PREVALENCE OF NONCOMMUNICABLE DISEASE RISK FACTORS

STEPS NATIONAL SURVEY

ARMENIA

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PREVALENCE OF NONCOMMUNICABLE DISEASE RISK FACTORS IN THE REPUBLIC OF ARMENIA

STEPS NATIONAL SURVEY 2016

YEREVAN
2018

UDC 614

NCD STEPS National Survey, Armenia, 2018

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ABSTRACT

This publication reports the results of the National Household Health Survey on the Prevalence of Noncommunicable Disease Risk Factors in Armenia, conducted in 2016-2017 using the WHO-approved STEP- wise survey method. The main objectives of the survey were: to determine the prevalence of the most common behavioral and biological risk factors for noncommunicable diseases (NCD) in the general population aged 18 -69 years; and to determine differences in the prevalence of risk factors between the sexes, two age groups and urban-rural locations. The risk factors were grouped into behavioral factors understood as modifiable (tobacco use, harmful alcohol consumption, low consumption of fruits and vegetable s, and physical inactivity etc.) and biological factors considered controllable (hypertension, overweight and obesity, high blood sugar, increased total cholesterol, excess sodium intake, etc.). The results obtained in the study show the current prevalence of NCD risk factors among the Armenian population. In addition to obtaining valuable information on NCD risk factors for people of different age groups, both sexes and residences, the results of the survey provide a significant input for policy-makers and enable monitoring the existing policies and programs.

KEY WORDS

NONCOMMUNICABLE DISEASES
RISK FACTORS
ARMENIAN
PREVENTION AND CONTROL
STEPWISE APPROACH

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CONTENT

ABBREVIATIONS

ABP	arterial blood pressure
ADHS	Armenia Demographic Health Survey
AH	arterial hypertension
BMI	body mass index
CC	cervical cancer
CVD	cardiovascular disease
DBP	diastolic blood pressure
DM	diabetes mellitus
EA	enumeration area
EBP	elevated blood pressure
GPAQ	General Physical Activity Questionnaire
HBSC	Health behavior in school-aged children survey
HDL	high-density lipoprotein
HLC	high level of cholesterol
HPV	human papillomavirus
HR	heart rate
HSPA	Health System Performance Assessment
IFG	impaired fasting glycaemia
IHD	ischemic heart disease
LC	level of cholesterol
LG	level of glucose
MoH	Ministry of Health
NCD	noncommunicable disease(s)
NGO	non-governmental organization
NHIAC	National Health Information Analytical Center
NPR	National Population Registry
Pap	smear cytology cervical screening (Papanicolaou test)
PDA	personal digital assistant
PHC	primary healthcare
RA	Republic of Armenia
SBP	systolic blood pressure
TC	total cholesterol
USAID	United States Agency for International Development
WHO	World Health Organization
YPLL	years of potential life lost
CSD	Circulatory system diseases
MET	Metabolic equivalent
mm HG	Millimeter of mercury
CI	Confidence interval

FOREWORD

Strengthening and improvement of population health is the priority and overarching goal of every health system in the world. One of the cornerstones is the implementation of preventive, interdisciplinary and multi-level measures addressing NCD risk factors.

The Declaration on Prevention and Control of Noncommunicable Diseases is the main call of the 21st century and the key factor to meet the goals of the European Health 2020 policy framework.

Recognizing the responsibility of the states in reducing the NCD burden the WHO underlines the importance of inter-departmental cooperation, particularly engagement of all social groups in the effective implementation of NCD prevention and control activities.

In 2013 the WHO Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013-2020 was endorsed by the heads of 190 member states, among them the Republic of Armenia, at the World Health Assembly.

In 2014 the UN General Assembly high-level meeting discussed the NCD prevention and control measures, as well as actions to sustain achievements and further steps and goals of the states to reduce the NCD burden.

In 2017 the WHO convened a global conference on NCD. The aim of the conferance was enhancing policy coherence across economy sectors that impact achievement of Target 3.4 of the Sustainable Development Goals: to reduce by one-third pre-mature mortality from non-communicable diseases through prevention and treatment.

The RA national strategy, objectives and challenges of the fight against NCD was presented at the 73rd session of the UN General Assembly in 2018.

NCD prevention and control as well as promotion of healthy lifestyle are the key goals in the health agenda of Government of Armenia.

In Armenia mortality caused by prevalent NCD is similar to that in the Euroapean Region. Statistics suggest that the NCD prevalence and NCD-related mortality has increased 2-3 times over the past 30 years. Recognizing the problem of increasing NCD burden in Armenia, its

topical nature, and substantial economic and social consequences, there was a need of initiating measures to prevent and control NCD, which require considering a complex of strategies. NCD control and prevention depend on detected NCD risk factors.

The Ministry of Health of Armenia makes serious efforts to address the problem of growing NCD burden.

In 2016 the Government Decree approved the “The list of actions for 2016-2020 on control of most prevalent noncommunicable diseases” and an interdisciplinary steering committee on NCD prevention was established. In 2015 the country launched NCD screening programs. Prevention is aimed at improvement and maintenance of healt of the population of RA, reduction of the NCD burden, as well as prevention of complications caused by NCD, improvement of the quality of life, increase of the average healthy life expectancy, reduction of the mortality rate, and development of a surveillance system that dwells on scientifically concrete and modern approaches. Thus, implementation of the strategies of RA Government and programs require profound data on the prevalence of risk factors contributing to non-communicable diseases. Given this background, in 2016 Armenia conducted a national STEPS survey on the prevalence of NCD risk factors, which was based on the WHO methodology.

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INTRODUCTION

Non-communicable diseases (NCD) are one of the leading causes of morbidity, disability and mortality among the adult population of Armenia. Mortality structure of most common NCD in Armenia is similar to that of the European region. Mortality burden due to most prevalent NCD comprises 80% and shows annual increase tendency. Reducing the NCD burden is among the key priorities of the Ministry of Health. NCD prevention and control require coordinated approach and regulation in all sectors, including multidisciplinary and all-level cooperation focused a reduction of the prevalence of NCD risk factors and determinants.

Surveys aimed at early detection of NCD in the population will enable reducing the social and economic burden of these diseases.

To obtain evidence-based information on the prevalence of NCD risk factors in 18-69 years old population of Armenia and to create an effective system for the monitoring of NCD risk factors, the National Institute of Health under the RA Ministry of Health conducted a national STEPS survey with financial and technical assistance of the World Health Organization (WHO).

This Report is of national importance. Being a part of NCD prevention mecanism will urge all stakeholders to commit to participating in the nation-wide mobilization to improve the health of the population of Armenia and to reduce NCD-induced disability and premature mortality rates.

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- Finally, the National Institute of Health for providing assistance throughout the entire survey.

The NCD STEPS survey field work was conducted by the International Human Development Center. A special thank you goes to them.

Assistance and readiness of all respondents greatly contributed to implementation of this survey and preparation of the final report.

Disclaimer

The authors' views expressed in this Report do not necessarily reflect the views of the World Health Organization, the Ministry of Health and the National Institute of Health of the Republic of Armenia.

EXECUTIVE SUMMARY

This was the first national NCD STEPS survey conducted in Armenia. The survey included two phases -preparation and the main survey.

Preparation for the survey was carried out between February and August 2016 and included

- establishment of the Coordinating Committee under the Ministry of Health,
- preparation of the project activities,
- preparation and adjustment of the WHO STEPS Instrument,
- sampling,
- provision of the equipment by the WHO,
- selection of the project team,
- preparation of training materials for data collectors, delivery of the trainings, and
- pilot survey, data summary.

The primary survey was conducted from 13 September through 25 December 2016. Data analysis and design of the report commenced 13 March 2017 and completed on 26 December 2017.

From March through December 2017 the team summarized and analyzed the sample survey data, participated in the WHO training on survey data analysis and report preparation.

The goal of the survey was to evaluate the prevalence of the main noncommunicable disease risk factors in 18-69 age groups to enable more efficient planning of noncommunicable disease control and prevention activities and policies.

The main objectives of the survey conducted among population aged 18-69 years were:

- to determine the prevalence of behavioral risk factors for noncommunicable disease (tobacco use, alcohol abuse, physical activity, diet, overweight and obesity);
- to determine the prevalence of biological risk factors for noncommunicable disease (hypertension, hypercholesterolemia and hyperglycemia, mean sodium consumption); and
- to determine the difference in the prevalence of risk factors across social and demographic groups.

Based on multistage cluster sampling methodology for noncommunicable disease surveillance, a total of 2380 subjects aged 18–69 years participated in the survey and ensured representational data for this age group. Preliminarily, 5 600 addresses were selected in order to ensure the desired target.

KEY FINDINGS OF THE STEPS SURVEY

Of the total number of respondents 27.9% are current smokers and 26.9% daily smokers. Men smokers outnumber women smokers by large margin(51.7% vs. 1.8%). Smoking is 7-9% more prevalent among the population of Yerevan (30.2%), than in rural areas and marz population (21.3% and 23.3% correspondingly). The mean age for people to start smoking is 18.1, however men start smoking at earlier age (17.9 years for men and 25.8 years for women). Three out of ten smokers reported that they have tried to quit smoking.

More than a half (56.1%) of the respondents is secondhand smokers at their homes and 26.7% in closed areas at the workplace, which implies that every second person in the country is a passive smoker. Smokers se manufactured cigarettes in 94.3% of cases. The mean number of cigarettes smoked (daily) by daily smokers is 24.4.

The mean monthly expense related to the purchase of manufactured cigarettes comprises 15.460 drams. This means that smokers spend 185.520 drams per year to damage their health.

The GDP per capita expenses on 100 packs of manufactured cigarettes is 2.5 %.

Only 29% of respondents are lifetime alcohol abstainers, with females nearly twice exceeding males (41%vs.18%). The 10.9% of respondents admited that they had used alcohol during the previous 12 months on irregular basis. During the last 30-days drinkers amounts to 34.4% of respondents, where men (46.1%) drink more often than women (21.5%) and 5.9% are episodically binge drinkers, with men outnumbering women (11.1%vs.0.1%). Consumption of tobacco and alcohol, as NCD risk factor, is problematic among the male respondents.

Despite of the fact that Armenia is famous with its fruits and vegetable s, their consumption is generally low: 76% of respondents reporte that they had consumed fewer than five servings of fruits and vegetables per day. In fact, young men consume fruits and vegetables less than women. Only 24% of respondents eat five and more servings of fruit and vegetables per day.

One in ten respondents do not eat fruits and vegetables at all, and 4-5 in 10 individuals eat 1-2 servings, which does not meet the WHO recommendation. This is not sufficient for healthy diet and increases the risk of NCD development.

This lower-than-expected rate for Armenia also may be caused by the fact that the survey was conducted in October-December. Also, it is noteworthy that, young men consumed fruits and vegetables less than women.

For the preparation of meals households most often (65.6%) used vegetable oil, less butter (27.6%) and lard (1.4%).

The survey revealed that 35.4% of respondents add salt before or while eating and 21.5% believed that they consume too much salt or salty sauce.

According to urinalysis results, on average individuals consume 9.8 grams of salt per day on average (11 grams for men and 8.4grams for women).

According to the WHO recommendation, for salt the average intake is less than 5 grams per day. The target population of the survey consumed almost twice the recommended amount of salt.

One in 5 individuals (21.3%) did not meet WHO recommendations on physical activity for health (with no significant difference between men (22%) and women (20.4%).

The total median time spent carrying out physical activity constituted 224.3 minutes per day (higher among men (242.9 minutes) than women (203.8 minutes). The total median time spent on carrying out physical activity in men was 39.1 minutes more, than women.

According to the survey findings, 33.2% of women in the 30–49 age groups were screened for cervical cancer.

More than half of respondents had received healthy lifestyle advice from a doctor or other health worker during the past three years.

Physical measurements suggest that the mean body mass index (BMI ≥25 kg/m2) was 25.8 kg/m2, and the mean waist circumference was 88 cm for women and 92.7 cm for men. Every second respondent (48%) was overweight, with no statistically significant difference between men and women. One-fifth of respondents (19.5%) were obese (body mass index ≥ 30 kg/m2). The proportion of obese women (25%) was 1.6 times higher than that of men (14%).

Mean systolic and diastolic blood pressure (including individuals taking medication for hypertension) was 129.4 mmHg and 83.8 mmHg, with no substantial difference between men and women.

3/4 (73.2%) of respondents with raised blood pressure were not taking any medication (their systolic blood pressure was ≥ 140 and diastolic blood pressure was ≥ 90 mmHg). Of all respondents 18.6% were taking antihypertensive, though the measurements performed during the survey showed that their blood pressure was not regulated. Only 1 in 10 respondents had blood pressure effectively controlled with medications.

These findings lead to the conclusion that

- The effectiveness of antihypertensive is rather low.
- In general patents with AH failed to regularly take their medication.

It causes concern that patients with AH do not take drugs when feeling ‘good’, which is their assumption and during the survey measurements raised pressure was detected in them as well.

The biochemical measurements conducted during the survey revealed that the mean fasting blood glucose was 4.7 mmol/L (no significant difference between men and women). Only 5.5% had reduced tolerance to glucose (fasting blood glucose ≥ 6.1 mmol/L or < 7 mmol/L): 6.5% for men and 4.0% for women. More than half (55%) of patients with DM reported using a drug prescribed by the doctor and 18.7% used insulin. The proportion of men taking drugs was 11% higher than that of women. Women use insulin 6.4% more often than men. Data suggest that DM type 1 was more prevalent in women than in men.

It was also established that among 4.3% of respondents with DM who received antidiabetic drugs (6.5% of men and 4.6% of women) the level of glucose was not regulated and constituted

≥7 mmol/L. The fasting total cholesterol level was 4.3mmol/L in all respondents regardless of gender.

The 23.5% of respondents who take medication for hypercholesterolemia had raised total cholesterol level (≥ 5 mmol/L, which exceeds the WHO defined norm).

The survey showed that every third person (35.7%) had three or more risk factors for NCD, and every second men had three and more risk factors. The breakdown for men and women is presented in, demonstrating the difference of the risk factor prevalence across both gender. Three or more risk factors were present in 13.5% of women and 33.7% of men in the 18-44 age groups. This means that the likelihood of developing NCD-s is twice higher in men than in women.

The study of combined RFs suggests that the 45-69 years old individuals are in the highest risk group, because every second person has 3 to 5 combined RFs, which significantly increases the likelihood of developing a NDC. In fact, combined RFs in respondents with CSD and DM increase the risk of complications and death.

Only 7% of the surveyed population had none of the five risk factors for noncommunicable diseases.

The questionnaire for the national country-adapted STEPS survey and fact sheets are presented in this report.

BACKGROUND

NCD worldwide

According to the data of World Health Organization (WHO), NCD are the leading cause of morbidity and mortality globally, including circulatory system diseases (CSD), malignancies, diabetes mellitus (DM), chronic obstructive pulmonary (COPD), mental health disorders. Each year NCD take nearly 40 million human lives. The NCD mortality burden in the total structure of deaths in the European Region varies from 60% to 85%. Moreover, 75% of deaths (28 million cases) occur in low- to middle- income countries. Over the past years the NCD mostly affect those within the age range of 30-60, causing early death.

In the under-70 age group 17 million deaths (87%) are recorded in low-to middle-income countries (1).

NCD also have a significant macroeconomic impact and exacerbate poverty (Bloom et al., 2011). Most NCD are chronic and require repeated interactions with the health system and recurring and continuous medical expenses, often requiring catastrophic, impoverishing expenditure. It has been estimated that the loss of productivity due to NCD is significant: for every 10% increase in NCD mortality, economic growth is reduced by 0.5% (2).

To reduce the NCD burden and to ensure the heath population, in 2000 WHO adopted the Global Strategy for the Prevention and Control of Noncommunicable Diseases. In April 2011 the first global ministerial conference on NCD prevention and control was held in Moscow. It called for regulation at all levels including multidisciplinary and cross- sectorial cooperation to reveal and curb NCD risk factors and determinants as well as promotion of healthy lifestyle, adoption of legislation on early detection and prevention of NCD risk factors, as well as improved access to and quality of healthcare. The 'NCD Prevention and Control Declaration' was approved by leaders and representatives of states and governments at the UN General Assembly in September 2011. It is the main call of the 21st century and the key to wards the achievement of the goals established in the European health strategy Health 2020.

Recognizing the responsibility of the states in responding to the NCD the global community emphasizes the important role of all levels of the society in effective actions of NCD prevention and control.

At the 2013 World Health Assembly, the 190 Member States adopted the WHO Global Action Plan for NCD Prevention and Control for 2013-2020. In 2014 the UN General Assembly discussed the NCD prevention and control activities as well as the prior achievements, next steps and the goals of the states aimed at reduction of the NCD burden.

Given that nearly all countries across the world face the challenge of increasing NCD prevalence and mortality, the WHO has developed universal approaches in implementation of activities, and 9 global NCD targets and 25 indicators for all WHO member states. These priority targets require cooperation and joint activities involving all stakeholders.

According to evidence-based medicine, NCD development largely depends on the lifestyle. Main causes of mortality in the world include hypertension (accounts for 13% of mortality due to all causes), smoking tobacco (9 %), high level of glucose (6%), physical inactivity (6%), as well as overweight and obesity (5%).

Recognizing the problem of increasing NCD burden and the latter's sizeable economic and social consequences, in 2012 the WHO member states committed to achieving a 25% reduction of premature mortality from NCD by 2025.

In 2017 the WHO conducted a global conference on NCD aimed at promotion of cross- sectorial cooperation and implementation of a unified policy to facilitate achievement of health target 3.4 of the Sustainable Development Goals, i.e. "to reduce by one-third pre-mature mortality from non-communicable diseases (NCD) through prevention and treatment".

NCD IN THE REPUBLIC OF ARMENIA

Armenia is a landlocked country surrounded by Georgia, Azerbaijan, Turkey and Iran. It occupies a total of 29743 km^2 and comprises 10 provinces (called marz) and the capital city of Yerevan. Marzes, in their turn, include urban (49) and rural (866) communities exercising local governance.

As of 1st January 2017 the estimated permanent population of Armenia was 2986.1 thousand. The proportion of urban population was 63.7% and the rural population was 36.3%. At that, 35.6% of population resided in the capital city of Yerevan. Males comprised 47.5% and females 52.5% of the population. In the beginning of 2016 the share of 65 and over population was 11,2%, which is a sign of aging population.

According to the National Statistical Service (NSS), in 2016 the life expectancy in Armenia was 71.6 years for men and 78.3 years for women (NSS, 2016).

The mortality structure of most common NCD in Armenia is very similar to that in the European region.

According to the National Health Information Analytical Center (NHIAC) and NSS, in 2016 the mortality burden due to most prevalent NCD comprised 80%, with CSD being the lead cause (55,6%), followed by malignancies (20,6%), diabetes (3%), injuries, poisonings and external causes (3.8%), chronic obstructive pulmonary diseases, including bronchitis, asthma, other chronic pulmonary and bronchoectonic diseases (2,4%).
The NCD-related premature mortality rate was 29% and almost 25% of deaths occurred in the 35-65 age group (3).

Below statistical trends for 1990- 2016 period calculated per 100.000 population, provide an overview of the NCD burden for the past 30 years (10).

- The prevalence of CSD (1312.2 per 100 000 population in 1990 vs. 2243,8.8 in 2017) increased 1.8 times and the mortality (305.89 per 100 000 population in 1990 vs. 453.53 in 2017) - 1.5 times.
- The prevalence of malignancies (588.2 per 100 000 population in 1990 vs.1474,3 in 2017) increased 2.4 and the mortality 2 times (98.3 per 100 000 population in 1990 vs.189.2 in 2016).
- The prevalence of DM (183.6 in 1990 vs. 330.8 in 2017) increased 2 times and the mortality 2.8 times (13.96 in 1990 vs. 27.15 in 2017).

Thus, the NCD prevalence and related mortality saw a 2-3 times increase over the past 30 years.

In Armenia eight out of ten major causes of the increase in the lost disability-adjusted life years (DALY) are non-communicable diseases, four of which belong to the cardiovascular diseases group (ischemic heart disease, cerebrovascular disorders, arterial hypertension, and other cardiac diseases), three to the malignancies group (malignant tumors of the trachea, bronchi, lungs, breast and stomach), and one to the endocrine diseases group (diabetes mellitus) (11).

NCD prevention and control require a combination of comprehensive strategic directions. It aims at improving and strengthening population health, through prevention and reduction of the NCD burden, prevention of potential complications and disability due to NCD, improving the quality of life, increasing average levels of healthy life expectancy, reducing mortality, as well as developing an evidence-based surveillance system that meets current requirements.
NCD prevention and control, as well as the promotion of a healthy lifestyle are among priority issues of the RA Government agenda. MoH makes significant efforts to address the NCD burden in the country. NCD prevention and control are contingent on identification of their risk factors. Main approaches to NCD prevention and control in Armenia are presented in the following two documents:

- 'On approval of the Concept on Prevention, Early Detection and Treatment of Most Prevalent Noncommunicable Diseases (NCD) and the list of Actions' approved by the RA Government Protocol Decree №3 of 29 January 2010, and
- 'National Strategic Programs on the Three Most Deadly Diseases – Circulatory System Diseases (cardiovascular), Malignancies and Diabetes Mellitus and the Timeline of Actions' approved by the RA Government Protocol Decree №11 of 24 March 2011.

Screenings are implemented within the framework the 'Disease Prevention and Control Project' from 1st January 2015 NCD. The project aims to encourage all 35 - 68 years old citizens to undergo free screenings at their outpatient clinic for early detection of arterial hypertension and diabetes. All 30-60 years old women are examined for early detection and diagnoses of cervical cancer.
Nearly 1 million 131 thousand screenings were performed between 1st January 2015 and 31 July 2017.

- Around 170 thousand Pap smear tests were performed in women aged 30-60 years.
- Fasting blood glucose test was conducted in 455 000 individuals.
- 713 000 people have undergone arterial hypertension screening.

According to the Health Minister's Decree 3085-A of 24 December 2014 'On approval of the standards for organization of emergency heart surgeries (non drug eluting stent) within the framework of delivery of free healthcare services to the population', from 1st January 2015 all interventional cardiology clinics of Armenia perform emergency heart surgeries (non drug eluting stent) within BBP, which is based on the following diagnosis of the physician – acute cardiac infarction ECG ST-elevation.

The 'Healthy Lifestyle Promotion Strategy and Action Plan for 2014-2020' was approved by the Government Decree №50 of 27 October 2014.

The list of activities under the '2016-2020 Program on Control of Most Prevalent Noncommunicable Diseases' was approved by the RA Government Protocol Decree No 4 of 3 March 2016. It envisages the following:

- Development of a management system for NCD prevention.
- Promotion of control of preventable NCD risk factors.
- Improvement of population awareness of prevention of NCD risk factor development.
- Strengthening of NCD surveillance and risk factor monitoring systems according to socioeconomic factors, etc.

A cross- sectorial coordination committee on NCD prevention was established by the Prime Minister's Decree of 25 July 2016.

The 'Tobacco Control Strategy and the List of Actions 2017-2020' was approved by the RA Government Protocol Decree of September 2017. The goal is to implement activities aimed at reduction of tobacco use in Armenia, population health strengthening, protection of the population from exposure to second-hand tobacco smoke, as well as reduction of the NCD morbidity rates through curbing the prevalence of tobacco use.

Implementation of RA Government strategies and programs require reliable information on the prevalence of NCD risk factors. There was an absolute need for an in-depth review of the prevalence of NCD risk factors among the population of Armenia.

Prevalence of NCD risk factors in Republic of Armenia

The harmful impact of risk factors on population health is not straightforward: it develops over time. Gradual reduction of the prevalence of risk factors led to improved health indicators, in particular, increased life expectancy and reduced NCD prevalence and mortality.

The above tendencies apply to Armenia as well. Like elsewhere, in Armenia also NCD growth continues being a priority public health threat.

Evidence-based medicine data suggest that NCD development largely depends on one's lifestyle and specifics of risk factors that can lead to the development of NCD. According to WHO data, the overwhelming part of NCD development is associated with the harmful impact of tobacco smoking, use of alcohol, unhealthy diet, physical inactivity, hypertension, and other factors.

In 2004 and 2008 Armenia conducted tobacco surveys among adolescents (13-15 years of age). As the 2004 survey findings witness, 5.6% of adolescents smoked tobacco and every 4th had tried to smoke some time in their life. No significant differences were recorded between 2008 and 2004 surveys. Most of the school-aged children were permanently exposed to secondhand smoke.

The prevalence of tobacco smoking and raised arterial blood pressure was studied within the framework of Armenia Demography and Health Survey (ADHS, 2000, 2005, 2010).

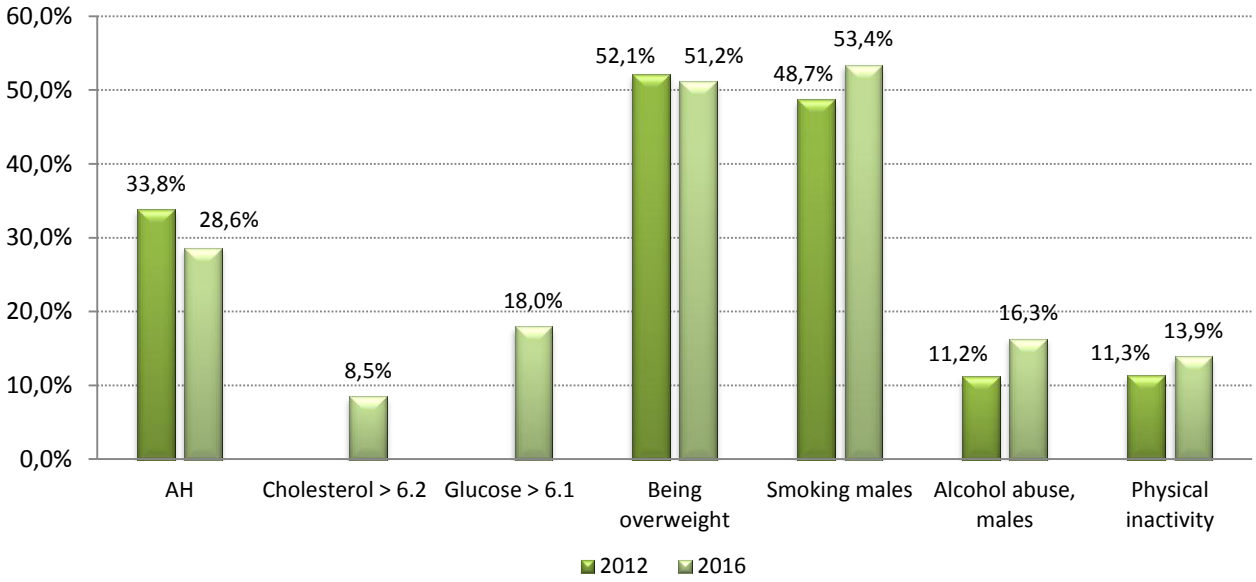
To assess the NCD burden in the population, in 2007 Armenia started observing the prevalence of NCD risk factors, their health impact, and correlations.

Studies and analysis of NCD risk factor prevalence in 15 and older population was implemented within the framework of Health System Performance Assessment Surveys 2007, 2009, 2012, 2016 and the findings were published in respective HSPA Reports (3, 4, 5, 6, 7, 8, 9).

The 2016 HSPA data show the following NCD risk factor prevalence in 15 and older population of Armenia (Figure 1) (3).

- AH prevalence - 28.6%,
- Overweight and obesity - 51.2%,
- Prevalence of smoking - 26.2%, proportion of daily smoking males- 53.4%, females - 2.4%
- Number of males who consume the daily equivalent of 20g or more of pure alcohol- 16.3%,
- Number of physically inactive people - 13.9%,
- High level of cholesterol (>6.2 mm/L) in 35 and older population - 8.5%
- High level of glucose (>6.1 mm/L) in 35 and older population - 18%

Figure 1. Prevalence of risk factors in 15 and older population of Armenia, 2012, 2016



THE GOAL, KEY OBJECTIVES AND RATIONALE FOR THE SURVEY

Rationale for the survey

NCD prevention and control in Armenia implies implementation of a complex of strategic directions. It targets the improvement of main health indicators, prevention and reduction of NCD occurrence, reduction of complications and disability in NCD patients, improvement of their life quality, the increase of average levels of healthy life expectancy, reduction of mortality rates, as well as the development of a modern evidence-based surveillance system.

With this aim in view in 2016, Armenia implemented the WHO NCD STEPS survey.

The goal of the STEPS survey

The goal of the survey was to study and assess the prevalence of NCD risk factors in 18-69 population of Armenia to effectively plan NCD prevention and control activities, reforms and policies.

Key objectives of the survey:

- To assess and review the prevalence of NCD behavioral risk factors (use of tobacco and alcohol, physical inactivity, unhealthy diet, overweight and obesity).
- To study the prevalence of NCD biological risk factors (hypertension, raised cholesterol and glucose levels, excessive use of salt).
- To study the prevalence of NCD risk factors across sociodemographic groups.

SURVEY METHODOLOGY

Sample size

A total of 2380 (target indicator was 2350) randomly selected respondents participated in the survey. To define the sample, a multi-stage cluster sampling method was used based on demographic data on adult population of Armenia. A sample size of 2380 households was selected, and one questionnaire for adults was filled out for each household. The survey included men and women aged 18–69 years from 10 marzes and the capital city of Yerevan.

Sampling was based on the 2011 census database, according to which Armenia's de facto population was 2,871,771 of which about 36% lived in rural and 64% in urban communities.

Most recent (as of 27 October 2015) data on adult population (18 and older) is available in the State Population Register (SPR) which includes 782,877 addresses, of which 1,997 are in urban and rural enumeration areas (EA), each consisting of 1,284 persons or 394 households on average. The SPR was used for the survey scope under this survey.

The sample size was calculated based on statistical indicators set for this survey, i.e. Z = 1.96, for 95% confidence level, P=0.5 baseline level of indicators, and d=0.05.

Next, the sample size was adjusted taking into account the sample design effect, the number of sex and age groups to be analyzed, as well as the expected non-response rate. Based on the STEPS methodology the design effect of 1.5 was applied.

Two sex (male and female) and two age (18-34 years and 35-69 years) groups were selected for this survey. In order to achieve a sample that is representative for the selected sex and age groups, the sample size calculated in the previous step was multiplied by the product of the number of sex and age groups.

The sample size was calculated using the below formula, according to the survey methodology, which envisages 20% of non-response rate.

Sample size calculation formulas

$$n = \frac{Z^2 1\text{-}\alpha \; P(1-P)}{d^2}$$

$$n = \frac{1.96 * 1.96 \; \{0.5 * (1-0.5)\}}{0.05 * 0.05}$$

n= 384.16

n= 384.16*1.5 *4 = 2,304.96 (n * design effect * age-size factor)

n= 2,304.96/0.8 = 2,881.2(~2,900) (sample size/probability of non-response)

The survey sampling was based on the following steps.

- **Step I** - Primary sampling units (PSUs) (enumeration areas (EAs)) were selected. Smaller numbers of households were merged based on their geographical location to ensure relatively equal number of household within the PSUs.

- **Step II -** PSUs were stratified with 64% of them being selected from urban and 36% of PSUs from rural strata. At this stage 124 urban PSUs and 70 rural PSUs were randomly selected for each stratum based on pre-defined cluster size of 15 households per PSU.

- **Step III -** 15 households were selected from each of 194 stratified PSUs using systematic random sampling method. Thus, 2,910 (~2,900) households were contacted for the interview.

- **Step IV -** one eligible participant (aged between 18 and 69 years) in the selected households was randomly selected for the survey using Kish sampling method using the handheld electronic devices.

Ethical consideration

The draft STEPS survey (methodology, questionnaire, informed consent of participation, informative letter) for the study of NCD risk factors in 18-69 years old population of Armenia was presented to the Ethics Committee of the National AIDS Prevention Center. Ethical approval was obtained by Protocol Decree 10 of June 18, 2016.

Each household (HH) was given an information letter explaining the survey goals and objectives and three consent forms for Step 1, Step 2, and Step 3 correspondingly.

To ensure confidentiality of all collected and archived data, unique identification numbers were assigned to each participant and data registers refer only to these numbers.

Data collection process

Survey characteristics

The STEPS survey was conducted among 18-69 years old population and included three consequtive steps.

STEP 1 is the interview of participants with a goal to assess behavioral risk factors and health history related to NCD. This step consists of is a face-to-face interview. The intervie was conducted by ustilisatian of a questionnaire to collect demographic information, including age, sex, education according to years of study, occupation, household income, marital status, current smoking, use of alcohol, diet, particularly consumption of fruits and vegetables, salt intake, level of physical activity, arterial blood pressure, glucose and total cholesterol levels, hypertension and diabetes, as well as information on tobacco use, alcohol consumption, diet, family history of NCD, lifestyle counseling, as well as cervical cancer screening in 30-49 years old females.

STEP 2 involves anthropometric and instrumental measurements to assessoverweight and obesity (body weight and height, waist and hip circumference), blood pressure and heart rate.

STEP 3 includes laboratory measurements for determination of biochemical factors, including glucose, total cholesterol (TC) and high density lipoproteins (HDL) in capillary blood using dry chemistry methods, as well as the mean sodium intake of the adult population estimated by measuring urinary sodium in spot urine tests.

Preparation of field activities

The project team was prepared for field works, the field staff was recruited, and materials for instruction of the staff were prepared. WHO experts received instruction materials, which were translated into Armenian and adapted. The survey questionnaire was discussed and adapted, and the final version was placed on the WHO server for further downloading into PDA.

Devices/equipment and materials received from WHO were recorded and brought into functioning state. The software was downloaded into the PDAs and updated to be able to enter responses and physical and biochemical measurement results online.

Data entry training

The training of data collectors was conducted on 15-19 August 2016 by WHO experts who visited Yerevan, NIH representatives and project management. The field team was exposed to the goals and objectives of the survey, electronic data entry and the physical and biochemical measurement skills. Pilot interviews were conducted in order to test the interviewing skills in practice.

Pilot testing

Pilot testing of the survey was arranged on 19th August targeting 60 households of Arabkir district of Yerevan. The results were discussed by the team and technical amendments were introduced in the questionnaire to facilitate the survey process.

Field works

Field-works commenced 13th September 2016.

Field work targets were met with the following results:

- Completed interviews (Step I & II) - **2,380**
- Capillary blood measurements, glucose, total cholesterol and high-density lipoproteins (Step III) - **1,886**
- Urine biochemical measurements (Step III) - **1,464**

To meet the above numbers interviewers visited over **5,600** addresses. The positive result did not exceed 42% because of:

- Errors in the addresses recorded in the unified population register,
- High migration rate, and
- Refusal to participate in the interviews.

Especially low participation rate was detected in males, particularly in the 18-34 age groups, and the main reasons include:

- Disproportionately high rates of seasonal migration in males,
- Mandatory military service in young males,

- Traditionally high rate of refusal to participate in similar inquiries (which is evidenced in other surveys as well).

To ensure control and quality of interviews the following actions were taken:

- More than 500 respondents (each 5th participant) were contacted by phone to verify the interview participation,
- Quality supervisors made double visits to randomly selected survey respondents,
- All participants who had undergone urine analysis were contacted by phone and inquiries were made with 80% of them, the urinalysis results were communicated and data were affirmed.

Below Tables present the age and sex structures of the survey participants.

Table 1. First and second stages of the survey (STEP I and STEP II)

Women	Men	Total
1,636	744	2,380
69%	31%	100%
18-34	35-69	Total
693	1,687	2,380
29%	71%	100%

Table 2. Second stage of the survey (STEP III. Blood biochemistry)

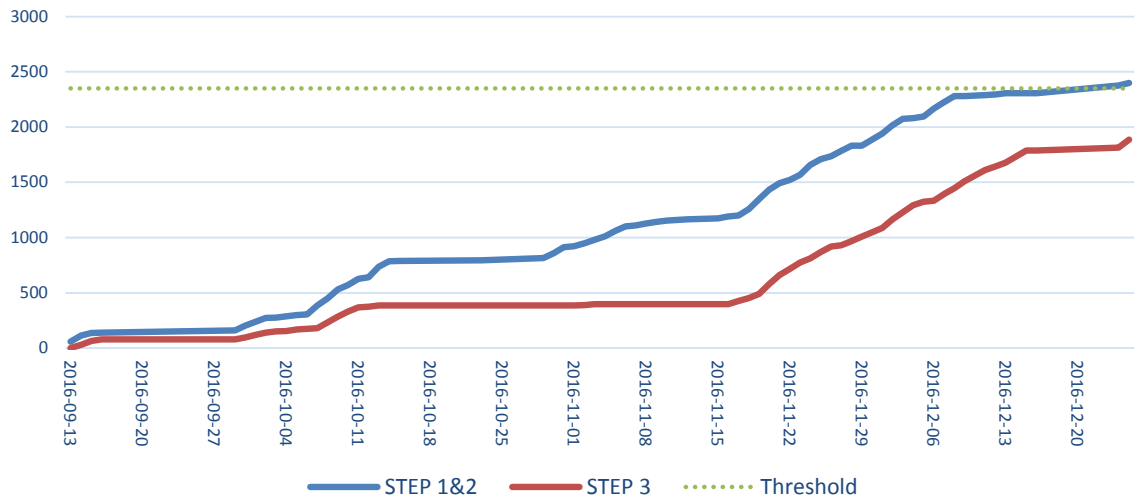
Women	Men	Total
1,335	551	1,886
71%	29%	100%
18-34	35-96	Total
519	1,367	1,886
28%	72%	100%

Table 3. Third stage of the survey (STEP III. Urine biochemistry)

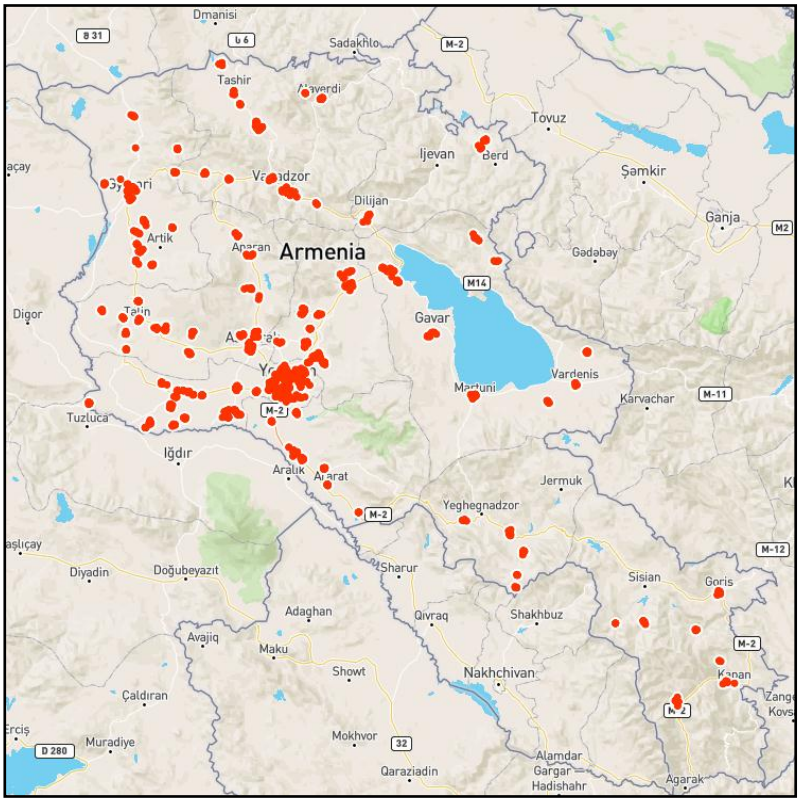
Women	Men	Total
1,071	393	1,464
73%	27%	100%
18-34	35-96	Total
340	1,124	1,464
23%	77%	100%

The Figure 2 shows time dynamics of data collection across the survey stages.

Figure 2.Time dynamics of STEPS data collection according to survey stages



Map 1. Geography of the STEPS survey



Data collection methodology and process

Validated questionnaires (WHO STEPS Instrument for Chronic Disease Risk Factors Surveillance), including core and expanded items, as well as two optional modules on dietary salt and health care were translated into Armenian, adapted to country specifics, translated back into English, reviewed and approved by the STEPS Coordinating Committee and the Ethics Committee of the MoH National AIDS Prevention Center, and used for the survey data

collection. The survey data were collected between 13th September and 26th December 2016, based on the approved questionnaire.

Survey questionnaire

The questionnaire was used to collect data on respondent's demographic and socioeconomic status; tobacco use; alcohol consumption; diet, including fruit and vegetable consumption, oil and fat consumption, the habit of eating out (meal consumption outside the home), dietary salt intake; physical activity; history of raised blood pressure, diabetes, raised cholesterol and/or CVDs; lifestyle advice; screening for cervical cancer; health insurance coverage; and use of health services in relation to NCD. Responses were entered into PDAs (Tablets).

Assessment of tobacco use

Tobacco use was assessed in terms of current and previous smoking status, duration of smoking, quantity of tobacco use, smokeless tobacco use, and exposure to second-hand smoking. Data collectors used show cards, depicting four types of commonly used tobacco products.

Assessment of alcohol consumption

The prevalence of alcohol consumption was assessed using show cards depicting four types of commonly consumed alcoholic beverages as standard drinks. Binge drinking was defined as consuming 6 or more standard drinks on one occasion. Three risk categories were used to classify respondents who consumed alcohol according to the average amount of alcohol consumed per day. These categories are defined in Table 4 (16).

Table 4. Risk categories associated with alcohol consumption levels

Sex	Category1 (lower-end level)	Category2 (intermediate)	Category 3 (high-end level)
Male	<40.0 g	40.0–59.9 g	≥60.0 g
Female	<20.0 g	20.0–39.9 g	≥40.0 g

Note. Units relate to the average amount of daily consumed alcohol.

Assessing diet

In order to assess food consumption and dietary patterns of the surveyed population, the respondents were asked about the frequency of fruit and vegetable consumption, mean number of portions of these foods consumed daily, type of oils and fat used for meal preparation, number of meals eaten outside the household per week and the amount of salt consumed daily. Consumption of fruits and vegetables was assessed regarding the number of servings, with a serving being equal to 80g. Show cards were used to collect data on fruit and vegetable consumption on a typical day. Oil and fat intake was assessed by asking about the type of oil or fat most frequently used for cooking.

Salt consumption was assessed by asking about the frequency of addition of salt or a salty sauce to food during preparation, or before or while eating; and/or frequency of consumption of processed food high in salt. Participants were also asked about their perception of the

quantity of salt they consumed and its link with health problems, as well as about the importance of reducing salt intake, and the measures undertaken to control it.

Assessing physical activity

Physical activity was assessed based on intensity, duration and frequency of physical activity at work, in recreational settings and involving transportation (journeys), using a set of 16 questions. Data were collected on the number of days, hours and minutes of physical activity performed at work, involving transportation and in recreational settings for at least 10 minutes or more continuously each day. The complex questionnaire has the advantage of assessing not only the duration, but also the intensity of physical activity. Show cards were used to depict different types of physical activity.

