Assessment of Knowledge, Attitude and Practice on prevention of common chronic non communicable diseases among adults with in the age group 25–64 years in Arada sub city Addis Ababa

By

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Abstract

Back ground: Chronic non communicable diseases are the leading disease burden in the world. The increased prevalence of non communicable diseases in developing countries is linked to the rapid urbanization and increasing globalization of food, tobacco, and alcohol industries. Addis Ababa, being the capital of Ethiopia, is expected to have higher prevalence of lifestyle risk factors for chronic non communicable diseases. Thus, this study will provide some baseline information about knowledge, attitude and practice on prevention of chronic non communicable diseases in Arada sub city among adults.

Objective: To assess the knowledge, attitude and practice on prevention of common chronic non communicable diseases among adults with in the age group 25–64 years in Arada sub city Addis Ababa.

Methods:

A community based cross sectional study was conducted from March 19-26, 2011G.C in Arada sub-city using quantitative method. Multi stage sampling technique was used. The sample size was determined by single population proportion determination formula & the total sample size was 844. Semi structured questionnaire was used. The data were entered and analyzed by EpiData version 3.1 & SPSS version16.0, respectively. Descriptive, simple logistic regression, multiple logistic regression and ordinal regression analyses were done.

Result:

Among 807 respondents 87.1% had sufficient knowledge about prevention of chronic non communicable diseases. The knowledge about prevention of chronic diseases among males was significantly greater than that of females [with AOR (95% CI) 1.72(1.05-2.8)]. About 67% of the respondents had good attitude towards risk reduction behaviors of chronic non communicable diseases. Respondents with marital status of single were found to have better attitude towards the risk reduction behavior than those who were married [with AOR (95%CI) = 1.69(1.07-2.67)]. Only 1.1% of the respondents had good preventive behavior. Females showed a better preventive behavior than males [with AOR (95% CI 0.45(0.31-0.63).

Conclusion and recommendation

Majority of the respondents had sufficient knowledge and favorable attitude towards prevention of chronic non communicable diseases but there was inadequate consumption of fruits and vegetables, along with high prevalence of physical inactivity. Therefore the concerned bodies should work to enhance practice of risk reduction behavior.

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Table of content

List of figure

List of tables

Acronomys

A.A	Addis Ababa
AIDS	Acquired immunodeficiency syndrome
AOR	Adjusted odds ratio
BMI	Body Mass Index
CNCDs	Common non communicable chronic diseases
CNDs	Chronic non communicable diseases
COE	Centre of excellence
COR	Crude odds ratio
CVD	Cardio Vascular Diseases
DALY	Disability Adjusted Life Year
DBP	Diastolic blood pressure
ECSA	East, Central and South African countries
EDHS	Ethiopian Demographic and Health Survey
GC	Gregorian calendar
HDSSs	Health and Demographic Surveillance Sites
HHs	House holds
HIV	Human immunodeficiency Virus
HSDP	Health Sector Development Program
IRB	Institutional Review Board
KAP	Knowledge, Attitude and Practice
MDG	Millennium Development Goal
MOH	Ministry of Health
NCDCP:	Non communicable disease control program
NHLBI	National Heart Lung and Blood Institute
SBP	Systolic blood pressure
SPSS	Statistical Package for the Social Sciences
SSA	Sub Saharan Africa
SuRFs	Surveillance of Risk Factors
WHO	World Health Organization
UNICEF	United Nations children's Fund

Chapter 1:

Introduction

1.1. Back ground

Ethiopia is among the poorest third world countries with an annual average per capita income of US$116 (1). Its economy has been growing steadily during the past few years, resulting in real per capital income increasing by 7 % per annum. This strong economic growth is expected to continue in subsequent years (2). At the current rate of annual economic growth, Ethiopia may be able to attain the first millennium development goal (MDG); that is to reduce the proportion of the population that lives with under a dollar a day by half (3).

The Ethiopian government envisages transforming the country into one with a middle-income economy in the next two decades (4). However, numerous social, demographic, and epidemiological changes are likely to accompany such a rapid economic transformation. Under the forces of globalization, unregulated markets facilitate the import of processed foodstuffs and drinks, which often have added salt, sugar, oil and fats that increases the energy density of the diet. Urbanization and industrialization influences will also reflect in reduction of manual labour and decreased physical activity. In the long run, such influences unfavorably modify the lifestyle of the population (5).

The Health Sector Developmental Program (HSDP) of the country aimed to contribute to poverty reduction and national socio-economic development through improving the health of the poor people. It is reoriented towards poverty related diseases through designing and implementation of the “Health Extension Package”, which aimed at an effective prevention and control of communicable diseases through active community participation, particularly in rural (6). Recently the health extension program has been extended to urban areas and the prevention of chronic non-communicable diseases (CNCDs) is included as one of the urban health extension package (7)

1.2. Problem statement

Chronic non-communicable diseases such as heart disease and stroke, diabetes mellitus, cancer, and chronic respiratory diseases account for approximately 60% of total mortality

in the world, with around 80% of these deaths occurring in low and middle-income countries (8) Non communicable diseases (NCDs) are traditionally associated with developed countries and affluent populations however, that every year, an estimated 14 million people die prematurely in developing countries from preventable non communicable diseases which results major negative consequences for socioeconomic development (9-11).

Chronic non communicable diseases pose an unprecedented challenge to healthcare systems. Their treatment and management requires a comprehensive and coordinated response by the health system (12). The increased prevalence of NCDs in developing countries is linked to the rapid urbanization and increasing globalization of the food, tobacco, and alcohol industries (13).

Developing countries particularly Sub Saharan Africa, faces a double burden of infectious and chronic diseases. Infectious diseases still account for at least 69% of deaths on the continent (14). For this reason it has been argued that for the poorest in the world, successful tackling of communicable diseases will bring greater health gains than reducing rates of NCDs (15). There is no doubt that communicable diseases will remain the predominant health problem for the populations in sub-Saharan Africa for the next 10–20 years. CNCDs, however, already present a substantial burden as the overall age-specific rates are currently higher in adults in Africa than in populations in Established Market Economies (16). There fore it must be recognized that the issue is not simply replacing strategies for communicable disease by new ones for NCDs but, an approach directed against the classic diseases of poverty, i.e. malnutrition, infectious child diseases, maternal death and HIV could be combined with preventive measures directly targeting NCDs (15).

In Ethiopia, national data on prevalence and incidence of CNCDs are lacking. However, according to the data made available by the Global Burden of Disease study, NCDs accounted for 23% of deaths and 20% of Disability Adjusted Life Years (DALYs) lost (5).

Evidence shows that the major CNCDs operate through a cluster of common risk factors, whose presence or absence determines the occurrence and severity of the disease (17). Up to 80% of cases of coronary heart disease, 90% of type 2 diabetes cases, and one third of

cancers can be prevented by changing 'healthier diet, increasing physical activity and stopping smoking (8). And it has been pointed out that an additional 2% reduction in chronic disease rates over 10 years would save 36 million deaths globally (18). Taking this in to account, WHO have been advocating policy makers to develop efficient strategies to halt 'tomorrow's pandemic' of CNCDs (19, 20). These interventions could prevent millions of early deaths from non communicable diseases, are highly cost-effective and implementable in resource-poor settings (9).

Addis Ababa represents the largest urban centre in Ethiopia, hosting about 23% of the urban population in the country (21). Given current urbanization and industrialization efforts in the country, there will be demographic transition in which the proportion of adults and aged population will increase significantly in comparison with the younger age group (22). This is apparently seen in the capital city A.A, where the life expectancy reaches to 62.6 years for males & 66.5 years for females (22). A study done in A.A revealed that there is a widespread prevalence of various risk factors of CNCDs among adults. Urbanization influences are apparent in the city, with an increasing use of motorized transport and sedentary types of occupation such as trade and office work (23). The level of insufficient physical activity (less than 150 minutes of moderate intensity physical activity per week- in preceding 7 days) is found to be 16.3 % in urban and 4.5 % in rural populations(5). This is accompanied by shifting dietary and lifestyle behaviors. Heavy alcohol intake also become a common behavior among adults in Addis Ababa, with approximately 10% of men consuming 5 or more standard units of alcohol on one or more days during a week (23). Even though findings in A.A call for behavioral interventions targeted on individuals to improve use of appropriate diet, engage in physical activity, and encourage cessation of substance use (24) there is no any research available that assess the KAP on prevention of CNCDs (as to the investigator scope). Therefore, a proper assessment and understanding of KAP factors is particularly helpful in the area of chronic non communicable diseases, for which prevention and control necessitate a lifelong adoption of healthy lifestyles (25).

Chapter 2: Literature Review

2.1. Literature review

Prevalence & burden of chronic non communicable diseases

Chronic non-communicable diseases pose one of the greatest threats to public health and economic growth at local, national and global levels (26). According to global estimates, mortality patterns have been changed since the 1990s, and without preventative measures, the number of deaths by NCDs on a global scale will increase by 17% over the next ten years (27, 28).

The Prevalence of many of the known risk factors for NCDs has dramatically increased in developing countries along with societal and environmental changes (29). These increases are partly accounted for increasing life expectancy and aging populations (30). According to a projection done in 2006, seven out of every ten deaths in low-income countries will be from CNCDs by 2020 (31) and poses a serious challenge to the developing countries. NCDs occur at younger ages in sub-Saharan Africa than elsewhere. The average age of death from CVD in sub- Saharan Africa is at least 10 years younger than in developed countries, which means that it often affects adults in their most economically productive years (32). The double burden of communicable and chronic NCDs has long-term public health impact as it undermines healthcare systems (33).

The direct and indirect economic costs caused by chronic diseases are already substantial and are likely to grow. Direct costs include expenditures for admissions to hospital, medical costs, nursing and family support. Indirect costs come from lower productivity, sick leave, loss of productive workers from early retirement and premature deaths. These costs are heavy and can cause impoverishment (34).

Hypertension and diabetes mellitus are among the top ten chronic diseases that are common in developing countries (35). Sub-Saharan African (SSA) countries are currently experiencing one of the most rapid epidemiological transitions characterized by increasing urbanization and changing lifestyle factors. This has resulted in an increase in the incidence of non-communicable diseases, especially cardiovascular disease (CVD) (33). In 2004

stroke was estimated to cause 3% of all deaths in Africa and 52% of vascular deaths (36). Non communicable diseases account for 15–25%of all adult deaths (i.e. in persons aged 15–59 years) in the Tanzanian areas covered by the demographic surveillance system (16) On the other hand in Ghana a non-communicable disease survey conducted in 1998 recorded a national prevalence of 27.8% for hypertension (37)

In Ethiopia the prevalence of NCDs, including hypertension, cardiovascular diseases and diabetes mellitus, is increasing with changes in people's lifestyles. According to the Health and health-related indicators of MOH (2000–2001), hypertension was the seventh leading cause of death in the country in 2001. (38)

A study conducted in rural Ethiopia reported that NCD contribute 27% of the burden of all disease (39) and it is expected that the contribution of NCD would significantly increase in urban areas of Ethiopia because of factors associated with urbanization (40).

Risk Factors

Many risk factors underlying CNCDs have been identified including non modifiable factors such as age, gender, genetic factors, and race, as well as modifiable factors including (41) unhealthy dietary practices physical inactivity, increased tobacco consumption, and harmful use of alcohol (42). High blood pressure, high blood cholesterol, overweight and obesity, and type II diabetes are among the major biological risk factors (29).

The Surveillance of Risk Factors (SuRFs) project, launched in 2003, presents chronic disease risk factor profiles from 170 WHO member states. These data include tobacco and alcohol use, patterns of physical inactivity, low fruit/vegetable intake, obesity, blood pressure, cholesterol, and diabetes (43).

Smoking

About one in every three adults (or 1.1 billion adults) smokes worldwide, and 80% of smokers live in the developing world. Smoking is the leading contributor to CVD among men (44). National smoking prevalence among men in sub-Sahara Africa varies from 20% to 60% and the annual cigarette consumption rates are on the rise for both men and women. A review of tobacco use and smoking research showed that males are more likely to smoke

than females, and older males (age 30-49) are more likely to use tobacco products than younger males (45).

A study done in Butajira indicate that the prevalence of smoking on 1895 individuals aged 15 years and over were found to be as follows: 5.8% were ever smokers; with 15.4% of men and 0.2% of women, 4.4% of respondents were current smokers; with 11.8% of men and 0.2% of women. Using logistic regression, male gender ($p<0.001$), increasing age ($p<0.001$), being a follower of Islam ($p=0.002$), and being in formal employment ($p=0.033$) were found to be independent predictors of ever smoking. (46).

