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PREDICTORS OF STROKE PREVENTIVE PRACTICES AMONG PATIENTS
WITH HYPERTENSION AT PUBLIC HOSPITALS IN JIMMA TOWN,
ETHIOPIA, 2022.

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Predictors of stroke preventive practices among patients with hypertension at public hospitals in jimma town, Ethiopia, 2022.

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Abstract

Background: Stroke is CVD which happens due to an acute, focal injury of the central nervous system (CNS) of a vascular origin, contributing to a local or systemic neurological insult. It is one of the most common categories of cardiovascular diseases (CVD) and the second leading cause of death and disability in low- and middle-income countries. Effective stroke prevention efforts among most at-risk groups may be linked to an improved level of Health literacy (HL) related to CVD and stroke. However, there is limited evidence that measures stroke-related HL and examines its relationship with stroke preventive practices among patients with hypertension.

Objective: This study assessed predictors of stroke preventive practices among patients with hypertension on chronic follow up at Shanan Gibe hospital and Jimma University Medical center.

Methods: A cross-sectional study design was employed to recruit a total of 342 patients with hypertension who were on chronic follow-up at Shanan Gibe hospital and Jimma University Medical center. Systematic sampling was used and Data was collected from July 05 to August 04, 2022, by using a structured questionnaire adapted from similar literature. Data were analyzed by using SPSS version 25 for windows. Multivariable linear regression modeling was performed to identify predictors of stroke preventive practices. A Multivariable regression coefficient (β) with 95% confidence interval and P-value less than 5% was considered to interpret a statistically significant association.

Result: A total of 342 respondents were participated, of whom 179(52.3%) were males. A mean age of the respondent was 52.78 (\pm 12.17) years. The proportions of participants scored above mean in health literacy and stroke preventive practice were 52% and 50.3% respectively. Factors associated with stroke preventive practice were ability to read and write(β =1.32, 95%CI: 0.25,2.38),attending primary Education(β =2.15, 95%CI: 1.37,2.92),secondary Education(β =2.78, 95%CI: 1.62,3.94), higher Education(β =3.32, 95%CI: 2.08,4.56),knowledge about stroke (β =0.20, 95%CI: 0.12,0.28),perceived susceptibility(β =0.32, 95%CI: 0.21,0.43),perceived barrier(β =-0.19, 95%CI:-0.29,-0.10)Self-efficacy(β =0.83, 95%CI: 0.60,1.06), Perceived social support (β =0.03, 95%CI: -0.11,0.07) , Functional health literacy(β =0.63, 95%CI: 0.22 ,1.04), communicative health literacy(β =0.59, 95%CI: 0.38,0.81), and critical health literacy(β =0.12, 95%CI: 0.03,0.19).

Conclusion : The study revealed that around half of the respondents have health literacy and stroke prevent preventive above the mean score but still there is a gap in knowledge, communicative and critical literacy and some of preventive practices. Educational level, knowledge about stroke, perceived susceptibility, perceived barrier self-efficacy, Perceived social support and stroke specific health literacy were predictors of stroke preventive practice.

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List of Abbreviations

CRD	Chronic respiratory disease
CVD	Cardiovascular disease
CHD	Coronary heart disease
DALYs	Disability adjusted life years
DM	Diabetes mellitus
FHL	Functional health literacy
HDFQ	Heart disease fact questionnaire
HDKQ	Heart Disease Knowledge Questionnaire
HL	Health literacy
HSDP	Health sector development program
HTN	Hypertension
LMIC	Low and middle income countries
NCD	Non-communicable disease
SSA	Sub Saharan Africa
WHF	World heart federation
WHO	World health organization
WHSF	World heart and stroke forum

CHAPTER ONE: INTRODUCTION

1.1 Background

Cardiovascular diseases (CVD) are a group of disorders of the heart and blood vessels. According to the World Health Organization (WHO), CVD includes stroke, coronary heart disease, peripheral arterial disease, rheumatic and congenital heart disease and deep vein thrombosis. The findings of various studies highlight the epidemiological transition that is happening in Ethiopia, from predominantly infectious diseases to non-communicable diseases. The rise in cardiovascular disease (CVD) is linked to the increase in hypertension, diabetes, obesity, and high cholesterol observed in Africa in recent years(1–3).

Stroke is CVD which happens due to an acute, focal injury of the central nervous system (CNS) of a vascular origin, contributing to a local or systemic neurological insult. The World Health Organization has defined stroke as the “rapidly developing clinical signs of focal (at times global) disturbance in cerebral function, lasting for more than 24 h or even leading to death, with no apparent cause other than a vascular origin” It is classified in to two major types: ischemic and hemorrhagic stroke. Ischemic stroke is Neurological dysfunction due to infarction at cerebral, spinal or retinal sites and it happens when an artery in the brain is blocked. Hemorrhagic stroke happens when a blood vessel in the brain bursts and spills blood into or around the brain. High blood pressure and aneurysms can make blood vessels weak enough to burst.(4–6)

Non-modifiable risk factors and modifiable risk factors are the two main categories into which the risk factors for stroke are separated. Advanced age, sex, ethnicity, and family history are non-modifiable risk factors, while stress, hypertension, smoking, alcohol use, diabetes mellitus, hyperlipidemia, obesity, and improper eating are modifiable risk factors. For the prevention and management of chronic diseases, including CVD, to be successful, it may be necessary to be aware of these conditions and associated risk factors. (7–9)

In the battle against CVD like stroke, preventive healthcare plays a significant role. By developing and comprehending appropriate prevention mechanisms for the management of CVD

as a lifetime process, health literacy (HL) is an efficient way to avoid primary and secondary CVD. It has been demonstrated that reducing the risk of cardiovascular disease involves quitting smoking, cutting back on salt in the diet, eating more fruits and vegetables, engaging in regular physical activity, and abstaining from problematic alcohol consumption. Health policies that foster environments where healthy options are both affordable and accessible are crucial for encouraging people to adopt and maintain healthy behaviors.(1,10)

There are various definitions of health literacy which are much more overlapping and similar than often presented. The first clear definition is from 1995, which states that ‘health literacy is the capacity of individuals to obtain, interpret, and understand basic health information and services and the competence to use such information and services in ways which enhance health. In 1998, the World Health Organization (WHO) defined health literacy as ‘the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health. ‘Nutbeam’ identified and defined three distinct ‘levels’ of health literacy which are ;functional: basic skills in reading and writing necessary for effective functioning in a health context ;Interactive: more advanced cognitive literacy and social skills that enable active participation in health care; and critical: the ability to critically analyze and use information to participate in actions that overcome structural barriers to health(11,12).

Health literacy is vital for people’s ability to manage health and to navigate the health system. Health literacy is also a foundation for health organization’s capacity to serve patients and clients, and for society to ensure the health and well-being of its citizens. Health literacy develops during the life course through formal capacity building and education as well as informal learning. Health literacy plays a crucial role in enabling people to manage chronic diseases themselves. People with poor health literacy have more difficulty in managing chronic or long-term conditions on a day-to-day basis. This includes planning and adjusting lifestyle, making informed decisions and knowing when and how to access health care services(12,13).

Adequate health literacy helps chronic patients in understanding of medications, lifestyle modifications, allows them to avoid medication errors and manage polypharmacy, to understand which symptoms may be caused by Stroke and initiate timely response as instructed, and to

report side effects that could affect. Furthermore, self-efficacy, patient engagement, and shared decision making have been increasingly promoted as approaches to enhance care. People with lower health literacy have less knowledge of their health problems, less knowledge on how to effectively self-manage, have a poorer overall health status and poor knowledge of signs and symptoms of the disease is associated with patient delay in healthcare seeking and poor treatment outcomes (14,15).

Theory provides a common language that focuses the balance between practice and science. Theory also links the dual quest to use evidence-based practice and practice-based evidence to maximize internal and external research validity. Theory enables clinicians and researchers to precisely describe and operationalize key factors and associations during the research development phase. Since multiple factors contribute to preventive behavior, theory specifies the context and boundaries of the research setting, such as the health system, the clinic, the community and family, and the individual.(16)

As study which focuses on preventive practice, to provide a useful framework for investigating health behaviors and identifying key health beliefs, health belief model was applied in this study. The health belief model (HBM) is a social psychological health behavior change model developed to explain and predict health-related behaviors, particularly in regard to the uptake of health services. It suggests that people's beliefs about health problems, perceived benefits of action and barriers to action and self-efficacy explain engagement (or lack of engagement) in health-promoting behavior.(17)

According to Health belief model Feelings about the seriousness of contracting an illness or of leaving it untreated are perceived severity, while individuals' beliefs about their risk of experiencing the threat are perceived susceptibility to the threat. Cue to action is the stimulus needed to trigger the decision-making process to accept a recommended health action. These cues can be internal or external. Self-efficacy refers to the level of a person's confidence in his or her ability to successfully perform a behavior.(18)

1.2 Statement of the problem

Global prevalence of stroke in 2019 was 101.5 million people, whereas that of ischemic stroke was 77.2 million, that of intra cerebral hemorrhage was 20.7 million, and that of subarachnoid hemorrhage was 8.4 million.(19) There were also 12.2 million incident cases of stroke globally.(20) Sub-Saharan Africa (SSA) has the highest stroke burden globally with a steadily increasing incidence estimated at 316 cases per 100, 000 persons and a prevalence of up to 1,460 per 100,000. (21) It occurs in relatively young patients and tends to be severe due to uncontrolled risk factors resulting in high personal and societal costs and significant disability.(22)when we look at A systemic review and meta-analysis conducted in Ethiopia, The pooled estimate of stroke among females was 45.07% and males was 54.70% the pooled estimate proportion of hemorrhagic and ischemic stroke were 46.42% and 51.40% respectively.(9)

According to WHO , by 2030, almost 25 million people will die from CVDs. In 2013, an estimated 1 million deaths were attributable to CVD in sub-Saharan Africa alone, which constituted 5.5% of all global CVD-related deaths and 11.3% of all deaths in Africa. Now, in sub Saharan Africa (SSA), CVDs are the most frequent causes of NCDs deaths, responsible for approximately 13% of all deaths and 37% of all NCDs deaths. The Ethiopia NCDI Commission report launched in November 2018 has interestingly shown very similar results to the WHO report and NCDs cause 43.5% of the deaths in Ethiopia in 2016 and out of this cardiovascular diseases account around 35% of deaths. (8,23–25)

Globally, stroke remained the second-leading cause of death (11.6% [10.8–12.2] of total deaths) and the third-leading cause of death and disability combined (5.7% [5.1–6.2] of total DALYs) in 2019. Another study showed that Stroke ranks as the third leading cause of death in the world, with 5.8 million deaths annually and From 1990 to 2019, DALYs due to stroke increased by 32.0%.(20,26) Approximately 70% of deaths from stroke and 87% of stroke- related disability occur in low- income and middle income countries. A systematic review and meta- analysis of stroke case fatality in sub- Saharan Africa was published in 2021 and reported a pooled estimated 1- month case fatality rate of 24.1%, with high heterogeneity and rates up to 83.3% (21). The magnitude of stroke-related deaths in Ethiopia is 6.23% out of total deaths, and the

age-adjusted death rate of stroke in the country is 89.82 per 100 000 of the population.(9) A systematic review and meta-analysis conducted also showed that The overall in-hospital mortality of stroke in Ethiopia was 18%.(27)

The WHO developed NCD Global Action plan 2013-2020 and the comprehensive global monitoring framework for the prevention and control of non-communicable diseases. In the global effort to reduce morbidity and mortality from CVD, the World Heart and Stroke Forum (WHSF) Guidelines Task Force of the World Heart Federation (WHF) recommends that every country develop a policy on CVD prevention(23,28)

The NCD as a Program first appeared in Ethiopia ,in the Health Sector Development Program (HSDP) III which spanned from 2005-2010. The NCD Strategic framework was developed in 2010 and the NCD Case Team was established in 2013 under the Diseases Prevention and Control Directorate for the first time .Recently Ethiopia developed national strategic plan for the prevention and control of non-communicable diseases from 2020/21-2024/25 which includes Cardiovascular diseases (CVD) and other major NCDs.(23).

Very cost effective interventions that are feasible to be implemented even in low-resource settings have been identified by WHO for prevention and control of cardiovascular diseases like stroke. They include two types of interventions: population-wide and individual, which are recommended to be used in combination to reduce the greatest cardiovascular disease burden.(29)

Health literacy and health beliefs are factors that can effectively contribute to adoption of preventive behaviors. HL is an important element to engage in health-promoting activities. Without a good understanding of health care information, informed decisions leading to desirable health results will be difficult. Abundant and consistent scholarship has shown that health literacy is a barrier to health care access, physician-patient communication, adherence, and effective healthcare use and that organizational factors have a major role in easing or complicating health for people with limited health literacy. (15,30,31)

Except few region based studies, evidence on CV risk behaviors is scarce in Ethiopia. Findings from the Southern part of the country show that 10.8% of CV patients smoke cigarettes, 12.1%

drink alcohol and 73.9% don't do any physical activity(32). In A systematic review and meta-analysis conducted to show Magnitude of risk factors and in-hospital mortality of stroke in Ethiopia, the overall magnitude of hypertension, diabetes mellitus, and atrial fibrillation among stroke patients were 47%, 8%, and 10%, respectively(27).

Behavior change theories and models provide a systematic view of events or successes, and they are assumed as a regular process for analyzing successes or failures, as a training process map, they provide the required guidelines for educational diagnosis and planning, and intervention design, and they facilitate evaluation as well .Health literacy has different roles among the constructs of HBM and also, HL is associated with the adoption of preventive behaviors (31,33)

There are studies conducted In Ethiopia focusing on stroke, their risk factors, general healthy literacy of CVD patients and Application of HBM constructs. Despite global evidences on association of health literacy, risk perception and preventive behaviors, I have not seen a single study which assessed an association between these factors, especially in terms of stroke in our setting. This study will fill a gap by assessing association of Health literacy, risk perception and stroke preventive behaviors ,so that it will help in the future management of patients with stroke starting from health care workers up to policy makers.

1.3 Significance of the study

Adopting preventative healthy habits is greatly influenced by one's health literacy and perception of a particular condition or preventive practice. Based on this, it is important to assess association of stroke-specific health literacy, its risk perception and other factors with stroke preventive behavior in order to create tailored interventions on stroke and support evidence-based health policy.

The study's findings will be useful for policy makers and other health system workers by showing which factors are determinants of stroke preventive practices so that they can target those factors and enhance preventive behaviors in at-risk individuals. Additionally, this study will serve as a starting point for additional research on this topic by other scholars.

CHAPTER TWO: LITERATURE REVIEW

2.1 Prevalence of stroke preventive practice

Study conducted among hypertensive patients in Israel , About half of the hypertensive patients reported doing regular exercise and adhering to a special diet; 13% were smokers. About half reported receiving counseling on smoking cessation and diet and a third on physical exercise. (34).

Study conducted among Low Health Literacy Hypertensive Patients Based on Health Belief Model in Bushehr District, South of Iran revealed that only 9.2% had a proper adherence to their medication regimen, and 5.3% avoided salt both while cooking and eating. Moreover, 19.1% had physical activity on most weekdays, and 55.9% were nonsmokers. 21.1% were alcohol consumers, and 27% managed their weight. (35)

Study conducted among oil industry workers in Iran based on health belief model showed that mean preventive behaviors score out of five for appropriate exercise ,blood pressure control, smoking ,periodic blood test and appropriate diet were 1.39(SD=0.52), 1.87(SD=0.54), 3.51(SD=0.92),1.61(SD=0.61) and 2.54(SD=0.73) respectively(36). On cross-sectional study carried on to assess Determinant Factors of Stroke Prevention Behavior among Hypertension Patient in Indonesia, 65.7% of respondents showed poor stroke prevention behavior(37).

On study carried on among general population in china to assess Health beliefs associated with preventive behaviors against non-communicable diseases, over all preventive behaviors was 66.4%.(38). In another Study conducted in korea on the roles of health literacy and social support in improving adherence to self-care behaviors among older adults with heart failure and the finding revealed that mean self-care behaviors was 29.79 (SD 7.12).(39)

On study carried on among emergency department patients in northern Tanzania on assessing Knowledge, attitudes, and preventative practices regarding ischemic heart disease, medication adherence, regular exercise , regular follow up, salt restriction and try to lose weight were 34.7% 80.8%,25.2%,28.7%,79.4% and 34.7% respectively.(40) In another study conducted among selected sub-Saharan African family physicians and trainees Lifestyle, most of the participants

had optimal or near-optimal lifestyle practices for the use of cigarettes, eating salad or raw vegetables and fruits, and also for sleeping habits. A progressive decline in the proportions of participants with optimal lifestyle practices for other lifestyle items was observed with the least proportions of participants indicating that they had regular check-ups, exercised frequently or had a personal doctor.(41)

A systematic review conducted by university of gonder on Knowledge, Prevention Practice and Associated Factors of Stroke Among Hypertensive and Diabetic Patients showed that level of stroke prevention practice was 2.4% to 72% but physical activity and weight reduction practice were relatively low. (42) Another Study conducted Among Hypertensive Patients at University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia showed that their stroke prevention practices was 51.7% (95 CI: 46.8, 56.5) .(43)

Study conducted among diagnosed hypertensive patients in selected hospitals, South Ethiopia, only 27.3% of the patients practiced recommended lifestyle modifications.(32). Additionally study carried on in four public hospitals in central Ethiopia focusing on Adherence to Antihypertensive Treatment and Associated Factors ,showed that adherence to medication was 31.7%.(44)

2.2 Level of health literacy and Knowledge on stroke

A systematic review of primarily published articles from 2010 up to 2020 related to stroke was performed and the reported overall knowledge of stroke was ranging from 4.4% to 79%. Knowledge to the signs/symptoms of stroke was 23.6% to 87%. However, 15% to 77% of subjects were also reported that they did not know any sign of stroke. The range of risk factor knowledge was 10.5% to 86.6%.(42)

Study was carried on Health literacy and modifiable risk factors of a stroke in Czech Republic and Most citizens of the Czech Republic (58.5%) have sufficient health literacy. Problematic health literacy is reported by 29.2% of respondents. The remaining 13.3% of respondents have inadequate health literacy.(45) A study conducted in Kuwait revealed almost 60% of adults have no knowledge of CVD, and only 29% of them knew of coronary heart disease among the CVDs.

Findings from Pakistan revealed 71% of admitted MI patients have poor knowledge of acute MI(46).

In study conducted among hypertensive and diabetic patients attending Specialist Hospital, Sokoto, Nigeria The respondents had good knowledge of stroke (70.3%), organs or parts of body affected by stroke (89.1%), signs or symptoms of stroke (87.0%), stroke risk factors (86.6%) and stroke prevention (90.8%).(47)

In Brazil cross sectional study was conducted on Functional health literacy (FHL) of patients with Cardiovascular disease , Less than half (49.3%) of the sample had adequate FHL, 30.1% of the patients had inadequate FHL and 20.6% had minimal literacy. In Another study conducted in Bardaskan ,Iran, The health literacy level of 18.1% of the participants was inadequate, 27.7% was marginal, 39.4% was adequate, and 14.7% was excellent. The primary sources of health information were physicians and health staff (50.9%) followed by the Internet (19.7%)(48,49).

