.5 Data Processing and Analysis

Data was entered and analyzed using statistical package of social science SPSS version 23. Descriptive statistics (frequencies, percentages, and means) will be used to summarize socio-demographic characteristics and KAP levels.

To identify independent predictors of knowledge, attitude and practice levels, bivariate logistic regression analyses was performed. Variables demonstrating a p-value of less than 0.25 in the bi-variate analysis were included in the multivariate logistic regression models to adjust for potential confounders.

4.10 Ethical Considerations

Ethical approval for the study was obtained from the Institutional Review Board (IRB) of SPHMMC. Permission was also sought from Wereda 13 Gerji Health Center administration and relevant local health authorities. Informed written consent was obtained from each study participant after explaining the study's objectives, procedures, benefits, risks, and their right to withdraw at any time without affecting their healthcare services. Confidentiality and anonymity was maintained throughout the study by assigning unique identification codes to participants and ensuring data was stored securely. The study did not interfere with the normal healthcare delivery at the health center.

4.11 Dissemination of Findings

The findings of this study will be disseminated through multiple channels including peer-reviewed publications, conference presentations, and workshops with local health authorities.

The results will be shared with Wereda 13 Gerji Health Center administration and staff to inform the development of targeted interventions and educational programs aimed at

Improving hypertension screening awareness and practices among outpatients.

Additionally, findings will be communicated to relevant stakeholders in the Ethiopian health system to contribute to evidence-based policy development for hypertension prevention and control programs.

5. RESULT

5.1 Socio-demographic Characteristics

A total of 422 participants were included in the study. Majority of the participants (81.0%) were younger than 50; with the largest age group being 30-39 constituting 35.5%, followed by 18-29 years (26.8%). Of the respondents 53.6% were females and most respondents (71.6%) were married.

Table 1: Socio-demographic characteristics (age, sex and marital status) of participants

Demographic Variables	Category	Frequency	Percent (%)
Age of Participant	18-29	113	26.8
	30-39	150	35.5
	40-49	79	18.7
	50-59	38	9.0
	60 and above	42	10.0
Sex of participants	Male	196	46.4
	Female	226	53.6
Marital Status of participants	Single	100	23.7
	Married	302	71.6
	Divorced	7	1.7
	Widowed	13	3.1

Overall, 80% of the respondents had attained at least a primary school education. Among them 36.5% had a secondary school level of education, while 23.7% had a college or university degree. In contrast, 13% of the participants were illiterate. Approximately 60% respondents had some form of work, either through employment or self-employment, while 38% were unemployed. With respect to monthly income, majority of the participants around 75% of participants earned between 5,000 to 15,000.

Table 2: Socio-demographic characteristics (Educational level, occupation and monthly income) of participants

Education & Occupation		Frequency	Percent (%)
Educational Status	Illiterate	55	13.0
	Read & Write	25	5.9
	Primary School	88	20.9
	Secondary School	154	36.5
	College/University	100	23.7
Occupation	Student	7	1.7
	Employed	169	40.0
	Self-employed	87	20.6
	Unemployed	159	37.7
Monthly income	<5,000 birr	74	18.9
	5,000-10,000 birr	150	38.4
	10,001-15,000 birr	142	36.3
	>15,000 birr	25	6.4
Total		391	100
		31	

5. 2 Knowledge of hypertension

Among the participants, 93.1% had heard of hypertension and 73.6% of them believed that it could be prevented. When asked about its clinical presentation, 38% correctly identified that it can be asymptomatic, while 22% believed it always presents with symptoms and 39% of them didn't know. Regarding knowledge of normal blood pressure ranges, 60% answered correctly whereas the remainder either answered incorrectly or were uncertain

Table 3: Knowledge regarding hypertension

Variable	Category	Frequency (n)	Valid Percent (%)
Have you heard about hypertension?			
	Yes	393	93.1
	No	29	6.9
What is the normal blood pressure measurement?			
	<120/80 mmHg (Correct)	252	60.1
	140/90 mmHg	30	7.2
	Don't know	137	32.7
Total		419	100
Missing		3	
Can Hypertension occur without symptoms?			
	Yes	159	38.2
	No	91	21.9
	Don't know	164	39.4
Missing		6	
Can Hypertension be prevented/ controlled?			
	Yes	310	73.6
	No	18	4.3
	Don't know	91	21.6

When respondents were asked to identify the risk factors for hypertension using a multi-response format, excessive salt intake was the most frequently cited (86.7%), followed by stress (68.2%) and alcohol consumption (59%). Less than half of the respondents identified lack of physical activity (40.5%) and smoking (37.7%) as risk factors. Biological factors such as being overweight/obese (16.4%) and family history (15.2%) were the least recognized while 7.1% of the respondents didn't know any risk factors.

Table 4: Knowledge of risk Factors (Multi-response question)

Which are risk factors of hypertension	Frequency (N)	Percent of Cases (%)
Risk: Too much salt intake	356	86.7
Risk: Alcohol use	249	59
Risk: Stress	288	68.2
Risk: Lack of physical activity	171	40.5
Risk: Smoking	159	37.7
Risk: Overweight/Obesity	69	16.4
Risk: Family history	64	15.2
Risk: I don't know	30	7.1

Regarding potential health consequences of untreated hypertension, heart disease was the most frequently identified complication, noted by 56.4% of the participants. Stroke was recognized by 41% of respondents while kidney disease was identified by 32.7% and blindness was the least recognized complication, reported by 12.8%. A total of 20.6% didn't know any complications associated with high blood pressure.