A study done in Addis Ababa among adolescent shows that the prevalence of current smoker is found to be 4.5% for males and 1% for females (47). Among adult (25-64 years old), 13% of men and less than 1% of women reported current cigarette smoking and the prevalence of current daily smoking was 11.0% (95% confidence interval [CI], 9.5%–12.5%) (23).

Alcohol use

Global alcohol consumption has increased in recent decades, with most or all of this increase occurring in developing countries. Worldwide, alcohol caused 1.8 million deaths, equal to 4% of the global disease burden; the proportion was greatest in the Americas and Europe (48)

In Oceania, Nauru, the overall prevalence of current drinkers (have consumed alcohol in the past 12 months) was 46.2% of whom 60.7% are males and 32.1% are females. Among current drinkers, 29.8% of males binge drink (5 or more drinks); 25.6% of females binge drink (4 or more drinks) on any day of the week, preceding the survey (49).

In Pretoria the overall prevalence of current drinkers was 67 %. Among current drinkers, 34% binge drink. The proportion attributing no risk to heavy drinking among Pretoria youth was 30% (50). The prevalence of binge drink in Malawi was 19% in males & 2.3 % in females (51).

Study done in Addis Ababa has showed that the prevalence of current alcohol consumer were 61.9% (52).

A preliminary Survey Results of Non Communicable Diseases among Bank Employees and Teachers in Addis Ababa, Ethiopia showed that the majority (77.3%) reported alcohol

consumption in their life time and nearly 20% of them reported daily or almost daily use of alcohol during the study period (26). Heavy alcohol intake is a common behavior among adults in Addis Ababa, with approximately 10% of men consuming 5 or more standard units of alcohol on one or more days during a week (23).

Physical inactivity

The World Health Survey results showed that 18% of the populations in 51 countries were physically inactive. Of the 10 countries in the South East Asian and Western Pacific regions who participated in the World Health Survey, the highest prevalence of physical inactivity was observed in Malaysia (16.5%), Laos (10%), and India (9.4%) (53). A report on the level of physical activity among selected rural populations in nine well-defined health and demographic surveillance sites (HDSSs) in Asia shows that overall, 25% of men and 35% of women were physically inactive. Women, older age-groups, and people with higher level of education in most of the HDSSs are more likely to have low levels of physical activity (54).

Chronic Non communicable Diseases Risk Factor Survey in Iraq shows that the prevalence of vigorous physical activity at work was 9.4% among the respondents. Males were found to perform vigorous activity more than females (11.4% Vs 7.9 % respectively). While the prevalence of moderate physical activity was (29.1%) that was higher among female as compared to male (34.8% Vs 21.6%) (55).

In Nauru 16.5% of people were inactive, that is, they reported no physical activity in work, travel or recreation time. The prevalence of physical inactivity increased with age, from 13.5% among 15-24 years old to 28.9% among those aged 55-64 years (49).

The Ethiopian National Health Survey Report 2003 reported that the level of insufficient physical activity (less than 150 minutes of moderate intensity physical activity per week- in preceding 7 days) to be 16.3 % in urban and 4.5 % in rural populations, and 8.6 % in males and 4 % in females (5).

Un healthy dietary

Fruit and vegetables have a high content of vitamins, minerals antioxidant and phytochemicals and play a positive role in preventing of CNCDs (56). It is estimated that fruit and vegetables intake of 600gram per day could reduce the risk of coronary heart disease by up to 18% and stroke by 11%. This could prevent over 135,000 deaths from CVDs each year (57). FAO/WHO recommends a minimum of 400 gram of fruits and vegetables per day or alternatively five servings a day; at least two servings of fruits and three servings of vegetables (58). The WHO minimum requirement is full filled by very few developed countries (Israel, Spain and Italy) (59)

Unhealthy dietary practices include high consumption of saturated fats, salt and refined carbohydrates, as well as low consumption of fruit and vegetables (26). While widespread under nutrition persists in a large number of low and middle income countries, obesity is also fast emerging as a significant problem. Underweight children and overweight adults are now often found in the same households (60). Studies indicate that in SSA countries urbanization and economic development have also led to the emergence of a nutritional transition characterized by a shift to a higher caloric content diet and/or reduction of physical activity (61). In Ethiopia the prevalence of low fruits and vegetables intake was found to be 57.7% in males and 64.1% in females (62)

Approximately one third of Bank employees and teachers in Addis Ababa reported no fruit consumption in their usual week diet. The majority of participants reported consuming vegetables at least once per week (24).

Over weight / obesity

Today, more than 1.1 billion adults worldwide are overweight, and 312 million of them are obese. In the past 20 years, the rates of obesity have tripled in developing countries that have been adopting a Western lifestyle involving decreased physical activity and over consumption of cheap, energy-dense food (63). In a meta-analysis of obesity among West African populations, the prevalence of obesity was 10.0% (95% CI, 6.0-15.0) (64).

Across many sub-Saharan African countries, obesity has been linked to both urban residence and wealth – the more wealth a person has, the more likely he or she is to be overweight or obese due to nutritional transition (65).

Throughout SSA, gender disparities exist in overweight/ obesity. Women are highly affected by overweight/obesity status compared to men (66).

In South Africa, it is found that among a sample of young adults in a peri-urban settlement, approximately half of the women were overweight or obese (mean BMI 31.0 kg/m^2); however, none of their male counter parts were overweight (mean BMI 21.6 kg/m^2) (67).

The Ghana Demographic and Health Surveys (DHS) demonstrate that prevalence of obesity or overweight among adult (non-pregnant) women across the country increased 2.5 fold in ten years from 10% in 1993 to 25.3% in 2003 (68).

What has been done to prevent CNCDs internationally?

Recognition of the particular role of diet and physical activity as risk factors for non communicable diseases, led to the development of the World Health Organization Global Strategy on Diet and Physical Activity and Health in 2004(69). More over WHO and other concerned bodies have been advocating policy makers to develop efficient strategies to halt 'tomorrow's pandemic' of the chronic NCDs (20, 21).

The WHO has emphasized its global goal of reducing chronic diseases by 2% every year between 2005 and 2015, thereby preventing 36 million deaths (70).

International health agencies and national governments are beginning to recognize and confront the significant global burden of chronic diseases. Tobacco control efforts over the last decade in Europe and America, for example, have demonstrated the utility of multi-faceted interventions - legislation, fiscal, and population-based interventions – for chronic disease health protection (71). For most African, Asian and Latin American countries, Since 2007 the World Bank and a growing number of international agencies have joined the WHO in calling for more resources devoted to chronic disease management (72) and for coordinated effort by national leaders to strengthen chronic disease prevention and control efforts (73, 74).

International non-governmental organizations have also increased their commitment to reducing the global burden of chronic diseases by fostering collaborations with partners in the public and private sectors. For example the National Heart, Lung, and Blood Institute (NHLBI), a component of the US National Institutes of Health and United Health Group, one of the world's largest health and wellbeing companies, has forged a collaboration to counter chronic diseases by supporting a collaborative global network of centres of excellence (COE) in low-income and middle-income countries. The goal is to support research that will generate evidence to inform policy decisions (75). Furthermore, a campaign of 'international science advocacy' led by the Chronic Disease Action Group - a collaboration between *The Lancet* and scientists from WHO and a wide range of countries - has contributed to the development of international health strategies since 2007 (74).

Approach to prevent CNCDs

Addressing the growing chronic disease burden will require building on or modifying existing approaches and systems for low- and middle-income settings (8). ‘‘Community based approach in CNCDs prevention has a high degree of generalizability, cost-effectiveness due to the use of mass communication methods, ability to diffuse information successfully through use of community networks, and potential for influencing environmental, regulatory and institutional policies that shape health’’ (76).

The WHO (2005) suggests that the global chronic disease burden requires ‘multi-faceted multi-institutional’ responses. With respect to the content of responses experts recommend a three-prong approach that amalgamates epidemiological surveillance, primary prevention (preventing chronic disease in lay healthy communities through health promotion) and secondary prevention (preventing complications and improving the quality of life of people with chronic disease through medical, psychosocial and/or economic interventions) (77).

KAP on prevention of CNCDs

Different researches suggest that while health knowledge and literacy are important, mere dissemination of expert health knowledge to lay communities does not result in attitudinal or behavioral change and may in some instances create confusion and anxiety (14). Changing behaviors often depends on education campaigns that can be effectively

delivered through multiple methods and sites, including workplaces, schools, mass media, and health centers (78).

The major source of information on general health, pluralistic health systems, illness, chronic disease and diabetes in Africa are: social (e.g family and friends), cultural (traditional handed-down knowledge), cross-cultural (through regional and international travel), institutions (pluralistic health professionals, mass media) and self (unique experiences of self in health and disease) (79).

Study done in London among Black Seventh-Day Adventists living to provide information on the lifestyle practices related to preventing hypertension shows that the study subjects can correctly associate the use of salt to the development of hypertension, but they did not associate obesity, lack of exercise, alcohol consumption, and smoking with hypertension (80). Similar finding has been reported in Afro Americans. Less than 50% were able to correctly identify the numbers for SBP and DBP (81).

In Seychelles Islands (Indian Ocean) 17% thought that one's lifestyle habits can greatly influence future health (25). A high proportion of participants showed good basic knowledge on hypertension. For example, >96% knew that salt and obesity were associated with hypertension and that hypertension was associated with CVD occurrence. The benefit of physical exercise on BP was also well recognized. Most persons reported that smoking causes high BP (25). Knowledge about detrimental lifestyle habits was high, with more than 70% of smokers, heavy drinkers, persons with little physical activity, and overweight persons recognizing the detrimental effect of these conditions to their own health. Regarding attitudes, similarly high proportions of persons (between 73% and 95%) with one or more of these four concomitant risk factors expressed the wish to reduce the corresponding detrimental condition. Attempt to change was reported by: 74% of smokers, 60% of heavy drinkers, 56% of overweight persons, and 16% of persons with low physical activity. Actual behavior change in the considered-unhealthy lifestyles over the last 12 months was reported by: 65% of smokers, 54% of drinkers, 25% of overweight persons, and 6% persons with little physical activity (25). The barriers that were most significant for Blacks were those of liking salty food and of not being able to eat the food they like (82).

Cross sectional study done in Pakistan indicate a significant difference in knowledge about Chronic diseases and healthy life style between male and female, educated & illiterate with p-value of < 0.05 (83). In Cameroon it is observed that there is a lack of basic knowledge on diabetes and risk factors among people with diabetes (84).

The majority of Non communicable Disease Control Programme (NCDCP) recipients in Ghana remembered key aspects of the nutrition and healthy lifestyles messages; the easiest lifestyles to adopt were drinking more water and eating more fruits and vegetables, a challenging lifestyle was increasing physical activity, the most difficult was to reduce meat intake (85). In Nigeria sub urban community 42% of the respondents were able to mention one or more risk factors for hypertension (86). A study done in Kenya indicated that 813 (41%), of the respondents did not indicate any willingness to adopt healthier lifestyles (87).

In Ethiopia Bank workers & teachers, (19.5%) of the study participants had hypertension. On average, the respondents scored 73.0% on the knowledge scale (24).

2.2. Significance of the study

Given the aforementioned facts of increased urbanization and associated lifestyle changes in the country, particularly in Addis Ababa, KAP of prevention of CNCDs assessment is the appropriate first step towards initiating CNCDs risk factors reduction programs. Thus, this study provides some base line information about knowledge gap, attitude and behavior of the study population towards prevention of chronic non communicable diseases & it clarify areas in which further researches are required in the preventive actions. Moreover; this study enables relevant health administrators of the study area to develop comprehensive and appropriate community-based health promotion strategies to encourage healthy lifestyles among its populations.

Chapter 3: Objective

3.1. General objective

- To assess the KAP on prevention of common chronic non communicable diseases among adults with in the age group 25–64 years in Arada sub city A.A

3.2. Specific Objectives

- To assess Knowledge about prevention of common chronic non communicable diseases
- To assess Attitude towards risk reduction behaviors of common chronic non communicable diseases
- To assess the practice on prevention of common chronic non communicable diseases
- To determine socio demographic factors that affect knowledge about prevention of common chronic non communicable diseases
- To identify socio demographic factors that affect attitude towards risk reduction behavior of common chronic non communicable diseases
- To determine socio demographic factors that affect the preventive behavior

Chapter 4: Methods

4.1. Study area & period

The study was conducted in Arada sub-city, Addis Ababa from March 19-26/ 2011G.C

Arada sub- city is one of the 10 sub-cities of A.A, which is the capital city of Ethiopia. It has a surface area of 9.4sq.kms. Based on the new administrative organization of sub-cities, it comprises 10 administrative woredas. According to 2007 population and housing census of Ethiopia, the total population of the sub-city is found to be 211,501 of which 97,861 (48,258 male & 49,603 female) are adults within the age group of 25-64 years (88). In the sub-city, there are 6 hospitals, 3 health centers, 76 clinics and 2 health posts.