The majority of adults in Sub-Saharan Africa fail to name even one CV risk factor, and in Nigeria almost 50% have poor knowledge about CV risk factors. In Cameroon, this knowledge level is also suboptimal, such that 36% of adults are unaware of CV risk factors. In this large community-based study from Buea, in the southwest region of Cameroon, it was found that population knowledge regarding CVD is sub-optimal with over half (52.2%) of the participants having an overall poor knowledge score.(7,50)

A cross-sectional survey was conducted in two referral hospitals in Eastern Ethiopia, half of patients (54%) had good knowledge on cardiovascular risk factors (scored>70%), whilst 46% demonstrated suboptimal knowledge levels in this area. In another study conducted in patients with cardiovascular disease having chronic follow up at jimma university medical center, Adequate functional health literacy was determined in 55.4% of CVD patients understanding health information whereas inadequate functional health literacy was determined in 53.9% participants for finding health information and in 50.5% of them having sufficient information to manage my health.(46,51)

On studies conducted towards stroke among diabetic and hypertensive patients having a follow up at University of Gondar Comprehensive Specialized Referral Hospital, The finding showed that the respondents had 36.65% good knowledge of stroke.(52)

2.3 Association of Health literacy and other factors with preventive behaviors

Study conducted Among University Students in Iran shows that perceived susceptibility, perceived benefits, and self-efficacy constructs of HBM significantly predicted 32.9% of the total variance of health literacy.(33).In another study conducted among low health literacy hypertensive patients in Bushehr District, South of Iran a significant association between perceived susceptibility and adherence to both low salt diet and non-smoking behavior was seen. Individuals who had more perceived severity had significantly greater adherence to their medication regimens(35)

A systematic review of primarily published articles (2010–2020) related to knowledge and prevention practices of stroke was performed and Inadequate level of knowledge and prevention practice of stroke was related to elderly, female gender, uneducated, unmarried, rural residents, economically low, comorbidity and unemployed individuals.(42)

A cross-sectional descriptive study conducted among older adults with heart failure in Korea, showed that Health literacy and social support were significant determinants of self-care behaviors in older adults with heart failure. Together, they explained 22% of the variance in self-care behaviors.(39) In another study on female students of Rafsanjan University of Medical Sciences (RUMS),self-efficacy and cues to action were found to be the first and second robust predictors of behavior, respectively. Health literacy, self-efficacy, cues to action and perceived susceptibility constructs predicted 52.1% of preventive behaviors.(53)

On another study conducted in Australia among patients taking oral anticoagulants for stroke thrombo prophylaxis in atrial fibrillation, significant correlations were observed between anticoagulation knowledge and health literacy with medication adherence. Participants with inadequate health literacy had a significantly lower mean knowledge score than those with adequate health literacy. Participants who self- reported adherence to their OAC had significantly higher knowledge scores than those who did not(54).

Additionally, study among women hospitalized during the COVID-19 pandemic in the southern part of Iran showed that all health literacy dimensions of comprehension, accessibility, reading skills, evaluation and decision making and behavior were detected as the predictors of health-promoting behaviors.(55) On systematic review conducted on literatures studied on patients taking Oral anticoagulants (OAC), Lower HL level was associated with greater knowledge deficits and less adherence to treatment they are taking.(56)

Study was conducted on Stroke Prevention Behavior among Hypertension Patients in Indonesia and The results showed that 65.7% of respondents showed poor stroke prevention behavior. Factors related to stroke prevention behavior include self-efficacy, perception, and awareness of stroke risk. The dominant factor influencing stroke prevention behavior in hypertensive patients is awareness of stroke risk.(37)

A quasi-experimental study was conducted on patients with ischemic heart disease found in Iran ,after training was given to the case group, it showed that The health literacy training intervention could improve self-care behaviors and treatment adherence in patients with IHD.(57).In large population-based study of individuals with cardiovascular disease in Central Denmark, aspects of health literacy (Understanding health information and Engaging with healthcare providers) are associated with health status and health behavior in cardiovascular patients.(58)

On study conducted Among Type 2 Diabetic Patients at a University Teaching Hospital in Kigali, Results indicated that There was a strong association between functional health literacy and self-care behaviors (59).Another study conducted among diabetes mellitus type 2 Sudanese Patients showed that, who had high level of self-efficacy to manage nutrition, physical exercise activity and medication were found more adherent to general diet, exercise activity, and medication taking, respectively.(60)

A cross-sectional study was employed at the outpatient clinic of the University of Gondar Comprehensive Specialized Hospital and The majority (63.24%) of patients with good adherence level were those with a high diabetic health literacy level, while a nearly equivalent number of patients from lower and higher diabetic health literacy level had a lower adherence level.(61).

On studies conducted among Employees in Addis Ababa, Employees with a low level of perceived barriers were less likely to have a poor practice of COVID-19 prevention compared to employees with a high level of perceived barrier. Similarly, employees with low cues to action and employees with a low level of self-efficacy practiced COVID prevention measures to a lesser extent compared to those with high cues to action and high level of self-efficacy respectively(62).

Study was carried on at University of Gondar Comprehensive Specialized Referral Hospital towards stroke and urban residency, being educated, monthly income and medical condition become hypertension (HTN) with Diabetes mellitus (DM) were strongly associated factors with good prevention practice of stroke.(52) Study was conducted towards cardiovascular diseases preventive practices among bank workers in Hossana town, Ethiopia and perceived severity and cues to take action were identified as predictors of perception to engage in CVD preventive behaviors.(63)

Various studies have been reviewed from global to studies conducted in Jimma and from this review we understood that social support, clinical characteristics and background characteristics of patients affect both their health literacy and preventive practice. Additional to this, number of studies showed that constructs of health belief model affects both health literacy and preventive practice even though their level and direction of influence may vary. There are studies also showing direct relationship among health literacy and preventive practices. Based on these findings the conceptual framework for this study was developed.

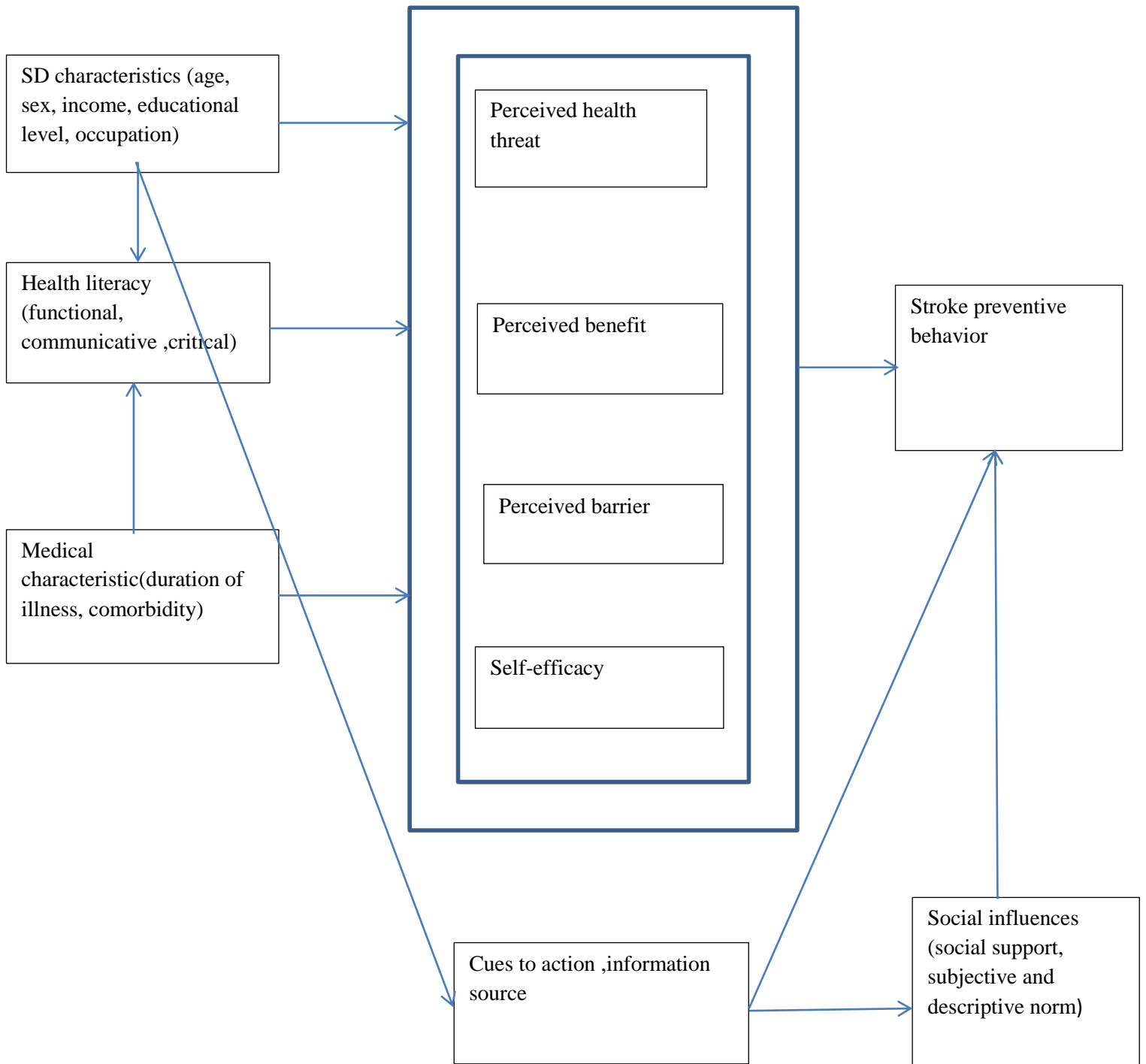


Figure 1 conceptual frame work

CHAPTER THREE: OBJECTIVES

3.1 General objectives

- To assess predictors Stroke preventive practices among patients with hypertension at public hospitals in Jimma town, Ethiopia.

3.2 Specific objective

- To determine the level of health literacy among patients with hypertension at public hospitals in Jimma town.
- To determine the prevalence of Stroke preventive practices among patients with hypertension at public hospitals in Jimma town.
- To identify factors associated with stroke preventive practices among patients with hypertension at public hospitals in Jimma town.

CHAPTER FOUR: METHOD AND MATERIALS

4.1 Study Area and Study Period

The study was conducted in Jimma town which is located in the Oromia region, Southwest Ethiopia, at 343 Km from Addis Ababa, the capital city of Ethiopia. The town has two public hospitals and four health centers, of these hospitals one is Jimma University Medical Center while the other is Shanan Gibe general hospital.

Jimma University Medical Centre (JUMC) is one of the oldest public hospitals in the country with a bed capacity of 800. Geographically, it is located in the city of Jimma, 352 km southwest of Addis Ababa. Currently it is the only teaching and referral hospital in the southwestern part of the country, providing services for approximately 16,000 inpatient, 220,000 outpatient attendants, 12,000 emergency cases and 4,500 deliveries in a year coming to the hospital from the catchment population of about 15 million people.(64)

shenen gibe general hospital is found in Jimma town. Jimma town, which is one of the towns in the oromia region with estimated total population of 1,20960 of which female accounts 60136 according to 2007 census. Its weather condition is woinadega and its annual average rainfall 1200 mm and it is located greater than 1400 meter altitude above sea level. In the city there are one referral hospital, one general and one private hospital and 4 governmental health centers.(65)The study was carried out from July 5 to August 04, 2022.

4.2 Study Design

- A cross-sectional study design was employed in two public hospitals in Jimma town to recruit eligible study population.

4.3 Source Population

- Sources population included All patients with hypertension who were on chronic follow up at Shenen Gibe hospital and Jimma University Medical center.

4.4 Study Population

•All Selected patients with hypertension who were on chronic follow up at Shenen Gibe hospital and Jimma University Medical center and who fulfilled eligibility criteria were included in the study.

4.4 Eligibility Criteria

4.4.1 Inclusion Criteria

•All Hypertensive patients on chronic follow up, registered at public hospitals in jimma town and available during the data collection time.

4.4.2 Exclusion Criteria

- Patients who were severely ill during the data collection time.
- Patients who were unable to communicate.

4.5 Sample Size Determination and Sampling Technique

4.5.1 Sample Size Determination

•Sample size was determined by using a single population proportion formula based on the following assumptions.(66)

$$n = \frac{(z_{\alpha/2})^2 p(1-p)}{w^2}$$

Where;

n= the minimum sample size

P: the proportion of adequate health literacy

we took from study conducted at jimma university medical center and on this study Adequate functional health literacy was determined in 55.4% of CVD patients understanding health information whereas inadequate functional health literacy was determined in 53.9% participants

for finding health information and in 50.5% of them having sufficient information to manage my health. for this study 55.4%(more proximal one) was taken(51)

D: marginal error of 5% will be used.

Z $\alpha/2$: standard normal score at 95% confidence interval.

$$n = \frac{(1.96)^2(0.554)(1-0.554)}{0.05^2}$$

Therefore, the sample size is 380. Total Hypertensive patients who had been attending the follow-up clinic in the two hospitals were 2,609 since the source populations were less than 10,000 the sample size was adjusted with the following correction formula

$$N_f = n / (1 + n/N)$$

$$N_f = 380 / (1 + 380/2,609) \\ = 332$$

Considering a 5% non-response rate, the required total sample size is 349.

4.5.2 Sampling procedure

The sampling technique used was systematic random sampling, which is a probability sampling method where researchers select members of the population at a regular interval. There are two hospitals in Jimma town namely JUMC and Shenen Gibe Hospital. The data was collected from JUMC and Shenen Gibe hospitals from Hypertensive patients on chronic follow up which are around 2053 and 556 respectively. The proportional allocation was used to minimize selection bias so the proportion of sample 275 and 74 were taken from the above-mentioned hospitals respectively. The follow update date is one times per week in JUMC and every other day in shenen gibe hospital. To calculate the sampling fraction total number of patient follow up in a month which is 821 for JUMC and 220 for Shenen Gibe Hospital is divided by the sample size which gives a sampling fraction of 2, So Every Two patients was selected in each hospital until the required sample size is fulfilled.

4.6 Variable and measurements

4.6.1 Dependent Variables

Stroke preventive practices:

- Attending follow up visit at clinic
- home monitoring of blood pressure
- Taking anti-hypertensive medications as prescribed by the physician.
- Eating fruits and vegetables
- To limit intake of fatty meat
- Reducing salt intake
- Performing regular physical exercise (for 30 minutes, three times per week)
- Reducing alcohol intake
- To Avoid or quit smoking
- To Donate blood regularly

4.6.2 Independent variables

- Socio-demographic characteristics (age, sex, educational level, occupation, Residence, monthly income)
- Perceived Susceptibility to Stroke.
- Perceived Severity of stroke.
- Perceived benefit of preventive practices
- Perceived barrier to preventive practices.
- Source of information about Stroke.
- Co- morbidity/Number of chronic disease an individual have.
- Self-efficacy to preventive practices.
- Cues to action of preventive practices.
- Descriptive and subjective norms.
- Social support on preventive practices.
- Stroke specific health literacy(Functional, Communicative and Critical)

4.6.3 Operational definition and Measurements

Perceived Susceptibility: Perceived susceptibility refers to beliefs about the likelihood of getting Stroke .it was measured using 4 items, which is responded with 5 point likert scale. The response was summed up to form a composite variable and treated as continuous variable(18)

Perceived Severity: Feelings about the seriousness of contracting Stroke or of leaving it untreated include evaluations of both medical and clinical consequences(for example, death, disability, and pain) and possible social consequences (such as effects of the conditions on work, family life, and social relations. It was measured using 7 items, which was responded with 5 point likert scale. The response summed up to form a composite variable and treated as continuous variable.(18)

Perceived benefits: Belief in efficacy of the Stroke preventive practice to reduce risk or seriousness of impact. It was measured using 6 items, which was responded with 5 point likert scale. the response was summed up to form a composite variable and treated as continuous variable (18,67).

Perceived barriers: Belief about the tangible and psychological costs of the Stroke preventive practice. It was measured using 5 items, which was responded with 5 point likert scale. the response was summed up to form a composite variable and treated as continuous variable(18,67).

Self-efficacy: the conviction that one can successfully execute the Stroke preventive practice required to produce the outcomes. It was measured using 5 items, which was responded with 5 point likert scale. the response was summed up to form a composite variable and treated as continuous variable(18,67).

Cues to action: Strategies to activate “readiness”. Potentiate readiness to perform Stroke preventive practice (perceived susceptibility and perceived benefits) to instigate action.it was measured using 4 items, 3 of them responded with Yes or No and one item is responded by selecting source of the cue to action from alternatives given. (18,67).

Social support: Social support is defined as well intentioned action that is given willingly to a person with whom there is a personal relationship and that produces an immediate or delayed

positive response in the recipient. It was measured using 12 items, which was responded with 5 point likert scale.(68)(69)

Descriptive norm: perceptions about what others in one's social or personal networks are doing. It was measured by 5 items. Using 5 point scale (1 None of them 2 Some of them 3 Undecided 4 Most of them 5 All of them). A higher score indicated a higher descriptive norm. (17)(49).

Subjective norm: normative beliefs about what others think one should do and motivation to comply(18).It was measured by 5 items , using 5 point scale (1 None of them 2 Some of them 3 Undecided 4 Most of them 5 All of them). A higher score indicated a higher injunctive norm. (17)(49).

Knowledge on stroke : Knowledge of respondents on Stroke Symptoms, Risk Factors, and Necessary Actions.it was measured by 6 items, having multiple responses .the response was summed up to form a composite variable and treated as continuous variable.(72)

General health condition: it is respondents condition in terms of duration of illness, Treatment condition, status after treatment and family history.it was measured by 5 items with categorical variables responses.

Co- morbidity : it is existence of more than one disease or condition. In this study on which all respondents were having hypertension, it was measured by 2 items whether they have additional disease and if they respond yes which type is it, using an item having multiple responses.

Stroke Preventive behaviors: are behaviors which helps for preventing peoples from developing Stroke. This are Attending follow up visit at clinic, home monitoring of blood pressure, Taking anti-hypertensive medications as prescribed by the physician, Eating fruits and vegetables, To limit intake of fatty meat, Reducing salt intake, Performing regular physical exercise (for 30 minutes, three times per week),Reducing alcohol intake, To Avoid or quit smoking, To Donate blood regularly. It was measured using questioner adopted from literatures and it has 10 items with 5 point scale .The response was summed up to form a composite variable and the result was treated as a continuous variable. if the respondent haven't undertaken one of the above mentioned preventive behaviors the score would be one.(47)(43)

Health literacy: Is The individuals' capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions. It was assessed using stroke specific health literacy scale ,which is adopted from heart failure specific health literacy scale and stroke awareness questionnaire. Which is more comprehensive health literacy assessment tool (encompassing functional, communicative and critical health literacy) and also quick and easy to use. It was measured using 12 items having four responses .The responses summed up to form composite variable and treated as continuous variable(12)(70)

4.7 Data Collection Tools and Procedures

Data was collected by face to face interview using a structured questionnaire which was developed based on reviewing different literatures and adapted based on the objectives of this study. The data collection tools initially prepared in English and translated to Amharic and Afan Oromo. The tool is comprised of socio-demographic characteristics (age, sex, educational level, marital status, occupation, Residence, monthly income) Source of information and knowledge about Stroke among Hypertensive patients on chronic follow up, Number of chronic disease an individual have ,constructs from HBM in the context of Stroke, Social support, Norms, Stroke specific Health literacy and Stroke preventive behavior. Data was collected at waiting area of chronic follow up clinics in Shanan gibe hospital and jimma medical center by 4 clinical nurses, supervised by two BSc nurses.

4.8 Data Quality Assurance

Before beginning data collection, the questionnaire was translated by language experts from the English version to Amharic language and Afan Oromo language and back-translated to the English language by experts to keep the consistency of the questionnaire. After that one-days training was given before actual data collection by the principal investigator to supervisors and data collectors about the objective of the study, how to supervise and collect the interview questionnaire respectively.

Before actual data collection, the instrument was pretested on 5% of the actual sample in Seka hospital with somewhat similar socioeconomic status with the study population and correction was taken accordingly. During data collection, questionnaires were checked for completeness on

a daily basis by data collectors and supervisors. The validity of the questionnaire was ensured by content validity by involving experts from Health, Behavior and Society department and Cronbach's alpha was used to check the internal consistency of the items. For each scale, Cronbach's alpha scale of >0.7 was taken as an acceptable measure of internal consistency of items on the scale.