Table 5: Knowledge of Complications (Multi-response question)

Which ones are the complications of hypertension	Frequency (N)	Percent (%)
Complication: Heart disease	238	56.4
Complication: Stroke	173	41
Complication: Kidney disease	138	32.7
Complication: Don't know	87	20.6
Complication: Blindness	54	12.8

Overall 187 (44.3%) of the participants demonstrated good knowledge while the rest 235 (55.7%) had poor knowledge.

Table 6: Knowledge level regarding hypertension of the participants (n=422)

Knowledge level	Frequency	Percent
Good knowledge	187	44.3%
Poor knowledge	235	55.7%

Bi-variate analysis revealed that age ($P=0.171$), sex ($P<0.001$), educational status ($P<0.001$), occupation ($P<0.001$), monthly income ($P<0.001$), and marital status ($P=0.005$) were associated with knowledge levels and thus considered for inclusion in the multivariate logistic models.

To identify independent predictors of good knowledge regarding hypertension, variables that demonstrated a p-value of less than 0.25 in the bi-variate analysis (Age, Sex, Educational status, Occupation, Monthly income and Marital status) were included in multivariate logistic regression models.

In the final multivariate model some factors emerged as independent predictors of knowledge. Educational status consistently showed a strong positive association. Individuals with a college/university education had approximately 21 times the odds of having good knowledge compared to those who were illiterate (AOR=20.98, 95% CI: 7.66-57.42, $P<0.001$). Similarly monthly income demonstrated a significant positive relationship with knowledge. Individuals earning >15,000 birr had approximately 6.8 times the odds of good knowledge compared to those earning less than 5,000 birr (AOR=6.783, 95% CI: 2.06-22.318, $P=0.002$).

Conversely age, marital status, sex and occupation despite being considered for the multivariate model based on their bi-variate p-value <0.25, didn't retain statistical significance as independent predictors in the final model.

Table 7: Multivariate logistic regression analysis of factors associated with knowledge levels. (n=422) Reference categories: Educational Status (Illiterate), Monthly Income (Less than 5000 Birr).

Variable	Category	COR (95% CI)	P-value (Bivariate)	AOR (95% CI)	P-value (Multivariate)
Educational Status	Illiterate (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	Read & Write	2.579 (0.739-8.996)	0.137	4.412 (1.151-16.907)	0.030
	Primary School	3.425 (1.307-8.976)	0.012	3.768 (1.352-10.497)	0.011
	Secondary School	7.171 (2.901-17.724)	0.000	6.739 (2.594-17.510)	0.000
	College/University	27.341 (10.393-71.924)	0.000	20.980 (7.665-57.423)	0.000
Monthly Income	< 5000 Birr (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	5000-10000 Birr	2.511 (1.350-4.673)	0.004	2.079 (1.048-4.124)	0.036
	10001-15000 Birr	3.685 (1.972-6.887)	0.000	2.683 (1.329-5.413)	0.006
	> 15000 Birr	8.000 (2.879-22.227)	0.000	6.783 (2.061-22.318)	0.002

5.3 Attitude regarding hypertension

With respect to lifestyle interventions, majority of participants agreed or strongly agreed that reducing salt intake (94.6%), engaging in physical activity (93.9%) and managing stress

(91.7%) are effective preventive measures. Overall, about 92% of respondents believed that lifestyle changes play a key role in preventing high blood pressure. Attitudes towards screening in the absence of symptoms were less when compared to the prior figures; while 73.2% agreed or strongly agreed that it is important to check blood pressure, 25.1% remained neutral. Similarly, with respect to medications, 74.6% stated they would take prescribed anti-hypertensive medication regularly if diagnosed. However, a combined 25.5% were either unsure (18.1%) or unwilling (7.4%) to commit to regular medication.

Table 8: Attitude regarding hypertension among participants

Attitude Statement	Response	Frequency (n)	Valid Percent (%)
Checking BP without symptoms is important	Strongly Agree	82	19.4
	Agree	227	53.8
	Neutral	106	25.1
	Disagree	7	1.7
	Strongly disagree	0	0
Reducing salt can prevent hypertension	Strongly Agree	228	54.2
	Agree	170	40.4
	Neutral	17	4.0
	Disagree	3	0.7
	Strongly Disagree	3	0.7
Physical activity helps prevent hypertension	Strongly Agree	226	53.6
	Agree	170	40.3
	Neutral	23	5.5
	Disagree	3	0.7
Stress management is important	Strongly Agree	230	54.6
	Agree	156	37.1
	Neutral	31	7.4
	Disagree	4	1.0
	Missing	1	
Lifestyle changes prevent hypertension	Strongly Agree	191	45.5
	Agree	194	46.2
	Neutral	32	7.6

Attitude Statement	Response	Frequency (n)	Valid Percent (%)
	Disagree	3	0.7
	Missing	2	
	Yes	314	74.6
Would take medication regularly if diagnosed	No	31	7.4
	Not Sure	76	18.1

Overall 343 (81.3%) of the respondents had good attitude while 79 (18.7%) had poor attitude.