4.2. Study design

A community based cross sectional study was conducted using quantitative method.

4.3. Sources population

The source population was all adults with in the age group of 25-64 years living in Arada sub-city.

4.4. Study population

The study populations were sampled (selected) adults with in the age group 25–64 years who live within sub-city.

4.5. Sample size determination

The sample size for this particular study was calculated using a single population proportion sample size determination formula by considering the following assumptions.

Assumptions: A 95% confidence level, margin of error (0.05), prevalence of knowledge about prevention of CNCDs (p = 0.5)

$$n = \frac{(Z_{\alpha/2})^2 p\,(1-p)}{d^2}$$

Where: **n** = required sample size

$\mathbf{Z_{\alpha/2}}$ = critical value for normal distribution at 95% confidence level which equals to 1.96 (z value at $\alpha = 0.05$)

P = proportion of Knowledge about prevention of CNCDs (p = 50%)

d = a margin of error 5%.

The formula yields **n = 384** adults and multiplying by design effect of 2, and taking 10% non response rate, the total sample sizes was calculated to be **844**

4.6. Sampling Technique

Multistage sampling technique was employed to select the study subjects. From the 10 woredas of Arada sub-city 5 woredas were selected using simple random sampling. From the selected woredas, households (HHs) were identified randomly proportional to the number of HHs in the woredas by using the list of HHs from UHEW as a frame work. Finally, an adult in the age range 25-64 years from the selected household was included in the study. In condition where there was no adult who fulfills the inclusion criteria, then an eligible adult was selected once from the left and once from the right neighboring HH alternatively.

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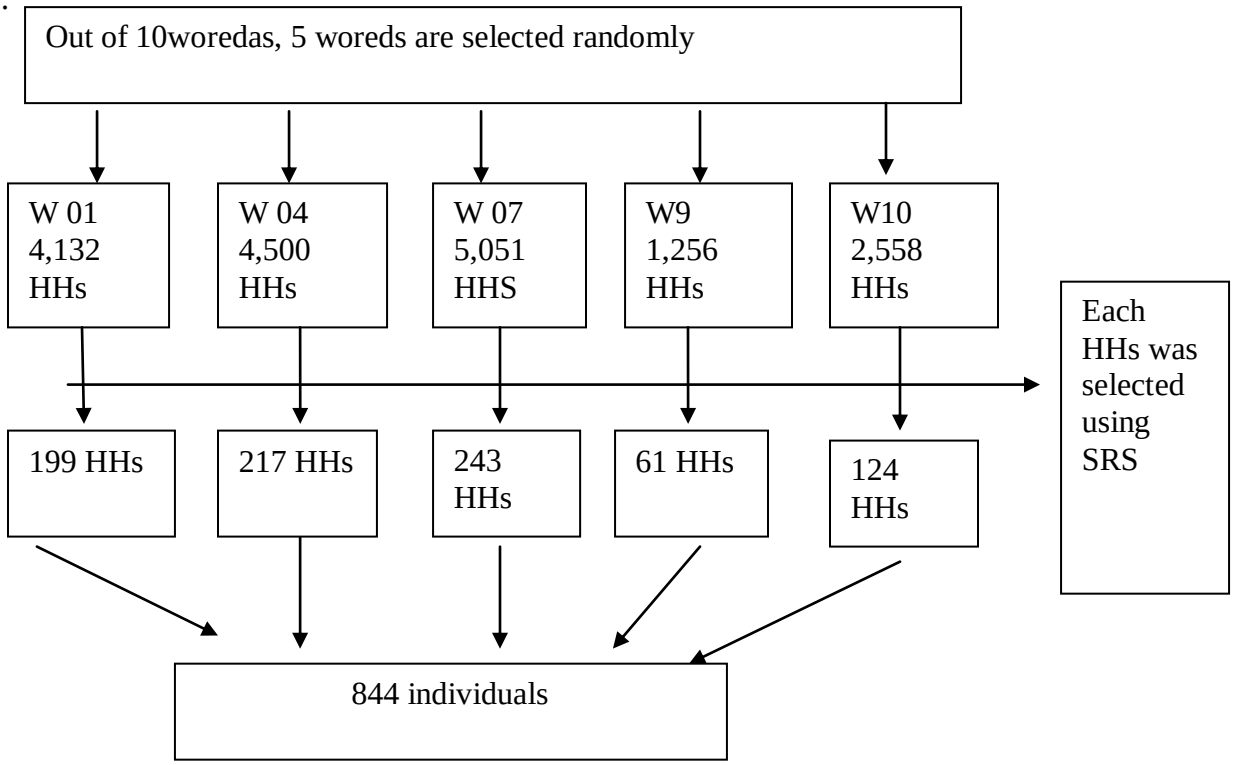

Fig. 1: Schematic Presentation of the Sampling Procedure for the study on assessment of KAP of prevention of common chronic non communicable diseases in Arada sub city A.A.2011.

4.7. Sampling units

The primary sampling units was woreda and the secondary sampling unit was house hold.

4.8. Study unit

The study unit was an individual who was living in the study area & whose age was between 25-64 years.

Inclusion criteria

- Adults who were in the age group of 25-64 years

Exclusion criteria

- Adults who were mentally ill & had communication problem.

4.9. Data Collection Procedures

A semi structured questionnaire was developed in English and translated in to Amharic and again back translated to English by other person to ensure its consistency. The questionnaire included Knowledge, attitude, and practice of preventive behavior assessing questions. The questions used to asses practice were adopted from WHO STEP wise approach to chronic disease risk factor surveillance instrument version 2 and Global Physical Activity Questionnaire Version 2/GPAQ2, respectively (89, 91).

A total of 35 urban health extension workers who are found in the selected woredas were participated in the data collection process. They were briefed about the objective of the study and also training was provided for 1 day on contents of the questionnaire and data collection procedure. Five BSC holder supervisors were recruited and training was given on how to undergo the supervision of the data collection process for one day.

4.10. Variables for the study

4.10.1. Dependent Variables:

- Knowledge about the prevention of CNCDs
- Attitude towards risk reduction behavior of CNCDs
- Practice of prevention behavior

4.10.2. Independent Variables

Socio-demographic variables:

- Age
- Gender
- Ethnicity
- Religion
- Marital status
- Occupation
- Monthly income,
- Educational status

4.11. Data processing & analysis

Questionnaire was checked for its completeness, edited and coded; data from coded questionnaires was entered into EpiData version 3.1 then the data was transported to SPSS version16. The data was cleaned and described using simple frequency. Binary Logistic regression was performed to assess the association between each major independent variable with the outcome variable. Then those variables that show significant association with the outcome variable ($P< 0.05$) were included in a single model and multiple logistic regressions were performed to identify significant predictors of the outcome variables. More over ordinal regression was made to look for determinant factors of preventive behavior.

4.12. Operational definitions

- **Sufficient Knowledge:** those study participants who scored points equal to and more than the mean score out of all knowledge assessing questions.
- **Not sufficient knowledge:** those study participants who scored less than the mean score out of all knowledge assessing questions.
- **Positive/favorable attitude-** those study participants who has positive outlook towards Prevention of CNCDs and who scored points equal to and more than the mean score out of all the prepared attitude questions.

- **Negative/ unfavorable attitude**- those study participants who has negative outlook towards prevention of CNCDs and who scored less than the mean score out of all the prepared attitude questions
- **Common Chronic non communicable diseases –** is technically reserved for a group of chronic diseases that are linked by common risk factors: Heart diseases, Hypertension, chronic lung conditions, diabetes and cancers fall within this category.
- **Adequate fruit & vegetable in take –** Daily consumption of fruit & vegetables
- **Current smoker**: An individual who is smoking at the time of the survey (89).
- **Past smoker**: An individual who has previous history of cigarette smoking but quit now (89).
- **Non smoker**: has no history of smoking cigarettes(89)

Alcohol intake:

- **A standard drink:** equals to 0.5 oz of alcohol as is found in one 12-oz beer, 5-oz glass of wine, or one 1.5-oz shot of distilled alcohols. (a bottle of beer, a glass of wine & a shot of whisky or Arekei) (90).
- **Binge drinking:** is defined as drinking ≥5 drinks in a row for men, and ≥4 drinks in a row for women on at least 1 occasion during the past 2 weeks (90).

Physical Activity: For the purposes of this study, we consider physical activity as any activity done by the muscles in a systematic, structured, and repetitive manner in order to maintain body fitness. In accordance to WHO MET (Metabolic Equivalent) will be used in the analysis of physical activity. MET is defined as the ratio of the work metabolic rate to the resting metabolic rate. One MET is defined as 1 kcal/kg/hour and is equivalent to the energy cost of sitting quietly (91).

- **Vigorous activities:** defined as those activities that require hard physical effort and cause large increases in breathing or heart rate like heavy lifting, digging, aerobics, or fast bicycling done for at least 10 minutes at a time and it is estimated to be 8 MET (91).

- **Moderate:** refer to activities that take moderate physical effort and make breathe somewhat harder than normal like carrying light loads, bicycling at a regular pace, or doubles tennis… done for at least 10 minutes at a time and it is estimated to be 4 MET (91).
- **High level of total physical activity:**

  A person reaching any of the following criteria is classified in this category:
  - Vigorous-intensity activity on at least 3 days achieving a minimum of at least 1,500 MET-minutes/week OR
  - 7 or more days of any combination of walking, moderate or vigorous intensity activities achieving a minimum of at least 3,000 MET-minutes per week.
- **Moderate level of total physical activity**: Five or more days of any combination of walking, moderate or vigorous intensity activities achieving a minimum of at least 600 MET-minutes per week (91).
- **An individual is considered to be physically inactive:** if not achieving a minimum of total physical activity (any combination of walking, moderate or vigorous intensity activities) at least 600 MET per week (91).
- **An individual is considered to have a healthier diet:** if s/he had less fat intake, consumed fruit and vegetable at least once a day and commonly use vegetable or crop oil to prepare his/her food.
- **Good practice of prevention of chronic non communicable diseases:** those Study subjects who were meeting at least moderate physical activity requirement, who were consuming fruit and vegetable daily, who were non-smokers and not binge drinkers were considered to have CNCDs preventive behavior.

4.13. Data Quality

Training was provided for data collectors and supervisors prior to the commencement of the study. Pre test was conducted in Arada sub city woreda 2 on 3% of the sample size. From the results of the pretest necessary corrections were made to some of the questions of the questionnaires The principal investigator and supervisors were supervise the data collection process daily by checking completeness of the required type of data & to correct

faults if any on the spot. After data entry was completed, data clean up was performed by running frequencies of each variable to check for accuracy, outliers, and consistencies. Data collection tools were adopted after review of relevant literatures and translated according to the local context

4.14. Ethical issues

The proposal was submitted to the Institutional Review Board (IRB) of Jimma University. Following the endorsement by IRB, Arada sub city administration and the administration of the participated woredas were informed about the objective of the study through a support letter from Jimma University & had got permission to proceed. Verbal informed consent was obtained from study subjects and the interview was done on voluntary base; any information obtain from the respondent was kept confidential. Moreover, no personal identifiers were used on data collection form.

4.15. Dissemination of Study Results

Findings of the study will be communicated to Arada sub city and the respective Woredas where the study was conducted; it will be communicated to Jimma University and FMOH through hard copy and presentation. Finally effort will be made to publish it to access others.

Chapter 5: Results

Socio-demographic Characteristics

Eight hundred forty four adults were involved in this study. Of these, data were included in the analysis from 807 participants comprising a response rate of 95.7%. Thirty seven respondents were not considered for the analysis because of missing for responses for different variables.

Out of 807 respondents 443 (54.9%) were females. The age of the respondents ranged from 25-64 years. The mean (±SD) age of the respondents was found to be 38 (±10) years. The largest age group was 25-34 years, with a total of 325 respondents (40.3%). The dominant ethnic group was Amhara 386 (47.8%) followed by Oromo 164(20.3%). Regarding their marital status, 508 (63 %) were married. Six hundred and thirty five (78.7%) of the study subjects belonged to the Orthodox Christian, 105(13.0%) Muslims and 67 (8.3%) were other Christians. Concerning the educational status, 83.5% had attended formal school out of which 36 % had completed secondary school (9-12). By occupation 548(67.9%) were engaged on some form of (governmental, nongovernmental or private) employment). Two hundred eleven (26.1 %) of the respondents were house wife and the rest (5.9%) were mention other (job seekers, retired & student). Out of the total study subjects 291 (36.1%) earn monthly income between 500 & 1000 Birr, 268(33.2 %) earn less than 500 Birr (**Table 1**).

Table 1: The socio demographic characteristics of adults in the age group of 25-64 yrs in Arada sub city, Addis Ababa. March 2011.