4.9 Data Processing and Analysis

After the data collection, data was checked manually for its completeness every day. The responses in the completed questionnaire was coded and entered into Epi-data version 4.0 and exported to statistical package for social science (SPSS) window 25 for analysis by a principal investigator, further data cleaning (editing, recoding, checking for missing values and outliers) was made after exported to SPSS.

Descriptive statistics was used to describe the variables, and then the results was expressed as mean, frequency and percentage. Simple linear regression model was fitted to identify the presence of an association between each independent and dependent variable. By reviewing various literatures, Variables with P value <0.25 in the Simple linear regression model were a candidate to be fitted into a multivariable linear regression model and β with its 95% CI was used to measure the strength of association. P-value <0.05 was used to declare statistically significant association and adjusted R^2 was used to analyze variability explained by independent variables on Stroke preventive practice.

4.10 Ethical Consideration

Ethical clearance was obtained from Institutional Review Board (IRB) of Jimma University institute of health and letter was written to the selected public hospitals (JUMC and Shenen Gibe) to get official permission. The necessary permission was obtained from JUMC and Shenen Gibe hospital. Informed verbal consent was obtained from the study participants after explaining the purpose of the study. Data kept confidential and anonymous and it was used only for research purposes. The participants were informed that they are not forced to answer the entire question and they can withdraw at any time if they do not want to participate.

4.11 Dissemination Plan

The findings of the study will be presented to Jimma University scientific community in a defense and after approval of the findings of this study by Jimma University Institute of Health, Faculty of Public Health and Department of Health, Behavior, and Society and additionally to post graduate research directorate. The finding report will be disseminated to Jimma town Health Office, JUMC, Shenen Gibe hospitals, Health Institutions in Jimma town and different NGOs working on health literacy and cardiovascular disease. Finally, it will be published in a reputable journal.

CHAPTER FIVE: RESULT

5.1 Socio-demographic characteristics of respondents

From 349 participants 342 respondents completed the interview making 98% response rate. The age of the respondents ranged between 32 and 80 years with mean age of 52.78 (± 12.17) years. More than half 201(58.7%) of the respondents were Muslim, Oromo in ethnicity 196(57.3%), 179(52.3%) of them male and 190(55.6%) of them were married. Moreover 119 (34.8%) of them attended primary education and 196 (57.3%) of them reside in rural areas (table 1).

Table 1: Socio-demographic characteristics of patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342)

Variables	Categories	Frequency	Percent
Age	<50	153	44.7
	≥ 50	189	55.3
Sex	Male	179	52.3
	Female	163	47.7
Religion	Muslim	201	58.7
	Orthodox	98	28.7
	Protestant	43	12.6

Ethnicity	Oromo	196	57.3
	Amhara	54	15.8
	Dawro	36	10.5
	Kafaa	21	6.2
	Gurage	16	4.7
	Other	19	5.5
Marital status	Married or living together	190	55.6
	Separated, Divorced and widowed	132	38.6
	Single	20	5.8
Educational level	Can't read and write	104	30.4
	Read and write	49	14.3
	Primary education	119	34.8
	Secondary education	41	12
	Higher education	29	8.5
Occupational status	Housewife	120	35.1
	Merchant	90	26.3
	Farmer	66	19.3
	Government employee	32	9.4
	Unemployed	23	6.7
	Other	11	3.2
Residence	Rural	196	57.3
	Urban	146	42.7
Monthly Income	≤3000	298	87.1
	>3000	44	12.9

5.2 Health and medical condition

Two third 228(66.7%)of respondents claim that they have improvement since they started treatment and 138(40.4%) of them have close relative with hypertension, of which 44(31.7.4%) of them are their siblings. Of the participants 141(41.2%) of them have at least one comorbid illness and out of them 36(10.5%) have kidney disease. From those having comorbid illness 98(69.5%)of them are taking treatment for the disease.(table 2)

Table 2: health and medical condition of patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342)

Items	Categories	Frequency	Percent
year since diagnosis	<5 years	173	50.6
	5-10 years	118	34.5
	>10	51	14.9
General health condition after treatment and follow up	Improved	228	66.7
	The same	79	23.1
	Worsened	23	6.7
	Don't know	12	3.5
any one in his/her family who have hypertension	Yes	138	40.4
	No	204	59.6
If YES, his/her relationship(blood relation)	Siblings (brother, sister)	44	31.7
	Mother	32	23.0
	Father	31	22.3
	Children	18	12.9
	Grandparents	4	2.9
	Other	10	7.7
any other related comorbidity or disease	Yes	141	41.2
	No	201	58.8
If yes, type of comorbid illness			

Kidney disease	Yes	36	10.5
	No	306	89.5
Heart disease	Yes	30	8.8
	No	312	91.2
Disease of muscle and bones	Yes	25	7.3
	No	317	92.7
Diabetes mellitus	Yes	21	6.1
	No	321	93.9
Other	29		8.5
Whether currently taking treatment for the disease mentioned above	Yes	98	69.5
	No	43	30.5

5.3 source of information on stroke

The main source of information and also the most trusted one in getting information about stroke were health professionals [279(81.6%) and 240(70.2%) respectively]. (table 4 and figure 2)

Table 3: most trusted source of information on stroke of patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342)

Items	Categories	Frequency	Percent
The most trusted source of information about stroke			
Health professional	Yes	240	70.2
	No	102	29.8
Family	Yes	107	31.3
	No	235	68.7
Health extension workers	Yes	79	23.1
	No	263	76.9
TV/Radio	Yes	79	23.1
	No	263	76.9
Friends	Yes	23	6.7
	No	319	93.3
Teacher	Yes	20	5.8
	No	322	94.2
Internet	Yes	4	1.2
	No	338	98.8

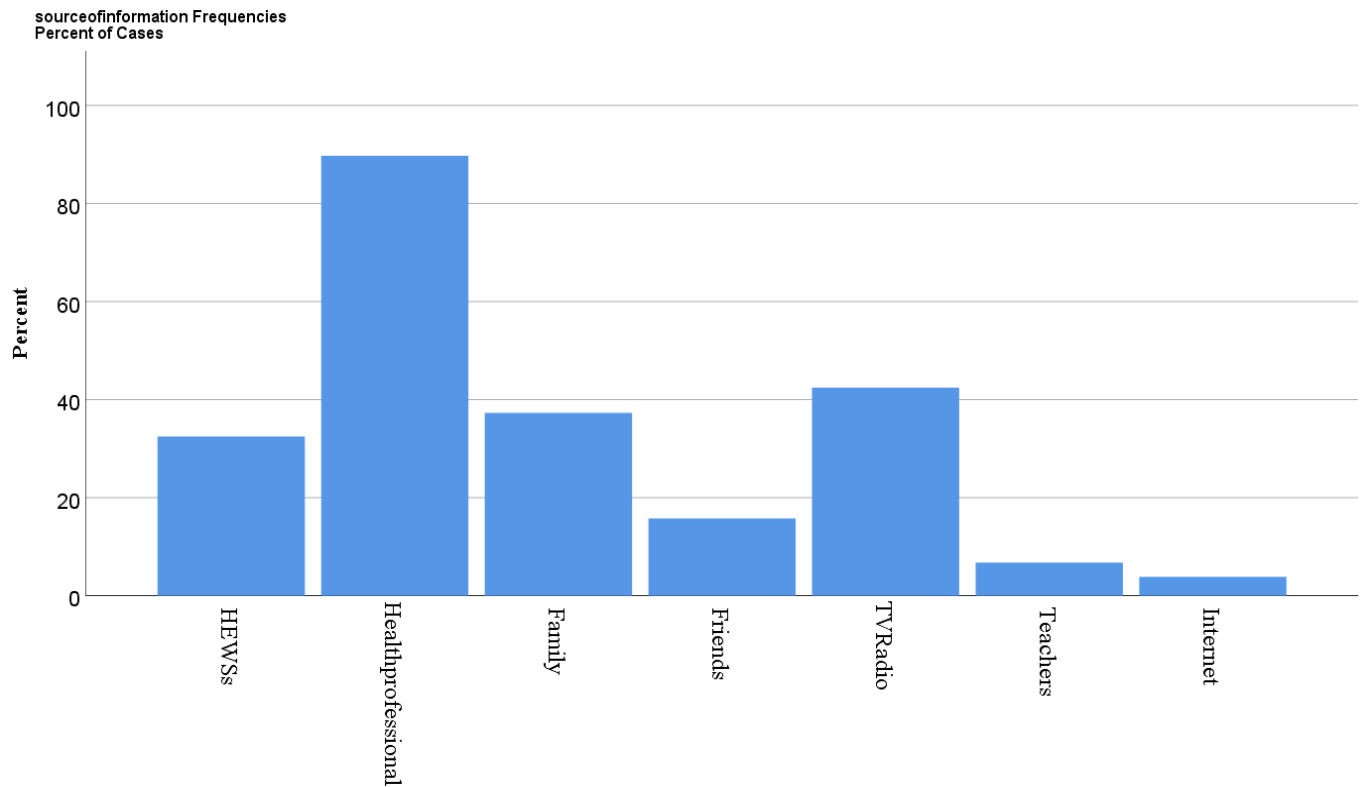


Figure 2: source of information on stroke among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342).

5.4 knowledge about Stroke and its preventive practices.

The mean score of knowledge was 9.6(\pm 5.35).Regarding knowledge about stroke majority 319(93.3%) of them heard about stroke previously and one third 116(33.9%) of respondents knew that stroke is brain hemorrhage. Almost half 169(49.5%) of the respondents knew that Weakness on one side of the body is the major symptom of stroke and 239(69.9%) of them knew hypertension is the major risk factor for stroke.(table 3)

Table 4: knowledge about Stroke and stroke preventive practice of patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342)

Items	Categories	Frequency	Percent
heard about stroke previously	Yes	319	93.3
	No	23	6.7

Respondents understand stroke as			
Brain haemorrhage	Yes	116	33.9
	No	226	66.1
Blood clot in the brain	Yes	99	28.9
	No	243	71.1
A condition that affects the brain [i.e., don't specify clot/haemorrhage]	Yes	43	12.6
	No	299	87.4
Circulation problem in the brain	Yes	13	3.8
	No	329	96.2
Don't know	122		35.7
symptoms or warning signs of a stroke			
Weakness on one side of the body	Yes	169	49.5
	No	173	50.6
Severe headache	Yes	84	24.6
	No	258	75.4
FAST(symptoms related to face, arm, speech and time)	Yes	81	23.7
	No	261	76.3
Difficulty understanding/ sudden confusion	Yes	71	20.8
	No	271	79.2
Dizziness	Yes	64	18.7
	No	276	80.7
Knowledge about common risk factors to cause stroke			
High blood pressure	Yes	239	69.9
	No	103	30.1

Higher age	Yes	100	29.2
	No	242	70.8
High salt diet	Yes	95	27.8
	No	247	72.2
Diabetes	Yes	53	15.5
	No	289	84.5
High Fat diet	Yes	50	14.6
	No	292	85.4
Heart disease	Yes	45	13.2
	No	297	86.8
complications related to stroke			
Weakness on one side of the body	Yes	247	72.2
	No	95	27.8
Confusion; problems with thinking/memory	Yes	156	45.6
	No	186	54.4
Difficulty with use of arms or legs	Yes	123	36
	No	219	64
Problems with speech	Yes	68	19.9
	No	274	80.1
Problems with vision	Yes	45	13.2
	No	297	86.8
I don't know	12		3.5
Knowledge about preventive methods of stroke			
Blood pressure control	Yes	242	70.8
	No	100	29.2
Control diabetes	Yes	96	28.1
	No	246	71.9

weight control	Yes	57	16.7
	No	285	83.3
Regular physical exercise	Yes	54	15.8
	No	288	84.2
Control cholesterol level	Yes	20	5.8
	No	322	94.2
Limit/stop alcohol intake	Yes	18	5.3
	No	324	94.7
Knowledge about reducing further stroke after a person experienced stroke			
Blood pressure control	Yes	141	41.2
	No	201	58.8
Medication	Yes	114	33.3
	No	228	66.7
Good control of Diabetes	Yes	35	10.2
	No	307	89.8
Diet therapy	Yes	27	7.9
	No	315	92.1
I don't know	122		35.7

5.5 Risk Perception towards Stroke and stroke preventive practice

When we look at the risk perception of respondents, the Mean score was 14.69(\pm 3.53) for perceived susceptibility, 29.50(\pm 2.92) for perceived severity, 23.50(\pm 3.08) for perceived benefit, 16.38(\pm 3.30) for perceived barrier and 16.09(\pm 2.17) for self-efficacy.(table 5)

Table 5: Risk Perception towards Stroke and stroke preventive practice among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342)

Variables	Strongly disagree/disagree F (%)	Neutral F (%)	Agree/Strongly agree F (%)
Perceives susceptibility			
I think I am more susceptible/at risk to Stroke	29(9.1)	123(38.6)	167(52.4)
I think I have a greater chance of developing Stroke	83(26)	113(35.4)	123(38.6)
I think that people who have hypertension will develop/experience of stroke.	41(12.9)	89(27.9)	189(59.2)
I think that older people are more likely to develop stroke	71(22.3)	90(28.2)	158(49.6)
Perceived severity			
Stroke is life threatening	66(20.7)	34(10.7)	219(68.6)
Stroke is a serious problem	20(6.2)	19(6.0)	280(87.7)
Stroke leads to loss of life	54(16.9)	66(20.7)	199(62.4)
stroke can leads to disability such as paralysis	144(45.1)	26(8.2)	149(46.7)
stroke can leads to long-term hospitalization	114(35.7)	61(19.1)	144(45.2)
stroke is serious health condition among patients with hypertension	68(21.3)	89(27.9)	162(50.8)
If you developed Stroke it would be more serious than other diseases to you.	88(27.6)	61(19.1)	170(53.3)
Perceived benefit			
Undertaking recommended health actions prevents stroke	51(16)	44(13.8)	224(70.2)
I think taking anti-hypertensive medication as prescribed by the physician prevents from stroke	57(17.9)	81(25.4)	181(56.8)
I think Regular physical exercise (for 30 minutes, three times per week) prevents from Stroke.	102(31.9)	69(21.6)	148(46.4)
I think Taking low salt diet(salt free	94(29.5)	49(15.4)	176(55.1)

diet) prevents from Stroke.			
I think Eating fruits and vegetables prevents from Stroke.	117(36.7)	93(29.2)	109(34.1)
I think Avoiding substances (smoking, khat chewing, alcohol drinking) prevents from Stroke.	96(30.1)	109(34.2)	114(35.7)
Perceived barrier			
I think the setting is not comfortable to perform regular physical exercise (for 30 minutes, three times per week)	120(37.6)	61(19.1)	138(42.2)
I think It is not feasible to get and eat fruits and vegetables in a regular base.	99(31)	78(24.5)	142(44.5)
I think It is not tasty to take low salt diet.	93(29.2)	97(30.4)	129(40.4)
I think It is not feasible to be free of all types of substances(smoking, khat chewing, alcohol drinking)	104(32.6)	99(31)	116(36.4)
I think performing Stroke prevention practice would require new habit (which is tiresome)	82(25.7)	87(27.3)	150(47)
Self-efficacy			
It is easy for me to perform regular physical exercise (for 30 minutes, three times per week)	153(48)	51(16.0)	115(36)
I can take low salt diets	78(24.5)	98(30.7)	143(44.8)
I am confident that I can get and eat fruits and vegetables	116(36.4)	99(31)	104(32.6)
It easy for me to avoid any type of substances (smoking, khat chewing, alcohol drinking)	105(32.9)	87(27.3)	127(39.8)
I can avoid taking foods with higher amounts of fat in a regular base.	71(22.6)	81(25.4)	166(52)

Table 6: Descriptive statistics of components of health belief model(with Cronbach’’s alpha)

Variables	Number of items	Scale range	Mean	SD	Cronbach’’s alpha
Perceived susceptibility	4	4-20	14.69	3.53	0.754
Perceived severity	7	7-35	29.50	2.92	0.813
Perceived benefit	6	6-30	23.50	3.08	0.799

Perceived barrier	5	5-25	16.38	3.30	0.734
Self-efficacy	5	5-25	16.09	2.17	0.741

5.6 Respondents Perceived Social Support

Mean respondents Perceived Social Support was 39.38(±9.08). About 180(56.4%)of the respondents have good perceived social support.(table 7)

Table 7: Respondents Perceived Social Support of patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342)

Items	Strongly disagree/disagree F (%)	Neutral F (%)	Agree/Strongly agree F (%)
There is a special person who is around when I am in need	42(13.2)	73(22.9)	204(64)
There is a special person with whom I can share my joys and sorrows.	56(17.6)	81(25.4)	182(57.1)
My family really tries to help me	56(17.6)	71(22.3)	192(60.2)
I get the emotional help and support I need from my family.	50(15.7)	97(30.4)	172(53.9)
I have a special person who is a real source of comfort to me.	59(18.5)	58(18.2)	202(63.3)
My friends really try to help me.	131(41)	88(27.6)	100(31.3)
I can count on my friends when things go wrong	126(39.5)	91(28.5)	102(31.9)
I can talk about my problems with my family	64(20.1)	92(28.8)	163(51.1)
I have friends with whom I can share my joys and sorrows.	132(41.4)	83(26)	104(32.6)
There is a special person in my life who cares about my feelings.	62(19.4)	81(25.4)	176(55.2)
My family is willing to help me make decisions	69(21.6)	77(24.1)	173(54.3)
I can talk about my problems with my friends.	115(36)	94(29.5)	110(34.5)

5.7 Respondents Descriptive and subjective norm

When we look at the respondents descriptive and subjective norm, a mean score was 33.86(\pm 3.68).for descriptive one it was 16.2 and for subjective norm it was 17.6.

Table 8: Descriptive and subjective norm among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342)

Items	None of them/ Some of them F(%)	Undecided F(%)	Most of them / All of them F(%)
How many of general population do the respondent think participate in Stroke preventive practice	221(69.3)	62(19.4)	36(11.3)
How many of patients with any type of chronic diseases do the respondent think participate in stroke preventive practice	124(38.9)	114(35.7)	81(24.9)
How many of Hypertensive patients do the respondent think participate in Stroke preventive practice	108(33.9)	71(22.3)	140(43.8)
If Stroke preventive practice is recommended for hypertensive patients, how many of them do the respondent think will participate	60(18.8)	79(24.8)	180(56.4)
If Stroke preventive practice is recommended for patients with any type of chronic disease, how many of them do the respondent think will participate	67(21)	95(29.8)	157(49.3)
How many of General population do the respondent think approves his/her participation in stroke prevention practice	58(18.2)	126(39.5)	135(42.4)
How many of family members do the respondent think approves his/her participation in stroke prevention practice	50(15.7)	99(31.0)	170(53.3)
How many of friends do the respondent think approves his/her participation in stroke prevention practice	105(32.9)	110(34.5)	104(32.6)
How many of peoples most important (other than friends and family members) do the respondent think approves his/her participation in stroke preventive practice	78(24.4)	94(29.5)	147(46)
How many of Hypertensive patients on follow up like him/her do the respondent think approves his/her	92(28.9)	75(23.5)	152(47.7)

participation in stroke prevention practice			
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5.8 Respondents level of Stroke Specific Health Literacy

In this study stroke specific health literacy level mean score was 28.48(\pm 4.39), And slightly more than half 166(52.0%) of the respondents showed good Stroke Specific Health Literacy level.(table 9) when we look at specific dimensions of health literacy ,mean functional health literacy was 11.8, communicative health literacy was 8.7 and critical health literacy was 7.9.

Table 9: Stroke Specific Health Literacy among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342).

