ADDIS ABABA UNIVERSITY
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KNOWLEDGE, PERCEIVED RISK, ATTITUDE AND PRACTICE TOWARDS MYOCARDIAL INFARCTION PREVENTION AMONG ADULTS ATTENDING CARDIAC CLINIC IN SELECTED PUBLIC HOSPITALS, ADDIS ABABA ETHIOPIA, 2023 G.C

BY: EYERUSALEM YOHANNIS (BSC NURSE)

A RESEARCH THESIS SUBMITTED TO, COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY, DEPARTMENT OF NURSING, ADDIS ABABA UNIVERSITY INPARTIAL FULFILLMENT OF THE REQUIREMENTS FOR DEGREE OF MASTERS OF SCIENCE IN CARDIOVASCULAR NURSING

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A RESEARCH THESIS SUBMITTED TO, COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY, DEPARTMENT OF NURSING, ADDIS ABABA UNIVERSITY INPARTIAL FULFILLMENT OF THE REQUIREMENTS FOR DEGREE OF MASTERS OF SCIENCE IN CARDIOVASCULAR NURSING

MAY 2023

ADDIS ABABA ETHIOPIA

APPROVAL SHEET

This research thesis is my original work in partial fulfilment of the requirement for the degree of Master of Science in Cardiovascular Nursing.

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This research thesis has been submitted with my/our approval as university examiner and advisor(s).

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2. Mr. Tadesse Bedada (MSC,Phd Candidate) Signature:_____
   Date: _____

STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every serious effort has been made to avoid any plagiarism in the preparation of this thesis. This thesis is submitted in partial fulfilment of the requirement for the degree of master in cardiovascular nursing to AAU. I would like to declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

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ABBREVIATIONS AND ACRONYMS

ACS: Acute Coronary Syndrome

AMI: Acute Myocardial Infarction

CDC: Communicable Disease Control

CHD: Coronary Heart Disease

CV: Cardio Vascular

CVD: Cardio Vascular Disease

ECG: Electrocardiogram

IHD: Ischemic Heart Disease

MI: Myocardial Infraction

NSTEMI: Non ST Segment Elevated Myocardial Infraction

STEMI: ST Segment Elevated Myocardial Infraction

SSA: Sub Saharan Africa

TASH: Tikur Anbessa Specialized Hospital

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ABSTRACT

Background: Myocardial Infarction, more commonly known as heart attack, is a global problem that affects millions of people every year. The main cause of death around the globe is cardiovascular disease. Of all cardiovascular diseases Myocardial Infarction is a major contributor of morbidity and mortality among adults. **Objective:** The aim of this study is to assess Knowledge, Perceived risk, Attitude and Practice towards Myocardial Infarction Prevention among adults attending cardiac clinic in selected public hospitals. **Method:** Hospital based cross-sectional study was conducted, among 422 patients in selected three public hospitals in Addis Ababa, Ethiopia. A pretested and interviewer-administered questionnaire was used for data collection. Data was entered using Epi-data version 3.1 statistical software and analyzed using SPSS version 25.0 statistical package. Bivariate and multivariable logistic regression analysis was also carried out to identify factors associated with the dependent and independent variable. A p-value less than 0.05 were used to declare statistical significance. **Result:** A total of 422 participants were enrolled in the study. Mean age was 44±16yrs and 51.4% of patients were females, 61.4% were married, 35.3%, participants were university graduate also 37.7% were self-employed and 83% were urban residents. More than half of patients (50.7%), (57.8%) and (59.2%) were found to have good knowledge, attitude and practice on prevention of MI respectively. Regarding perceived risk score most of participants (59.2%) were found to have poor perception towards their MI risk. Greater MI prevention knowledge were associated with urban residency (P = 0.011) and higher level of education (P = 0.002), married participants were 1.9 times more practical on MI prevention than singles (P = 0.002). Those who attended college/university were 5.8 (P = 0.000) times more likely to have good practice than secondary school, Also females were 1.8 times to have more perceived risk towards MI compared to males (P = 0.003) and Urban residents were 47% less likely to have perceived risk towards MI than who are living in rural areas (P = 0.029). **Conclusion and Recommendation:** About more than half of the current study participants had high knowledge, attitude and practice about MI prevention, on the other hand more than half participants show low level of perceived risk of MI. Therefore, this study is important to demonstrate the need for implementing an effective prevention program.

Key Words: Knowledge, Perceived Risk, Attitude, Practice, Myocardial Infarction, Prevention.

1. INTRODUCTION

1.1 Background

Myocardial infarction is caused by a blockage in the blood vessels that supply the heart, leading to damage the heart muscle and severity of the blockage can result in unstable angina or a heart attack (myocardial infarction). A heart attack is the death of cardiac tissue due to a lack of blood flow. The classification of MI is Non–ST–segment elevation MI (NSTEMI) and ST–segment elevation MI (STEMI). Elevation of the ST-segment diagnosis when there is the serum cardiac troponin level increased and ST-segment elevation, and when the serum cardiac troponin level increase without ST-segment elevation, is the diagnosis of NSEMI.(1)

Myocardial infarction (MI) is the irreversible injury of the myocardium caused by prolonged myocardial ischemia and is a major cause of heart failure and eventual death among ischemic patients (2)

Patients with particular risk factors, such as smoking, hypertension, diabetes, high cholesterol level, a family history, and overweight, or obesity, are more prone to develop MI. MI is a leading cause of death and morbidity in patients with cardiovascular disease (CVD), accounting for half of all deaths from the disease. (3)

According to a study conducted in Sub-Saharan Africa. MI is becoming more common in Sub-Saharan Africa, with risk profiles that are similar to those seen in wealthy countries.(4)

MI is one of the most avoidable causes of death in the world since the majority of its risk factors—including hypertension, dyslipidemia, obesity, smoking, a lack of physical exercise, stress, bad eating habits, and diabetes—can be avoided or controlled.(5)

Also Ethiopia is experiencing an epidemiologic change from a predominance of infectious diseases to chronic diseases, which is a significant public health challenge.(5)

Success in the prevention and control of these diseases may depend on public awareness of myocardial infarction and its risk factors. By limiting their exposure to modifiable risk factors for myocardial infraction, individuals can be proactive in lowering their own lifetime risk by adopting healthy attitudes.(6)

Also, the evaluation of knowledge, attitude, and practices (KAP) has proven to be an efficient method for delivering crucial baseline data that aids in the development of primary and secondary preventive programs. Low levels of KAP are linked, according to similar studies conducted in other nations, to poor cardiovascular outcomes.(7) Additionally, the risks that are presented to people have a significant impact on how they perceive risks, how they feel about risks, whether they intend to change their behavior, and if they decide to receive medical treatment.(8)

1.2 Statement of the Problem

Myocardial Infarction, more commonly known as heart attack, is a global problem that affects millions of people every year, According to WHO report cardiovascular diseases (CVDs) are the primary cause of death worldwide. Each year, 32% (17.9 million people) and Myocardial Infarction (MI) is major contributor to these statistics 85%,(9) If CVD mortality trends continue, it is anticipated that by 2030, there will be 23.3 million yearly CVD fatalities, mostly from myocardial infarction. (9) (10)

In Myocardial Infarction (MI), men are more likely than women to die in all age categories. Incidence rates for MI are falling in wealthy nations as a result of better health systems and the implementation of successful public health initiatives, but they are rising in developing nations including South Asia, parts of Latin America, and Eastern Europe. MI is caused by 90% of the time by modifiable risk factors. Dyslipidemia, smoking, psychological stresses, and diabetes mellitus are all risk factors.(11).

According to reports, MI occurs more frequently in males (640,000) than in women (275,000), accounting for roughly 915,000 MI cases in the UK. Also the prevalence of age specific MI extends from 0.06% of men <45 years of age to 2.46% of those ≥ 75 years old.(12)

almost 17 million deaths from CVDs are estimated by the World Health Organization (WHO), accounting for almost a third of all deaths worldwide. 7.4 million of these CVD fatalities were attributable to myocardial infarction. This epidemic has disproportionately affected low- and middle-income countries (LMIC), with 75 percent of these premature MI deaths happening in adults under the age of 70. (6)

MI The main factor causing premature death and disability is MI. This has a significant impact on how much the price of healthcare is rising. According to studies, the rate of MI-related early deaths ranges from 4% in high-income countries to 42% in low-income ones, illustrating the widening disparities between populations living in different nations. (13)

The prevalence is high among those with obesity, poor diet, high blood pressure, and type 2 diabetes, and the burden is currently increasing more quickly than our ability to address it. Even though MI is preventable, it is responsible for around 31% of all deaths worldwide, and over 3

million of those deaths happened before the age of 60. More than 80% of MI-related fatalities occurred in low- and middle-income nations. (14)

Research done In Ethiopia showed that acute myocardial infarction (MI) was the third most frequent reason for admission to the Medical Intensive Care Unit of Black Lion Hospital, accounting for 8.8% of admissions. (15)

Based on a retrospective analysis carried out at Ethiopia's Addis Cardiac Hospital (Private Hospital). 161 patients (53.7%) developed ACS, of whom 100 had ST segment elevation myocardial infarction (STEMI), accounting for 33.3% of the total. (16)

1.3 Significance of the Study

Studying about myocardial infarction prevention knowledge, attitude, practice and perceived risk is very significant due to the large number of heart attack-related deaths. Researchers can identify gaps in knowledge and practice that may be contributing to high rates of heart attacks, healthcare providers and policy makers develop effective programs and interventions to prevent MI, this Information also can then be used to design targeted interventions to educate people about ways to prevent heart attacks such as maintaining healthy lifestyle, regular exercise, balanced diet, avoid smoking and managing conditions like high blood pressure and diabetes. Overall studying myocardial Infarction Prevention knowledge, attitude, practice and perception is important to lower the incidence of heart attacks and improve public health.

2. LITERATURE REVIEW

This literature review is composed of four parts. The first part covers literatures related to knowledge of adult patients about MI, the second about attitude of adult patients towards prevention of MI the third related to perceived risk and the fourth about practice of adult patients about prevention of MI.

2.1 Knowledge about MI

According to study conducted in Poland the respondents assess their knowledge of myocardial infarction almost 67% of the respondent's rate their knowledge as average18.3 % said that they have good knowledge on the myocardial infarction prevention. Also most of the respondents knows that smoking cigarettes rises the possibility of developing cardiovascular diseases by five times. (17)

In a research carried out in Malesia, 35% of participants obtained scores of 65.0 or above, with the lowest score allowed being 29.00, suggesting that the respondents had a good understanding of MI. Most respondents were know the increased risk of MI due to smoking (80%) and obesity (71%). In addition, it was shown that very few people were knowledgeable about good and bad cholesterol.(18)

Study conducted at the Sahid Gangalal National Heart Center in Kathmandi, Nepal, 62.4 percent of individuals possessed a moderate level of knowledge, and there was a considerable link between education and occupation and knowledge. It was determined that the majority of people had a moderate level of knowledge. (19)

Study done in Malaysia shows Poor knowledge about MI is on question related to high-density lipoprotein (HDL). Only 16% of the total participants answered correctly for this question. In fact, most of the subjects (64%) answered "do not know" for this question also 80% of subjects were well informed about smoking is the risk of MI and71% were aware of obesity's increased risk of MI.(18)

In a study conducted in Bangladesh, participants identified hypertension (51.4%), a fatty diet (62.6%), smoking (52.7%), poor exercise (28.4%), and family history (30.6%) as potential risk

factors for MI. Additionally, 78% of participants thought eliminating fatty meals and 63% thought quitting smoking were effective ways to prevent MI.(7)

Another study was undertaken in the cardiology unit Pakistan, and the results revealed that 34% didn't know how obesity influences risk of MI, 51% didn't know whether smoking affects heart attack risk or not, and 50% didn't know the advantages of exercise. While 70% of nonsmokers were unaware of the effects of smoking, 80% of current smokers and 85% of former smokers believed smoking to be harmful. (20)

Another research done in Jeddah, Only 12%, 26%, and 39% of subjects mentioned diabetes mellitus, smoking, and a lack of exercise. The most prevalent familial condition recognized as a risk factor for MI was diabetes, which was acknowledged by 47.2% of individuals. Family history of CAD, MI, or CAD was less frequently reported..(21)

According to a Saudi Arabian study, a significant portion (62.3%) of veggies are related with an higher risk of heart attack. Only 24.5% of participants said that a diet high in vegetables lowers the risk of heart attack, and 13.0% said that fruits do the same, compared to 9.8% who said that fruits increase heart attacks. 77.2% of respondents lacked knowledge of the right answer. Moreover, smoking raises the risk of heart attack, according to 43.1%. Yet, a significant portion of individuals (56.9%) lacked awareness about how smoking affects MI. Patients also claim that exercise increases the risk of heart attack (45.8%). Many individuals (54.5%) were unaware of the importance of physical activity. Last but not least, (47.7%) said that fat increases heart attack.(22)

In a study conducted in Lebanon, 45.9% of respondents properly known MI as the country's primary reason of mortality, and 48.4% knew that the majority of MI cases are hereditary. In addition, 91% were aware that hypertension increases the risk of MI.(23)

Study in Northern Tanzania participants' replies to questions concerning awareness of MI. Higher number of respondents 224 (64.2%) were aware that obesity higher the opportunity of developing a myocardial Infarction. Similarly, most respondents identified hypertension, increased cholesterol, and old age as risk factors for MI. Though, only a less number of respondents recognized that diabetes raises the risk of a heart attack.(24)

Another research done in Nigeria also shows (87.4%) of participants Identified Hypertension the most commonly risk factor for MI(25)

The population's understanding of MI is suboptimal, according to research done in Cameroon's, with greater than half (52.2 %) of the respondents having a general poor knowledge score. Whereas most people were aware of MI risk factors, they were less knowledgeable about MI. (6)

According to research conducted in Uganda, (68.2%) of participants were more familiar about high-calorie foods, and (66.1%), of respondents low-calorie foods, also less number of respondents stated that smoking has higher opportunities to develop MI by a percentage (17.7%), and respondents had a good understanding about MI prevention. (26)

Less than half of the study participants in an SSA study had a decent understanding of CVDs and/or risk factors. A range of 1.8% of participants were unable to name even one clinical symptom or risk factor for CVDs. (27)

According to an SSA narrative synthesis analysis, High blood pressure is a 7.3% of possibility to develop MI and has been found to be present in anywhere between 16.2% and 34.5% of cases. Alcohol consumption ranges from 4.5% to 52.8%, alcohol use ranges from 0.6% to 57%, physical inactivity ranges from 0.6% to 57%, and obesity ranges from 10.0% to 56.1% to 99.1%. Diabetes was listed as higher chance of developing of MI, smoking, physical inactivity, and unhealthy diet ranged from 50.6% to 70.6%. (27)

Another research done in Ethiopia The majority of participants answers that being old, (79.4%), smoking (97.6%), being overweight (91.3%) and hypertension (81.9%) are higher chance of developing MI. Simultaneously participants had inadequate awareness towards family history of MI (86.8%) is also risk factor. Almost (19.2%) did not know that maintaining blood pressure regulation decreases the chance of acquiring MI,(18.1%) were could not recognize taking fatty meals higher cholesterol level, and (40.1%) thought physical activity at gym only lower chance of developing MI. (5)

Evidence gaps on MI create a barrier to effective cardiovascular disease prevention. In Ethiopia, almost half of patients had inadequate awareness towards myocardial Infarction. Thus, evidence on patients' knowledge about MI have paramount importance in avoidance of MI(5).