Table 9: Attitude level regarding hypertension of the participants (n=422)

Attitude level	Frequency	Percent
Good attitude	343	81.3%
Poor attitude	79	18.7%

Bi-variate analysis that age ($p=0.007$), sex ($p=0.095$), educational status ($p=0.001$), and knowledge level ($p<0.001$) were associated with attitude levels and thus considered for inclusion in the multivariate model. Variables with a p-value greater than 0.25 were excluded from further analysis

In the multivariate model age, educational status, and knowledge level emerged as independent predictors of attitude. Age showed a strong positive association. Individuals that were 60 years and above had approximately 8.5 times the odds of having a good attitude compared to those between 18-29 years old (AOR=8.474, 95% CI: 2.34-30.696, $p=0.001$). Educational status also demonstrated a significant positive relationship with attitude. Individuals with a college/university education had approximately 6.5 times the odds of having a good attitude compared to those were illiterate (AOR=6.518, 95% CI: 1.989-21.354, $p=0.01$). Furthermore knowledge level was identified as a significant independent predictor with approximately 2.3 times the odds of having a good attitude compared to those with a lower knowledge level (AOR=2.326, 95% CI: 1.228-4.404, $p=0.01$).

Table 10: Multivariate logistic regression analysis of factors associated with attitude levels (n=422). Reference categories: Age (18-29 years), Educational Status (Illiterate), Knowledge Level (Poor Knowledge).

Variable	Category	COR (95% CI)	P-value (Bivariate)	AOR (95% CI)	P-value (Multivariate)
Age	18-29 years (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	30-39 years	2.181 (1.192-3.990)	0.011	2.321 (1.212-4.446)	0.011
	40-49 years	1.556 (0.785-3.084)	0.206	1.991 (0.916-4.327)	0.082
	50-59 years	3.358 (1.102-10.229)	0.033	6.914 (2.058-23.232)	0.002
	60 or above	3.753 (1.239-11.372)	0.019	8.474 (2.340-30.696)	0.001
Educational Status	Illiterate (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	Read & Write	0.658 (0.231-1.871)	0.432	1.170 (0.355-3.859)	0.796
	Primary School	0.738 (0.341-1.598)	0.441	1.418 (0.564-3.568)	0.458
	Secondary School	1.597 (0.750-3.399)	0.224	2.997 (1.184-7.591)	0.021
	College/University	4.112 (1.530-11.050)	0.005	6.518 (1.989-21.354)	0.002
Knowledge Level	Poor Knowledge (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	Good Knowledge	3.292 (1.868-5.801)	0.000	2.326 (1.228-4.404)	0.010

5.4 Prevention practice regarding hypertension

Assessment of respondents' practices showed that 84.6% of them had their BP measured before among them nearly 60% had their blood measured within the past six months. Of these 30.8% within the last month and 28.7% between one and six months prior while 14.5% reported they couldn't recall the last time they were checked. However, when assessing the

practice of seeking medical check-ups, 91.3% of the participants don't seek medical check-ups when feeling well.

Table 11: Prevention practice regarding hypertension

Variable	Category	Frequency (n)	Valid Percent (%)
Ever had BP measured?	Yes	356	84.6
	No	65	15.4
	Missing	1	
When was last BP check?	Within last month	117	30.8
	1-6 months ago	109	28.7
	> 6 months ago	98	25.8
	Don't remember	55	14.5
Missing		42	
Do you go for check-up even when well?	Yes	34	8.7
	No	357	91.3
Missing		3	

Dietary practices revealed that only 3.1% of respondents consume fruits and vegetables daily, while 41.2% rarely or never consumed them and 45.3% reported intake one to two times per per week. With respect to salt use, overall, around 75% add salt at least occasionally, with 2.2% of them adding extra salt at the table always and 46% doing so sometimes. In relation to physical activity, 54.8% reported daily activity and 37.6% exercised one to four times weekly while 7.7% described themselves as sedentary. Alcohol consumption was reported by 48.5% of participants, with more than half of the drinkers consuming occasionally (68.5%), while 29% drank weekly and 2% daily. Tobacco use was reported by 4.8% of respondents. Similarly chat chewing was reported by 3.6% of participants.

Table 12: Practices regarding dietary habits and substance use

		Frequency	Percent%
How frequently do you eat fruits/vegetables?	Daily	13	3.1
	1-2 times per week	187	45.3
	3-4 times per week	43	10.4
	Rarely/Never	170	41.2
	Missing	9	
Do you add extra salt at table?	Always	9	2.2
	Sometimes	190	46.1
	Rarely	109	26.5
	Never	104	25.2
How frequently do you exercise?	Daily	229	54.8
	1-2 times per week	91	21.8
	3-4 times per week	66	15.8
	Rarely/Never	32	7.7
	Missing	4	
Do you drink alcohol?	Yes	204	48.5
	No	217	51.5
Missing		1	
If yes, how often?	Daily	4	2
	Weekly	59	29.1
	Occasionally	139	68.5
Missing		219	
Do you currently smoke tobacco?	Yes	20	4.8
	No	400	95.2
Missing		2	
Do you currently chew khat?	Yes	15	3.6
	No	406	96.4
Missing		1	

Overall 277 (65.6%) of the participants showed good practice while 144 (34.1%) demonstrated poor practice.

Table 13: Practice level regarding hypertension of the participants (n=422)

Practice level	Frequency	Percent
Good practice	277	65.5%
Poor practice	144	34.1%

Bi-variate analysis revealed that age ($p=0.048$), sex ($p=0.001$), marital status ($p=0.222$), attitude level ($p=0.161$), and knowledge level ($p=0.075$) were associated with practice levels and thus considered for inclusion in the multivariate model.