Items	Inapplicable F(%)	Rarely applicable F(%)	Sometimes applicable F(%)	Strongly applicable F(%)
The prescriptions and pamphlets from hospitals and pharmacies are hard to read.	29(9.1)	44(13.8)	152(47.6)	94(29.5)
There are terms that I do not understand in the prescriptions and Pamphlets from hospitals and pharmacies.	12(3.8)	22(6.9)	146(45.8)	139(43.6)
The content in the prescriptions and pamphlets from hospitals and pharmacies is hard to understand.	10(3.1)	26(8.2)	162(50.8)	121(37.9)
It is difficult to write in handbooks and documents from hospitals and pharmacies.	6(1.9)	31(9.7)	168(52.7)	114(35.7)
I have been able to have satisfactory conversations regarding stroke with those close to me, including medical professionals.	48(15)	95(29.8)	113(35.4)	63(19.7)
I have been able to understand information regarding the treatment and symptoms of stroke and everyday precautions.	9(2.8)	59(18.5)	131(41.1)	120(37.6)
I can notice symptoms of stroke such as weakness or numbness of the body (face, arm, or leg),trouble in speaking and so on.	41(12.9)	94(29.5)	137(42.9)	47(14.7)
I have wondered whether the information regarding stroke and its treatment is applicable to me.	38(11.9)	64(20.1)	141(44.2)	76(23.8)
I have gathered knowledge on stroke from television, radio, and the Internet.	90(28.2)	120(37.6)	68(21.3)	41(12.9)

I have had doubts regarding the credibility of information regarding stroke and its treatment.	97(30.4)	113(35.4)	76(23.8)	33(10.3)
I have asked and checked whether information regarding stroke and its treatment is accurate.	99(31.0)	133(41.7)	60(18.8)	27(8.5)
I have gathered information on hospitals and treatments to make my own decisions.	79(24.8)	88(27.6)	106(33.2)	46(14.4)

5.9 Respondents' stroke preventive practice level

In this study half 172 (50.3 %) of the respondents had good stroke preventive practice.(table 10)

Table 10: stroke preventive practice level among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342).

Items	Not at all/rarely F(%)	Sometimes F(%)	Often/very often F(%)
I Attend follow up visit at clinic	51(14.9)	65(19.0)	226(66.1)
I Do home monitoring of blood pressure	228(66.6)	45(13.2)	69(20.2)
I Take anti-hypertensive medications as prescribed by the physician to prevent stroke	29(8.4)	94(27.5)	219(64.1)
I Eat fruits and vegetables	127(37.1)	169(49.4)	46(13.5)
I limit my intake of fatty meat	73(21.4)	102(29.8)	167(48.9)
I Reduce salt intake	68(19.9)	99(28.9)	175(51.2)
I Perform regular physical exercise (for 30 minutes, three times per week)	184(53.8)	67(19.6)	91(26.6)
I Reduce alcohol intake	58(17)	24(7)	260(76)
I Avoid or quit smoking	15(4.4)	6(1.8)	321(93.8)
I Donate blood regularly	252(73.7)	54(15.8)	36(10.6)

5.10 correlation of the constructs

The relationship between risk perception variables was seen by using Pearson correlation. There was positive and moderate correlation between self-efficacy and Perceived Benefit ($r=0.624$, $p<0.001$). There was also positive and moderate correlation between perceived susceptibility and perceived severity, ($r=0.351$, $p=0.05$). (table 11)

Table 11 The relationship between constructs, on study carried on among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342).

	PSU	PSE	PBE	PBA	SE	PSS
PSU	1					
PSE	0.351**	1				
PBE	0.472**	0.386**	1			
PBA	-0.309**	-0.135*	-0.228**	1		
SE	0.350**	-0.099	0.541**	-0.345**	1	
PSS	0.307**	0.382**	0.281**	-0.145**	0.203**	1

PSU=perceived susceptibility PS=Perceived severity PBA=perceived Barrier PBE=Perceived Benefit
SE=Self-Efficacy PSS=Perceived social support

**Moderate Correlation

*Weak Correlation

5.11 Association of stroke preventive practice with other variables

In simple linear regression age, sex, educational level, place of residence, monthly income, knowledge about stroke, perceived susceptibility, perceived severity, perceived benefit, perceived barrier, stroke specific health literacy (functional, communicative and critical), norms (descriptive and subjective), perceived social support and self-efficacy showed $p < 0.25$ and they were selected as a candidate variable for multiple linear regression model.

Table 12: Association of stroke preventive practice with other variables, among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342).

Variables	Unstandardized β	Standardized β	P-Value	95.0% CI β
Age	0.01	0.04	0.103	(-0.02,0.05)
Sex	-2.57	-0.31	<0.001	(-3.41,-1.74)
Read & write	0.64	0.09	0.06	(-0.04,1.33)
Primary education	1.37	0.16	0.003	(0.46,2.27)
Secondary education	1.74	0.14	0.011	(0.40,3.07)
Higher education	3.89	0.26	<0.001	(2.37,5.41)
Residence	0.53	0.06	0.238	(-0.35,1.42)
Monthly income	0.001	0.04	0.031	(<0.001,0.001)
Knowledge on stroke	0.31	0.39	<0.001	(0.23,0.38)
Perceived susceptibility	0.73	0.62	0.002	(0.62,0.83)
Perceived severity	0.31	0.22	0.231	(0.15,0.46)
Perceived benefit	0.62	0.46	0.112	(0.49,0.75)
Perceived barrier	-0.54	-0.43	0.241	(-0.67,-0.42)
Functional health literacy	0.51	0.64	<0.001	(0.43,0.69)
Communicative	0.14	0.27	<0.001	(0.04,0.29)

health literacy				
Critical health literacy	1.81	2.3	0.031	(0.09,2.23)
Descriptive Norms	0.23	0.42	0.134	(0.12,0.34)
Subjective norm	0.17	0.34	0.175	(0.07,0.26)
Perceived social support	0.12	0.27	0.202	(0.07,0.17)
Self-efficacy	1.01	0.53	<0.001	(0.83,1.19)

*can't read and write(for educational status) and male (for sex) are reference variables.

In multivariable linear regression perceived susceptibility, self-efficacy, stroke specific health literacy(functional, communicative and critical), educational level, knowledge on stroke and perceived social support got p-value <0.05 which shows the presence of significant association between this variables and stroke preventive practice.

Table 13: predictors of stroke preventive practice among patients with hypertension on follow up at public hospitals in jimma town ,Ethiopia, July 05 to August 04,2022(n=342).

Variables	Unstandardized β	Standardized β	P-Value	95.0% CI β
Constant	11.01		<0.001	(5.19,16.83)
Read and write	1.32	0.11	0.015	(0.25,2.38)
Primary education	2.15	0.25	< 0.001	(1.37,2.92)
Secondary education	2.78	0.22	<0.001	(1.62,3.94)
Higher education	3.32	0.23	<0.001	(2.08,4.56)
Knowledge on stroke	0.20	0.24	0.03	(0.12,0.28)
Perceived susceptibility	0.32	0.26	0.01	(0.21,0.43)
Perceived barrier	-0.19	-0.15	<0.001	(-0.29,-0.10)

Self-efficacy	0.83	0.43	<0.001	(0.60,1.06)
Perceived Social support	0.03	0.06	0.02	(0.017,0.13)
Functional health literacy	0.63	0.03	0.04	(0.22,1.04)
Communicative health literacy	0.59	0.26	<0.001	(0.38,0.81)
Critical health literacy	0.12	0.07	0.01	(0.03,0.19)

Educational status ,knowledge about stroke preventive practice, perceived susceptibility , perceived barrier, self-efficacy, perceived social support and stroke specific health literacy(functional, communicative and critical) were predictors of stroke preventive practice. This model explained 64 % of variability in stroke preventive practice $F(20,298)=35.6, P<0.001, R^2=0.64$)

When educational status is changed to primary education from not read and write, stroke preventive practice increases by 2.15 keeping others variables constant. when we change to secondary education and higher education from not read and write, there is an increment in stroke preventive practice by 2.78 and 3.32 respectively keeping others variables constant

In this study one unit increase in perceived susceptibility, resulted in 0.32 increment in stroke preventive practice and one unit increase in respondents self-efficacy resulted in 0.83 increment in their stroke preventive practice by keeping others variables constant. Moreover one unit increase in respondents Knowledge on stroke resulted in 0.20 increment in stroke preventive practice and one unit increase in respondents functional health literacy resulted in 0.63 increment in their stroke preventive practice by keeping others variables constant.

CHAPTER SIX: DISCUSSION

The aim of the study was to assess level of stroke specific health literacy, stroke preventive practice and factors associated with stroke preventive practice. the study demonstrated that the magnitude of health literacy and stroke preventive practice were 52% and 50.3% respectively.

The result of this study revealed that 52.0% of our respondents had good healthy literacy. This finding is similar with study conducted in jimma university medical center among patients with cardiovascular disease, which showed that Adequate functional health literacy was determined in 50.7% of CVD patients when we took average result of its domains which are understanding health information, finding health information and having sufficient information to manage their health.(40) Also, this finding is almost similar with the study conducted in Brazil among patients with cardiovascular disease, which revealed that (49.3%) of the sample had adequate functional health literacy(38).This might be due to the similarity of study setting which is institutional based and the study participants were those with cardiovascular disease getting care at health facility.

This study indicates that 50.3% of respondents in this study had good stroke preventive practice. the magnitude of preventive practice was almost similar with that of study conducted among hypertensive patients having a follow up at University of Gondar Comprehensive Specialized Referral Hospital, which shows 51.7% of respondents had good stroke preventive practice(43).This might be due to both studies carried on among patients with hypertension having follow up at public hospitals. The magnitude of preventive practice revealed in this study is higher than study conducted in Indonesia among hypertensive patients ,which showed their stoke preventive practice as 34.3%. The reason for the discrepancy might be, as the study findings shows, the respondents in this study has low self-efficacy(43.8%) and awareness on stoke(39.9%).(37)

This study indicates that respondents educational level increases their level of stroke preventive practice .This finding is similar with the study conducted in Sokoto, Nigeria(47) and Gondar Comprehensive Specialized Referral Hospital, Northwest, Ethiopia (43) which showed having higher education was associated with good stroke preventive practice. Moreover, the study among hypertensive patients in selected hospitals, in Southern Ethiopia(32) and systematic review conducted by university of gonder(42) also indicated respondents educational status

positively affects their stroke preventive practice. This might be due to the fact that as educational increases the capacity of individuals acquiring information from different source increase. Education leads to better knowledge, and thus to better lifestyle choices. Additionally Education equips people to achieve stable employment, have a secure income and cope with ill health by assisting them to make informed health care choices.(75)

This study showed that as the level of knowledge increase stroke preventive practice increases and this is similar with studies conducted in Australia, among patients taking medication for stroke prevention(54),A study Among Hypertensive Stroke Patients in Israel which revealed effect of knowledge on compliance with recommended lifestyle behaviors(34) and also studies carried on in other clinical contexts, in ogbomoso, Nigeria(76) and Korea(77) also showed that knowledge has a significant association with level of preventive action of the respondents. This is because The main goal of information acquisition is behavioral change and improvement in practice; which have been shown by various studies. Additionally knowledge also helps in understanding the structure of risk perception which will improve probability of practicing preventive behaviors(76,77)

In this study individuals Perceived susceptibility to stroke increases their stroke preventive practice. This finding is similar with the study conducted among hypertensive patients in Bushehr District, South of Iran (35) ,study carried on in Fujian Medical University, china(38) and Fars province, Iran (78) that showed similar finding with the result of this study. In another study conducted among people at risk of cardiovascular disease in Birjand City, Iran(79) , in Central Ethiopia (44) and Tehran, Iran (80) among hypertensive patients showed a significant association between Perceived susceptibility of hypertensive patients and treatment adherence. This is consistent with HBM concepts that explains association of risk perception with desired healthy behaviors, people's perception of risk predicts their behaviors and low-risk perception leads to undesired behaviors. (44) Existing researches suggests that disease risk perceptions are a critical determinant of health behavior, although the nature of the association among risk perceptions and health behavior may depend on the profile of different types of risk perceptions and the accuracy of such perceptions.(81)

The result of this study indicated that respondents perceived barrier decreases their stroke preventive practice and this is similar with study conducted in First Affiliated Hospital of Fujian Medical University, PR China (38) and study carried on individuals at risk of cardiovascular disease in centers across Birjand city(79) . In another study conducted among hypertensive patients who referred to rural health care centers in Ardabil city-Iran showed that Those who perceived barriers to be high had lower adherence than those perceiving moderate and low barriers.(80) This is because perceived barriers in turn lead to, at minimum, changes in self-efficacy expectations and problem-solving attempts. Self-efficacy and problem solving, along with potential moderating variables, in turn then lead to actual levels of the specified self-management or “adherence” health behaviors.(82)

This study indicated that respondents self-efficacy to stroke preventive behaviors increases their stroke preventive practice. This finding is in line with the study conducted among Hypertension Patient in Indonesia(37), among patients with cardiovascular disease in Birjand, Iran, (79),in Fuzhou, PR China (38) and in Fars province, Iran (78) also revealed that self-efficacy of respondents have significant association with their preventive behavior. This is because Self-efficacy is a behavioral perception that increases commitment to a work plan and plays a key role in the acceptance, maintenance, and persistence of health behaviors, representing the most important personal factor in behavioral changes(83).

In this study, it was revealed that respondents who had good social support adhere to stroke preventive practice compared to those who have no or low social support. This finding is in line with study conducted in public hospitals ,in Central Ethiopia (44),among older adults with heart failure, in Gyeonggi Province, South Korea(39),in Jigawa State, Nigeria (84) and in Korea’s general population(77) also showed that respondents who had good social support were more likely to adhere to preventive behaviors . This is might be due to the fact that Strong perceived social support will improve their self-worth and motivation. It is plausible that a motivated hypertensive patient will adhere to preventive practices.(44) Several researchers have emphasized the importance of social relationships in preventive health behavior. They suggested that the effect of social support must be seen as a multilevel process beginning with the larger cultural context that shapes social networks. Those social networks, in turn, influence health through social support, social influence, and access to material resources.(85)

The finding of this study revealed that respondents health literacy level increases their stroke preventive practice. Study conducted in Denmark among patients with cardiovascular disease (58), in Australia among patients taking oral anti-coagulant treatment for stroke prevention (54), in South Korea (39) and Rafsanjan University, Iran (53) revealed Significant association between health literacy and health-promoting behaviors. This is might be Adequate health literacy can allow individuals to determine what information is needed, how to get and use it, and this leads to applying preventive behaviors in daily life. Commonly cited theoretical models suggest that health literacy influences health outcomes at least partially through its effect on patients' self-efficacy, knowledge, and health behaviors as well as their health-related perceptions, health-related experiences, and familiarity with health concepts.(86)

When we look at Limitations of the study

- Since the study was institutional based , generalization of the findings to the general population is limited.
- The study might be prone to social desirability bias because some people may hide their actual preventive practice and other variables studied in this research. however effort was tried to minimize the bias by Informed verbal consent was obtained from the study participants, their name was not asked by their interviewer and interviewees were briefed that there were no right or wrong answers and encouraged respond.

CHAPTER SEVEN :CONCLUSION AND RECOMMENDATION

7.1 Conclusion

This study focused on level of stroke specific health literacy, stroke preventive practice and factors associated with stroke preventive practice. Even though Majority of respondents heard about stroke and two third of respondents knew that stroke is brain hemorrhage but there is still knowledge gap in understanding stroke and its preventive practice.

Additionally, the finding of the study showed that more than half of respondents scored above mean in perceived social support but still the percentage of respondents with lower descriptive and subjective norm was significant. Almost half of respondents scored above mean score in stroke specific health literacy but still there is significant gap in communicative and critical segments of health literacy. Moreover, Almost half of respondents scored above mean score in stroke preventive practice but from preventive practices there is still a gap in practices like eating fruits and vegetables, donating blood regularly and home monitoring of blood pressure.

Variables like educational level, knowledge about stroke, perceived susceptibility, perceived barrier ,self-efficacy, Perceived social support and stroke specific health literacy were predictors of stroke preventive practice.

7.2 Recommendation

For health institutions

- ✓ health education should be provided by using IEC materials and various types of medias to improve the rate of compliance to stroke preventive practice by improving patient's knowledge and perceptions about stroke and its consequences, especially to risky individuals.
- ✓ Health professionals should use all opportunities to educate about stroke and When educating they should use standard prevention education guidelines.

For peoples around risky individuals

- ✓ Additionally social support given by peoples around those with higher risk should be improved so that we can get better adherence to preventive practices by peoples at risk of stroke.

For researchers

- ✓ Further research was recommended using observational study to overcome limitations of this study.

References

1. Kesteloot H. Prevention of cardiovascular disease. *Tijdschr Geneeskd.* 1978;34(10):627–30.
2. Thomas H, Diamond J, Vieco A, Chaudhuri S, Shinnar E, Cromer S, et al. Global Atlas of Cardiovascular Disease 2000-2016: The Path to Prevention and Control. *Glob Heart.* 2018;13(3):143–63.
3. Misganaw A, Haregu TN, Deribe K, Tessema GA, Deribew A, Melaku YA, et al. National mortality burden due to communicable, non-communicable, and other diseases in Ethiopia, 1990-2015: Findings from the Global Burden of Disease Study 2015. *Popul Health Metr.* 2017;15(1):1–17.
4. Puthenpurakal AA. Stroke 1: definition, burden, risk factors and diagnosis. 2017;44–8.
5. American Heart Association. Explaining Stroke. *Natl Stroke Assoc.* 2018;43.
6. Gonz J, Gonz J. Knowledge on Signs and Risk Factors in Stroke Patients. 2020;
7. Aminde LN, Takah N, Ngwasiri C, Noubiap JJ, Tindong M, Dzudie A, et al. Population awareness of cardiovascular disease and its risk factors in Buea, Cameroon. *BMC Public Health.* 2017;17(1):1–10.
8. Andhuvan G, Ayyappan P, Sahana C, Poovizhi S, Sivasakthi K. Knowledge of modifiable risk factors of heart disease among patients with cardiovascular risk. *Asian J Pharm Clin Res.* 2017;10(1):99–102.
9. Abate TW, Zeleke B, Genanew A, Abate BW. The burden of stroke and modifiable risk factors in Ethiopia : A systemic review and. 2021;1–19. Available from: <http://dx.doi.org/10.1371/journal.pone.0259244>
10. Tossavainen T, Juhola M. Lossless compression of otoneurological eye movement signals. *J Clin Monit Comput.* 2002;17(7–8):393–402.
11. Morrish E, Jones H. ABE/Literacy and Health Education. *Adult Learn.* 1996;7(5):25–7.
12. Okan O, Bauer U, Levin-zamir D, Pinheiro P. INTERNATIONAL HANDBOOK Research , practice and policy across the lifespan.
13. Apfel F, Tsouros AD. Health literacy The solid facts.
14. Rheault H, Coyer F, Jones L, Bonner A. Health literacy in Indigenous people with chronic disease living in remote Australia. 2019;3:1–10.
15. Magnani JW, Mujahid MS, Aronow HD, Cené CW, Dickson VV, Havranek E, et al. Health Literacy and Cardiovascular Disease: Fundamental Relevance to Primary and Secondary Prevention: A Scientific Statement From the American Heart Association. *Circulation.* 2018;138(2):e48–74.
16. Campbell-Voytal K. The role of theory in clinical prevention research. *Fam Pract.* 2010;27(4):357–8.
17. Nancy K. Janz, RN M, Marshall H. Becker, PhD MS. The Health Belief Model: A Decade Later Nancy. *Cybiium.* 1999;23(3):259–71.
18. VISWANATH KGBKRK. HEALTH BEHAVIOUR AND HEALTH EDUCATION. 4TH EDITIO.