2.2 Perceived Risk to wards Prevention of MI

A study done in Sweden shows that majority of participants believed their MI risk to be either lower (40.1%) or comparable to others (38.1%). Self-perceived numerical risk was 12.0% on average. (8)

Research done In Hungary shows (51.6%) of participants perceived themselves have lower risk in the sample, 32 patients (19.9%) were overestimated themselves at high risk of myocardial Infarction.(28)

A study done in Alexandria, Egypt shows majority of the participants 85.33% don't recognize themselves have chance of developing MI in their lifetime. Around 3/4 of respondents (73.33 %) consider the fact that anyone can develop MI, regardless of social class.. Greater than half of the participants (58.67%) thought that they have a minimum chance of acquiring MI, Only 3.33% said they believed they had a higher likelihood of getting the disease than other seniors their age and in similar circumstances, while 38.0% said they had the same chance. The majority of seniors (73.33%) feel that their risk of developing MI is the same as their risk of developing any other disease (cancer, stroke, etc.), whereas 22.0% believe that MI is less likely to develop than other diseases, and less than 5.0% believe that MI is more likely to occur than other diseases. (29)

Only one-third of the participants in the Kenyan study agreed with the statement "I am at high risk for MI."(30)

A study was undertaken in northern Tanzania, ((27.6%) of the participants said they believed they might have a MI, (43.2%) did not believe they had any possibility of suffering one, and (29.2%) were unsure if they were at risk. (31)

In a community poll in northern Tanzania, 198 people (or 27.6% of the total) said they believed they might have a heart attack. The remainder of the respondents were divided into two groups: 210 (29.2%) did not know if they were at danger, and 310 (43.2%) did not believe they had any possibility of suffering a heart attack. (31)

2.3 Attitude of Adult Patients about Prevention of MI

Study examined patients' Attitude of myocardial infarction prevention Damietta, Egypt's El-Azhar Hospital The findings demonstrated that more than three-quarters of the patients (81.1%)

had a very positive attitude toward myocardial infarction. And the study conclude that the majority of the patients investigated had a very favorable attitude toward myocardial infarction.(32)

Study done in Dhaka showed the answer given for attitude question about life style changing are only 22% thought an healthy way of living could avoid MI.(7) Another research done in Lebanon showed that 70.05% of participants had good attitude towards MI.(23)

According to study done in Nepal more than half of the respondents did not want to change their life or had negative attitude (64.6% men and 55.4% women) also 23% said that they ate more and would like to cut down, approximately 82% considered themselves to be overweight. (33)

Other study done in Hungary showed 73.9% of participants scored themselves as obese or overweight. (28)

Research in Kenya shows that less than half of the individuals thought that MI may be avoided by modifying their lifestyle behaviors. (30)

Research in Tanzania shows that participants' attitudes toward MI, the majority (92.3%) stated a readiness to decrease the quantity of meal they take, to improve their lifestyle health (24)

2.4 Practice of Adult Patients towards Prevention of MI

According to study conducted Nepal, 62.4% of individuals had inadequate practice. (19) Another study done in Nepal shows that 49% of participants score insufficient practice level practice on MI.(33)

Study done in Hungary showed (78.9%)of participants were scheduling life style modification, the maximum prevalent aim was decrease weight (43.1%), improve exercise (21.9%) and correct eating traditions (19.4%). (28)

Study done in Poland the respondents were asked the question: Do you eat more vegetables and fruits in your regular meals? The respondents indicate that more than half of the respondents do not prefer it (63.3%) the opposite opinion have 36.7% of respondents (10)

Study conducted at an outpatient clinic in Malaysia 66% of participant's respondents responded that they eat vegetables. (18)

A study conducted in Bangladesh overall practice level shows (17.12%) from this physical inactivity, with only 33% of the sample engaging in least 20 minutes of exercise three times per week and 43% of the sample engaging in little to no exercise. (7)

Research in Lebanon overall practice level shows (71.0%) among those respondents, 55.4% doing physical activity greater than 20 min 3x/week, 81% maintained normal weight, 65.4% were passive smokers in the past but no longer smoke. (23)

Research conducted in Iran also shows 20% of participants do physical activity grater than three times in a week; almost 21% of respondents had taking more fruit vegetables in their daily diet. Around 20 percent of participants smoked frequently or occasionally.(10)

Another study done in Iran shows 63% of participants has

A study in Northern Tanzania found that only a minority of patients (25.2%) reported do physical activity regularly.(24)

According to research in Kenya in preventive practices against MI were assessed and result showed that less than 5% of individuals showed that they had engaged in physical exercise, decreased their intake of unhealthy foods, or stop smoking. (30)

A research done in Ethiopia, more than half of the respondents (57.1%) have ever consumed alcohol. Three-fourths of respondents indicated that they were not physically active. Regarding the history of khat use, 24 (17.1%) reported khat use, while 39.8% reported eating fruit and vegetables frequently (more than three times weekly). (34)

2.5 Sociodemographic Characteristics on Prevention of MI

Age

Research done in Iran showed that the awareness towards MI was considerably greater between participants who aged ≥ 40 years compared to those < 40 years of age.(10)

A research conducted in Cairo shows that there is no major statistical significant between age and Myocardial Infarction (32)

Gender

According to a study conducted in the USA, women considered their risk to be much higher than their male counterparts, with a mean (SD) level of 0.35 (1.4). Male and female. (35)

Study in Iran shows that exercise was meaningfully higher among men compared to females.(10) Also study in Malesia shows that women have better knowledge of MI than men(18)

Study done in SSA reveals that Women's are significantly associated 31% with perceived risk of MI than male.(27)

Research done in Hungary shows women's have high perceived risk and

According to a study conducted in Bangladesh, more men (68%) than women (32%) were skilled in identifying MI prevention techniques (2 = 3.80 P = 0.051). Although women outperformed men in the practice category, with a larger significance (t (220) = -2.135, P = 0.034), men outperformed women in the knowledge category (t (220) = 1.962, P = 0.051). Women were therefore more pragmatic than men, while knowing less about MI..(7)

According to research done in Nepal result shows 25% of men and 30% of females recognized them sleeves that they have a chance acquiring of MI.(33)

Study done in Kenya older women (P = 0.04) were more likely than men to agree with the m at high risk for MI."(30)

Marital Status

Research done in Lebanese shows only 29.4% of married participants showed good practice on prevention of MI.(23)

According to research conducted in Ethiopia, marriage status and health practises are related. Those who had never married had a mean knowledge score on MI that was -14.01 units lower than those who were now married (=-14.01, 95% CI -20.71 to -7.29; P 0.001;).(5)

Another research done in Iran shows no significant association between practice of myocardial Infarction prevention and marital status (10), also another research done in Kenya shows no any relation between practice on MI prevention and marital status (30)

Occupational Status

Study done in Uganda shows high knowledge on MI prevention on those who were in formal employment (26)

Study conducted at the Sahid Gangalal National Heart Center in Kathmandi, Nepal, 62.4 percent of individuals possessed a moderate level of knowledge, and there was a considerable link between education and occupation and knowledge. It was determined that the majority of people had a moderate level of knowledge. (19)

Income

Research done in Uganda shows that high knowledge on MI prevention on individuals with a high socioeconomic index (26)

Educational Status

Study was undertaken in Peshawar, Pakistan the results revealed that the participant's view on fruits and vegetables was evaluated in light of their educational background. It turned revealed that participant with higher levels of education knew more about a healthy diet than those with lower or no levels of education..(20)

Based on research done in Iran results, showed that college or higher education is significantly associated with goof practice level compared to those with low to intermediate education al level 1.27 (0.65-2.47) (P=0.007). (10)

Based on the research done in Malaysia there was no association between educational level and on myocardial Infarction prevention practice (18), Nepal shows no association between educational level and practice (19)

Another study shows in Nigeria More than 12 years of formal education or better formal education was significantly associated with awareness of MI risk factors (36)

Study done in Uganda reflects that awareness on MI prevention was significantly greater among participants who had completed post-primary education [Adjusted PR = 1.55 (95% CI: 1.18–2.02), p = 0.002] (26)

A research conducted in Cairo shows that there is no important statistical association between education and Myocardial Infarction (32)

Another study Indicated in Alexandria showed that participants who had high educational level are more knowledgeable about MI risk factors and the significant association was (P = 0.000) (29)

According to a study conducted in Uganda, individuals with post-primary education had a much greater level of knowledge about MI prevention. (p=0.002).(26)

Study done in Ethiopia shows, those with no formal education had a mean knowledge score that was -18.80 units lower than people who had graduated from college or university (=-18.80, 95% CI -24.76 to -12.85; P 0.001). The knowledge score of people with less than a primary education was -12.02 units lower than that of those with a college or university degree. (β =-12.02, 95% CI -17.63 to -6.40; P < 0.001).(5)

Research done in southern Ethiopia Those with no formal education had a 3.18-times higher risk of MI than those with secondary education or more (AOR= 3.18, 95% CI=1.59-6.34)..(34)

Residence

Research done in USA shows low perception of risk among inner city resident than participants from urban residents. (35)

Research done in Tanzania shows that only a marginal of urban populations recognized themselves at greater chance of acquiring MI. (31)

Study done in Nigeria shows Urban residence was significantly associated with knowledge of Myocardial Infarction (P = 0.011) (36)

Study done in Ethiopia shows, Urban populations had a mean knowledge score that was 12.84 units greater than rural populations' (β =12.84, 95% CI 6.91 to 18.77; $P < 0.001$). (5)

2.5 Justification

Myocardial Infarction (MI) is still a major global public health issue, and is often associated with unhealthy lifestyle choices. Research has shown that an individual's knowledge, attitude and practices towards risk factors for MI can have a significant impact on their likelihood of developing the condition. Attitudes towards these risk factors and the perceived risk of developing MI can also influence behavior of healthy life style. It is vital to recognize the factors that influence knowledge, attitudes, and practices related to MI in order to develop effective prevention strategies. Knowledge, attitude, practice and perceived risk towards myocardial infarction are all interconnected and play a significant tole in the prevention of MI. Having knowledge about the preventive measure of MI alone is now enough. One must have a positive attitude towards adopting a healthy lifestyle, Good practices and finally the perceived risk of heart disease is an important factor that individuals to take preventive measures. People who feel they are at a higher risk are more likely to take reduce their risk factors overall.