The total time spent on physical activity per day at work, involving transport and in recreational activities was measured by using a continuous indicator: the metabolic equivalent (MET) time in minutes per week spent in physical activity (see Table 2). The population was classified into specific groups according to the amount of physical activity. METs are commonly used to express the intensity of physical activities, and are also used for the analysis of General Physical Activity Questionnaire (GPAQ) data. MET is the ratio of a person's working metabolic rate relative to their resting metabolic rate. One MET is defined as the energy cost of sitting quietly, and is equivalent to a caloric consumption of 1 kcal/kg/hour. For the analysis of GPAQ data, the existing guidelines were adopted. It was estimated that, compared with sitting quietly, a person's caloric consumption was four times as high as when being moderately active, and eight times as high as when being vigorously active. For the calculation of a person's total physical activity using GPAQ data, the following values shown in Table 5 were used (16).

Table 5. MET values for the calculation of a person's total physical activity

Domain	MET value
Work	Moderate MET value = 4.0 Vigorous MET value = 8.0
Transport	Cycling and walking MET value = 4.0
Recreation	Moderate MET value = 4.0 Vigorous MET value = 8.0

In order to calculate categorical indicator for the recommended amount of physical activity for (good) health, the total time spent on carrying out physical activity during a typical week and the intensity of the physical activity were taken into account.

According to WHO global recommendations on physical activity for health, adults should do at least the following amount of exercise throughout a normal week (including activity for work, as well as during transport and leisure time):

- 150 minutes of moderate-intensity physical activity; or
- 75 minutes of vigorous-intensity physical activity; or
- An equivalent combination of moderate- and vigorous-intensity physical activity achieving at least 600 MET-minutes.

For comparison purposes, during the data analysis the three levels of physical activity (low, moderate, and high) recommended by WHO for classifying populations were used.

The criteria for these levels are detailed below.

High-level physical activity involves a person reaching any of the following criteria:

- vigorous-intensity activity at least three days per week, achieving at least 1500 MET-minutes per week; or
- seven or more days of any combination of walking, moderate- or vigorous-intensity activities achieving at least 3000 MET-minutes per week.

Moderate level physical activity involves a person not meeting the criteria for the high-level category, but meeting any of the following criteria:

- three or more days of vigorous-intensity activity of at least 20 minutes per day; or
- five or more days of moderate-intensity activity or walking for at least 30 minutes per day; or
- five or more days of any combination of walking, moderate or vigorous-intensity activities achieving at least 600 MET-minutes per week.

Low level physical activity involves a person not meeting any of the above-mentioned criteria for the moderate- or high-level categories.

History of NCD and their risk factors

History of diabetes, CVDs, raised blood pressure and raised cholesterol were assessed by asking whether specific measurements for these purposes had been performed by a doctor or health worker. Participants were also asked if they have consumed any medication.

Lifestyle advice

The participants were asked about advice given by a doctor or a health worker during the past three years relating to reducing common risk factors for NCD.

Assessing cervical cancer screening status

Cervical cancer screening status was assessed by asking women aged 30-49 years whether they had undergone a visual inspection with acetic acid (VIA) testing, a Pap smear and/or human papillomavirus (HPV) test. VIA is an inspection of the surface of the uterine cervix after acid acetic (essentially vinegar) has been applied to it. The Pap smear and HPV tests are medical procedures in which a sample of cells is collected from a woman's cervix and spread on a microscope slide. The cells are examined under a microscope after staining with Papanicolau dye. This method is important in differential diagnosis of malignant, benign, precancerous and inflammatory lesions. In 2015 Armenia launched a program on Pap smear tests performed at PHC facilities among women aged 30-59 years; hence the survey studied also the coverage of the target age group females in the program.

STEP 2: Physical/anthropometric measurements

Body weight, height, waist circumference, hip circumference, blood pressure, and heart rate were measured in all survey participants. Body weight and height were measured with the electronic Growth Management Scale. This is a device suitable for survey purposes that is used to measure a combination of factors (body scale with height gauge) with laser. It measures body weight and height, and calculates BMI. BMI is a ratio of body weight in kilograms to the square of body height in meters and is calculated according to below formula.

BMI = Body weight (kg)/ Body height (m2).

A BMI ≥ 25 indicates that a person is overweight, while a BMI ≥ 30 indicates that a person is obese.

Waist and hip circumferences were measured by MioType, a non-stretch tape with millimeter precision. Waist circumference was measured by placing a tape measure around the abdomen at the midpoint between the lower margin of the last palpable rib and the top of iliac crest (hip bone). Hip circumference was measured by placing a tape measure around the bare abdomen at the maximum circumference over the buttocks. The waist–hip ratio (WHR) was computed using measurements of waist and hip circumferences among all respondents, excluding pregnant women. The WHO reference cut-off for WHRs was used to define obesity at above 0.90 for males and above 0.86 for females.

Blood pressure and heart rate measurements were taken three times on the right arm of the survey participants in a sitting position, using a Boso-Medicus Uno instrument with a universal cuff and automatic blood pressure and heart rate monitor. The mean of three measurements was taken for analysis. The measurements were taken after the participant had rested for 15 minutes, and each with three minutes of rest between the measurements (maximum deviation of cuff pressure measurement ± 3 mmHg, and of pulse rate display ± 5%).

Percentage of raised blood pressure was defined as:

- systolic blood pressure (SBP) ≥ 140 mmHg and/or diastolic blood pressure (DBP) ≥ 90 mmHg, or currently taking medication for raised blood pressure; and
- during the survey the respondent takes an antihypertensive medication.

The percentage of respondents with treated and/or controlled raised blood pressure among those with raised blood pressure or currently taking medication for raised blood pressure was categorized as follows:

- % taking medication and SBP <140 mmHg and DBP <90 mmHg
- % taking medication and SBP ≥140 mmHg and/or DBP ≥90 mmHg
- % not taking medication and SBP ≥140 mmHg and/or DBP ≥90 mmHg.

STEP 3: Biochemical measurements (laboratory tests)

Laboratory tests were performed for blood glucose, total cholesterol and HDL cholesterol.

Concentrations of glucose, total cholesterol and HDL cholesterol were measured in capillary blood the next day after STEPS 1 and 2 of the data collection. Capillary blood tests were performed for all survey respondents using a CardioCheck PA Analyzer, after fasting. Laboratory test results were assessed and categorized according to the definitions shown in Table 6 (16).

Table 6. Biochemical indicators

Biochemical indicators	Normal	At risk	Increased
Glucose	<5.6 mmol/L	≥5.6 mmol/L &<6.1 mmol/l	≥6.1 mmol/L or using glucose-lowering drugs
Cholesterol	<5.0 mmol/L	≥5.0 mmol/L &<6.1 mmol/L	≥6.2 mmol/L or using cholesterol-lowering drugs
HDL cholesterol	>1.55mmol/L	1.03 mmol/L up to 1.55 mmol /L	<1,03 mmol/L in males <1,29 mmol/L in females

Within the framework of the STEPS survey, the urine sodium and creatinine tests were performed by DIALAB laboratory (in Yerevan) in centralized manner.

Survey data collection

Survey data collection was carried out by a team of 24 interviewers, 4 coordinators, health workers, 4 drivers and 5 information quality control specialists/supervisors. Coordinators /supervisors were responsible for general control of the field work process, planning, organization, guidance, and leadership. They also checked the completeness of the questionnaires.

Health workers were responsible only for the control of instrumental and biochemical (laboratory) examinations, ensuring proper urine sampling, packaging of the samples and transportation to the laboratory.

The quality control staff contacted respondents either by a personal visit or by phone and inquired if the interview was properly conducted.

On the day of data collection the selected households were visited and general information was given (verbally) on the goal and objectives of the survey. Then one participant was selected from all adults aged 18–69 years in each household. Further information was given to the selected participant and two active consents were requested (one for each of STEPS 1 and 2). After finishing the data collection round for the first two steps, consent was requested for STEP 3. The collection of capillary blood was carried out the day after STEP 1 and STEP 2 data collection. Blood was taken from fasting participants.

Prior to launch of the field work, the project management sent official letters to the local administrations of the areas included in the survey.

Each team was provided with a field kit containing: a carrier bag, electronic devices for data collection/recording responses, charging cords for the devices, participant consent forms, checklist, list of the selected areas and households, village maps if available, team field log book, interview tracking forms, operational manual, pens, pencils, notebooks, scales for weight and height measurements, tapes for girth, digitalized blood pressure monitors, devices and test strips, cotton swabs, disposable gloves, pipettes, and urine sample containers. Each member of the survey team received a project bag and identity/name card. Each supervisor was given a unique identification code. In addition, each survey participant was given a unique identifier, which appeared on all relevant forms.

List of WHO devices

- ✓ 28 Table ts for electronic data collection Samsung Galaxy Tab 4 OS: Android, Quadcore 1.2 GHz, 7.0 inches (28 Tablets will be transferred via DHL)
- ✓ 28 covers for Table ts
- ✓ 28 micro SD - 4Gb
- ✓ 28 external battery pack
- ✓ 15 blood analyzer CardioCheck PA
- ✓ 24 scales to measure weight and height Growth Management Scale (330 HRS BMI Fitness Scale with Height wand)
- ✓ 24 BMI/Mio measuring tapes
- ✓ 200 test panels (Chol/HDL/Glu test strip for CardioCheck PA),PTS Diagnostic 15 strips per panel
- ✓ 200 packages of pipettes for blood collection, 16 pipettes per package, PTS Diagnostic (40ul)
- ✓ 24 blood pressure monitors Bosch and SohnMedicus UNO with universal cuff

Training of interviewer and supervisors

A 5-day training workshop was held to train the field staff on the following issues:

- how to gain entry into the study areas and households;
- how to do systematic sampling of households in villages;
- how to select survey respondent from all household members following the Kish sampling method;
- how to conduct interviews;
- how to observe research ethics;
- how to record information from the interviews on Android device;
- how to conduct the **Step 3** tests;
- how to accurately keep records of interviews conducted; and
- how to ensure quality control of all field processes including questionnaires, other forms and specimens.

The supervisors and quality controllers also received further training on:

- supervising household selection at the village level;
- checking and correcting interview data;
- reviewing completed questionnaires;
- monitoring interview tracking, and
- problem solving in the field.

Monitoring of data collection

The monitoring team comprised four representatives. The teams carried out monitoring of data collection in the field and provided technical and logistical support to data collection teams throughout the data collection process. Each survey group was accompanied by one monitoring officer.

Data entry

Data were entered with the help of handheld electronic devices used by each member of the survey team to record the respondents' answers during the interview and the physical and biochemical results from **Step 2** and **3**, except for the results from the urine analysis of sodium and creatinine, which were separately recorded by a central laboratory. The WHO STEPS software was used on the handheld electronic device to capture all survey data. A storage device card was fitted in every device to ensure a backup copy of data is stored in case of any device failures. No additional data entry was required as all data was entered at time of interview and measurement on the handheld electronic device.

Data from handheld electronic devices were regularly uploaded to the server into a single master database based on the availability of Wi-Fi internet connection.

Data weighting and cleaning

Data cleaning and weighting was done prior to data analysis in accordance with the WHO guidance provided in the eSTEPS manual. It included checking ranges and combinations of variables, detecting and handling missing data, detecting and handling outliers (data points that are further removed and numerically distant from experimental values).

Data were weighted in order to be able to extrapolate responses of selected participants to the target population of the country. Weighting is a statistical method for data adjustment. Each respondent is given a weight ratio, which reflects the relative importance of his/her statements compared with those of other respondents. The total of weight ratios equals the total number of target population (18-69 years old). If no comparisons are made, the weight ratio of each respondent is given 1 point. If derived, then in all calculations responses of each participant are considered with a specific weight ratio, i.e. calculation of the weighted mean is replaced with calculation of compared weighted mean. Calculation of the portion of respondents who provided specific responses to specific questions is replaced with calculation of portion of the total weight of these respondents in the aggregated weight of all respondents. In STEPS survey, to calculate individual weights of respondents, throughout every step of selection, the team considered the probability of the respondent's selection, and also the structure of the country population distribution by sex and age compared with similar-structure distribution of the sample of respondents (by sex and age). The compared statistical analysis was applied to all indicators calculated under STEPS, except for sociodemographic data.

Data protection

According to the Article 8.2 of the Law on Personal Data Protection of the Republic of Armenia, the personal data processing within the framework of the current project is lawful, as "the data being processed have been obtained from publicly available sources of personal data", namely the State Unified Population Register.

Data were processed in accordance with the requirements of the law. Personal data were processed solely for legitimate and specified purposes of the current project.

Personal data were stored in such a way as to exclude identification with the data subject for a period longer than is necessary for achieving purposes of the current survey.

Data analysis

Statistical analysis of the survey data was performed by a statistical analysis team of the National Institute of Health. Data analysis was conducted using EpiInfo 3.5.1, using STEPS tools and analysis commands developed by WHO and adapted for use by the Armenia survey team. WHO provided technical support in data analysis and report writing.

A five-day workshop for data management and analysis was conducted in Moscow on 13-18 March 2016. The objective was to train the survey staff to perform survey data analysis. Topics covered by the workshop included: (a) downloading data from the server; (b) data cleaning and checking; (c) weighting the data for national representativeness; (d) performing basic analysis; (e) training to use EpiInfo analysis software to undertake analysis; (f) creating a data book based on STEPS standard reporting, and (g) creating an Armenia STEPS factsheet.

The prevalence and patterns of NCD risk factors were estimated. Outcome measures (prevalence and mean variance) and differences across groups (age, sex and urban/rural groups) were calculated with a 95% CI. Sampling error, which could potentially affect the accuracy of the results of the current survey, was measured by the standard error of variables. Margins of error in prevalence and in measures of central tendency are represented by numeric values for the lower and upper limits of a 95% CI.

Results of the survey on the prevalence of NCD risk factors, and the measures of central tendency can be considered representative for the target population (18-96 years of age). It is noteworthy that the survey methodology enables making comparative data analysis with data of other countries that have implemented STEPS survey following the WHO methodology.

SURVEY RESULTS

Demographic indicators

The population socioeconomic status is closely interrelated with health status of the people, which was clearly demonstrated by the findings of the survey. Analysis of the survey results requires special focus on demographic data in order to ensure adequate organization of NCD-induced morbidity and mortality studies and preventive measures.

Several social and demographic indicators were analyzed during the survey of the prevalence of NCD risk factors in 18-69 population, including age, sex, education, marital status and occupation of the respondents as well as the household income.

Below Table 7 presents distribution of survey participants by sex and age groups.

Table 7. Distribution of the survey population by sex and age groups

Age group and sex of respondents						
Age Group (years)	**Men**		**Women**		**Both Sexes**	
	n	%	n	%	n	%
18-44	377	32.4	787	67.6	1164	100.0
45-69	359	30.3	826	69.7	1185	100.0
18-69	736	31.3	1613	68.7	2349	100.0

Survey participants included 2349 respondents aged 18–69 years, including 1613 women (68.7%) and 736 men (31.3%). In terms of age groups, 1164 individuals were aged 18–44 years, and 1185 were aged 45-69 years. Sex-wise, 68.7% of participants were women and 31.3% were men.

Marital status

Table 8 presents breakdown of participants according to their marital status and age at the moment of the survey. The concept of 'married' was defined as officially/legally registered marriage. 'Cohabiting' (or marriage recognized by the church) was considered for not official/not legal marriages. Below Table 8 presents marital status of respondents by sex and age groups.

Table 8. Marital status of respondents by sex and age groups

Marital status							
Age Group (years)	Men						
	n	Never married (%)	Currently married (%)	Separated (%)	Divorced (%)	Widowed (%)	Cohabiting (%)
18-44	373	48.3	46.6	1.6	2.7	0.3	0.5
45-69	357	2.2	90.8	1.1	1.1	3.9	0.8
18-69	730	25.8	68.2	1.4	1.9	2.1	0.7
Marital status							
Age Group (years)	Women						
	n	Never married (%)	Currently married (%)	Separated (%)	Divorced (%)	Widowed (%)	Cohabiting (%)
18-44	786	17.4	73.2	2.2	3.7	1.5	2.0
45-69	825	4.8	67.6	1.9	4.4	20.8	0.4
18-69	1611	11.0	70.3	2.0	4.0	11.4	1.2
Marital status							
Age Group (years)	Both Sexes						
	n	Never married (%)	Currently married (%)	Separated (%)	Divorced (%)	Widowed (%)	Cohabiting (%)
18-44	1159	27.4	64.6	2.0	3.4	1.1	1.6
45-69	1182	4.1	74.6	1.7	3.4	15.7	0.5
18-69	2341	15.6	69.7	1.8	3.4	8.5	1.0

The majority (70%) of the survey respondents were married. Almost half (48%) of 18-44 years old men and 2.2% of 45-69 years old women reported never been married. Also, the rate was 2.8 times lower in women aged 18-44 years (17.4%).

The proportion of widowed women (11.4%) was nearly 6 times higher compared to men. Also, the proportion of divorced women was twice higher, which may be due to high migration rates among men.

Educational attainment

The average number of years spent on education was 11.9 years, with almost no sex differences. Respondents were asked, 'How many years did you spend on education (total years) at secondary school or other educational institution with daily attendance (except for pre-school education).'

Table 9. Mean number of years in education

Mean number of years of education						
Age Group (years)	Men		Women		Both Sexes	
	n	Mean	n	Mean	n	Mean
18-44	377	11.7	787	12.1	1164	12.0
45-69	359	11.9	825	11.7	1184	11.8
18-69	736	11.8	1612	11.9	2348	11.9

Less than half (45%) of the target population completed a secondary school, 23.4% had higher/university degree education, only 1% had no elementary education and as little as 0.6% had no formal schooling (Table 10).

Comparison of education levels across age groups revealed that people aged 18–44 years had higher educational level than those in 45-69 age group. Assessment of the proportion of men and women with secondary school education evidenced that men were 4.5% more likely to have completed secondary school than women (man 48.1% vs. women 43.6%).

Among 45-69 years old individuals with higher education, women had smaller share than men, which however changed drastically in younger age group of 18-44.

Table 10. Level of education by sex and age groups

Levels of education								
Age group (years)	Both Sexes							
	n	No formal schooling (%)	Less than primary school (%)	Primary school completed (%)	Secondary school completed (%)	High school completed (%)	College/ University completed (%)	Post graduate degree completed (%)
18-44	1164	0.6	0.2	1.1	48.0	21.9	27.8	0.3
45-69	1185	0.5	0.4	0.9	42.1	36.6	19.1	0.3
18-69	2349	0.6	0.3	1.0	45.0	29.3	23.4	0.3

Employment status

The employment status of respondents was assessed by classifying into four mutually-excluding groups: government employee, private sector employee, employed, self-employed /entrepreneur and unpaid.

The share of survey respondents engaged in unpaid employment was found to be twice higher compared with those paid. Majority (68.6%) were unpaid employees, including students, home-makers, and unemployed or retired (Table 11). Besides, men were 26.1% less engaged in unpaid employment. The proportion of paid/unpaid employment was 31.5% and 68.6% correspondingly.

According to the survey results, 16.6% of respondents were government employees (19.4% for men and 15.3% for women), 13.5% were private sector employees. Men were 4 times more actively involved in private sector (27.3% for men and 7.2% for women).

Table 11. Employment status of respondents by age groups

Employment status					
Age Group (years)	Both Sexes				
	n	Government employee (%)	Non-government employee (%)	Self-employed (%)	Unpaid (%)
18-44	1154	15.9	16.6	1.1	66.3
45-69	1179	17.2	10.3	1.6	70.8
18-69	2333	16.6	13.5	1.4	68.6

The unemployment rates were taken into consideration when assessing unpaid employment. Of those unpaid 5.7% were students, 43.4% were home-makers and 24.3% were men involved in farming, cattle-briefing and other non-paid activities.

The assessment of unemployment established that every third (29.2%) work-capable individual was unemployed (men sharing 12.3% higher rate than women) (Table 12). This created favorable conditions for labor migration. The proportion of not work-capable unemployed individuals was 6.3%. The unemployment rate does not vary much between both sexes.

Table 12. Unpaid work and unemployment, by age groups

Unpaid work and unemployed							
Age Group (years)	Both Sexes						
	n	Non-paid (%)	Student (%)	Home-Maker (%)	Retired (%)	Unemployed	
						Able to work (%)	Not able to work (%)
18-44	765	0.5	11.8	50.3	0.4	34.8	2.2
45-69	835	0.5	0.1	37.1	28.3	24.1	9.9
18-69	1600	0.5	5.7	43.4	14.9	29.2	6.3

Mean annual income

Wellbeing of the population is important from the standpoint of population socioeconomic status assessment.

The surveyed population income was assessed taking into consideration the average earnings over the past year according to below five wealth quintiles. The quintiles were divided according to the definitions set in the NSS Social Snapshot and Poverty in Armenia 2016 (18).

- Q1 below 52000 drams
- Q2 521 000 - 720 000 drams
- Q3 721 000 - 840 000 drams
- Q4 841 000 - 960 000 drams
- Q5 961 000 drams and more

Participants were asked the following two questions:

- "How many 18 and older individuals do live in your household, including yourself?"
- "What was the average earning of the household in the past year?"

If the respondent failed to remember the amount of the household income, show cards were used to help. A total of 1772 from all 2349 survey respondents answered the question, taking into account the joint earnings of working-age adults. Mean annual reported respondent income was 668,088 AMD.

- 58.2% reported that their annual income comprised 961,000 drams.
- 12.5% was very poor, and
- 13.3% was poor (Table 13)

Table 13. Mean annual respondent income by 5 quintiles

Estimated respondent earnings					
n	Quintile 1 Under 52000 AMD	Quintile 2 521000 -720000 AMD	Quintile 3 721 000-840 000 AMD	Quintile 4 841 000-960 000 AMD	Quintile 5 Over 961 000 AMD
232	12.5%	7.3%	6.0%	15.9%	58.2%

Tobacco use

Every year 1300-1500 new cases of trachea, bronchus and lung cancer are detected in Armenia. In 2016 a total of 1311 new cases were recorded of which 1108 in men and 203 in women. Total incidence was 1930 cases (64.6 per 100 000 population), and mortality comprised 1170 cases, including 975 men and 195 women (39.1 per 100 000 population) (9).

Lung cancer incidence and death in men was 5-6 times higher than in women, which could be due to high prevalence of tobacco smoking in men.

Every year nearly 55000 new cases of cardiovascular diseases are detected in Armenia. One of the main causes is smoking.

Several surveys on the prevalence of tobacco use were conducted in Armenia, including the 2004 and 2008 cohort surveys on the prevalence of tobacco smoking in adolescents (13-15 years old). As the 2004 survey findings witness 5.6% of adolescents smoked tobacco and every 4thhad tried a cigarette at some point in their lives. No significant differences were found between 2008 and 2004 surveys. Most of school-aged children were permanently exposed to secondhand smoke.

According to the 2016 survey on Health Behavior in School-Aged Children in Armenia, 26% of 17-years old adolescents were regular smokers and 11 % had tried smoking at least once in their lives (19). The survey also showed that most of smoking children thought that smoking made them more attractive and strong in the eyes of peers. Family and surroundings also played significant role.

The prevalence of smoking and hypertension was assessed also within the framework of Armenia Demographic and Health Surveys (ADHS 2000 (15), 2005 (14), 2010 (13), 2015 (12)).

The ADHS 2015-2016 revealed that 61.4% of males and 1% of females aged 15-49 years were daily smokers (12).

According to 2015-2016 HSPA, the prevalence of daily smoking in 15 and older population of Armenia was 26.2% (53.4% for men and 2.3% for women).

Among men, the rate of tobacco use increased drastically after transition (from 15-19) to 20-29 age groups. It can be assumed that tobacco use increases with the age not only because the teens become adults and are no longer controlled by parents, but quite possibly because of the military service during which this growth is detected.

Numerous surveys conducted in Armenia pinpoint smoking as one of the key public health challenges in Armenia.

To assess the prevalence of tobacco use in 18-69 population, the survey participants were asked about their current smoking status, previous smoking experience, types of tobacco products used, and exposure to second-hand smoke at home, workplace and public places.

The percentage of current smokers (daily and non-daily smokers) of all tobacco products among all respondents was 27.9% (95% CI: 25.2–30.5). There were more male smokers (51.5%; 95% CI 47.4-55.6) among the respondents than female (1.8%; 95% CI 1.1-2.5, see Table 14).

Low rate of smoking in women is due to the fact that in most cases this behavior has a latent nature. Various surveys (HSPA, 2007, 2009, 2012, 2016) evidence that women are not eager to acknowledge that they smoke, because of the traditional negative attitude towards a smoking woman in Armenia.

The percentage of smokers in 18-44 age group was 1% (CI 0.5-1.7), which tripled in the 45-69 age group (95%: CI 1.7-4.3).

The prevalence of tobacco use in men by age groups did not demonstrate any drastic changes and varied within the range of 50.3% - 53.6%.

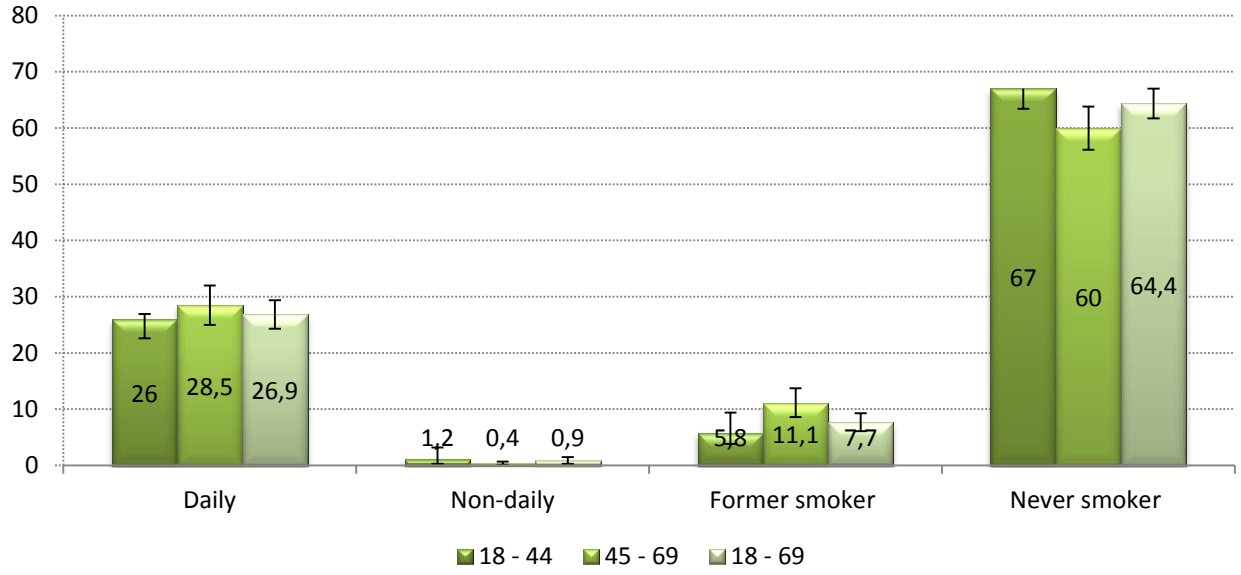
Table 14. Distribution of current smokers by sex and age groups

Percentage of current smokers									
Age group (years)	Men			Women			Both Sexes		
	n	Current smoker (%)	95% CI	n	Current smoker (%)	95% CI	n	Current smoker (%)	95% CI
18-44	377	50.3	44.7-55.9	787	1.1	0.5-1.7	1164	27.2	23.7-30.7
45-69	359	53.6	47.9-59.4	826	3.0	1.7-4.3	1185	28.9	25.4-32.4
18-69	736	51.5	47.4-55.6	1613	1.8	1.1-2.5	2349	27.9	25.2-30.5

The prevalence of daily smoking in 18-96 age groups was 26.9%. This rate was 2.5% higher in 45-69 age group, compared with 18-44 age group (Figure 3).

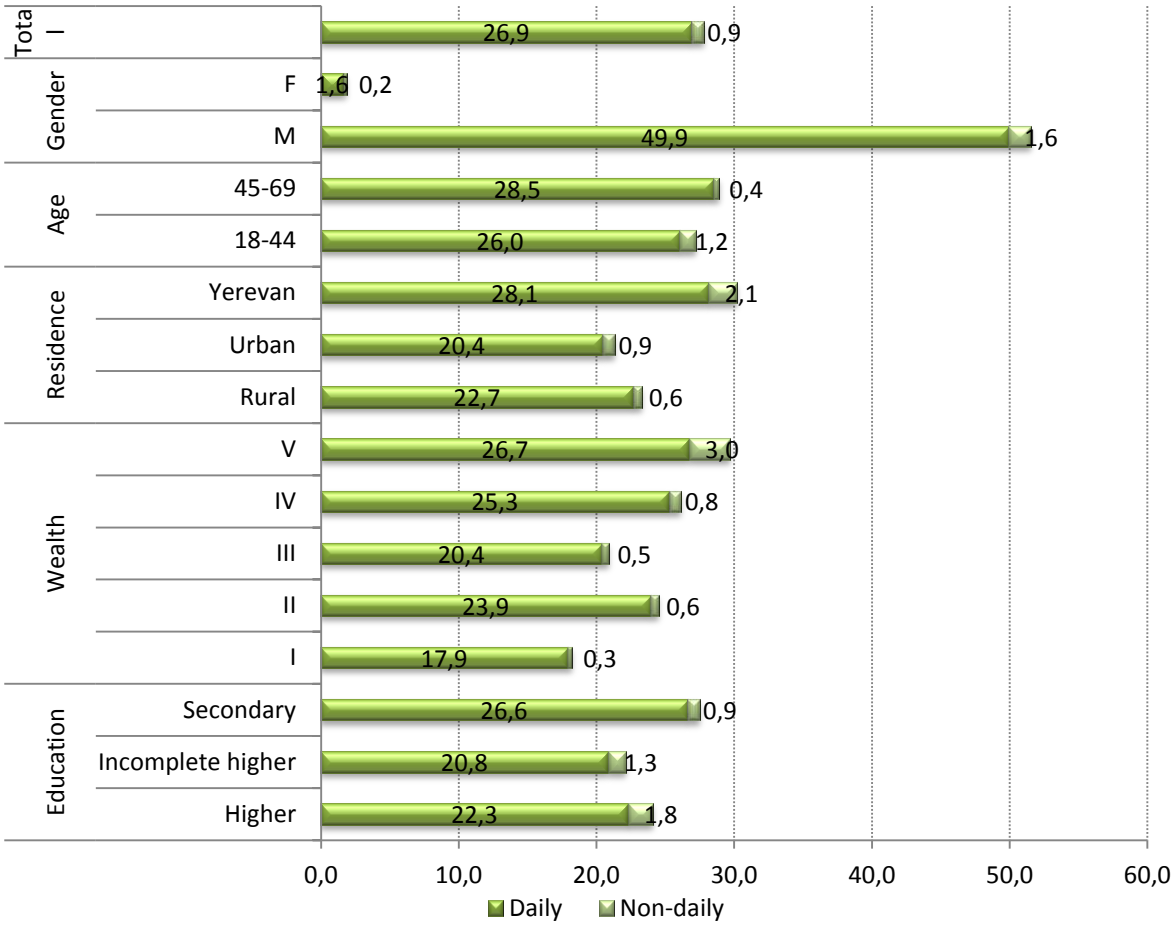
Almost 0.9% were occasional (not regular) smokers. The rate was nearly 3 times higher in 18-44 age group (04%, 45-69 age group 1.2% (Figure 3).

Figure 3. Frequency of tobacco use by age groups, (%)



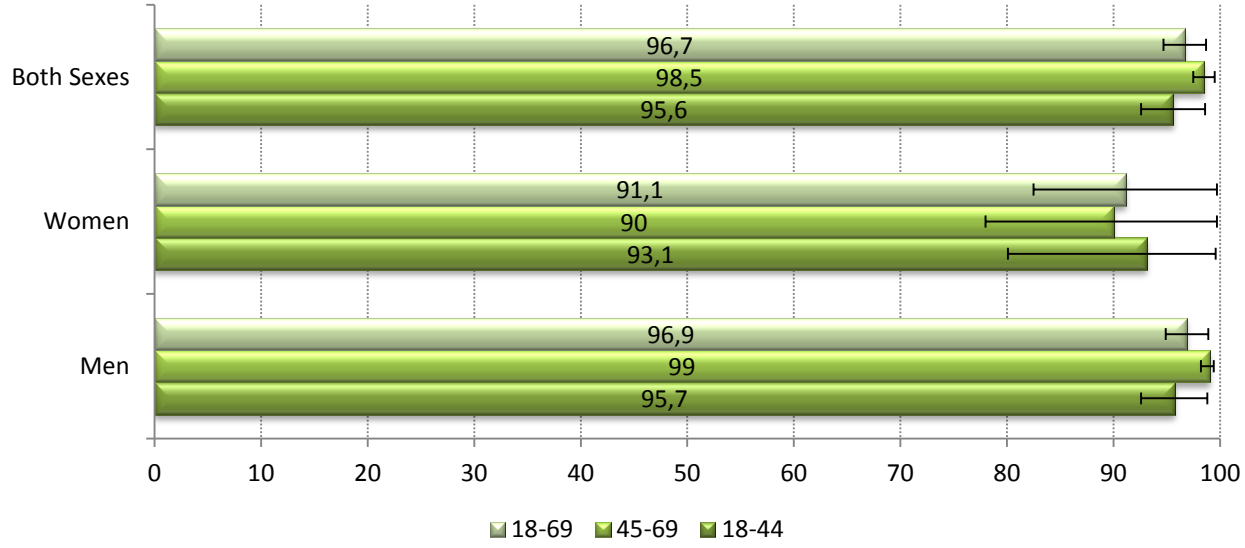
The prevalence of smoking was studied according to sociodemographic groups as well. Analysis of the survey results according to the residence revealed that smoking was more prevalence in Yerevan than in other cities or villages (Figure 4). The prevalence of tobacco use increased with wellbeing. Education-wise, the higher the educational level, the lower were the rates of smoking.

Figure 4. The proportion of daily and non-daily smokers by sociodemographic groups, (%)



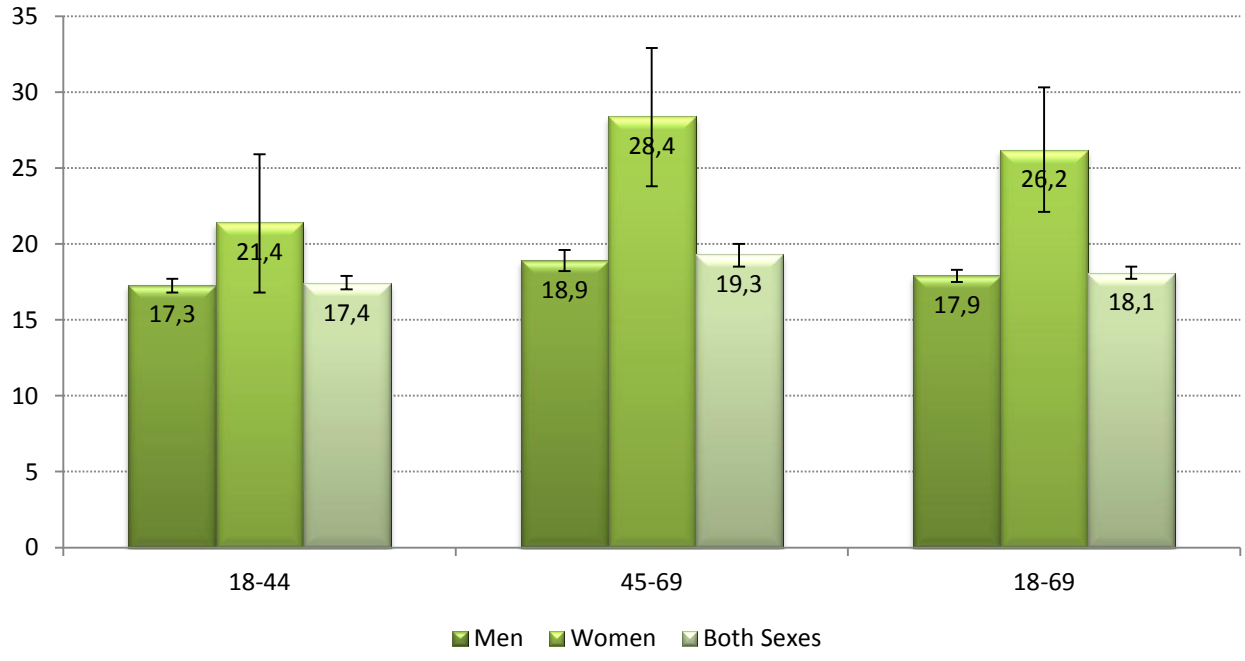
The overwhelming majority (97%) of smokers aged 18-69 years were daily smokers. As Figure 5 shows the proportion of daily smokers is higher in all age groups.

Figure 5. Proportion of daily and non-daily smokers by sex and age groups, (%)



The survey results witness that men start smoking earlier than women (mean age for men was established 17.9 and for women 26.2). Mean age when men started smoking did not vary much across age groups and was within the range of 17.3 to 18.9 years for men and 21.4-28.4 for women. The bottom-line is that smoking is more common in women in 45-69 age group than in those 18-44 years old (Figure 6).

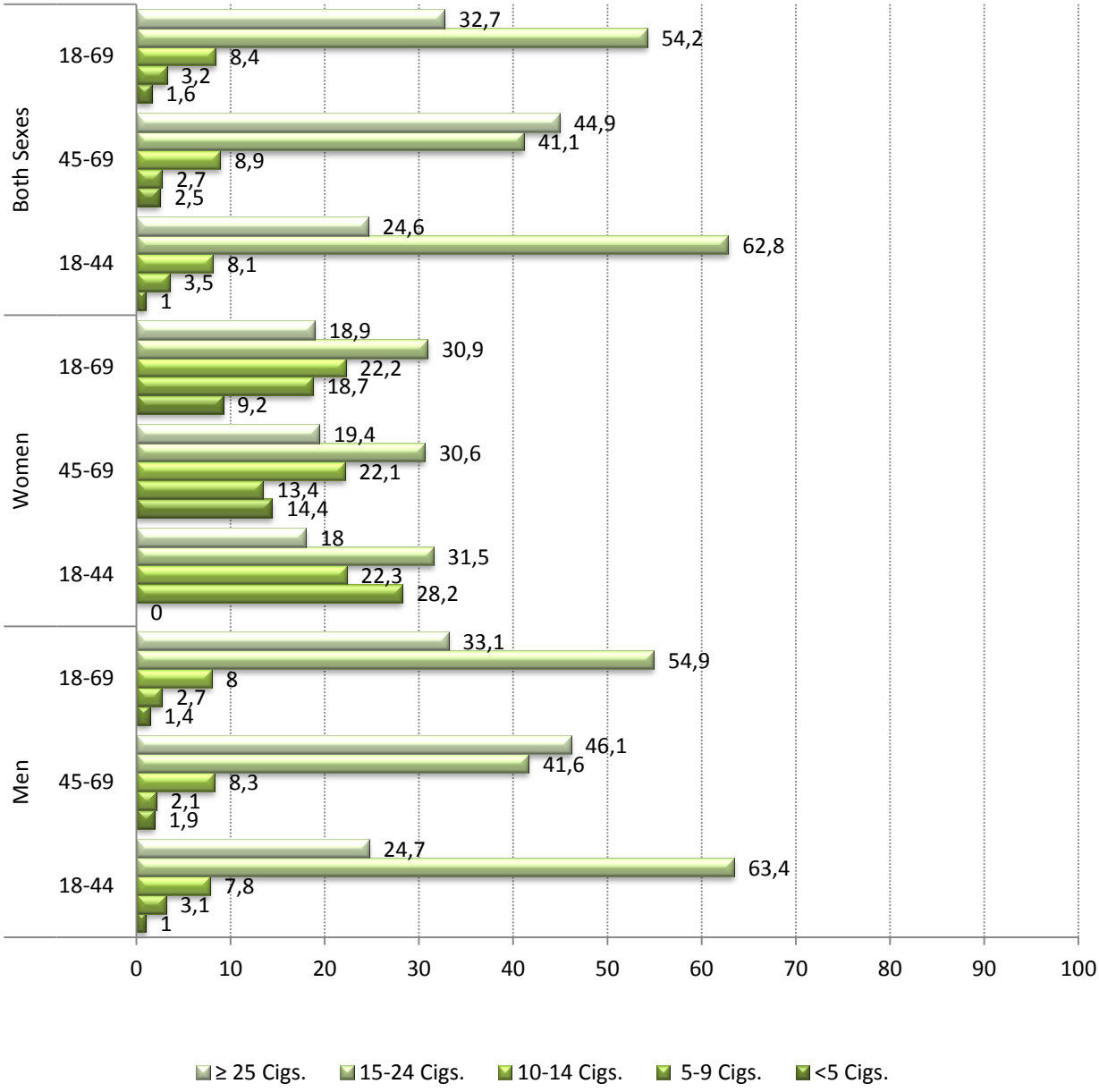
Figure 6. Mean age of starting smoking by sex and age groups,(%)



The vast majority of daily smokers (94.3%) smoked manufactured cigarettes; 1.6% of daily smokers in the 18-69 age group smoke below 6 cigarettes per day, 32.7% - 25 and more cigarettes, every second (46.1%) daily smoker men in the 45-69 age group and every fifth of

women (19.4%) smoke 25 and more cigarettes (more than a pack) per day, which is a serious threat of malignancies and CSD (Figure 7).

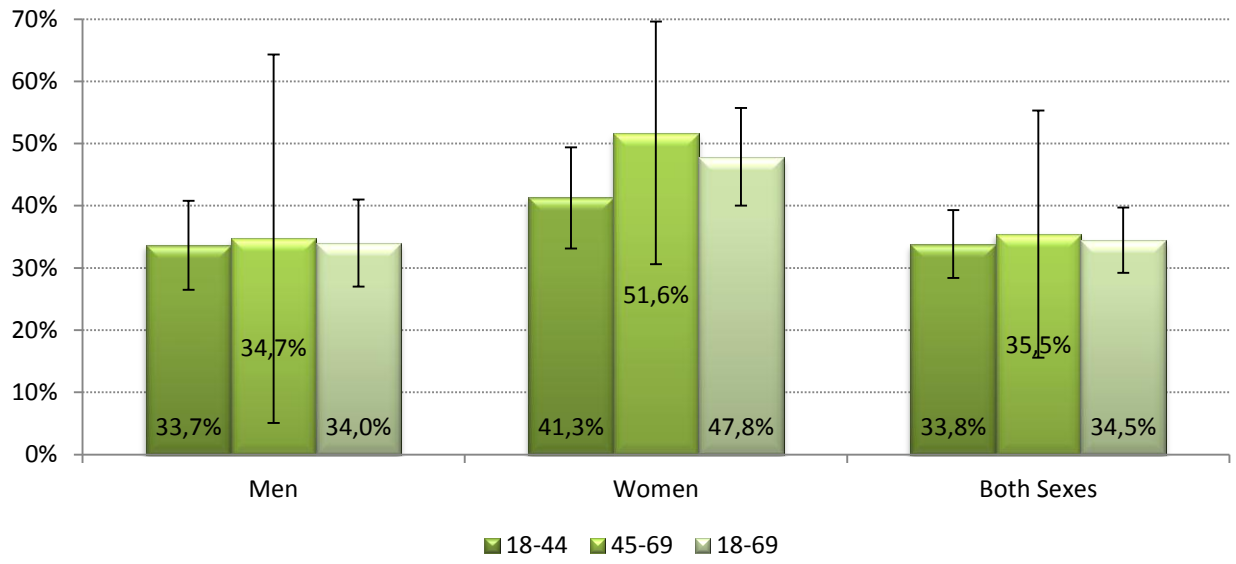
Figure 7. Distribution of daily smokers by the quantity of manufactured or hand-rolled cigarettes smoked per day, (%)



Of the total number of currently smoking 18-69 years old respondents, 35% had tried to stop smoking during the last 12 months (34.0% of men (95% CI: 28.6-39.5) and 47.8% of women (95% CI: 27.9-67.6).