19. Disease C, Icd- CVD, Icd I. 2021 Heart Disease & Stroke Statistical Update Fact Sheet Global Burden of Disease High Blood Cholesterol and Other Lipids. 2021;(Cvd):2019–21.
20. Bill F, Foundation MG. Articles Global , regional , and national burden of stroke and its risk factors , 1990 – 2019 : a systematic analysis for the Global Burden of Disease Study 2019. 2021;20(October):795–820.
21. Akinyemi RO. Stroke in Africa : profile , progress , prospects and priorities. *Nat Rev Neurol* [Internet]. 2021;17(October). Available from: <http://dx.doi.org/10.1038/s41582-021-00542-4>
22. Waweru P, Gatimu SM. Stroke Epidemiology , Care , and Outcomes in Kenya : A Scoping Review. 2021;12(December).
23. Mellitus D, Kidney C, Diseases C. NATIONAL STRATEGIC PLAN FOR THE PREVENTION AND CONTROL OF MAJOR NON-COMMUNICABLE DISEASES. 2020;(July).
24. Mensah GA, Roth GA, Sampson UKA, Moran AE, Feigin VL, Forouzanfar MH, et al. Mortality from cardiovascular diseases in sub-Saharan Africa, 1990-2013: A systematic analysis of data from the Global Burden of Disease Study 2013. *Cardiovasc J Afr*. 2015;26(2):S6–10.
25. Yuyun MF, Sliwa K, Kengne AP, Mocumbi AO, Bukhman G. Cardiovascular diseases in sub-saharan Africa compared to high-income countries: An epidemiological perspective. *Glob Heart*. 2020;15(1):1–18.
26. Agazhe M, Eshetu D, Arsicha A, Hamato A, Petros A, Dabaro D, et al. Incidence and pattern of stroke among patients admitted to medical ward at Yirgalem General Hospital , Sidama Regional State , Southern-Ethiopia. 2021;
27. Alene M, Assemie MA, Yismaw L, Ketema DB. Magnitude of risk factors and in-hospital mortality of stroke in Ethiopia : a systematic review and meta-analysis. 2020;1–10.
28. Smith SC, Jackson R, Pearson TA, Fuster V, Yusuf S, Faergeman O, et al. Principles for national and regional guidelines on cardiovascular disease prevention: a scientific statement from the World Heart and Stroke Forum. *Circulation*. 2004;109(25):3112–21.
29. Europe E, Commission WHO, Convention WHOF, Control T, Fctc WHO, Fctc TWHO, et al. Reducing risks and preventing disease: population-wide interventions. *Glob status Rep noncommunicable Dis 2010* [Internet]. 2011;150. Available from: http://www.who.int/nmh/publications/ncd_report_chapter4.pdf
30. Kibret KT, Mesfin YM. Prevalence of hypertension in Ethiopia: A systematic meta-analysis. *Public Health Rev* [Internet]. 2015;36(1). Available from: <http://dx.doi.org/10.1186/s40985-015-0014-z>
31. Moshki M, Mirzania M, Kharazmi A. The Relationship of Health Literacy to Quality of Life and Demographic Factors in pregnant women: A Cross-sectional Study. *J Heal Lit*. 2018;2(4):203–15.
32. Buda ES, Hanfore LK, Fite RO, Buda AS. Lifestyle modification practice and associated factors among diagnosed hypertensive patients in selected hospitals, South Ethiopia. *Clin Hypertens*. 2017;23(1):1–9.
33. Rahman Panahi 1, *, Fereshteh Osmani 2 MS. The Predictors of Health Literacy Based on the

- Constructs of Health Belief Model for Smoking Prevention Among University Students. *J Nuts*. 2018;9(2):92–100.
34. Anthony D. Heymann MB BS 1, 2 , Revital Gross PhD 3 * , Hava Tabenkin MD 4, 5 , Boaz Porter MD 1, 5 and Avi Porath MD 1 5. Factors associated with Hypertensive Patients' compliance with recommended lifestyle Behaviors. 2011;13(september):1–302.
 35. Larki A, Tahmasebi R, Reisi M. Factors Predicting Self-Care Behaviors among Low Health Literacy Hypertensive Patients Based on Health Belief Model in Bushehr District , South of Iran. 2018;2018.
 36. Mohammadnabizadeh1 P preventive behaviors of cardiovascular disease among oil industry workers based on health belief model S , , Ali Asghar Najafpoor1 2 , , Mohammad Vahedian-Shahroodi1 3, Vahid Ghavami1. Predicting preventive behaviors of cardiovascular disease among oil industry workers based on health belief model Sahar. 2018;(January):1–6.
 37. Upoyo AS, Isworo A, Sari Y, Taufik A, Sumeru A, Anam A. Determinant factors stroke prevention behavior among hypertension patient in indonesia. *Open Access Maced J Med Sci*. 2021;9:336–9.
 38. Wang T, Wang H, Zeng Y, Cai X, Xie L. Health beliefs associated with preventive behaviors against noncommunicable diseases. *Patient Educ Couns [Internet]*. 2022;105(1):173–81. Available from: <https://doi.org/10.1016/j.pec.2021.05.024>
 39. Jo A, Ji E, Son SY. The roles of health literacy and social support in improving adherence to self-care behaviours among older adults with heart failure. 2020;(July):2039–46.
 40. Hertz JT, Sakita FM, Manavalan P, Mmbaga BT, Thielman NM, Staton CA. Knowledge, attitudes, and preventative practices regarding ischemic heart disease among emergency department patients in northern Tanzania. *Public Health*. 2019;175:60–7.
 41. Ameh PO, Yakubu K, Miima M, Popoola O, Mohamoud G, von Pressentin KB. Lifestyle, cardiovascular risk knowledge and patient counselling among selected sub-Saharan African family physicians and trainees. *African J Prim Heal Care Fam Med*. 2019;11(1):1–15.
 42. Melak AD, Wondimsiegn D, Kifle ZD. Knowledge, prevention practice and associated factors of stroke among hypertensive and diabetic patients – A systematic review. *Risk Manag Healthc Policy*. 2021;14:3295–310.
 43. Woldetsadik FK, Kassa T, Bilchut WH. Stroke Related Knowledge , Prevention Practices and Associated Factors Among Hypertensive Patients at University of Gondar Comprehensive Specialized Hospital ,. 2022;13(April):1–9.
 44. Tsadik D, Berhane Y, Worku A. Adherence to Antihypertensive Treatment and Associated Factors in Central Ethiopia. *International Journal of Hypertension [revista en Internet]* 2020 [acceso noviembre de 2021]; 2020(1): 1-10. *Int J Hypertens [Internet]*. 2020;2020(Cvd):10–3. Available from: <https://downloads.hindawi.com/journals/ijhy/2020/9540810.pdf>
 45. Šedová L, Bártlová S, Hudáčková A, Havierníková L, Dolák F, Ostrý S. Health literacy and modifiable risk factors of a stroke. *Kontakt [Internet]*. 2021;23(3):149–56. Available from: <https://doi.org/10.32725/kont.2021.024>

46. Negesa LB, Magarey J, Rasmussen P, Hendriks JML. Patients' knowledge on cardiovascular risk factors and associated lifestyle behaviour in Ethiopia in 2018: A cross-sectional study. *PLoS One* [Internet]. 2020;15(6):1–15. Available from: <http://dx.doi.org/10.1371/journal.pone.0234198>
47. Arisegi SA, Awosan KJ, Oche MO, Sabir AA, Ibrahim MT. Knowledge and practices related to stroke prevention among hypertensive and diabetic patients attending specialist hospital, Sokoto, Nigeria. *Pan Afr Med J.* 2018;29:1–17.
48. Mohebi S, Parham M, Sharifirad G, Gharlipour Z. Social Support and Self - Care Behavior Study. 2018;(January):1–6.
49. Antonio J, Neto C, Costa LA, Estevanin GM, Bignoto TC, Isabela C, et al. Functional Health Literacy in chronic cardiovascular patients. :1121–32.
50. Boateng D, Wekesah F, Browne JL, Agyemang C, Agyei-Baffour P, De-Graft Aikins A, et al. Knowledge and awareness of and perception towards cardiovascular disease risk in sub-Saharan Africa: A systematic review. *PLoS One.* 2017;12(12):1–21.
51. Tilahun D. Functional Health Literacy in Patients with Cardiovascular Diseases : Cross-Sectional Study in Ethiopia. 2021;1967–74.
52. Mekuria AB, Kifle ZD, Melak AD. Level of knowledge, prevention practice, and predictors towards stroke among diabetic and hypertensive patients having a follow up at University of Gondar Comprehensive Specialized Referral Hospital, Northwest Ethiopia. A cross-sectional study. *Clin Epidemiol Glob Heal* [Internet]. 2022;13(December 2021):100950. Available from: <https://doi.org/10.1016/j.cegh.2021.100950>
53. Dehbalaei MG, Loripoor M, Nasirzadeh M. The role of health beliefs and health literacy in women ' s health promoting behaviours based on the health belief model : a descriptive study. *BMC Womens Health* [Internet]. 2021;1–9. Available from: <https://doi.org/10.1186/s12905-021-01564-2>
54. Rolls CA, Obamiro KO, Chalmers L, Bereznicki LRE. The relationship between knowledge, health literacy, and adherence among patients taking oral anticoagulants for stroke thromboprophylaxis in atrial fibrillation. *Cardiovasc Ther.* 2017;35(6):1–8.
55. Yusefi AR, Barfar E, Daneshi S, Bayati M, Mehralian G. Health literacy and health promoting behaviors among inpatient women during COVID - 19 pandemic. *BMC Womens Health* [Internet]. 2022;1–10. Available from: <https://doi.org/10.1186/s12905-022-01652-x>
56. Cabellos-garcía AC, Martínez-sabater A, Castro-sánchez E, Kangasniemi M, Juárez-vela R, Gea-caballero V. Relation between health literacy , self-care and adherence to treatment with oral anticoagulants in adults : a narrative systematic review. 2018;
57. Hakimzadeh Z. The Effects of a Health Literacy Training Intervention on Self-Care Behaviors and Treatment Adherence in Patients with Ischemic Heart Diseases. 2021;5(4):341–9.
58. Aaby A, Friis K, Christensen B, Rowlands G, Maindal HT. Health literacy is associated with health behaviour and self-reported health : A large population-based study in individuals with cardiovascular disease. 2017;

59. Mukanoheli V, Uwamahoro MC, Mbarushimana V, Meharry P. Functional Health Literacy and Self-Care Behaviors Among Type 2 Diabetic Patients at a University Teaching Hospital in Kigali. 2020;3(1):49–59.
60. Amer FAM, Mohamed MS, Elbur AI, Abdelaziz SI, Elrayah ZAB. Influence of self-efficacy management on adherence to self-care activities and treatment outcome among diabetes mellitus type 2 sudanese patients. *Pharm Pract (Granada)*. 2018;16(4):1–7.
61. Tefera YG, Gebresillassie BM, Emiru YK, Yilma R, Hafiz F, Akalu H, et al. Diabetic health literacy and its association with glycemic control among adult patients with type 2 diabetes mellitus attending the outpatient clinic of a university hospital in Ethiopia. *PLoS One* [Internet]. 2020;15(4):1–15. Available from: <http://dx.doi.org/10.1371/journal.pone.0231291>
62. Tadesse T, Alemu T, Amogne G, Endazenaw G, Mamo E. Predictors of coronavirus disease 2019 (Covid-19) prevention practices using health belief model among employees in Addis Ababa, Ethiopia, 2020. *Infect Drug Resist*. 2020;13:3751–61.
63. Amdemariam LK, Watumo AM, Sibamo EL, Agide FD. Perception towards cardiovascular diseases preventive practices among bank workers in Hossana town using the health belief model. *PLoS One* [Internet]. 2022;17(2 February 2022):1–14. Available from: <http://dx.doi.org/10.1371/journal.pone.0264112>
64. Jimma University Medical center. Increasing bacterial resistance against antibiotics. *Dis Infect Med Trop*. 2018;
65. Anmut W, Ayele L, Yeshambel A, Toru T. Prevalence of syphilis among pregnant woman attending antenatal care in shanen gibe hospital, oromia region, southwest Ethiopia, 2019. 2021;11(January).
66. Chadha VK. Sample size determination in health studies. 2006;55–62.
67. Bulto LN, Sciences M. Cardiovascular Risk Behaviour and Health Literacy among Patients with Cardiovascular Disease in Ethiopia Lemma Negesa Bulto BSc (Nursing), MSc (Adult Health Nursing Speciality) Thesis Submitted for the Degree of Doctor of Philosophy Adelaide Nursing S. 2021;(June).
68. Williams P. WHAT IS SOCIAL SUPPORT ? A GROUNDED THEORY OF SOCIAL INTERACTION IN THE CONTEXT OF THE NEW FAMILY University of Adelaide. *Public Health* [Internet]. 2005;(August):266. Available from: <http://digital.library.adelaide.edu.au/dspace/bitstream/2440/49476/1/02whole.pdf>
69. Osamor PE. Social support and management of hypertension in South-West Nigeria. *Cardiovasc J Afr*. 2015;26(1):29–33.
70. Gregory D. Zimet, Nancy W. Dahlem, Sara G. Zimet, Gordon K. Farley. The Multidimensional Scale of Perceived Social Support. Vol. 52, *Journal of Personality Assessment*. 1988. p. 30–41.
71. Woudstra AJ, Smets EMA, Verdam MGE, Fransen MP. The Role of Health Literacy in Explaining the Relation between Educational Level and Decision Making about Colorectal Cancer Screening. (Idm).

72. Hickey A, Holly D, McGee H, Conroy R, Shelley E. Knowledge of stroke risk factors and warning signs in Ireland: Development and application of the Stroke Awareness Questionnaire (SAQ). *Int J Stroke*. 2012;7(4):298–306.
73. Chinn D, McCarthy C. All Aspects of Health Literacy Scale (AAHLS): Developing a tool to measure functional, communicative and critical health literacy in primary healthcare settings. *Patient Educ Couns* [Internet]. 2013;90(2):247–53. Available from: <http://dx.doi.org/10.1016/j.pec.2012.10.019>
74. Matsuoka S, Kato N, Kayane T, Yamada M. Development and Validation of a Heart Failure Y Specific Health Literacy Scale. 2016;31(2):131–9.
75. Groot W, Maassen Van Den Brink H. 4.A. What does education do to our health? 2006;355–63.
76. Adeoye¹ PA, , Gabriel Ilerioluwa Oke² , Kehinde Precious Fadele³ TAA. Knowledge, Attitude, Practice and Predictors of Preventive Practices Toward COVID-19 among Healthcare Workers in Ogbomoso, Nigeria: A Cross-sectional Study Philip. *Niger J Med*. 2020;24(1):17–27.
77. Kim S, Kim S. Analysis of the impact of health beliefs and resource factors on preventive behaviors against the covid-19 pandemic. *Int J Environ Res Public Health*. 2020;17(22):1–21.
78. Kheiri M, Jeihooni AK, Alkamel A, Harsini PA. The effect of educational intervention based on the health belief model on the promotion of cardiovascular disease (CVD) preventive behaviors among subjects referred to health centers in fasa city (fars province, iran). *Kontakt* [Internet]. 2019;21(2):206–13. Available from: <https://doi.org/10.32725/kont.2019.021>
79. Sharifzadeh G, Moodi M, Majd HM, Musaei I. Application of Health Belief Model in predicting preventive behaviors against cardiovascular disease in individuals at risk.
80. Kamran A, S SA, Biria M, Malepour A, Heydari H. Determinants of Patient ' s Adherence to Hypertension Medications : Application of Health Belief Model Among Rural Patients. *Ann Med Health Sci Res*. 2013;4(6):2–7.
81. M RF and W. Risk perceptions and health behavior Rebecca. *HHS Public Access Author Manuscr Curr Opin Psychol Author manuscript*; available PMC 2016 Oct 01. 2018;176(5):139–48.
82. Russell E. Glasgow PD. Perceived Barriers to Self-Management and Preventive Behaviors. 2557;4(1):88–100.
83. Abbasi K, Miri MR, Norozi E, Ramazani AA. Predictors of Puberty Health Behaviors Based on Integrated Behavioral Model Among Girl's High School Students in Birjand in 2020. *Mod Care J*. 2021;18(3).
84. Kaugama HH, Idris KB, Othman J, Uli JA. HIV/AIDS Prevention: Influence of HIV Knowledge, Self-Efficacy, Parent and Peer influence, Social support, Culture and Government policy in Preventive Health Behavior in Jigawa State, Nigeria. *Int J Basic Appl Sci*. 2012;1(4):477–89.
85. idethia S. Harvey, DrPH1 and Kezia Alexander B. Perceived Social Support and Preventive Health Behavioral Outcomes among Older Women. 2013;27(3):275–90.
86. Fernandez DM, Larson JL, Zikmund-Fisher BJ. Associations between health literacy and

preventive health behaviors among older adults: Findings from the health and retirement study. BMC Public Health [Internet]. 2016;16(1):1–8. Available from: <http://dx.doi.org/10.1186/s12889-016-3267-7>

Annex

Annex 1 consent form

My name is _____ and I am collecting data for the research being conducted by Mr. Fuad Temam, Masters Student in public health from Jimma University. He is doing research on predictors of stroke preventive practice as the partial fulfillment for a master's degree in Health Promotion and Health Behavior. You are selected to be one of the participants from the study. This interview probably takes a few minutes. I would like to assure you that all you tell during the interview will be strictly confidential and that information collected from you will be used only in scientific reports without any mentioning of personal information including your name. There is no harm or incentive for your participation. Information gathered from the study will be used to improve health literacy and stroke preventive practice. If you have any question about this study you may ask me or principal investigator; Mr. Fuad Temam using his phone number +251917385206 or his email fuadtemam93@gmail.com

Do you have any questions? Can I proceed with the questions?

No (Thank you and stop) Yes (thank you and continue)

Questioner code _____ Name of data collector
_____ sign _____ date _____ \

Name of supervisor _____ sign _____ date _____

Annex 2 Data collection tool

Jimma University

Faculty of public health

Department of Health, Behavior and Society

Title: predictors of stroke preventive practices among patients with hypertension on chronic follow up at public hospitals in Jimma

Part I: Socio demographic characteristics

Instruction: Now you are expected to fill about your socio-demographic characteristics. Please answer by circling your choice and fill in the blank spaces for others.

No	Questions	Response	Remark
1.	Follow up hospital	1, JUMC 2, Shenen G. hospital	
2.	Age	-----Years	
3.	Sex	1, Male 2, Female	
4.	Religion	1. orthodox 2. Muslim 3. protestant 4. other	
5.	Ethnicity	Mention-----	
6.	Marital status	1, Never married 2, Married or living together 3, Divorced /separated/widowed	
7.	Educational level	1. No formal education 2. Read and write 3. Primary education 4. Secondary education 5. Higher education 6. Other _____	
8.	Occupational status	1. Farmer 2. Merchant 3. Housewife 4. Government employee 5. Unemployed 6. Other, Specify _____	
9.	Residence	1, Rural 2, Urban	
10.	Monthly IncomeBirr	

Part II: Health and medical conditions

Instruction: Now you are expected to fill about your Health and medical conditions .Please answer by circling your choice and fill in the blank spaces for others questions accordingly.