In the multivariate model age, sex and knowledge level appeared as independent predictors of practice. Age showed a significant association, with older individuals having increased odds of good practice. Those in the range between 50-59 years 2.9 times the odds of good practice compared to those between 18-29 years (AOR=2.292, 95% CI:1.255-6.837, $p=0.013$). Sex was also a significant independent predictor, with females having approximately 2.7 times the odds of good practice compared to males (AOR=2.654, 95% CI: 1.688-4.173, $p=0.001$). Furthermore knowledge level was identified as a significant independent predictor, with individuals having good knowledge showing approximately 2 times the odds of good practice compared to those with lower knowledge (AOR=1.979, 95% CI: 1.254-3.122, $p=0.003$)

Table:14 Multivariate logistic regression analysis of factors associated with practice levels (n=422). Reference categories: Age (18-29 years), Sex (Male), Knowledge Level (Poor Knowledge)

Variable	Category	COR (95% CI)	P-value (Bivariate)	AOR (95% CI)	P-value (Multivariate)
Age	18-29 years (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	30-39 years	1.678 (1.010-2.787)	0.046	1.579 (0.938-2.658)	0.086
	40-49 years	1.531 (0.840-2.790)	0.164	1.661 (0.893-3.090)	0.109
	50-59 years	2.144 (0.952-	0.066	2.929 (1.255-	0.013

		4.830)		6.837)	
	60 years or above	1.914 (0.890-4.117)	0.097	2.639 (1.177-5.916)	0.018
Sex	Male (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	Female	2.005 (1.332-3.016)	0.001	2.654 (1.688-4.173)	0.000
Knowledge Level	Poor Knowledge (Ref)	1.00 (Ref)	-	1.00 (Ref)	-
	Good Knowledge	1.452 (0.963-2.189)	0.075	1.979 (1.254-3.122)	0.003

6. DISCUSSION

6.1 Knowledge of hypertension

The findings showed that 44.3% of participants demonstrated good knowledge of hypertension indicating moderate awareness, yet it also highlights a substantial knowledge gap in the population. Compared to studies in Dessie (36.3%)(13) and Bahir Dar (28%)(11), the higher proportion here suggests some progress in public health education, but the fact that more than half of respondents still lack adequate knowledge underscores the need for intensified community-level interventions. This gap is particularly concerning given hypertension's high prevalence and silent progression.

Awareness of hypertension was high (93.1%), consistent with global reports from Nigeria, Afghanistan, and Malaysia, where awareness exceeded 89%(9,17,18). Such widespread recognition reflects the success of broad health messaging campaigns. However, the critical weakness lies in understanding its asymptomatic nature: only 38% correctly identified hypertension as a silent condition. This mis-perception is dangerous, as it may delay diagnosis and treatment, reinforcing WHO's concern that many adults remain unaware of their condition(3). The contrast with Bahir Dar and Zimbabwe suggest that while awareness campaigns are effective in raising recognition, they often fail to communicate the subtler, more clinically important aspects of the disease(10,11).

Knowledge of normal blood pressure levels was relatively strong (60%), aligning with findings from Malaysia and Afghanistan(17,18). This suggests that basic numeric thresholds are more easily communicated and retained than abstract concepts like asymptomatic progression. However, the uneven distribution of knowledge across domains points to selective retention of information, possibly influenced by the way health education is delivered.

Risk factor recognition was skewed toward lifestyle-related causes such as salt intake, stress and alcohol, while biological and genetic predispositions were poorly understood. This pattern reflects a tendency for communities to associate disease with visible or culturally emphasized behaviors while underestimating hereditary and metabolic risks. Such gaps may hinder early detection in individuals with family history or obesity, groups that are particularly vulnerable. Similar findings in Nigeria and Zimbabwe reinforce the idea that public health campaigns often emphasize diet and stress but neglect genetic and metabolic contributors(8,10).

Complications of untreated hypertension were partially recognized, with heart disease and stroke being most frequently cited. The lower awareness of kidney disease and blindness, and the fact that one-fifth of respondents could not identify any complications, suggests that the population underestimates the full spectrum of hypertension's consequences. This limited understanding may reduce motivation for preventive behaviors and adherence to treatment. Broader education that emphasizes less obvious but equally severe outcomes is therefore essential.

Independent predictors of good knowledge included educational status and monthly income where individuals with better educations and income were more likely to have good knowledge. This is reinforced by the Bahir Dar study, which also found that educational status and occupation were significantly associated with knowledge levels(11). This suggests that interventions must consider these socioeconomic disparities to effectively bridge the knowledge gap.

6.2 Attitude of hypertension

Overall, the study revealed a predominantly favorable attitude towards hypertension, with 81.3% of respondents demonstrating good attitude. This aligns with findings in Bangladesh (85.68%) and Malaysia indicating a generally positive global outlook towards the

disease(17,19). This high level of positive attitude is encouraging, suggesting that the population generally recognizes the importance of addressing hypertension. Attitudes towards lifestyle interventions were particularly strong, with high agreement rates for effectiveness of reducing salt intake, engaging in physical activity and managing stress. And a significant majority acknowledged the crucial role of lifestyle changes in the prevention which are consistent with findings in Afghanistan(18). This indicates a strong theoretical acceptance of preventive measures.

However attitudes towards asymptomatic screening were slightly lower with 25.1% being neutral. This suggests a lack of awareness regarding hypertension's asymptomatic nature, potentially hindering proactive health-seeking behaviour. This gap between general positive attitude and specific preventive action highlights a potential area for targeted messaging.

Taken together, these findings suggest that while the population is broadly supportive of preventive measures, targeted educational campaigns are needed to emphasize the silent progression of hypertension and the importance of early detection. Strengthening awareness of asymptomatic screening could bridge the gap between favorable attitudes and effective preventive action, ultimately improving hypertension control at the community level.