Also, 29.2% of smoking men and 39.0% of women who had tried to quit smoking had visited a doctor or other health worker in the past 12 months and had been advised to stop smoking (Figure 8).

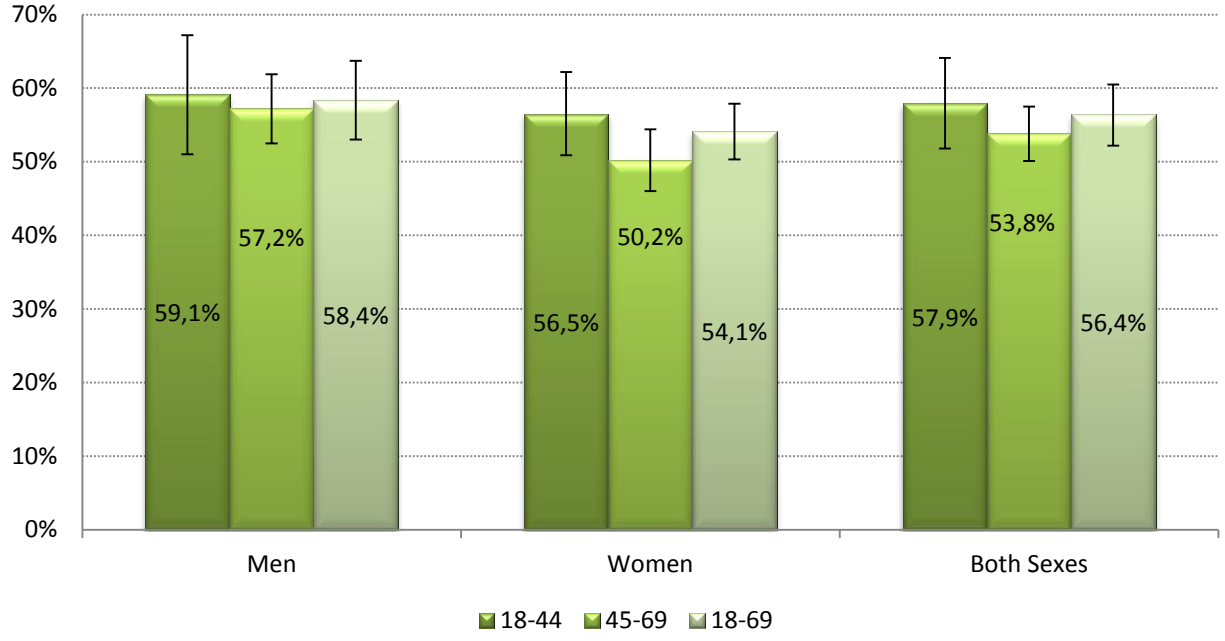
Figure 8. Proportion of current smokers who tried to quit smoking as advised by a healthcare worker during the past 12 months, (%)



The ill habit of smoking at home or when being a guest is quite popular in Armenian society hence the majority of the population are passive smokers.

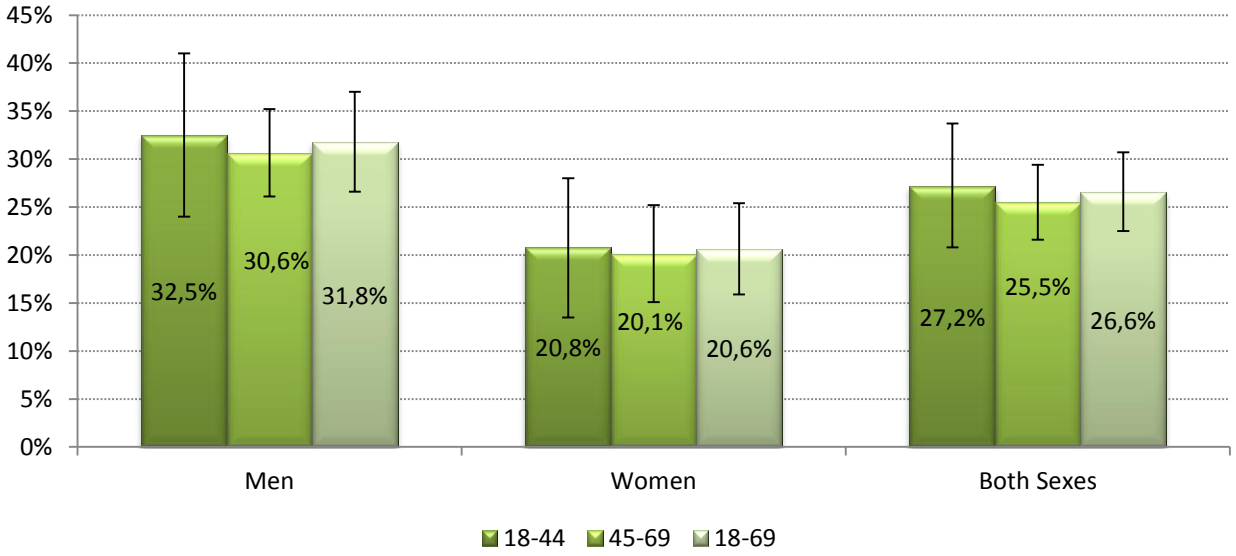
Every second individual (56.4%) reported to be exposed to second-hand smoke at home every day during the past 30 days, so they were considered daily passive smokers (Figure 9).

Figure 9. Proportion of respondents exposed to secondhand smoke in the home during the past 30 days by sex and age groups, (%)



COPD and asthma were more common in passive smokers, especially in children, compared to those not exposed to tobacco smoke. Though the RA Law on Tobacco prohibits smoking tobacco at the workplace, the survey results showed that around 26.6% of respondents were exposed to secondhand smoke at their workplaces during the past 30 days (Figure 10).

Figure 10. Proportion of respondents exposed to secondhand smoke in the workplace during the past 30 days by sex and age groups, (%)



Conclusions

1. Every 4th (27,9%) respondent in the 18-69 age group and every second men (51.5%) were considered smokers.
2. Smoking tobacco in men is one of the most prevalent risk factors of NCD development.
3. Tobacco use was more prevalent in residents of Yerevan (30.2%), than in other marz cities (21.3%) and villages (23.3%).
4. Nine out of 10 smokers were daily smokers.
5. The mean age of starting to smoke was 18.1.
6. Three (32.7%) out of 10 smokers smoked 25 and more cigarettes per day putting them at the risk of malignancies and CSD.
7. Manufactured cigarettes were the most commonly used tobacco product (smoked by 94.1% of smokers).
8. Every 5 (56.4%) out of 10 respondents were found to be exposed to secondhand smoke at home and every 4th (26.6%) in the workplace.

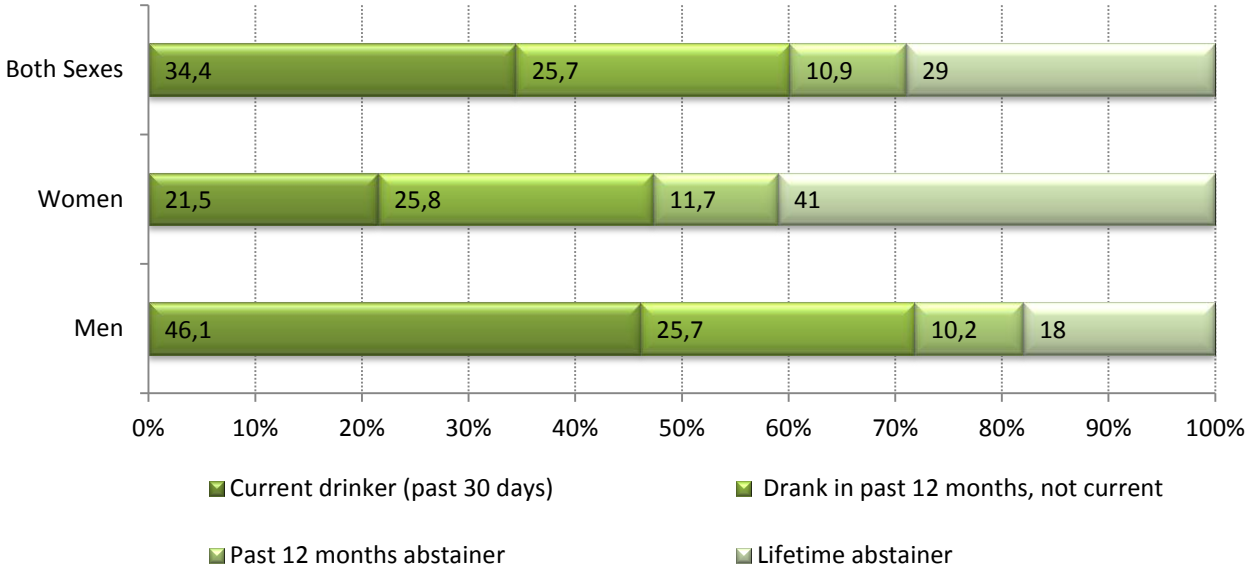
Alcohol consumption

To assess the prevalence of alcohol consumption in 18-69 years old population of Armenia, respondents were asked a number of questions on drinking alcohol beverages.

Previous surveys on alcohol consumption suggest increasing patterns. According to HSPA data, in 2016 the proportion of men consuming the daily equivalent of 20 g and more of pure alcohol was 16.3%. The rate had increased by 11.2% between 2012 and 2016 (3).

Of all respondents 29% had never consumed any alcohol (males 18% and females 41%) and 34.4% had consumed alcohol during the past 30 days. The proportion of males (46.1%) was significantly higher than that of females (21.5%). Both were considered currently drinking alcohol beverages. Figures show that women consumed alcohol twice less than men (Figure 11).

Figure 11. The frequency of alcohol consumption by sex, (%)



According to the survey, 3.2% of respondents reported, that they consume alcohol every day during the past 12 months, with males making up 5.0% (95% CI: 2.7-7.3) and females 0.1% (95% CI: 0.0-0.2).

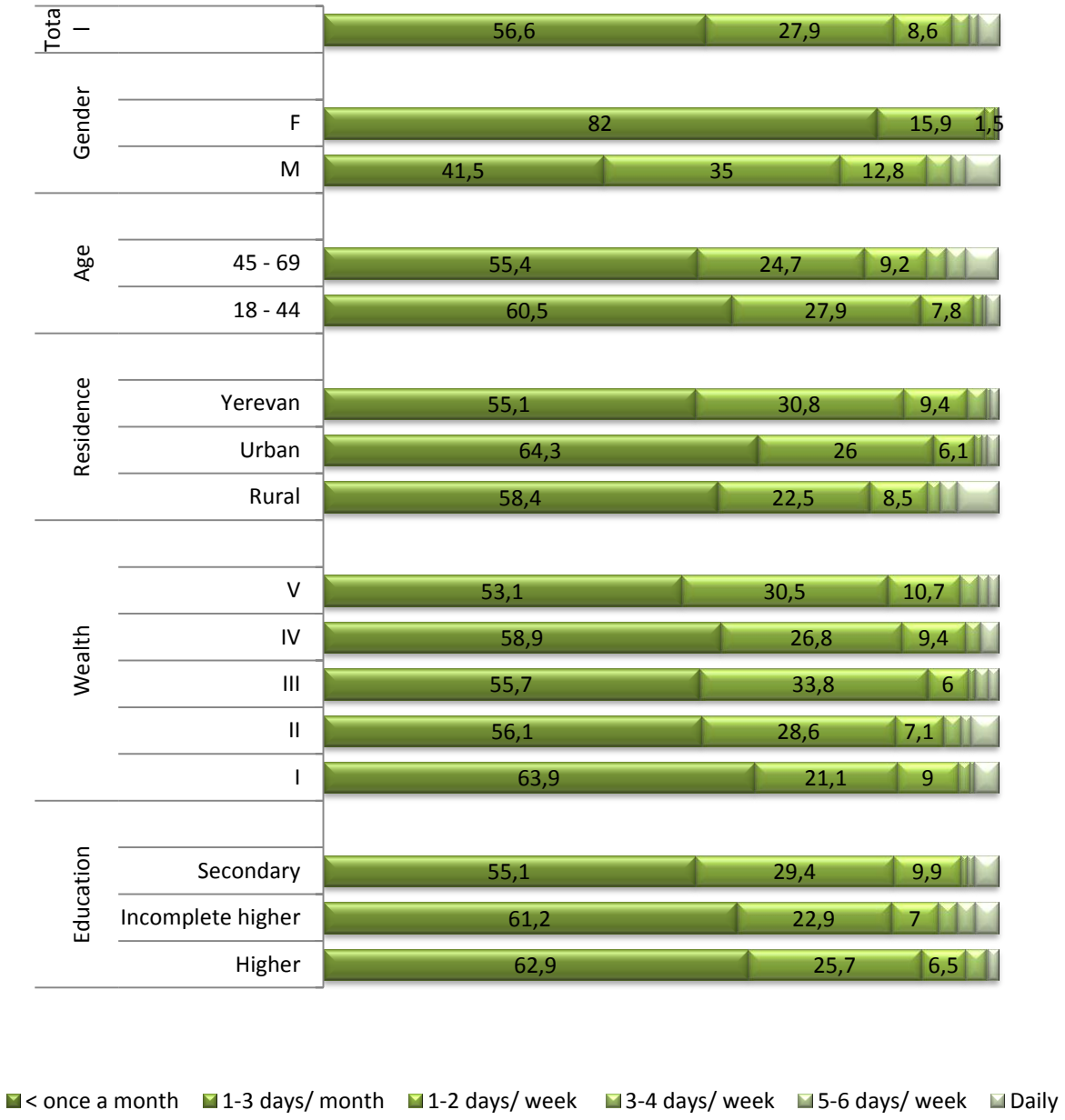
Over half of respondents (56.6%; 95% CI: 52,9-60,4) reported, that they consume alcohol once a month. In fact, the proportion of women drinking once a month was higher (men - 41,5% vs. women -82,0%) (Figure 12). This means that men consume alcohol drinks more often that women both per day and per week.

The prevalence of alcohol consumption increased with age: it was higher in 45-69 age group compared with those aged 18-44 years (Figure 12).

People in rural areas were found to be drinking alcohol beverages more often. Wealth-wise, the higher the wellbeing of the household, the lower was the frequency of alcohol consumption. This tendency is partially explained by the fact that in lower wealth quintiles people are mostly engaged in physical rather than intellectual activities. They tend to drink alcohol when

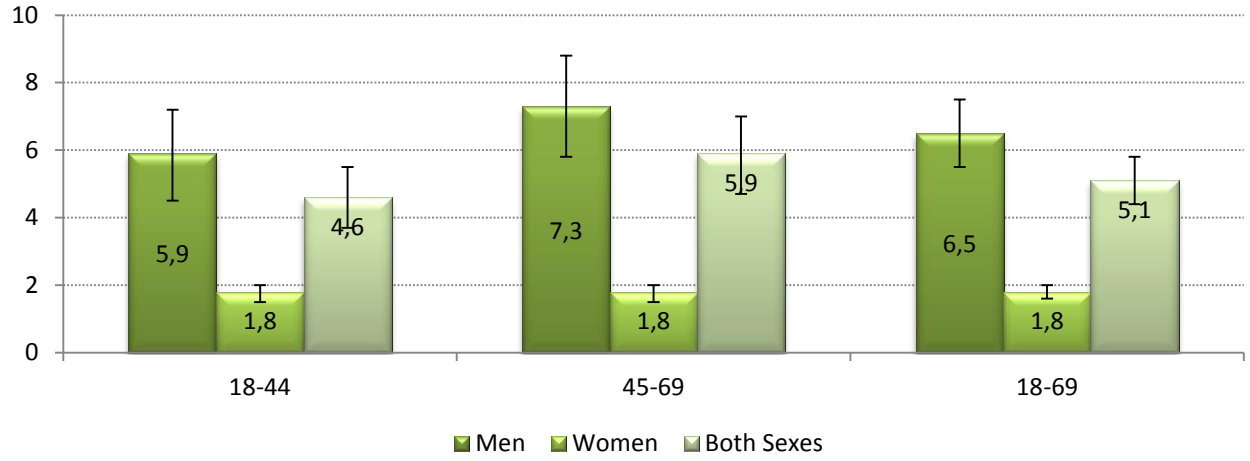
performing heavy physical work. Also, the higher the educational attainment of the respondent, the lower is the alcohol consumption rates (Figure 12).

Figure 12. Frequency of alcohol consumption in the past 12 months by sociodemographic groups, (%)



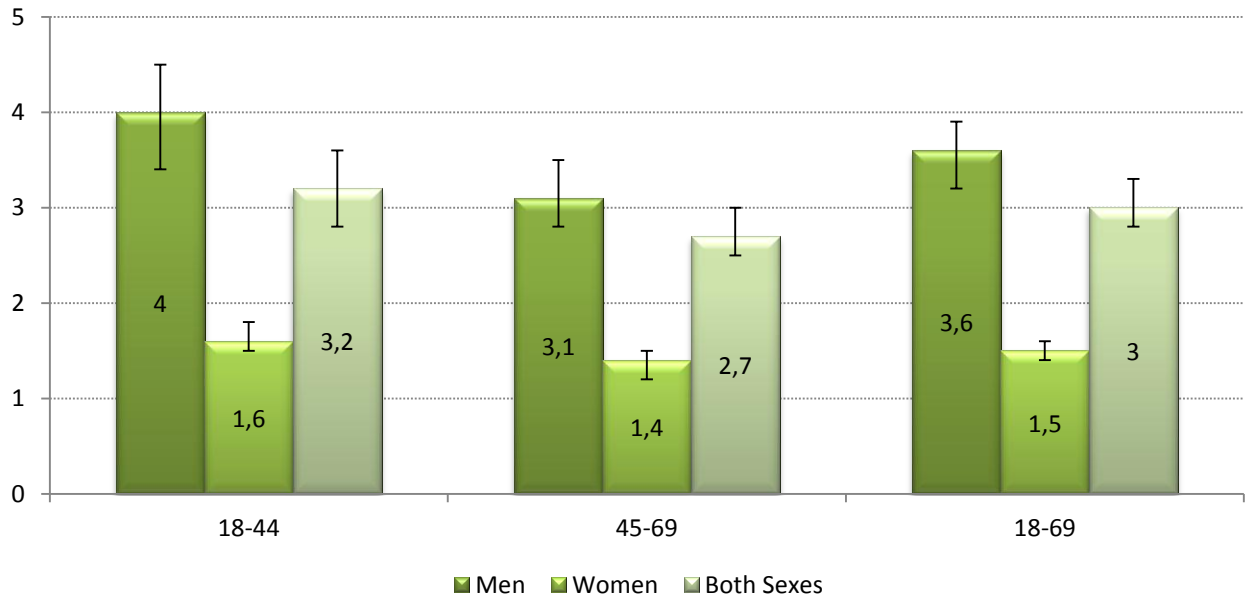
The alcohol consumption patterns were further analyzed by assessing the frequency of drinking in the past 30 days and the number of standard drinks per drinking occasion (Figure 13). In the past 30 days current alcohol drinkers had consumed alcohol on average on 5.1 occasions, with men 3 times more frequent than women.

Figure 13. Mean number of drinking occasions in the past 30 days among current drinkers by sex and age groups, (%)



The survey reviewed not only the mean number of occasions of drinking alcohol, but also the mean number of standard drinks consumed during the past 30 days (Figure 14). Respondents reported drinking 3 standard drinks per day on average, with men twice outnumbering women.

Figure 14. Mean number of standard drinks (glass, cup, tumbler) per drinking occasion among current drinkers during the past 30 days by sex and age groups, (%)



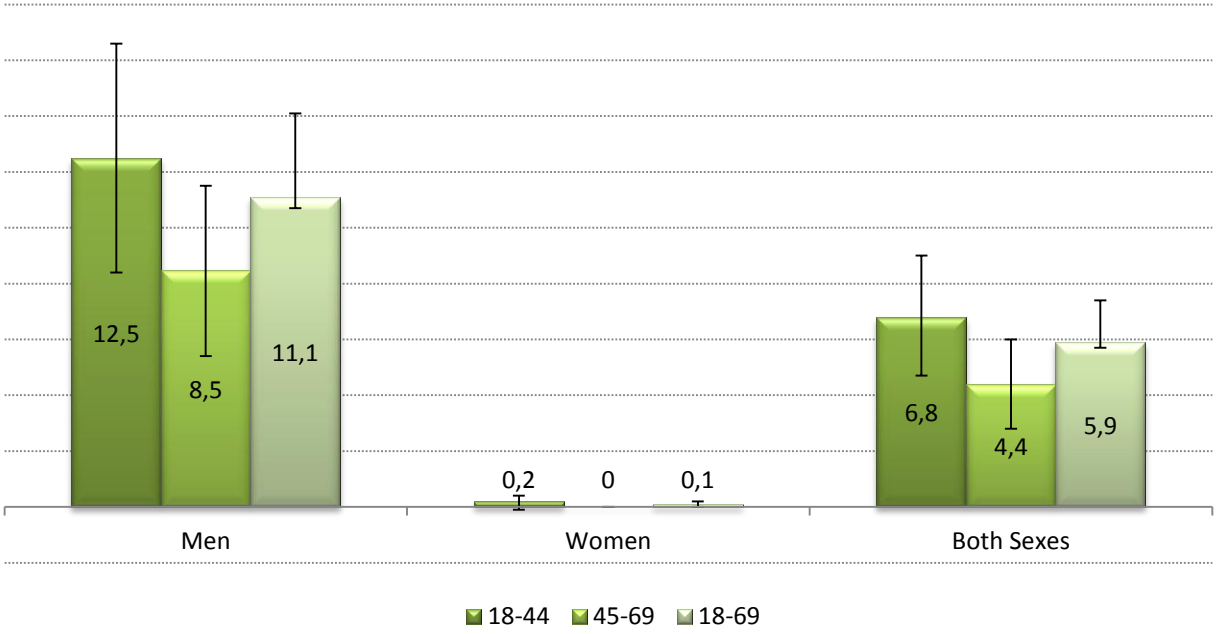
The risk associated with alcohol consumption was assessed in current (past 30 days) drinkers based on the average amount of alcohol consumed per drinking occasion in the past 30 days. Results showed that 65.2% of all current drinkers (95% CI: 60.3-70.0) had a low risk associated with alcohol consumption (below equivalent of 40g pure alcohol per occasion); 24.3% had a medium risk (40-59.9 g pure alcohol, 22.5.8% for men and 28.4% for women; and 10.3% had a high risk (≥60 g) with 13.7% for men and 3.3% for women (Table 15).

Table 15. Proportions of alcohol drinkers (past 30 days) according to high-, intermediate- and low-volume drinking levels

High-end, intermediate, and lower-end level drinking among current (past 30 days) drinkers							
Age Group (years)	Both sexes						
	n	high-end (%)	95% CI	intermediate (%)	95% CI	lower-end (%)	95% CI
18-44	328	12.2	7.7-16.8	27.2	20.7-33.6	60.6	53.5-67.7
45-69	316	7.9	4.3-11.5	19.8	14.8-24.8	72.3	66.6-77.9
18-69	644	10.5	7.4-13.7	24.3	19.9-28.7	65.2	60.3-70.0

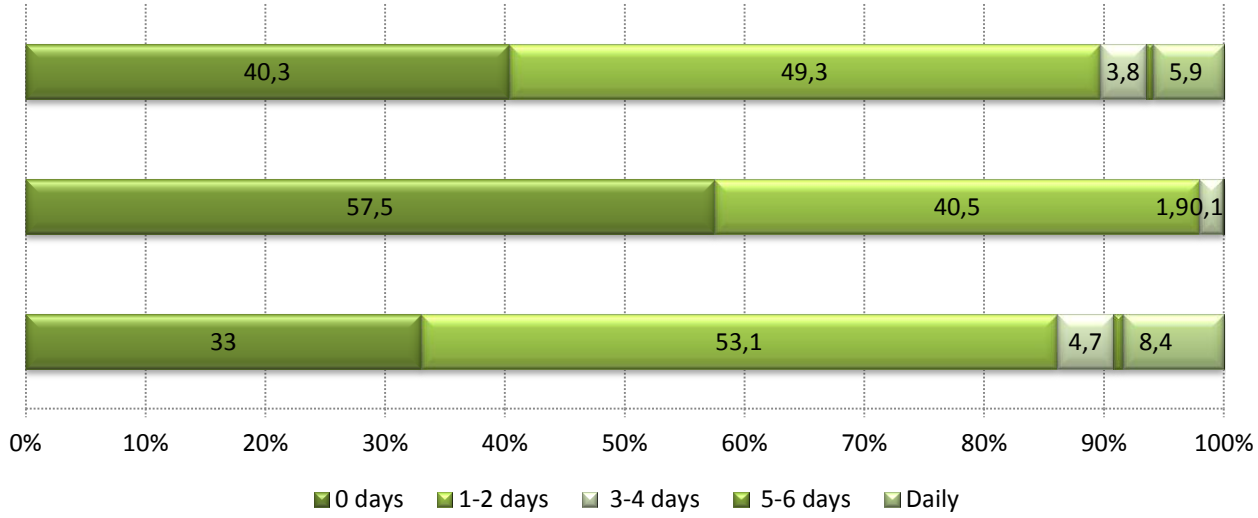
Of all survey respondents, 5.9% had consumed six or more drinks on a single occasion during the past 30 days, with a significant difference between men and women (men consume alcohol 11% more). Both, alcohol and tobacco use are common risk factors of NCD development in men (men 11.1%, women 0.1%) (Figure 15).

Figure 15. Consumption of six and more drinks on a single occasion at least once during the past 30 days, by sex and age groups, (%)



The survey assessed also the frequency of drinking alcohol during the past 7 days among current drinkers (past 30 days)(Figure 16). According to the results, 5.9% of respondents reported drinking alcohol every day during the past week. Here also Figures show absolute difference between men and women (men 8.4%, women 0.1%).

Figure 16. Frequency of consumption of alcohol drinks by current drinkers (past 30 days) during the past 7 days, (%)



The survey studied consumption of unrecorded alcohol, including beer, wine, strong spirits, young wine, etc.

Consumption of unrecorded alcohol was higher in rural areas because of the traditions of home alcohol production. The rate in men accounted for 21.3% (95% CI: 16.0-26.6) and in women 9.2% (95% CI: 4.8-13.6).

Table 16. Proportion of current drinkers (past 30 days) who had consumed unrecorded alcohol in the past seven days by sex and age groups

Consumption of unrecorded alcohol									
Age Group (years)	Men			Women			Both Sexes		
	n	Consuming unrecorded alcohol (%)	95% CI	n	Consuming unrecorded alcohol (%)	95% CI	n	Consuming unrecorded alcohol (%)	95% CI
18-44	156	22.4	14.5-30.2	174	6.5	0.8-12.2	330	17.1	11.8-22.5
45-69	179	19.8	13.1-26.5	139	15.0	7.7-22.3	318	18.7	13.4-23.9
18-69	335	21.3	16.0-26.6	313	9.2	4.8-13.6	648	17.7	13.9-21.6

Conclusions

1. Alcohol drinks were consumed by 34.4% of 18-69 years old population, with men comprising 46.1% and women 21.5%.
2. Only 3 of 10 (29%, 95% CI: 26.2-31.8) respondents were lifetime alcohol abstainers.
3. The frequency of daily alcohol consumption was 3 times higher in men.
4. The prevalence of alcohol consumption was higher in 45-69 age group, compared with younger respondents of the 18-44 age group.
5. In rural areas alcohol consumption was more common: daily consumption of alcohol was reported by 6% of current drinkers in rural areas and 1.5% in Yerevan and other urban areas.
6. The higher the educational levels of respondents, the lower are the alcohol consumption rates.
7. Six and more standard drinks on one single occasion during the past 30 days was consumed by11.1 % men (95% CI: 8.1-14.0) and 0,1 % women (95% CI: 0.0-0.3).
8. Unrecorded homemade alcohol was used by 17.7 % (95% CI: 13.9-21.6) of 18-69 years old with men comprising 21.3% (95% CI: 16.0-26.6) and women 9.2% (95% CI: 4.8-13.6).
9. Consumption of the equivalent of over 60g of pure alcohol (i.e. high risk group) was reported by 10.3% of participants (men 13.7 % vs. women 3.3 %).

Diet

Consumption of fruits and vegetables

Healthy physical and mental development, normal functioning of the immune, hormonal, fermentation and other biological systems are contingent upon balanced and safe food intake. Choosing the right food and the right form of intake are critical, because insufficient or excess intake of any nutrient can be harmful for human health and can lead to NCD development.

In 2015 research in Armenia on population nutritional status and gaps within the framework of the program implemented by the Oxfam country office in Armenian. The research findings are available in the Report on Nutrition of the Population of Armenia (21).

The goal of the research was to study nutrition patterns of the population and to reveal national nutrition policies.

According to the presented data, access to most of fruits and vegetable consumed in Armenia depends largely on the season. The diet variety score was 8.66. The rate of no access to fruits varied within the range of 1.8%-65.4% and to vegetables within the range of 1.1%-39.8%. The highest access to fruits and vegetables during the year is mostly in summer and autumn and the lowest in winter and spring.

Residence-wise, access to fruits and vegetables is poor in rural, border and mountainous areas, especially off-season (reaching 95.3%).

The prevalence of consumption of fruits and vegetables (daily and weekly) by 18-69 aged population and the servings were studied under STEPS survey according to demographic groups.

The survey findings came to confirm that consumption of most of basic fruits and vegetables was strongly seasonal. This is explained by the fact that the survey was conducted in October and December.

According to the survey findings, fruits and vegetables were consumed on average 5.0-5.4 days per week. Consumption of fruits was found higher in all age groups as opposed to vegetables (5.4 (95% CI: 5.3-5.6), 5.0 (95% CI: 4.9-5.2).

Also, young women of 18-44 years of age tend to consume more fruits and vegetables (Table 17).

Table 17. Mean number of days on which fruits and vegetables were consumed by sex and age groups

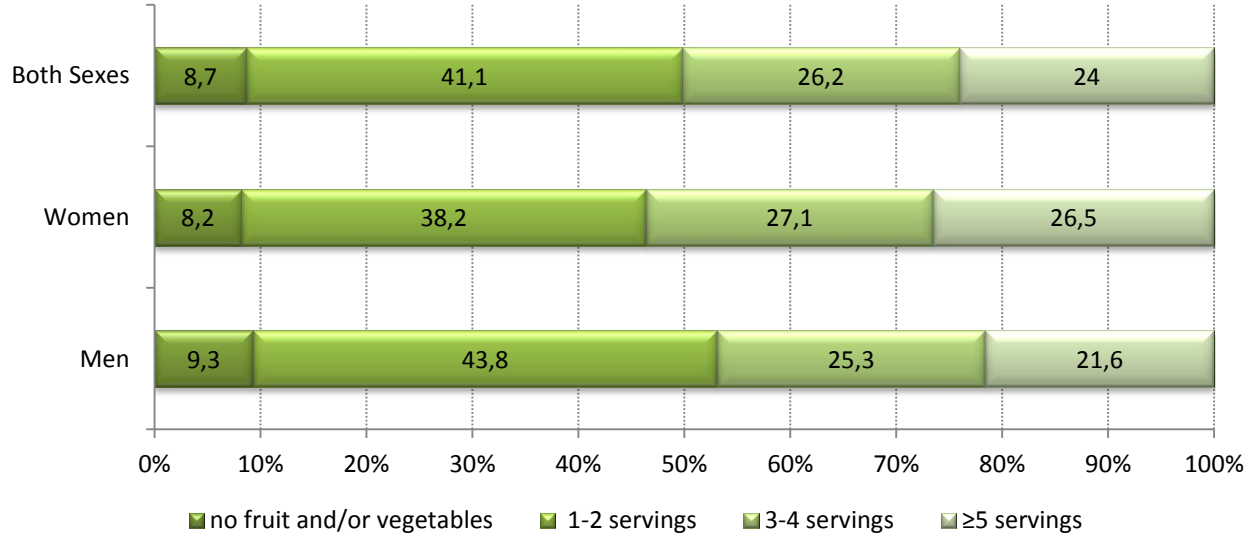
Mean number of days on which fruits were consumed in a typical week									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-44	365	5.3	5.0-5.6	777	5.7	5.5-5.9	1142	5.5	5.3-5.7
45-69	344	5.1	4.8-5.4	817	5.4	5.3-5.6	1161	5.3	5.1-5.5
18-69	709	5.2	5.0-5.5	1594	5.6	5.5-5.8	2303	5.4	
Mean number of days on which vegetables were consumed in a typical week									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-44	364	5.0	4.6-5.3	775	5.1	4.9-5.3	1139	5.0	4.8-5.2
45-69	343	5.2	4.9-5.4	812	5.0	4.8-5.2	1155	5.1	4.9-5.3
18-69	707	5.0	4.8-5.3	1587	5.0	4.9-5.2	2294	5.0	4.9-5.2

Daily consumption of 5 and more servings of fruits and vegetables was reported by 24% (95% CI: 21.1-26.8). The rate was higher in 45-69 age group and women aged 18-44.

Data in Table 17 is alarming. 9% of participants do not consume fruits and vegetables at all, 41% eat 1-2 servings, which according to WHO recommendations do not meet healthy diet requirements and is a risk for NCD development (Figure 17).

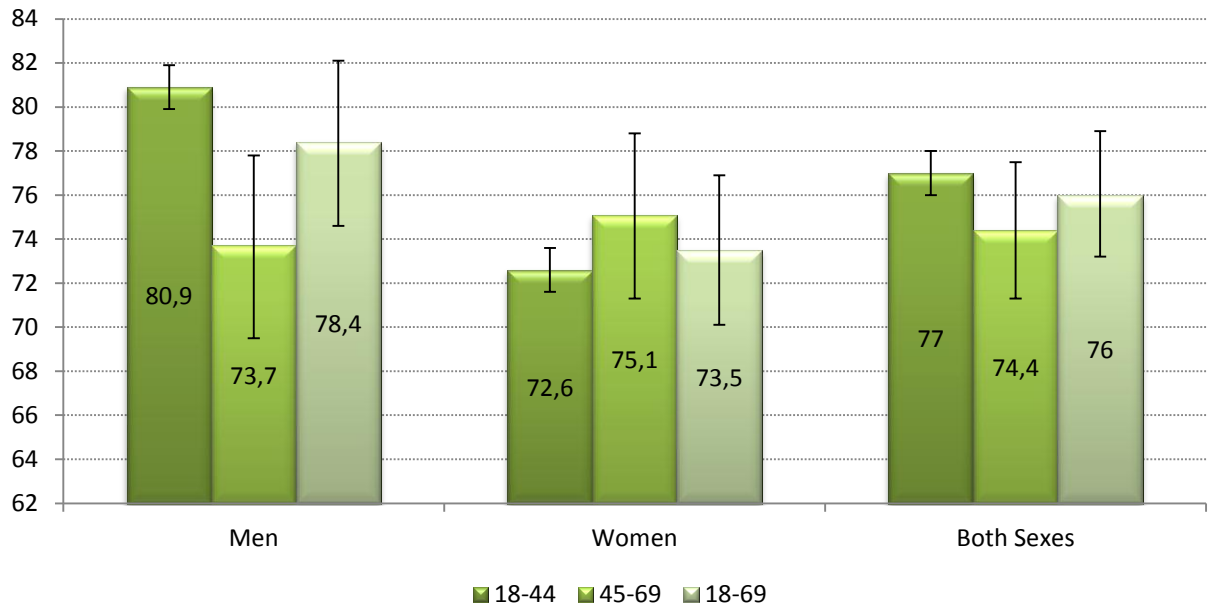
Consumption of fruits and vegetables was assessed also across sociodemographic groups: residence, education, and wealth, which however did not evidence any essential behavioral differences.

Figure 17. Proportion of respondents consuming less than 5 servings of fruits and vegetables per day by sex and age groups, (%)



Intake of less than 5 servings of fruits and vegetables per day was reported by 76.0% (95% 73.2-78.9) with women making up 73.5% and men 78.4% (Figure 18).

Figure 18. Proportion of respondents consuming less than 5 servings of fruits and vegetables per day, (%)



Oil and fat consumption

The survey reflected on consumption of oils and fats most often used for meal preparation by households. Of the total number of households reviewed, 65.6% (95% CI: 62.0-69.2) used vegetable oil, 3.1% 27.6% (95% CI: 24.3-30.8) prepared meals using animal fat, and the rest (1.4%) reported using lard (Table 18). The survey on nutrition status of the population showed that 65.9% consume only vegetable oil and 33.2% use cream butter or ghee (21).

The two above surveys suggested that majority of the population use vegetable oil when cooking meals.

Analysis of oil and fat consumption did not reveal any significant behavioral differences across Yerevan and marzes, which however is not the case with rural areas (Figure 19). In villages cream butter and clarified butter (ghee) are used twice more often, and the prevalence of the use of lard was 5 times higher.

Figure 19. Use of oil and fat when cooking meals, by residence, (%)

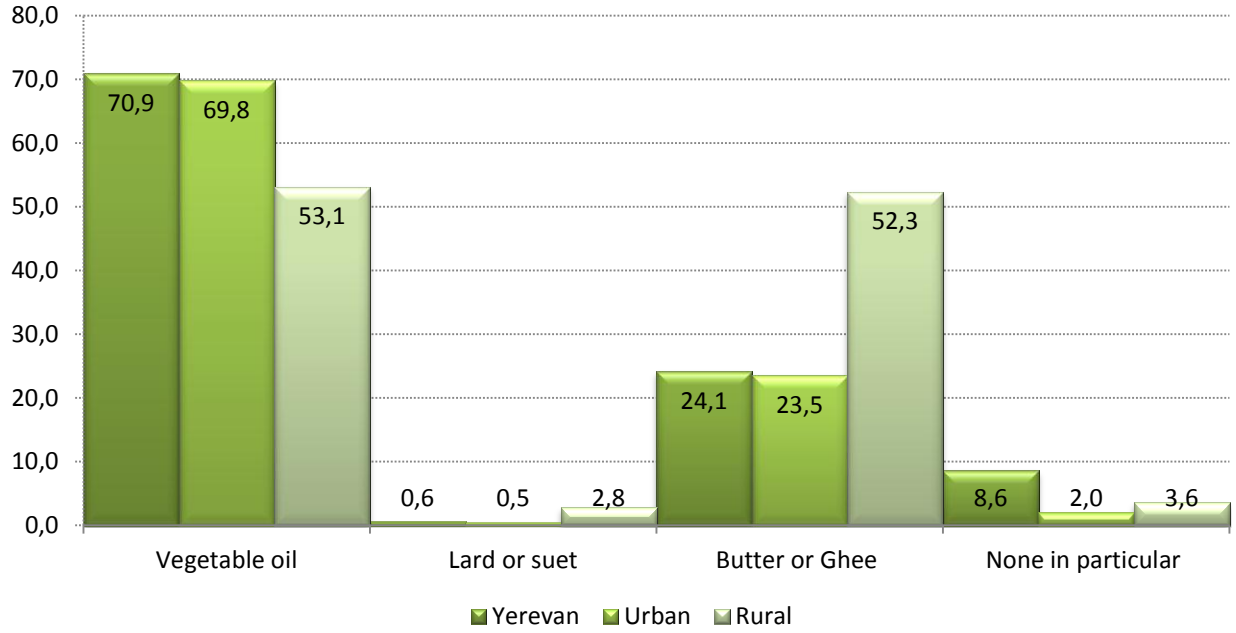


Table 18. Types of oil or fat most often used in the household meal preparation (for both sexes since the question was addressed to the entire family)

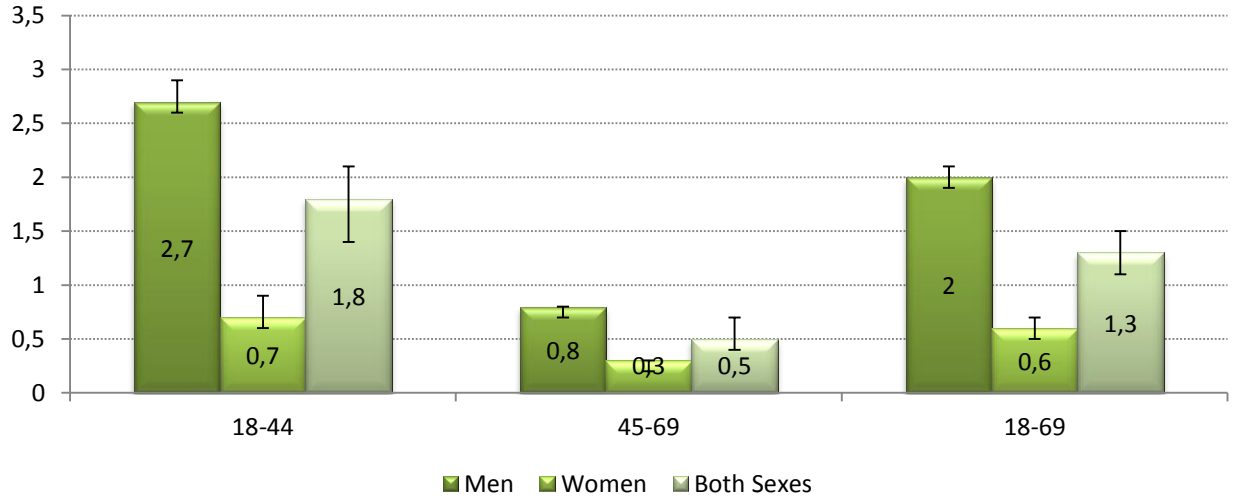
Type of oil or fat most often used for meal preparation in household										
n (house -holds)	Vegetable oil (%)	95% CI	Lard or suet (%)	95% CI	Butter or Ghee (%)	95% CI	Other (%)	95% CI	None in particul ar (%)	95% CI
2323	65.6	62.0-69.2	1.4	0.7-2.0	27.6	24.3-30.8	0.1	0.0-0.2	5.3	3.6-7.1

Meal behavior

The survey also studied the alimentary behavior of the population, i.e. eating at home or outside the home. On average, the number of reported meals eaten outside the home (on occasion or as usual) was 1.3 (95% CI: 1.1-1.5) with a significant difference between men (2) and women (0.6) (Figure 20).

The habit of eating out across age groups peaks in the 18-44 age group (Figure 20), because most of working women preferred eating the food brought from home. According to the findings of the research on nutrition of the population in Armenia, 11% of respondents eat out 1-3 times per week, with the significant difference across sexes (men 18.3% vs. women 7.6%) (21).