Variables	Category	Number	Percent
Sex	Male	364	45.1
	Female	443	54.9
Age	25-34	325	40.3
	35-44	244	30.2
	45-54	167	20.7
	55-64	71	8.8
Ethnicity	Amhara	386	47.8
	Oromo	164	20.3

	Guragie	134	16.6
	Tigray	88	10.9
	Others	35	4.3
Marital status	Married	508	63
	Single	197	24.4
	Widowed	56	6.9
	Divorced	46	5.7
Family size	1-4	415	51.4
	5-7	306	37.9
	>7	86	10.7
Educational status	Illiterate	133	16.5
	Primary school complete	229	28.4
	Secondary school completed	243	30.1
	Tertiary school completed	202	25
Occupation	House wife	211	26.1
	Involve in private business	196	24.3
	NGO employee	166	20.6
	Civil servant	140	17.3
	Others	48	5.9
	Daily labourer	46	5.7
Religion	Orthodox	635	78.7
	Muslim	105	13.0
	Others	67	8.3
Monthly income	<500 birr	268	33.2
	500-1000 birr	291	36.1
	>1000 birr	248	30.7

Distribution of knowledge about and attitude towards prevention of chronic non communicable diseases

Five hundred twenty five (65.1%) of the respondents stated that they have got some sort of information about chronic non communicable diseases; of them 281(53.6 %) and 113(21.5 %) mention health workers and media as a source of information respectively. Six hundred twelve (75.8%) of the respondents were able to mention at least one chronic non communicable disease. Six hundred seventeen (76.5%) knew about the difference between communicable & non communicable diseases. Five hundred twenty five (65.1%) of the respondents knew at least one risk factor that predispose for chronic non communicable diseases.

Five hundred eighty one (72%) perceive that chronic non communicable diseases are severe. More than half of the respondents 450 (55.8%) don't believe that CNCDs could be prevented. One hundred fifteen (14.3%) perceive that they are at risk of developing chronic non communicable diseases and 46(40%), 41(35.7%), 15(13%) of them mention their reason as overweight, stress, being a member of family with chronic non communicable disease respectively. Generally, 703(87.1%) of the respondents had sufficient knowledge about prevention of chronic non communicable diseases. Regarding their attitude towards the prevention of chronic diseases 540 (66.9%) had good attitude.

Socio demographic determinants of knowledge about and attitude towards prevention of CNCDs

Regarding the relationship among knowledge about and attitude towards prevention of CNCDs with independent variables; the knowledge about prevention of chronic diseases among males was significantly greater than that of the females [with AOR (95% CI) 1.75(1.03-2.97)]. The knowledge of adults was significantly associated with monthly income. Respondents who were earning more than 1000 birr had a better knowledge than those respondents who earned less than 500 birr [with AOR (95% CI); 2.77(1.22-6.32)]. Level of education has showed a strong association with level of knowledge about prevention of chronic non communicable diseases. Study subject who were completing tertiary school were 8.8 times knowledgeable than that of the illiterates [with AOR (95% CI); 8.89(2.75-28.75)]. (Table 2)

Table 2: Estimates of COR and AOR with 95 % CI of parameters estimates from logistic regression for knowledge about CNCDs in Arada sub city, March 2011

Variables	Category	Knowledge about CNCDs		COR	AOR	95% CI	
		Sufficient knowledge №(%)	Notsufficient Knowledge №(%)			LL	UL
Sex	Male*	332(91.2)	32(8.8)	2.01	1.75	1.03	2.97
	Female	371(83.7)	72(16.3)	1	1		
Ethnicity	Amhara	347(89.9)	39(10.1)	1	1		
	Oromo	140(85.4)	24(14.6)	0.66	0.66	0.37	1.16
	Gurage*	110(82.1)	24(17.9)	0.52	0.54	0.48	0.97
	Tigray	80(90.9)	8(9.1)	1.12	1.08	0.48	2.45
	Others*	26(74.3)	9(25.7)	0.33	0.28	0.12	0.68
Marital status	Married	435(85.6)	73(14.4)	1	1		
	Single*	186(94.4)	111(5.6)	2.84	2.67	1.33	5.36
	Widowed*	41(73.2)	15(26.8)	0.46	0.49	0.25	0.96
	Divorced	41(89.1)	5(10.9)	1.38	1.32	0.49	3.54
Occupation	Civil servant	130(92.9)	10(7.1)	1	1		
	House wife	177(83.9)	34(16.1)	0.40	0.63	0.29	1.40
	Private business	175(89.3)	21(10.7)	0.64	0.66	0.29	1.47
	NGO employee	148(89.2)	18(10.8)	0.63	0.58	0.25	1.33
	Daily laborer*	32(69.6)	14(30.4)	0.18	0.18	0.07	0.46
	Others*	41(85.4)	7(14.6)	0.45	0.32	0.11	0.92
Educational status	Illiterate	94(70.7)	39(29.3)	1	1		
	Primary completed*	191(83.4)	38(16.6)	2.09	1.85	1.09	3.14
	Secondary completed*	220(90.5)	23(9.5)	3.97	2.77	1.46	5.26
	Tertiary completed*	198(98)	4(2)	20.54	8.89	2.75	28.75
Religion	Orthodox	561(88.3)	74(11.7)	1	1		

Monthly income	Muslim*	78(74.3)	27(22)	0.38	0.48	0.27	0.83
	Others	64(95.5)	3(4.5)	2.81 1	2.37 1	0.70	8.00
	<500 birr	211(78.7)	57(21.3)				
	500-1000 bir	253(86.9)	38(13.1)	1.80	1.27	0.78	2.05
	>1000 birr*	239(96.4)	9(3.6)	7.17	2.77	1.22	6.32

*to indicate categories within a variable that shows association with the outcome variable

Those study subject who were within the age group of 45-54 years showed better attitude than those who were in the age group of 25-34years [with AOR (95% CI) = 1.67(1.04-2.62)]. Respondents with marital status of single were found to have favorable attitude towards the risk reduction behavior than those who were married [with AOR (95%CI) = 1.69(1.07-2.67). (Table 3)

Table 3: Socio demographic determinants of attitude towards risk reduction behavior of CNCDs among adults in Arada subcity, 2011

Variables	Category	Attitude towards prevention of CNCD		COR	AOR	95% CI	
		Positive attitude № (%)	Negative attitude № (%)			LL	UL
Age	25-34	220(67.7)	105(32.3)	1	1		
	35-44	167(68.4)	77(31.6)	1.04	1.44	0.95	2.18
	45-54*	115(68.9)	52(31.1)	1.06	1.67	1.04	2.67
	55-64	38(53.5)	33(46.5)	0.55	1.00	0.54	1.88
Ethnicity	Amhara	279(72.3)	107(27.7)	1	1		
	Oromo*	101(61.6)	63(38.4)	0.64	0.63	0.42	0.94
	Gurage	87(64.9)	47(35.1)	0.71	0.88	0.52	1.49
	Tigray	55(62.5)	33(37.5)	0.64	0.63	0.39	1.04
	Other*	18(51.4)	17(48.6)	0.41	0.28	0.12	0.68
Marital status	Married	334(65.7)	174(34.3)	1	1		
	Single*	148(75.1)	49(24.9)	1.57	1.69	1.07	2.67
	Widowed	28(50)	28(50)	0.52	0.56	0.31	1.02
	Divorced	30(65.2)	16(34.8)	0.98	1.02	0.52	2.02
Educational status	Illiterate	68(51.1)	65(48.9)	1	1		
	Primary* completed*	150(65.5)	79(34.5)	1.82	1.74	1.09	2.78
	Secondary completed*	177(72.8)	66(27.2)	2.56	2.15	1.26	3.68
	Tertiary* completed	145(71.8)	57(28.2)	2.43	2.15	1.17	3.95

*to indicate categories within a variable that shows association with the outcome variable

Distribution & determinant of preventive behavior

Generally only 9 (1.1%) of the respondents had good practice of prevention of chronic non communicable disease.

Sex of the respondents had association with practice. Females had a better preventive behavior than males [with AOR (95% CI 0.45(0.31-0.63). Those respondents who were orthodox by religion had a lesser preventive behavior than others religion followers.

Smoking habit

The proportion of ever smokers, current smokers & ex-smokers were 75 (9.3 %), 62(7.7 %) & 13(1.6%) respectively. Out of the current smokers, 80.6% were daily smokers, and the rest 19.4% were occasional smoker. Majority of current smokers 37(59.7%) smoke an average of 5 and more cigarettes per day.

Fifty (80.6%) of current smokers have mentioned that they want to stop smoking and 40 (64.5%) of them tried to quit smoking. About 87% were concerned about the negative effect of smoking. The odds of males who were ever smokers exceed the proportion of female by 51 times [with AOR (95% CI); 51.01 (12.2-213.02)] .Smoking didn't show association with other independent variables.

Dietary habit

Fruit & vegetables, cereals & legumes, animal products and balanced diet were mentioned as common diet by 62(7.7%), 363 (44.9%), 37(4.6%) and 345(42.8%) respectively. Almost all of the respondents 96.9% commonly use vegetable or crop oil to prepare their food. Only 64(7.9%) of the study subjects eat fruit & vegetable daily and 22.1% didn't eat any fruit and vegetable in a typical week. The major reasons mentioned for not eating fruits & vegetable at least once a week were; it is not my custom 64(36%) & shortage of money 97(54.5%). The likelihood of fruit and vegetable consumption for those study participants who earn more than 1000 birr was twice as much as those study participants who earn less than 500 birr [with AOR(95% CI); 2.06(1.07-3.97)].

Alcohol drinking habit

Four hundred twenty four (52.2%), 356 (44.1%) of the respondents (57.6% males & 42.4% females) reported that they were ever alcohol consumers and current consumers respectively. And more than half of the current alcohol consumers 185 (52.1%) drink occasionally, 78 (21.8%) took alcohol at least once a week and46 (12.9%) drink on daily basis. The most common type of alcoholic beverage consumed was beer as it was reported

by 201(56.5%) respondents followed by tella 57(16%) & 49 (13.8%) arekie. One hundred thirty nine (17.2%) of the study subjects stated that they have consumed 4/5 drink at a time at least once a week. This means 29.9% of male & 6.7% of females were binge drinkers. Comparing to last year majority of the current alcohol consumers 211(59.3%) have decreased the amount of alcohol consumption, 108(30.3%) didn't change the amount, while 37(4.4%) have increased their alcohol consumption. Males were found to be more binge drinkers than females [with AOR (95% CI); 3.46(1.9-6.3)] and respondent who were governmental employees were found to be two times more binge drinkers than NGO employee [with AOR (95% CI); 0.445 (0.22-0.92)].

Table 4: Socio demographic determinants of ever alcohol drinking of adults in Arada sub-city March 2011.

Variables	Category	Ever alcohol consumer		COR	AOR	95% CI	
		Not consumer	Consumer			LL	UL
Sex	Male*	127(34.9)	237(65.1)	2.56	2.28	1.57	3.31
	Female	256(57.8)	187(42.2)	1	1		
Occupation	Civil servant	60(42.9)	80(57.1)	1	1		
	NGO employee	69(41.6)	97(58.4)	1.05	0.87	0.53	1.44
	Daily laborer*	27(58.7)	19(41.3)	0.53	0.41	0.19	0.87
	House wife*	134(63.5)	77(36.5)	0.43	0.49	0.28	0.86
	Involve private business	66(33.7)	130(66.3)	1.48	1.47	0.88	2.44
	Others*	27(56.2)	21(43.8)	0.58	0.37	0.18	0.76
Religion	Orthodox	225(40.2)	380(59.8)	1	1		
	Muslim*	86(81.9)	19(18.1)	0.15	0.11	0.06	0.19
	Others*	42(62.7)	25(37.3)	0.40	0.37	0.21	0.63

*to indicate categories within a variable that shows association with the outcome variable

Physical activity

One hundred thirty six (16.9%) and 245 (30.4%) of the respondents were reporting that they involve in vigorous and moderate work at least for 1hour per week respectively.

Ninety (11.2%), 127 (15.7 %) of the respondents did vigorous and moderate sport in their leisure time respectively. Among females 15 (3.3%), and 35(7.9%) did vigorous and moderate sport in their leisure time respectively.

The percentage of moderate & low level of total physical activity was found to be 643 (79.7%) & 164(20.3 %) respectively. Individuals whose occupation was daily laborer & who involved in their own business had a better total physical activity than those individuals who were government employees with [AOR (95% CI); 2.71 (1.29-5.72) and 1.76 (1.03-2.99)] respectively.

Chapter 6: Discussion

Different studies have proved that detecting and preventing the modifiable risk factors of CNCDs earlier, can prevent more than half of CNCDs. Knowledge about the prevention plays a vital role in prevention and early detection.