No	Questions	Response	Remark
11	How long have you been since you are diagnosed with hypertension	Mention _____	
12	How long have you been since you started treatment	Mention _____	
13	How is your general health condition after you started treatment and follow up?	1, Improved 2, Worsened 3, The same 4, Don't know	
14	Is there any one in your family who have hypertension	1, Yes 2, No	
15	If YES, what is your relationship (blood relation)	1. mother 2. father 3. Grand parents 4. Siblings (brother, sister) 5. Children 6. Other, _____	
16	Do you have any other related comorbidity or disease?	1. Yes 2. No	
17	If yes, which comorbid illness do you have? N.b do not read answers ,ask what others	1. Disease of heart and vessels 2. Diabetes mellitus 3. Cancer 4. Disease of muscle and bones 5. Any form of kidney diseases 6. Others _____	
18	How long have you been since you diagnosed with the disease you have mentioned above?	Mention _____	
19	Are you currently taking treatment for the disease you have mentioned above?	1. Yes 2. No	

Part III: Stroke related sources of information, knowledge and risky behaviors

Instruction: Now you are expected to fill about your Stroke related sources of information, knowledge and risky behaviors. Please answer by circling your choice and fill in the blank spaces for other questions accordingly

No	Questions	Response	
20	Have you ever heard about stroke previously?	1. Yes 2. No	

21	<p>If yes, from where did you hear?</p> <p>Multiple responses are possible.</p>	<ol style="list-style-type: none"> 1. HEWs 2. Health professionals 3. Family 4. Friends 5. TV/radio 6. Teachers/students 7. Internet and social media 8. Other 	
22	<p>Which source would you trust most to get information about stroke from each of the Following</p>	<ol style="list-style-type: none"> 1. HEWs 2. Health professionals 3. family 4. friends 5. TV/radio 6. teachers/students 7. internet and social media 8. other 	
23	<p>Can you tell me what you understand by a “stroke”? (NOTE: Do not read any answers. Please mark the answer closest to what the participant states.)</p>	<ol style="list-style-type: none"> 1, Blood clot in the brain 2, Brain haemorrhage 3, A condition that affects the brain [i.e., don't specify clot/haemorrhage] 4, Circulation problem in the brain 5, Don't know 6, Other 	
24	<p>What do you think are the symptoms or warning signs of a stroke? Try to tell me as many as you can. (NOTE: Do not read any answers. Please mark the answers that the participant gets correct and note any additional ones)</p>	<ol style="list-style-type: none"> 1. Dizziness 2. Difficulty understanding/ sudden confusion 3. Severe headache 4. Problems with vision 5. Shortness of breath 6. Slurred speech 7. Weakness on one side of the body 8. Facial Weakness/Fallen Face 9. Any mention Face, Arm, Speech, Time (FAST) 10. Numbness on one side of the body 11. Other, _____ 	
25	<p>What are the common risk factors to cause stroke?</p> <p>Multiple responses are required</p>	<ol style="list-style-type: none"> 1. High blood pressure 2. Eating a lot of red meat 3. Higher age 4. High fat diet 5. High salt diet 6. Excessive stress 7. Smoking 8. High alcohol intake 9. Diabetes 10. Physical inactivity 11. Obesity 12. Family history of stroke 	

		13. Heart disease 14. Other, ____ 15. I Don't know	
26	Can you name any impairments or disabilities that a person may experience as a result of having a stroke? (Do not read any answers. Please mark the answers as appropriate; participant can list multiple answers).	1. Weakness on one side of the body 2. Problems with speech 3. Problems with vision 4. Confusion; problems with thinking/memory 5. Difficulty with use of arms or legs 6. Other _____ 7. Don't know	
27	What are preventive methods of stroke? (Do not read any answers. Please mark the answers as appropriate; participant can list multiple answers).	1. Blood pressure control 2. Control diabetes 3. Regular physical exercise 4. weight control 5. Avoid smoking 6. Limit/stop alcohol intake 7. Control cholesterol level 8. Other _____ 9. Don't know	
28	After a person has had a stroke what should be done to reduce the risk of a further stroke? (Do not read any answers. Please mark the answers as appropriate; participant can list multiple answers).	1. Blood pressure control 2. Good control of Diabetes 3. Reduction in cholesterol level 4. Other medication 5. Rehabilitation 6. Diet therapy/Adopting a healthier diet 7. Natural (Alternative/ Complementary) therapy 8. Other _____ 9. Don't know	

Part IV. Questions regarding the constructs of Health belief model

Instructions: The interviewer will read each question and possible responses and the respondent will chose from possible responses then recorded by making circle (O) on numbers given for each response. The respondent will answer each question as HTN patient.

	Perceived Susceptibility: How much do you feel you are susceptible to stroke? Key: 1=Extremely less likely; 2=less likely; 3=Neutral, 4=Likely; 5=Extremely likely	1	2	3	4	5
29	Do you think you are more susceptible/at risk to Stroke					
30	Do you think that you have a greater chance of developing Stroke					
31	Do you think that people who have hypertension will develop/experience of stroke.					

32	Do you think that older people are more likely to develop stroke					
33	Stroke is life threatening					
34	Stroke is a serious problem					
35	Stroke leads to loss of life					
36	stroke can leads to disability such as paralysis					
37	stroke can leads to long-term hospitalization					
38	stroke is serious health condition among patients with hypertension					
39	If you developed Stroke it would be more serious than other diseases to you.					
	Perceived benefit Key: 1=Strongly disagree; 2=disagree; 3=Neutral, 4=agree; 5=strongly agree	1	2	3	4	5
40	Undertaking recommended health actions prevents stroke					
41	I think taking anti-hypertensive medication as prescribed by the physician prevents from stroke					
42	I think Regular physical exercise (for 30 minutes, three times per week) prevents from Stroke.					
43	I think Taking low salt diet(salt free diet) prevents from Stroke.					
44	I think Eating fruits and vegetables prevents from Stroke.					
45	I think Avoiding substances (smoking, khat chewing, alcohol drinking) prevents from Stroke.					
	Perceived barriers, Key: 1=Strongly disagree; 2=disagree; 3=Neutral, 4=agree; 5=strongly agree	1	2	3	4	5
46	I think the setting is not comfortable to perform regular physical exercise (for 30 minutes, three times per week)					
47	I think It is not feasible to get and eat fruits and vegetables in a regular base.					
48	I think It is not tasty to take low salt diet.					
49	I think It is not feasible to be free of all types of substances(smoking, khat chewing, alcohol drinking)					

50	I think performing Stroke prevention practice would require new habit (which is tiresome)					
	Self-efficacy, Key: 1=Strongly disagree; 2=disagree; 3=Neutral, 4=agree; 5=strongly agree	1	2	3	4	5
51	It is easy for me to perform regular physical exercise (for 30 minutes, three times per week)					
52	I can take low salt diets					
53	I am confident that I can get and eat fruits and vegetables					
54	It easy for me to avoid any type of substances (smoking, khat chewing, alcohol drinking)					
55	I can avoid taking foods with higher amounts of fat in a regular base.					
	Cues to action:					
56	Do you have a family member who developed stroke	1. Yes 2. No				
57	Have you ever seen /heard of person who developed stroke.	1. Yes 2. No				
58	Have you ever seen /heard of people who have lost life due to stroke.	1. Yes 2. No				
59	Do you remember a time when you get reminders or warnings about the stroke risks from the following sources MULPTIPLE RESPONSES ARE POSSIBLE	1. doctors/health workers 2. IEC (poster, leaflets, etc) 3. TV/radio 4. Families 5. Friends 6. Internet and social media 7. Others, _____				

Part V: Multidimensional Scale of Perceived Social Support

Instruction: Now you are expected to fill about your Perceived Social Support. Please give your Answer by putting (√) in the appropriate answer box according to the following code of definition

	Perceived social Support Key: 1=strongly dis agree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree	1	2	3	4	5
60	There is a special person who is around when I am in need					
61	There is a special person with whom I can share my joys and sorrows.					
62	My family really tries to help me					
63	I get the emotional help and support I need from my family.					
64	I have a special person who is a real source of comfort to me.					
65	My friends really try to help me.					

66	I can count on my friends when things go wrong					
67	I can talk about my problems with my family					
68	I have friends with whom I can share my joys and sorrows.					
69	There is a special person in my life who cares about my feelings.					
70	My family is willing to help me make decisions					
71	I can talk about my problems with my friends.					

Part VI: Descriptive and injunctive norm

Instruction: Now you are expected to fill about Descriptive and injunctive norm. Please give your Answer by putting (√) in the appropriate answer box according to the following code of definition. 1= None of them, 2= Some of them, 3= Undecided, 4= Most of them, 5= All of them

No	Descriptive and injunctive norm Key : 1 None of them 2 Some of them 3 Undecided 4 Most of them 5 All of them	1	2	3	4	5
72	How many of general population do you think participate in Stroke preventive practice?					
73	How many of patients with any type of chronic diseases do you think participate in stroke preventive practice?					
74	How many of Hypertensive patients do you think participate in Stroke preventive practice?					
75	If Stroke preventive practice is recommended for hypertensive patients, how many of them do you think will participate?					
76	If Stroke preventive practice is recommended for patients with any type of chronic disease, how many of them do you think will participate?					
77	How many of General population do you think approves your participation in stroke prevention practice?					
78	How many of your family members do you think approves your participation in stroke prevention					

	practice?					
79	How many of your friends do you think approves your participation in stroke prevention practice?					
80	How many of peoples most important to you (other than friends and family members) do you think approves your participation in stroke preventive practice?					
81	How many of Hypertensive patients on follow up like you do you think approves your participation in stroke prevention practice?					

Part VII: Stroke Specific Health Literacy Scale

Instruction: Now you are expected to fill about your Stroke Specific Health Literacy. Please Answer by putting (√) on your choice after reading the questions carefully

No	Stroke Health Literacy Scale Key: 1= Inapplicable, 2=Rarely applicable, 3=Sometimes applicable, 4=Strongly applicable	1	2	3	4
82	The prescriptions and pamphlets from hospitals and pharmacies are hard to read.				
83	There are terms that I do not understand in the prescriptions and Pamphlets from hospitals and pharmacies.				
84	The content in the prescriptions and pamphlets from hospitals and pharmacies is hard to understand.				
85	It is difficult to write in handbooks and documents from hospitals and pharmacies.				
86	I have been able to have satisfactory conversations regarding stroke with those close to me, including medical professionals.				
87	I have been able to understand information regarding the treatment and symptoms of stroke and everyday precautions.				
88	I can notice symptoms of stroke such as weakness or numbness of the body (face, arm, or leg),trouble in speaking and so on.				
89	I have wondered whether the information regarding stroke and its treatment is applicable to me.				
90	I have gathered knowledge on stroke from television, radio, and the Internet.				
91	I have had doubts regarding the credibility of information regarding stroke and its treatment.				
92	I have asked and checked whether information regarding stroke and its treatment is accurate.				
93	I have gathered information on hospitals and treatments to make my own decisions.				

Part VIII: Respondents' Stroke preventive practice

Instruction: Now you are expected to fill about your stroke preventive practice .Please Answer by putting

(√) on your choice after reading the questions carefully. Key: 1=Not at all, 2=Rarely, 3=Sometimes, 4=Often, 5=Very often.

No	Stroke prevention practices	1	2	3	4	5
94	I Attend follow up visit at clinic					
95	I Do home monitoring of blood pressure					
96	I Take anti-hypertensive medications as prescribed by the physician to prevent stroke					
97	I Eat fruits and vegetables					
98	I limit my intake of fatty meat					
99	I Reduce salt intake					
100	I Perform regular physical exercise (for 30 minutes, three times per week)					
101	I Reduce alcohol intake					
102	I Avoid or quit smoking					
103	I Donate blood regularly					

Concent form:Afaan oromoo version

Boca walii galtee

Ani maqaan koo.....yammuu tau ,qorrannoo obbo Fu'aad Tamaamiif,barataa digrii lammaffaa fayyaa hawaassa yuniversitii jimmaa kan ta'an, odeeffannoo funaanurrattan argama.qorrannoo isaas mata dure "health literacy and stroke preventive practice"jedhuun digrii lammaffaa isaa"health promotion and health behaviour" dhaan aragchuuf hojjachaa jira.isiniis qorranno kanaatti akka hirmaattan filatamtaniittu.gaafiif deebiin taasiifnu kun daqiiqaalee muraasa fudhachuu danda'a.wantiin waadaa isiniif galu wanttoonni isin nuttii himtan kamiinuu sirritti iccitiidhaan kan qabamu taufi oddeffannoon isinirraa fuudhamummoo gabaasaalee saayiinsawaa qofarrattii kan faayyidaa irra oluu yammuu tau,maqaa keessan dabalate oddeffannoon enyummaa kessan ibsan kan hin caqasamnee tau ibsu barbaanna.hirmaachukeesaniin miidhaas tae deggarsii addaa isinii godhamuus hin jiru. Oddeffannoon qorrannoo kana irraa funaaname hubbannoo fayyaa akka walii galaafii hojiilee istrookii ittissuf hojjataman ni deggara.

Waahii qorranno kanaa Yoo gaaffii kamuu qabaattan anas tae yookiin abbaa qorannichaa gaafachu dandessu.Fu'aad Tamaamiin argachuf lakkoofsa bibilaa +251917385206 yookiin imaiilii fuadtemam93@gmail.com fayyadamu dandessu.

Gaafii goosa kamu qabduu? Gaafiikoo itti fufuu nan dandaa?

Lakkii galatoomiitii dhaabii eeyye Glatoomii itti fufii koodii waraqaa gaaffii maqaa nama oddeffannoo funaanuumallattoo.....guyyaa.....

Maqaa too'ataa Mallattoo.....guyyaa.....

Questionnaire: Afaan oromoo translation

Yunivarsitii jimmaa

Faakaaltii fayyaa Hawaasaa

Damee barnoota fayyaa,amalaa fi hawaasaa

Mataduree:Gahumsa fayyaa,ilaalcha saaxilamummaa fi amaloota istrookii ittisan,namoota dhukkuba dhiibbaa dhiigaa qabaniifii horddofii fayyaa hospitaaloota mootummaa magaalaa jimmaa keessatti argamaniin argatan.

Kutaa I: Enyummaa fi haala jirenyaa hirmaattichaa

Kallattii: waaee Enyummaa fi haala jirenyaa keetii guutuun kan sirraa egamuu yoo tau,bakka fillannoon jirutti marsuudhaan isa kaan immoo bakka duwwaatti guutuudhaan kan deebiifamu ta'a.

Lakk.	Gaafii	Deebii	Yaada
01	Hospitaala horddoffii itti argataa jiru	1, Wiirtuu tajaajila fayyaa yunivarsitii jimmaa(JUMC) 2, hospitaala shenen gibe	
02	Umrii	Waggaa -----	
03	Saala	1, Dhiira 2 ,Dubartii	
04	Amantii	1,ortodoksii 2,musliima 3,protestaantii 4,kan biraa	
05	Saba	Ibsii _____	
06	Haala fuudhaa	1, kan fuudhee/herumtee hin beeknee 2,kan fuudhee/herumtee 3,kan walhiikee/irraa due	
07	Sadarkaa barumsaa	1.barumsa idilee kan hin barannee 2. barressu fi dubbisuu dandauu 3.Barumsa sadarkaa tokkoffaa	

		4.Barumsa sadarkaa lammaffaa 5.Barumssa sadarkaa olaanaa 6.Kan biraa_____	
08	Gosa hojii	1.Qonnaan bulaa 2.Daldalaa 3.haadha manaa 4.hojjataa mootummaa 5.hojii kan hin qabne 6.Kan biraa_____	
09	Bakka jireenyaa	1,Baaddiyyaa 2,Magaalaa	
10	Galii jiaa	Qarshii.....	

Kutaa II:Dhimma fayyaaf fayyaan walqabatee

Kallattii:waaee dhimma fayyaaf fayyaan walqabatee kan guuttuu yammuu tau, bakka fillannoon jirutti marsuudhan isa kaan immoo bakka duwwaatti guutuudhaan kan deebiifamuu taa.

Lak	Gaafii	Deebii	Yaada
11	Eegii dhukkubnii dhiibbaa dhiigaa qabaachuunkee mirkanaahee hammam taera	_____	
12	Eegii qoricha jalqabdee hoo hammam	_____	
13	Eegii horddooffii jalqabdee hoo haalli keessa jirtuu akkam	1, wayyaa/fooyyee qaba 2, Natti cimee 3, jijjiirma hinqabu 4, hin barree	
14	Maatiikee keessaa namnii dhukkuba dhiibbaa dhiigaa qabu jiraa?	1,Eeyye 2,Lakkii	
15	Eeyyee yoo jette,firoomnii keessan maalinnii?	1,Haadha 2,Abbaa 3,akaa kayyuu/abaa bayyuu 4,Obbolaa 5,Ijoollee 6,kan biraa_____	
16	Dhukkubbii Gosa biraa dabalataan qabdaa	1,Eeyye 2,Lakkii	
17	Deebiinkee eyye yoo tae,Gosa dhukkubaa yeroo dheeraa isa kam qabda	1. Dhukkuba onnee fi hidda dhiigaa 2. Dhukkuba sukkaaraa	

	Hub:Deebii hin dubbisin,kan biraa jedhii gaafadhu	3, kaansarii 4, Dhukkuba maashaalee fi lafee 5, dhukkuba kalee 6, kan biro_____	
18	Eegii dhukubni ati kanaa olitti waamte qabachunkee baramee hammam taera?	Ibsi_____	
19	Qorrichahoo dhukkuba kanaa oliitti waamteef fudhataartaa?	1,Eeeyyee 2,Lakkii	

Kutaa III:Madda Odeffannoo,Beekumsaafii amala saaxilamummaa Istrookiin walqabatee jiran.

Kallattii:waaee Madda Odeffannoo,Beekumsaafii amala saaxilamummaa Istrookiin walqabatee jiran irratti kan deebiiftuu taa. bakka fillannoon jirutti marsuudhaan isa kaan immoo bakka duwwaatti guutuudhaan kan deebiifamuu taa.