Figure 20. Mean number of meals eaten outside the home during the week



Use of dietary salt

Numerous surveys have shown evidence that it is not the salt that is dangerous, but the amount consumed. Excess intake of salt leads to health problems and NCD, particularly hypovolemia, AH, stroke, renal disorders and worsening of the general health status (**22**).

Most people consume too much sodium in the form of salt (around 7 kg per year) exceeding the permissible norms. Based on numerous studies, WHO recommends refraining from excess sodium intake and reducing daily use to 1-2 grams. International studies suggest that reduction of the daily intake of salt by 3 grams will help reducing the global rate of cardiac infarction by 13%.

Reduction of dietary salt intake can result in:

- AH regulation, which in its turn reduces the risk of stroke, cardiac infarction, and renal disorders,
- Removal of excess fluids from the body, thus reducing the strain on the heart,
- Normal functioning of kidneys and water and sodium balance,
- Reducing abdominal and feet edema,
- Reducing the risk of renal stones, and
- Strengthening and maintaining musculoskeletal system.

Majority of adults in Armenia eat rather salty traditional food, like cheese, sausages, pickles, various canned foods including meats, fish, etc. The highest content of salt is identified not in pickles, but chips, fast food and smoked food abused by children and adolescents.

Salt intake was assessed within the framework of HSPA and other surveys through interviewing only.

HSPA 2016 revealed that 15.5% of 15 and older population consume too much salt. This behavior is especially common in males and particularly those 15-34 years old. Assessing intake and abuse of salt through interviews provides only a subjective overview. To achieve more precise and accurate data biochemical examinations are required in order to determine the levels of sodium and creatinine in the urine (3).

The first biochemical laboratory examination showing the level of salt intake was conducted within STEPS survey targeting the 18-69 aged population. Assessment of salt intake was based on the questions inquiring the frequency and amount of consuming food rich in salt, salty sources, awareness of the harmful effects of salt abuse, as well as attempts to reduce the use of salt.

According to the summarized data, 35.4% of respondents add salt before or while eating with essential difference between sexes (more prevalent in men (40.3%) than in women (30.1%)) (Table 19).

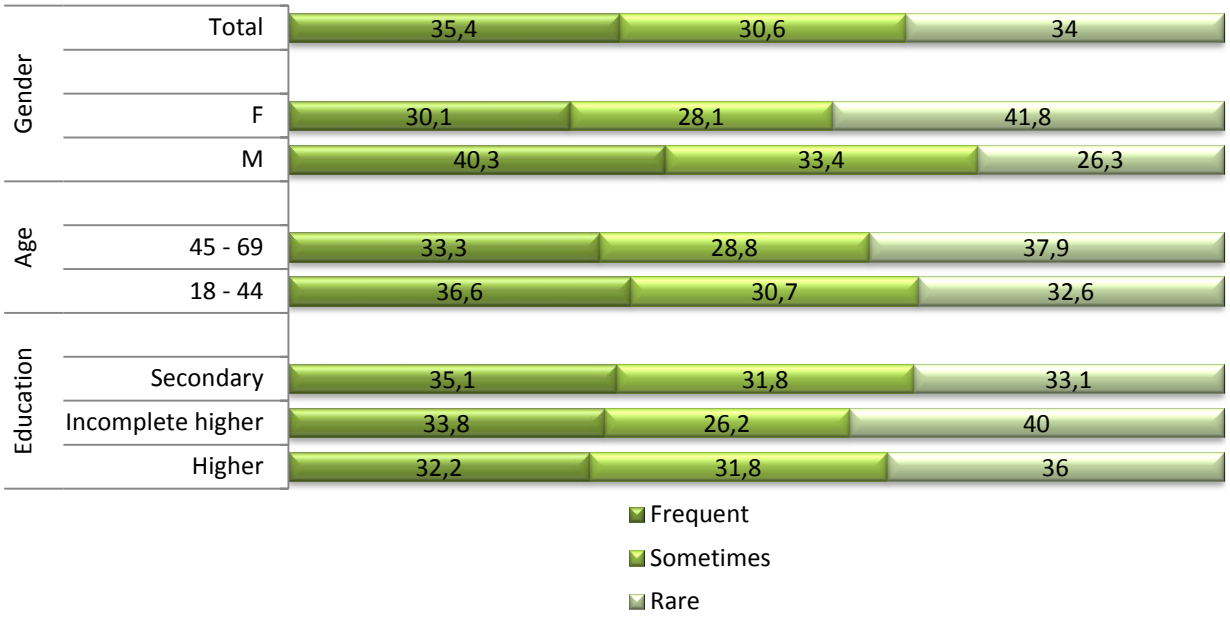
Table 19. Percentage of respondents always adding salt or salty sauces to dishes before or while eating, by sex and age groups

Add salt always or often before eating or when eating									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	374	38.5	33.4-43.6	783	34.5	30.6-38.5	1157	36.6	33.4-39.9
45-69	355	43.4	37.3-49.5	822	22.8	19.4-26.2	1177	33.3	29.7-36.9
18-69	729	40.3	36.1-44.4	1605	30.1	27.1-33.1	2334	35.4	32.9-38.0

Excess use of salt was found higher in younger groups, particularly 18-44 years of age, compared with those in 45-69 age group (Figure 21).

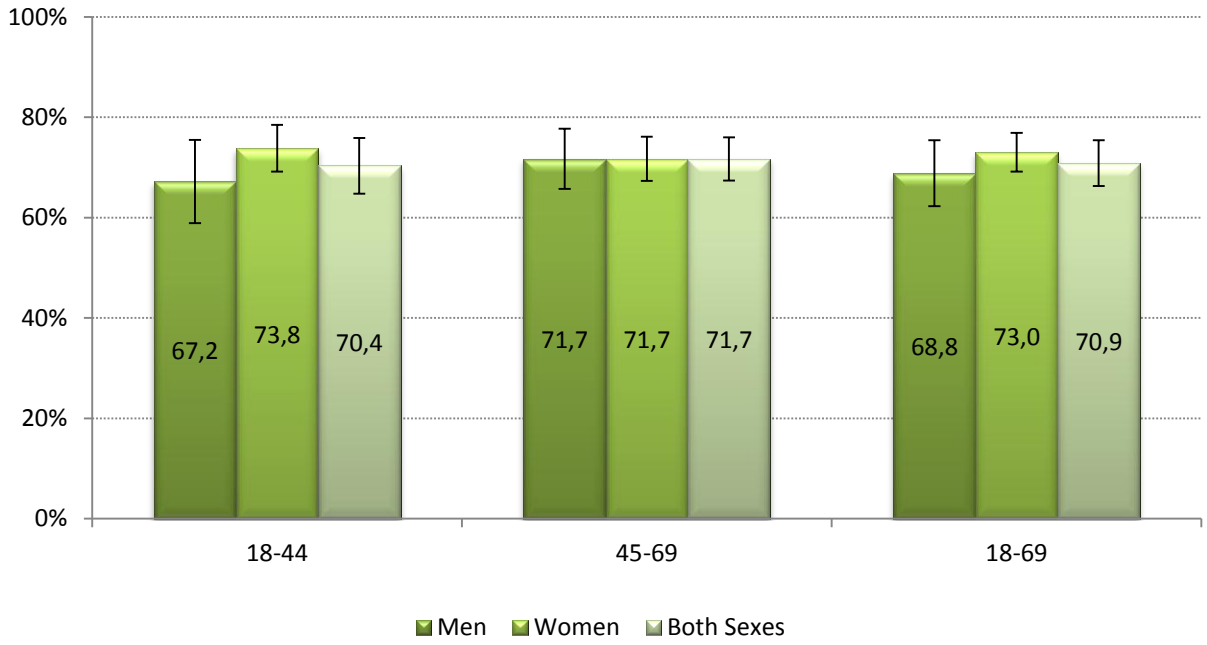
The higher the educational attainment of the respondents, the lower was the rate of sodium intake, which is due to better awareness of its harmful health effects.

Figure 21. The frequency of adding salt or salty sauces to dishes before or while eating, by sociodemographic groups (%)



As the Figure above shows, 70.9% (95% CI: 66.3-75.4) of respondents often or always add salt or salty sauces to the food before or while eating.

Figure 22. Proportion of respondents who always or often eat processed foods high in salt, by sociodemographic groups, (%)



Eating too much processed food high in salt (such as smoked meats and fish, fat, pickles, salty chips) was reported by 31.2% (95% CI: 28.4-34.0) (Table 20). Men use salty food more often than women.

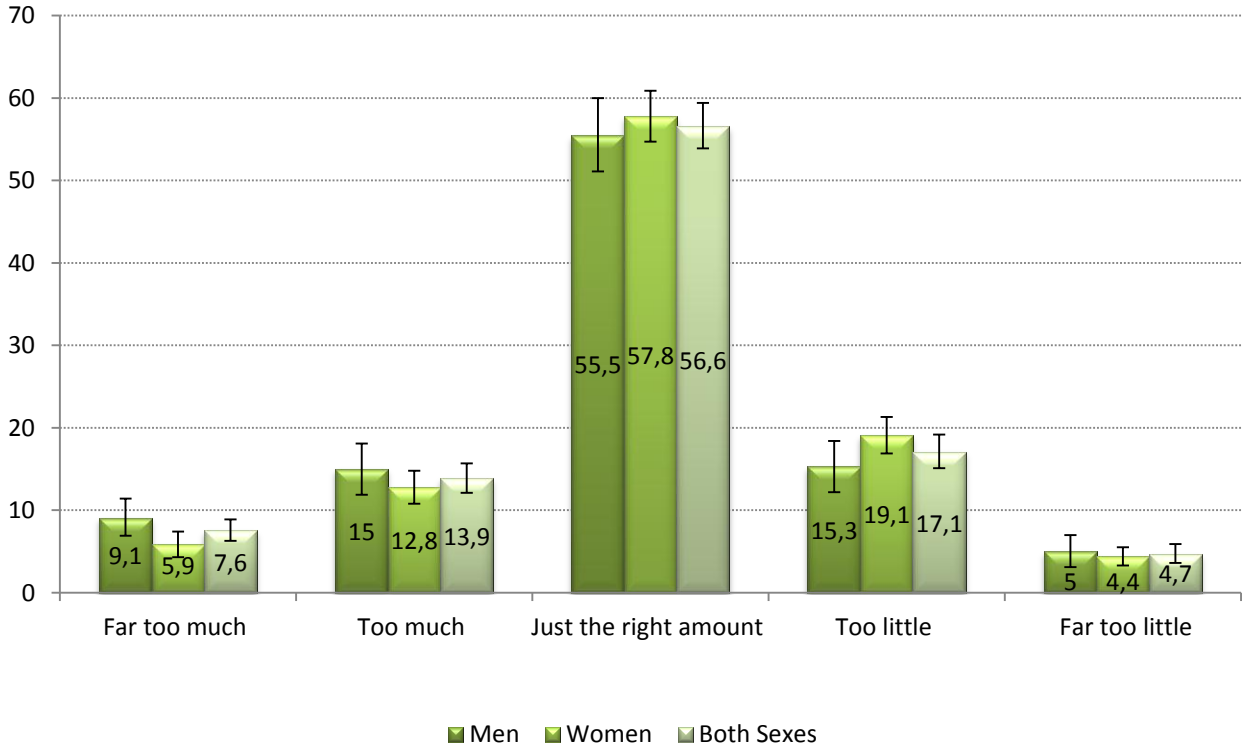
Table 20. Proportion of respondents who always or often eat processed foods high in salt, by sociodemographic groups

Always or often consume processed food high in salt									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	376	35.0	29.3-40.7	784	30.4	26.5-34.2	1160	32.8	29.1-36.5
45-69	353	33.1	27.1-39.1	824	23.5	19.7-27.2	1177	28.4	24.8-32.0
18-69	729	34.3	30.0-38.7	1608	27.8	24.8-30.7	2337	31.2	28.4-34.0

As Figure 23 suggests, 21.5% eat much or too much salt or salty sauces, which creates serious concerns.

Only 4.7% (95% CI: 3.6-5.9) of respondents believed they use too little salt or salty sauces and 56.6% reported eating just the right amount.

Figure 23. Consumption of sat and salty dressings by sex and age groups, (%)



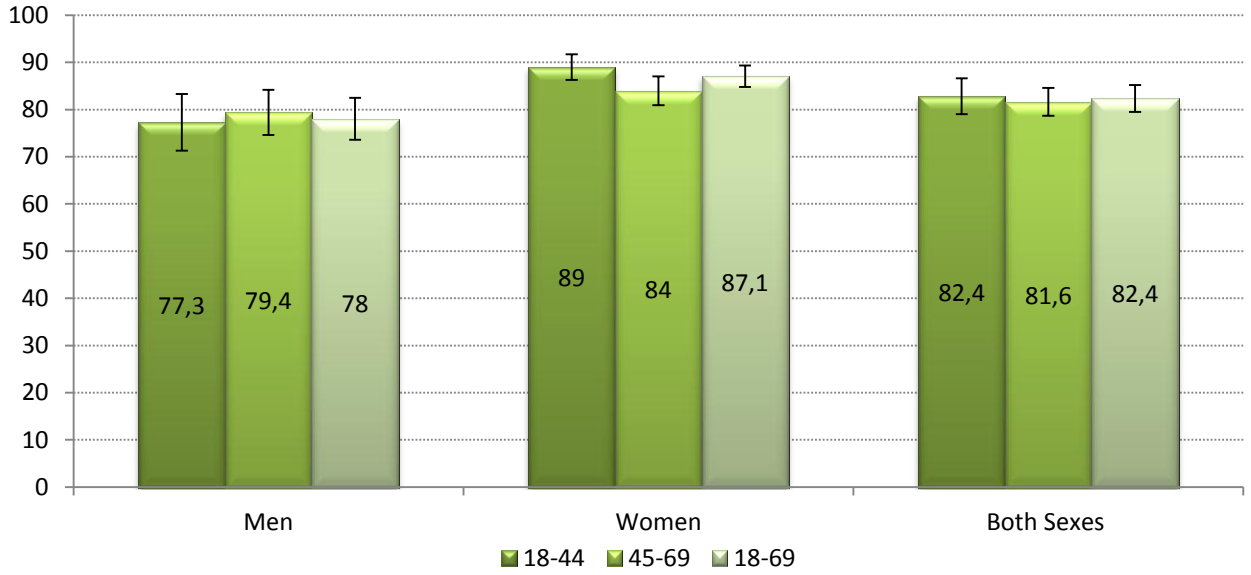
To understand the patterns of salt intake and the awareness of the harmful health effect of salt abuse, the survey questionnaire asked the following questions: 'How important is lowering salt in diet' with responses including 'very important', 'somewhat important' and 'not at all important'. Every second individual (20.9%, 95% CI: 18.2-23.6) believed that reducing salt in diet is 'not at all important' and that salt does not cause any health problems, 44.6% (95% CI: 41.2-48.0) thought it is 'somewhat important' (Table 21) and only 34.6% of respondents realized the importance of limiting salt intake in their diet.

Table 21. Proportion of respondents who think reducing the amount of salt in the diet is 'important', 'somewhat important' and 'not important at all', by sex and age groups

Importance of lowering salt in diet							
Age Group (years)	Both Sexes						
	n	Very important (%)	95% CI	Somewhat important (%)	95% CI	Not at all important (%)	95% CI
18-44	1125	34.4	29.4-39.3	43.5	39.0-48.1	22.1	18.5-25.8
45-69	1132	34.9	30.9-38.9	46.4	42.2-50.7	18.7	15.7-21.7
18-69	2257	34.6	30.9-38.2	44.6	41.2-48.0	20.9	18.2-23.6

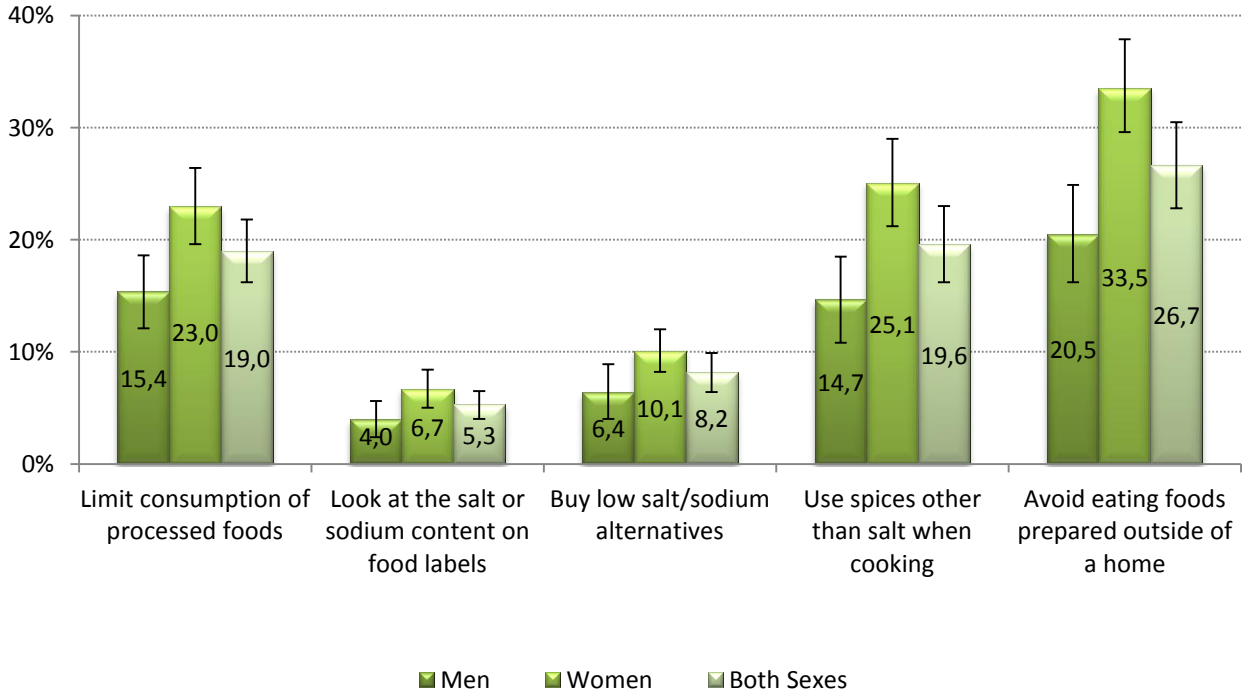
Observation of public awareness of the harmful impact of salt abuse on human health (Figure 24) revealed that82.4% (95% CI: 79.5-85.2) knew that eating too much salt and salty dressings can cause health problems. Women were more knowledgeable (87.1%) than men (78%).

Figure 24. Awareness of the harmful impact of salt abuse



Respondents were asked about the actions they take to control salt intake on a regular basis. Figure 25 shows that 19.0% (95% CI: 16.2-21.8) of the study population undertook actions to limit consumption of processed foods high in salt, 19.6% (95% CI: 16.2-23.0) used other spices not containing salt when cooking, and 26.7% avoided eating outside the home. Assessment of responses according to the sex of respondents established that women are more consistent in meeting health management and protection rules and practicing a healthy lifestyle (Figure 25).

Figure 25. Control of salt intake, by sex



Conclusions

1. The average daily intake of fruits and vegetables among the population of Armenia is 5.0-5.4 servings.
2. In all age groups the rate of fruit consumption was higher than that of vegetable s.
3. Five and more servings of fruits and vegetables per day was reported by 24% (95% CI: 21.1-26.8) which was higher in 45-69 age group.
4. One out of ten did not eat fruits and vegetable s, and 4-5 out of 10 consumed1-2 servings per day, which according to WHO recommendations is not sufficient to meet healthy diet requirements and is a risk factor for NCD development.
5. For cooking meals 65.6% (95% CI: 62.0-69.2) of households used oils, 27.6% (95% CI: 24.3-30.8) used butter and as little as 1.4% (95% CI: 0.7-2.0) use lard.
6. Compared with Yerevan, residents of villages and other cities used cream butter or ghee 2 times more often and lard 5 times more often.
7. The mean number of eating out during the week on occasions or as usual was 1.3 (95% CI: 1.1-1.5), with significant difference between women (0.6) and men (2). This behavior was the highest in 18-44 years old men (1.8), which should be explained by the fact that most of women preferred eating their home-made food brought to the workplace.
8. Adding salt before or while eating was reported by 35.4% population with men dominating (40.3 %, 95% CI: 36.1-44.4) over women (30.1%, 95% CI: 27.1-33.1).
9. Three out of ten respondents (31.2%, 95% CI: 28.4-34.0) used processed food high in salt with men outnumbering women by 6% (men 34.3% (95% CI: 30.0-38.7, vs. women 27.8 % (95% CI: 24.8-30.7).
10. Too much salt was used by 21.6% population.
11. Only 4.7% (95% CI: 3.6-5.9) reported to use very little amount of salt and 56.6% believed to add the right amount.
12. A total of 82.4% (95% CI: 79.5-85.2) respondents mentioned about knowing the increased risk associated with high levels of salt consumption, with a higher prevalence among women.
13. Despite the high level of awareness of the harmful effects of excess salt intake, respondents make no attempts to refrain from that risky behavior.
14. Only 19.0% (95% CI: 16.2-21.8) limited the use of processed food high in salt, 19.6% (95% CI: 16.2-23.0) used spices other than salt while cooking, and 26.7% avoided eating outside the home.
15. Observation of the measures controlling consumption of processed food by sex showed that women were more consistent in improving their health and practicing healthy lifestyle.

Physical activity

While physical activity helps improving health and is the most effective and affordable way to prevent different diseases, not many people are physically active. Today, sedentary lifestyle has become a real epidemic and is very prevalent in adolescents.

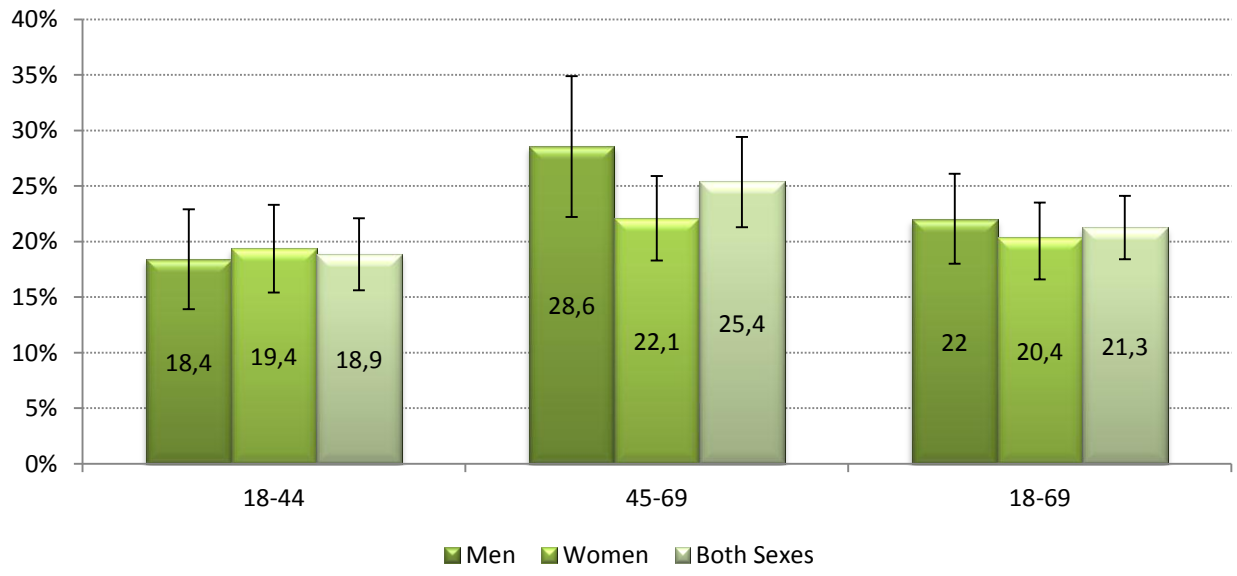
STEPS survey studies physical activity at home, at work and when performing recreation-related activities.

As the Figure 26 suggests, 2 out of 10 individuals in the study population (or 21.3%, 95% CI: 18.4–24.1) did not meet WHO recommendations on physical activity for health; namely, performing 150 minutes of moderate-intensity physical activity per week (or equivalent) (17).

Some difference was observed between men and women. The highest percentage of individuals not physically active was identified in the 45–69 age group, especially males.

Physical activity in the target population was analyzed using continuous indicators, such as time (minutes per day) spent participating in different physical activities, at work, when transporting from place to place and when performing recreation-related activities.

Figure 26. Proportion of respondents not performing 150 minutes of moderate-intensity physical activity per week by sex and age groups, (%)

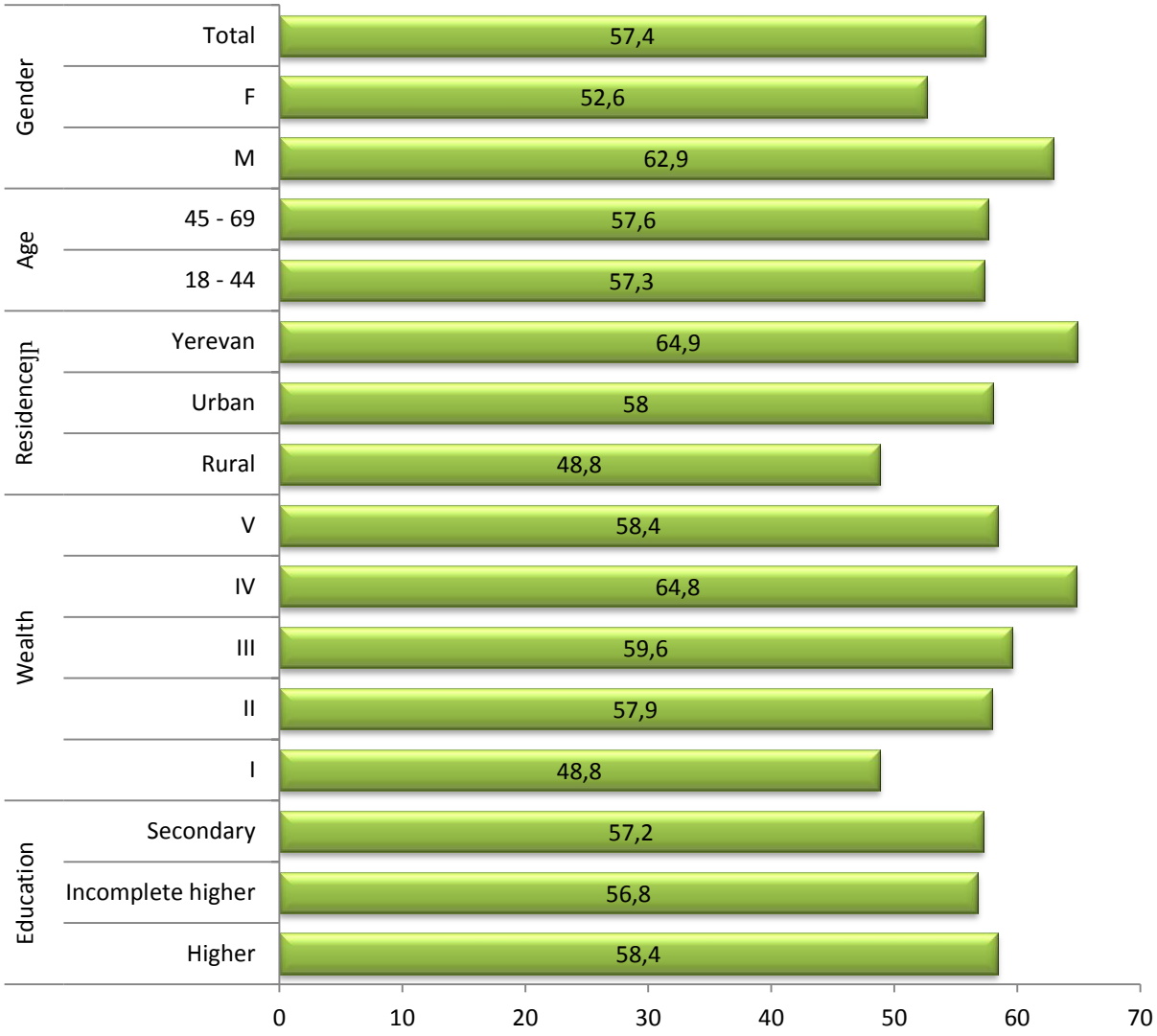


Moderate-level physical activity was assessed according to sociodemographic groups (Figure 27). The proportion of male engaged in less than 150 minutes of moderate-intensity physical activity was found to be lower than the proportion of female.

The type of residence plays a key role in the level of physical activity one is engaged in. The proportion of those who reported less than 150 minutes of performing physical activity per week was higher in Yerevan, compared with other cities and villages (Figure 27).

The level of wellbeing is also closely correlated to the physical activity. The higher the level of wellbeing, the lower was the respondent's engagement in moderate-level physical activity (Figure 27). Education-wise, no essential differences were detected among respondents.

Figure 27. Proportion of respondents performing less than 150 minutes of moderate-intensity physical activity at work or during recreation, per week, by sociodemographic groups, (%)



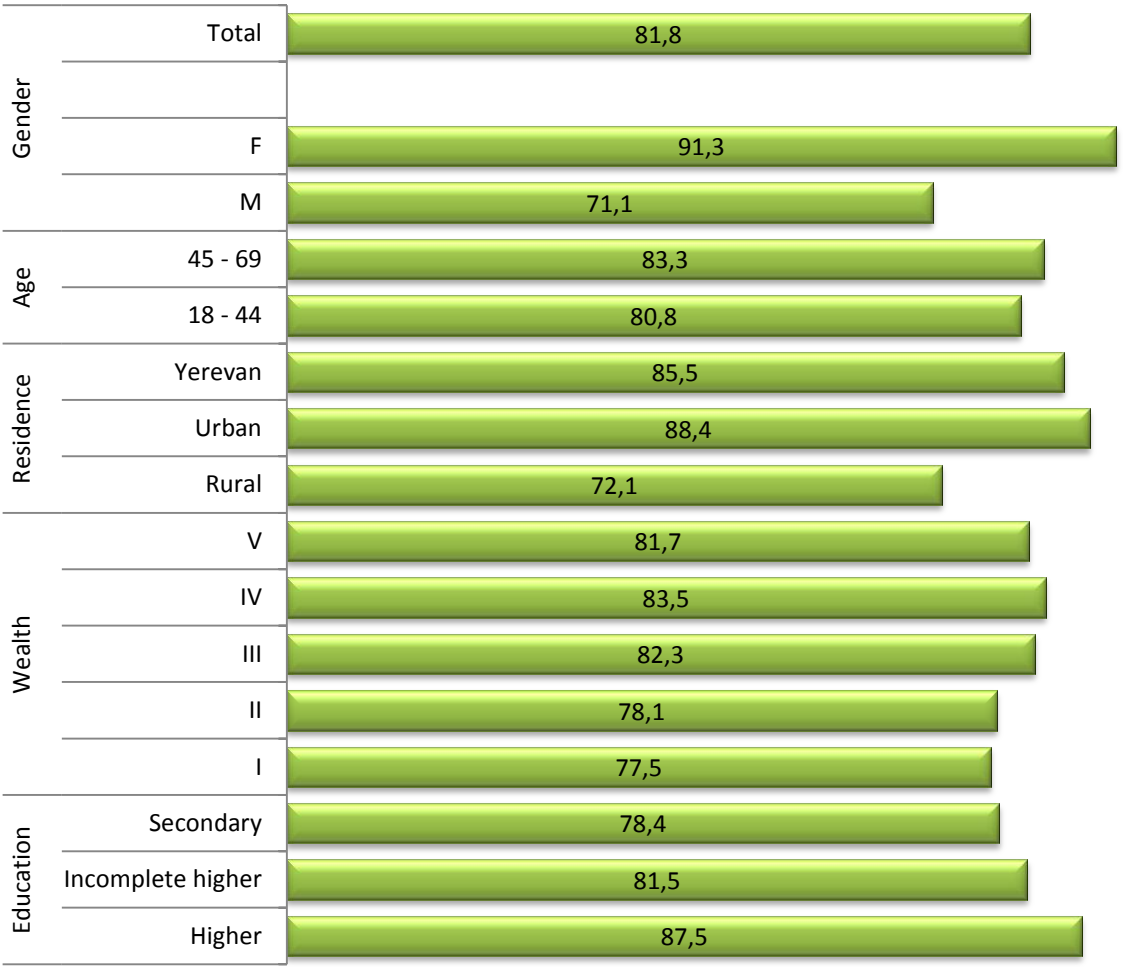
Also, the prevalence of performing a high-level physical activity (75 minutes per week) according to sociodemographic groups was studied.

Analysis of engagement in high-intensity physical activity revealed significant differences between men and women. Women seem to be less engaged in high-level physical activity which was mostly work-specific. The proportion is relatively high in the younger age group of 18-44 (Figure 28).

As was with the previous case of moderate-intensity physical activity, here also residence plays important role in respondents' behavior. The rate of performance of a high-level physical activity is smaller in Yerevan and other cities because the residence is directly linked to the nature of the occupation.

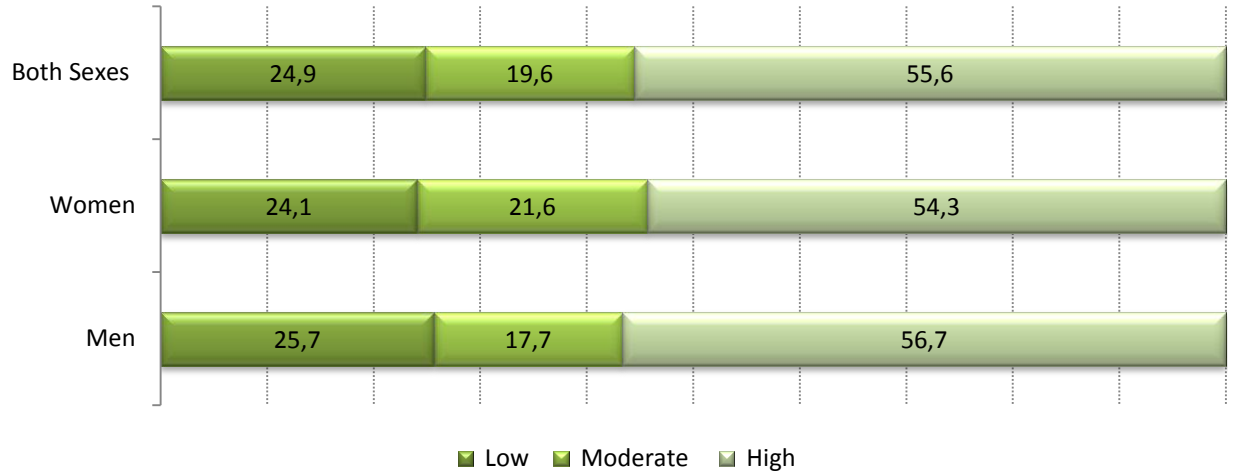
In general, engagements in both high- and moderate-level physical activities share a lot in common. The rate of performing less than 75 minutes of high-level physical activity per week is higher in well-off and better-educated respondents.

Figure 28. Proportion of respondents performing less than 75 minutes of high-intensity physical activity at work or during recreation, per week, by sociodemographic groups (%)



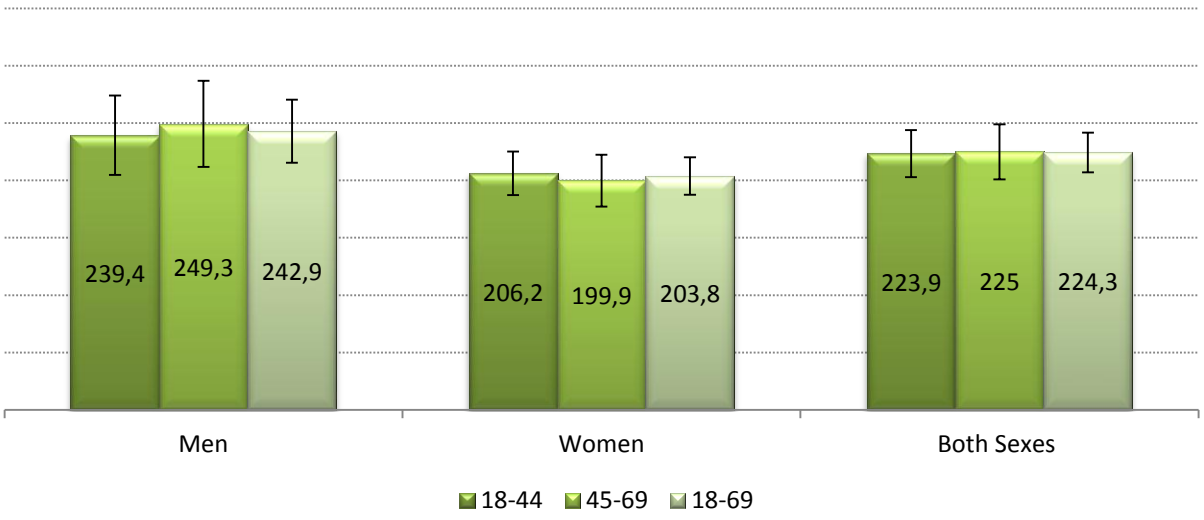
Observation of the physical activity according to the level (high-, moderate- and low-level activity) defined by the WHO showed that 55.6% of participants fell into the high-level physical activity category, 19.6% were attributed to moderate-level and 24.9% to low-level activity group (17). No statistically significant difference was recorded between the sexes in respondents performing high- and low-level physical activity, while women in the moderate-level physical activity group outnumbered men (Figure 29).

Figure 29. Proportions of all three categories of the WHO total physical activity, by sex (%)



The survey participants carried out an average of 224.3 minutes of physical activity per day, with a statistically significant difference between the age groups (18-44 years old respondents were physically more active). The level of physical activity was higher in males due to their work specifics (Figure 30).

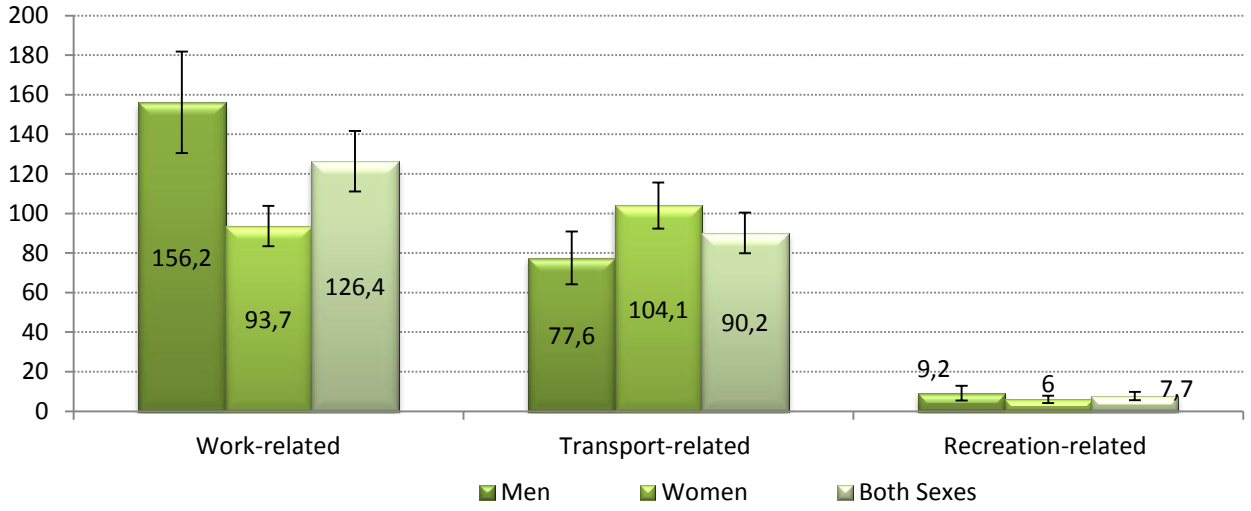
Figure 30. Mean minutes of total physical activity per day, by sociodemographic groups



Data analysis show that daily mean minutes of work-related physical activity was 126.4 minutes (95% CI: 130.5-181.9), when physical activity travelling was 90.2 minutes (95% CI: 64.2-90.9), and recreation-related physical activity was 7.7 minutes (95% CI: 5.5-12.9), which does not include the night sleeping time (Figure 31).

Median time spent performing physical activity at work was 156.2 minutes for male, which was 62.5 minutes more than in the case of female, who spent more time on travelling. Also, women spent less time performing recreation-related physical activities (Figure 31).

Figure 31. Median time spent on physical activity at work, travelling and recreation by sex



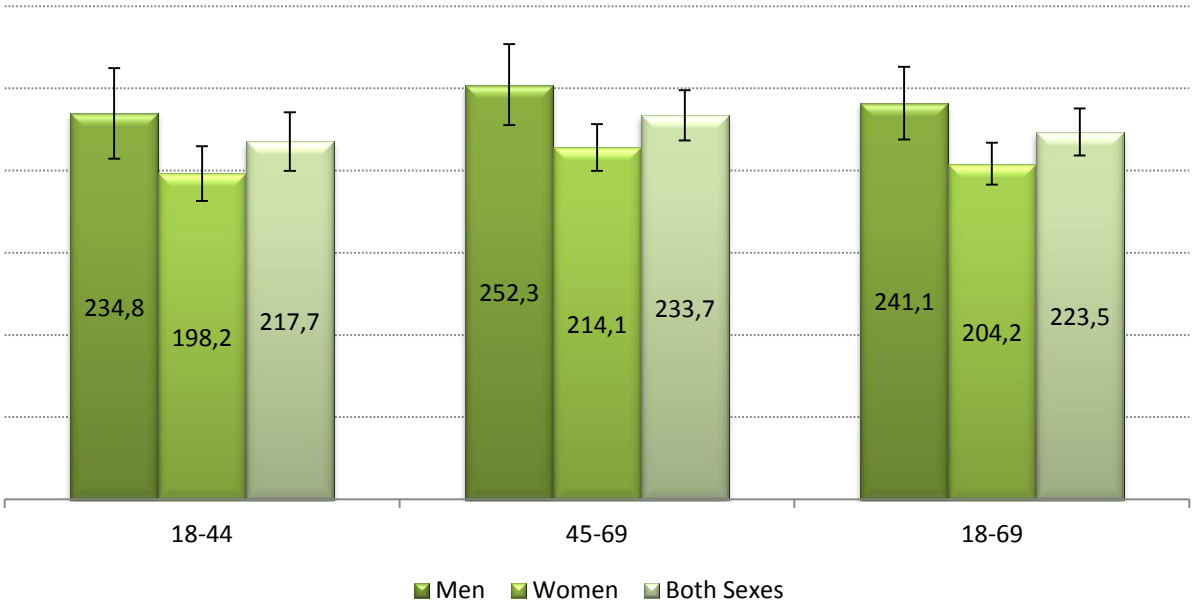
Physical activity in 18-69 age group was assessed taking into account the following domains: work, transport and recreation.