This study showed that 87.1 % of study subjects had sufficient knowledge about prevention of chronic non communicable diseases. In contrary to this, in Nigeria sub urban community only 42% of the respondents were knowledgeable about chronic disease risk factors (86). The possible explanation for having higher proportion of knowledge score in this study could be due to difference in residence; the previous study was done in sub urban area while this study was conducted in urban. More over the variation in scoring system of knowledge in these two studies might bring difference. The knowledge about prevention of chronic diseases among males was significantly greater than that of the females [with AOR (95% CI) 1.75(1.03-2.97)]. This is consistent with the result of cross sectional study done in Pakistan which revealed a significant difference in knowledge about chronic diseases and healthy life style between male and female, educated & illiterate (83). Respondents who earned more than 1000 birr per month had a better knowledge than those respondents with less than 500 birr. The possible explanation for this could be those respondents with better income had a better access to health information.

The result of this study revealed that 540 (66.9%) had positive attitude towards risk reduction behavior. while a study done in Kenya indicated that 813 (41%), of the respondents had not a positive attitude towards adopting healthier lifestyles (87). The possible reason for having higher proportion of respondents with favorable attitude could be due to the higher proportion of knowledge about prevention of chronic diseases in this study and difference in scoring system. Respondents with marital status of single were found to have good attitude towards the risk reduction behavior than those who were married [with AOR (95%CI) = 1.69(1.07-2.67). The possible reason for having higher proportion of single respondents with good attitude towards prevention of CNCDs could be related to their knowledge about CNCDs(as it was mentioned in the result part respondents who were reporting as marital status of single had a better knowledge than those who were married).

In this study the percentage of respondents with good practice (1.1%) was much lower than the respondents in Kenya where 41% of them had good practices in relation to chronic disease prevention (87). The possible reason for the difference could be in the Kenya's study; dietary practice, participating in regular exercise and weight monitoring were taken as criteria to classify the respondents as having good or bad practice.

The current study showed that females had a better preventive behavior than males [with AOR (95% CI 0.45(0.31-0.63). The low smoking and drinking habit among females may contribute to the better preventive behavior.

Cigarette smoking is important risk factor for the four classes of chronic diseases. It causes increased risk of mortality from lung cancer, upper aero-digestive cancers, CVD and chronic respiratory diseases (10). In this study 7.7 %(96.8 % males and 3.2% females) of the respondents were current smokers and this was higher than the finding in Butajira where the prevalence of current smokers among adults was 4.4% (46) but lower than the finding in Addis Ababa where the prevalence of current smokers was 11% (23). The possible explanation for this is in Butajira, the age range of the study subject was above 15 with more than 40 % of them less than 25 years therefore it is expected to have lower prevalence with younger study population. More over; the study was conducted in 2005 & this may also be the other reason. On the other hand the current study was done in a single sub city while the previous study in Addis Ababa included different sub-cities. A review of tobacco use and smoking research showed that males are more likely to smoke than females (45). Similarly in the current study males were more smokers than females [with AOR (95% CI); 51.01 (12.2-213.02)]. Although, cigarette-smoking, has been implicated in other studies as being significantly associated with age & income (46) no such association was found in this study.

Fruits and vegetables play a number of important roles in human health. They provide antioxidants that are important in neutralizing free radicals (oxidants) known to cause cancer, heart disease, hypertension, stroke and diabetes (54). FAO/WHO recommends a minimum of 400 gram of fruits and vegetables per day or alternatively five servings a day; at least two servings of fruits and three servings of vegetables (58). The WHO minimum requirement is fulfilled by very few developed countries (Israel, Spain and Italy) (59). In

this study only 7.9% of the respondents eat fruits and vegetables at least once a day and 22.1% didn't eat fruit and vegetables within a week. This is somewhat similar with finding among Bank employees and teachers in A.A, where one third of the participants reported no fruit & vegetable in their usual diet in a week (24). On the other hand vegetables are part of the daily diet in Butajira population, particularly in rural areas where the Ethiopian kale (Gomen) is cooked and consumed with bread or kocho(5). In this study, shortage of money (54.5%) and not having the habit (36%) were the two major reasons for not eating fruit or vegetable frequently. As a whole, fruits are not part of the regular daily diet in Ethiopia, and they are more commonly consumed during weekends, social occasions or holidays. They are the preferred gift while visiting sick people (patients) at home or in health facilities (5). Majority (44.9%) of the study participants in the current study were mentioning cereal & legumes as their common food & this holds true for Ethiopia as a whole the diets of the Ethiopian people are largely based on cereals. Maize, wheat, teff, barley, sorghum, millet and other cereals and legumes constitute an important part of the staple diet in most parts of the country (5). In Ethiopia the prevalence of low fruit and vegetable intake was found to be 57.7% in male and 64.1% in females (62).

Global alcohol consumption has increased in recent decades, with most or all of this increase occurring in developing countries (48)

Concerning alcohol consumption 44.1 % of the respondents were current alcohol consumers and this was lower than finding in Addis Ababa where 61.9% of the study participants reported as being current alcohol consumers (52).

Our study showed that the prevalence of binge drink to be 17.2 %, this had a share of 29.9% males & 6.7 % females. This is high when it is compared to the prevalence of binge drink among adults in A.A which were 10% in male (52) & Malawi 19% in males & 2.3 % in females (51). The differences in the populations sampled might account for the marked variations in the prevalence levels between this study and the above studies. And it might be associated with price reduction of alcoholic beverage by government.

The proportion of current drinkers among Muslims & Protestants was lower than those respondents who were orthodox by religion [with AOR (95% CI); 0.11(0.06-0.19),

0.37(0.21-0.63)]. This might be due to the prohibition of Alcohol drinking in those religions.

In this study 164(20.3 %) of the respondents were physically inactive and this finding was greater than the 2003 Ethiopian National Health Survey where the level of insufficient physical activity was reported to be 16.3 % in urban population (5). The difference may be due to the difference in sample size & due to time gap the two studies were carried out.

The current study had a higher proportion of adults 136 (16.9%) who were involving in vigorous work than in Iraq where the prevalence of vigorous work was 9.4% (53). But there was insignificant difference in the prevalence of moderate work between the study in Iraq and current study with prevalence of moderate work 29.1 % and 30.4% respectively. The difference in prevalence of vigorous work could be explained by difference in socio economic status of the two countries i.e. Iraq has a better economic than Ethiopia. Different studies have showed that the level of total physical activity decreases as the age increases, females have a lower total level of physical activity and the level of total physical activity decreases with increasing educational status (49, 52, and 53). But in this study there was no association among these variable. Occupation was the only determinant factor in this study where individuals who were daily laborers were found to be more physically active than civil servants with [AOR (95% CI); 2.71 (1.29-5.72)]. In other way this may have similar interpretation with above finding since individuals with lower educational status involves in daily labor.

In this study 90.7% of the respondents avoid smoking throughout their life, 82 % were not binge drinker, 79.7 % were physically active and 7.9% of them ate fruit and vegetable on daily basis. Generally there were only 9(1.1%) respondents who were practicing the above four preventive behavior. This result showed that merely having good knowledge and favorable attitude may not lead to own a certain behavior but additionally the reinforcing & the enabling factors should be full filled.

Limitation of the study

- Since the study design is cross sectional, it may have some difficulty to show the cause & effect relationship between dependent and the independent variables clearly.
- Due to the scoring system it makes comparison of results with other study difficult
- Social desirability bias due to sensitive and personal question related to risk behaviors.
- Recall biases due to time related questions.

Chapter 7: Conclusion

About 87% of the respondents had sufficient knowledge about prevention of chronic non communicable disease. Sex, age, marital status, educational status and monthly income were the final predictors of knowledge about CNCDs.

About 67% of the respondents had positive attitude towards risk reduction behavior. The final predictors of attitude were ethnicity, marital status & educational status. There was high prevalence of binge drink when compare to Addis Ababa. Sex and Occupation were the determinant socio demographic factors.

There was low fruit and vegetable consumption with high level of physical inactivity.

The proportion of respondents with good preventive behaviour was very low. Sex & religion were the final predictors of practice of the preventive behaviour.

Recommendation

1. Each woreda health office of the sub-city should plan and implement health education by focusing on improving the poor habit of fruit and vegetable intake & promotion of regular physical exercise.
2. Fitness centers and other recreational centers & sport clubs should be established by the sub city administration to promote the low level of physical activity.
3. I would like to recommend other researchers to work on the effect of socio demographic factors and other factors of KAP on prevention of CNCDs using analytical study design.
4. I would like to recommend other researchers to undergo a broader population-based survey to adequately assess the national prevalence of KAP of prevention of CNCDs.
5. Ethiopia has signed the tobacco control convention in 2004 therefore MOH should put its effort for its implementation and doing so would help in reducing the prevalence of smoking in the country as a whole.

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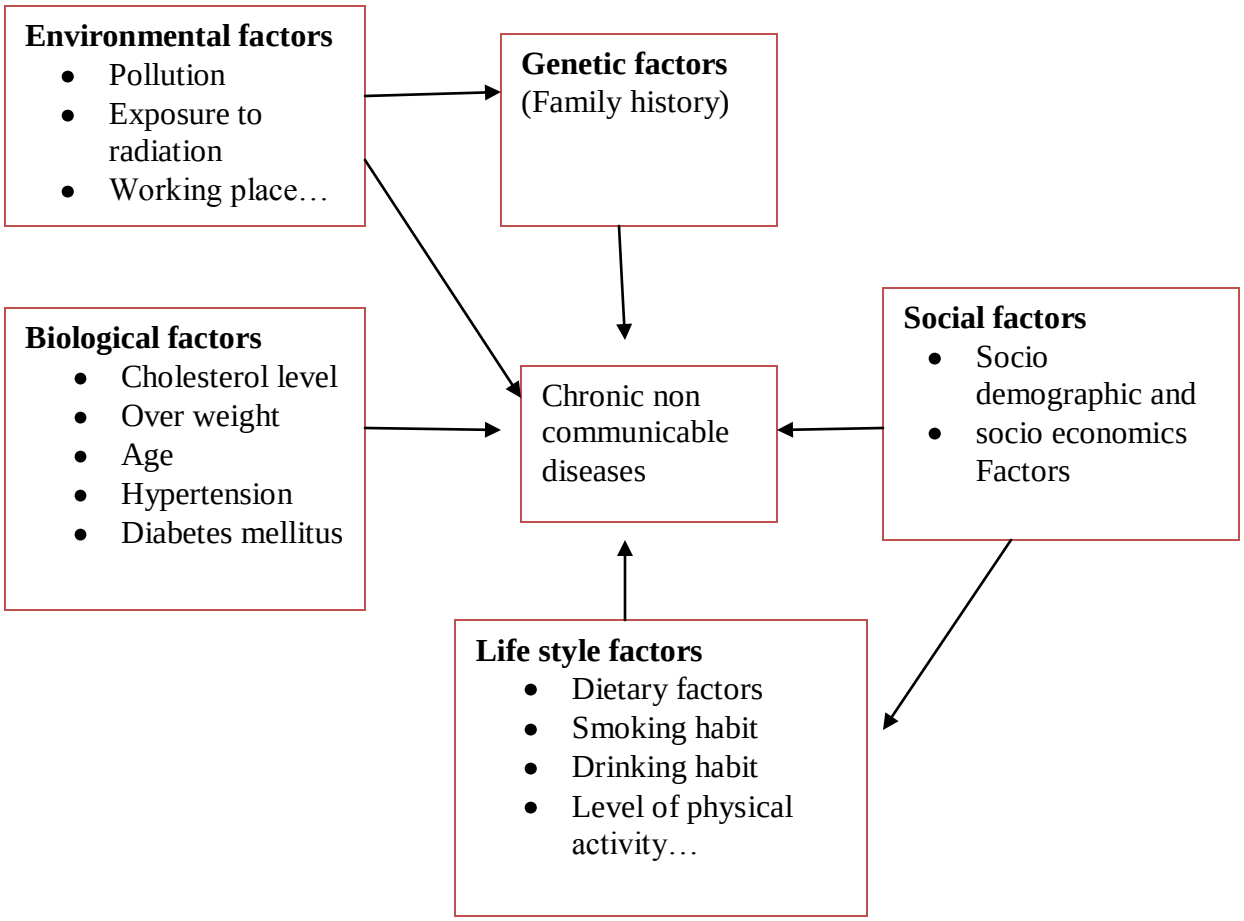
Annex 1: Conceptual frame work



Annex 2: QUESTIONNAIRE

Questionnaire on knowledge, attitude, and practice on prevention of chronic non communicable diseases which will be used as a tool for conducting the quantitative study

001. Questionnaire identification number _____

002 Date of interview___/___/____

003. Woreda _____

004 ketna _____

005 Household Number _____

INTRODUCTION:

Hello! My name is ----------. I am working as data collector in a survey conducted by College of public health and medical sciences of Jimma University. We are interviewing individuals with in age group of 25-64 about knowledge, attitude, and practice on prevention of chronic non communicable diseases in order to generate information necessary for the planning of appropriate strategies (interventions) to prevent chronic non communicable diseases. Therefore to attain this purpose, your honest and genuine participation by responding to the question prepared is very important & highly appreciated.