Independent predictors of a good attitude included age, educational status, and knowledge level. Older individuals (60+ years) were 8.5 times more likely to have a good attitude. This could be attributed to increased personal experience with health issues, greater exposure to health information over time, or the influence of social network. Higher education increased the odds by 6.5 times and good knowledge also significantly predicted a positive attitude. These findings reinforce the inter-connectedness of KAP components, where knowledge positively influences attitude, and both are shaped by demographic factors(12,14).

6.3 Practice regarding hypertension

The study found that two-thirds of participants showed good practice, This finding is comparable to Dessie (50.1% good preventive practices)(13) but higher than Bahir Dar (15.7% good preventive practices)(11). While this suggests moderate engagement, the remaining one-third with poor practice highlights an underlying challenges in translating knowledge and positive attitudes into consistent health behaviors.

Specific practice indicators revealed areas of concern. Although nearly more than half the respondents had their blood pressure measured within the past six months, a significant proportion couldn't recall their last check. More strikingly, 91% of participants reported not seeking medical check-ups when feeling well, consistent with the study from Ghana(9). This reactive approach to health monitoring rather than a proactive one is a direct consequence of limited understanding of hypertension's asymptomatic nature. It implies that individuals are waiting for overt symptoms before engaging with healthcare, potentially missing critical opportunities for early detection and intervention.

Dietary practices were particularly concerning, with only 3.1% consuming fruits and vegetables daily, and 41.2% consumed rarely or never consuming them, similar to findings in Dessie, where 47.6% reported infrequent fruit and vegetable intake(13). Salt consumption was also concerning; with three-quarters of respondents adding salt at least occasionally. This finding is consistent with results from Zimbabwe (59.8%) and Malaysia (83.6%)(10,17). These findings suggest that deep-rooted dietary habits and affordability issues remain significant barriers.

Alcohol consumption was reported by nearly half of participants, almost identical to the rate found in Dessie (49.4%)(13). However, there is a marked difference in khat chewing, with only 3.6% of participants reporting it, compared to a significant 47.6% in Dessie(13). Tobacco use was seen in only 4.8% of participants which is lower than Dessie (12%) (13). This variations in substance use patterns suggest regional and cultural influences that must be considered in localized health interventions.

These practice levels, particularly regarding regular check-ups and dietary habits, are lower than optimal and suggest that while individuals may possess knowledge and positive attitude, systemic or individual barriers hinder the adoption of healthy behaviors. Public health strategies should therefore prioritize bridging this gap by promoting proactive screening, culturally sensitive dietary interventions and localized approaches to substance use. Addressing both individual perceptions and systemic barriers is essential to strengthen hypertension prevention practices.

Independent predictors of good practice included age, sex and knowledge level. Older individuals had significantly higher odds of good practice; 2.9 times more likely to have good practice suggesting that life experience and potentially greater exposure to health information or chronic condition may drive better adherence to practice. Females had approximately 2.7 times the odds of good practice compared to males. This reinforces findings from Dessie where females were 1.8 times more likely to have good practice. This gender difference in health seeking behaviors and adherence to preventive measures has been observed in Nigeria and South Africa as well(8,21), with females often demonstrating more diligent health practices. Furthermore individuals with good knowledge level were 1.9 times more likely to have good practice, which was consistent with Dessie(13). This finding is consistent with the KAP model, where knowledge and attitude are foundational to practice(14)

6.4 Strength and limitation

Strength

1. Ethical conduct

The study adhered to strict ethical guidelines, obtaining approval from the Institutional Review Board (IRB) of SPHMMC and relevant local health authorities. Informed written consent was secured from all participants, with assurances of confidentiality and anonymity, safeguarding their rights and well-being.

2. Targeted focus and dissemination plan

By focusing on a specific health center the study provides valuable insights relevant to that community, facilitating the development of targeted interventions. Furthermore, the plan on disseminate findings through peer-reviewed publications, conferences, and workshops with local health authorities ensures that the research contributes to evidence-based policy development and practical improvements in hypertension management.

Limitations

1. Cross-sectional design constraints

As a cross-sectional study, it captures KAP at a single point in time, which inherently limits the ability to establish cause-and-effect relationships to track changes in KAP over time. Longitudinal studies would be necessary to understand the dynamic nature of these factors.

2. Recall bias

For questions related to past practices, such as the last blood pressure check or dietary habits, participants' responses might be subject to recall bias, where their memory of events or behaviors may not be entirely accurate.

7. CONCLUSION

This study assessed the Knowledge, Attitude and Practice (KAP) regarding hypertension among outpatient clients at Wereda 13 Gerji Health Center. The findings revealed that a significant portion of participants, 44.3%, demonstrated good knowledge of hypertension, while 81.3% exhibited a favorable attitude towards the condition. However, good practice regarding hypertension prevention was observed in 65.5% of the participants, indicating a notable gap between knowledge, attitude and actual preventive behaviors.

A critical concern identified is the limited awareness of hypertension's asymptomatic nature, with only 38% of participants correctly identifying it as such. This lack of understanding contributes to a reactive approach to health-seeking, as evidenced by 91.3% of participants not seeking medical check-ups when feeling well. Additionally, sub-optimal dietary practices, particularly low fruit and vegetable intake and high salt consumption, remain prevalent despite generally positive attitudes towards lifestyle interventions.

These findings underscore the need for targeted public health interventions that not only enhance knowledge but also actively translate positive attitudes into consistent healthy practice. Addressing the identified gaps in understanding the asymptomatic nature of

hypertension and promoting proactive health-seeking behaviors are crucial steps towards improving hypertension management and reducing its burden in communities.