A thorough literature research covers limited published information regarding KAPP towards MI in Ethiopia. Our study fills this gap by examining KAPP regarding MI prevention in Ethiopia. Also the availability of this information, to population is very limited, regarding this the population continue to engage in unhealthy behaviors and fail to recognize the potential consequences. Therefore, there is a necessity for continued research and training to better understand address the knowledge attitude and practice surrounding MI factors

Conceptual Framework

This conceptual framework developed by the principal investigator by reviewing literatures that show the relationship between dependent variable and independent variables(37)

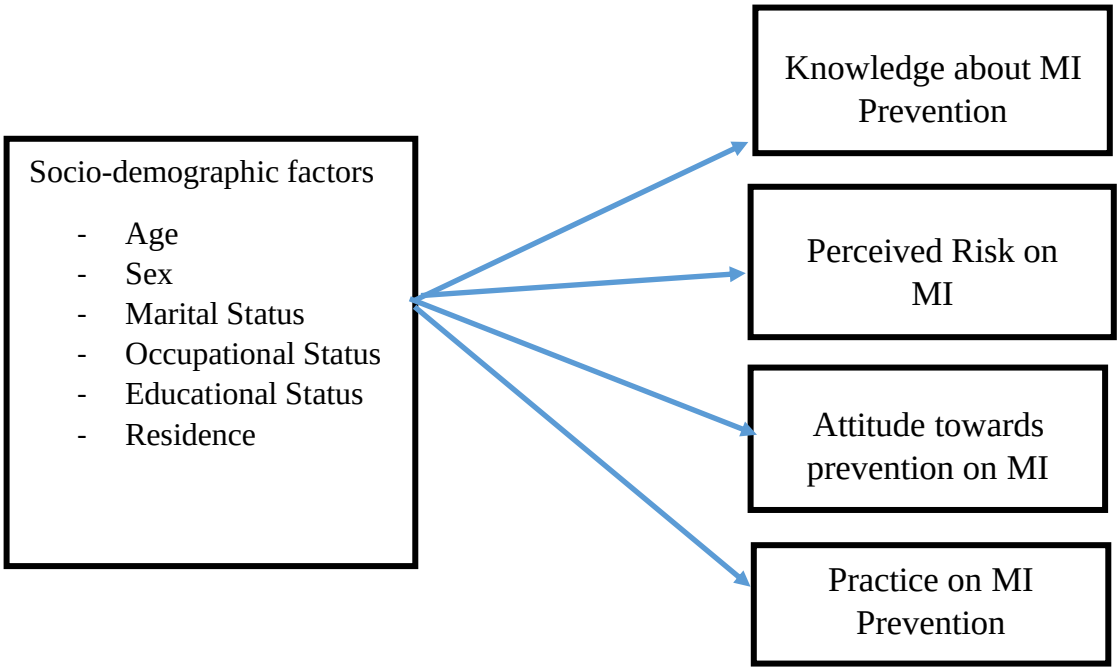

Figure 1: Conceptual frame work of Knowledge, Perceived Risk, Attitude and Practice towards myocardial Infarction among adults attending cardiac clinic in selected public hospitals 2023 G.C

3. OBJECTIVE OF THE STUDY

3.1 General Objective

To Assesses Knowledge, Perceived risk Attitude and Practice towards Myocardial Infarction prevention among adults attending cardiac clinic in selected public hospitals2023 G.C

3.2 Specific Objective

- To Assess the Knowledge of adult patients about MI attending cardiac clinic in selected public hospitals, Addis Ababa Ethiopia 2023 G.C
- To Assess the perceived risk about MI among adult patients attending in cardiac clinic in selected public hospitals, Addis Ababa Ethiopia 2023 G.C
- To Assess the attitude of adult patients about prevention of MI attending in cardiac clinic in in selected public hospitals, Addis Ababa Ethiopia 2023 G.C
- To Assess the Practice of adult patients about prevention of MI attending in cardiac clinic in selected public hospitals, Addis Ababa Ethiopia 2023 G.C

4. MATERIALS AND METHODS

4.1 Study Area

The study was conducted in public hospitals providing cardiac outpatient services in Addis Ababa city administration. The city administration of Addis Ababa contains 12 public hospitals, from them 6 hospitals are serving for cardiac patients as an outpatient. The three study areas selected are Tikur Anbessa Specialized Hospital, St. Peter's Specialized Hospital and Zewditu Memorial Hospital. These hospitals are selected by lottery method.

Tikur Anbessa Specialized Hospital (TASH) was established in 1972 and is the largest specialized hospital in Ethiopia, with over 700 beds, and serves as a training center for undergraduate and postgraduate medical students.(38) It is also a tertiary referral hospital that sees around 370,000-400,000 patients per year, the cardiac clinic sees around 8,067 patients annually, although the exact number is not known.

St Peter, was established 1953 as part of ministry of health of federal democratic republic of Ethiopia. The hospital provides various services especially in tuberculosis diagnosis and treatment. It serves as a referral TB hospital in Addis Ababa, Ethiopia. It has 264 beds and wide range of acute care services including an Accident and Emergency services. Its cardiac service, OPD and Cath lab departments are working by St, Paul millennium medical college and the cardiac clinic serves around 3000 patients annually.

Zewditu Memorial Hospital is a hospital in central Addis Ababa, Ethiopia. It was built, owned and operated by the Seventh-day Adventist Church, but was nationalized during the Derg regime in about 1976. The hospital is named after Empress Zauditu, the cousin and predecessor on the throne of Emperor Haile Selassie. It has 182 beds for in patients and the cardiac clinic serves 2000 patients annually

4.2 Study Period

From February - to Jun, 2023G.C

4.3 Study Design

Facility based cross- sectional study

4.4 Population

4.4.1 Source population

The source population for this study was all out patients who are attending in TASH, St, peter Specialized Hospital and Zewditu Memorial Hospital.

4.4.2 Study Population

All randomly selected adult patients on out patients follow up cardiac clinic at TASH, St, Peter Specialized Hospital and Zewditu Memorial Hospital during the study period and fulfill the inclusion criteria.

4.5 Eligibility Criteria

4.5.1 Inclusion Criteria

Adult Patients who attend follow up in Tikur Anbesa Specialized Hospital cardiac clinic, St, Peter Specialized Hospital cardiac clinic and Zewditu Memorial Hospital cardiac clinic during the study period and willing to participate.

4.5.2 Exclusion Criteria

- Those who are critically ill and cannot communicate
- Age less than 18 years

4.6. Sample Size Determination

The sample size for this study was determined by using Single population proportion formula. Since there is no literature available in Ethiopia 50% proportion was considered. By the above information the total sample size calculated.

ni = required sample size

$Z\alpha/2$ = value for normal distribution at 95% confidence interval which equal to 1.96

D= Margin of error = (0.05%)

(P) = 0.5

ni= (Zα/2)2 p(1-p)/ d2

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

n= 3.8416*(0.5)(0.5)/(0.05)2

n= 3.8416*0.25/0.0025

n=0.9604/0.0025 = 384.16~384

n= 384

10% non-response was considered

n = 422

4.7. Sampling Technique

TASH, St, Peter Specialized and Zewditu Memorial Hospitals are selected by lottery method from 6 public hospitals, which have cardiac clinic follow up from other outpatient clinics.

To select the study participants, the total sample size was allocated proportionally based on the number of patients from each selected hospital. Again, proportional allocation was implemented for each selected hospital. Finally, from each hospital, patients were selected using simple random sampling method to attain the final individuals.

Proportional allocation was implemented for each selected hospitals by using the formula for proportional allocation

i.e., nh = (Nh / N) * n

Where nh is the sample size for stratum h, Nh is the population size for stratum h, N is total population size, and n is total sample size.

TASH= (8,067/13,067)* 422= 260

St. Peter= (3000/13067)*422=97

Zewditu Memorial Hospital = (2000/13067)* 422 =65

4.8 Operational Definition

Knowledge.

Knowledge was measured by 28 questions about Myocardial Infarction that included the cause, clinical signs and symptoms, and mechanisms of prevention. Knowledge was defined as good if the respondents scored above or equal to the mean level and knowledge was defined as poor if the respondents scored below the mean level.(39)

Perceived Risks:

Perceived risk was assessed by using 8 questions about whether they believe they are at risk of developing MI. If the respondents scored above or equal to the mean level it was considered them self at risk if the respondents scored below the mean level they considered themselves are not in risk of MI (40).

Attitude.

Attitude towards Myocardial Infarction preventive measures was assessed by using 4 questions, a respondent who scored above or equal to the mean level was defined as having a positive attitude and a respondent who scored below the mean level was defined as having a negative attitude. (41)

Practice.

Practice was measured by using 8 questions about preventive measures for Myocardial Infarction and the respondent was categorized as showing poor practice if the respondents scored below the mean and good practice if the respondents scored above or equal to the mean (41).

4.9 Study Variable

4.9.1 Dependent Variable

Knowledge,

Perceived Risk

Attitude and

Practice

4.9.2 Independent Variable

Sociodemographic (age, sex, Marital Status, educational level, Occupational status, and Residence)

4.10 Data Collection Tool

Data was collected using an interviewer-administered questionnaire the data extraction tool developed from three validated tools, the World Health Organization (WHO) STEPs instrument, International physical activity questionnaire and the Heart Disease Fact Questions (HDFQ). The WHO STEPs instrument follows a stepwise approach to chronic disease risk factor surveillance in individuals aged 18–64 years (42),(5),(30). Ethiopian 25 Public Health Institute adapted the WHO STEPs instrument to Ethiopian context by including khat chewing and the use of local alcohol and cigarette products in the risk behavior assessment. Locally adapted version of WHO STEPs instrument was translated and used to assess socio demographic variables and MI risk behaviors including cigarette smoking, alcohol consumption, khat chewing and fruit and vegetable consumption. The international physical activity questionnaire used to assess physical activity (5). The English version of both the international physical activity questionnaire and the HDFQ was translated into Amharic and were back translated into English by language experts to check reliability of the translations.

4.11 Data Quality Assurance

Pretesting was done in St. Peter Specialized Hospital to ensure the quality of the data by taking 5% of the total data (21 participants) before the actual data is collected. The data was collected by 3 trained nurses who are working in cardiac department, before the data collection date training was given to the data collectors and supervisors on the data collection techniques, and data collection was closely supervised by the principal investigator and the supervisors to check for its completeness and clarity before data entry.

4.12 Data Processing and Analysis

The collected data was coded, cleaned, and entered into Epi-data version 3.1 before being exported to SPSS 25.0 for analysis. To determine the mean, percentage, frequency, and statistical significance of the difference between the dependent and independent variables. Bivariate analysis was used to see association between the outcome variable and each independent variable.

Multivariate logistic regression was used to test for independent association. P values below 0.05 was considered to be statistically significant association.

4.13 Ethical Considerations

Ethical clearance was obtained from the Institutional Review Board (IRB) of the Addis Ababa University with the protocol number of 38/22/SNM, College of Health Science School of Nursing and Midwifery, and from Addis Ababa Public Health Research and Emergency Management Directorate, permission and support letter were distributed to TASH hospital, St. Peter Specialized Hospital, and zewditu Memorial Hospital. Informed oral consent was obtained from all study participants after the information is provided about the purpose of the study, confidentiality of the information and respondents was reassured that they were unnamed. Then respondents were given the chance to ask anything about the study and was made free to refuse or stop at any moment they want if that is their choice.

4.14 Dissemination of the Result

The result will be submitted to Addis Ababa University, College of health science, department of nursing, and to Addis Ababa Public Health Research and Emergency Management Directorate, to TASH, St, Peter specialized hospital and Zewditu Memorial Hospital. Publication will be considered at national and international journals and will be presented at different symposiums.

5 RESULT

5.1 Socio-Demographic Characteristics

A total of 422 patients who were attending chronic follow up care were included in the study; 260 patients from Tikur Anbessa Specialized Hospital (TASH), 97 patients from St Peter Hospital, and 65 patients from Zewditu memorial Hospital. All of them responded for the questionnaire, making the response rate of 100% .The mean ± SD of age of respondents was 44.56 (16.574) years. More than half 217 (51.4%) participants were female. The majority of participants 259 (61.4%) were married; 149 (35.3%) of participants are university graduates, and 159 (37.7%) were self-employed and 98 (23.2%) were government employed. From the total of study participants 354 (83.9%) were urban residents. (Table 1)

Table 1: **Socio-Demographic Characteristics of Respondents in Selected Public Hospitals in A.A, Ethiopia, 2023 (N=422).**

Variables	Category	Frequency	Percentage
Age	Under 35	140	33.2
	36-55	162	38.4
	55 and older	120	28.4
Residence	Urban	354	83.9
	Rural	68	16.1
Gender	Male	205	48.6
	Female	217	51.4
Marital Status	Single	164	38.9
	Married	258	61.1
Educational Level	No formal education	82	19.4
	Primary School completed	79	18.7

	Secondary School completed	112	26.5
	College/University graduate or postgraduate	149	35.3
Occupational Status	Self-employed	159	37.7
	Government/Privet organizations employed	98	23.2
	Retired	49	11.6
	Unemployed	116	27.5

5.2 Participants Knowledge on Prevention of MI

Respondents were asked knowledge-based questions to assess their level of knowledge toward MI Risk factors and they were categorized in to two groups based on their score in relation to the mean (Good knowledge and poor knowledge). The mean ± score was 23.18 (3.55). More than half 214 (50.7%) of the respondents were found to have good knowledge, while the rest 208 (49.3%) of the respondents had poor knowledge. (Fig:2)

Most of the participants 405(96.0%) know about keeping blood pressure under control will reduce a personal risk for developing MI. 392(92.9%) knows that The older a person is, the greater their risk of having MI . Many of the respondents 389(92.2%) are aware that smoking is a risk factor for MI and the other identified risk factor is Drinking Alcohol 381(96.3%) on the other hand 206 (48.8) participants does not know fatty food affect blood cholesterol, 176 (41.7) participants answer yes for the question that many fruits and vegetables are high in cholesterol, also 147 (34.8%) aren't aware of dietary fiber lowers blood cholesterol level. **(**Tabel 2)