CONFIDENTIALITY AND CONSENT

I would like to request your participation in this study that will be done by asking you some questions. I would like to assure you that the information obtained will be strictly for our research use. Your answers are completely confidential. Your name will not be written on this form. You do not have to answer any question if you don't want to and you can stop the interview at any time. The interview is voluntary. Your participation/ non-participation, or refusal to answer questions will have no effect now or in the future on services that you or any member of your family may receive from health service providers. However your honest answer to these questions will have a great value for the purpose mentioned above. The interview will take about 20 - 30 minutes. Would you be willing to participate?

If yes, proceed

If no, thank and stop here.

_____

(Signature of interviewer certifying that respondent has given informed consent verbally)

1. Socio-demographic Characters tics

Sr. №	Questions	Alternative answers	Code
101	Sex of the respondent	1. Male 2. Female	/-----/
102	Family size		
103	How old are you?	----------years	
104	To which ethnic group/tribe do you belong?	1. Amahara 2. Oromo 3. Tigre 4. Gurage 5. Other/ specify	
105	What is your marital status?	1. Married 2. Single 3. Divorced 4. Widowed	
106	What is your occupation?	1. Civil servant 2. Private sector employee 3. Daily laborer 4. House wife 5. Have private business 6. Others/specify	
107	What is your education status?	1. Illiterate 2. Primary school completed 3. Secondary school completed 4. Certificate	

		5. diploma 6. first degree & above	
108	What is your religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other/specify------	
109	Monthly income of the house hold	_____ ETBr.	

Part II: KAP on prevention of CNCDs assessing questions

Sr. №	Questions	Alternative answers	Code
201	Do you know about common chronic non communicable diseases?	1. yes 2. no	
202	If yes, mention some of common chronic non communicable diseases.	1. hypertension 2. heart diseases 3. diabetes mellitus 4. chronic respiratory diseases 5. cancer 6. others/specify	
203	Do you think CNCDs are a health problem in your area?	1. yes 2. no 77. I don't know	
	CNCDs are severe.	1. Strongly disagree	

204		2. disagree 3. neutral 4. agree 5. strongly agree	
205	Is there any difference between chronic non communicable diseases & communicable diseases?	1. yes 2. no 77. I don't know	
206	If yes, can you tell me their major difference?	1. communicability 2. duration of illness 3. curability 4. preventability 5. Other specify 77. I don't know	
207	Do you know some common risk factors which predispose for CNCDs?	1. yes 2. no	
208	If yes, which risk factors do you know?	1. over weight/obesity 2. being physically inactive 3. high salt, sugar & fat intake 4. less intake of fruit & vegetables 5. smoking 6. heavy drink of alcohol 7. genetically acquired 8. other / specify	
209	In your opinion do you perceive that you are at risk of developing CNCDs?	1. yes 2. no	
210	If yes, what is your reason?	1. I'm over weight 2. I'm smoker 3. I drink alcohol	

		4. There is a history of chronic diseases in my family 5. other/specify	
211	Chronic non communicable diseases are curable.	1. Strongly disagree 2. Disagree 3. Neutral 4. agree 5. strongly agree	
212	Chronic diseases can be prevented	1. Strongly disagree 2. Disagree 3. Neutral 4. agree 5. strongly agree	
213	If strongly agree, agree; what methods do you know to prevent CNCDs?	1. exercise 2. less intake of salt, sugar & fat 3. frequent consumption of fruits & vegetables 4. avoiding smoking 5. avoiding binge alcohol drink 6. other/specify 77. I don't know	
214	What prevention method(s) do you currently use to prevent CNCDs?	1. regular exercise 2. having healthier diet 3. avoiding smoking & heavy drinking 4. I don't take any preventive measure 5. other/specify	

215	What was your reason for preferring the above mentioned preventive methods?	1. It is easy to do 2. I perceive it as important 3. It doesn't incur cost 4. It is my hobby 5. Other/ specify 77. I don't know	
216	Have you ever received information on CNCDs?	1. yes 2. no	
217	If yes, from where did you get the information?	1. Family 2. health professionals 3. Religious leaders 4. peers 5. Mass medias 6. school teachers 7. books 8. others/specify	
218	In your opinion which age group is more vulnerable to CNCDs?	1. all age groups 2. children 3. youths 4. adults 5. elders 6. other/specify 77. I don't know	
219	How would you assess your present state of health?	1. very good 2. good 3. poor 4. very poor	
220	Do you think screening for CNCDs is essential (Hypertension, Diabetes mellitus)?	1. not essential 2. not very essential 3. essential	

		4. very essential	
221	If yes, When do you think the right time to do so?	1. every 3 month 2. every year 3. when feel ill 77. I don't know	
222	Have you ever a screening for CNCDs? (Your blood pressure, blood sugar level..?)	1. yes 2. no	
223	When was the last time you had the screening?		
224	Have you ever smoked in your life? If no go to Q 234	1. Yes 2. no	
225	Do you smoke at the present time? If no skip to Q234	1. yes 2. not at all	
226	How long it has been since you begin smoking?	1. less than one year 2. 1-5 years 3. more than 5 years 4. other/specify 77. I don't know	
227	How frequent do you smoke?	1. Daily 2. weekly 3. occasionally 4. other/specify	
228	How many cigarettes do you smoke on an average per day?		
229	Would you like to stop smoking?	1. yes 2. no 3. I'm not sure	
230	If you would try to stop smoking, do	1. yes	

	you think you would be successful?	2. no 3. I'm not sure	
231	Have you ever tried seriously to stop smoking and been without smoking for at least 24 hours?	1. yes 2. not at all	
232	If so, when was the last time?		
233	Are you concerned about harmful consequences that smoking can have on your health?	1. very concerned 2. somewhat concerned 3. not much concerned 4. not concerned at all	
234	If yes, What are the common harmful consequences of tobacco smoking on health?		
235	How do you understand by what a healthier diet mean?		
236	What is your common diet composed of?	1. more vegetables & fruits 2. cereals & legumes 3. meat & other animal products 4. All of the above 5. other/ specify	
237	What type of oil or fat is most often used for meal preparation in your household?	1. vegetable oil 2. Lard or suet 3. Butter 4. Margarine 5. other 6. none 77. I don't know	
238	In a typical week, how frequent do you	1. every day	

	eat fruit & vegetable?	2. Three times a week 3. twice a week 4. once a week 5. I don't eat 6. other/specify	
239	If your answer for the above question is "I don't eat" what was your reason?	1. I dislike to eat fruit & vegetables 2. I have no the custom 3. It is taboo in our culture 4. it is not easily available 5. it is cost is high 6. Other/specify	
240	In your opinion do you think your diet is healthier?	1. yes 2. no 77. I don't know	
241	If your answer for the above Q is no what is your reason	1. lack of money 2. lack of time for preparation 3. the food items are not easily available 4. other/specify	
242	Have you ever tried to make your diet healthier?	1. yes 2. not at all	
243	If yes, Since when?		
244	Have you ever drink any kind of alcohol? If no go to Q 251	1. yes 2. no	
245	Do you drink alcohol at present? (with in the past 12 months) if no go to Q 51	1. yes 2. no	
246	During the past 12 months, how frequently have you had at least one alcoholic drink?	1. Daily 2. 5-6 days per week 3. weekly	

		4. 1-3 days per month 5. once a month 6. occasionally 7. other/specify	
247	Which alcoholic beverage you usually drink?	1. Beer 2. wine 3. arekie 4. whisky 5. other/specify	
248	Over the past 2 weeks, how many occasions have you had [5 (male)/4 (female)] or more drinks in a row?	1. none 2. once 3. twice 4. 3-5 times 5. >5 times	
249	Compared with 12 months before, have you	1. decreased the amount of alcohol intake 2. increased the amount of alcohol in take 3. no change in level of alcohol in take 4. other/ specify 77. I don't know	
250	If your answer is not 1 for the above question, Do you like to reduce drinking alcohol?	1. yes 2. no	
251	Do you think alcohol has negative consequence on health?	1. yes 2. no	
252	What are the common negative effects of heavy alcohol drinking on health?	1. predispose to chronic diseases 2. Gastritis 3. other/specify	

		77. I don't know	
253	Do you think being an over weight has a harmful consequence on health?	1. yes 2. no 77. I don't know	
254	If your answer is yes for the above Q, what are the common harmful consequences on health?		
255	Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like [carrying or lifting heavy loads, digging or construction work] for at least 10 minutes continuously? If no go to Q 262	1. Yes 2. no	
256	In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	1. one day 2. two days 3. 2-4 days 4. 5-7days	
257	How much time do you spend doing vigorous-intensity activities at work on a typical day?		
258	Does your work involve moderate-intensity activity that causes small increases in breathing or heart rate such as brisk walking [or carrying light loads] for at least 10 minutes continuously? If no go to Q265	1. yes 2. no	
259	In a typical week, on how many days do you do moderate-intensity activities as part of your work?	1. one day 2. two days 3. 2-4 days	

		4. 5-7days	
260	How much time do you spend doing moderate-intensity activities at work on a typical day?		
261	Do you walk or use a bicycle for at least 10 minutes continuously to get to and from places? If no go to Q 268	1. yes 2. no	
262	In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	1. one day 2. two days 3. 2-4 days 4. 5-7days	
263	How much time do you spend walking or bicycling for travel on a typical day?		
264	Do you do any vigorous-intensity sports, fitness or recreational (leisure) activities that cause large increases in breathing or heart rate like [running or football] for at least 10 minutes continuously? If no go to Q 271	1. yes 2. no	
265	In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational *(leisure)* activities	1. one day 2. two days 3. 2-4 days 4. 5-7days	
266	How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?		
267	Do you do any moderate-intensity sports, fitness or recreational *(leisure)* activities that cause a small increase in breathing or heart rate such as brisk walking, [cycling, swimming, and	1. yes 2. no	

	volley ball] for at least 10 minutes continuously? If no go to Q273		
268	How much time do you spend doing moderate-intensity sports, fitness or recreational *(leisure)* activities on a typical day?		
269	How much time do you usually spend sitting or reclining on a typical day?		
270	How would you rate your current (physical) fitness status?	1. very good 2. fairly good 3. satisfactory 4. fairly poor 5. very poor	
271	Do you think that physical activity is determinant to health?	1. yes 2. no	
272	If yes to the above Q, How?		

This is the end of the questionnaire. Thank you very much for taking time to answer these questions. We appreciate your help.

Time (beginning & ending) of the interview: _____:_____

Interviewer signature_____

በአዲስ አበባ ከተማ የአራዳ ክፍለ ከተማ ነዋሪ የሆኑ አዋቂ ሰዎች ተላላፊ ያልሆኑ በሽታዎችን በመከላከል ዙሪያ ያላቸውን እውቀት፣ ዝንባሌ እና ተግባርን ለመዳሰስ የተዘጋጀ መጠይቅ

የመጠይቁ መለያ መረጃ

001.የመጠይቁ መለያ ቁጥር...................................

002.መጠይቁ የተደረገበት ቀን...................................

003.ወረዳ...

004.ቀጠና...

005. የቤት ቁጥር..