Results of the survey revealed that physical inactivity at work was 46.5% (95% CI: 42.5-50.5), meaning that every second person has sedentary work. Rates for transportation and recreation were 31.9 (95% CI: 27.7-36.1) and 86.1 (95% CI: 83.9-88.4) correspondingly (Figure 32).

Figure 32. Assessing physical inactivity at work, transportation and recreation, by sex

The mean of physically inactive time spent at work during a normal day was 223.5 minutes (95% CI: 209.2-237.8, Figure 33) and the median duration was 180.0 minutes (interquartile range 90.0-300.0).

Figure 33. Mean minutes of physical activity per day, by sex



Conclusions

1. A total of 55.6% respondents were engaged in high-level, 19.6% in moderate-level and 24.9% in low-level physical activity.
2. Two out of ten (21.3%, 95% CI: 18.4-24.1) were physically active for 150 minutes or less during the week performing moderate-level activities, which does not meet WHO recommendations.
3. The level of physical inactivity was higher in 45-69 age group, especially males.
4. The proportion of those engaged in less than 150 minutes of moderate-level physical activity per week was higher in Yerevan (64.9%), compared with other cities (58%) and villages (48.8%).
5. The daily median time of physical activity at work was 156.4, when travelling 77.6 and during recreation 9.2.
6. Men were found to be physically more active at work, exceeding women by 62.5 minutes.
7. Physical inactivity at work was 46.5%, meaning that every second person has a sedentary job. The rate of physical inactivity during recreation reached 86.1% and was 31.9% when travelling.
8. On average, survey participants spent 223.5 minutes being physical inactivity per day. The median duration was 180.0 minutes.

Early detection, prevention, effective treatment of these diseases and monitoring of related risk factors are critical since every second person in Armenia dies from a circulatory system disease and diabetes.

- AH is a rather prevalent disease and a serious public health challenge. It is detected in 25-30% of the world population and is especially prevalent in 60-69 age group (exceeding 50%). Moreover, in older population it reachesthe alarming rate of 70%.
- AH is a risk factor of CVDs and is the cause of 20-50% of cardiovascular mortality and 13% of all-cause mortality cases.
- Nearly 70% of respondents were aware of having raised blood pressure and 60% were taking drugs to control blood pressure.
- Effective treatment of AH was reported by a total of 35%. In general, this rate is lower in developing countries.

This section presents the results of arterial blood pressure measurements, AH diagnosis by a healthcare provider as well as drug control of AH.

More than half (56.1%) of participants aged 18-60 years reported to have had their blood pressure measured and no AH diagnosed. The rate was 10% higher in women. However, this high rate does not mean that every second person did not have the problem of AH, because the measurements had no clear-cut time limitations. It is alarming that 31.7% of respondents have never had their blood pressure measured by a health worker.

To get a better understanding of the prevalence of hypertension the results of measurements over the past year were studied. They also show the quality of AH monitoring by healthcare providers and the population coverage, i.e. the effectiveness of NCD prevention measures. Of all respondents, 8.7% had their arterial blood pressure measured by a healthcare provider during the past 12 months and 3.5% reported being diagnosed more than one year ago (Table 22).

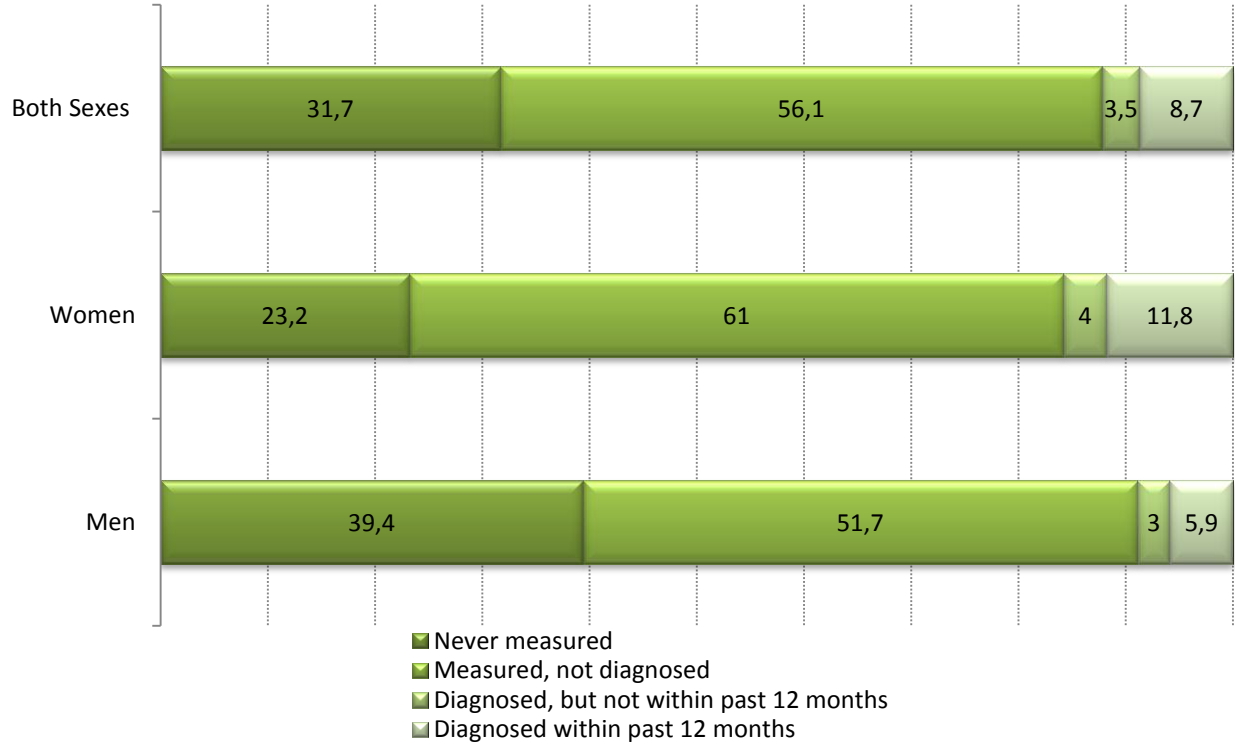
Table 22. Measuring of arterial blood pressure and diagnosis, by time and age groups

Blood pressure measurement and diagnosis									
Age Group (years)	Both sexes								
	n	Never measured	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	1164	34.9	30.3-39.5	59.7	55.2-64.2	1.8	1.1-2.6	3.6	2.3-4.8
45-69	1185	26.1	22.2-30.0	50.0	46.5-53.5	6.3	4.6-8.1	17.6	15.1-20.0
18-69	2349	31.7	28.1-35.2	56.1	52.9-59.4	3.5	2.6-4.3	8.7	7.4-10.0

Results of AH measurements with gender breakdown are presented in Figure 34 and indicate that 39.4% of males never had their blood pressure measured, which is 16.2% higher than in females. Only 8.7% had their arterial blood pressure measured and were diagnosed with AH by a healthcare provider during the past 12 months. The rate was much higher in women, which

women are more adherent to the prescribed treatment and seek medical care more often than men.

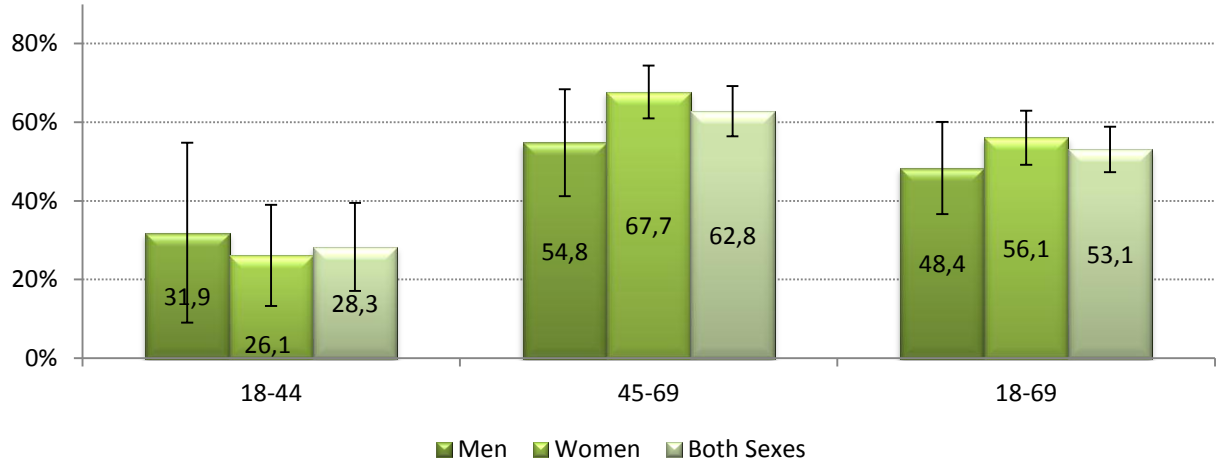
Figure 34. AH measurements and diagnose results, by sex, (%)



Data describing the effectiveness of the drugs prescribed by a healthcare provider are presented in Figure 35. Data are for respondents who were prescribed drugs by a doctor and present the proportion of people who had raised pressure during the survey measurement.

More than half (53.1%) of the target population were prescribed antihypertensive drugs by a doctor. They followed the recommendations and took the drugs. Comparison of two age groups showed that 45-69 group was significantly more adherent to the prescribed therapy, which is explained by higher prevalence of AH in this age group. Women aged 45-69 years were found to be more compliant (Figure 35).

Figure 35. Outcomes of AH treatment in respondents who were diagnosed with AH sometime in the past (%)



Conclusions

1. Every third individual (31.7%) never had their blood pressure measured, which is more prevalent in the 45-69 age group (26.1 %); 39.4% of males never had their blood pressure measured, which is 16.2% higher than in females.
2. A total of 8.7% of population was diagnosed with AH during the past 12 months and 3.5% more than 12 months ago.
3. Only 5 of 10 patients with raised blood pressure were on antihypertensive therapy.
4. More than half (53.1%) of respondents followed the prescribed therapy and recommendations of the healthcare provider.
5. Women were found to be more adherent to the AH control and treatment recommendations of the healthcare provider (men 48.4%, women 56.1%).

Prevalence of raised glucose level and coverage of diabetic patients in treatment

Determining the level of glucose in the blood is critical for diabetes management and diagnosis. Regardless of the method of glucose measurement, the latter should be done with a standardized instrument and interpretation of readings should follow a standard method and international definitions.

According to WHO definitions fasting capillary blood glucose level norms should not exceed 5.6 mmol/L, whereas <6.1 mmol/L is considered risky, and ≤6.1 mmol/L is raised and requires counseling by a health worker and intake of medications to regulate blood glucose level (16).

The survey included measurement of participants' blood glucose level, assessment of the prevalence of hyperglycemia (HGM), and coverage of diabetic patients in treatment for HGM regulation.

According to the findings of the HSPA 2016 survey, only 24% of 15 and older population had their blood glucose level measured in the past 12 months. Glucose level was found high in 3.8% and medication was prescribed to 2.6% of respondents. To regulate HGM, 2.4% of patients reported taking medication, of which 2.1% had successfully lowered the high glucose level.

Results of blood glucose level measurements under the STEPS survey are presented in below Table 23.

- Every 6^{th} (64.2%) respondents with raised glucose level had never had their blood glucose level measured. In fact, the rate in 18-44 age group was 26.7% higher than in the 45-69 age group.

- Every third (32.4%) participant reported to have had their glucose level measured, but no HGM was diagnosed.

To get the accurate picture on the coverage of the population in blood glucose level measuring and early detection and prevention of diabetes, glucose level measurements taken in the past 12 months were observed. Raised level of glucose was detected in 2.6% of population, which is partly due to the health system reforms and programs, particularly:

- Beneficiaries of the social package have to undergo an annual preventive medical examination as defined by the procedure (Annex 5, RA Government Decree 375-N of 27 March 2014).
- In 2015 Armenia launched a program on screenings in 35-68 years old citizens for early detection of AH and DM.
- Beneficiaries with health insurance policies also can take part in wellness check included in the insurance package.

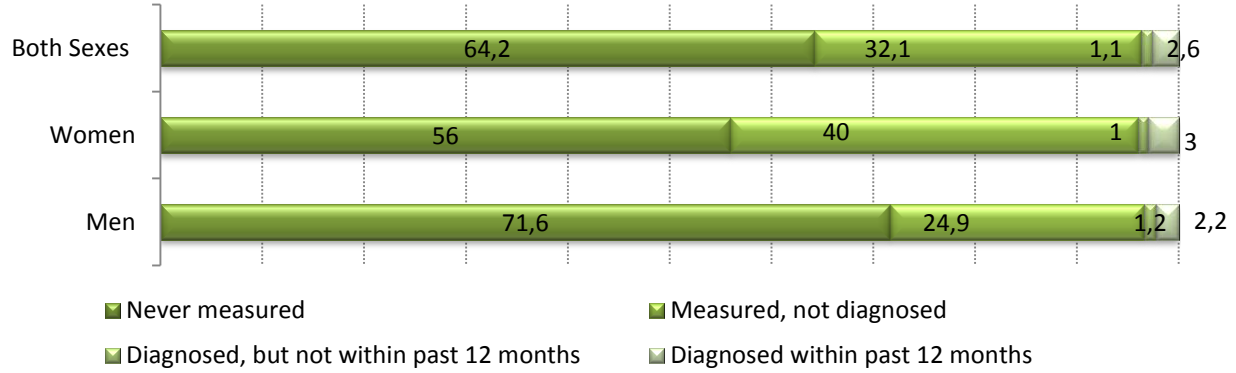
The proportion of respondents who were diagnosed with HGM in the past 12 months, was 7 times higher in the 45-69 age group compared with that of 18-44, which is due to the fact that glucose level disorders often develop in 30 and older groups.

Table 23. Blood glucose measurement and HGM diagnosis by time periods and age groups

Table A 138. Blood sugar measurement and diagnosis									
Age Group (years)	Both sexes								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	1164	70.7	67.1-74.2	27.7	24.2-31.2	0.9	0.1-1.6	0.8	0.2-1.4
45-69	1185	53.1	49.4-56.9	39.6	36.0-43.3	1.5	0.7-2.4	5.7	4.3-7.2
18-69	2349	64.2	61.4-67.0	32.1	29.3-34.8	1.1	0.5-1.7	2.6	2.0-3.2

Figure 36 presents blood sugar testing by sex, and suggests significant difference between sexes: men had their blood glucose measured 15.6% less often, than women which is the reason of lower diabetes detection rate in males.

Figure 36. Blood glucose measurement and HGM diagnosis by sex, (%)



The survey studied the coverage of patients with diabetes in antidiabetic therapy. For that purpose the following was considered:

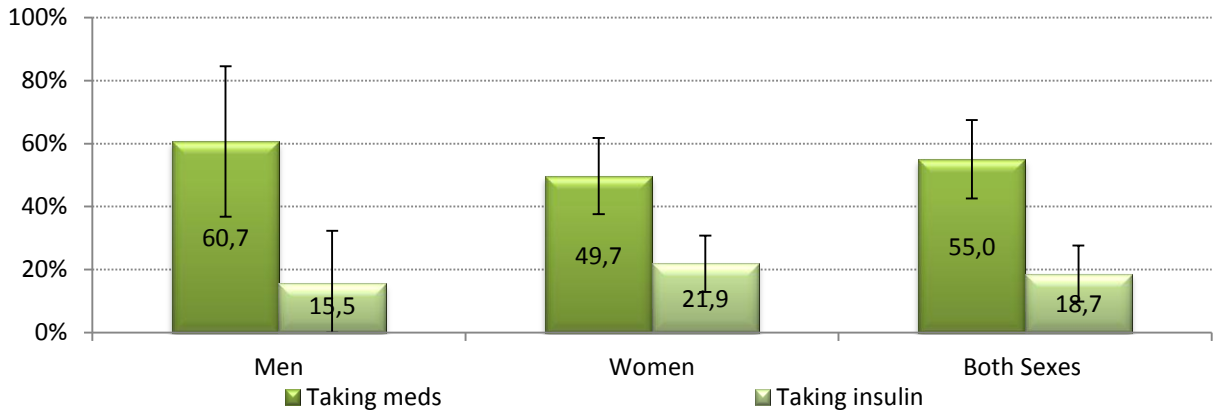
- Prescription by the health provider of medications or administration of insulin to control blood glucose level in patients with diabetes.
- Proportion of respondents with diabetes who regularly took medications for diabetes or insulin in the past 2 weeks.

Every second respondent (55%) reported taking medication prescribed by a healthcare worker. The proportion of patients taking insulin was 3 times lower compared with those who take oral medications (Figure 37).

The proportion of women taking insulin was 6.4% higher than that of men, and the proportion of men taking medications for diabetes was 11% higher than that of women.

It can be concluded that diabetes type I is more prevalent in men and type II in women (Figure 37).

Figure 37. Proportion of respondents taking any medication or insulin for diabetes, by sex (%)



To control HGM 1.3% of respondents reported to have sought care from a healer (95% CI: 0.0-6.1), and 15.1% (95% CI: 5.9-24.4) had used traditional remedies or herbs.

Conclusions

1. Every 6th respondent (64.2%) in 18-69 age group and every 8th respondent in the 18-44 age group had never done blood glucose measurement/testing.
2. Of all respondents 32.4% reported to have their blood glucose measured, but no HGM or DM was diagnosed.
3. As little as 2.6% were diagnosed with HGM in the past 12 months.
4. The rate of blood glucose measurement/testing and diagnosis of HGM in the 45-69 age group was 5.7%, which is 4.9% higher than in the 18-44 age group.
5. Blood glucose measurement/testing was15.6% less often performed in men.
6. Every second (55%) patient diagnosed with DM reported taking medication prescribed by a doctor. The proportion of patients on insulin (18.7%) was 3 times lower than that of patients taking medications.
7. To control HGM 1.3% of respondents had applied to a healer (95% CI: 0.0-6.1), and 15.1% (95% CI: 5.9-24.4) had used traditional remedies or phytotherapy.

Prevalence of raised cholesterol level and coverage of patients with hypercholesterolemia in treatment

It is a proven fact that lipid metabolism disorders lead to CSD and DM. To prevent their development patients are encouraged to control total cholesterol (TC) and the low-density lipoproteins (LDL) which has a well-articulated atherogenic effect, because they can be prevented and can be controlled through healthy lifestyle and correct medications. Lipid metabolism disorders were observed in the light of assessment of the general cardiovascular risk.

Classification of cardiovascular risk was based on assessment of the level of blood lipids, other risk factors and synergic impact, effects on the body, as well as occurrence of diseases.

Cholesterol is a fat-like material found in all parts of the body. It belongs to the lipid group and participates in lipid exchange, cell membrane building, synthesis of hormones and bile acids. Most of cholesterol is synthesized in the liver. In some cases high level of cholesterol can be hereditary. Increase of the level of cholesterol is mostly dependent on the diet and can result in accumulation of lipoprotein within the walls of an artery and occurrence of atherosclerosis, thickening of the arterial walls and vein occlusion. The latter can cause poor blood circulation in the affected organ (heart, brain) or part of it and can result in ischemic heart disease (IHD).

Hyper/dyslipidemia is one of the risk factors of ischemic heart disease and diabetes.

According to the HSPA survey findings only31.3% of the population is aware of the negative effects of HLC, prevention and treatment of hyper/dyslipidemia.

Main results of cholesterol level measurements within the framework of STEPS survey are presented in Table 24. They show that 71.2% of 18-69 years old population of Armenia have never had their blood cholesterol level measured, 24.5% had the level measured and it was within the defined norms. Of all respondents 2.8% had the cholesterol levels measured in the past 12 months and were diagnosed with hypercholesterolemia. The rate was 6.1% higher in the 45-69 age group, compared with those 18-44 years old.

Table 24. Total cholesterol measurement and diagnosis of hypercholesterolemia by age groups

Total cholesterol measurement and diagnosis									
Age Group (years)	Both sexes								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	1164	77.7	73.9-81.4	21.4	17.7-25.1	0.2	0.0-0.5	0.8	0.3-1.2
45-69	1185	60.0	56.3-63.8	29.8	26.3-33.2	4.0	2.7-5.4	6.2	4.5-7.9
18-69	2349	71.2	68.2-74.1	24.5	21.7-27.3	1.6	1.1-2.1	2.8	2.0-3.5

Among those diagnosed with high level of total blood cholesterol, 20.9% reported taking oral medication. The rate was twice higher in the 45-69 age group (Table 25).

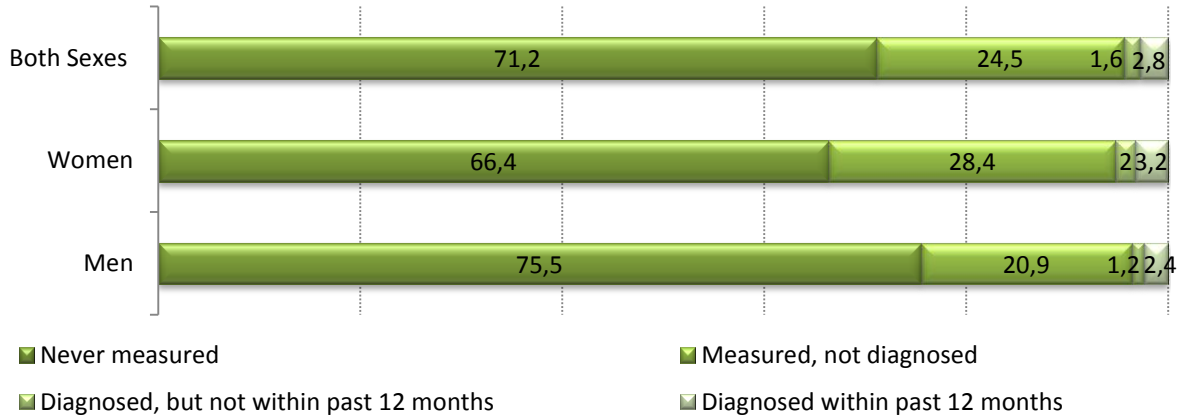
Table 25. Respondents taking medications to control HLC by age groups

Currently taking oral treatment (medication) prescribed for raised total cholesterol among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI
18-44	5	0.0	0.0-0.0	12	22.5	0.0-47.4	17	10.8	0.0-23.9
45-69	29	26.7	6.3-47.1	112	19.6	11.1-28.0	141	22.5	13.3-31.8
18-69	34	22.3	4.7-39.9	124	19.9	12.0-27.8	158	20.9	12.9-28.9

As Figure 38 presents, the prevalence of hypercholesterolemia was 2.8%, which was higher in women, since they typically seek medical care due to different reasons more often than men.

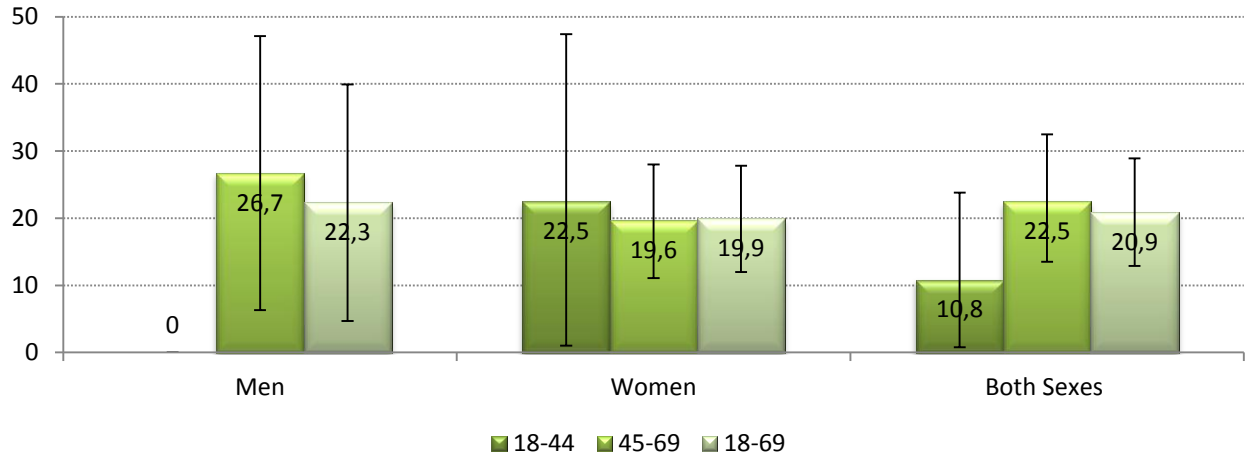
Of all respondents diagnosed with HLC 20.9% (95% CI: 12.9-28.9) reported to follow recommendations of the healthcare provider and to take the prescribed oral medications during the past two weeks.

Figure 38. Total cholesterol measurement and diagnosis of hypercholesterolemia by sex, (%)



The proportion of men taking oral medications was 2.3% higher than that of women (Figure 39).

Figure 39. Proportion of respondents who take oral medication to control hypercholesterolemia, by sex (%)



To control hypercholesterolemia 3.4% (95% CI: 0.0-6.8) had turned to a healer and 11.2% (95% CI: 6.0-16.4) relied on traditional remedies or phytotherapy.

Conclusions

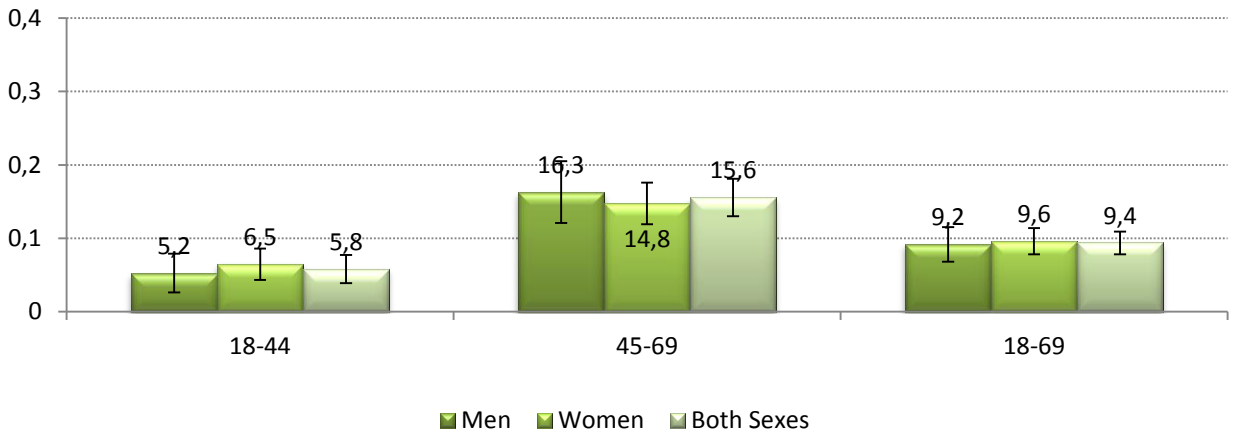
1. A total of 71.2% had never had their blood cholesterol level measured.
2. Only 2.8% had their cholesterol level measured and were diagnosed with hypercholesterolemia during the preceding 12 months. The rate among 45-69 years old was 6.1% higher than in the 18-44 age group.
3. Of the respondents diagnosed with hypercholesterolemia 20.9% reported taking oral medications. The rate was twice higher in the 45-69 age group.
4. Utilization of a healer's services was mentioned by 3.4% and 11.2% preferred traditional means or herbs.

Prevalence of CSD and treatment coverage

The STEPS survey studied the prevalence of CSDs and the patient's coverage in treatment.

As Figure 40 shows, 9.4% had ever had a heart attack or chest pain from heart disease (angina) or stroke. The prevalence of CSD incidence was found to increase three times in the 45-69 age group, compared with those 18-44 years old. Also it was 1.5% higher in men than in women.

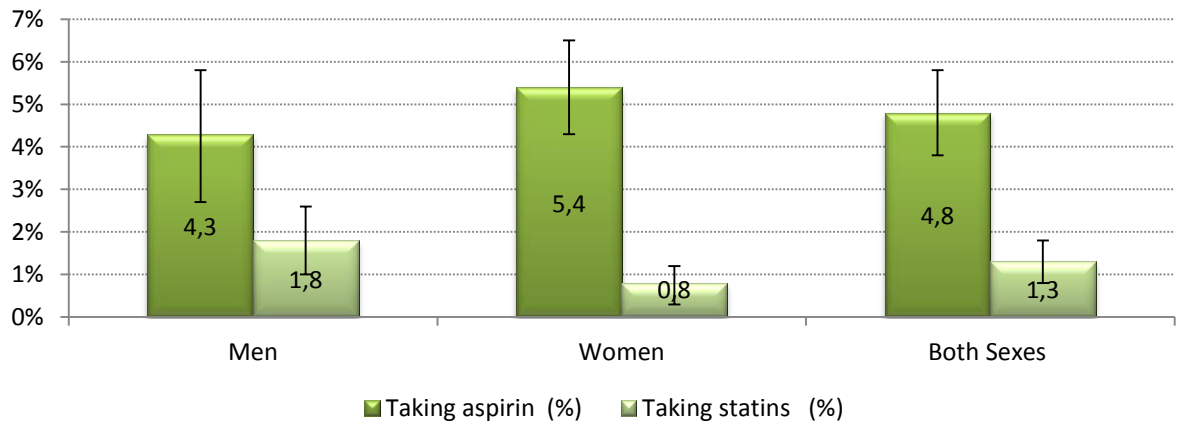
Figure 40. Proportion of respondents having ever had a heart attack or chest pain from heart disease, by sex and age group, (%)



To prevent or treat a heart disease 4.8% of all respondents regularly take aspirin and 1.3% of them statins (Figure 41).Observations of the use of oral medications to prevent or treat CSDs show the following picture:

- Use of statins was more frequently reported by men, than women.
- The proportion of respondents using aspirin was 11% higher in 45-69 age group, whereas use of statins was 2.5% more common in 18-44 age group.

Figure 41.Proportion of respondents currently taking aspirin or statin to prevent or treat heart disease, by sex (%)



Conclusions

1. Every 9th respondent reported ever having had a heart attack or chest pain from heart disease or a stroke.
2. The CSD incidence rate was 9.8% higher in 18-44 age group, compared with those 45-69 years old.
3. The prevalence of CSD was 1.5% higher in men than in women.
4. The use of statins was more common in men, than in women. Women mostly use aspirin to prevent or treat a CSD.
5. Aspirin was 11% more frequently used in the 45-69 age group and statins were 2.5% more frequently used in the 18-44 age group.

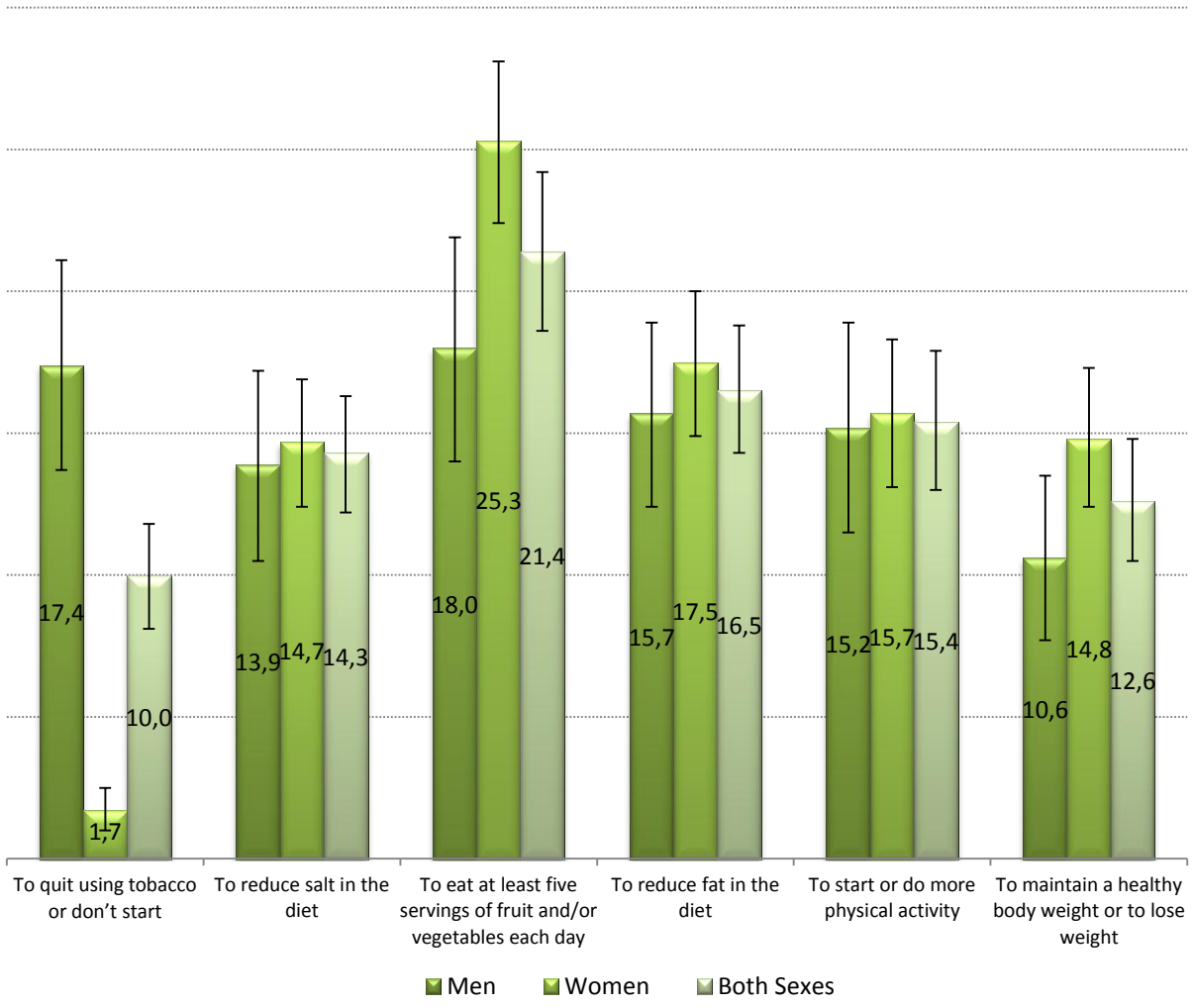
Healthy lifestyle advice

NCD prevention and treatment are strongly dependent on changing risk behavior and a decision of the right treatment. Health improvement or effective treatment of disease requires the adoption of healthy eating patterns, promotion of physical activity, quitting smoking or adherence to prescribed treatment. Assessment of the NCD development risk, NCD prevention and treatment should be coupled with the promotion of healthy lifestyle, patient education programs, including behavior change recommendations.

Figure 42 shows the proportion of respondents who reported receiving different types of lifestyle advice from a doctor or a health worker during the past three years. Some of the Figures are detailed below.

- Only 10% of respondents had been advised to stop smoking or not to start. Despite the fact that half of 18-69 years old respondents smoke, only 17.4% (95% CI: 13.7-21.1) of men and 1.7% (95% CI: 1.0-2.5) of women had been advised to quit smoking.
- 14.3% (95% CI: 10.5-17.2) of respondents had been advised to reduce salt in their diet: 13.9% (95% 10.5-17.2) in men and 14.7% (95% CI: 12.4-16.9) in women.
- 21.4% of respondents had been advised to eat at least five servings of fruit and/or vegetables each day: women were advised 5.3% more often (men 18.0%; 95% CI: 14.0-21.9 and women 25.3%; 95% CI: 22.4-28.1).
- 16.5% of respondents had been advised to reduce fat in their diet: 15.7 % among men (95% CI: 12.4-18.9) and 17.5% among women (95% CI: 14.9-20.0).
- 15.4% were advised to start or to do more physical activity: 15.2% among men (95% CI: 11.5-18.9) and 15.7% among women (95% CI: 13.1-18.3).
- 12.6% of respondents were advised to maintain a healthy body weight or to lose weight, of which 4.2% were women, since both overweight and obesity are twice more prevalent in women.

Figure 42. Proportion of respondents who reported having received lifestyle advice from a doctor or other health worker during the past 3 years, (%)



Conclusions

1. Every two out of ten respondents had been advised to stop smoking or not to start.
2. One from ten respondents had been advised to reduce intake of dietary salt.
3. Every fifth respondent had been advised to consume 5 or more servings of fruits and vegetables per day.
4. Every sixth was advised to reduce consumption of fat.
5. Of all respondents 15.4% was advised to start or to do more physical activity.
6. 12.6% of respondents had been advised to maintain healthy body weight or to lose weight.
7. Data evidence that women had been advised on healthy lifestyle by a doctor or health worker more often than men.

Cervical cancer screening

Cervical cancer (CC) is the second most common malignancy detected in women. More than 50% of CC incidence is diagnosed in women aged 35-55 years and 20% in those over 65 (10).

Women in the 30-60 age group comprise the highest risk group and are more likely to develop CC. WHO encourages that women of this age have Pap smear test at least every three years.

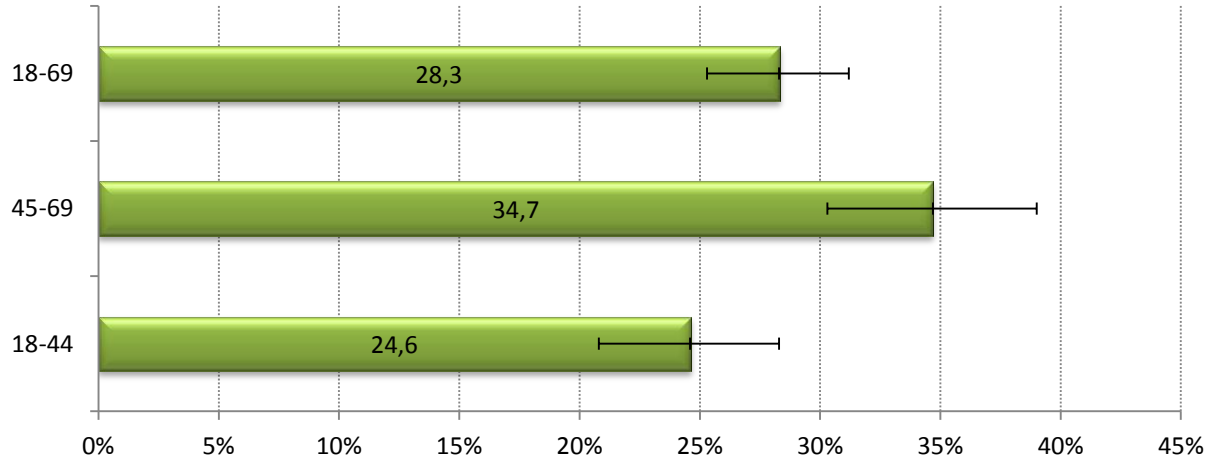
Globally approximately 80% of new CC cases are detected in developing countries, of which 60 - 80% is diagnosed in stages III and IV, when the treatment efficiency is low. According to 2016 estimates, 62% of CC cases were diagnosed in stages III and IV; hence the 5-6 year survival rate ranges within 45%-50%.

Based on CC screening protocols and practices applied worldwide, analysis of available publications as well as considering the prevalence of CC in Armenia, in 2015 the country launched a CC screening program based on Pap smear tests. It is by a defined procedure according to which women aged 30-60 years are encouraged to pass a screening every three years. The policy aims at early detection of precancer, thus preventing development of cancer. According to HSPA 2016, 30% of 30-60 old women had Pap test in 2016, which is the threefold of the 2012 rate (10.2%) (3).

The STEPS survey revealed that 28.3 % (95% CI: 25.3-31.2) of 18-69 years old women have ever had Pap smear test and every third woman 33.2% (95% CI: 28.4-37.9) was in the highest risk age group (i.e.30-49).

The share of 45-69 years old women who have had Pap smear test was 10.1% higher compared to that of 18-44 (Figure 43).

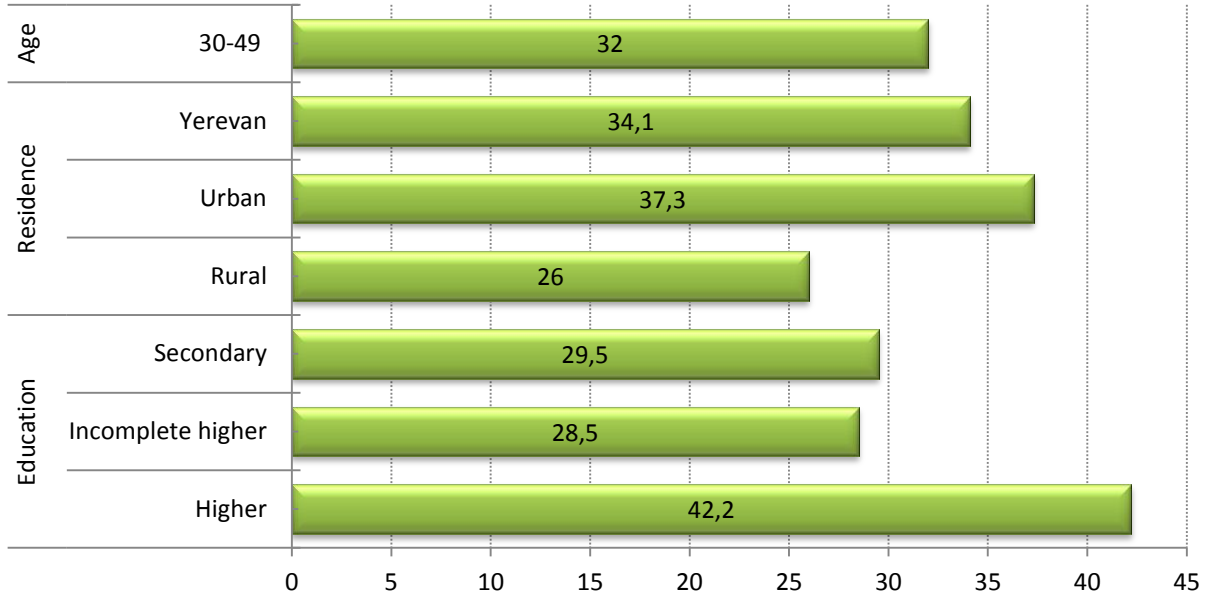
Figure 43. Women who had Pap smear test by age groups, (%)



Women who had Pap smear test were studied according to type of residence and level of education (Figure 44). The highest coverage was detected in marz urban settlements, which is explained by much closer relationships between providers and residents and higher level of trust towards healthcare system among marz population. The rural population had poor access to both information and healthcare facilities.

Health behavior of 30-49 years old women established that the highest share of women tested for CC was found in those with higher educational attainment.

Figure 44. Proportion of women aged 30-49 years tested for CC, by sociodemographic groups (%)



Conclusions

1. Every third woman aged 30-49 years had been screened for cervical cancer by undergoing Pap smear testing.
2. The highest screening coverage was detected in women with higher education.
3. The proportion of 30-49 years old women who had Pap smear test is higher in marz cities (37.3%) and Yerevan (34.1) compared with women in rural areas (26%).
4. The coverage of 30-60 years old women who were screened for cervical cancer has increased nearly threefold between 2012 and 2016.
5. Every 3rd of 10 women aged 18-69 years reported having ever had Pap smear test.
6. The proportion of women who had been screened for cervical cancer was 10.1% higher among 45-69 years old women compared with those in the18-44 age group.