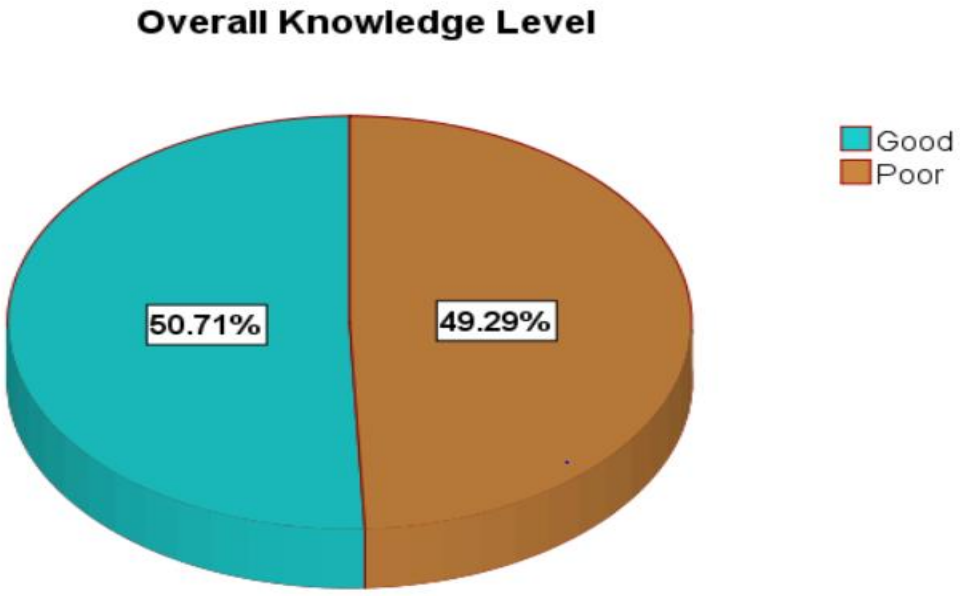

Fig 2: Knowledge level towards Myocardial Infarction in selected hospitals at Addis Ababa Ethiopia. 2023 (n = 422)

Table 2: Participants Knowledge on Prevention of Myocardial Infarction in selected hospital at Addis Ababa Ethiopia. 2023 (n=422)

Variables	Category	Frequency	Percentage
A person always knows when they have Heart Attack	Yes	213	50.5
	No	209	49.5
If someone has a family history of heart disease, he/she is at risk for developing heart attack	Yes	293	69.4
	No	129	30.6
The older a person is, the greater their risk of having heart attack	Yes	392	92.9
	No	30	7.1
High blood pressure is a risk factor for heart attack	Yes	391	92.7
	No	31	7.3
Keeping blood pressure under control will reduce a personal risk for developing heart attack	Yes	405	96.0
	No	17	4.0
Smoking is a risk factor for heart attack?	Yes	389	92.2
	No	33	7.8
A person who stops smoking will lower their risk of heart attack?	Yes	366	86.7
	No	56	13.3
Chewing khat is a risk factor for heart attack?	Yes	366	86.7
	No	56	13.3
	Yes	376	89.1

A person who stops chewing khat will lower their risk of heart attack	No	46	10.9
Drinking alcohol is a risk factor for heart attack	Yes	381	90.3
	No	41	9.7
A person who stops drinking alcohol will lower their risk of heart attack	Yes	384	91
	No	38	9
Being overweight increases a person's risk for heart attack	Yes	374	88.6
	No	48	11.4
Regular physical activity will lower a person's chance of getting heart attack	Yes	358	84.8
	No	64	15.2
Only exercising at a gym or in an exercise class will lower a person's chance of developing heart attack	Yes	331	78.4
	No	91	21.6
Walking and gardening are considered exercise that will help lower a person's chance of developing heart attack	Yes	359	85.1
	No	63	14.9
Diabetes is a risk factor for developing heart attack	Yes	379	89.8
	No	43	10.2
High blood sugar puts a strain on the heart	Yes	380	90
	No	42	10
If someone's blood sugar is high over several months it can cause his/her cholesterol level to go up and increase his/her risk of heart attack	Yes	388	91.9
	No	34	8.1
A person who has diabetes can reduce his/her risk of developing heart attack if he/she keeps his/her blood sugar level under control	Yes	338	80.1
	No	84	19.9
Men with diabetes have a higher risk of heart attack than women with diabetes weight under control	Yes	291	69.0
	No	131	31.0
Cardiovascular disease is the most common cause of death in Ethiopia	Yes	342	81.0
	No	80	19.0
High cholesterol is a risk factor for developing heart attack	Yes	351	83.2
	No	71	16.8
A person with heart attack have high cholesterol	Yes	312	73.9
	No	110	26.1
People with heart attack tend to have low good (HDL) cholesterol	Yes	255	60.4
	No	167	39.6
Does eating fatty foods affect blood cholesterol	Yes	216	51.2
	No	206	48.8
Many fruits and vegetables are high in cholesterol	Yes	246	58.3
	No	176	41.7
Does dietary fiber lowers blood cholesterol level	Yes	275	65.2
	No	147	34.8
Do you think eating a high fiber diet increases the risk of getting heart attack	Yes	245	58.1
	No	117	41.9

5.3 Participants Perceived Risk to wards MI

Respondents were asked Perceived risk related questions to assess their health perception, It was evaluated based on Likert scale (namely 1- Strongly disagree, 2- Disagree, 3- Undecided, 4 – Agree, 5- Strongly agree). The score was given for the answer strongly disagree "1" and for the answer strongly agree sored "5". The negative questions were reversely coded and scored. Finally, the result was categorized in to two groups based on their score in relation to the mean (Good perception and poor perception). The mean score was 19.25 (SD =6.58). 250 (59.2%) were found to have poor perception towards their MI risk. (Fig 3)

320 (75.8%) participants believe that they are at risk of developing Myocardial Infarction, 203 (48.1%) participants disagree for the question feeling that I will have MI sometime during their life, 133 (31.5) answered strongly disagree with the question of having MI is always fatal and, 173 (41.0) participants disagree for question that asks their whole life would change if they had Myocardial Infarction also, 156 (37.0%) disagree with MI will threaten their relationship with their significant others. (Table 3)

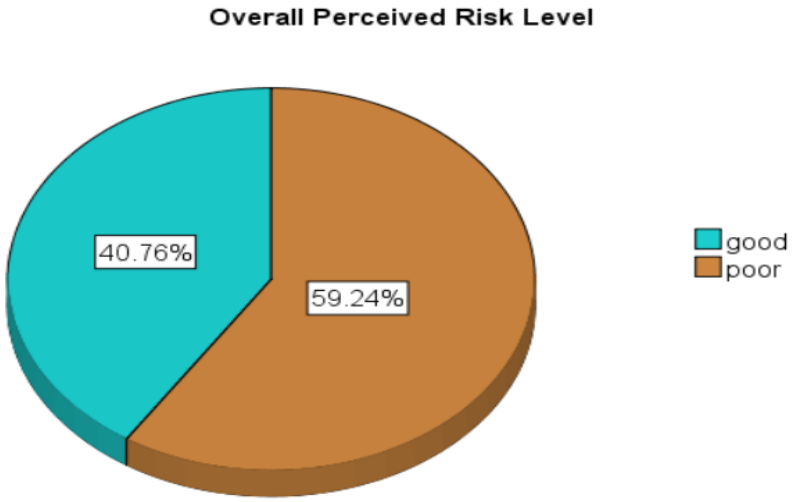

Fig 3: Perceived Risk towards Myocardial Infarction in selected hospitals at Addis Ababa Ethiopia. 2023 (n = 422)

Table 3: Participants Perceived Risk on Prevention of Myocardial Infarction in selected hospitals at Addis Ababa Ethiopia. 2023 (n=422)

Variables	Category	Frequency	Percentage
Do you believe that you are at risk of developing Myocardial Infarction?	Yes	320	75.8
	No	102	24.2
It is likely that I will suffer from Myocardial Infarction in the future	Strongly disagree	128	30.3
	Disagree	95	22.5
	Undecided	119	28.2
	Agree	49	11.6
	Strongly Agree	31	7.3
My chances of suffering from Myocardial Infarction in the next few years are great	Strongly disagree	48	11.4
	Disagree	195	46.2
	Undecided	98	23.2
	Agree	23	5.5
	Strongly Agree	58	13.7
I feel I will have Myocardial Infarction sometime during my life	Strongly disagree	78	18.5
	Disagree	203	48.1
	Undecided	66	15.6
	Agree	13	3.1
	Strongly Agree	62	14.7
Having Myocardial Infarction is currently a possibility for me	Strongly disagree	79	18.7
	Disagree	199	47.2
	Undecided	65	15.4
	Agree	15	3.6
	Strongly Agree	64	15.2
Having Myocardial Infarction is always fatal	Strongly disagree	133	31.5
	Disagree	95	22.5
	Undecided	80	19.0
	Agree	33	7.8
	Strongly Agree	81	19.2
Having Myocardial Infarction will threaten my relationship with my significant other	Strongly disagree	62	14.7
	Disagree	156	37.0
	Undecided	48	11.4
	Agree	35	8.3
	Strongly Agree	121	28.7
My whole life would change if I have Myocardial Infarction	Strongly disagree	64	15.2
	Disagree	173	41.0
	Undecided	55	13.0
	Agree	17	4.0
	Strongly Agree	113	26.8

5.4 Attitude towards prevention of MI

Respondents were asked attitude based questions to assess their attitude toward the prevention of MI and were categorized in to two groups based on their score in relation to the mean (Good attitude and poor attitude).

The mean ± score was 2.644 (0.999). More than half 244(57.8%) of the respondents were found to have good attitude, while the rest 178 (42.2%) of the respondents had poor attitude towards prevention of MI. (Fig 4)

349 (82.7%) of participants believe that changing their lifestyle will minimize the chance of developing heart disease, 354 (83.9%) answered yes that heart disease is preventable also 278 (65.9%) of participants want to cut down the amount of food they eat. (Table 4)

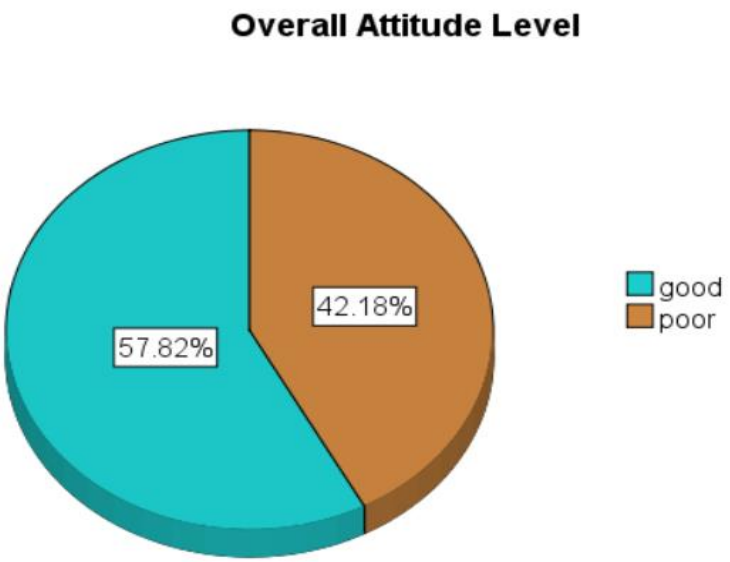

Fig 4: Attitude level towards Myocardial Infarction in selected hospital at Addis Ababa Ethiopia. 2023 (n = 422)

Table 4: Participants Attitude on Prevention of Myocardial Infarction in selected hospital at Addis Ababa Ethiopia. 2023 (n=422)

Variables	Category	Frequency	Percentage
Changing lifestyle cut down my chance of developing heart disease	Yes	349	82.7
	No	73	17.3
Heart disease is preventable	Yes	354	83.9
	No	68	16
My present weight is too high for my health	Yes	259	61.4
	No	163	38.6
I need to cut down on the amount of food I eat	Yes	278	65.9
	No	144	34.1

5.5 Practice of Participants on MI Prevention

Respondents were asked practice based questions to assess their level of practice toward prevention of MI and were categorized in to two groups based on their score in relation to the mean (Good practice and poor practice). The mean ± score was 3.44 (1.15). More than half 250(59.2%) of the participants were found to have good practice, while the rest 172 (40.8%) of the respondents had poor practice. (Fig 5)

Less than one third of the participant 35 (8.3%), 54 (12.8%) and 84 (19.9%) smoke cigarette, chew khat and drink alcohol respectively. Most of the participants 329 (78.0%) have a plan to maintain normal body weight and 340 (80.6 %) do any type of physical exercise. Also 327 (77.7%) of participants include fruit and vegetable in their daily diet. (Table 5)

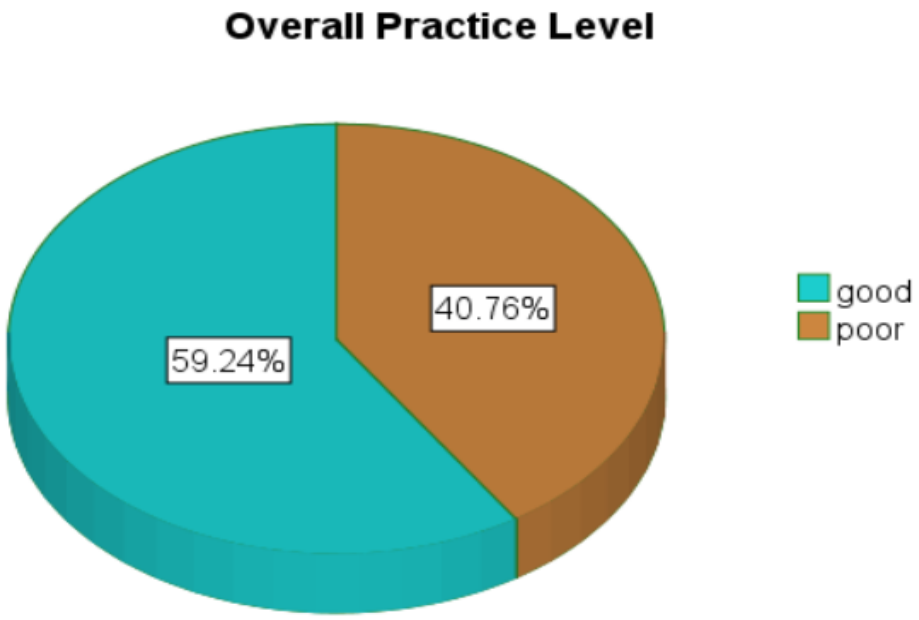

Fig 5: Practice level towards Myocardial Infarction in selected hospital at Addis Ababa Ethiopia. 2023 (n = 422)