መግቢያ

ጤና ይስጥልኝ ስሜ...ይባላል፡ በጂማ ዩኒቨርሲቲ የሕብረተሰብ ጤና ክፍል እየተካሄደ ላለው የዳሰሳ ጥናት መረጃ ሰብሳቢ ነኝ፡ በዚህ ክፍለ ከተማ ውስጥ እድሜያቸውከ 25 -64 ዓመት የሆኑ ሰዎችን ተላላፊ ያልሆኑ በሽታዎችን በመከላከል ዙሪያ ያላቸውን እውቀት፣ ዝንባሌ እና ተግባርን በተመለከተ ቃለ መጠይቅ እያደረግን ሰሆን፤ ዓላማው ተላላፊ ያልሆኑ በሽታዎችን ለመከላከል የሚያስችሉ ስልቶችን ለመንደፍ የሚጠቅም መረጃን ለማግኘት ነው፡ እንወዳለን! ስለዚህም የርስዎ ጥያቄዎችን በሐቀኝነትና በታማኝነት ምላሽ መስጠት ለጥናቱ በጣም ጠቃሚ ነው፡ ይህን ዓላማ ለማሳካት ለተዘጋጁት ጥያቄዎች የሚሰጡን ትክክለኛ እና በጣም ጠቃሚ ስለሆኑት መልስዎት በቅድሚያ ልናመሰግኖት እንወዳለን

ምስጢርን የመጠበቅና የፍቃደኝነት መግለጫ

በቅድሚያ በዚህ ጥናት ውስጥ ጥያቄዎችን በመመለስ ተሳታፊ እንዲሆኑ ፍቃደኛ እጠይቃለሁ፡ ከእርስዎ የምናገኘውን መረጃና አስተያየት ከጥናቱ አገልግሎት ዉጪ ለሌላም በምንም ሁኔታ አንገልጽም፡ የሚሰጡን ማንኛውም ዓይነት መልስ በምስጢር እንይዛለን፡ ስምዎን ወይም የእርሶን ማንነት የሚገልጹ ማናቸውም ዓይነት ነገሮች አንጽፍም፡ በመጠይቁ ወቅት መመለስ የማይፈልጉትን ማንኛውንም ዓይነት ጥያቄ ማለፍ ወይም በማንኛውም ሰዓት ማቋረጥ ይችላሉ መጠየቁ በፍቃደኝነት ላይ የተመሠረተ ስለሆነ፤ በመጠይቁ በመሳተፊዎ ወይም ባለመሳተፍዎ ለአንዳንድ ጥያቄዎች ምላሽ ባለመስጠትዎ እርሶ ወይም ቤተሰብዎ የሚፈልጉትን የጤና አገልግሎቶች መጠቀም ላይ የሚያስከትለው ምንም ችግር እንደማይኖረው ልናረጋግጥሎት እንወዳለን፡፡ ሆኖም ከላይ የጠቀስንለትን ዓላማ ለማሳካት የርሶ ቀና ትብብር በእጅጉ የስፈልገናል፡ መጠየቁ ከ 20-30 ደቂቃ ሊወስድ ይችላል በጥናቱ ለመሳተፍ ይችላሉ

መልሱ አዎ ከሆነ ወደቀጣዩ ጥያቄ እለፍ/ፊ

መልሱ አልችልም ከሆነ አመሰግናለሁ/ሽ መጠይቁን አቋርጥ/ጪ

....

የተሳታፊው ፈቃደኝነት ለሚጋጠሩ/ጧ የመረጃ ሰብሳቢው/ዋ ፊርማ

ክፍል አንድ- አጠቃላይ ማህበራዊና ኢኮኖሚያዊ መረጃ

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ኮድ
101	የተጠያቂው ጾታ	1. ወንድ 2. ሴት	
102	የቤተሰብ ብዛት		
103	እድሜ	............ዓመት	
104	የየትኛው ብሔረሰብ አባል ኖት?	1. አማራ 2. ኦሮሞ 3. ትግሬይ 4. ጉራጌ 5. ስልጤ 6. ሌላ ከሆነ ይግለጹ	
105	የጋብቻ ሁኔታ	1. ያገባ 2. ያላገባ 3. የፈታ 4. ሚስት/ባል የሞተበት/ባት	
106	ሥራዎ ምንድን ነው?	1. የመንግሥት ሠራተኛ 2. የግል ድርጅት ተቀጣሪ 3. የቀን ሠራተኛ 4. የቤት እመቤት 5. በግል ሥራ	

		የተሰሚ 6. ለለ ካለ ይግለጹ	
107	የትምህርት ሄታ	1. ያልተማ 2. የመጀመፂያ ደረጃን ያጠናቀቀ 3. ሀለተኛ ደረጃን ያጠናቀቀ 4. ሀርተፊክት 5. ዲፕሎማ 6. የመጀመፂያ ደግሪና ከዚያ በላይ	
108	ሃያምኙትም ምንደን ነው?	1. አቶያክስ 2. መክለም 3. ፕሮፔስታንት 4. ካቶለክ 5. ለለ ካለ ይግለጹ	
109	የቤተሰቡ ወርሃዊ የገበም መጠፅ	..... ኢት. ብር	

ክፍል ሀለት፡ ተላላፊ ያልሆኑ በሽታምኞን በመከላከል ዙሪያ ያላቸወን እወቅት፣ ዝንባሌ እና ተግባርን ለመዳሰስ የተዘጋጀ መጠይቅ

	ጥያቄምኞ	አማራጭ መልሶች	ኮድ
201	በዋነኝነት የማክሱ የረጅም ጊዜ ተላላፊ ያልሆኑ በሽታምኞን ያወቃሉ ?	1. አም 2. አላወቅም	
202	መልስም አም ከሆነ የተወሰኑ ይጥቀሱ: :	1. የደም ግፊት/ብዘት 2. የልብ በሽታ 3. የስኳር በሽታ 4. የቆየ የመተንፈሻ	

		አካል ችግር 5. ነቀርሳ 6. ለለ ካለ ይጥቀሱ	
203	የረጅም ጊዜ ተላላፊ ያልሆኑ በሽታዎች በናንተ አከባቢ ዋና የህብረተሰብ የጤ ችግር ነው ብለው ያምናለ?	1. አዎ 2. አይደለም 77. አላወቅም	
204	የረጅም ጊዜ ተላላፊ ያልሆኑ በሽታዎች አደገኛ ናቸው: :	1. በፍጹም አልስማማም 2. አልስማማም 3. በመስማማትና ባለመስማማት መካከል ነኝ 4. እስማማለሁ 5. በጣም እስማማለሁ	
205	በተላላፊ እና ተላላፊ ባልሆኑ በሽታዎች መካከል ልዩነት አለን?	1. አዎ 2. የለም 77. አላወቅም	
206	መልስዎ አዎ ከሆነ ዋና ልዩነታቸዉ ይግለጹ	1. ተላላፊ መሆን አለመሆናቸው 2. በህመም ጊዜ ቆይታቸው 3. በመዳን ወይም ያለመዳን ሂኔታቸው 4. መከላከል በመቻሉ ወይም ባለመቻሉ 5. ለለ ካለ ይግለጹ	
207	ተላላፊ ላልሆኑ የረጅም ጊዜ በሽታዎች ለያገልጉየሚሹ ነገሮች መዋሪቸዉ ያውቃሉን?	1. አዎ 2. አላወቅም	
208	መልስዎ አዎን ከሆነ የሚወቱትን አጋላጭ ነገሮች ይጥቀሱ	1. ከመጠጥ ያለፈ ወፍረት 2. እንቅስቃሴ አለማድረግ	

		3. ጨው ስኳርና ቅባት የበዛባቸውን የምግብ ዓይነት አዘውትሮ መጣብ 4. ፍራፍሬዎችና አትክልቶችን በበቂ ሁኔታ አለመጣብ 5. ትንባሆ ማጨስ 6. በከፍተኛ መጠን አልኮል መጠጣት 7. በዘር የሚወረስ 8. አላወቅም 9. ለለ ካለ ይጥቀሱ	
209	በእርስዎ አስተሳሰብ ተላላፊ ላልሆኑ የረጅም ጊዜ በሽታዎች ተጋላጭነኝ ብለው ያስባሉ?	1. አዎ 2. አይደለሁም	
210	መልስዎ አዎን ከሆነ ምክንያቶ ምንድን ነው?	1. የህመት ክብደቱ ከፍተኛ ስለሆነ 2. ስለሚጨስ 3. መጠጥ ስለያዘጣ 4. በቤተሰባችን ወስጥ ተላላፊበልሆኑ የረጅም ጊዜ በሽታዎች ታመጣ ስላለ 5. ለለ ካለ ይግለጹ	
211	ተላላፊ ያልሆኑ የረጅም ጊዜ በሽታዎች ፊጠት አላቸው: :	1. በፍጹም አልስማማም 2. አልስማማም 3. በመልማማትና ባለመልማማት መካከል ነኝ	

		4. እስማማለሁ 5. በጣም እስማማለሁ	
212	ተላላፊ ላልሆኑ የረጅም ጊዜ በሽታዎች መከላከል ያቻላል: :	1. በፍጹም አልስማማም 2. አልስማማም 3. በመስማማትና ባለመስማማት መካከል ነኝ 4. እስማማለሁ 5. በጣም እስማማለሁ	
213	መከላከያ በጣም እስማማለሁ እና እስማማለሁ ከሆነ ከሚጠቀሷቸው የመከላከያ ሜገዶች የተወሰኑትን ይጥቀሱ: :	1. እስፖርት መስራት 2. የጨው፣ የስኳር እና የቅባት መጠን መቀነስ 3. አትክልትና ፍራፍሬን አዘውትሮ መመገብ 4. ትነባሆ አለማጨስ 5. ከመጠን ያለፈ አልኮል አለመጠጣት 6. ሌላ ካለ ይጥቀሱ 77. አለወቅም	
214	በአሁን ሰዓት እረስዎትን ተላላፊ ካልሆኑ የረጅም ጊዜ በሽታዎች ለመከላከል የትኛዉን ዘዴ እየተጠቀሙ ይገኛሉ?	1. እስፖርት መስራት 2. ጤማ አመጋገብ መመገብ 3. አለጨሰም 4. መጠኑ አልጠጣም 5. የትኛዉንም የመከላከያ ሜገድ አልጠቀምም 6. ሌላ ካለ ይግለጹ	
215	ከላይ የጠቀሱትን መከላከያ ሜገድ ለምን እንደመረጡ	1. ለሞረግ ቀላል ስለሆነ	

	ያስረዱ፡	2. በጣም ጠቃሚ ነው ብዬ ስላመሳኩ 3. ወጪስለማወጠይቅ 4. እንደልምድ ስለወሰደኩት 5. ለለ ካለ ይግለጹ	
216	ተላላፊ ያልሆኑ የረጅም ጊዜ በሽታምኞን በተመለከተ መዚጃምኞን አማኝተው ያወቃለ?	1. አዎ 2. አላወቅም	
217	መልሶም አዎ ከሆነ ከየት?	1. ከቤተሠላ 2. ከጤ ባለሣዎምኞ 3. ከሃይማኖት መፅሖኞ 4. ከጓደኞኞ 5. ከማናኛ ብዙኃን 6. ከመፃህራን 7. ከመጻህፍት 8. ለለ ካለ ይግለጹ	
218	በእርስዎ ማምት ተላላፊ ላልሆኑ የረጅም ጊዜ በሽታምኞ በደበልዮ ተጋላጭ የሆኑት የሕረተሰብ ክፍሎች የትኞቹ ይመሰለታል?	1. በሀለንም የዕድሜ ገደብ የሚኙ ሀምኞ ተጋላጭታቸው እኩል ነው 2. ሕፃናት 3. ወጣቶች 4. ጎልማሶች 5. አረጋወያን 6. ለለ ካለ ይጥቀሱ 77. አላወቅም	
219	አሁን ያለበት የጤ ሁኔታን እንደት ይገልጹታል?	1. በጣም ጥሩ 2. ጥሩ	

		3. መጣፎ 4. በጣም መጣፎ	
220	ተላላፊ ላልሆኑ የረጅም ጊዜ በሽታዎች ሳያታመሙበፊት መኖመኖ አስፈላጊ ነው ብለው ያምናሉ?	1. በጣም አያስፈልግም 2. አያስፈልግም 3. መካከለኛ 4. የስፈልጋል 5. በጣም ያስፈልጋል	
221	መልስዎ አዎ ከሆነ በየስንት ጊዜ መኖመኖ ያስፈልጋል ይላለ?	1. በየ ሃስት ወሩ 2. በየ ዓመቱ 3. የህመም ስሜት ሲኖር 77. አላወቅም	
222	ተላላፊ ያልሆኑ የረጅም ጊዜ በሽታዎች በተመለከተ ምርመራ አደርገው ያውቃለ?	1. አዎ 2. አላወቅም	
223	ለመጪሻ ጊዜ ተላላፊ ያልሆኑ የረጅም ጊዜ በሽታዎች በተመለከተ ምርመራ ያደረገብት ጊዜ መቼ ነው?	_____	
224	በሕያወት ዘመንዎ ትንባሆ አጨሰው ያውቃለ? መልስዎ በፍጹም ከሆነ ወደ ጥያቄ 234 ይለፉ	1. አዎ 2. በፍጹም	
225	መልስዎ አዎ ከሆነ በአሆት ሀዓት ያጨሌለ? መልስዎ አላጨሌም ከሆነ ወደ ጥያቄ 234 ይለፉ	1. አዎ 2. አላጨሌም	
226	ሜጨሌ ከጀመፋ ምን ያህል ጊዜ ሆነዎት?	1. ዓመት አያዛላወም 2. 1-5 ዓመት 3. ከ 5ዓመት በላይ 4. አላስታወስም 5. ለለ ካለ ይግለጡ	
		1. በየቀኑ	