Results of arterial blood pressure measurements

Hypertension is one of the most prevalent risk factors for NCD. The level of arterial blood pressure (ABP) depends on one's lifestyle, occupation, sex, age. The likelihood of blood pressure increase is high when the person performs high-intensity physical activity or experiences strong emotions. ABP is expressed regarding systolic and diastolic pressure. Hypertension is called a silent killer because it often does not cause symptoms. Early detection of the disease requires routine population screenings.

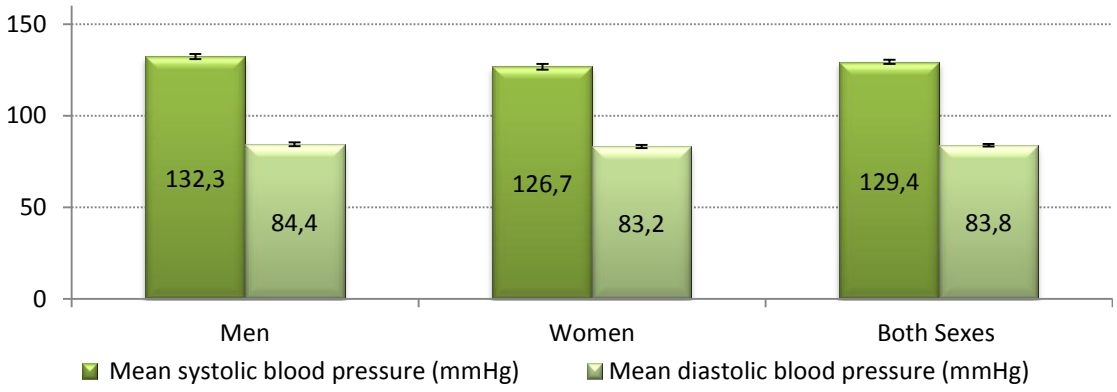
Table 26. Arterial pressure classification (ESC/ESH)

AP groups	Systolic pressure (mmHg)	Diastolic pressure (mmHg)
Optimal AP	<120	<80
Normal AP	120-129	80-84
Higher than normal AP	130-139	85-89
Stage I hypertension	140-159	90-99
Stage II hypertension	160-179	100-109
Stage III hypertension	≥180	≥110
Isolated systolic hypertension	≥140	<90

To assess the prevalence of arterial hypertension in the survey population and adherence to treatment prescribed by a doctor all respondents had their systolic and diastolic blood pressure measured. The measurement readings were cross-matched with responses provided to the question "During the past two weeks have you been treated for raised blood pressure with medication prescribed by a doctor or other health worker?"

Blood pressure measurement of 2030 survey participants revealed that the mean SBP was 129.4 mmHg (95% CI: 128.3-130.5), 126.7 mmHg for women (95% CI: 125.1-128.3) and 132.3 mmHg (95% CI: 130.8-133.7) for men. The SBP level in men was 6 mmHg higher. Mean DBP was 83.8 mmHg (95% CI: 83.1-84.5), 83.2 mmHg for women (95% CI: 82.3-84.1) and 84.4 mmHg for men (95% CI: 83.4-85.5, Figure 45). Measurements suggest that SBP in respondents aged 45–69 years was 20 mmHG higher.

Figure 45. Mean SBP and DBP by sex



Readings were analyzed according to the prevalence of SBP equal to or greater than 140/160 mmHg and/or DBP equal to or greater than 90/100 mmHg, as well as treatment of hypertension (Figure 46, Figure 47).

The seventh of the respondents (73.2%) with SBP equal to or greater than 140mm Hg and/or DBP equal to or greater than 90 mmHg reported taking no medications to control hypertension. SBP ≥140 mmHg and/or DBP ≥ 90 mmHg was detected in 37.8% of respondents, including those taking medications to control hypertension, and SBP ≥160 mmHg and/or DBP≥ 100 mmHg was recorded in 19.3% of respondents (Figure 46).

Observations of arterial hypertension by age groups revealed the following picture:

- The proportion of 45-69 years old respondents with AH is 5-6 times higher compared with the 18-44 age group.
- In 18-44 years old men with AP the reading ≥160/100 mmHg was 1.5 times higher compared with same age group women.

These data evidence that the overwhelming majority of patients with hypertension did not take medications for raised blood pressure on the regular basis, which is mostly due to temporary 'improvement' of the patient's condition that makes them discontinue the treatment.

Figure 46. Proportion of respondents with raised blood pressure or AH, who currently take medication for raised blood pressure, (%)

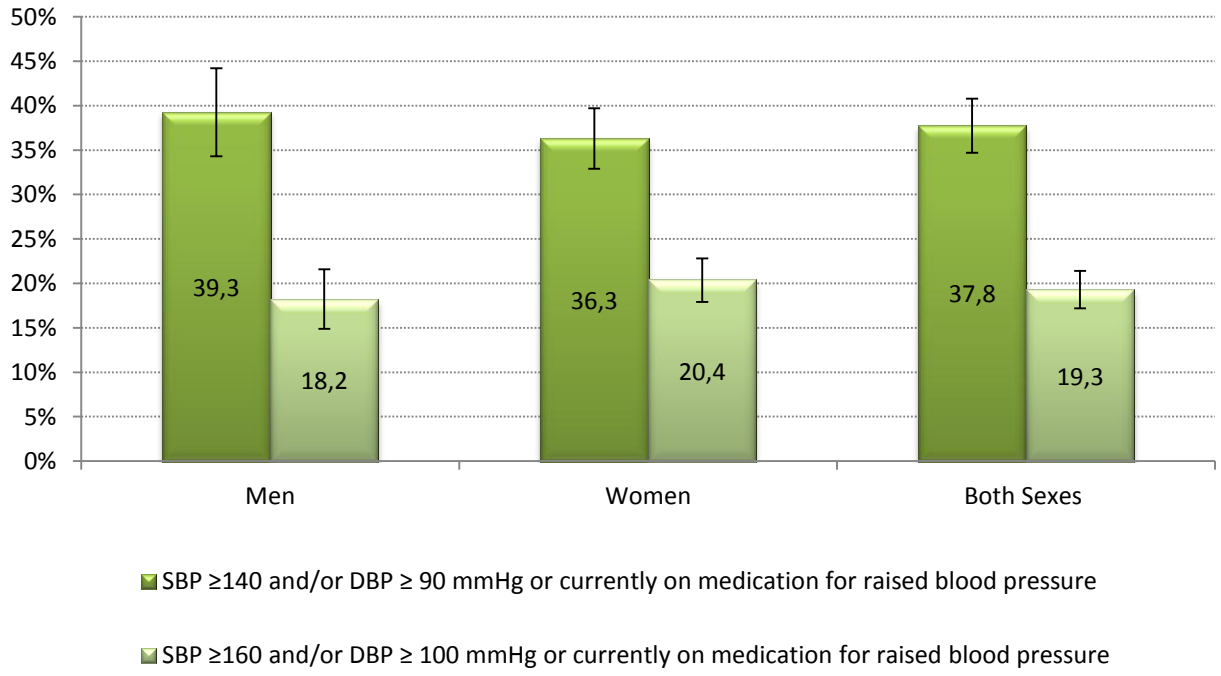


Figure 47. Proportion of respondents with raised blood pressure or AH, except for those currently taking medication for raised blood pressure, (%)

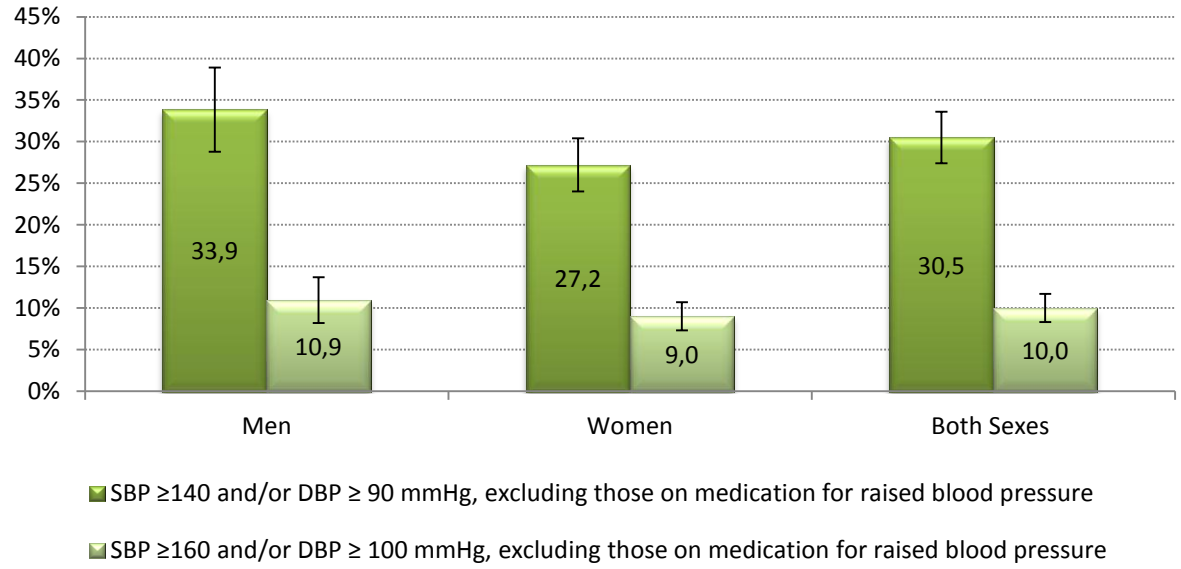
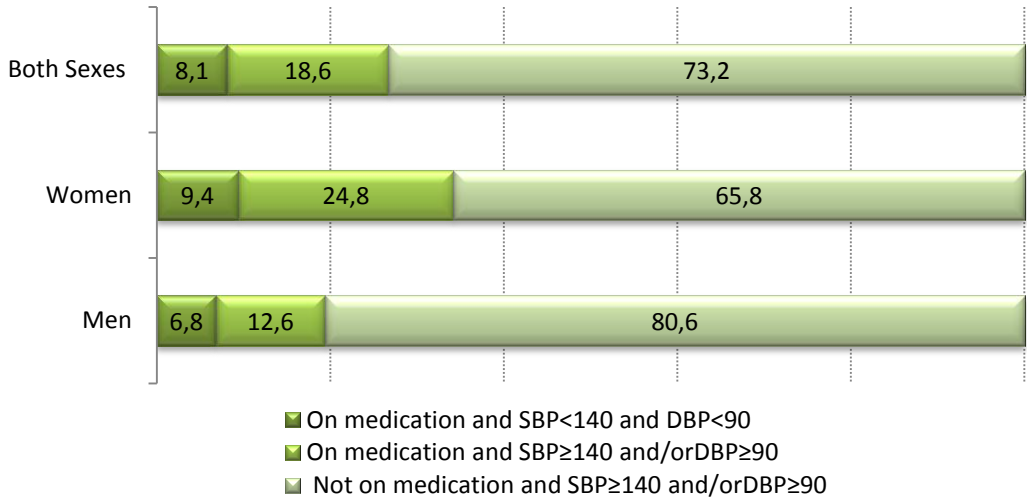


Figure 48 shows that 73.2% (95% CI: 69.7-76.8) of respondents with hypertension (≥140/90 mm Hg) did not take medication for raised blood pressure, 18.6% (95% CI: 15.7-21.6) took medication, which however did not help controlling raised blood pressure. Only 8.1% of respondents with raised blood pressure reported an effective therapy.

Women were found to be more adherent to the high blood pressure treatment. The share of women who took prescribed medication was twice higher. In the 18-44 age group the proportion of respondents with hypertension who were not on medication was 20% higher. Also, the effectiveness of treatment for raised blood pressure was significantly higher among 18-44 years old respondents who took medication compared with the 45-69 age group.

Figure 48. Effectiveness of hypertension control and treatment by sex, (%)



Heart rate

Heart rate (HR) in survey population (mean of three measurements) was established 76.8 beats per minute. Mean HR was 76 for men and 77.5 for women. No significant differences were found across age groups. In general, HR meets the defined norms.

Body mass index

Overweight and obesity are defined as abnormal accumulation of fat that can be harmful for human health and can stimulate development of CSD and DM.

WHO estimates show that global prevalence of obesity has nearly doubled since 1980. More than 1,9 billion adults are overweight and more than 600 million are obese. According to evidence-based medicine data, cardiovascular and total mortality in adults is directly proportional to increasing body mass index (BMI). The BMI is defined as the body mass divided by the square of the body height, and is universally expressed in units of kg/m^2, resulting from mass in kilograms and height in meters (Table 27) (16).

Table 27. BMI classification

Adults (>18 y)	BMI (kg/m^2)
Underweight	< 18.5
Normal weight	18.5 – 24.9
Overweight	25 – 29.9
Obese	≥ 30
Obese class I	30 – 34.9
Obese class II	35 – 39.9
Obese class III	≥ 40

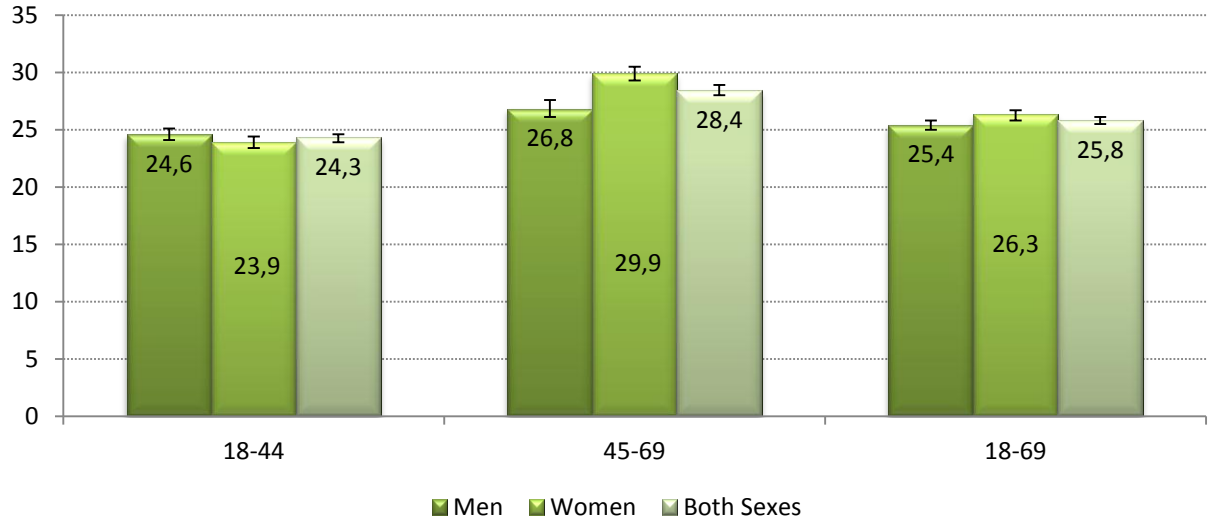
As HSPA 2016 data suggest the prevalence of overweight (28.9%) and obesity (22.3%) in 15 and older population of Armenia comprised 51.2%. Being overweight was found to be more prevalent in men and obesity in women (3).

To assess the prevalence of overweight and obesity in the target population, anthropometric measurements such as height, weight, and waist and hip circumference were taken and, the BMI and mean waist-hip ratio (WHR) were calculated.

Male respondents were on average 171.5 cm tall (95% CI: 170.7-172,3) and weighed on average 74.6 kg (95% CI: 73.3-76.0), whereas females were on average 159.2 cm tall (95% CI: 158.8-159.7) and weighted on average 66.4 kg (95% CI: 65.3-67.5).

Mean BMI for the target population (both sexes) was 25.8 (95% CI: 25.5-26.1). In the 45-69 age group it comprised 28.4 (95% CI: 28.0-28.9), and in the 18-44 age group 24.3 (95% CI: 23.9-24.6, Figure 49).

Figure 49. Mean BMI by sex and age groups (excluding pregnant women), (%)



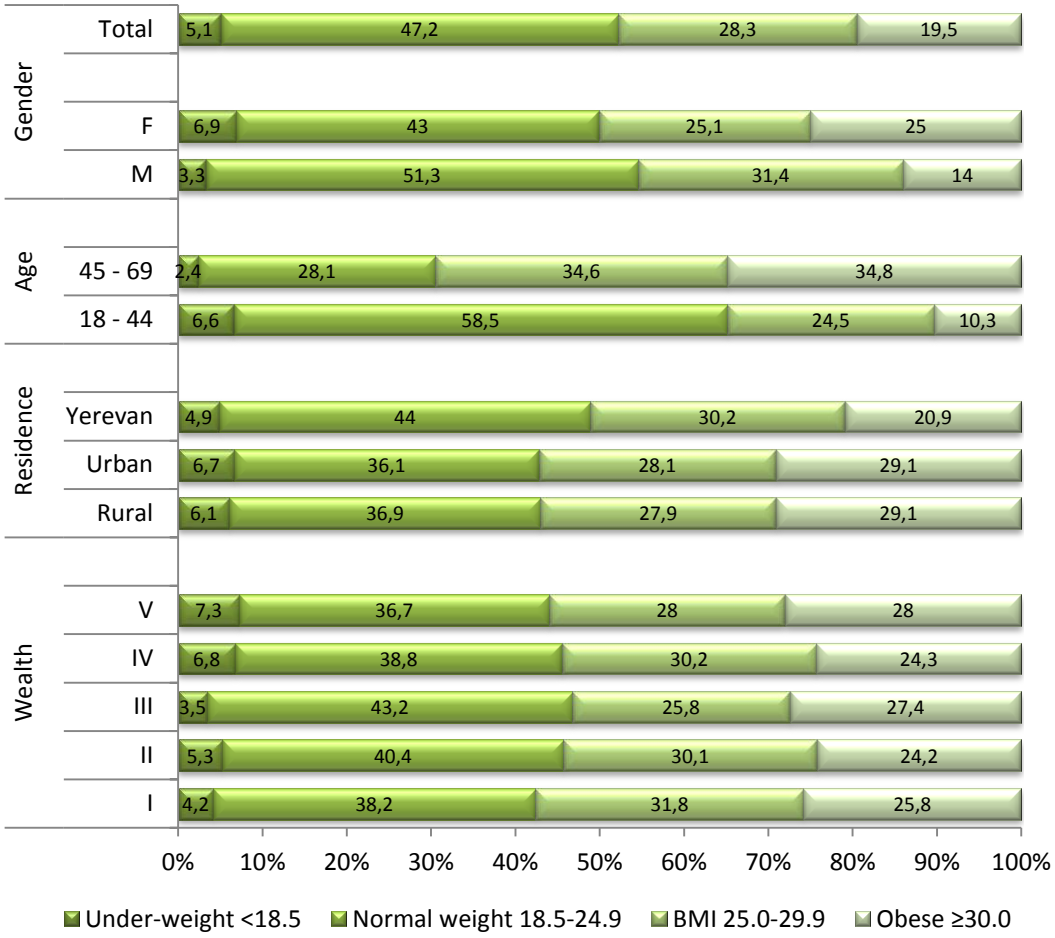
Physical measurement data are presented in Figure 50.

According to them:

- The prevalence of underweight constituted 5.1% with 3.3% in men (95% CI: 1.6-5.0) and 6.9% in women (95% CI: 4.9-8.9). Almost no substantial difference in two age group males was found, but in women aged 18-44 years the rate was 10.4% and in 45-69 age group it was 1.3%, which means that underweight in women is most prevalent in younger age groups.
- Normal weight (BMI within the range of 18.5- 24.9) was found in 47.2% of respondents.
- Overweight was detected in 47.8% (28.3% 95% CI: 25.5-31.1) and obesity in 19.5 % (95% CI: 17.4-21.6).
- Overweight and obesity in men reached 45.4% and 15%, and in women 50.1% and 25% correspondingly. The prevalence of overweight was 5% and the prevalence of obesity was 10% higher in women.
- A total of 34.8% of 45-69 age group respondents were obese (95% CI: 31.3-38.4), and 34.6% were overweight (95% CI: 30.6-38.6). In 18-44 years old women the rates were 10.3% (95% CI: 8.0-12.6) and 24.5% (95% CI: 20.9-28.1) correspondingly. Obesity was 3 times more common in 45-69 age group. Also, the prevalence of being overweight increases with age.
- Obesity was 33% (3.7 times) more prevalent in women and 15.3% (2.8 times) in men aged 45-69 years, compared with 18-44 years old respondents of the same sex.
- Obesity was detected in 19.5% (95% CI: 17.4-21.6) of 18-69 years old population. Also, the rate was 11% higher in women than in men.

The survey reviewed BMI data across sociodemographic groups (Figure 50). As for residence, in general, no significant difference was found across the rural and urban population. However the picture was different in Yerevan, where the share of men with obesity was found lower. This may be due to the relatively affordable high-carb diet typically consumed by the rural and regional urban population. Assessment of the prevalence of overweight and obesity across wealth quintiles evidenced that obesity was more prevalent in lower wealth households.

Figure 50. BMI classification by sociodemographic groups (excluding pregnant women), (%)



WHR was computed for all respondents (excluding pregnant women), using measurements of waist and hip circumferences. The mean WHR was 0.9% for men and women (Table 28).

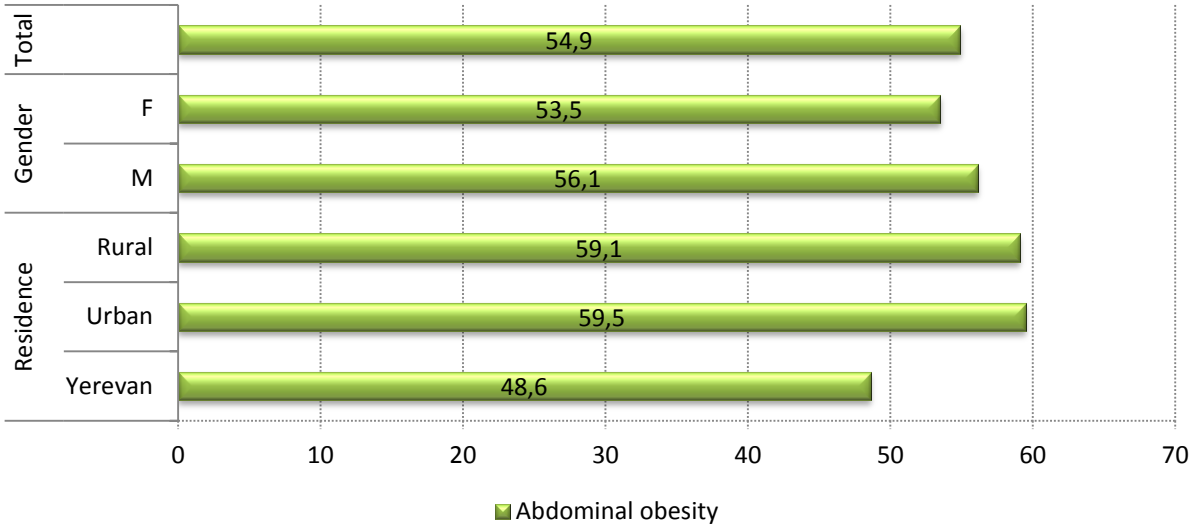
Table 28. Mean WHR by sex, excluding pregnant women

Mean waist / hip ratio						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
18-44	281	0.9	0.9-0.9	680	0.8	0.8-0.8
45-69	281	1.0	1.0-1.0	740	0.9	0.9-0.9
18-69	562	0.9	0.9-1.0	1420	0.9	0.8-0.9

WHO defines obesity as having a WHR above 0.90 for males and above 0.86 for females, based on which the prevalence of abdominal obesity was studied by sex and type of residence (Figure 51). Sex breakdown of the rate revealed a picture different from BMI. Abdominal obesity is

more common in men. Residence-wise, BMI prevalence is very similar to that of abdominal obesity, i.e. no essential difference between rural and urban population, whereas the share of respondents with obesity was found lower in Yerevan.

Figure 51. Prevalence of abdominal obesity by sex and age group, (%)



Conclusions

1. Mean SBP in target (18-69 years old) population was 129.4 mm Hg (95% CI: 128.3-130.5) -126.7 mm Hg (95% CI: 125.1-128.3) in women and 132.3 mm Hg in men (95% CI: 130.8-133.7). Mean DBP was 83.8 mm Hg (95% CI: 83.1-84.5) - 83.2 mm Hg (95% CI82.3-84.1) in women and 84.4 mm Hg (95% CI: 83.4-85.5) in men.
2. SBP was 20 mm Hg higher in respondents aged 45-69 years compared with the18-44 age group.
3. The obesity rate was smaller in Yerevan (20.9%, compared with marz cities (29.1%) and villages (29.1%).
4. A total of 37.8%, including those taking medication for raised blood pressure had SBP ≥140 and/or DBP ≥ 90 mm Hg, and in 19.3% SBP was found to be ≥160 and/or DBP≥ 100 mm Hg.
5. Every seventh respondent (73.2%) with SBP greater than or equal to 140 and/or DBP greater than or equal to 90 mmHg failed to regularly take medication for raised blood pressure and control raised arterial blood pressure.
6. The proportion of 45-69 years old respondents with AH was 5-6 higher compared with that of 18-44 years old.
7. The prevalence of ≥160/100 mm Hg in men aged 18-44 years was 1.5 times higher than in same age women.
8. A total of 73.2% (95% CI: 69.7-76.8) of respondents with raised arterial blood pressure (≥140/90 mmHg) were not controlling their blood pressure, 18.6% (95% CI: 15.7-21.6) reported to take medications, which however did not help controlling raised blood

pressure. As little as 8.1% were successfully controlling their raised blood pressure with oral medication.

9. As the survey measurements suggest, mean height of 18-69 years old men was 171,5cm (95% CI: 170,7-172,3) and for women 159.2 cm (95% CI: 158.8-159.7).
10. Mean body weight of men was 74.6 kg (95% CI: 73.3-76.0), and of women 66.4 (95% CI: 65.3-67.5).
11. Mean BMI in the study population was 25.8 (95% CI: 25.5-26.1). The rate was 28.4 (95% CI: 28.0-28.9) in 45-69 age group and 24.3 (95% CI: 23.9-24.6) in the 18-44 age group.
12. The prevalence of underweight was 5.1%; 3.3% (95% CI: 1.6-5.0) for men and 6.9% (95% CI: 4.9-8.9) for women.
13. The prevalence of overweight was 47.7% (95% CI: 44.7-50.8); women were 4.7% more overweight and 10% more obese.
14. Normal weight (BMI within 18.5-24.9)was found in 47.2% of respondents.
15. Almost half (47.8%) of respondents were found to be overweight (28.3% 95% CI: 25.5-31.1) and obese (19.5 % 95% CI: 17.4-21.6).
16. Obesity was detected in 19.5% (95% CI: 17.4-21.6) of the survey population with 11% higher prevalence in women.
17. The mean WHR in both sexes was 0,9%, which speaks of no deviations from the WHO classification.

Blood glucose measurement: the prevalence of hyperglycemia

Diabetes Mellitus (DM) has become the biggest epidemic of the 21st century due to its high prevalence. It has affected almost all segments of the population and is the second leading cause of death. Uncontrolled diabetes leads to the development of hyperglycemia or raised level of sugar in the blood, which eventually affects circulatory, nervous, visual and other systems.

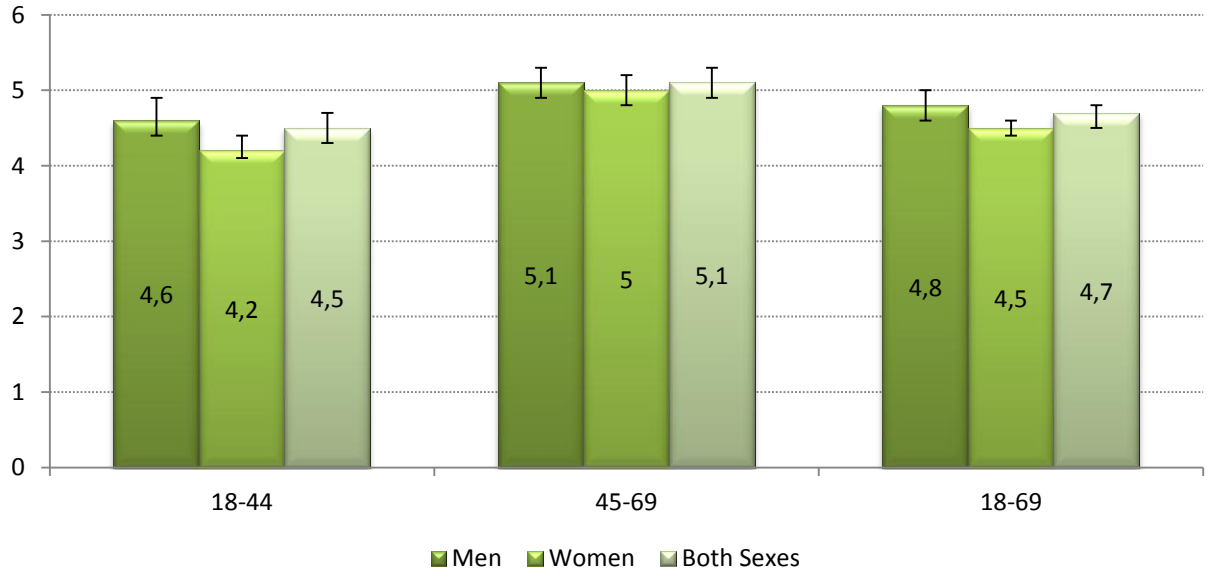
Early detection of the disease and prevention of further complications is possible through screening, including blood glucose testing. Both pharmacological and non-pharmacological management of diabetes is targeted at the reduction of glucose in blood as well as reduction of risk factors for blood vessel damage.

To assess the prevalence of hyperglycemia and hypercholesterolemia in the target population, concentrations of glucose, total cholesterol and HDL were measured in capillary blood during the 3rd stage of STEPS survey.

Capillary blood tests were performed after fasting, using a CardioCheck PA Analyzer. The readings were assessed and classified according to the WHO definitions (Table 3). Respondents, who failed fasting for the test, were excluded from this stage. The results of laboratory tests were cross-matched with responses to the questions on intake of antidiabetic medications. The analysis enabled assessing the effectiveness of hyperglycemia and hypercholesterolemia management.

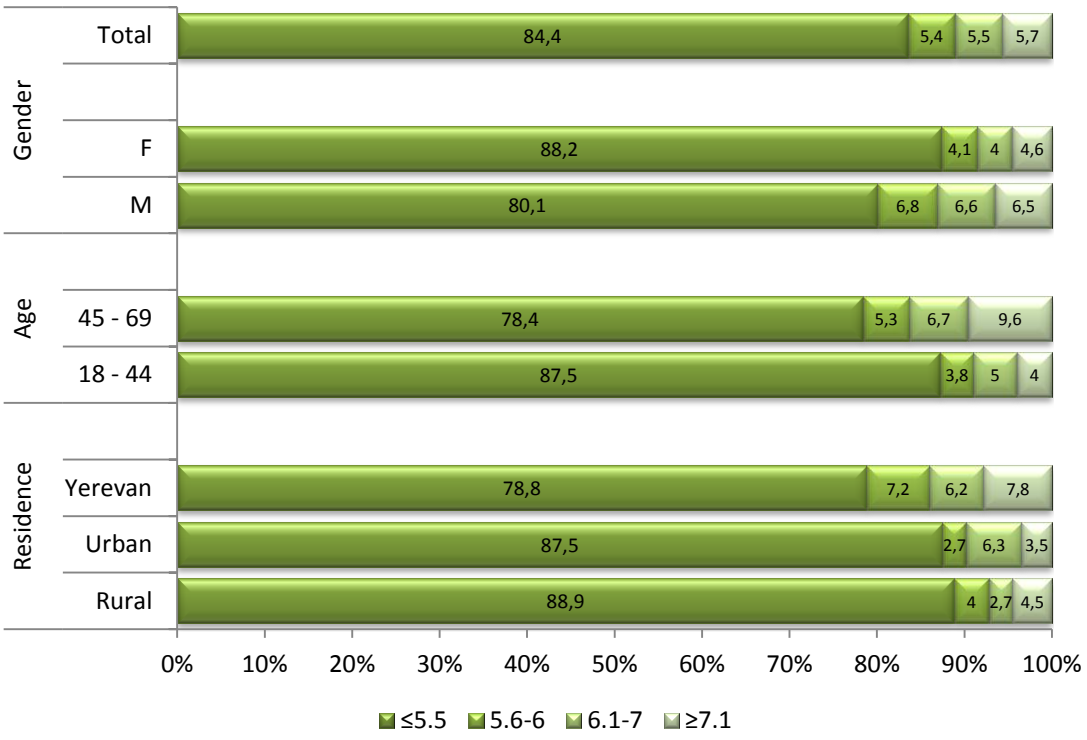
The mean fasting blood glucose level was 4.7mmol/L (Figure 52). Age-wise, mean fasting blood glucose was 4.5 mmol/L (95% CI: 4.3-4.7) in 18-44 age group and 5.1 mmol/L (95% CI: 4.9-5.3) in those aged 45-69 years.

Figure 52. Mean fasting blood glucose including those taking antidiabetic medications (non fasting respondents excluded), by sex and age groups, (%)



The proportion of respondents with impaired fasting blood glycaemia was 5.5% (95% CI: 4.0-7.1): 6.6% (95% CI: 4.3-9.0) for men and 4.0% (95% CI: 2.5-5.4) for women (Figure 53). The prevalence of glycaemia in 18-44 age group was 5% (95% CI: 2.9-7.1): 6.1% (95% CI: 3.0-9.2) for men, and 3.1% (95% CI: 1.4-4.9) for women. In 45-69 age group prevalence of glycaemia was 6.7% (95% CI: 4.5-8.9), 8.0 % (95% CI: 4.3-11.6) for men, and 5.3% (95% CI: 3.1-7.6) for women. It was established that the prevalence of glycaemia in men was 3% higher in the18-69 age group and 2.7% higher in the 45-69 age group. Blood glucose tests across residence areas (Figure 53) revealed that the proportion of respondents with hyperglycemia was almost twice higher in Yerevan compared with other urban and rural areas.

Figure 53. Proportions of respondents according to blood glucose levels, by sociodemographic groups, (%)



The percentage of respondents currently taking medication for raised blood glucose was studied and compared with glucose level measurement results (Table 29).
Instrument questions to assess intake of medication included:

- In the past two weeks, have you taken any medication for diabetes prescribed by a doctor or other health worker?
- Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?
- Today, have you taken insulin or other medication that has been prescribed by a doctor or other health worker?

A total of 5.7% of respondents reported taking medication for diabetes prescribed by a doctor or other health worker.

Only 2.3% took medication for diabetes. The rate was nearly 6 times higher in the 45-69 age group compared with those aged 18-44. No behavior differences were found between men and women.

Table 29. Categorization of respondents into blood glucose level categories and percentage of respondents currently taking medication for raised blood glucose by sex and age groups

Impaired Fasting Glycaemia*									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	261	6.1	3.0-9.2	595	3.1	1.4-4.9	856	5.0	2.9-7.1
45-69	262	8.0	4.3-11.6	663	5.3	3.1-7.6	925	6.7	4.5-8.9
18-69	523	6.6	4.3-9.0	1258	4.0	2.5-5.4	1781	5.5	4.0-7.1
Raised blood glucose or currently on medication for diabetes**									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	261	5.1	1.8-8.5	595	2.1	0.8-3.3	856	4.0	1.8-6.1
45-69	262	10.2	6.0-14.4	663	8.9	6.3-11.5	925	9.6	7.0-12.1
18-69	523	6.5	3.9-9.2	1258	4.6	3.4-5.8	1781	5.7	4.1-7.4
Currently on medication for diabetes									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	(%)	(%)	95% CI
18-44	377	0.9	0.0-2.1	787	0.3	0.0-0.6	1164	0.7	0.0-1.4
45-69	359	5.7	2.9-8.4	826	6.0	4.4-7.6	1185	5.8	4.2-7.5
18-69	736	2.2	1.1-3.4	1613	2.3	1.7-3.0	2349	2.3	1.6-3.0

* Impaired fasting glycaemia (IFG) is defined as either

- plasma venous value: ≥ 6.1mmol/L (110mg/dl) and < 7.0mmol/L (126mg/dl); or
- capillary whole blood value: ≥ 5.6mmol/L (100mg/dl) and < 6.1mmol/L (110mg/dl)

** Raised blood glucose is defined as either:

- plasma venous value: ≥ 7.0 mmol/L (126 mg/dl)
- capillary whole blood value: ≥ 6.1 mmol/L (110 mg/dl)

Cholesterol measurement: prevalence of hypercholesterolemia

The survey measured total cholesterol among all respondents, including those currently taking medication for raised cholesterol.

Cholesterol is a fat-like material found in all parts of the body. It belongs to the lipid group and participates in metabolism, cell membrane building, synthesis of hormones and bile acids. Most part of cholesterol is synthesized in the liver. In some cases high level of cholesterol can be hereditary. Increase of the level of cholesterol is mostly dependent on the diet and can result in development of atherosclerosis.

According to WHO chart, total serum cholesterol level should be <5 mmol/L (<190 mg/dL). At<5.0-6.1 mmol/L the risk is considered high,≥ 6.2 mmol/L is raised and requires cholesterol lowering medication. LDL should not exceed <3 mmol/L (<115 mg/dL), and HDL>1.55 mmol/L (**16**).

Mean total cholesterol was 4.3 mmol/L(95% CI: 4.2-4.3)and peaked in the 45-69 age group reaching 4.8 mmol/L (95% CI: 4.7-4.8). In general, total cholesterol increases with age, which may be related to the level of physical activity and metabolism, unhealthy eating patterns and other factors (Table 30).

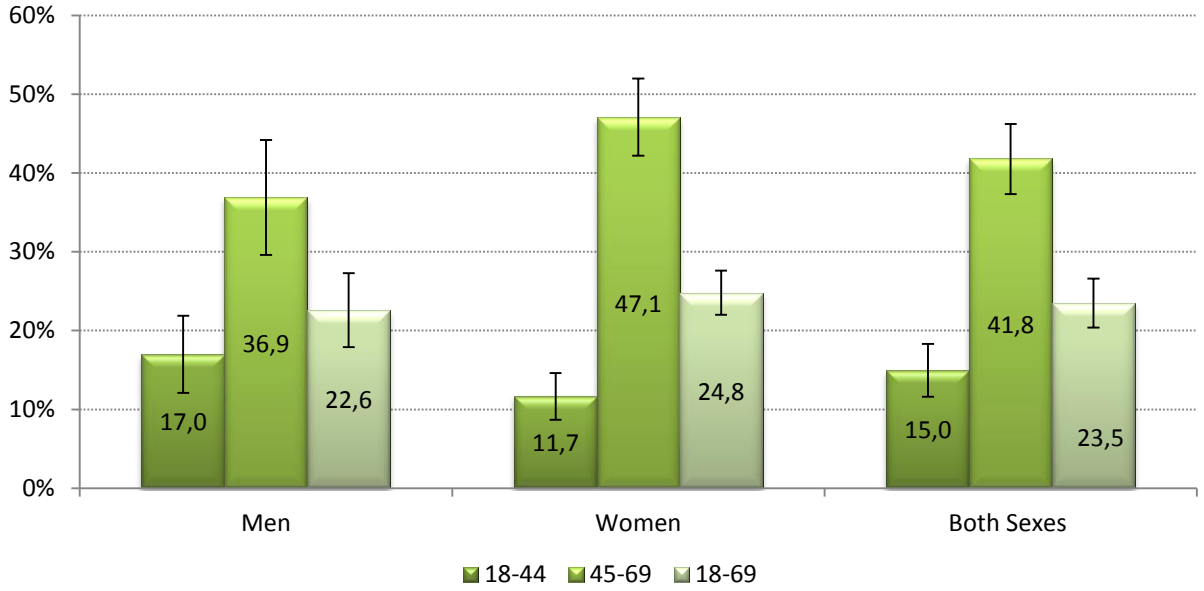
Table 30.Mean total cholesterol among respondents including those currently taking medication for raised cholesterol

Mean total cholesterol (mmol/L)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	262	4,1	3,9-4,2	601	4,0	3,9-4,1	863	4.0	3.9-4.1
45-69	268	4,6	4,5-4,8	667	4,9	4,8-5.0	935	4.8	4.7-4.8
18-69	530	4,1	3,9-4,2	1268	4,3	4,2-4,4	1798	4.3	4.2-4.3

Figure 54 presents the share of respondents (including those currently taking medication for raised cholesterol), who have total cholesterol exceeding the WHO norm, i.e. greater than or equal to 5.0 mmol/L. Total cholesterol was ≥5. 0 mmol/L or ≥190 mg/dL in every second respondent (23.5%) (95% CI: 20.4-26.6), 4.2% (95% CI: 3.2-5.3) were found to have TC ≥ 6.2 mmol/L or ≥ 240 mg/dL.
No essential differences were revealed among men and women: ≥ 5. 0 mmol/L was found in 22.6% of men and 24.8% of women.

Figure 54 suggests that the proportion of 45-69 years old respondents who have total cholesterol ≥ 5. 0 mmol/L was approximately 2-3 times higher compared with those aged 18-44 years. The rate ≥ 5.0 mmol/L was one and half times higher in 18-44 years old men compared with same age women. Meanwhile, the situation is different in the 45-69 age group, where TC≥ 5. 0 mmol/L is 10.2% higher in women.

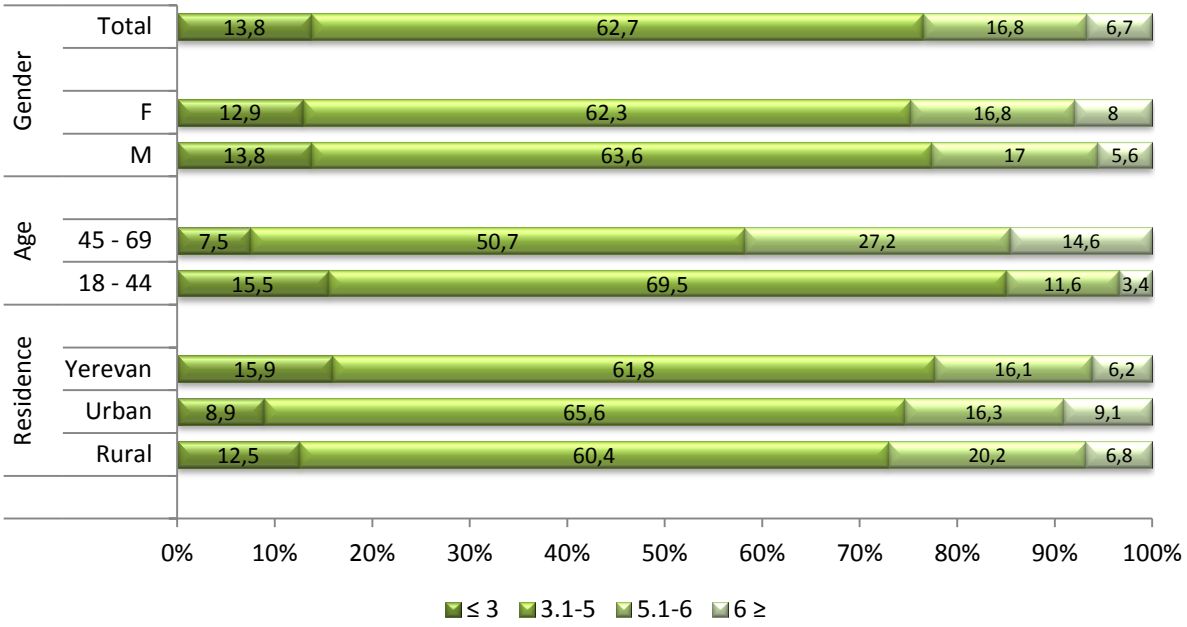
Figure 54. Total cholesterol ≥ 5.0 mmol/L or ≥ 190 mg/dL or currently taking medication for raised cholesterol, by sex and age groups, (%)



The total cholesterol level was assessed by sex, age and type of residence (Figure 55). Overall, the share of women with raised cholesterol level was higher compared with men, but the biggest difference (4 to 5 times exceeding the proportion of men) was found in 45-69 years old women.