Lak	Gaafii	Deebii	Yaada
20	Waaee Istrookii kanaan dura dhageesse beektaa	1,Eeeyyee 2,Lakkii	
21	Deebiin kee Eeyye yoo tae, maddii oddeffannoo keetii waayii Istrookii irrattii maalii Deebii tokkoo olee qabaachuu dandessa	1 Hojjattoota ekstenshinii fayyaa 2 Ogeessoota fayyaa 3 Maatii 4 Hiriyoota 5 TV/raadiioo 6 Barsiisoota/Barattoo ta 7 Internetii fi mediiaa hawaasaa 8.kan biraa _____	
22	Si birattii oddeeffannoo waahii istrookii argachuuf maddii amanamaan isa kamii	1,Hojjattoota ekstenshinii fayyaa 2,Ogeessoota fayyaa 3,Maatii 4,Hiriyoota 5,TV/raadiioo 6,Barsiisoota/Barattoota 7,Internetii fi mediiaa hawaasaa 8.kan biraa_____	
23	Jecha istrookii jedhurraa maal hubatta? (Hub:deebii hin dubbissin,deebii isa itti dhihoo taettii mari)	1, sammuu keessatti dhiigni itituu 2, sammuu kessattii dhiiguu 3, rakkoo sammuu	

		miidhu[i.e.,dhiiguu/itituu kan adda hin baafnee] 4, rakkoo raabsii dhiigaa sammuu keessaa. 5, Hin beeku 6,kan biraa -----	
24	Mallattoleen yookiin mallatton akekkachiisaa istrookii maal sittii fakkaata?hamma dandesse naa himii.(Hub:deebii tokkollee hin dubbisiin.deebii sirrittii argatee qofa irrattii mallattoo goodhii)	1 Joonjauu 2 Rakkoo waa hubbachu 3 bowwu cimax 4 Rakkoo ijaa 5 Afuura kutaa 6 Giingauu 7 Laafiinsa qaama gartakkoo 8 Rakko narvii fuulaa 9 fuula ,harka,haasaa,saatii(FAST)yoo jedhee 10 qaama gara tokkon hadochuu 11 Kan biraa,	
25	Wanttonnii ijoo saaxilamummaa istrookii dabalaa maal faa? Deebii baayyen jirachu mala	1 Dhiibbaa dhiigaa 2 Foon diimiina bayyisanii nyaachuu 2 duulluma 3 nyaata coomaa bayiisuuu 4 nyaata sooggidda baayee qabu nyaachuu 5 dhipina sammuu cimax 6 Tamboo xuuxuu 7 Dhugaatii nama macheessuu bayyisuu 8 Dhukuba sukkaaraa 9 Sochii qaamaa xiqqessuu 10 Furdina garmalee 11 Fira istrookii qabu qabaachuu 12 Dhukkuba onnee 13 Kan biraa____ 15,hin beeku	
26	Miidhama namnii istrookiin qabamuu isaatiin isa mudachu dandau naa tarressu dandessaa?	8. Laafiinsa qaama gara tokkoo 9. Rakkoo haasaan	

	(deebii hin dubbisiin.hirmaataan deebii baayee tarressuu dandaa)	walqabatee 10. Rakko ijaan walqabatee 11. Rakkoo xinxaaluu/sammuuttii qabachhu 12. Rakkoo harka yookiin miila fayyadamuu 13. Kan biraa _____ 7. hin beeku	
27	Tooftaaleen istrookii ofirraa ittisu itti dandaan mal faa? (deebii hin dubbisiin.hirmaataan deebii baayee tarressuu dandaa)	1 Dhiibbaa dhiigaa toachuu 2 Dhukkuba sukkaaraa toachuu 3 Sosochii qaamaa dhaabbataan gochuu 4 Ulfaatiina ofii toachuu 5 Tamboo xuuxuu dhaabuu 6 Dhugaatii nama macheesuu dhaabuu 7 sadarkaa kolestroolii(cooma hamaa) xiqeesuu 8 kan biraa _____ 9 hin beekuu	
28	Namnii tokko kanaan dura istrookiin yoo qabamee jiraatee,akka deebiiee isa hin mudannee maal godhamuu qaba? (deebii hin dubbisiin.hirmaataan deebii baayee tarressuu dandaa)	1 dhiibbaa dhiigaa toachuu 2 Dhukkuba sukkaaraa toachuu 3 Sadarkaa kolestroolii(cooma hamaa) xiqeessu 4 Qorrichoota biraa fudhachuu 5 Bayyanachiisuu 6 Nyaata fayyalessa nyaachuu 7 Yaalii umamaa fayyadamuu 8 kan biraa _____ 9 Hin beeku	

Kutaa IV: Gaafille ijaarama modeela heelthe beliifii

Kutaa IV: Gaafille ijaarama modeela waahii fayya amanamu

Kallattii: gaafataan gaafiilee fi filannoolee deebii tau danda’an tokko tokkon dubisa. Hirmaataaniis filannoolee kennamaniif keessaa mallattoo (O) gochuun kan filatu ta’a. gaafatamaan gaafiilee hakka yaalamaa dhukuba dhiibbaa dhiigaatti deebii kan keennuu ta’a.

		1	2	3	4	5
Hubannoo saaxilamummaa: hammam istrookiidhaaf ani saaxilamaadha jette yaadda? furtuu 1=baayyee carraansaa gadi buaadha 2=carransaa gadi buaadha 3=giddugaleessa 4=carraan isaa jira 5=carraan isaa baayyee gudaadhaa						
29	anii Istrokiif irra caalaattii saaxilamaa dha jettee yaaddaa.					
30	Istrokiin qabamuf carraa olaanaan qaba jettee yaaddaa					
31	Namoonni dhiibbaa dhiigaa qaban istrookiin ni qabmauu jettee yaaddaa					
32	Namoonii dulloman carraan istrookiin qabamuu isaanii ole aanaadha jette yaaddaa					
Hubannoo hammenyaa : Hammaam....						
33	Istrokiin lubbuf yaaddessaadha jettee yaadda					
34	Istrokiin rakko cimaadha jettee yaadda					
35	Dhukubnii Istrokii nama ajjessa/ni galaafata jettee yaadda					
36	Istrookiin miidhama akka laamshauu fida jettee yaadda					
37	Istrookiin yeroo dheeraaf hospitaala ciisuu namatti fida jettee yaadda					
38	Istrookiin namoota dhukkuba dhiibbaa dhiigaa qaban birattii rakko cimaadha jettee yaadda					

39	Dhukkuba biraarra yoon Istrokiin qabamee baayee hamaadha jedheen yaada.					
Hubannoo faayidaa:furtuu :1.cimseen morma; 2. Ni morma; 3.yaddu galessa 4. Waliigala; 5. Sirriitti waliigala		1	2	3	4	5
40	Tarkaanfilee fayyaa gorfaman hojjiirra olchuun Istrookii namarraa ittissa jedheen yaada ;					
41	Qorrichaalee dhiibaa dhiigaatiif ajajaman haala oggeessii jedheen fudhachuun dhukkuba istrookii namarraa ittissa jedheen yaada.					
42	Sochiin qaamaa itti fufiinsa qabu(daqqi qaa 30 maaf,torbaniitti sia sadii) istrookii ni ittisa jedheen yaada					
43	Nyaata sooggidda xinnoo qabuu(yookiin soggidda kan hin qabnee) nyaachuun istrookii ni ittisa jedheen yaada.					
44	Fuduraaf muduraa nyaachun istrookii ni ittisa jedheen yaada					
45	Araada adda addaa(tanboo xuuxuu,caatii qaamuu,dhugaatii dhuguu) irraa of qusachuun Istrookii ni ittisa jedheen yaada					
Hubannoo danqaalee:furtuu :1.cimseen morma; 2. Ni morma; 3.yaddu galessa 4. Waliigala; 5. Sirriitti waliigala		1	2	3	4	5
46	sochii qaamaa itti fufiinsa qabu(daqqi qaa 30 maaf,torbaniitti sia sadii) gochuuf haalii jiruu mijaahaa jedhe hin yaaduu .					
47	Fuduraaf muduraa dhaabbataan argachuu fi nyaachuun ni dandaama jedhee hin yaaduu					
48	Nyaata soggiidda xinnoo qabu nyaachun namattii hin miaahuu jedheen yaada.					

49	Araada adda addaa irraa of qusachuun (tanboo xuuxuu,caatii/jimaa qaamuu,dhugaatii dhuguu)ni dandamaa jedhee hin yaaduu.					
50	Hojiilee Istrookii ittissan hojjachun amala haaraa horachuu gaafata,jedheen yaada(Kunimmoo dadhabsiisaadha).					
Offitti amanamummaa:furtuu :1.cimseen morma; 2. Ni morma; 3.yaddu galessa 4. Waliigala; 5. Sirriitti waliigala		1	2	3	4	5
51	sochii qaamaa itti fufiinsa qabu(daqqiqa 30 maaf,torbaniitti sia sadii) hojjachun anaaf salpaadha.					
52	Nyaata soggiidda xinnoo qabu fayyadamuu nan danda'a					
53	Fuduraaf muduraa dhaabbataan argachuus fi nyaachuu akkan dandau ofitti nan amana.					
54	Araada adda addaa irraa of qusachuun (tanboo xuuxuu,caatii qaamuu,dhugaatii dhuguu) anaaf salpaadha.					
55	Nyaata cooma olaanaa qaban dhaabbtaan nyaachurraa of qusachuu nan danda'a .					
Waantoota hojjiittii nama kakaasan						
56	Miseensa maatii Istrokiin qabame qabdaa	1,Yes 2,No				
57	Nama istrookiin qabamee argitee/dhageesse beektaa.	1,Yes 2,No				
58	Nama istrookiin due argitee/dhageessee beektaa.	1,Yes 2,No				
59	Madda kannen keessaa yeroo yaadachiisa yookiin akekkachiisa waae waantoota saxilamummaa istrookii dabalani itti dhageesse ni yaadataa Deebii baayyee qabaachuu ni dandaa	8. Dooktoora/ogeessa fayyaa 9. Meeshaale odeffannoo fi barumsa itti kennan (poostara,barrefama gabaabdu waraqa irraa..) 10. TV/raadiioo 11. Maatii 12. Hiriyoota 13. Interneetii fi marsaalee hawaasaa				

		14. Kan bira_____
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Kutaa V: Madaallii hubannoo gargaarsa hawaasaa

Kallatti: waa'ee hubannoo keetii garaagara hawaasaa irrattii nuuhimta. Deebii kee mallattoo (✓) sanduuqa keessa haala seera mallattoo ka'amen kaaii.

	Hubannoo gargaarsa hawaasaa Furtuu: 1.cimseen morma; 2. Ni morma; 3.yaddu galessa 4. Waliigala; 5. Sirriitti waliigala	1	2	3	4	5
60	Yaroo na baarbachiiseettii nama addaa naannoo koottii nan arggadha.					
61	Nama addaa gammachuf gaddakoo nawaliin qooddatuu nan qaba.					
62	Maatiinkoo sirritti nagargaaruuf ni yaalu.					
63	Maatiinkoo irraa gargaarsa miirakoo eegu nan arggadha.					
64	Nama addaa madda aaragalfii naaf tae nan qaba.					
65	Hiriyoonniikoo sirriitti nagargaaruuf ni yaalu.					
66	Yoo rakkon namudate hiriyoota kootti nan abdadha.					
67	Maatiinkoo waliin waa'ee rakkoo kootii haasauu nan dandaa.					
68	Hiriyoota gammachuf gaddakoo naa waliin qoddatan nan qaba.					
69	Jirenya koo keessatti namni addaa miira kootiif cinqamu jira.					
70	Maatiinkoo waa murteessu irrattii nagargaaruuf fedhii qabu.					
71	Waa'ee rakkoo kootii hiriyoota koo waliin haasauu nan dandaa .					

Kutaa VI: Bartee gochaa fi bartee dhorkaa

Kallattii: Amma waa'ee Bartee gochaa fi bartee dhorkaa nuu ibsita. Deebii kee mallattoo (✓) sanduuqa keessa haala seera mallattoo kaamen kaaii. 1 tokkollee hin jiru 2 muraasa isaanii 3 kan hin murtoofnee 4 baayyeen isaanii 4 hundii isaanii.

Lak	Bartee gochaa fi bartee dhorkaa Furtuu: 1 tokkollee hin jiru 2 muraasa isaanii 3 kan hin murtoofnee 4 baayyeen isaanii 4 hundii isaanii.	1	2	3	4	5
72	Hawaasa keessaa hammam jaraatu gochaalee					

	istrookii ittisan irrattii hirmaatuu jette yaada?					
73	Namoota dhukkuba yeroo dheeraa gosa kamuu qaban keessaa hammam jaraatu gochaalee istrookii ittisan irrattii hirmaatuu jette yaada?					
74	Namoota dhukkuba dhiibbaa dhiigaa qaban keessaa hammam jaraatu gochaalee istrookii ittisan irrattii hirmaatuu jette yaadda?					
75	Yoo namonni dhiibbaa dhiigaa qabanu gochaalee istrookii ittisan irrattii gorfamane,hammam jaraatuu hirmaatuu jettee yaadda?					
76	Yoo namonni dhukkuba yeroo dheeraa qaban kamuu gochaalee istrookii ittisan irrattii gorfamane,hammam jaraatuu hirmaatuu jettee yaadda?					
77	Hawaasa keessaa namoota hammaamtu hirmaanna kee gochaalee istrookii ittisan irratti gootu naaf mirkaneessa jettee yaadda?					
78	Maatii kee keessaa namoota hammaamtu hirmaanna kee gochaalee istrookii ittisan irratti gootu naaf mirkaneessa jettee yaadda?					
79	Hiriyoota kee keessaa namoota hammaamtu hirmaanna kee gochaalee istrookii ittisan irratti gootu naaf mirkaneessa jettee yaadda?					
80	Namoota waaee kee keessatti murteessoo ta'an keessaa(Hiriyaa maatiin alatti) namoota hammamtu hirmaanna kee gochaalee istrookii ittisan irratti gootu naaf mirkaneessa jettee yaadda?					
81	Namoota akka keetii dhiibba dhiigaaf horddooffii yaalaa godhan keessaa namoota hammamtu hirmaanna kee gochaalee istrookii ittisan irratti gootu naaf mirkaneessa jettee yaadda?					

Kutaa VII: madaallii gahumsa fayyaa waahii istrookii

Kallattii: Amma madaallii gahumsa fayyaa waahii istrookii kan guuttu ta'a. Deebii kee mallattoo (√) sanduuqa keessa haala seera mallattoo ka'amen kaaii. 1 hojjiirra oolu kan hin dandeyye 2 yeroo baayyee hojjiirra kan hin ollee 3 altokko tokko hojjiirra oolu 4 sirritti hojjiirra oolu

lak	Madaallii gahumsa fayyaa waahii istrookii Furtuu: 1 hojjiirra oolu kan hin dandeyye 2 yeroo baayyee hojjiirra kan hin ollee 3 altokko tokko hojjiirra oolu 4 sirritti hojjiirra oolu	1	2	3	4
82	Waraqaan qorichaa fi waraqaan ergaa barnootaa hospitaalaafi mana qorichaa irraa kennaman dubbisuuf rakkisaa dha.				

83	Waraqaa qorichaa fi waraqaa ergaa barnootaa hospitaalaafi mana qorichaa irraa kennaman keessattii jechoota naaf galuu hin dandenyee faatu jira.				
84	Qabiyyee Waraqaa qorichaa fi waraqaa ergaa barnootaa hospitaalaafi mana qorichaa irraa kennamanii hubachuun rakkisaadha.				
85	Yaaddannoo fi sanada hospiitaalaa fi mana qorichaa irratti barressun baayyee rakkisaadha.				
86	Dhiimma istrookiin walqabatee Namoota natti diihoo jiran,ogeessota fayyaa dabalatee,marii quubsaa waliin gochuuu dandaera.				
87	yaalii,mallattoo fi of eggannoo guyyaa guyyaan istrookiif godhamuu qabu irraatti Oddeffannoo darbu hubachuu dandeera.				
88	Mallattoolee istrookii kan akka laafiina yookiin hadooduu qaamaa(fuula,harka,ykn miila),rakkoo dubbachuu fi kan kana fakkaatan adda baafachu dandaera				
89	Oddeffaannooleen waaee istrookii fi yaalii isaa anarrattii hojiirra oolu ni dandauu kanjedhu nan yaada.				
90	Beekumsa waaee istrookii televiiziiyoona,raadiioo fi interneeta irra walitti kuufadheera.				
91	Odeeffannooleen waaee istrookii fi yaalii isaa, dhugaa tau isaani irratti shakkiin qaba.				
92	Odeeffannooleen waaee istrookii fi yaalii isaa sirri tau baruuf gaafataas sakattaiinsas gaggessaan jira.				
93	Murtee koo murteffachuf waaee hospitaalaa fi yaalii odeeffannoo sassaabeen jira				

Kutaa VIII: Hojiilee hirmaattichaan istrookii ittissuf hojjataman.

Kallatii : Amma Hojiilee istrookii ittissuf hojjattee kan guuttu taa. Deebii kee mallattoo (√) sanduuqa keessa haala seera mallattoo ka'amen kaaii. 1 lakkii dhumisuma(gonkumaa) 2 yeroo baayye kan hin mudannee (Darbee darbee) 3 al tokkoo tokkoo 4 irra daddeebiin 5 yeroo baayyee irra daddeebiin

Lakk.	Hojiilee strokkii ittissuf hojjattaman Furtuu: 1 lakkii dhumisuma(gonkumaa) 2 yeroo baayye kan hin mudannee (Darbee darbee) 3 al tokkoo tokkoo 4 irra daddeebiin 5 yeroo baayyee irra daddeebiin	1	2	3	4	1
94	Horddooffii mana yaalaa irratti nan argama					
95	Dhiibbaa dhiigaa manattii nan hordofa					
96	Qoricha dhiibbaa dhiigaaf ajajamee haala ajajameen nan fudha					
97	Fuduraaf muduraa nan nyaadha					
98	foon coomaa nyaata koo keesstti nan xiqqeessee					
99	Nyaata koo keessatti soggiidda nan xiqqeesse					
100	Sosochii qaamaa dhaabbataan(daqqiiqaa 30 guyyatti,yeroo sadiif torbeettii) hojjataan jira					
101	Dhugaattii machessaa nan xiqqesse.					
102	Tamboo xuuxuu nan dhaabee					
103	Dhaabbataan dhiiga arjoomaan jira					

የ ስምምነት ቅጽ

ስሜ----- ሲሆን በ ጂማዩኒቨርሲቲ የሁለተኛ ዲግሪ ተመሪ የሆኑት አቶ ፍኦድ ተማምለ ማዳካሂዱት ጥናት መረጃ በመከታተል ለላይ እንኛለሁ። በ ጤና ማሳልባት እና የ ጤና ስነ በህሪ ለሁለተኛ ዲግሪ ያቸው መምህራን የ ጤና ግንዛቤ ና የ እስትሮክ መከላከያ ተግባራት በመጻፍ ለእስ ጥናት በመካሄድ ላይ ይገኛሉ። እርሶም የ ጥናት ተሳታፊ እንዲሆኑ ተመርጠዋል። ይህ ቃለመጠይቅ የተወሰኑ ደቂቃዎችን ሊወስድ ይችላል በዚህ ቃለመጠይቅ የሚገኙ ስነ ምግባር በጥብቅ መከተል እንደመምዘና ከእርሶ መከታተል መረጃዎች ስምም ሳይገለጽ ለሳይንሳዊ ሪፖርት ብቻ ጥቅም ላይ የ መውሰድ መሆኑን ላረጋግጥልዎ እወዳለሁ። በመተባበር የሚኖር ስብ ጉዳትምሆነ ማግኘት ልዩ ጥቅም አይኖርም። ከጥናት መከታተል መረጃዎች የ ጤና ግንዛቤ ና የ እስትሮክ መከላከያ ተግባራትን ለማሻሻል ጥቅም ላይ ይውላሉ። በጥናት ላይ የ ትኛውንም አይነት ጥያቄ ካለዎት እኔን ወይንም የ ጥናትን ባለቤት አቶ ፍኦድ ተማም በስልክ ቁጥር +251917385206 ወይም በኢሜይል አድራሻቸው fuadtemam93@gmail.com ማጠየቅ ይችላሉ።

ጥያቄ አሎት ጥያቄዬን መቀጠል እችላለሁ

አይ አ መከተል ላይ ይቀምጥ

አዎ አ መከተል ላይ ይቀጥሉ

የ ማጠይቅ ማለያ ቁጥር _____ የ መረጃ ሰብሳቢው ስም _____ ፊርማ

ቀን _____

የ ተቆጣጣሪው ስም _____ ፊርማ

_____ ቀን _____

ጂማዩ ኒ ቨርሲቲ

የህብረተሰብ ጠፍ ፋካልቲ

የ ጠፍ ስነ ባህሪ እና ህብረተሰብ ትምህርት ክፍል

ርዕስ : የ ጠፍ ግንዛቤ የ ተጋላጭ ት እሳቤና የ እስትሮክ ማላከያ ተግባራት በጂማዩከተማ በሚኖሩ የ ማግስት ሆስፒታሎች ክትትል በሚደረጉ የ ደምግፊት ህመማት ዘንድ

ክፍለ 1 : የ ተሳታፊው ማነን ትና የ ኑሮሁኔ ታ

መሠረድ: አሁን ከርሶ የ ማነን ትና የ ኑሮሁኔ ታዎን እንዲሞሉ ይጠበቃል። እባክዎን ምርጫ ላይ በሚከተሉት ባይታዩ ላይ በመላክ ማልከዎን ይስጡ።

ተቁ	ጥያቄዎች	ሜሶች	ሰብ
1	ክትትል ሚዲያዎች የ ጠፍ ተቋም	1 የ ጂማዩ ኒ ቨርሲቲ ህክምና ሚዲያ 2 ሽነ ን ጊቤ ሆስፒታል	
2	እድሜ	_____ አመት	
3	ፆታ	1 ወንድ 2 ሴት	
4	ሀይማኖት	1 ኦርቶዶክስ 2 ማሳሊም 3 ፕሮቴስታንት 4 _____	
5	ብሄር	ግለፅ _____	
6	የ ትዳር ሁኔታ	1 ያላገባ 2 ያገባ 3 የ ተፋታ/በ ሞት ያጣ	
7	የ ትምህርት ደረጃ	1 መደበኛ ትምህርት ያልተማረ 2 መገናኛ ማኅበብ 3 የ መጀመሪያ ደረጃ 4 የ ሁለተኛ ደረጃ 5 የ ከፍተኛ ትምህርት 6 ሌላ _____	