227	በምን ያህል ጊዜ ያጨሳሉ?	2. በሳምንት 3. አንዳንዴ 4. ለለ ካለ ይግለጹ	
228	በቀን በአማካኝ ምን ያህል ሲጋራ ያጨሳሉ?		
229	ሜጨ ለማቆም ያስባለ?	1. አዎ 2. አላስብም 3. እርግጠኛ አይደለሁም	
230	ሜጨ ለማቆም በ፶ክሩ ይሳካልኛል ብለው ያስባለ?	1. አዎ 2. አላስብም 3. እርግጠኛ አይደለሁም	
231	ሜጨ ለማቆም መክራ አደርገው ያወቃለ(ሳያጨሱ ለ24 ሀዓት) ቆይተው ያወቃለ?	1. አዎ 2. አላወቅም	
232	ካወቱ መች እንደሆነ ይንገሩን		
233	ሲጋራ ሜጨዎ ለጤዎ ጠንቅ መሆኑ ያሳስቦታል?	1. በጣም ያሳስበኛል 2. አልፎለፎ ያሳስበኛል 3. ብዙም አያሳስነኝም 4. ፊጽሞ አስቢው አላወቅም	
234	ሲጋራ ሜጨ ከሚጀስከተለው የጤ ጠንቆች አንዳነ ዶቹን ይጥቀሰልኝ: :	_____ _____ _____	
235	ጤማ አመጋብ ማለት ምን ማለት ነው?		
236	በአብዛኛወነ የሚጣበት ምንደን ነው?	1. አብክልትና ፍራፍሬ 2. እህልና ጥራጥሬ 3. ሥጋና ለለች የእንስሳት	

		ተዋፅዖዎችን 4. ለለ ካለ ይጥቀሱ	
237	በቤትዎ ወቅጥ ምግብ ለማዘጋጀ የሚጠቀሙት የዘይት ዓይነት ምን ዓይነት ነው?	1. የአትክልት ዘይት 2. የእንስሳት ስብ 3. ቅቤ 4. የገበታ ቅቤ 5. ምንም አልጠቀምም 6. ለለ ካለ ይግለጹ 77. አላወቅም	
238	በሣምንት ወቅጥ አትክልትና ፍራፍሬን በምን ያህል ጊዜ ይመገባለ?	1. በየቀኑ 2. በሣምንት ሦስት ጊዜ 3. በሣምንት ሀለት ጊዜ 4. በሣምንት አንድ ጊዜ 5. ፈጽሞ አልመገብም 6. ለለ ካለ ይጥቀሱ	
239	ከላይ ለተጠየቀው ምላሽዎ ፈጽሞ አልመገብም ከሆነ ምክንያቶ ምንደን ነው?	1. አትክልትና ፍራፍሬ መመገብ አልወድም 2. ልምዱ የለኝም 3. በባህላችን አትክልትና ፍራፍሬ መመገብ የተከለከለ ነው 4. አትክልትና ፍራፍሬ በቀላሉ ስለማገኝ 5. አትክልትና ፍራፍሬ ዋጋ ከፍተኛ ስለሆነ 6. ለለ ካለ ይግለጹ	

240	እንደርስዎ አስተያየት አመጋብዎ ጠፍማ ነው ብለው ያስባለ?	1. አዎ 2. አይደለም 77. አላወቅም	
241	ከላይ ለተጠየቀው ምላሽዎ አይደለም ከሆነ ምክንያቶ ምንድን ነው?	1. የገንዘብ እጥረት 2. የጊዜ እጥረት 3. የአቅርቦት ችግር 4. ለለ ካለ ይጥቀሱ	
242	ምግብዎን ጠፍማ ለማጁረግ ጣክረው ያውቃለ?	1. አዎ 2. አላወቅም	
243	ከላይ ለተጠየቀው ምላሽዎ አዎ ከሆነ ከመቼ ጀምሮ?	_____	
244	ሜኛውንም ዓይነት አልኮል መጠኮ ጠጮተው ያውቃለ? ምላሽዎ አላወቅም ከሆነ ወደ ጥያቄ 251 ይለፉ	1. አዎ 2. አላወቅም	
245	በአሆኑ ጊዜ መጠኮ ይጠጣለ? ምላሽዎ አልጠጣም ከሆነ ወደ ጥያቄ 251 ይለፉ	1. አዎ 2. አልጠጣም	
246	ባለፉት አስራሀለት ወራት (አንድ ዓመት) ወትጥ በምን ያህል ጊዜ ቢያንስ አንድ ጊዜ አልኮል መጠኮ ጠጮተዋል?	1. በየቀኑ 2. በሣምንት ለ5-6ቀናት 3. በየሣምንቱ 4. በወር 1-3 ቀናት 5. በወር አንዴ 6. አልፎ አልፎ 7. ለለ ካለ ይግለጹ	
247	በብዛት የተኛውን ዓይነት መጠኮ ይጠጣለ?	1. በራ 2. ወይን 3. አረቂ 4. ወትኪ 5. ለለ ካለ ይግለጹ	
		1. ምንም አልጠጣህም	

248	ባለፉት አሥሩ አራት ቀናት(ሀለት ሳምንት) ወትጥ ለምን ያህል ጊዜ ለወንዶች 5/ለሴቶች 4 መላከያ መጠቀ በተከታታይ ጠየቀዋል?	2. አንድ ጊዜ 3. ሀለት ጊዜ 4. 3-5 ጊዜ 5. ከ 5 ጊዜ በላይ	
249	የአሀትን ጊዜ ካለፉት 12 ወራት ጋር ሲያነጻጸሩት	1. መጠጣት ቀንሰዋል 2. መጠቀ መጠጣት ጨምረዋል 3. በመጠቀ አወካሰዱ ላይ ለወጥ የለም 4. ለለ ካለ ይግለጹ	
250	ከላይ ለተጠየቁት ምላሽዎ ተራ ቁጥር 1ካልሆነ፤ መጠቀ መጠጣት ለመቀነስ ያደረጉት?	1. አዎ 2. አልፈልግም	
251	አልኮል መጠቀ በጤዎ ላይ እክል ያስከትላል ብለው ያስባለ?	1. አዎ 2. አላስብም	
252	መጠቀ መጠጣት በጤ ላይ ከሚያስከትለት ጉዳቶች የተወሰነትን ይጥቀሱ?	1. ተላላፊ ላልሆኑ የረጅም ጊዜ በሽታዎች ያጋልጣል 2. የጨጬራ መቆጣት 3. ለለ ካለ ይግለጹ	
253	ከመጠኔ በላይ መጽረት ለጤ ጠቅ ነው ብለው ያስባለ?	1. አዎ 2. አላስብም	
254	ከላይ ለተጠየቁት ምላሽዎ አዎ ከሆነ ከመጠኔ ያለፈ መጽረት ከሚያስከትላቸው የጤ ቀወሶች መላከል የተወሰነትን ይጥቀሱ: :		
255	ሥሪዎ ከፍተኛ ንልበት የሚያቅ ነው? (ከፍተኛ ንልበትን የሚያቅ ሥሩ ሰባል በከፍተኛ መልኩ ትንሳሽ	1. አዎ 2. አያደለም	

	የሚሳፕር ስራ ለምሳሌ ከባድ እቃ መሸከም፣ ዳገት መውጣት፣መቀሬር ... ቢያንስ ለአስር ደቂቃ በተከታታይ መቅራት) ምላሽም አይደለም ከሆነ ወደ ጥያቄ 262 ይለፉ		
256	በሣምንት ውስጥ ለምንያህል ቀን ከፍተኛ ጉልበት የሚጠይቅ ሥራ ይሰራሉ?	1. ለአንድ ቀን 2. ለ2-4 ቀናት 3. ከ5 -7 ቀናት	
257	በቀን ውስጥ ለምንያህል ጊዜ(ሰዓት፣ ደቂቃ) ከፍተኛ ጉልበት የሚጠይቅ ሥራ ይሰራሉ?		
258	ሥራም መካከለኛ ጉልበት የሚጠይቅ ነው? (መካከለኛ ጉልበትን የሚጠይቅ ሥራ ሰባል በመዛት የትንፋሽ መቀረፈጥን የሚያስከትሉ ሥራዎች ማለት ነው ለምሳሌ ቀለል ያሉ እቃዎችን መሸከም...) ምላሽም አይደለም ከሆነ ወደ ጥያቄ 265 ይለፉ	1. አዎ 2. አይደለም	
259	በሣምንት ውስጥ ለምንያህል ቀን መካከለኛ ጉልበት የሚጠይቅ ሥራ ይሰራሉ?	1. ለአንድ ቀን 2. ለ2-4 ቀናት 3. ከ5 -7 ቀናት	
260	በቀን ውስጥ ለምንያህል ጊዜ(ሰዓት፣ ደቂቃ) ከፍተኛ ጉልበት የሚጠይቅ ሥራ ይሰራሉ?		
261	ከቦታ ወደ ቦታ ለማቀላቀስ በእግርም ወይም በሳይክል ቢያንስ ለአስር ደቂቃ ይሄዳሉ? ምላሽም አይደለም ከሆነ ወደ ጥያቄ 268 ይለፉ	1. አዎ 2. አልሄደም	
262	በሣምንት ውስጥ ለምን ያህል ቀን በእግርም ወይም	1. ለአንድ ቀን 2. ለ2-4 ቀናት	

	በሳይክል ቢያንስ ለአስር ደቂቃ ይሄዳሉ?	3. ከ5 -7 ቀናት	
263	በቀን ዉስጥ ለምን ያህል ጊዜ(ሁዓት፣ ደቂቃ) በእግርዎ ወይም በሳይክል ይጓዛሉ?		
264	በእረፍት ወይም በመዝናኛ ጊዜዎት ከባድ የሆኑ የእስፖርት ዓይነቶችን ይሰራሉ? (ከባድ የሆኑ እስፖርቶች ሰበል ከፍተኛ የትንፋሽ መቆራረጥን የሚያመጡ እንቅስቃሴዎች ለምሳሌ ሩጫ የእግር ኳስ… ሳያቋርጡ ቢያንስ ለ 10 ደቂቃ መጫወት) ምላሽዎ አይደለም ከሆነ ወደ ጥያቄ 271 ይለፉ	1. አዎ 2. አልሰራም	
265	በሣምንት ለምን ያህል ቀን ከባድ እስፖርታዊ እንቅስቃሴ ያደርጋሉ?	1. ለአንድ ቀን 2. ለ2-4 ቀናት 3. ከ5 -7 ቀናት	
266	በቀን ለምን ያህል ጊዜ ከባድ እስፖርታዊ እንቅስቃሴ ያደርጋሉ?		
267	በእረፍት ወይም በመዝናኛ ጊዜዎት መካከለኛ ክብደት ያላቸዉን የእስፖርት ዓይነቶችን ይሰራሉ? (መካከለኛ ክብደት ያላቸው እስፖርቶች ሰበል ሓከለኛ የትንፋሽ መቆራረጥን የሚያመጡ እንቅስቃሴዎች ለምሳሌ በፍጥነት መራመድ፣ ሳይክል መንዳት፣መዋኘት፣ ቫሊ ቦል መጫወት…) ምላሽዎ አይደለም ከሆነ ወደ ጥያቄ 273 ይለፉ	1. አዎ 2. አልሰራም	
268	በዕረፍት/ በመዝናኛ ቀንዎት ምን ያህል ጊዜ(ሁዓት/ደቂቃ) መካከለኛ ክብደት ያላቸዉን እስፖርቶች ይሠራሉ		
269	በቀን ዉስጥ ለምን ያህል ጊዜ ተቀምጠው ያሳልፋሉ? (መጽሐፍ ማንበብ፣ በአወቶብስ ተሳፍሮ መሄድ፣ ቴሌቭዥን መመልከት…)		
270	በአሁን ሁዓት ያለትን የሁዉነት አቋም እንደት ይመዝኑታል?	1. በጣም ጥሩ 2. ጥሩ 3. አጥጋቢ	

		4. ብዙም የማይደስት 5. በጣም የደከመ	
271	የሀሞት እንቅስቃሴ ለጤነት አስፈላጊ ነው ብለው ያምናሉ?	1. አዎ 2. አላምንም	
272	ከላይ ለተጠየቁት ምላሽዎ አዎ ከሆነ በምን መልኩ		

ማጠይቁ እዘህ ላይ ያበቃል:: ጊዜዎን መልዎት አደርገው ጥያቄዎችን ስለመለሱልን ከልብ እናመሰግኖታለን! ትብብርዎን እናደንቃለን!

ማጠይቁ የተጀመረበትና ያለቀበት ጊዜ ----------: ----------
የመረጃ ሰብሳቢው ፊርማ----------