Table 5: Participants Practice on Prevention of Myocardial Infarction in selected hospital at Addis Ababa Ethiopia. 2023 (n=422)

Variables	Category	Frequency	Percentage
Have you ever had checked your cholesterol level	Yes	100	23.7
	No	322	76.3
Do you smoke cigarette	Yes	35	8.3
	No	387	91.7
Do You chew Khat	Yes	54	12.8
	No	368	87.2
Do you drink Alcohol	Yes	84	19.9
	No	338	80.1
Do you have you plan to maintain normal body weight	Yes	329	78.0
	No	93	22.0
Do you make any physical exercise	Yes	340	80.6
	No	82	19.4
Does your daily diet contains fruit and vegetables	Yes	327	77.5
	No	95	22.5

5.6. Socio Demographic association with knowledge towards prevention of MI

In this study factors associated with knowledge of participants about prevention of MI were analyzed both in bivariate and multivariate logistic regression. In the bivariate analysis factors which were significantly associated with knowledge about prevention of MI was: residence and educational status. After controlling the confounding in multivariate logistic regression analysis, both residence and educational status were significantly associated with knowledge about prevention of MI. For thus, participants who are living in urban area were about two times more Knowledgeable about prevention of MI when compared to who are living in rural area (AOR 2.106 (1.184, 3.745) (P = 0.011). Also this study revealed that the educational status was found another strong predictor of knowledge towards MI prevention which shows that participants who attends college or university were 40% more knowledgeable on MI prevention than those who doesn't attend university or college. (AOR 0.402(0.225, 0.718).

Table 6 **Bivariate and Multivariate analysis of sociodemographic factors associated with knowledge of participants on MI prevention.**

Variables	**Knowledge**					
Residence			**COR**		**AOR**	
	Good	**Poor**	**(95% CI)**	**PV**	**(95%CI)**	**PV**
Urban	167	187	0.399 (1.438,4.366)	0.001	2.106 (1.184,3.745)	**0.011****
Rural	47	21	1		1	
Educational Level College/University Graduated	61	88	0.340 (0.193,0.598)	0.000	0.402 (0.225,0.718)	**0.002****
Secondary School Completed	59	53	0.546 (0.303,0.987)	0.045	0.787 (0.450,1.375)	0.400
Primary School completed	39	40	0.479 (0.253,0.906)	0.024	0.639 (0.389,1.051)	0.078
No Formal Education	55	27	1		1	

5.7. Socio Demographic association with Practice towards prevention of MI

In this study factors associated with practice of participants about prevention of MI were analyzed both in bivariate and multivariate logistic regression. In the bivariate analysis factors which were significantly associated with practice about prevention of MI was: marital status and educational level. After controlling the confounding in multivariate logistic regression analysis, both marital status and educational level were significantly associated with practice about prevention of MI. For thus, participants who are married were about 1.9 times more likely to follow good practice about prevention of MI than compared to who are single (AOR 1.968 (1.284, 3.016) (P = 0.002). Additionally educational level was found another strong predictor of practice towards MI prevention which shows that participants who attended college or university were 5.8 times likely, (AOR 5.822 (3.188, 10.633) (P = 0.000) than who attends secondary school. 4.8 times (AOR 4.877 (2.669,8.912) (P = 0.000) and primary school attended participants 2.8 times (AOR 2.795 (1.611,4.849) (P = 0.000) more practical than participants who did not attended formal education at all.

Table 7: **Bivariate and Multivariate analysis of sociodemographic factors associated with Practice of participants on MI prevention.**

Variables	Practice		COR		AOR	
	Good	Poor	(95% CI)	PV	(95%CI)	PV
Marital Status						
Married	168	90	1.867 (1.252,2.782)	0.002	1.968 (1.284,3.016)	**0.002****
Single	82	82	1		1	
Educational Level						
College/University Graduated	118	31	5.374 (2.975,9.706)	0.000	5.822 (3.188,10.633)	**0.000****
Secondary School Completed	64	48	1.882 (1.057,3.352)	0.032	4.877 (2.669,8.912)	**0.000****
Primary School completed	34	45	1.067 (0.571,1.994)	0.840	2.795 (1.611,4.849)	**0.000****
No Formal Education	34	48	1		1	

5.8. Socio Demographic association with Perceived risk towards prevention of MI

In this study factors associated with perceived risk of participants about prevention of MI were analyzed both in bivariate and multivariate logistic regression. In the bivariate analysis factors which were significantly associated with perceived risk about prevention of MI was: gender and residence. After controlling the confounding in multivariate logistic regression analysis, both gender and residence were significantly associated with perceived risk about prevention of MI. For thus, participants who are females were about 1.8 times had more perceived risk towards MI compared to males (AOR 1.824 (1.227, 2.713) (P= 0.003). On the other hand residence was another predictor of perceived risk association towards MI which shows that participants who are living around urban areas were 47% less likely perceived risk towards MI than who are living around rural areas (AOR 0.530 (0.300,0.936) (P = 0.029).

Table 8 **Bivariate and Multivariate analysis of sociodemographic factors associated with Perceived Risk of participants on MI prevention.**

Variables	**Perceived Risk**		**COR**		**AOR**	
Gender	**Good**	**Poor**	**(95% CI)**	**PV**	**(95%CI)**	**PV**
Female	103	114	1.781 (1.201,2.640)	0.004	1.824 (1.227,2.713)	**0.003****
Male	69	136	1		1	
Residence						
Urban	152	202	0.554 (0.316,0.972)	0.039	0.530 (0.300,0.936)	**0.029****
Rural	20	48	1		1	

6. DISCUSSION

This study tested the level of knowledge, Perceived risk, Attitude and Practice towards myocardial Infarction among known CV patients who were attending chronic follow up care at selected public hospitals in Addis Ababa.

Concerning the study results, most of the respondents 50.7% had good level of knowledge towards Myocardial Infarction. This study is in line with the research conducted in Nigeria 51.0% (43) but less than the research conducted in Poland 67% (17) and higher than the study done in Cameron 47.8% (6) , Saudi Arabia 49% (22) and Malesia 35% (18).

In this study, among 422 participants, about 92.7% know about Hypertension is the risk factor for MI. This result is in line with Lebanon 91% (23), but higher than Studies done in Nigeria 87.4% (25), Eastern Ethiopia 81.9% (5), and Bangladesh 51.4% (7). In this research 92.2% of participants had took smoking as risk factor for MI. this result is greater than the research conducted in Malesia 80% (18), Nigeria 70% (25), and Eastern Ethiopia 67.6% (5), Saudi Arabia 43.1% (22), Jeddah 26% (21), and Uganda 17.7% (26) of participant knows smoking is as a risk factor for MI. In contrary, research done in Pakistan 51% (20) of participant does not aware whether smoking predispose to MI or not. Also In this study 83.2% of participants knows high Cholesterol is a risk factor for MI the result of this research is greater than similar research conducted in Bangladesh 78% (7) Uganda 68.2% (26) ,Saudi Arabia 47.7% (22), Eastern Ethiopia 18.1% (5) and Malaysia 16% (18). In this study 88.6% participants know that being overweight is a risk factor for MI this finding is higher compared to research conducted in Tanzania 64.2% (24) and less than research conducted in Eastern Ethiopia 91.3% (5).

In the present study some independent variables like Residence and Educational level were significantly associated with knowledge about Myocardial infarction prevention which shows that participants who attended college or university were 60% less likely knowledgeable on MI prevention than those who don't attend university or college. Similarly, studies done in Pakistan (20) , Uganda (26), Alexandria (29), and Ethiopia (5) shows that comparing those with high education to those with low to intermediate education, educated people have much more information. Other research found a consistent relationship between higher education levels and greater Knowledge scores. (33),(44).

The current research found another significant association with knowledge of MI prevention is respondents' residence. Participants who are living in urban area were about 2 times more likely to have good knowledge compared to the participant who are living in rural area. Another similar study done in Ethiopia shows, urban populations had higher awareness score than rural populations (5) This research shows good knowledge score of participants, this may be due to significant number (83.9%) of participants were from urban areas and this may rise the opportunity of receiving health facts also increase the accessibility of health institutions. In Ethiopia, countryside population gain lower educational level and have limited access to health facts as compared to urban population who relatively have better health literacy (5).

Regarding Participant perceived risk, the current study revealed that less than half 40.8% of participants have a good perception or admit that they are at risk of MI. this result is comparative with the study done in Sweden 40.1% (8), lower than the study done in Hungary 51.6% (28), and lower than study done in Kenya 33.33% (30), Tanzania 27.6% (31) and Egypt 14.77% (29).

Regarding the significant association of Perceived risk with Gender and residence this study shows, female participants were about 1.8 times likely to have more perceived risk towards MI compared to males. Similarly Study done in USA shows women had more perceived risk compared males (35), American medical association revealed that Men were more likely than women to believe they had a low risk of MI. (45), study in done in Nepal shows more women consider themselves than men that has increase chance of developing MI (33). Also study done in SSA reveals that women are significantly associated with perceived risk of MI than male (27). Additionally research in Kenya shows women were more likely than men to have higher perceived risk of MI (30). Other researchers have discovered that the media is where most women learn about MI, and they appropriately take advantage of doctor counselling to increase their level of knowledge and perception of perceived risk. (45) But in the current research greater number of participants were female by gender and may influence the outcome or the result.

On the other hand residence was another predictor of perceived risk association towards MI which shows that participants residence around countryside were 47% less likely to have perceived risk towards MI than who are living around rural areas. Similarly study done in Tanzania urban resident participants perceived themselves to have high chance of developing

MI than rural resident participants.(31) In contrast with this study another research that is done in USA shows urban residents risk perception is very low when compared to rural residents. (35)

In relation to attitude of participants on MI the current research shows 82.7% of respondents have good attitude, the result is in line with research done in Egypt as 81.1% (32). Lower than research done in Tanzania 92.3% (46) higher than study done in Lebanon 70.5% (23), Nepal 35.4% men and 44.6% women (33). In this research 82.7% of participant believe that changing their life style will minimize the chance of developing MI, in contrast to study done in Dhaka showed only 22% (7) of participants believed that life style change could prevent MI. According to the current research result 61.4% participants thought that their weight is too high for their health the current research result shows less than research conducted in Nepal 82% (33), Hungary 73.9% (28) and higher than study done in Tanzania 23% (24).

Regarding practice on MI, the current result shows more than half 59.2% of participants have a good practice score, the finding is close to research conducted in Nepal 51.0% (33), lower than the research done in Lebanese 71.1% (23) and higher than another study done in Nepal 37.6% (47), and Bangladesh 17.12% (7), In this study, about 78.0% of participants plan to maintain normal body weight 77.7% of participants Include fruits and vegetables in their daily diet, and 80.6% of participants do any type of physical exercise. Similarly, in a study done in Hungary 78.9% of participants planning lifestyle changes also their most stated target was reduction of body weight 43.1%, increase in excercise 21.9%, and change in healthy meal intake 19.4% (28). A study done in Iran (17) and Malaysia (18) had 21% and 66% eating more fruit and vegetables.

However, in the study conducted in Poland 63.3% (17) of participants doesn't include fruit and vegetables, Kenya 95% (30) of participants doesn't take fruit and vegetables in their daily diet, Also another study done in Ethiopia 75% of the participants are physically inactive and only 39.8% consume fruit and vegetables (34).

Another significant association in this research is practice with educational level and marital status. According to the current research result highly educated participant had 5.8 times more practical than low educated participant, the current research finding is greater than research

conducted in Iran 2.8 times. In contrast with this, research done in Malaysia (18) and Nepal (19) shows no significant relation between practice and educational level.

Also in this research marital status is the significant socio demographic factor with practice. Married participants were 1.9 times more likely to practice effective MI prevention than the unmarried once. Research done in Lebanese shows married participants showed good practice on prevention of MI (23). Also study done in Ethiopia shows health practice and marital status significance (5) Oppositely No significance association was shown between marital status and practice in a research done in Iran (10) and Kenya (30). Even with numerous confounding factors, being married was linked to fewer risk factors and higher health status. (48).

7. STRENGTH AND LIMITATIONS

Strength

Adding of perceived risk in the usual studies of Knowledge, Attitude and Practice, can be more comprehensive and provide valuable information on the motivation behind behavior change.

The study used standard tool, and it was conducted three public hospitals which has cardiac clinics. This study used representative sample so that the result can be generalized to similar population.

The data collection procedure was strictly supervised by principal investigator and supervisors.

Limitations

The self-reported measurement of risk behaviors may have underestimated the risk behaviors associated with MI, and the study may be vulnerable to the constraints of patient recollection and social desirability bias. Furthermore, the use of a cross-sectional study design does not prove causality.

8. CONCLUSION

This study demonstrated the current level of public knowledge, perceived risk, attitude, and practice regarding MI prevention among adults. Although more than half of the current study respondents had good knowledge, attitude and practice towards MI prevention, on the contrary greater than half of respondents s show low or poor level of perceived risk. Urban residence and higher educational levels were significantly associated with knowledge of MI risk factors. Married and higher education level were also associated with practice of MI prevention. Regarding perceived risk women and urban residence were statistically associated.