8. RECOMMEDATION

For Wereda 13 Gerji Health Center and Local Health Authorities

1. Develop target health education programs: Implement comprehensive health education campaigns specifically designed to address the identified knowledge gaps, particularly concerning the asymptomatic nature of hypertension, less recognized risk factors (like obesity, family history, lack of exercise and smoking) and the full spectrum of complications (like kidney disease and blindness).
2. Promote proactive screening and regular check-ups: Initiate and strengthen programs that encourage regular blood pressure screening, even in the absence of symptoms. This could involve community outreach, awareness campaigns emphasizing the importance of preventive care, and making screening services more accessible and convenient within the health center.
3. Integrate nutritional counseling: Enhance nutritional counseling services within the outpatient department, focusing on promoting daily fruit and vegetable consumption and educating patients on reducing salt intake.

4. Continuous monitoring and evaluation: Regularly assess the KAP levels of outpatient clients to track the effectiveness of implemented interventions and make necessary adjustments to health promotion strategies.

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10. ANNEX

Questionnaire (English Version)

ID No:-----

St. Paul's Hospital Millennium Medical Collage

A questionnaire prepared to assess Knowledge, Attitude and Practice of Hypertension Among Outpatient Clients at Wereda 13 Gerji Health Center Addis Ababa, Ethiopia

Individual Consent Form

Contact information

If you have any question about the study or your participation, please contact

Principal investigator:

Name- Nardos Abera (medical intern)

Phone number- 0937643958

Email address- nardabera4@gmail.com

St. Paul's Hospital Millennium Medical College

Study Title:

Knowledge, Attitude, and Practice of Hypertension Among Outpatient Clients at Wereda 13 Gerji Health Center, Addis Ababa, Ethiopia

Introduction:

You are invited to participate in a research study that aims to assess the knowledge, attitude, and practice (KAP) of hypertension among clients attending Wereda 13 Gerji Health Center. The findings from this study will help provide important information for planning awareness and prevention strategies for hypertension in the community.

Participation:

If you agree to participate, you will be asked to complete a self-administered questionnaire. This will take about 10–15 minutes.

Confidentiality:

Your name and any personal identifying information will not be recorded on the questionnaire. All responses will be kept strictly confidential and will be used only for research purposes. No information will be shared with anyone outside the research team.

Risks and Benefits:

There are no expected risks or harms associated with your participation in this study. While you may not directly benefit, your contribution will help generate valuable information that can improve the prevention and management of hypertension in the future.

Voluntary Participation:

Your participation is entirely voluntary. You have the full right to refuse to participate, skip any question, or withdraw from the study at any time without any penalty or impact on the health services you receive at this facility.

Individual Consent Statement:

I have read (or been read) the above information. I understand the purpose of the study and what my participation involves. I have had the opportunity to ask questions, and my questions have been answered to my satisfaction. Therefore, I voluntarily agree to participate in this study.

Participant's Signature/Thumbprint: _____ Date: //2025

Data Collector's Name & Signature: _____ Date: //2025

Section A: Demographic section

1. Age: ☐ 18-29 years ☐ 30-39 years ☐ 40-49 years ☐ 50-59 years ☐ >=60 years

2. Sex: ☐ Male ☐ Female

3. Marital status: ☐ Single ☐ Married ☐ Divorced ☐ Widowed

4. Educational level: ☐ No formal education ☐ Primary ☐ Secondary ☐ College/University

5. Occupation: ☐ Student ☐ Formally Employed ☐ Self-employed ☐ Unemployed ☐ Other:

6. Monthly household income (ETB): ☐ <5,000 ☐ 5,000–10,000 ☐ 10,001–15,000
☐ >15,000

Section B: Knowledge About Hypertension

1. Have you ever heard of hypertension (high blood pressure)?

☐ Yes ☐ No

2. What is the normal blood pressure level?

☐ <120/80 mmHg ☐ 140/90 mmHg ☐ Don't know

3. Can hypertension occur without symptoms?

☐ Yes ☐ No ☐ Don't know

4. Which of the following are risk factors for hypertension? (Check all that apply)

- ☐ Too much salt in diet
- ☐ Overweight/obesity
- ☐ Lack of physical activity
- ☐ Smoking
- ☐ Alcohol use
- ☐ Stress
- ☐ Family history of hypertension
- ☐ Don't know

5. Which of the following are complications of uncontrolled hypertension? (Check all that apply)

☐ Stroke ☐ Heart disease ☐ Kidney disease ☐ Blindness ☐ Don't know

6. Can hypertension be prevented?

☐ Yes ☐ No ☐ Don't know

Section C: Attitude about hypertension

1. Do you think checking blood pressure regularly is important even without symptoms?

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2. Do you believe reducing salt intake can prevent hypertension?

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3. Do you think regular physical activity helps prevent hypertension?

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

4. Do you believe stress management is important to prevent hypertension?

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

5. If you were diagnosed with hypertension, would you take medications regularly as advised?

☐ Yes ☐ No ☐ Not sure

6. Do you believe lifestyle changes (healthy diet, exercise, no smoking, no alcohol) are important to prevent hypertension?

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

Section D: Practice Towards Hypertension

1. Have you ever had your blood pressure measured by a health professional?

☐ Yes ☐ No

2. If yes, when was your last blood pressure check?

☐ Within the last month ☐ 1–6 months ago ☐ More than 6 months ago ☐ Don't remember

3. Do you go for a health check-up even when you feel well?

☐ Yes ☐ No

4. How often do you eat fruits and vegetables?

☐ Daily ☐ 3–4 times per week ☐ 1–2 times per week ☐ Rarely/Never

5. Do you usually add extra salt to your food at the table?

☐ Always ☐ Sometimes ☐ Occasionally ☐ Never

6. How often do you engage in physical activity (at least 30 minutes of moderate exercise such as walking, cycling, and sports)?