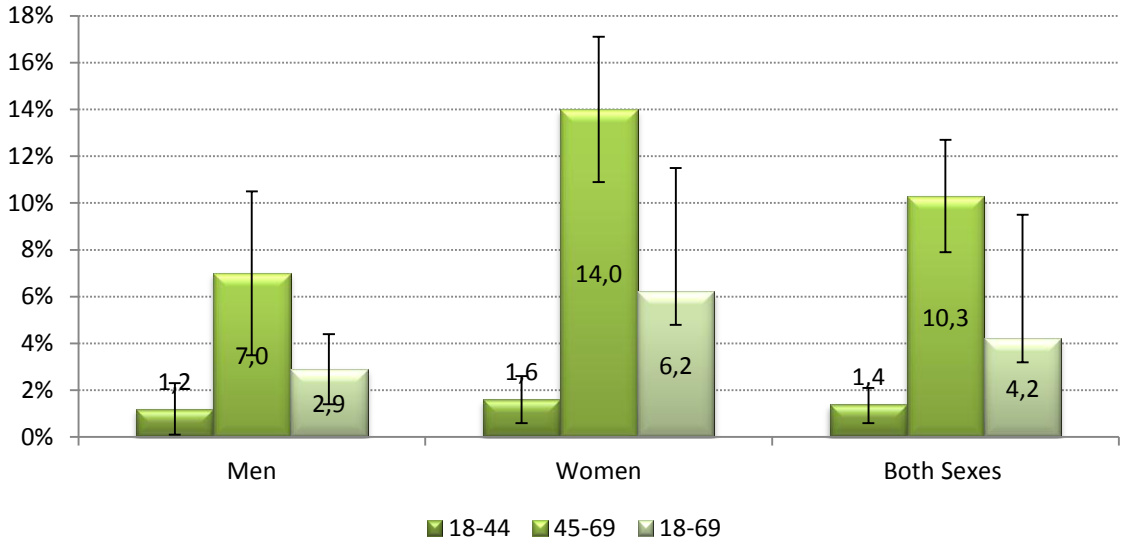
The share of respondents with hypercholesterolemia was lower in Yerevan, compared with other cities and villages. The rate is directly correlated to BMI and is very similar to the prevalence of overweight and obesity, which was higher in marz cities and villages.

Figure 55. Total blood cholesterol by sociodemographic groups, (%)



Of total target population 4.2% had total cholesterol ≥ 6.2 mmol/L: 2.9% for men and 6.2% for women (Figure 56). The rate differed essentially across the total target population and age groups. The prevalence of hypercholesterolemia (≥ 6.2 mmol/L) was nearly twice higher in 45-69 years old women. The latter was found at higher risk of developing NCD, particularly CSD and diabetes.

Figure 56. Total cholesterol ≥ 6.2mmol/L or ≥ 240mg/dL or currently taking medication for raised cholesterol, by sex and age groups (%)



According to WHO definition, normal HDL level in men should exceed 1.03 mmol/L and in women 1.29 mmol/L, so <1.03 mmol/L in men and <1.29 mmol/Lin women is considered low HDL (16).

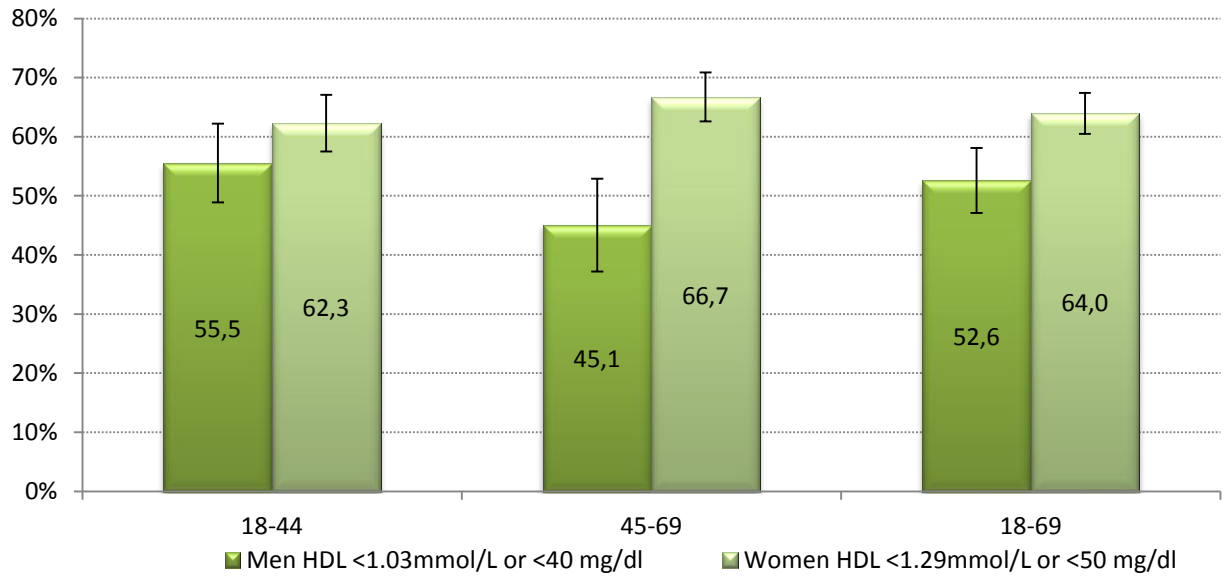
The survey established that mean HDL among the target population was 1.1 mmol/L (95% CI: 1.1-1.1, Table 31).

Table 31. Mean and low HDL by sex and age groups

Mean HDL (mmol/L)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	262	1.0	1.0-1.1	601	1.2	1.2-1.3	863	1.1	1.1-1.1
45-69	268	1.1	1.0-1.2	667	1.2	1.1-1.2	935	1.1	1.1-1.2
18-69	530	1.0	1.0-1.1	1268	1.2	1.2-1.2	1798	1.1	1.1-1.1

A total of 52.6% (95% CI: 47.1-58.1) of respondents had their HDL cholesterol level under 1.03 mmol/L (<40 mg/dL) and 64.0% (95% CI: 60.5-67.4) of women were found to have HDL level of <1.29 mmol/L(<50 mg/dL), which means that data do not meet WHO standards (Figure 57).

Figure 57. HDL cholesterol level by sex and age groups, (%)



Consumption of dietary salt. Urine biochemical tests

The national STEPS survey was the first study conducted in Armenia, which examined the mean amount of dietary salt consumed by population based on sodium and creatinine levels in urine.

Written consents on participation in urine biochemical tests were received from 985 respondents. During the first and second stages of the survey, participants were instructed for spot urine sample collection. Every respondent was provided with a written instruction for spot urine collection and a container. Next morning containers with urine samples were taken to DIALAB clinical diagnostic laboratory in Yerevan where analysis of urinary sodium and creatinine were done. Survey participants were informed about laboratory test results by a phone call, during which the quality of conducted interviews was checked as well.

Mean amount of dietary salt consumed by respondents during the day was 9.8 grams (95% CI: 9.6-10.0); 11.0 grams per day (95% CI: 10.8-11.3) for men, and 8.4 grams per day (95% CI: 8.3-8.6) for women (Table 32).

As the Figures suggest, men consume 2.6 grams more salt that women.

Table 32. Mean daily intake of salt in grams, by sex and age groups

Mean salt intake (g/day)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	111	10.7	10.4-11.0	326	8.2	8.0-8.4	437	9.6	9.3-9.8
45-69	150	11.5	11.2-11.9	398	8.8	8.7-9.0	548	10.2	9.9-10.4
18-69	261	11.0	10.8-11.3	724	8.4	8.3-8.6	985	9.8	9.6-10.0

Conclusions

1. Mean fasting blood glucose level was 4.7 mmol/L (95% CI: 4.5-4.8): glucose level was 0.6 mmol/L higher in 45-69 age group, compared with those aged 18-44 years.
2. Of the total population 5.5% (95% CI: 4.0-7.1) were found to have glycemia: 6.6% (95% CI: 4.3-9.0) for men and 4.0% (95% CI: 2.5-5.4) for women.
3. The prevalence of glycemia in 18-44 age group was 5.0% (95% CI: 2.9-7.1): 6.1% (95% CI: 3.0-9.2) for men and 3.1% (95% CI: 1.4-4.9) for women.
4. The prevalence of glycemia was established 6.7% (95% CI: 4.5-8.9) in 45-69 age group: 8.0 % (95% CI: 4.3-11.6) for men and 5.3% (95% CI: 3.1-7.6) for women. Figures evidence that glycemia was 3% more prevalent in men aged 18-69 years, and 2.7% more prevalent in 45-69 age group.
5. In general, glycemia was found more common in men of all age groups, thus putting men at higher risk of developing NCD.
6. The share of respondents with raised blood glucose level was almost twice higher in Yerevan (7.8%), compared with marz urban (3.5%) and rural (4.5%) settlements.
7. Oral medication for control of raised glucose was taken by only 5.7% of survey participants.
8. Men took medication for control of raised glucose 1.9% more often than women.
9. Intake of antidiabetic medications was reported by 2.3% of respondents. At that the share of 45-69 years old participants who were on therapy was 5.1% higher than that in 18-44 age group.
10. Mean total cholesterol was 4.3 mmol/L (95% CI: 4.2-4.3) and reached the highest point of 4.8 mmol/Lin the 45-69 age group (95% CI: 4.7-4.8).
11. Total cholesterol level ≥5. 0 mmol/L was found in 23.5% (95% CI: 20.4-26.6) of respondents, and ≥ 6.2 mmol/L in 4.2%.
12. Total cholesterol of ≥ 5. 0 mmol/L was approximately 2-3 times higher in 45-69 years old respondents compared with those aged 18-44 years. The rate ≥ 5.0 mmol/L was one and half times higher in 18-44 years old men compared with same age women. Meanwhile, the situation was different in the 45-69 age group, where total cholesterol ≥ 5. 0 mmol/L was 10.2% higher in women.
13. Of total target population 4.2% had total cholesterol ≥ 6.2 mmol/L: 2.9% for men and 6.2% for women. The rate differed essentially across the total target population and age groups. The prevalence of hypercholesterolemia (≥ 6.2 mmol/L) is nearly twice higher in 45-69 years old women, who are at higher risk of developing NCD, particularly CSD and diabetes.
14. Mean daily amount of dietary salt consumed by the respondents was 9.8 grams (95% CI: 9.6-10.0); 11.0 grams per day (95% CI: 10.8-11.3) for men, and 8.4 grams per day (95% CI: 8.3-8.6) for women.
15. A total of 52.6% (95% CI: 47.1-58.1) of respondents had HDL cholesterol level under 1.03 mmol/L (<40 mg/dL) and 64.0% (95% CI: 60.5-67.4) of women were found to have HDL level of <1.29 mmol/L (<50 mg/dL), which means that data do not meet WHO standards.

Assessment of the risk of developing circulatory system diseases

CSD prevention measures are based on assessment of the absolute risk of cardiovascular diseases. The latter is defined as the likelihood of developing a life threatening cardiovascular event (cardiac infarction, stroke and sudden cardiac death) in the following 10 years.

The survey assessed ≥30% risk of developing CSD in 40-69 age group (including CSD patients).

The risk assessment was based on the following data: age, sex, tobacco use (current smoker or those who had quit more than 1 year ago), SBP, total cholesterol and glucose levels(> 7.0 mmol/L (126 mg /Dl) after fasting (16).

According to the survey, 16.6% (95% CI: 13.5-19.8) of 40-69 years old respondents were exposed to ≥30% risk of 10-year CSD development or CSD, with 16.8% males (95% CI. 11.8-21.8), and 16.5% females (95% CI: 13.2-19.8, Table 33). The CSD risk in 55-69 age group was 7.3% higher than in 40-54 (13.6%) and 45-69 (20.6%)age groups (Table 33).

Gender-wise, no essential differences were revealed in 40-54 age group, but in 55-69 aged males the rate exceeded by 2.5%.

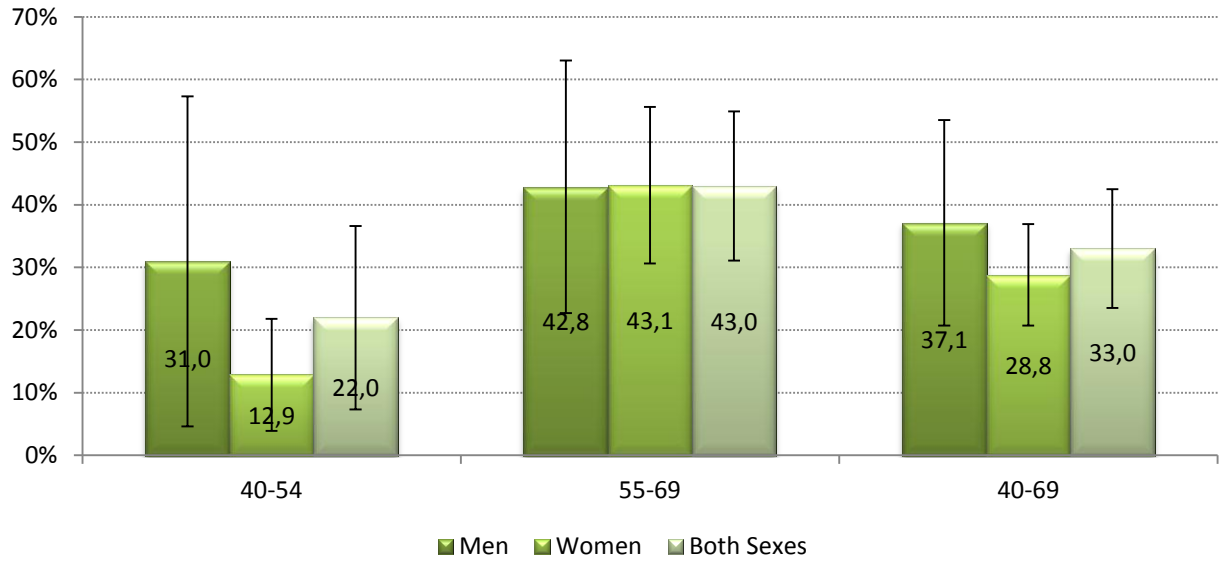
Table 33. Percentage of 40-69 respondents with ≥30% risk of 10-year CSD developmentor CSD patients, by sex and age groups

Percentage of respondents with a 10-year CVD risk ≥30% or with existing CVD									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
40-54	121	13.3	6.1-20.5	368	13.9	9.2-18.7	489	13.6	8.8-18.4
55-69	135	22.1	14.7-29.5	370	19.3	14.5-24.1	505	20.6	16.3-24.9
40-69	256	16.8	11.8-21.8	738	16.3	13.0-19.6	994	16.5	13.4-19.7

The proportion of respondents who received drug counseling or treatment to prevent CSD (Figure 58) shows the proportion of respondents who received counseling on medical therapy or were on treatment to prevent CSD. The counseling includes advices provided by a doctor or any other healthcare worker in the past 3 years on quitting smoking, reducing the amount of consumed dietary salt, eating at least 5 servings of fruits and vegetables per day, reducing the amount of consumed fat/oil, performing physical activity, maintaining healthy body mass index or reducing it if necessary.

The proportion of respondents who received counseling on medical therapy or were on treatment to prevent CSD was 33.0 % (23.5-42.5): 37.1% (20.7-53.5) for men and 28.8% (20.7-36.9) for women. Risk factors were more prevalent (nearly 22%) in 55-69 age group, compared with that of 40-54 (Figure 58).

Figure 58. The proportion of respondents who received drug counseling or treatment to prevent CSD , (%)



Conclusions

1. The percentage of respondents with ≥30% risk of 10-year CSD developmentor CSD patients was 16.6% (95% CI: 13.5-19.8), with males comprising 16.8% (95% CI: 11.8-21.8) and females 16.5% (95% CI: 13.2-19.8).
2. The CSD risk in 55-69 age group was 7.3% higher than in 40-54 age group.
3. Age-wise, risk factors were around 22% more prevalent in 55-69 age group than in the 40-54 age group.
4. Every third (33%; 23.5-42.5) respondent received drug counseling or treatment to prevent development of CSD, with males comprising 37.1% (20.7-53.5) and females 28.8% (20.7-36.9).

Summary of combined risk factors

The survey assessed also the prevalence of combined risk factors. The findings of the analysis (Figure 59) were grouped according to the following risk factors (RF).

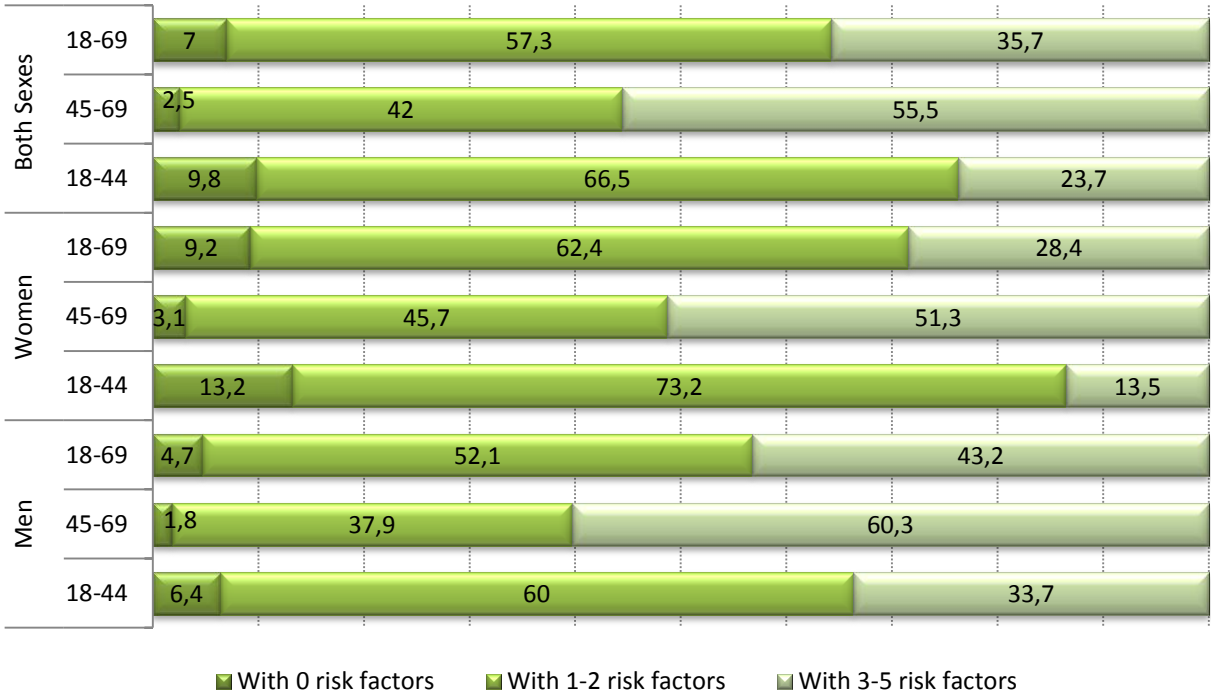
- Current/regular smokers
- Daily consumption of 5 or less servings of fruits and vegetables
- Failure to meet the WHO-recommended physical activity criteria (moderate-intensity physical activity of <150 minutes per week)
- Overweight or obesity (BMI ≥ 25 kg/m^2)
- Hypertension (SBP ≥ 140 and/or DBP ≥ 90 mm Hg or currently takes drugs to regulate blood pressure).

Thus,

- The aforementioned risk factors were absent in 7.0% (95% CI: 5.3-8.7) of respondents, meaning that they practiced healthy lifestyle.
  - ✓ The rate of no RF in 18-44 age group was 9.8 %, with 13.2% females and 6.4% males.
  - ✓ The rate of no RF tend to decrease with age, reaching 2.5% in 45-69 age group, with females 3.1% and males 1.8%.
- One or two RFs were present in 57.3% of respondents (95% CI: 54.3-60.3).
  - ✓ The rate was 66.5% in 18-44 age group, with females 73.2% and males 60%.
  - ✓ The prevalence of 1 or 2 RF in 45-69 age group comprised 42%: 45.7% for women and 37.9% for men.

- Three to five RF were detected in 35.7% of respondents (95% CI: 54.3-60.3): 43.2% men and 28.4% women.
  - ✓ The rate in 18-44 age group was 23.7%, with females 13.5% and males 33.7%.
  - ✓ The prevalence of 3 to 5 RF in 45-69 age group comprised 55.5%, with females 51.3% and males 60.3%.

Figure 59. Prevalence of combines risk factors by sex and age groups, (%)



The study of the ratio of RF suggests that respondents aged 45-69 years were in the highest risk group because every second respondent in this group had 3 to 5 RF, which increases the likelihood of developing a NCD. Having a CSD twice increases not only the risk of developing complications but also the mortality risk.

RECAP AND CONCLUSIONS

The findings of the current survey on the prevalence of NCD risk factors represents for the 18-69 years old population of Armenia. The survey methodology enables making comparative analysis with data of STEPS surveys conducted other countries.
A general summary of the national STEPS survey results is detailed here.

1. Prevalence of NCD RF in adult population aged 18-69 years.
    - 26.9% of respondents were daily smokers.
    - 34.4%of respondents had consumed an alcohol drink in the past 30 days.
    - 76% of respondents consume fewer than 5 servings of fruits and vegetables per day.
    - 21.3% of respondents were physically inactive according to WHO definition.
    - 54.9% of respondents were overweight and had abdominal fat accumulation.
    - 19.5% of respondents were obese and 28.3% were overweight.
    - 37.8% of respondents had hypertension.
    - 5.7% of respondents had raised blood glucose level.
    - 4.2% of respondents had raised blood cholesterol level.
    - 16.5% had a 10-year CVD risk of over 30% or had a CSD.
2. The prevalence of NCD risk factors was higher in men, making them more prone to NCD morbidity and mortality.
    - Among current smokers 51.5% were men and 1.8% were women.
    - 11.1% of men and 0.1% of women reported consuming 6 or more standard drinks on one occasion in the past 30 days.
    - 78.4% of men and 73.5% of women reported to consume fewer than 5 servings of fruits and vegetables per day.
    - 40.3% of men and 30.1% of women reported often or always adding salt to the food before or while eating.
3. Every second respondent (55.5%) in the 45-69 age group had 3-5 RFs: 60.3% for men and 51.3% for women.
4. Women (56.1%) were more compliant in terms of taking medication prescribed by a doctor or other health worker for control of raised blood pressure, than men (48.4%).
5. Every second respondent (56.4%) was exposed to secondhand smoke at home and every third (26.6%) at work (31.8% of men and 20.6% of women), which essentially increases the NCD risk.
6. The vast majority of daily smokers (94.3%) smoked manufactured cigarettes. The mean number of cigarettes smoked per day was 24.4. An average of 449.8 drams is spent on a pack of 20 manufactured cigarettes.
7. Past 30-days drinkers amounted to 34.4% of respondents, where men (46.1%) drank more often than women (21.5%). Every second (25.7%) respondent reported having had alcohol in the past 12 months, but not drinking currently. Residence-wise, 6.2% of rural respondents were daily drinkers. The rate was much lower in marzes and in Yerevan (1.7% and 1.3%correspondingly).
8. Engagement of PHC providers in healthy lifestyle counseling needs to be expanded. During the past 3 years 10% of population received counseling by a healthcare provider on quitting or not starting smoking; 14.3% were advised on reduction of dietary salt intake, 21.4% on consumption of at least 5 servings of fruits and vegetables per day,

16.5% on reduction fat/oil consumption, 15.4% on increasing physical activity, and 12.6% on maintaining healthy body weight.

9. Mean daily amount of dietary salt consumed by the respondents was 9.8 grams, which is a rather high Figure and is a serious risk factor of hypertension.
10. Of total respondents 37.8% had raised blood pressure, of which 73.2% did not take any medication for control of AH.
11. Hyperglycemia (LG≥7.0 mmol/L) was found in 5.7% and hypercholesterolemia (LC≥6.2 mmol/L) in 4.2% of respondents.
12. Only 33.2% of women aged 30-49 years had undergone Pap smear test.
13. The survey assessed ≥30% risk of developing CSD inthe next 10 years in 16.6% of respondents aged 40-69 years.
14. The survey revealed that 3 to 5 risk factors were present in 35.7% of 18-69 years old respondents.

The findings of the survey will be presented to all stakeholders and agencies. Conclusions made within the framework of STEPS will serve as a baseline for evaluation of implemented policy actions aiming to reduce risk factors for NCD.

Analysis and interpretation of the survey data will enable improving NCD surveillance in the country, strengthening prevention and control of most common NCD, thus reducing morbidity and mortality due to circulatory system diseases, cancer and other prevalent NCD, as well as increasing population life expectancy and improving quality of life.

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FACT SHEET

Results for adults aged 18-69 years (incl. 95% CI)	Both Sexes	Males	Females
Step 1 Tobacco Use			
Percentage who currently smoke tobacco	27.9% (25.2-30.5)	51.5% (47.4–55.6)	1.8% (1.1–2.5)
Percentage who currently smoke tobacco daily	26.9% (24.4-29.5)	49.9% (45.7-54.1)	1.6% (1.0 –2.3)
For those who smoke tobacco daily			
Average age started smoking (years)	18.1 (17.7-18.5)	17.9 (17.5-18.3)	26.2 (22.1-30.3)
Percentage of daily smokers smoking manufactured cigarettes	94.3% (91.1-97.5)	94.4% (91.1-97.7)	92.2% (82.5-100.0)
Mean number of manufactured cigarettes smoked per day (by smokers of manufactured cigarettes)	22.7 (21.2-24.3)	22.9 (21.4-24.5)	15.6 (10.9-20.2)
Step 1 Alcohol Consumption			
Percentage who are lifetime abstainers	29.0% (26.2-31.8)	18.0% (14.5-21.5)	41.0% (37.2-44.9)
Percentage who are past 12 month abstainers	10.9% (9.2-12.6)	10.2% (7.5-12.9)	11.7% (9.9-13.5)
Percentage who currently drink (drank alcohol in the past 30 days)	34.4% (30.9-37.9)	46.1% (40.2-52.0)	21.5% (18.6-24.3)
Percentage who engage in heavy episodic drinking (6 or more drinks on any occasion in the past 30 days)	5.9% (4.4-7.4)	11.1% (8.1-14.0)	0.1% (0.0-0.3)
Step 1 Diet			
Mean number of days fruit consumed in a typical week	5.4 (5.3-5.6)	5.2 (5.0-5.5)	5.6 (5.5-5.8)
Mean number of servings of fruit consumed on average per day	1.9 (1.8-2.0)	1.8 (1.6-2.0)	2.0 (1.9-2.1)
Mean number of days vegetables consumed in a typical week	5.0 (4.9-5.2)	5.0 (4.8-5.3)	5.0 (4.9-5.2)
Mean number of servings of vegetables consumed on average per day	1.6 (1.5-1.7)	1.6 (1.4-1.7)	1.7 (1.6-1.8)
Percentage who ate less than 5 servings of fruit and/or vegetables on average per day	76.0% (73.2-78.9)	78.4% (74.3-82.4)	73.5% (70.4-76.6)
Percentage who always or often add salt or salty sauce to their food before eating or as they are eating	35.4% (32.9-38.0)	40.3% (36.1-44.4)	30.1% (27.1-33.1)
Percentage who always or often eat processed foods high in salt	31.2% (28.4-34.0)	34.3% (30.0-38.7)	27.8% (24.8-30.7)
Step 1 Physical Activity			
Percentage with insufficient physical activity (defined as < 150 minutes of moderate-intensity activity per week, or equivalent)*	21.3% (18.4-24.1)	22.0% (18.0-26.1)	20.4% (17.3-23.5)
Median time spent in physical activity on average per day (minutes) (presented with inter-quartile range)	120 (30-360)	141.4 (30-420)	120 (30.0-300.0)
Percentage not engaging in vigorous activity	77.9% (75.4-80.3)	67.8% (63.6-72.0)	88.9% (86.8-91.0)

Results for adults aged 18-69 years (incl. 95% CI)	Both Sexes	Males	Females
Step 1 Cervical Cancer Screening			
Percentage of women aged 30-49 years who have ever had a screening test for cervical cancer			33.2% (28.4-37.9)
Step 2 Physical Measurements			
Mean body mass index - BMI (kg/m^2)	25.8 (25.5-26.1)	25.4 (25.0-25.8)	26.3 (25.8-26.7)
Percentage who are overweight (BMI ≥ 25 kg/m^2)	47.7% (44.7-50.8)	45.4% (40.6-50.2)	50.1% (46.7-53.5)
Percentage who are obese (BMI ≥ 30 kg/m^2)	19.5% (17.4-21.6)	14.0% (10.9-17.0)	25.0 % (22.4-27.7)
Average waist circumference (cm)		92.7 (91.3-94.1)	88.0 (86.9-89.2)
Mean systolic blood pressure - SBP (mmHg), including those currently on medication for raised BP	129.4 (128.3-130.5)	132.3 (130.8-133.7)	126.7 (125.1-128.3)
Mean diastolic blood pressure - DBP (mmHg), including those currently on medication for raised BP	83.8 (83.1-84.5)	84.4 (83.4-85.5)	83.2 (82.3-84.1)
Percentage with raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)	37.8% (34.7-40.8)	39.3% (34.3-44.2)	36.3% (32.9-39.7)
Percentage with raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg) who are not currently on medication for raised BP	73.2% (69.7-76.8)	80.6% (75.0-86.1)	65.8% (61.5-70.0)
Step 3 Biochemical Measurement			
Mean fasting blood glucose, including those currently on medication for raised blood glucose [choose accordingly: mmol/L or mg/dl]	4.7 (4.5-4.8)	4.8 (4.6-5.0)	4.5 (4.4-4.6)
Percentage with impaired fasting glycaemia as defined below • plasma venous value ≥6.1mmol/L (110mg/dl) and <7.0mmol/L (126 mg/dl)	5.5% (4.0-7.1)	6.6% (4.3-9.0)	4.0% (2.5-5.4)
Percentage with raised fasting blood glucose as defined below or currently on medication for raised blood glucose • plasma venous value ≥ 7.0 mmol/L (126 mg/dl)	5.7% (4.1-7.4)	6.5% (3.9-9.2)	4.6% (3.4-5.8)
Mean total blood cholesterol, including those currently on medication for raised cholesterol [choose accordingly: mmol/L or mg/dl]	4.3 (4.2-4.3)	4.1 (3.9-4.2)	4.3 (4.2-4.4)
Percentage with raised total cholesterol (≥ 5.0 mmol/L or ≥ 190 mg/dl or currently on medication for raised cholesterol)	23.5% (20.4-26.6)	22.6% (17.9-27.3)	24.8% (22.0-27.6)
Mean intake of salt per day (in grams)	9.8 (9.6-10.0)	11.0 (10.8-11.3)	8.4 (8.3-8.6)
Cardiovascular disease (CVD) risk			
Percentage aged 40-69 years with a 10-year CVD risk ≥ 30%, or with existing CVD**	16.5% (13.4-19.7)	16.8% (11.8-21.8)	16.3% (13.0-19.6)
Summary of combined risk factors • current daily smokers • less than 5 servings of fruits & vegetables per day • insufficient physical activity • overweight (BMI ≥ 25 kg/m^2) • raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)			
Percentage with none of the above risk factors	7.0 (5.3-8.7)	4.7 (2.2-7.3)	9.2 (7.2-11.3)
Percentage with three or more of the above risk factors, aged 18 to 44 years	23.7 (20.3-27.2)	33.7 (27.6-39.7)	13.5 (10.7-16.4)
Percentage with three or more of the above risk factors, aged 45 to 69 years	55.5 (51.2-59.7)	60.3 (53.3-67.3)	51.3 (46.6-55.9)
Percentage with three or more of the above risk factors, aged 18 to 69 years	35.7 (32.6-38.7)	43.2 (38.3-48.1)	28.4 (25.3-31.4)

TOBACCO FACT SHEET

Highlights

TOBACCO USE

- 51.5% of men, 1.8% of women, and 27.8% overall were current smokers of tobacco.
- 0.5% of men, 0.0% of women, and 0.2% overall were current users of smokeless tobacco.

CESSATION

- 3 in 10 current smokers tried to stop smoking in the last 12 months.
- 3 in 10 current smokers were advised by a health care provider to stop smoking in the last 12 months

SECONDHAND SMOKE

- 26.6% of adults were exposed to tobacco smoke at the workplace.
- 56.4% of adults were exposed to tobacco smoke at home.

MEDIA

- 4 in 10 adults noticed anti-cigarette smoking information on the television or radio.
- 3 in 10 current smokers thought about quitting because of warning labels on cigarette packages.
- 2 in 10 adults noticed cigarette marketing in stores where cigarettes are sold.
- 1 in 10 adults noticed cigarette promotions.

ECONOMICS

- Average monthly expenditure on manufactured cigaretteswas15460 AMD

Results for adults aged 18-69 years	Overall, % (95% CI)	Males, % (95% CI)	Females, % (95% CI)
Tobacco Use			
Current tobacco users(smoked and/or smokeless)[1]			
Current tobacco users	28.0 (25.3-30.6)	51.7 (47.5- 55.8)	1.8 (1.1- 2.5)
Current daily tobacco users	26.9 (24.4-29.5)	49.9 (45.7-54.1)	1.6 (1.0-2.3)
Current tobacco smokers			
Current tobacco smokers	27.9 (25.2-30.5)	51.5 (47.3-55.6)	1.8 (1.1-2.5)
Current cigarette smokers [2]	26.2 (23.6-28.7)	48.5 (44.4-52.7)	1.7 (1.0-2.3)
Current daily tobacco smokers	26.9 (24.4-29.4)	49.9 (45.7-54.1)	1.6 (1.0-2.3)
Current daily cigarette smokers	25.3 (22.8-27.7)	46.8 (42.5-51.2)	1.6 (0.9-2.1)
Average age started tobacco smoking (years)	18.1 (17.7-18.5)	17.9 (17.5-18.3)	26.2 (22.1-29.4)
Average number of cigarettes smoked per day (among daily cigarette smokers)	24.4 (23.1-25.7)	24.6 (23.3-26.0)	17.4 (11.7-23.0)
Current smokeless tobacco users			
Current smokeless tobacco users	0.3 (-0.0-0.6)	0.5 (-0..1-1.2)	-
Current daily smokeless tobacco users	0.1 (-0.1-0.4)	0.3 (-0.3-0.8)	0.1 (-0.1-0.3)

Results for adults aged 18-69 years	Overall, % (95% CI)	Males, % (95% CI)	Females, % (95% CI)
Current non-users(smoked and/or smokeless)[1]			
Former tobacco users[3]	7.9 (6.2-9.5)	14.2 (11.1-17.3)	0.9 (0.4-1.4)
Former tobacco smokers[4]	7.7 (6.1-9.3)	14.0 (10.9-17.1)	0.8 (0.3-1.2)
Never users	64.2 (61.5-66.8)	34.1 (30.0-38.2)	97.3 (96.4-98.2)
Exposure to Second-hand smoke			
Adults exposed to second-hand smoke at home*	56.4 (52.2-60.5)	58.4 (52.3-64.5)	54.1 (50.4-57.8)
Adults exposed to second-hand smoke in the closed areas in their workplace*	26.6 (22.5-30.7)	31.8 (25.4-38.2)	20.6 (16.7-24.5)
Tobacco Cessation			
Current smokers who tried to stop smoking in past 12 months	34.5 (29.2-39.7)	34.0 (28.6-39.4)	47.8 (27.9-67.6)
Current smokers advised by a health care provider to stop smoking in past 12 months[5]	29.5 (22.7-36.3)	29.2 (22.3-36.2)	39.0 (14.5-63.5)
Health Warnings			
Current smokers who thought about quitting because of a warning label*	28.3 (21.9-34.7)	28.4 (21.8-35.1)	22.1 (6.9-37.3)
Adults who noticed anti-cigarette smoking information on the television *	42.7 (39.2-46.1)	41.5 (36.5-46.6)	43.9 (40.2-47.6)
Adults who noticed anti-cigarette smoking information on radio *	8.9 (6.2-11.2)	10.6 (6.0-15.2)	6.9 (4.9-8.8)
Adults who noticed anti-cigarette smoking information in newspapers or magazines*	24.9 (21.9-27.8)	23.8 (19.3-28.3)	26.0 (23.0-28.9)
Tobacco Advertisement and Promotion			
Adults who noticed cigarette marketing in stores where cigarettes are sold*	16.0 (12.9-19.0)	18.4 (13.0-23.7)	13.3 (11.0-15.6)
Adults who noticed any cigarette promotions*	14.0 (11.2-16.7)	20.0 (15.2-24.7)	7.1 (5.4-8.8)
Economics	**Local Currency [AMD]**		
Average amount spent on 20 manufactured cigarettes	449.8(375.0-524.6)		
Average monthly expenditure on manufactured cigarettes	15460.0(12371.1-18548.8)		
Cost of 100 packs of manufactured cigarettes as a percentage of per capita Gross Domestic Product (GDP) [2016][6]	**2.5%**		

PREVALENCE OF NONCOMMUNICABLE DISEASE RISK FACTORS IN THE REPUBLIC OF ARMENIA

DATA BOOK

STEPS NATIONAL SURVEY 2016

Table of Contents

Demographic indicators

Age group by sex

Description

Summary information by age group and sex of the respondents.

Instrument question:

- Sex
- What is your date of birth?

Table A 1. Age group and sex of respondents

Age Group (years)	Men		Women		Both Sexes	
	n	%	n	%	n	%
18-44	377	32.4	787	67.6	1164	100.0
45-69	359	30.3	826	69.7	1185	100.0
18-69	736	31.3	1613	68.7	2349	100.0

Education

Description

Mean number of years of education among respondents.

Instrument question

- In total, how many years have you spent at school or in full-time study (excluding pre-school)?

Table A 2. Mean number of years of education

Age Group (years)	Men		Women		Both Sexes	
	n	Mean	n	Mean	n	Mean
18-44	377	11.7	787	12.1	1164	12.0
45-69	359	11.9	825	11.7	1184	11.8
18-69	736	11.8	1612	11.9	2348	11.9

Highest level of education

Description

Highest level of education achieved by the survey respondents.

Instrument question

- What is the highest level of education you have completed?

Table A 3. Highest level of education								
Age Group (years)	Men							
	n	No formal schooling (%)	Less than primary school (%)	Primary school completed (%)	Secondary school completed (%)	High school completed (%)	College/ University completed (%)	Post graduate degree completed (%)
18-44	377	0.5	0.3	1.1	56.5	14.6	26.5	0.5
45-69	359	0.6	0.0	1.4	39.3	36.2	22.0	0.6
18-69	736	0.5	0.1	1.2	48.1	25.1	24.3	0.5

Table A 4. Highest level of education								
Age Group (years)	Women							
	n	No formal schooling (%)	Less than primary school (%)	Primary school completed (%)	Secondary school completed (%)	High school completed (%)	College/ University completed (%)	Post graduate degree completed (%)
18-44	787	0.6	0.1	1.1	44.0	25.4	28.5	0.3
45-69	826	0.5	0.6	0.7	43.3	36.8	17.8	0.2
18-69	1613	0.6	0.4	0.9	43.6	31.2	23.0	0.2

Table A 5. Highest level of education								
Age Group (years)	Both Sexes							
	n	No formal schooling (%)	Less than primary school (%)	Primary school completed (%)	Secondary school completed (%)	High school completed (%)	College/ University completed (%)	Post graduate degree completed (%)
18-44	1164	0.6	0.2	1.1	48.0	21.9	27.8	0.3
45-69	1185	0.5	0.4	0.9	42.1	36.6	19.1	0.3
18-69	2349	0.6	0.3	1.0	45.0	29.3	23.4	0.3

Martial status

Description

Marital status of survey respondents.

Instrument question

- What is your marital status?

Table A 6. Marital status							
Age Group (years)	Men						
	n	Never married (%)	Currently married (%)	Separated (%)	Divorced (%)	Widowed (%)	Cohabiting (%)
18-44	373	48.3	46.6	1.6	2.7	0.3	0.5
45-69	357	2.2	90.8	1.1	1.1	3.9	0.8
18-69	730	25.8	68.2	1.4	1.9	2.1	0.7

Table A 7. Marital status							
Age Group (years)	Women						
	n	Never married (%)	Currently married (%)	Separated (%)	Divorced (%)	Widowed (%)	Cohabiting (%)
18-44	786	17.4	73.2	2.2	3.7	1.5	2.0
45-69	825	4.8	67.6	1.9	4.4	20.8	0.4
18-69	1611	11.0	70.3	2.0	4.0	11.4	1.2

Table A 8. Marital status							
Age Group (years)	Both Sexes						
	n	Never married (%)	Currently married (%)	Separated (%)	Divorced (%)	Widowed (%)	Cohabiting (%)
18-44	1159	27.4	64.6	2.0	3.4	1.1	1.6
45-69	1182	4.1	74.6	1.7	3.4	15.7	0.5
18-69	2341	15.6	69.7	1.8	3.4	8.5	1.0

Employment status

Description

Proportion of respondents in paid employment and those who are unpaid. Unpaid includes persons who are non-paid, students, homemakers, retired, and unemployed.

Instrument question

- Which of the following best describes your main work status over the past 12 months?

Table A 9. Employment status					
Age Group (years)	Men				
	n	Government employee (%)	Non-government employee (%)	Self-employed (%)	Unpaid (%)
18-44	371	18.6	33.4	1.6	46.4
45-69	355	20.3	20.8	3.9	54.9
18-69	726	19.4	27.3	2.8	50.6

Table A 10. Employment status					
Age Group (years)	Women				
	n	Government employee (%)	Non-government employee (%)	Self-employed (%)	Unpaid (%)
18-44	783	14.7	8.7	0.9	75.7
45-69	824	15.9	5.8	0.6	77.7
18-69	1607	15.3	7.2	0.7	76.7

Table A 11. Employment status					
Age Group (years)	Both Sexes				
	n	Government employee (%)	Non-government employee (%)	Self-employed (%)	Unpaid (%)
18-44	1154	15.9	16.6	1.1	66.3
45-69	1179	17.2	10.3	1.6	70.8
18-69	2333	16.6	13.5	1.4	68.6

Unpaid work and unemployed

Description

Proportion of respondents in unpaid work.