9. RECOMMENDATION

For Policy makers

Policy makers can play a crucial role in preventing MI through different approaches. Firstly policies could focus on improving access to healthy foods, while reducing access to unhealthy foods, promote physical activity through increased access. Increase public awareness through health promotion initiatives that concentrate on offering health information and education that start primary prevention is another significant strategy.

For The Health Practitioners

Myocardial Infraction is a serious and potentially life threatening conditions that is becoming increasingly common in today's society. As a health professional, It's important to educate patients how they can prevent myocardial infractions and reduce their risk factors. One of the most effective ways to prevent myocardial infraction is through a healthy lifestyle. Encourage patients to maintain a healthy weight, eat a balanced diet and engage in regularly physical activity. They should also stop smoking and excessive alcohol drinking both of which can rise their risk for acquiring heart disease. Additionally, it's important to monitor and manage any existing medical issues include diabetes, high cholesterol, and hypertension. By taking these steps, patients can significantly reduce their risk for myocardial infarctions and improve their overall health and well-being.

For Researchers

MI is a primary cause of death of globally, however, there is a lack of research in Ethiopia on the prevention of MI. This is concerning problem that needs to be addressed by the researchers in Ethiopia. The current research can help with the creation of powerful health intervention programs. It can also be used as educational material to fill in individuals' particular knowledge gaps on MI prevention.

This study is crucial to show why a successful preventative program must be put in place. Implementing multidisciplinary, innovative interventions and routine nurse-led lifestyle counselling is crucial to effectively assisting MI patients in adopting healthy lifestyle behaviors, along with intensive patient counselling and education to increase awareness regarding MI risk factors. Additionally, Ethiopia's illness preventive policy objective should take implementation of MI prevention programs into consideration.

10. REFERENCES

1. Acute Coronary Syndromes (Heart Attack; Myocardial Infarction; Unstable Angina) - Heart and Blood Vessel Disorders [Internet]. MSD Manual Consumer Version. [cited 2022 Feb 10]. Available from: https://www.msdmanuals.com/home/heart-and-blood-vessel-disorders/coronary-artery-disease/acute-coronary-syndromes-heart-attack-myocardial-infarction-unstable-angina

2. Elasoru SE. Instituto de Ciências Biológicas. :142.

3. Guo JJ, Chen Y, Du W, Peng H, Wang R, Xia Y, et al. Antithrombotic Therapy and Direct Medical Costs in Patients with Acute Coronary Syndrome in Shanghai, China. Value in Health Regional Issues [Internet]. 2016 May [cited 2022 Feb 10];9:93–8. Available from: https://linkinghub.elsevier.com/retrieve/pii/S2212109916000042

4. Shavadia J, Yonga G, Otieno H. A prospective review of acute coronary syndromes in an urban hospital in sub-Saharan Africa. Cardiovasc J Afr. 2012 Jul;23(6):318–21.

5. 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. Cabieses B, editor. PLoS ONE [Internet]. 2020 Jun 4 [cited 2021 Dec 23];15(6):e0234198. Available from: https://dx.plos.org/10.1371/journal.pone.0234198

6. 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 [Internet]. 2017 Dec [cited 2021 Dec 23];17(1):545. Available from: http://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-4477-3

7. Mirza AS, Aslam S, Perrin K, Curtis T, Stenback J, Gipson J, et al. Knowledge, attitudes and practices among patients with coronary artery disease in Dhaka, Bangladesh. International Journal of Community Medicine and Public Health. 2016 Jan 1;2740–8.

8. Grauman Å, Byberg L, Veldwijk J, James S. What CVD risk factors predict self-perceived risk of having a myocardial infarction? A cross-sectional study. Int J Cardiol Cardiovasc Risk Prev [Internet]. 2022 Jan 13 [cited 2022 Dec 7];12:200125. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8864320/

9. Cardiovascular diseases (CVDs) [Internet]. [cited 2022 Feb 10]. Available from: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)

10. Koohi F, Khalili D. Knowledge, Attitude, and Practice Regarding Cardiovascular Diseases in Adults Attending Health Care Centers in Tehran, Iran. Int J Endocrinol Metab

[Internet]. 2020 Oct 1 [cited 2022 Dec 21];18(3):e101612. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7695352/

11. Pamukçu B. Myocardial Infarction. BoD – Books on Demand; 2019. 140 p.

12. Myocardial infarction. In: Wikipedia [Internet]. 2023 [cited 2023 Apr 5]. Available from: https://en.wikipedia.org/w/index.php?title=Myocardial_infarction&oldid=1146101257

13. Angaw DA, Ali R, Tadele A, Shumet S. The prevalence of cardiovascular disease in Ethiopia: a systematic review and meta-analysis of institutional and community-based studies. BMC Cardiovascular Disorders [Internet]. 2021 Jan 18 [cited 2023 Apr 6];21(1):37. Available from: https://doi.org/10.1186/s12872-020-01828-z

14. Shaima C, Moorthi P, Shaheen N. Cardiovascular diseases: Traditional and non-traditional risk factors. Journal of Medical and Allied Sciences. 2016 Jul 1;6:46.

15. Shashu BA, Ayele MA. The pattern of coronary artery diseases as diagnosed by coronary angiography and the outcome of Percutaneous Coronary Intervention (PCI) in Ethiopia. The Ethiopian Journal of Health Development [Internet]. 2014 [cited 2023 Jun 13];28(1). Available from: http://ejol.aau.edu.et/index.php/EJHD/article/view/1808

16. Bogale K, Mekonnen D, Nedi T, Woldu MA. Treatment Outcomes of Patients with Acute Coronary Syndrome Admitted to Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia. Clin Med Insights Cardiol [Internet]. 2019 Apr 17 [cited 2023 Jun 13];13:1179546819839417. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6472164/

17. Ślifirczyk A, Michalczuk T, Piszcz P, Kowalenko M, Kierczuk E, Zalewski R, et al. Knowledge of risk factors of myocardial infarction in patients treated in the Interventional Cardiology Unit of the Regional Specialist Hospital in Biała Podlaska. Progress in Health Sciences [Internet]. 2018 [cited 2022 Jan 4];8(1):93–101. Available from: http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.ceon.element-5e2dab94-9acb-3758-820c-28f687ef6fdf

18. Mohammad NB, Rahman NAA, Haque M. Knowledge, Attitude, and Practice Regarding the Risk of Cardiovascular Diseases in Patients Attending Outpatient Clinic in Kuantan, Malaysia. J Pharm Bioallied Sci [Internet]. 2018 [cited 2022 Dec 21];10(1):7–14. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5887653/

19. Dahal P. Knowledge and practice regarding prevention of myocardial infarction among visitors of Sahid Gangalal national heart center, Kathmandu, Nepal. 2017;7.

20. Mehran Shah M. Knowledge of Modifiable Risk Factors of Ischemic Heart Disease among Patients Presenting With Acute Myocardial Infarction in Peshawar. MOJBM [Internet]. 2017 Nov 20 [cited 2021 Dec 29];2(2). Available from: https://medcraveonline.com/MOJBM/knowledge-of-modifiable-risk-factors-of-ischemic-heart-disease-among-patients-presenting-with-acute-myocardial-infarction-in-peshawar.html

21. Almalki MA, AlJishi MN, Khayat MA, Bokhari HF, Subki AH, Alzahrani AM, et al. Population awareness of coronary artery disease risk factors in Jeddah, Saudi Arabia: a cross-sectional study. IJGM [Internet]. 2019 Jan [cited 2021 Dec 29];Volume 12:63–70. Available from: https://www.dovepress.com/population-awareness-of-coronary-artery-disease-risk-factors-in-jeddah-peer-reviewed-article-IJGM

22. Alanazi A, Alghanim MH, Alamer AJ, Alshaqaqiq A, Busaeed MMA, Alahmed AH, et al. Acute Myocardial Infarction Patients' Knowledge Regarding the Modifiable. 2020;7.

23. Machaalani M, Fakhry B, Zwaideh M, Mendelek K, Mahmoud N, Hammoud T, et al. Knowledge, Attitude, and Practice Toward Cardiovascular Diseases in the Lebanese Population. Glob Heart [Internet]. [cited 2022 Dec 21];17(1):47. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9336688/

24. 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 [Internet]. 2019 Oct 1 [cited 2022 Feb 11];175:60–7. Available from: https://www.sciencedirect.com/science/article/pii/S0033350619302136

25. Obembe AO, Olaogun MO, Bamikole AA, Komolafe MA, Odetunde MO. Awareness of Risk Factors and Warning Signs of Stroke in a Nigeria University. Journal of Stroke and Cerebrovascular Diseases [Internet]. 2014 Apr [cited 2023 May 3];23(4):749–58. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1052305713002656

26. Ndejjo R, Nuwaha F, Bastiaens H, Wanyenze RK, Musinguzi G. Cardiovascular disease prevention knowledge and associated factors among adults in Mukono and Buikwe districts in Uganda. BMC Public Health [Internet]. 2020 Jul 22 [cited 2022 Dec 21];20:1151. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7374818/

27. Boateng D, Wekesah F, Browne JL, Agyemang C, Agyei-Baffour P, Aikins A de-Graft, et al. Knowledge and awareness of and perception towards cardiovascular disease risk in sub-Saharan Africa: A systematic review. Lee A, editor. PLoS ONE [Internet]. 2017 Dec 12 [cited 2021 Dec 23];12(12):e0189264. Available from: https://dx.plos.org/10.1371/journal.pone.0189264

28. Vörös K, Márkus B, Hargittay C, Sisak O, Kalabay L. Perceived cardiovascular risk and attitude towards lifestyle change. Family Practice [Internet]. 2018 Dec 12 [cited 2022 Dec 21];35(6):712–7. Available from: https://academic.oup.com/fampra/article/35/6/712/4980297

29. Khayyal HA, Geneidy ME. Elders' Knowledge About Risk Factors of Coronary Heart Disease, Their Perceived Risk, and Adopted Preventive Behaviors. Journal of Education and Practice. 2016;10.

30. Temu TM, Kirui N, Wanjalla C, Ndungu AM, Kamano JH, Inui TS, et al. Cardiovascular health knowledge and preventive practices in people living with HIV in Kenya. BMC

Infectious Diseases [Internet]. 2015 Oct 14 [cited 2022 Feb 11];15(1):421. Available from: https://doi.org/10.1186/s12879-015-1157-8

31. Knowledge of myocardial infarction symptoms and perceptions of self-risk in Tanzania | Elsevier Enhanced Reader [Internet]. [cited 2021 Dec 29]. Available from: https://reader.elsevier.com/reader/sd/pii/S0002870319300031?token=95D0348FBFAA092667BB9E48C722E1A38EDC82FEB2FA2933AA41528F5C9222585179BF5EB0A7FFF03CA4F97FE5E85D06&originRegion=eu-west-1&originCreation=20211229062710

32. Ibrahim E. Assessment of patients' knowledge and Perception Regarding Myocardial Infarction. Port Said Scientific Journal of Nursing [Internet]. 2017 Jun 1 [cited 2022 Jan 5];4(1):88–104. Available from: http://pssjn.journals.ekb.eg/article_33090.html

33. Vaidya A, Aryal UR, Krettek A. Cardiovascular health knowledge, attitude and practice/behaviour in an urbanising community of Nepal: a population-based cross-sectional study from Jhaukhel-Duwakot Health Demographic Surveillance Site. BMJ Open [Internet]. 2013 Oct 24 [cited 2023 May 10];3(10):e002976. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3808775/

34. Gebremedhin MH, Gebrekirstos LG. Dietary and Behavioral Risk Factors of Ischemic Heart Disease Among Patients of Medical Outpatient Departments in Southern Ethiopia: Unmatched Case-Control Study. IBPC [Internet]. 2021 Sep [cited 2021 Dec 29];Volume 14:123–32. Available from: https://www.dovepress.com/dietary-and-behavioral-risk-factors-of-ischemic-heart-disease-among-pa-peer-reviewed-fulltext-article-IBPC

35. Homko CJ, Santamore WP, Zamora L, Shirk G, Gaughan J, Cross R, et al. Cardiovascular Disease Knowledge and Risk Perception Among Underserved Individuals at Increased Risk of Cardiovascular Disease. Journal of Cardiovascular Nursing [Internet]. 2008 Aug [cited 2023 May 17];23(4):332. Available from: https://journals.lww.com/jcnjournal/Abstract/2008/07000/Cardiovascular_Disease_Knowledge_and_Risk.6.aspx

36. Wahab KW, Kayode OO, Musa OI. Knowledge of Stroke Risk Factors among Nigerians at High Risk. Journal of Stroke and Cerebrovascular Diseases [Internet]. 2015 Jan [cited 2023 May 3];24(1):125–9. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1052305714004029

37. Dilie A, Mengistu D. Assessment of Nurses' Knowledge, Attitude, and Perceived Barriers to Expressed Pressure Ulcer Prevention Practice in Addis Ababa Government Hospitals, Addis Ababa, Ethiopia, 2015. Advances in Nursing [Internet]. 2015 Dec 22 [cited 2022 Jan 13];2015:1–11. Available from: https://www.hindawi.com/journals/anurs/2015/796927/

38. College of Health Sciences | Addis Ababa University Sites site [Internet]. [cited 2022 Jan 26]. Available from: http://www.aau.edu.et/chs/