☐ Daily ☐ 3–4 times per week ☐ 1–2 times per week ☐ Rarely/Never

7. Do you drink alcohol?

☐ Yes ☐ No

8. If yes, how often?

☐ Daily ☐ Weekly ☐ Occasionally

9. Do you currently smoke tobacco?

☐ Yes ☐ No

10. Do you chew khat?

☐ Yes ☐ No

ጥናት ተሳታፊዎች የስምምነት ቅጽ (Individual Consent Form)

የጥናቱ ርዕስ፡ በገርጂ ጊዮርጊስ ጤና ጣቢያ በተመላላሽ ታካሚዎች ላይ ስለ ደም ግፊት ያላቸውን እውቀት፣ አመለካከት እና ትግበራን ለመዳሰስ ታስቦ የዘጋጀ መጠይቅ ።
(አዲስ አበባ፣ ከሰኔ 25 እስከ ጥር 2025 እ.ኤ.አ.)

መግቢያ (Introduction):

ይህ ጥናት በገርጂ ጊዮርጊስ ጤና ጣቢያ የሚታከሙ ተገልጋዮች ስለ ደም ግፊት ያላቸውን እውቀት፣ አመለካከት እና ተግባር (KAP) ለመገምገም ያለመ ሲሆን፤ እርስዎም በዚህ ጥናት እንዲሳተፉ ተጋብዘዋል። የዚህ ጥናት ውጤት በማህበረሰቡ ውስጥ ስለ ደም ግፊት ያለውን ግንዛቤ ለማሳደግ እና የመከላከያ ስልቶችን ለመቀየስ ጠቃሚ መረጃ ይሰጣል።

ተሳትፎ (Participation):

በዚህ ጥናት ለመሳተፍ ከተስማሙ፣ ይህንን በራስዎ የሚሞላ መጠይቅ እንዲሞሉ ይጠየቃሉ። ይህን ለማድረግ ከ10-15 ደቂቃ ይወስዳል።

ሚስጥራዊነት (Confidentiality):

ስምዎ ወይም ማንነትዎን የሚገልጽ ማንኛውም የግል መረጃ በመጠይቁ ላይ አይመዘገብም። ሁሉም ምላሾች በጥብቅ ሚስጥር የሚጠበቁ ሲሆን ለምርመራ ዓላማ ብቻ ይውላሉ። ከጥናት ቡድኑ ውጪ ለማንም አካል አይጋራም።

ጥቅምና ጉዳት (Risks and Benefits):

በዚህ ጥናት ተሳትፎዎ ምክንያት የሚደርስብዎት ምንም ዓይነት አደጋ ወይም ጉዳት የለም። ስምዎ በቀጥታ በመጠይቁ ላይ ባይኖርም፣ የእርስዎ ተሳትፎ ወደፊት የደም ግፊትን ለመከላከል እና ለመቆጣጠር የሚረዱ ጠቃሚ መረጃዎችን ለማመንጨት ይረዳል።

በፈቃደኝነት ላይ የተመሰረተ ተሳትፎ (Voluntary Participation):

ተሳትፎዎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ ነው። በመጠይቁ ላይ ለመሳተፍ ፈቃደኛ አለመሆን ወይም በማንኛውም ጊዜ ከጥናቱ የማቋረጥ ሙሉ መብት አለዎት፤ ይህን በማድረግዎ በዚህ ጤና ተቋም በሚያገኙት አገልግሎት ላይ ምንም ዓይነት ቅጣት ወይም ተጽእኖ አይኖርም።

የስምምነት መግለጫ (Consent Statement):

ከላይ የተገለጸውን መረጃ አንብቤያለሁ (ወይም ተነብበልኛል)። የጥናቱን ዓላማ እና ተሳትፎዬ የሚያካትተውን ተረድቻለሁ። ጥያቄዎችን የመጠየቅ እድል አግኝቻለሁ፤ ለጥያቄዎቼም መልስ አግኝቻለሁ። ስለዚህ፣ በዚህ ጥናት ለመሳተፍ በፈቃደኝነት ተስማምቻለሁ።

ቀን፡ _____

የተሳታፊው ፊርማ/አሻራ: _____

የመረጃ ሰብሳቢው ስም እና ፊርማ: _____

ክፍል ሀ: አጠቃላይ መረጃ (Section A: Demographic Section)

1. ዕድሜ: _____

2. ጾታ: _____ ሀ. ወንድ _____ ለ. ሴት

3. የጋብቻ ሁኔታ: ሀ. ያለገባ/ች ለ. ያገባ/ች ሐ. የተፋታ/ች መ. ባል/ሚስት የሞተበት/ባት

4. የትምህርት ደረጃ: ሀ. መደበኛ ትምህርት ያልተማረ/ች ለ. መጻፍና ማንበብ ብቻ
ሐ. 1ኛ ደረጃ መ. 2ኛ ደረጃ ሠ. ኮሌጅ/ዩኒቨርሲቲ

5. የስራ ሁኔታ: ሀ. ተማሪ ለ. ተቀጥሮ የሚሰራ ሐ. የራሱን ስራ የሚሰራ
መ. የቤት እመቤት ሠ. ስራ የሌለው/ት

6. ወርሃዊ የቤተሰብ ገቢ (በኢትዮጵያ ብር): ሀ. ከ 5,000 በታች ለ. ከ 5,000 እስከ 10,000
ሐ. ከ 10,001 እስከ 15,000 መ. ከ 15,000 በላይ