8	የ ስራ ሁኔታ	1 አርሶ አደር 2 ነጋዴ 3 የቤት እማኔት 4. የ መንግስት ሰራተኛ 5. ስራ የሌለው 6. ሌላ _____	
9	የ ኑሮ ቦታ	1 ገጠር 2 ከተማ	
10	ወርሃዊ ገቢ	_____ ብር	

ክፍል 2: የ ጠፍ ሁኔታ

መሆኑም ፡አሁን ከርስዎ የ ጠፍ ሁኔታዎን እንዲጥሉ ይጠበቃል። እባክዎን ምርጫ ላይ በማክበብና ባዶ ቦታዎች ላይ በመሙላት መልስዎን ይስጡ

ተቁ	ጥያቄዎች	መልሶች	ሀሳብ
11	የ ደምግፊት እንዳለቦ ከተነገርዎት ምን ያህል ጊዜ ሆኖዋል	ግለፅ _____	
12	መድሃኒትስ ከጀመሩ ምን ያህል ጊዜ ሆኖዋል	ግለፅ _____	
13	መድሃኒትስ ከጀመሩ ወዲህ የ ጠፍ ዎ ሁኔታ ምን ይመስላል	1, ተሻሻሎዋል 2, ብሶ ብኘል 3, ያ ወነ ው 4, አላ ወኩም	
14	ከቤተሰብዎ የ ደምግፊት ያለበት ሰውአለን	1, አዎ 2, አይ	
15	መልሶ አውከሆነ ዝምድናቹ ምን ድነ ው	1. እናት 2. አባት 3. አያት 4. ወንድም እህት 5. ልጅ 6. ሌላ _____	
16	ሌላ ተጉዋዳኝ ህመምክ አለበት	1 አዎ 2 አይ	
17	መልሶ አውከሆነ ይለቦ ህመምምን ድነ ው መክሰቢያ መልሶቹን አታንብብሌላስ ብለህ ጠይቅ	1. የ ልብ እና የ ደምስሮች ህመም 2. ስኳር 3. ካንሰር 4. የ ጠጃቻ እና የ አጥንት ህመም 5. የ ኩላሊት ህመም 6. ሌላ _____	
18	ከላይ የ ጠቀሱት ህመም እንዳለቦ ከተነገርዎት ምን ያህል ጊዜ ሆኖዋል	ግለፅ _____	

19	ከላይ ለጠቀሱት ህመም መድኃኒት እየወሰዱ ው	1. አዎ 2. አይ	
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ክፍል 3: ከ እስትሮክ ጋር የተያያዙ የ መረጃ ምንጮች እውቀቶች እና አጋላጭባሪዎች

መሠረታዊ፡ አሁን ከርስዎ ከ እስትሮክ ጋር የተያያዙ የ መረጃ ምንጮች እውቀቶች እና አጋላጭባሪዎችን እንዲሞሉ ይጠበቃል። እባክዎን ምርጫዎ ላይ በሚከተሉት ባይታዩ ላይ በመመላት መልስዎን ይስጡ።

ተቁ	ጥያቄዎች	መልሶች	
20	ስለ እስትሮክ ሰምተውያው ወቅት	1. አዎ 2. አይ	
21	መልሶ አውከሆነ ከየትኑ ውይይት ሰሙት በርካታ ምላሽ ሊኖረው ይችላል	1. ከጠፍ ኤክስቴንሽን ባለሞያ 2. ከጠፍ ባለሞያ 3. ቤተሰብ 4. ጉደኛ 5. ቴሌቪዥን /ሬዲዮ 6. መጥሪያ/ተመራጭዎች 7. ኢንተርኔት እና መሀበራዊ ድህረ ገጽ 8. ሌላ _____	
22	ስለ እስትሮክ መረጃ ለማግኘት የትኛውን የ መረጃ ምንጫ ይጠቀሙ	1. ከጠፍ ኤክስቴንሽን ባለሞያ 2. ከጠፍ ባለሞያ 3. ቤተሰብ 4. ጉደኛ 5. ቴሌቪዥን /ሬዲዮ 6. መጥሪያ/ተመራጭዎች 7. ኢንተርኔት እና መሀበራዊ ድህረ ገጽ 8. ሌላ _____	
23	ስለ እስትሮክ ምን እንደሚደረግ ሊነግሱኝ ይችላሉ መሳሰሉም መልሶቹን አታንብብ	1, የ አእምሮ ደም መርጋት 2, አእምሮ ውስጥ መድመት 3, አእምሮን ማግዳት ገር 4, የ አእምሮ ደም ዝውውር ችግር 5, አላቅም 6, ሌላ _____	
24	የ እስትሮክ ቅድመክስተት ምልክቶች ወይም የ ህመም ምልክቶች ምን ይመስሉታል መሳሰሉም መልሶቹን አታንብብ	1. ማዘር 2. የ መረጃ ጥገና ችግር መወዛገብ 3. ከባድ ራስ ምታት 4. የ እይታ ችግር 5. ትንፋሽ ማጠር 6. የ መናገር ችግር 7. የ ሰውነት ግማሽ ክፍል ማነፍ 8. የ ፊት ጠንቻ ማነፍ 9. ፊት እጅን ግግር ጊዜ (FAST) 10. የ ሰውነት ግማሽ ክፍል መደንዘዝ 11. ሌላ, _____	

<p>25</p> <p>ለ እስትሮክ አጋላጭምካኒያቶች ምን ድናቸው</p> <p>በርካታ ምላሾች ሊኖረው ይችላል</p>		<ol style="list-style-type: none"> 1. የ ደም ግፊት 2. ቀይስጋ በብዛት መመገብ 3. የ እድሜ መግፋት 4. ጭምያ ለውምግብ ማበዛት 5. ጭምር ማበዛት 6. ከፍተኛ ጭንቀት 7. ሲጋራ ማጅገ 8. አልኮል በብዛት ማጠቀም 9. የ ስኬት ህመም 10. የ ተገደበ የ ሰውነት እንቅስቃሴ 11. ከልክ ያለፈ ወፍረት 12. እስትሮክ ያለበት የ ቤተሰብ አባል መኖር 13. የ ልብ ህመም 14. ሌላ _____ 15. አላውቅም 	
<p>26</p> <p>አንድ ሰው በ እስትሮክ በሚኖር ሊያጋጥሙት ለውን ጉዳት ሊጠቅሱልን ይችላሉ</p> <p>ማሰቢያ ማሰባጀትን አታንብብ በርካታ ምላሾች ሊኖረው ይችላል</p>		<ol style="list-style-type: none"> 1. የ ሰውነት ግጭት ክፍል ማነፍ 2. የ መንግሥት ችግር 3. የ እይታ ችግር 4. የ ሚዳት የ ማህብረ ማህበረ ሰውነት 5. እጅና እግርን የ ማጠቀም ችግር 6. ሌላ _____ 7. አላውቅም 	
<p>27</p> <p>የ እስትሮክ ማህላከያ መንገዶች ምን ድናቸው</p> <p>ማሰቢያ ማሰባጀትን አታንብብ በርካታ ምላሾች ሊኖረው ይችላል</p>		<ol style="list-style-type: none"> 1. የ ደም ግፊትን መቆጣጠር 2. የ ስኬት ህመም መቆጣጠር 3. የ አካል ብቃት እንቅስቃሴ 4. የ ሰውነት ክብደትን መቆጣጠር 5. ማጅገ መቆጣጠር 6. የ አልኮል ማጠን መቀነስ / መቆጣጠር 7. የ ኮሌስትሮል / አደገኛ ጭምር / ማጠን መገደብ 8. ሌላ _____ 9. አላውቅም 	
<p>28</p> <p>አንድ ሰው በ እስትሮክ ከተያዘ በህዋላ ማሰባጀት እንዳይያዝ ምን ማድረግ አለበት</p> <p>ማሰቢያ ማሰባጀትን አታንብብ በርካታ ምላሾች ሊኖረው ይችላል</p>		<ol style="list-style-type: none"> 1. የ ደም ግፊትን መቆጣጠር 2. የ ስኬት ህመም መቆጣጠር 3. የ ኮሌስትሮል / አደገኛ ጭምር / ማጠን መገደብ 4. ሌሎች ማድህኒቶች 5. ማገገም 6. ጠፍ ማሳመጃ ገብ 7. ተፈጥሮዊ / አ ማላ ጭህክ ምን 8. ሌላ _____ 9. አላውቅም 	

ክፍል 4: ስለ ጠፍ ያለውን እምነት ማሞከር የሚችል ጥያቄዎች

መሠረታዊ፣ አንባቢው እያንዳንዱን ጥያቄዎች እና ማሳሰቻቸውን ማሟላት ብሎ ሲሆን ተጠያቂው ከሚሰጡት (✓) ምልክት በማድረግ የሚኖር ጥያቄ ይሆናል። ተጠያቂው እያንዳንዱን ጥያቄ እንደ የደምግፊት ታማሚ መረጃ ስለሆነ ይሆናል።

ተቁ	የተጋላጭት ግንዛቤ ፡ ምን ያህል ለ እስትሮክ ተጋላጭት ብለህ ታስባለህ	1	2	3	4	5
	ቁልፍ 1 በጣም እድሉ ዝቅተኛ 2 እድሉ ዝቅተኛ 3 ማከላለፊ 4 እድሉ አለ 5 እድሉ በጣም አለ					
29	ለ እስትሮክ ይበልጥ ተጋላጭት ብለህ ታስባለህ					
30	በ እስትሮክ የሚከሰቱት እድል አለኝ ብለህ ታስባለህ					
31	የደምግፊት ያለባቸው ሰዎች በ እስትሮክ ይያዛሉ ብለህ ተስባለህ					
32	በ እድሜያዎ ሰዎች ለ እስትሮክ ይበልጥ ተጋላጭቸው ብለህ ታስባለህ					
	የአደገኝነት ግንዛቤ					
33	እስትሮክ ለህይወት አስጊነት ው					
34	እስትሮክ ከባድ ችግር ነው					
35	እስትሮክ ሞት ያስከትላል					
36	እስትሮክ እንደ ሽባነት ላሉ የአካል ጉዳቶች ሊያጋልጥ ይችላል					
37	እስትሮክ ለረጅም ጊዜ ሆስፒታል ሊያስተኛ ይችላል					
38	እስትሮክ የደም ግፊት ባለባቸው ሰዎች ዘንድ ከባድ የጤና ችግር ነው					
39	በእስትሮክ ከተያዙ ከሌሎች በሽታዎች አንጻር ለርስዎ ይበልጥ አደገኛ ነው					
	የጥቅም ግንዛቤ	1	2	3	4	5
	ቁልፍ 1 በደንብ እቃ ረገጥ 2 እቃ ረገጥ 3 ማከላለፊ 4 እስማማለሁ 5 በሚባል እስማማለሁ					
40	የሚከተሉት የጤና ተግባራትን ማከወን እስትሮክን ይከላከላል ብዬ አስባለሁ					
41	የደምግፊት መድሀኒትን በታዘዘው ማከት ማወሰድ እስትሮክን ይከላከላል ብዬ አስባለሁ					

ክፍል 6 :ሌሎች ማዕደራት እና ከእርሶ ማጠቃለያ ልማድ

መሆኑም ፡አሁን ከርሶ ሌሎች ማዕደራት እና ከእርሶ ማጠቃለያ ልማድን እንዲምሉ ይጠበቃል ። እባክዎን ማልሶን (✓) ምልክት በማድረግ ይስጡ-1 ማንኛውም(አያደርጉትም) 2 የተወሰኑት 3 ያልተወሰነ 4 አብዛኛዎቹ 5 ሁሉም

ተቁ	ሌሎች ማዕደራት እና ከእርሶ ማጠቃለያ ልማድ ቁልፍ: 1 ማንኛውም(አያደርጉትም) 2 የተወሰኑት 3 ያልተወሰነ 4 አብዛኛዎቹ 5 ሁሉም	1	2	3	4	5
72	ከመሀበረሰቡ ምን ያህሉ በእስትሮክ ማህላከያ ተግባራት ላይ ይሳተፋል ብለህ ታስባለህ					
73	የትኛውም አይነት ዘወታሪ ህመም ካለባቸው ሰዎች ውስጥ ምን ያህሉ በእስትሮክ ማህላከያ ተግባራት ላይ ይሳተፋል ብለህ ታስባለህ					
74	የደምግሬት ካለባቸው ሰዎች ውስጥ ምን ያህሉ በእስትሮክ ማህላከያ ተግባራት ላይ ይሳተፋል ብለህ ታስባለህ					
75	የደምግሬት ላለባቸው ሰዎች የእስትሮክ ማህላከያ ተግባራትን እንዲተገብሩ ቢሞክሩ ምን ያህሉ ይሳተፋል ብለህ ታስባለህ					
76	የትኛውም አይነት ዘወታሪ ህመም ያለባቸው ሰዎች የእስትሮክ ማህላከያ ተግባራትን እንዲተገብሩ ቢሞክሩ ምን ያህሉ ይሳተፋል ብለህ ታስባለህ					
77	ከመሀበረሰቡ ምን ያህሉ ያንተን በእስትሮክ ማህላከያ ተግባራት ላይ ማሳተፍ ይደግፋል					
78	ከቤተሰቦችህ ምን ያህሉ ያንተን በእስትሮክ ማህላከያ ተግባራት ላይ ማሳተፍ ይደግፋሉ					
79	ከጉዋደኞችህ ምን ያህሉ ያንተን በእስትሮክ ማህላከያ ተግባራት ላይ ማሳተፍ ይደግፋሉ					
80	ላንተ ወሳኝ ከሆኑ ሰዎች ውስጥ (ከጉዋደኛ እና ከቤተሰብ ውጭ) ምን ያህሉ ያንተን በእስትሮክ ማህላከያ ተግባራት ላይ ማሳተፍ ይደግፋሉ					
81	ለደምግሬት ክትትል ከማዕደራት					

	ሰዎች ውስጥም ያህሉ ያንተን በ እስትሮክ ማላከያ ተግባራት ላይ ማተፍ ይደግፋሉ					
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ክፍል 7: እስትሮክ ላይ ያተኮረ የ ጤ ግንዛቤ ማሳኪያ

መሠረዳ : አሁን ከርሶ እስትሮክ ላይ ያተኮረ የ ጤ ግንዛቤዎን እንዲሞሉ ይጠበቃል። ጥያቄውን በደንብ ካን በቡ በሃላ ማሳሰን (✓) ምልክት በማድረግ ይስጡ

	እስትሮክ ላይ ያተኮረ የ ጤ ግንዛቤ ማሳኪያ	1	2	3	4
	ቁልፍ 1 ተግባራዊ ሊሆን የሚችል 2 ድንገት ተግባራዊ ሊሆን የሚችል 3 አንድ አንድ ተግባራዊ ሊሆን የሚችል 4 በደንብ ተግባራዊ ሊሆን የሚችል				
82	ከሙሉ ህይወት ስር እና ከሆስፒታል ማጠቃለያ ሙሉ ህይወት ማዘዝ እና መሠረዳ ወረቀቶች ለማንበብ አስቸጋሪ ናቸው				
83	ከሙሉ ህይወት ስር እና ከሆስፒታል ማጠቃለያ ሙሉ ህይወት ማዘዝ እና መሠረዳ ወረቀቶች ላይ ለሚዳት ማሞከራት ጥሩ ስሜት ይገኛል				
84	ከሙሉ ህይወት ስር እና ከሆስፒታል ማጠቃለያ ሙሉ ህይወት ማዘዝ እና መሠረዳ ወረቀቶች የ ያዘዙትን ሀሳቦች ለሚዳት አስቸጋሪ ነው				
85	የ ሙሉ ህይወት ስር እና የ ሆስፒታል ማጠቃለያ ሙሉ ህይወት ማዘዝ እና መሠረዳ አስቸጋሪ ነው				
86	ለኔ ቅርብ ሰዎች ሰዎችን የ ጤ ባለሞያዎችን ጭምር ስለ እስትሮክ አሰራር ወይም ማድረግ ችያለሁ				
87	ስለ እስትሮክ ህክምና እና ምልክቶች እንዲሁም አለታዊ ጥንቃቄዎች ያሉ ሚጃዎችን ሚዳት ችያለሁ				
88	እንደ የ ሰውነት ማከናወኛ ወይም ማዘዝ ዝርዝር (ፊት እጅ እግር)፣ የ ማንኛውንም እና ሌሎች የ እስትሮክ ምልክቶችን ማለጥ ችያለሁ				
89	ስለ እስትሮክ ያሉ ሚጃዎችን ህክምናው ላይ ይሆናሉ ወይ የ ማለውን አስቢያለሁ				
90	ስለ እስትሮክ ከ ቴሌቪዥን ፊደሎች እና ኢንተርኔት እውቀት ገብይታለሁ				
91	ስለ እስትሮክ ያሉ ሚጃዎችን ህክምናው ላይ የ ተአማኒነት ጥርጣሬ አለኝ				
92	ስለ እስትሮክ ያሉ ሚጃዎችን ህክምናው ክክል ስለ ማሆናቸው ጠይቄያለሁ ፈትሻለሁም				
93	የ ራሴን ውሳኔ ለመወሰን ስለ ሆስፒታሎች እና ህክምናዎች ሚጃ ሰብስቢያለሁ				

ክፍል 8: የ ተሳታፊው የ እስትሮክ ማላከያ ተግባራት

መሠረዳ : አሁን ከርሶ የ እስትሮክ ማላከያ ተግባራት እንዲሞሉ ይጠበቃል። እባክዎን ማሳሰን (✓) ምልክት በማድረግ ይስጡ። ቁልፍ 1 በፍጹም 2 ድንገት 3 አንዳንድ 4 በተደጋጋሚ 5 በጣም በተደጋጋሚ

ተቁ	የ እስትሮክ ማላከያ ተግባራት	1	2	3	4	5
94	በቀጠሮዬ ማሰረት በጤ ተቋም እገኛለሁ					

95	በቤቴ የደምግፊቴን አከታተላለሁ					
96	እስትሮክን ለማሳከል በሀኪም በታዘዘልኝ ማረፊያ የደምግፊት ማድሀኒቴን እወስዳለሁ					
97	ፍራፍሬና አትክልት እመግባለሁ					
98	ምላሽ በወን የጭምር ማጠን የተገደበ አደርጋለሁ					
99	ምላሽ በወን የጭምር ማጠን እቀንሳለሁ					
100	የሰውነት እንቅስቃሴ በቋሚነት (ለ30ደቂቃ በሰዓት 3 ቀን) አካሂዳለሁ					
101	ምወስደውን የአልኮል ማጠን እቀንሳለሁ					
102	ሜጅብ አቆማለሁ					
103	ደምበቋሚነት እለግሳለሁ					

JIMMA UNIVERSITY
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DEPARTMENT OF HEALTH BEHAVIOR AND SOCIETY
APPROVAL SHEET

This is to certify that a thesis entitled “Predictors of Stroke Preventive Practices Among Patients With Hypertension At Public Hospitals In Jimma Town, Ethiopia, 2022 .” submitted to the faculty of public health, department of health, behavior, and society; in partial fulfillment of the requirements for masters of public health in health promotion and behavior (MPH/HPB), is a record of original thesis prepared by, Fuad Temam(BSc), under my supervision and no part of the thesis work has been submitted for any other degree. The assistance and help received during thesis have been duly acknowledged. Therefore recommend that it be accepted as fulfilling the thesis requirements.

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