39. Aweke YH, Ayanto SY, Ersado TL. Knowledge, attitude and practice for cervical cancer prevention and control among women of childbearing age in Hossana Town, Hadiya

zone, Southern Ethiopia: Community-based cross-sectional study. Robboy SJ, editor. PLoS ONE [Internet]. 2017 Jul 25 [cited 2022 Feb 9];12(7):e0181415. Available from: https://dx.plos.org/10.1371/journal.pone.0181415

40. Leifheit-Limson EC, D'Onofrio G, Daneshvar M, Geda M, Bueno H, Spertus JA, et al. Sex Differences in Cardiac Risk Factors, Perceived Risk, and Health Care Provider Discussion of Risk and Risk Modification Among Young Patients With Acute Myocardial Infarction. Journal of the American College of Cardiology [Internet]. 2015 Nov [cited 2022 Feb 9];66(18):1949–57. Available from: https://linkinghub.elsevier.com/retrieve/pii/S073510971505901X

41. Lake EA, Demissie BW, Gebeyehu NA, Wassie AY, Gelaw KA, Azeze GA. Knowledge, attitude and practice towards COVID-19 among health professionals in Ethiopia: A systematic review and meta-analysis. PLOS ONE [Internet]. 2021 Feb 19 [cited 2022 Feb 9];16(2):e0247204. Available from: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247204

42. Instrument [Internet]. [cited 2022 Feb 11]. Available from: https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/steps/instrument

43. Akintunde AA, Akintunde T 'Sade, Opadijo OG. Knowledge of heart disease risk factors among workers in a Nigerian University: A call for concern. Niger Med J [Internet]. 2015 [cited 2021 Dec 23];56(2):91–5. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4382611/

44. Attarchi M, Mohammadi S, Nojomi M, Labbafinejad Y. Knowledge and Practice Assessment of Workers in a Pharmaceutical Company about Prevention of Coronary Artery Disease. Acta Medica Iranica [Internet]. 2012 [cited 2023 May 17];697–703. Available from: https://acta.tums.ac.ir/index.php/acta/article/view/3976

45. Dracup K, McKinley S, Doering LV, Riegel B, Meischke H, Moser DK, et al. Acute Coronary Syndrome: What Do Patients Know? Archives of Internal Medicine [Internet]. 2008 May 26 [cited 2021 Dec 27];168(10):1049–54. Available from: https://doi.org/10.1001/archinte.168.10.1049

46. 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 [Internet]. 2019 Oct [cited 2023 May 8];175:60–7. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0033350619302136

47. Gkika C, Vasilopoulos G. Knowledge of patients with acute myocardial infarction in relation to risk factors of heart disease. Health & Research Journal [Internet]. 2018 Dec 2 [cited 2021 Dec 29];4(2):89–98. Available from: https://ejournals.epublishing.ekt.gr/index.php/HealthResJ/article/view/19227

48. Otto CM. Marital status and cardiovascular disease risk. Heart [Internet]. 2018 Dec [cited 2022 Dec 13];104(23):1893–4. Available from: https://heart.bmj.com/lookup/doi/10.1136/heartjnl-2018-314336

APPENDEXES

Appendix I: Information sheet

Good morning/afternoon! My name is Eyerusalem Yohannis. I am a postgraduate student in Addis Ababa University, College of health sciences, Department of Nursing and Midwifery doing the following research.

Title of the research: Knowledge, Attitude, Perceived Risk and Practice towards Myocardial Infraction among Adults Attending Cardiac Clinic in TASH, St, Peter Specialized Hospital and Zewditu Memorial Hospital Addis Ababa Ethiopia.

Purpose: This Self-administered questionnaire is provided to assess patients' knowledge, attitude practice and perceived risks towards myocardial Infraction prevention practice. Your name will not be written in this form and all the information you will give is kept confidential. If you do not want to answer all or some of the questions, you do have the right to do so. However, your willingness to answer all of the questions is highly appreciated. It doesn't take more than 10 minutes. You are selected by simple random sampling technique.

Benefit and risk: Your participation in this study help us in assessing the knowledge gaps, attitudes practice and identifying perceived risks to prevent myocardial Infraction among adult patients and will have the benefit of introducing the need for special health education and guideline development. Participating in the study does not involve any risks. If you have any questions contact any of the following individual and you can ask at any time you want:

1. Address of investigator: Eyerusalem Yohannis, Tel: +251911161364 and Email: eyerusalemyohannis444@gmail.com.

Appendix II: Informed consent

Code number ---------- I understand that the purpose of this study is to assess patients' knowledge, attitude, perceived risk and practice towards myocardial Infraction prevention. Similarly I understand that participating in this study is completely voluntarily and do not have any payment or incentive; provided my privacy is guaranteed and does not expose to another third party. I promise to answer honestly to all questions and not provide any false information or in any other way purposely mislead the researcher. Signature of participant _____ Date _____ Name and Signature of the data collector who sought the consent_____ Name and signature of the supervisor _____

Appendix III English Version Questionnaire

Section 1: Socio-Demographic Question

S.No	Socio-Demographic Question	Response	Remark
1	Age	_____	
2	Gender	1. Male 2. Female	
3	Residence	1. Urban 2. Rural	
4	Marital Status	1. Single 2. Married 3. Divorced or Separated 4. Widowed	
5	Educational Level	1. No formal education 2. Primary school completed 3. Secondary school completed 4. College or University graduate or Post graduate	
6	Occupational Status	1. Self employed 2. Government/Privet Org. employed 3. Retired 4. Unemployed	
7	Yearly Income	Please state the amount _____	

SECTION 2: MIFQ and Health Care Behaviors questionnaires for patients who attend cardiac out patient service in selected public hospitals.

Please circle on the number you select that best answers the question. Kindly make only one Selection unless otherwise instructed.

S.No	MIFQ and Health Care Behavior Knowledge on MI Prevention	Response	Remark
1	A person always knows when they have Heart Attack	1, Yes 2, No	
2	If someone has a family history of heart disease, he/she is at risk for developing heart attack	1, Yes 2, No	
3	The older a person is, the greater their risk of having heart attack	1, Yes 2, No	
4	High blood pressure is a risk factor for heart attack	1, Yes 2, No	
5	Keeping blood pressure under control will reduce a person's risk for developing heart attack	1, Yes 2, No	
6	Smoking is a risk factor for heart attack?	1, Yes 2, No	
7	A person who stops smoking will lower their risk of heart attack?	1, Yes 2, No	
8	Chewing khat is a risk factor for heart attack?	1, Yes 2, No	
9	A person who stops chewing khat will lower their risk of heart attack	1, Yes 2, No	
10	Drinking alcohol is a risk factor for heart attack	1, Yes 2, No	
11	A person who stops drinking alcohol will lower their risk of heart attack	1, Yes 2, No	

12	Being overweight increases a person's risk for heart attack	1, Yes 2, No	
13	Regular physical activity will lower a person's chance of getting heart attack	1, Yes 2, No	
14	Only exercising at a gym or in an exercise class will lower a person's chance of developing heart attack	1, Yes 2, No	
15	Walking and gardening are considered exercise that will help lower a person's chance of developing heart attack	1, Yes 2, No	
16	Diabetes is a risk factor for developing heart attack	1, Yes 2, No	
17	High blood sugar puts a strain on the heart	1, Yes 2, No	
18	If someone's blood sugar is high over several months it can cause his/her cholesterol level to go up and increase his/her risk of heart attack	1, Yes 2, No	
19	A person who has diabetes can reduce his/her risk of developing heart attack if he/she keeps his/her blood sugar level under control	1, Yes 2, No	
20	Men with diabetes have a higher risk of heart attack than women with diabetes weight under control	1, Yes 2, No	
21	Cardiovascular disease is the most common cause of death in Ethiopia	1, Yes 2, No	
22	High cholesterol is a risk factor for developing heart attack	1, Yes 2, No	
23	A person with heart attack have high cholesterol	1, Yes 2, No	
24	People with heart attack tend to have low good (HDL) cholesterol	1, Yes 2, No	
25	Does eating fatty foods affect blood cholesterol	1, Yes 2, No	

26	Many fruits and vegetables are high in cholesterol	1, Yes 2, No	
27	Does dietary fiber lowers blood cholesterol level	1, Yes 2, No	
28	Do you think eating a high fiber diet increases the risk of getting heart attack	1, Yes 2, No	
Practice towards prevention towards MI Question			
29	Have you ever had checked your cholesterol level	1, Yes 2, No	If no go to Q 31
30	If yes for question No 29, what is the latest Value for Total cholesterol in mg/dL _____ mg/Dl	1, Yes 2, No	
31	Do you smoke cigarette	1, Yes 2, No	
32	Do you chew khat	1, Yes 2, No	
33	Do you drink alcohol	1, Yes 2, No	
34	Have you a plan to maintain normal body weight	1, Yes 2, No	
35	Do you make any physical exercise	1, Yes 2, No	
36	Does your daily diet contains fruit and vegetables	1, Yes 2, No	
	Attitude towards MI Prevention Measures		
37	Changing life style behavior will cut down by chances of developing heart disease	1, Yes 2, No	
38	Heart disease is preventable	1, Yes 2, No	
39	My present weight is too high for my health	1, Yes	

		2, No	
40	I need to cut down on the amount of food I eat	1, Yes 2, No	
	Perceived Risk Question		
41	Do you believe that you are at risk of developing Myocardial Infarction?	1. Yes 2. No 3. I have not thought about this	
42	Is it likely that I will suffer from Myocardial Infarction in the future	1. Strongly agree 2.Agree 3. Undecided 4. Strongly disagree 5. Disagree	
43	My chances of suffering from Myocardial Infarction in the next few years are great	1.Strongly agree 2.Agree 3. Undecided 4.Strongly disagree 5. Disagree	
44	I feel I will have Myocardial Infarction sometime during my life	1.Strongly agree 2.Agree 3. Undecided	

		4.Strongly disagree 5. Disagree	
45	Having Myocardial Infarction is currently a possibility for me	1.Strongly agree 2.Agree 3. Undecided 4.Strongly disagree 5. Disagree	
46	Having Myocardial Infarction is always fatal	1.Strongly agree 2.Agree 3. Undecided 4.Strongly disagree 5. Disagree	
47	Having Myocardial Infarction will threaten my relationship with my significant other	1.Strongly agree 2.Agree 3. Undecided 4.Strongly disagree 5. Disagree	
48	My whole life would change if I had Myocardial Infarction	1.Strongly agree 2.Agree	

		3. Undecided 4.Strongly disagree 5. Disagree	

Appendix IV Amharic Version Questionnaire

የጥናቱ ተሳታፊዎች የመረጃ ቅጽ

በአዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የነርስ እና ሚድዋይፈሪ ት/ቤት እኔ ከዚህ በታች ስሜ የተጠቀሰው በአዲስ አበባ ዩኒቨርሲቲ ፣ጤና ሳይንስ ኮሌጅ ፣የነርስ እና ሚድዋይፈሪ ት/ቤት፣ በነርስ እና ሚድዋይፈሪ ት/ት ክፍል በ “የታማሚዎች ዕውቀት፣ አመለካከት፣ ተጋላጭ የመሆን ያለመሆን ግንዛቤን እና የልብ ሕመምን መከላከል ግንዛቤን በተመረጡ የሕዝብ ሆስፒታሎች፣ አዲስ አበባ ኢትዮጵያ፣ 2022 G.C.በሚል ርዕስ በጥቁር አንበሳ ሆስፒታል በዘውÇ=~ S•cu=Á ሆስፒታል •“ uâØae eýhLÃ´É ሆስፒታል ጥናት እያካሄድኩ እገኛለሁ ። ለዚህም ጥናት እርስዎ እንዲሳተፉ ተመርጠዋል። በጥናቱ ላይ ለመሳተፍ ፍቃደኛነትዎን ከመግለፅዎ በፊት ከጥናቱ ጋር በተገናኘ የሚያስፈልጎትን መረጃ ከስር እንደሚከለው ተገልጧል።

የጥናቱ አላማ፡- በጥቁር አንበሳ ሆስፒታል በዘውÇ=~ S•cu=Á ሆስፒታል •“ uâØae eýhLÃ´É ሆስፒታል “የታማሚዎች ዕውቀት፣ አመለካከት፣ ተጋላጭ የመሆን ያለመሆን ግንዛቤን እና የልብ ሕመምን መከላከል ግንዛቤን በተመረጡ የሕዝብ ሆስፒታሎች፣ አዲስ አበባ ኢትዮጵያ፣ 2022 G.C ለማጥናት ሲሆን፣ የጥናቱ ጠቀሜታ ይህ ጥናት በሽተኞች በልብ እና የደም ቧንቧ በሽታ እውቀታቸውን አመለካከታቸወን ለመከላከል የሚያደርጉትን ተግባርና የተጋላጭነታቸዉን ላይ ያለዉን ግንዛቤ እነድናዉቅ ይረዳል። እንዲሁም ይህ ጥናት ሌሎች አጥኚዎች በዚህ ርዕስ ዙሪያ ጥናታቸውን እንዲያካሄዱ እንደ ማጣቀሻ ሊጠቀሙበት ይችላሉ።