ክፍል ለ: ስለ ደም ግፊት ያለልዎት እውቀት (Section B: Knowledge About Hypertension)

1. ስለ ደም ግፊት ሰምተው ያውቃሉ? ሀ. አዎ ሰምቼ አውቃለሁ ለ. ሰምቼ አላውቅም

2. ትክክለኛው (መደበኛ) የደም ግፊት መጠን ስንት ነው?
ሀ. ከ 120/80 mmHg ያነሰ ለ. ከ 140/90 mmHg በላይ ሐ. አላውቅም-----

3. የደም ግፊት ምንም ዓይነት ምልክት ሳያሳይ ሊከሰት ይችላል?
ሀ. አዎ ለ. ምልክት ሳያሳይ አይከሰትም ሐ. አላውቅም-----

4. ከሚከተሉት ውስጥ ለደም ግፊት አጋላጭ ምክንያቶች የሆኑት የትኞቹ ናቸው? (የሆኑትን ሁሉ ይምረጡ)

ሀ. በምግብ ውስጥ ከመጠን በላይ ጨው መጠቀም	ለ. ከመጠን በላይ ውፍረት
ሐ. የአካል ብቃት እንቅስቃሴ አለማድረግ	መ. ሲጋራ ማጨስ
ረ. ጭንቀት	ሰ. በቤተሰብ ውስጥ የደም ግፊት ታሪክ መኖር
	ሸ. አላውቅም

5. ከሚከተሉት ውስጥ ቁጥጥር ያልተደረገበት የደም ግፊት የሚያመጣቸው የጤና ችግሮች የትኞቹ ናቸው? (የሆኑትን ሁሉ ይምረጡ)

- | | | |
|-------------------------|------------|--------------|
| ሀ. ስትሮክ (የአንጎል ደም መፍሰስ) | ለ. የልብ ህመም | ሐ. የኩላሊት ህመም |
| መ. የዓይን ብርሃን ማጣት | ሠ. አላውቅም | |

6. የደም ግፊትን መከላከል ወይም መቆጣጠር ይቻላል?

- | | | |
|-------|----------|----------|
| ሀ. አዎ | ለ. አይቻልም | ሐ. አላውቅም |
|-------|----------|----------|

ክፍል ሐ: ስለ ደም ግፊት ያለ አመለካከት (Section C: Attitude about Hypertension)

(እባክዎ ለእያንዳንዱ ዓረፍተ ነገር የእርስዎን ስምምነት ደረጃ ይምረጡ)

1. ምንም እንኳን የሕመም ምልክት ባይኖርም የደም ግፊትን በየጊዜው መለካት ጠቃሚ ነው ብለው ያስባሉ?

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| ሀ. በጣም እስማማለሁ | ለ. እስማማለሁ | ሐ. ገለልተኛ |
| መ. አልስማማም | ሠ. ፍጹም አልስማማም | |

2. የጨው አጠቃቀምን መቀነስ የደም ግፊትን ይከላከላል ብለው ያምናሉ?

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| ሀ. በጣም እስማማለሁ | ለ. እስማማለሁ | ሐ. ገለልተኛ |
| መ. አልስማማም | ሠ. ፍጹም አልስማማም | |

3. መደበኛ የአካል ብቃት እንቅስቃሴ ማድረግ የደም ግፊትን ለመከላከል ይረዳል ብለው ያስባሉ?

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| ሀ. በጣም እስማማለሁ | ለ. እስማማለሁ | ሐ. ገለልተኛ |
| መ. አልስማማም | ሠ. ፍጹም አልስማማም | |

4. የደም ግፊትን ለመቆጣጠር ጭንቀትን መቆጣጠር (Stress management) አስፈላጊ ነው ብለው ያምናሉ?

- | | | |
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| ሀ. በጣም እስማማለሁ | ለ. እስማማለሁ | ሐ. ገለልተኛ |
| መ. አልስማማም | ሠ. ፍጹም አልስማማም | |

5. የደም ግፊት እንዳለብዎ ቢነገርዎ፣ መድኃኒቶችን በታዘዘው መሰረት በመደበኛነት ይወስዳሉ?

ሐ. እርግጠኛ አይደለሁም

ሐ. ገለልተኛ

7. አልኮል ይጠጣሉ?

ሀ. አዎ

ለ. አልጠጣም

8. "አዎ" ከሆነ፣ ምን ያህል ጊዜ?

ሀ. በየቀኑ

ለ. በየሳምንቱ

ሐ. አልፎ አልፎ

9. በአሁኑ ጊዜ ሲጋራ ያጨሳሉ?

ሀ. አዎ

ለ. አላጨሰም

10. ጫት ይቅማሉ?

ሀ. አዎ

ለ. አልቅምም

Declaration

I, the undersigned student, declare that this research project is my original work in partial fulfillment of the requirement for the Degree of Doctor in Medicine, MD. I also declare that it has never been presented in this or any other higher institution and that all resources and materials used in the research work have been duly acknowledged.

Name of the student: Nardos Abera (Medical Intern)

Signature: [Signature]

Date: March 27/26

Approval of Advisors

This work has been submitted for examination with my approval.

Name of School of Public Health advisor :

Invalid signature

X [Signature]

Mitiku Getu Moges, MD, MPH

Asst. Prof of Health Systems, Policy, and Manage...

Signed by: ede9d0dd-8297-4e5e-bad6-91b3fb759fe4

27 March 2026

Name of Clinical advisor : Dr Ermias Limeneh

Signature: [Signature]

Date: 27/03/26