መጠይቁ ከ10 -20 ደቂቃ ሊፈጅ ይችላል። በጥናቱ ላይ የእርሶ ስምና አድራሻ አይጠቀስም። የሚሰጡትም መረጃ ከዚህ ጥናት አላማ ውጭ ለሌላ አካል ተላልፎ አይሰጥም ሚስጥራዊነቱም የተጠበቀ ይሆናል። በዚህ ጥናት ላይ በመሳተፍዎ የሚደርስቦት ጉዳት ወይም የተለየ ጥቅም አይኖርም። በዚህ ጥናት መሳተፍ ፈቃደኛ ካልሆኑ ወይም በመሀል ማቋረጥ ከፈለጉ የማቁዋረጥ ሙሉ መብት እንዳሎት ልገልጽሎት እወዳለሁ። በጥናቱ ላይ ለመሳተፍ የእርሶ ትብብር እና ፈቃደኝነት እጅግ ጠቃሚ ነው። የጥናት አድራጊዉ ስም፡- እየሩሳሌም ዮሐንስ ቀን--------ፊርማ-----

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በመረጃ የተደገፈ ስምምነት

ኮድ ቁጥር ---------- የዚህ ጥናት አላማ “የታማሚዎች ዕውቀት፣ አመለካከት፣ ተጋላጭ የመሆን ያለመሆን ግንዛቤን እና የልብ ሕመምን መከላከል ግንዛቤን የታካሚዎችን እውቀት ለመገምገም እንደሆነ ተረድቻለሁ በተመሳሳይ በዚህ ጥናት ውስጥ መሳተፍ ሙሉ በሙሉ በፈቃደኝነት እና ምንም ክፍያ ወይም ማበረታቻ እንደሌለው ተረድቻለሁ; ¾S[Í¨< T>eØ^©’ƒ •eŸ}Öuk እና ለሌላ ሶስተኛ አካል እስካM}ŁKð ድረስ። ለሁሉም ጥያቄዎች በሐቀኝነት መልስ ለመስጠት ቃል እገባለሁ እና ምንም ዓይነት የውሸት መረጃ ላለመስጠት ወይም በሌላ በማንኛውም መንገድ አጥኚውን ለማሳሳት ቃል እገባለሁ። የተሣታፊ ፊርማ _____ ቀን _____ ፈቃዱን የጠየቀ የመረጃ ሰብሳቢው ስም እና ፊርማ _____ የተቆጣጣሪው ስም እና ፊርማ _____

_____

ክፍል አንድ ማህበራዊ እና ከኑሮ ሁኔታ ጋር ግንኙነት ያላቸዉ ጥያቄዎች

1. እድሜዎ ስንት ነዉ -------

2. ጾታ 1, ወንድ 2, ሴት

3. የመኖሪያ x• 1, ከተማ 2, ገጠር

4. የጋብቻ ሁኔታ 1, ያላገባ 2, ያገባ ግን አብሮ የማይኖር

3 ያገባ አብሮ የሚኖር

5. የትምህርት ሁኔታ 1, ት/ቤት ገብቶ ያልተማረ 2, አንደኛ ደረጃን የጨረሰ

3, ሁለተኛ ደረጃን የጨረሰ 4, ኮሌጅ የጨረሰና ከዛ በላይ

6. የስራ ሁኔታ 1, የግል ስራ 2, የመንግስት እና የግል ተቀጣሪ

3, ጡረታ 4, ስራ እጥ

7. አመታዊ የገቢ መጠን ----------

ክፍል 2, "የታማሚዎች እዉቀት ስለ ልብና ስለ ልብ ቧንቧ በሽታ ተጋላጭ የሚያደርጉ ሁኔታዎች እና የአኗኗር ዘይቤ መጠይቅ

1. አንድ ሰዉ የልብ በሽታ ታማሚ ሲሆን ሁልጊዜ ያዉቃል? 1. አዎ 2. አይደለም

2. በቤተሰብዎ የልብ ህመም ታማሚ መኖር ለሌሎች የቤተሰብ አባላት ተገላጭ አያደርግም?

1. አዎ 2. አይደለም

3. የእድሜ መጨመር ለልብ በሽታ ተጠቂ የመሆን እድልን ይጨምራል?

1. አዎ 2. አይደለም

4. ከፍተኛ የደም ግፊት መኖር ለልብ በሽታ ያጋልጣል ?

1. አዎ 2. አይደለም

5. የደም ግፊት መጠንን ማስተካከል (መቆጣጠር) ለልብ በሽታ ተጠቂ የመሆን ዕድልን ይቀንሳል?

1. አዎ 2. አይደለም

6. ሲጋራ ማጨስ ለልብ በሽታ ያጋልጣል?

1. አዎ 2. አይደለም

7. ሲጋራ ማጨስ ማቆም ለልብ በሽታ ተጠቂ የመሆን ዕድልን ይቀንሳል ?

1. አዎ 2. አይደለም

8. ጫት መቃም ለልብ ህመም ተጋላጭ ያደርጋል ?

1. አዎ 2. አይደለም

9. ጫት መቃም ማቆም ለልብ በሽታ ተጠቂ የመሆን ዕድልን ይቀንሳል?

1. አዎ 2. አይደለም

10. አልኮል መጠጣት ለልብ በሽታ ያጋልጣል?

1. አዎ 2. አይደለም

11. አልኮል መጠጣት ማቆም ለልብ በሽታ ተጠቂ የመሆን ዕድልን ይቀንሳል ?

1. አዎ 2. አይደለም

12. ከመጠን ያለፈ የሰዉነት ክብደት ለልብ በሽታ ተጋላጭ ያደርጋል?

1. አዎ 2. አይደለም

13. ቋሚ የሆነ የሰዉነት እንቅስቃሴ ማድረግ የልብ ህመም ተጠቂ የመሆን ዕድልን ይቀንሳል ?

1. አዎ 2. አይደለም

14. የአካል ብቃት እንቅስቃሴ ማድረጊያ ክፍል ዉስጥ ወይም የአካል ብቃት እንቅስቃሴ ማዘውተሪያ ቦታ የአካል ብቃት እንቅስቃሴ ማድረግ ብቻ የአንድን ሰዉ የልብ በሽታ የመያዝ እድልን ዝቅ ያደርገዋል ?

1. አዎ 2. አይደለም

15. በእግር መሄድ እና አትክልት መንከባከብ የአንድ ሰዉ የልብ በሽታ የመያዝ እድልን ዝቅ ለማድረግ እንደሚረዳ የአካል ብቃት እንቅስቃሴ ተደርጎ ይወሰናል ?

1. አዎ 2. አይደለም

16. የስኳር ህመም ለልብ ህመም ይዳርጋል?

1. አዎ 2. አይደለም

17. ከፍተኛ የስኳር መጠን በደም ዉስጥ መኖር በልብ ላይ ጫና ይፈጥራል?

1. አዎ 2. አይደለም

18. ከፍተኛ የስኳር መጠን በደም ዉስጥ ለበርካታ ወራቶች ከፍ ካለ የኮሌስትሮል መጠኑ ከፍ እንዲል እና ለልብ ህመም ተጋላጭ የመሆን ዕድልን ከፍ ያደርጋል ?

1. አዎ 2. አይደለም

19. የልብ በሽታ ታማሚ የሆነ ሰዉ በደም ዉስጥ ያለዉን የሰኳር መጠን ከተቆጣጠረ ለልብ በሽ የመጠቃት ሁኔታን ሊቀንስ ይችላል?

1. አዎ 2. አይደለም

20. የስኳር ታማሚ ወንዶች ከስኳር ታማሚ ሴቶች ምንም እንኳን ክብደታቸዉን ቢቆጣጠሩ ለልብ በሽታ በይበልጥ ተጋላጭ ይሆናሉ?

1. አዎ 2. አይደለም

21. የልብና የልብ የደም ቧንቧ በሽታ በኢትዮጵያ ዉስጥ በጣም የተለመደ የሞት ምክንያት ነዉ ?

1. አዎ 2. አይደለም

22. ከፍተኛ የመጥፎ ኮሌስትሮል መጠን በደም ዉስጥ መኖር ለልብ በሽታ ተጋላጭ ያደርጋል ?

1. አዎ 2. አይደለም

23. የልብ በሽታ ታማሚ የሆነ ሰዉ በደም ውስጥ የሚኖረው የኮሌስትሮን መጠን ከፍተኛ ነው ?

1. አዎ 2. አይደለም

24.የልብ በሽታ ታማሚ የሆኑ ሰዎች በደማቸው የሚገኘው የጥሩ ኮሌስትሮን መጠን ዝቅተኛ ነው?

1. አዎ 2. አይደለም

25. ከፍተኛ የቅባት መጠን ያላቸዉ ምግቦች በደማችን ዉስጥ የሚኖረዉን የኮሌስትሮል መጠን ምንም አያደርገዉም?

1. አዎ 2. አይደለም

26. አብዛኞቹ ፍራፍሬዎች እና አትክልቶች የኮሌስትሮል መጠናቸዉ ከፍተኛ ይመስሎታል ?

1. አዎ 2. አይደለም

27. በምግብ ዉስጥ የሚገኝ ፋይበር በደም ዉስጥ የሚገኘዉን የኮሌስትሮል መጠን ይቀንሳል?

1. አዎ 2. አይደለም

28. ከፍተኛ የፋይበር መጠን ያለዉን ምግብ መመገብ ለልብ ህመም የመጋለጥ ሁኔታን ይጨምራል ?

1. አዎ 2. አይደለም

ክፍል 3, “ታማሚዎች ስለ ልብና ስለ ልብ ቧንቧ በሽታ ተጋላጭ የሚያደርጉ ሁኔታዎችን የመከላከል ተግባር መጠይቅ

29. የኮሌስትሮል መጠንዎን ለማወቅ ምርመራ አድርገው ያዉቃሉ ? አላውቅም ካሉ ወደ ጥያቄ 31 ያምሩ

1. አዎ 2. አይደለም

30. ለጥያቄ ቁጥር 29 "አዎ" ካሉ በቅርብ ግዜ የተለካው የኮሌስትሮል መጠን ምን ያህል ነው? በሚግ/ዴሊ

_____ሚግ/ዴሊ

31. ሲጋራ ያጨሳሉ ?

1. አዎ 2. አይደለም

32. ጫት ይቅማሉ ?

1. አዎ 2. አይደለም

33. አልኮል ይጠጣሉ ?

1. አዎ 2. አይደለም

34. መጠነኛ ሰውነት ክብደት እንዲኖርዎት አቅደዋል?

1. አዎ 2. አይደለም

35. ማንኛውንም አይነት የሰውነት እንቅስቃሴ ያደርጋሉ ?

1 .አዎ 2. አይደለም

36. ዕለታዊ ገበታዎት አትክልትና ፍራፍሬ ይኖርዋል ?

1 .አዎ 2. አይደለም

ክፍል 4, "ታማሚዎች ስለ ልብና ስለ ልብ ቧንቧ በሽታ ተጋላጭ የሚያደርጉ ሁኔታዎችን የመከላከል ተግባር መጠይቅ

37. የሕይወት ዘይቤን መለወጥ በልብ በሽታ የመያዝ እድላቸውን ይቀንሳል

1. አዎ 2. አይደለም

38. የልብ በሽታን መከላከል ይቻላል

1. አዎ 2. አይደለም

39. አሁን ያለኝ ክብደት ለጤንነቴ በጣም ከፍተኛ ነው

1. አዎ 2. አይደለም

40 የምበላውን ምግብ መቀነስ አለብኝ

1. አዎ 2. አይደለም

ክፍል 5, “ታማሚዎች ስለ ልብና ስለ ልብ ቧንቧ በሽታ ያላቸውን የተጋላጭነት ግንዛቤ የተመለከተ ጥያቄ

41. የልብ በሽታ ሊከሰትብኝ ይችላል ብለው ያምናሉ

1. አዎ 2. አይደለም

42. ምን አMvƒ ¨Å òƒ uMw ui• •cnÃ ÃJ“M

1. በጣም እስማማለሁ 2. እስማማለሁ 3.እ`ÓÖ— ›ÃÅKG<U

4. በጣም አልስማማም 5. አልስማማም

43. uT>kØK<ƒ Ømƒ ›S•ƒ uMw ui• ¾S•SU •ÅK? u×U ¾có ’¨<

1. በጣም እስማማለሁ 2. እስማማለሁ 3. እ`ÓÖ— ›ÃÅKG<U

4. በጣም አልስማማም 5. አልስማማም

44. uQÃ¨, ¨<eØ ¾}¨c’ Ñ>²? ¾Mw QSU •”ÇKw˜ ÃcT—M

1. በጣም እስማማለሁ 2. እስማማለሁ 3. እ`ÓÖ— ›ÃÅKG<U

4. በጣም አልስማማም 5. አልስማማም

45. ¾Mw ui• u›G<’< Ñ>²? K=•[˜ ¾T>‹Muƒ •ÉM cò ’¨<

1. በጣም እስማማለሁ 2. እስማማለሁ 3. እ`ÓÖ— ›ÃÅKG<U

4. በጣም አልስማማም 5. አልስማማም

46. ¾Mw ui• G<M Ñ>²? ÑÇÃ ’¨<

1. በጣም እስማማለሁ 2. እስማማለሁ 3. እ`ÓÖ— ›ÃÅKG<U

4. በጣም አልስማማም 5. አልስማማም

47. ¾Mw QSU S•SU K?L¨< c¨< Ò` ÁK˜” Ó”–<’ƒ ›ÅÒ LÃ ÃØLM

1. በጣም እስማማለሁ 2. እስማማለሁ 3. እ`ÓÖ— ›ÃÅKG<U

4. በጣም አልስማማም 5. አልስማማም

48. ¾Mw ui• u=•`w˜ SL QÃ¨, Ã[uhM

1. በጣም እስማማለሁ 2. እስማማለሁ 3. እ`ÓÖ— ›ÃÅKG<U

4. በጣም አልስማማም 5. አልስማማም