Instrument question

- Which of the following best describes your main work status over the past 12 months?

Table A 12. Unpaid work and unemployed							
Age Group (years)	Men						
	n	Non-paid (%)	Student (%)	Home-maker (%)	Retired (%)	Unemployed	
						Able to work (%)	Not able to work (%)
18-44	172	1.2	23.8	23.3	1.7	47.1	2.9
45-69	195	0.0	0.5	25.1	32.8	31.3	10.3
18-69	367	0.5	11.4	24.3	18.3	38.7	6.8

Table A 13. Unpaid work and unemployed							
Age Group (years)	Women						
	n	Non-paid (%)	Student (%)	Home-maker (%)	Retired (%)	Unemployed	
						Able to work (%)	Not able to work (%)
18-44	593	0.3	8.3	58.2	0.0	31.2	2.0
45-69	640	0.6	0.0	40.8	26.9	21.9	9.8
18-69	1233	0.5	4.0	49.1	13.9	26.4	6.1

Table A 14. Unpaid work and unemployed							
Age Group (years)	Both Sexes						
	n	Non-paid (%)	Student (%)	Home-maker (%)	Retired (%)	Unemployed	
						Able to work (%)	Not able to work (%)
18-44	765	0.5	11.8	50.3	0.4	34.8	2.2
45-69	835	0.5	0.1	37.1	28.3	24.1	9.9
18-69	1600	0.5	5.7	43.4	14.9	29.2	6.3

Per respondent annual income	**Description** Mean reported respondent annual income of respondents in local currency. **Instrument questions** • How many people older than 18 years, including yourself, live in your household? • Taking the past year, can you tell me what the average earning of the household has been?

Table A 15. Mean annual per respondent income	
n	**Mean (**AMD)
1772	668088

Mean annual respondent income	**Description** Summary of respondent's earnings by quintile. **Instrument question** • If you don't know the amount, can you give an estimate of the annual household income if I read some options to you?

Table A 16. Estimated respondent earnings					
n	Quintile 1 Under (52000 AMD) (%)	Quintile 2 (521 000 -720 000 AMD) (%)	Quintile 3 (721 000-840 000 AMD) (%)	Quintile 4 (841 000-960 000 AMD) (%)	Quintile 5 (Over 961 000 AMD) (%)
232	12.5%	7.3%	6.0%	15.9%	58.2%

Tobacco use

Current smoking

Description
Current smokers among all respondents.

Instrument question
- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?

Table A 17. Percentage of current smokers									
Age Group (years)	Men			Women			Both Sexes		
	n	Current smoker (%)	95% CI	n	Current smoker (%)	95% CI	n	Current smoker (%)	95% CI
18-44	377	50.3	44.7-55.9	787	1.1	0.5-1.7	1164	27.2	23.7-30.7
45-69	359	53.6	47.9-59.4	826	3.0	1.7-4.3	1185	28.9	25.4-32.4
18-69	736	51.5	47.4-55.6	1613	1.8	1.1-2.5	2349	27.9	25.2-30.5

Smoking Status

Description
Smoking status of all respondents.

Instrument questions
- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- In the past, did you ever smoke any tobacco products?

Table A 18. Smoking status									
Age Group (years)	Men								
	n	Current smoker				Non-smokers			
		Daily (%)	95% CI	Non-daily (%)	95% CI	Former smoker (%)	95% CI	Never smoker (%)	95% CI
18-44	377	48.1	42.2-54.0	2.2	0.6-3.7	10.4	6.7-14.1	39.3	33.8-44.7
45-69	359	53.1	47.4-58.8	0.5	0.1-1.0	20.5	15.7-25.3	25.9	20.5-31.3
18-69	736	49.9	45.7-54.1	1.6	0.6-2.6	14.0	11.0-17.1	34.5	30.4-38.5

Table A 19. Smoking status									
Age Group (years)	Women								
	n	Current smoker				Non-smokers			
		Daily (%)	95% CI	Non-daily (%)	95% CI	Former smoker (%)	95% CI	Never smoker (%)	95% CI
18-44	787	1.0	0.4-1.6	0.1	0.0-0.2	0.5	0.0-1.0	98.4	97.6-99.3
45-69	826	2.7	1.5-3.9	0.3	0.0-0.7	1.2	0.4-2.0	95.8	94.2-97.4
18-69	1613	1.6	1.0-2.3	0.2	0.0-0.3	0.8	0.3-1.2	97.4	96.6-98.3

Table A 20. Smoking status									
Age Group (years)	Both Sexes								
	n	Current smoker				Non-smokers			
		Daily (%)	95% CI	Non-daily (%)	95% CI	Former smoker (%)	95% CI	Never smoker (%)	95% CI
18-44	1164	26.0	22.7-29.4	1.2	0.3-2.1	5.8	3.8-7.8	67.0	63.4-70.6
45-69	1185	28.5	25.0-32.0	0.4	0.1-0.7	11.1	8.5-13.6	60.0	56.2-63.9
18-69	2349	26.9	24.4-29.5	0.9	0.3-1.5	7.7	6.1-9.3	64.4	61.8-67.1

Daily smoking

Description

Percentage of current daily smokers among smokers.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?

Table A 21. Current daily smokers among smokers									
Age Group (years)	Men			Women			Both Sexes		
	n	Daily smokers (%)	95% CI	n	Daily smokers (%)	95% CI	n	Daily smokers (%)	95% CI
18-44	186	95.7	92.6-98.8	14	93.1	79.1-100.0	200	95.6	92.6-98.7
45-69	190	99.0	98.1-99.9	26	90.0	76.7-100.0	216	98.5	97.5-99.6
18-69	376	96.9	94.9-98.9	40	91.1	81.3-100.0	416	96.7	94.7-98.8

Initiation and duration of smoking

Description

Mean age of initiation and mean duration of smoking, in years, among smokers (no total age group for mean duration of smoking as age influences these values).

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- How old were you when you first started smoking?
- Do you remember how long ago it was?

Table A 22. Mean age started smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean age	95% CI	n	Mean age	95% CI	n	Mean age	95% CI
18-44	172	17.3	16.9-17.8	11	21.4	16.9-26.0	183	17.4	16.9-17.8
45-69	181	18.9	18.2-19.6	24	28.4	23.9-33.0	205	19.3	18.6-20.1
18-69	353	17.9	17.5-18.3	35	26.2	22.1-30.3	388	18.1	17.7-18.5

Table A 23. Mean duration of smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean duration	95% CI	n	Mean duration	95% CI	n	Mean duration	95% CI
18-44	172	13.7	12.5-14.9	11	14.6	8.1-21.2	183	13.7	12.6-14.9
45-69	181	36.1	34.9-37.3	24	27.5	21.4-33.6	205	35.7	34.5-36.9
18-69	353	22.3	20.7-23.8	35	23.3	18.4-28.2	388	22.3	20.8-23.8

Manufactured cigarette smokers

Description

Percentage of smokers who use manufactured cigarettes among daily smokers and among current smokers.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day?

Table A 24. Manufactured cigarette smokers among daily smokers									
Age Group (years)	Men			Women			Both Sexes		
	n	Manu-factured cigarette smoker (%)	95% CI	n	Manu-factured cigarette smoker (%)	95% CI	n	Manu-factured cigarette smoker (%)	95% CI
18-44	175	93.1	88.3-97.8	13	89.6	68.9-100.0	188	93.0	88.3-97.7
45-69	185	96.3	93.6-99.0	24	97.1	90.9-100.0	209	96.3	93.7-99.0
18-69	360	94.3	90.8-97.7	37	94.2	85.2-100.0	397	94.3	90.9-97.7

Table A 25. Manufactured cigarette smokers among current smokers									
Age Group (years)	Men			Women			Both Sexes		
	n	Manu-factured cigarette smoker (%)	95% CI	n	Manu-factured cigarette smoker (%)	95% CI	n	Manu-factured cigarette smoker (%)	95% CI
18-44	186	93.4	88.9-97.8	14	83.4	60.6-100.0	200	93.2	88.8-97.5
45-69	190	96.1	93.4-98.8	26	97.4	91.8-100.0	216	96.1	93.5-98.7
18-69	376	94.4	91.1-97.7	40	92.2	82.5-100.0	416	94.3	91.1-97.5

Amount of tobacco used among daily smokers by type

Description

Mean amount of tobacco used by daily smokers per day, by type.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day?

Table A 26. Mean amount of tobacco used by daily smokers by type

Age Group (years)	Men								
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of cigars, cheerots, cigarillos	95% CI
18-44	175	21,1	19,3-22,9	174	0,3	0.0-0,8	174	0,1	0.0-0,2
45-69	185	26,0	23,7-28,3	185	0,2	0.0-0,7	184	0,1	0.0-0,2
18-69	360	22,9	21,4-24,5	359	0,3	0.0-0,6	358	0,1	0.0-0,2

Table A 27. Mean amount of tobacco used by daily smokers by type

Age Group (years)	Women								
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of cigars, cheerots, cigarillos	95% CI
18-44	13	16,1	8,2-23,9	13	2,1	0.0-6,5	12	0,8	0.0-2,3
45-69	24	15,3	10,2-20,5	24	0,0	0.0-0.0	24	0,0	0.0-0.0
18-69	37	15,6	11.0-20,2	37	0,8	0.0-2,4	36	0,3	0.0-0,8

Table A 28. Mean amount of tobacco used by daily smokers by type

Age Group (years)	Both Sexes								
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of cigars, cheerots, cigarillos	95% CI
18-44	188	21,0	19,2-22,7	187	0,3	0.0-0,9	186	0,1	0.0-0,2
45-69	209	25,5	23,3-27,7	209	0,2	0.0-0,6	208	0,1	0.0-0,2
18-69	397	22,7	21,2-24,3	396	0,3	0.0-0,6	394	0,1	0.0-0,2

Smoked tobacco consump-tion

Description

Percentage of current smokers who smoke each of the following products.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day/week?

Table A 29. Percentage of current smokers smoking each of the following products							
Age Group (years)	Men						
	n	Manuf. cigs. (%)	95% CI	Hand-rolledcigs. (%)	95% CI	Pipes of tobacco (%)	95% CI
18-44	186	93.4	88.9-97.8	0.7	0.0-2.0	0.2	0.0-0.6
45-69	190	96.1	93.4-98.8	1.0	0.0-2.2	0.0	0.0-0.0
18-69	376	94.4	91.1-97.7	0.8	0.0-1.7	0.1	0.0-0.4

Table A 30. Percentage of current smokers smoking each of the following products							
Age Group (years)	Men						
	n	Cigars, cheroots, cigarillos (%)	95% CI	Shisha (%)	95% CI	Other (%)	95% CI
18-44	186	1.8	0.0-3.7	2.1	0.0-4.5	0.6	0.0-1.8
45-69	190	2.0	0.0-4.3	0.5	0.0-1.5	0.0	0.0-0.0
18-69	376	1.9	0.4-3.3	1.5	0.0-3.1	0.4	0.0-1.1

Table A 31. Percentage of current smokers smoking each of the following products							
Age Group (years)	Women						
	n	Manuf. cigs. (%)	95% CI	Hand-rolledcigs. (%)	95% CI	Pipes of tobacco (%)	95% CI
18-44	14	83.4	60.6-100.0	14.6	0.0-35.7	0.0-0.0	0.0-0.0
45-69	26	97.4	91.8-100.0	0.0	0.0-0.0	0.0-0.0	0.0-0.0
18-69	40	92.2	82.5-100.0	5.4	0.0-13.1	0.0-0.0	0.0-0.0

Table A 32. Percentage of current smokers smoking each of the following products							
Age Group (years)	Women						
	n	Cigars, cheroots, cigarillos (%)	95% CI	Shisha (%)	95% CI	Other (%)	95% CI
18-44	14	9.7	0.0-28.9	6.9	0.0-20.9	0.0-0.0	0.0-0.0
45-69	26	0.0	0.0-0.0	0.0	0.0-0.0	0.0-0.0	0.0-0.0
18-69	40	3.6	0.0-10.7	2.5	0.0-7.8	0.0-0.0	0.0-0.0

Table 33 A. Percentage of current smokers smoking each of the following products							
Age Group (years)	Both Sexes						
	n	Manuf. cigs. (%)	95% CI	Hand-rolledcigs. (%)	95% CI	Pipes of tobacco (%)	95% CI
18-44	200	93.2	88.8-97.5	0.9	0.0-2.3	0.2	0.0-0.6
45-69	216	96.1	93.5-98.7	0.9	0.0-2.0	0.0	0.0-0.0
18-69	416	94.3	91.1-97.5	0.9	0.0-1.8	0.1	0.0-0.4

Table A 34. Percentage of current smokers smoking each of the following products							
Age Group (years)	Both Sexes						
	n	Cigars, cheroots, cigarillos (%)	95% CI	Shisha (%)	95% CI	Other (%)	95% CI
18-44	200	2.0	0.2-3.8	2.2	0.0-4.6	0.6	0.0-1.7
45-69	216	1.9	0.0-4.1	0.5	0.0-1.4	0.0	0.0-0.0
18-69	416	1.9	0.5-3.4	1.5	0.0-3.1	0.4	0.0-1.1

Frequency of daily cigarette smoking

Description

Percentage of daily cigarette smokers smoking given quantities of manufactured or hand-rolled cigarettes per day.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- On average, how many of the following products do you smoke each day?

Table A 35. Percentage of daily smokers smoking given quantities of manufactured or hand-rolled cigarettes per day											
Age Group (years)	Men										
	n	<5 Cigs. (%)	95% CI	5-9 Cigs. (%)	95% CI	10-14 Cigs. (%)	95% CI	15-24 Cigs. (%)	95% CI	≥ 25 Cigs. (%)	95% CI
18-44	162	1.0	0.0-3.0	3.1	0.2-5.9	7.8	3.6-12.0	63.4	56.0-70.8	24.7	18.3-31.1
45-69	177	1.9	0.0-3.9	2.1	0.0-4.8	8.3	4.4-12.2	41.6	33.6-49.7	46.1	37.1-55.1
18-69	339	1.4	0.0-2.8	2.7	0.7-4.7	8.0	5.1-10.9	54.9	49.1-60.6	33.1	27.9-38.3

Table A 36. Percentage of daily smokers smoking given quantities of manufactured or hand-rolled cigarettes per day											
Age Group (years)	Women										
	n	<5 Cigs. (%)	95% CI	5-9 Cigs. (%)	95% CI	10-14 Cigs. (%)	95% CI	15-24 Cigs. (%)	95% CI	≥ 25 Cigs. (%)	95% CI
18-44	12	0.0	0.0-0.0	28.2	0.0-58.9	22.3	0.0-53.8	31.5	4.3-58.8	18.0	0.0-36.9
45-69	23	14.4	0.0-31.3	13.4	0.0-35.4	22.1	2.6-41.7	30.6	7.4-53.8	19.4	0.0-39.3
18-69	35	9.2	0.0-20.1	18.7	1.6-35.8	22.2	4.7-39.7	30.9	12.4-49.5	18.9	3.6-34.2

Table A 37 Percentage of daily smokers smoking given quantities of manufactured or hand-rolled cigarettes per day											
Age Group (years)	Both Sexes										
	n	<5 Cigs. (%)	95% CI	5-9 Cigs. (%)	95% CI	10-14 Cig. (%)	95% CI	15-24 Cigs. (%)	95% CI	≥ 25 Cigs. (%)	95% CI
18-44	174	1.0	0.0-3.0	3.5	0.7-6.3	8.1	3.9-12.2	62.8	55.5-70.2	24.6	18.4-30.9
45-69	200	2.5	0.4-4.6	2.7	0.0-5.4	8.9	5.2-12.7	41.1	33.3-48.9	44.9	36.3-53.4
18-69	374	1.6	0.1-3.0	3.2	1.2-5.1	8.4	5.5-11.3	54.2	48.5-59.9	32.7	27.7-37.7

Former daily smokers and former smokers

Description

Percentage of former daily smokers among all respondents and among ever daily smokers, and the mean duration, in years, since former smokers quit smoking.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- In the past did you ever smoke any tobacco products?
- In the past, did you ever smoke daily?
- How old were you when you stopped smoking?

Table A 38. Former daily smokers among all respondents

Age Group (years)	Men			Women			Both Sexes		
	n	Former daily smokers (%)	95% CI	n	Former daily smokers (%)	95% CI	n	Former daily smokers (%)	95% CI
18-44	377	8.1	5.0-11.2	787	0.3	0.0-0.6	1164	4.4	2.8-6.1
45-69	359	18.0	13.4-22.6	826	1.2	0.4-2.1	1185	9.8	7.4-12.2
18-69	736	11.7	9.0-14.3	1613	0.6	0.2-1.0	2349	6.4	5.0-7.8

Table A 39. Former daily smokers among ever daily smokers

Age Group (years)	Men			Women			Both Sexes		
	n	Former daily smokers (%)	95% CI	n	Former daily smokers (%)	95% CI	n	Former daily smokers (%)	95% CI
18-44	208	14.4	9.2-19.7	16	20.3	0.0-41.1	224	14.6	9.4-19.7
45-69	253	25.3	19.3-31.3	34	31.0	12.8-49.2	287	25.6	19.9-31.3
18-69	461	18.9	15.0-22.9	50	27.3	13.8-40.8	511	19.2	15.3-23.1

Table A 40. Mean years since cessation

Age Group (years)	Men			Women			Both Sexes		
	n	Mean years	95% CI	n	Mean years	95% CI	n	Mean years	95% CI
18-44	33	5.0	3.3-6.6	4	7.5	0.0-0.0	37	5.1	3.5-6.7
45-69	72	12.4	9.8-15.0	9	11.1	0.0-0.0	81	12.3	9.8-14.8
18-69	105	9.1	7.3-10.9	13	9.7	0.0-0.0	118	9.1	7.4-10.9

Cessation

Description

Percentage of current smokers who have tried to stop smoking during the past 12 months.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- During the past 12 months, have you tried to stop smoking?

Table A 41. Current smokers who have tried to stop smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	Tried to stop smoking (%)	95% CI	n	Tried to stop smoking (%)	95% CI	n	Tried to stop smoking (%)	95% CI
18-44	186	33.7	26.5-40.8	14	41.3	11.7-70.9	200	33.8	26.8-40.8
45-69	190	34.7	26.5-42.8	26	51.6	29.5-73.8	216	35.5	27.7-43.4
18-69	376	34.0	28.6-39.5	40	47.8	27.9-67.6	416	34.5	29.2-39.7

Advice to stop smoking

Description

Percentage of current smokers who have been advised by a doctor or other health worker to stop smoking, among those smokers who have had a visit to a doctor or other health worker in the past 12 months.

Instrument questions

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- During any visit to a doctor or other health worker in the past 12 months, were you advised to quit smoking tobacco?

Table A 42. Current smokers who have been advised by doctor to stop smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	Advised to stop smoking (%)	95% CI	n	Advised to stop smoking (%)	95% CI	n	Advised to stop smoking (%)	95% CI
18-44	120	21.4	13.3-29.6	7	23.0	0.0-55.7	127	21.4	13.4-29.5
45-69	128	41.9	32.4-51.3	21	46.0	19.0-73.1	149	42.1	32.9-51.3
18-69	248	29.2	22.3-36.2	28	39.0	14.6-63.5	276	29.5	22.7-36.3

Current users of smokeless tobacco

Description

Percentage of current users of smokeless tobacco among all respondents.

Instrument question

- Do you currently use any smokeless tobacco such as [snuff, chewing tobacco, betel]?

Table A 43. Current users of smokeless tobacco									
Age Group (years)	Men			Women			Both Sexes		
	n	Current users (%)	95% CI	n	Current users (%)	95% CI	n	Current users (%)	95% CI
18-44	377	0.8	0.0-1.9	787	0.0	0.0-0.0	1164	0.4	0.0-1.0
45-69	359	0.0	0.0-0.0	826	0.0	0.0-0.0	1185	0.0	0.0-0.0
18-69	736	0.5	0.0-1.2	1613	0.0	0.0-0.0	2349	0.3	0.0-0.6

Status of smokeless tobacco use	**Description** Status of using smokeless tobacco among all respondents. **Instrument questions** • Do you currently use any smokeless tobacco such as [snuff, chewing tobacco, betel]? • Do you currently use smokeless tobacco products daily? • In the past, did you ever use smokeless tobacco such as [snuff, chewing tobacco, betel]?

Table A 44. Smokeless tobacco use

Age Group (years)	Men								
	n	Current user				Non user			
		Daily (%)	95% CI	Non-daily (%)	95% CI	Past user (%)	95% CI	Never used (%)	95% CI
18-44	377	0.4	0.0-1.3	0.4	0.0-1.0	2.4	0.7-4.1	96.8	94.8-98.7
45-69	359	0.0	0.0-0.0	0.0	0.0-0.0	1.6	0.1-3.1	98.4	96.9-99.9
18-69	736	0.3	0.0-0.8	0.3	0.0-0.7	2.1	0.9-3.3	97.3	95.9-98.8

Table A 45. Smokeless tobacco use

Age Group (years)	Women								
	n	Current user				Non user			
		Daily (%)	95% CI	Non-daily (%)	95% CI	Past user (%)	95% CI	Never used (%)	95% CI
18-44	787	0,0	0.0-0.0	0,0	0.0-0.0	0,2	0.0-0,6	99,8	99,4-100.0
45-69	826	0,0	0.0-0.0	0,0	0.0-0.0	0,0	0.0-0.0	100,0	100.0-100.0
18-69	**1613**	0,0	0.0-0.0	0,0	0.0-0.0	0,1	0.0-0,4	99,9	99,6-100.0

Table A 46. Smokeless tobacco use

Age Group (years)	Both Sexes								
	n	Current user				Non user			
		Daily (%)	95% CI	Non-daily (%)	95% CI	Past user (%)	95% CI	Never used (%)	95% CI
18-44	1164	0.2	0.0-0.7	0.2	0.0-0.5	1.4	0.4-2.3	98.2	97.1-99.2
45-69	1185	0.0	0.0-0.0	0.0	0.0-0.0	0.8	0.0-1.6	99.2	98.4-100.0
18-69	2349	0.1	0.0-0.4	0.1	0.0-0.3	1.2	0.5-1.8	98.5	97.8-99.3

Current tobacco users

Description: Percentage of daily and current (daily plus non-daily) tobacco users, includes smoking and smokeless, among all respondents.

Instrument questions:

- Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes?
- Do you currently smoke tobacco products daily?
- Do you currently use any smokeless tobacco such as [snuff, chewing tobacco, betel]?
- Do you currently use smokeless tobacco products daily?

Table A 47. Current tobacco users

Age Group (years)	Men			Women			Both Sexes		
	n	Current users (%)	95% CI	n	Current users (%)	95% CI	n	Current users (%)	95% CI
18-44	377	50.6	45.0-56.2	787	1.1	0.5-1.7	1164	27.4	23.9-30.9
45-69	359	53.6	47.9-59.4	826	3.0	1.7-4.3	1185	28.9	25.4-32.4
18-69	736	51.7	47.5-55.8	1613	1.8	1.1-2.5	2349	28.0	25.3-30.6

Table A 48. Daily tobacco users

Age Group (years)	Men			Women			Both Sexes		
	n	Daily users (%)	95% CI	n	Daily users (%)	95% CI	n	Daily users (%)	95% CI
18-44	377	48.1	42.2-54.0	787	1.0	0.4-1.6	1164	26.0	22.7-29.4
45-69	359	53.1	47.4-58.8	826	2.7	1.5-3.9	1185	28.5	25.0-32.0
18-69	736	49.9	45.7-54.1	1613	1.6	1.0-2.3	2349	26.9	24.4-29.5

Exposure to second-hand smoke in home in past 30 days

Description

Percentage of respondents exposed second-hand smoke in the home in the past 30 days.

Instrument question

- In the past 30 days, did someone smoke in your home?

Table A 49. Exposed to second-hand smoke in home during the past 30 days

Age Group (years)	Men			Women			Both Sexes		
	n	Exposed (%)	95% CI	n	Exposed (%)	95% CI	n	Exposed (%)	95% CI
18-44	377	59.1	51.0-67.2	787	56.5	51.8-61.2	1164	57.9	52.5-63.2
45-69	359	57.2	51.6-62.9	826	50.2	46.0-54.4	1185	53.8	50.0-57.6
18-69	736	58.4	52.3-64.6	1613	54.1	50.4-57.8	2349	56.4	52.2-60.5

Exposure to second-hand smoke in the workplace in past 30 days

Description

Percentage of respondents exposed to second-hand smoke in the workplace in the past 30 days.

Instrument question

- During the past 30 days, did someone smoke in closed areas in your workplace (in the building, in a work area or a specific office)?

Table A 50. Exposed to second-hand smoke in the workplace during the past 30 days

Age Group (years)	Men			Women			Both Sexes		
	n	Exposed (%)	95% CI	n	Exposed (%)	95% CI	n	Exposed (%)	95% CI
18-44	301	32.5	24.0-41.0	588	20.8	16.3-25.4	889	27.2	22.0-32.4
45-69	264	30.6	23.3-37.8	603	20.1	15.1-25.2	867	25.5	20.7-30.2
18-69	565	31.8	25.4-38.3	1191	20.6	16.7-24.5	1756	26.6	22.5-30.7

Alcohol Consumption

Alcohol consumption status

Description
Alcohol consumption status of all respondents.

Instrument questions
- Have you ever consumed any alcohol such as …?
- Have you consumed any alcohol in the past 12 months?
- Have you consumed any alcohol in the past 30 days?

Table A 51. Alcohol consumption status

Age Group (years)	Men								
	n	Current drinker (past 30 days) (%)	95% CI	Drank in past 12 months, not current (%)	95% CI	Past 12 months abstainer (%)	95% CI	Life time abstainer (%)	95% CI
18-44	377	41.6	34.3-48.8	29.6	23.8-35.5	9.7	6.3-13.0	19.1	14.5-23.7
45-69	359	54.2	47.7-60.8	18.6	13.9-23.4	11.1	7.4-14.8	16.0	11.4-20.7
18-69	736	46.1	40.2-52.0	25.7	21.1-30.3	10.2	7.5-12.9	18.0	14.5-21.5

Table A 52. Alcohol consumption status

Age Group (years)	Women								
	n	Current drinker (past 30 days) (%)	95% CI	Drank in past 12 months, not current (%)	95% CI	Past 12 months abstainer (%)	95% CI	Lifetime abstainer (%)	95% CI
18-44	787	23.6	19.6-27.5	29.2	25.1-33.3	10.2	7.7-12.7	37.0	32.4-41.7
45-69	826	18.1	14.8-21.3	20.2	16.8-23.6	14.1	11.5-16.8	47.7	43.1-52.2
18-69	1613	21.5	18.6-24.3	25.8	22.9-28.7	11.7	9.9-13.5	41.0	37.2-44.9

Table A 53. Alcohol consumption status

Age Group (years)	Both Sexes								
	n	Current drinker (past 30 days) (%)	95% CI	Drank in past 12 months, not current (%)	95% CI	Past 12 months abstainer (%)	95% CI	Lifetime abstainer (%)	95% CI
18-44	1164	33.1	28.6-37.7	29.4	25.7-33.1	9.9	7.7-12.1	27.5	24.1-30.9
45-69	1185	36.6	32.6-40.5	19.4	16.5-22.3	12.6	10.3-14.9	31.5	27.9-35.1
18-69	2349	34.4	30.9-37.9	25.7	22.9-28.5	10.9	9.2-12.6	29.0	26.2-31.8

Stopping drinking due to health reasons

Description

Percentage of former drinkers (those who did not drink during the past 12 months) who stopped drinking due to health reasons, such as a negative impact of drinking on your health or as per advice of a doctor or other health worker among those respondents who drank in their lifetime, but not in the last 12 months.

Instrument questions

- Have you consumed any alcohol in the past 12 months?
- Did you stop drinking due to health reasons, such as a negative impact of drinking on your health or as per advice of your doctor or other health worker?

Table A 54. Stopping drinking due to health reasons

Age Group (years)	Men			Women			Both Sexes		
	n	stopping due to health reasons (%)	95% CI	n	stopping due to health reasons (%)	95% CI	n	stopping due to health reasons (%)	95% CI
18-44	34	32.2	14.1-50.3	85	14.1	3.5-24.6	119	23.4	11.5-35.4
45-69	49	35.0	18.4-51.6	128	27.6	18.0-37.2	177	30.9	21.6-40.3
18-69	83	33.3	19.7-46.9	213	20.2	12.8-27.6	296	26.6	18.5-34.7

Frequency of alcohol consumption

Description

Frequency of alcohol consumption in the past 12 months among those respondents who drank in the last 12 months.

Instrument question

- During the past 12 months, how frequently have you had at least one alcoholic drink?

Table A 55. Frequency of alcohol consumption in the past 12 months

Age Group (years)	Men												
	n	Daily (%)	95% CI	5-6 days/ week (%)	95% CI	3-4 days/ week (%)	95% CI	1-2 days/ week (%)	95% CI	1-3 days/ month (%)	95% CI	< once a month (%)	95% CI
18-44	262	3.6	1.1-6.1	0.6	0.0-1.5	2.3	0.4-4.3	12.0	7.9-16.1	36,9	30,6-43,1	44,6	37,7-51,4
45-69	249	7.4	3.9-10.8	4.7	1.5-7.9	6.0	2.5-9.4	14.1	8.7-19.6	31,8	25,6-38,1	36,1	28,8-43,3
18-69	511	5.0	2.7-7.3	2.1	0.8-3.3	3.7	1.8-5.5	12.8	9.3-16.3	35,0	30,7-39,3	41,5	36,4-46,6

Table A 56. Frequency of alcohol consumption in the past 12 months													
Age Group (years)	Women												
	n	Daily (%)	95% CI	5-6 days/ week (%)	95% CI	3-4 days/ week (%)	95% CI	1-2 days/ week (%)	95% CI	1-3 days/ month (%)	95% CI	< once a month (%)	95% CI
18-44	399	0.0	0.0-0.0	0.0	0.0-0.0	0,1	0.0-0,4	1,3	0,4-2,3	16,0	11,4-20,5	82,6	78.0-87,1
45-69	300	0.2	0.0-0.6	0.0	0.0-0.0	1,4	0.0-3,3	2,0	0.0-4,2	15,8	11.0-20,6	80,6	75,3-85,8
18-69	699	0.1	0.0-0.2	0.0	0.0-0.0	0,5	0.0-1,1	1,5	0,6-2,5	15,9	12,3-19,6	82,0	78,2-85,7

Table A 57. Frequency of alcohol consumption in the past 12 months													
Age Group (years)	Both Sexes												
	n	Daily (%)	95% CI	5-6 days/ week (%)	95% CI	3-4 days/ week (%)	95% CI	1-2 days/ week (%)	95% CI	1-3 days/ month (%)	95% CI	< once a month (%)	95% CI
18-44	661	2.2	0.7-3.7	0.4	0.0-0.9	1.5	0.3-2.6	7.8	5.1-10.5	28,6	24,3-33.0	59,6	54,6-64,6
45-69	549	5.0	2.7-7.3	3.1	1.0-5.2	4.4	2.0-6.9	10.1	6.3-13.8	26,5	21,8-31,1	50,9	45,1-56,7
18-69	1210	3.2	1.7-4.6	1.3	0.5-2.1	2.5	1.3-3.6	8.6	6.3-10.9	27,9	24,8-31.0	56,6	52,9-60,4

Drinking occasions in the past 30 days

Description

Mean number of occasions with at least one drink in the past 30 days among current (past 30 days) drinkers.

Instrument question

- During the past 30 days, on how many occasions did you have at least one alcoholic drink?

Table A 58. Mean number of drinking occasions in the past 30 days among current (past 30 days) drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	157	5.9	4.6-7.3	178	1.8	1.6-2.1	335	4.6	3.7-5.5
45-69	173	7.3	5.8-8.8	140	1.8	1.6-2.1	313	5.9	4.8-7.1
18-69	330	6.5	5.5-7.5	318	1.8	1.6-2.0	648	5.1	4.4-5.8

Standard drinks per drinking occasion

Description

Mean number of standard drinks consumed on a drinking occasion among current (past 30 days) drinkers.

Instrument question

- During the past 30 days, when you drank alcohol, on average, how many standard alcoholic drinks did you have during one occasion?

Table A 59. Mean number of standard drinks per drinking occasion among current (past 30 days) drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	151	4.0	3.5-4.6	177	1.6	1.4-1.7	328	3.2	2.8-3.6
45-69	176	3.1	2.7-3.4	140	1.4	1.3-1.6	316	2.7	2.4-2.9
18-69	327	3.6	3.3-4.0	317	1.5	1.4-1.6	644	3.0	2.7-3.2

Average volume drinking levels among all respondents

Description

Percentage of respondents with different drinking levels.
A standard drink contains approximately 10g of pure alcohol.

Instrument questions

- During the past 30 days, on how many occasions did you have at least one alcoholic drink?
- During the past 30 days, when you drank alcohol, on average, how many standard alcoholic drinks did you have during one occasion?

Table A 60. Drinking at high-end level among all respondents (≥60g of pure alcohol on average per occasion among men and ≥40g of pure alcohol on average per occasion among women)									
Age Group (years)	Men			Women			Both Sexes		
	n	≥60g (%)	95% CI	n	≥40g (%)	95% CI	n	high-end level (%)	95% CI
18-44	370	6.9	3.9-10.0	786	0.7	0.2-1.2	1156	4.0	2.4-5.6
45-69	355	4.9	2.4-7.4	825	0.8	0.0-1.5	1180	2.8	1.5-4.2
18-69	725	6.2	4.0-8.4	1611	0.7	0.3-1.1	2336	3.6	2.4-4.7

Table A 61. Drinking at intermediate level among all respondents (40-59.9g of pure alcohol on average per occasion among men and 20-39.9g of pure alcohol on average per occasion among women)									
Age Group (years)	Men			Women			Both Sexes		
	n	40-59.9g (%)	95% CI	n	20-39.9g (%)	95% CI	n	intermediate level (%)	95% CI
18-44	370	10.1	6.2-14.0	786	7.4	5.1-9.7	1156	8.8	6.3-11.3
45-69	355	10.2	6.7-13.7	825	3.9	2.3-5.5	1180	7.1	5.2-9.1
18-69	725	10.2	7.4-12.9	1611	6.1	4.4-7.7	2336	8.2	6.4-10.0

Table A 62. Drinking at lower-end level among all respondents (<40g of pure alcohol on average per occasion among men and <20g of pure alcohol on average per occasion among women)									
Age Group (years)	Men			Women			Both Sexes		
	n	<40g (%)	95% CI	n	<20g (%)	95% CI	n	lower-end level (%)	95% CI
18-44	370	23.4	17.5-29.3	786	15.5	12.1-18.8	1156	19.7	16.2-23.1
45-69	355	38.3	32.2-44.5	825	13.3	10.6-16.1	1180	26.0	22.4-29.6
18-69	725	28.8	23.9-33.6	1611	14.7	12.3-17.1	2336	22.0	19.3-24.7

Average volume drinking levels among current (past 30 days) drinkers

Description

Percentage of current (past 30 days) drinkers with different drinking levels. A standard drink contains approximately 10g of pure alcohol.

Instrument questions

- During the past 30 days, on how many occasions did you have at least one alcoholic drink?
- During the past 30 days, when you drank alcohol, on average, how many standard alcoholic drinks did you have during one occasion?

Table A 63. High-end, intermediate, and lower-end level drinking among current (past 30 days) drinkers

Age Group (years)	Men						
	n	High-end (≥60g) (%)	95% CI	Intermediate (40-59.9g) (%)	95% CI	Lower-end (<40g) (%)	95% CI
18-44	151	17.2	10.2-24.1	25.0	16.5-33.5	57.9	47.6-68.1
45-69	176	9.1	4.5-13.8	19.2	13.0-25.3	71.7	64.7-78.8
18-69	327	13.7	9.3-18.2	22.5	17.0-28.0	63.8	57.1-70.4

Table A 64. High-end, intermediate, and lower-end level drinking among current (past 30 days) drinkers

Age Group (years)	Women						
	n	High-end (≥40g) (%)	95% CI	Intermediate (20-39.9g) (%)	95% CI	Lower-end (<20g)(%)	95% CI
18-44	177	2.8	0.7-5.0	31.4	23.0-39.7	65.8	57.4-74.2
45-69	140	4.2	0.2-8.2	21.9	14.1-29.7	73.9	65.9-82.0
18-69	317	3.3	1.4-5.2	28.4	21.9-34.8	68.4	61.7-75.0

Table A 65. High-end, intermediate, and lower-end level drinking among current (past 30 days) drinkers

Age Group (years)	Both sexes						
	n	High-end (%)	95% CI	Intermediate (%)	95% CI	Lower-end (%)	95% CI
18-44	328	12.2	7.7-16.8	27.2	20.7-33.6	60.6	53.5-67.7
45-69	316	7.9	4.3-11.5	19.8	14.8-24.8	72.3	66.6-77.9
18-69	644	10.5	7.4-13.7	24.3	19.9-28.7	65.2	60.3-70.0

Largest number of drinks in the past 30 days

Description

Largest number of drinks consumed during a single occasion in the past 30 days among current (past 30 days) drinkers.

Instrument question

- During the past 30 days, what was the largest number of standard alcoholic drinks you had on a single occasion, counting all types of alcoholic drinks together?

Table A 66. Mean maximum number of standard drinks consumed on one occasion in the past 30 days									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean maximum number	95% CI	n	Mean maximum number	95% CI	n	Mean maximum number	95% CI
18-44	150	5.5	4.7-6.3	175	1.8	1.6-2.1	325	4.3	3.7-4.8
45-69	173	4.3	3.6-5.0	140	1.7	1.4-1.9	313	3.6	3.1-4.2
18-69	323	5.0	4.5-5.5	315	1.8	1.6-2.0	638	4.0	3.6-4.4

Six or more drinks on a single occasion

Description

Percentage of respondents who had six or more drinks on any occasion in the past 30 days during a single occasion among the total population.

Instrument question

- During the past 30 days, how many times did you have **six or more** standard alcoholic drinks in a single drinking occasion?

Table A 67. Six or more drinks on a single occasion at least once during the past 30 days among total population									
Age Group (years)	Men			Women			Both Sexes		
	n	≥ 6 drinks (%)	95% CI	n	≥ 6 drinks (%)	95% CI	n	≥ 6 drinks (%)	95% CI
18-44	377	12.5	8.4-16.6	787	0.2	0.0-0.5	1164	6.8	4.6-8.9
45-69	359	8.5	5.5-11.6	826	0.0	0.0-0.0	1185	4.4	2.8-6.0
18-69	736	11.1	8.1-14.0	1613	0.1	0.0-0.3	2349	5.9	4.4-7.4

Six or more drinks on a single occasion

Description

Mean number of times in the past 30 days on which current (past 30 days) drinkers consumed six or more drinks during a single occasion.

Instrument question

- During the past 30 days, how many times did you have **six or more** standard alcoholic drinks in a single drinking occasion?

Table A 68. Mean number of times with six or more drinks during a single occasion in the past 30 days among current drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of times	95% CI	n	Mean number of times	95% CI	n	Mean number of times	95% CI
18-44	56	3.5	1.8-5.3	6	0.8	0.0-2.3	62	3.4	1.7-5.1
45-69	37	5.0	2.2-7.9	3	0.0	0.0-0.0	40	4.8	2.0-7.6
18-69	93	3.9	2.4-5.4	9	0.6	0.0-1.7	102	3.8	2.3-5.2

Past 7 days drinking

Description

Frequency of alcohol consumption in the past 7 days by current (past 30 days) drinkers.

Instrument question

- During each of the past 7 days, how many standard drinks of any alcoholic drink did you have each day?

Table A 69. Frequency of alcohol consumption in the past 7 days

Age Group (years)	Men										
	n	Daily (%)	95% CI	5-6 days (%)	95% CI	3-4 days (%)	95% CI	1-2 days (%)	95% CI	0 days (%)	95% CI
18-44	158	5.2	1.3-9.2	1.0	0.0-2.3	3.3	0.7-5.8	56.8	49.5-64.1	33.7	26.3-41.2
45-69	180	12.7	7.2-18.3	0.7	0.0-1.7	6.6	2.3-11.0	48.0	39.1-56.9	32.0	23.3-40.7
18-69	338	8.4	4.8-12.0	0.8	0.0-1.7	4.7	2.3-7.1	53.1	47.2-58.9	33.0	27.3-38.7

Table A 70. Frequency of alcohol consumption in the past 7 days

Age Group (years)	Women										
	n	Daily (%)	95% CI	5-6 days (%)	95% CI	3-4 days (%)	95% CI	1-2 days (%)	95% CI	0 days (%)	95% CI
18-44	178	0.0	0.0-0.0	0.0	0.0-0.0	2.5	0.0-6.9	36.6	27.9-45.3	60.9	52.1-69.7
45-69	141	0.4	0.0-1.2	0.0	0.0-0.0	0.4	0.0-1.3	48.8	40.1-57.6	50.3	41.6-59.0
18-69	319	0.1	0.0-0.4	0.0	0.0-0.0	1.9	0.0-4.9	40.5	34.3-46.6	57.5	51.4-63.7

Table A 71. Frequency of alcohol consumption in the past 7 days

Age Group (years)	Both Sexes										
	n	Daily (%)	95% CI	5-6 days (%)	95% CI	3-4 days (%)	95% CI	1-2 days (%)	95% CI	0 days (%)	95% CI
18-44	336	3.5	0.9-6.1	0.7	0.0-1.6	3.0	0.7-5.3	50.1	44.5-55.6	42.8	37.1-48.5
45-69	321	9.8	5.5-14.0	0.5	0.0-1.3	5.1	1.8-8.5	48.2	41.2-55.2	36.4	29.3-43.5
18-69	657	5.9	3.4-8.5	0.6	0.0-1.2	3.8	1.9-5.7	49.3	44.8-53.9	40.3	35.8-44.8

Standard drinks per day in the past 7 days

Description

Mean number of standard drinks consumed on average per day in the past 7 days among current (past 30 days) drinkers.

Instrument question

- During each of the past 7 days, how many standard drinks of any alcoholic drink did you have each day?

Table A 72. Mean number of standard drinks consumed on average per day in the past 7 days among current drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number	95% CI	n	Mean number	95% CI	n	Mean number	95% CI
18-44	158	0.7	0.5-0.8	178	0.1	0.1-0.1	336	0.5	0.4-0.6
45-69	180	0.6	0.4-0.8	141	0.1	0.1-0.1	321	0.5	0.4-0.6
18-69	338	0.6	0.5-0.7	319	0.1	0.1-0.1	657	0.5	0.4-0.6

Consumption of unrecorded alcohol

Description

Percentage of respondents that consumed unrecorded alcohol (homebrewed alcohol, alcohol brought over the border, not intended for drinking or other untaxed alcohol) during the past 7 days among current (past 30 days) drinkers.

Instrument questions

- Have you consumed any alcohol within the past 30 days?
- During the past 7 days, did you consume any homebrewed alcohol, any alcohol brought over the border, not intended for drinking or other untaxed alcohol?

Table A 73. Consumption of unrecorded alcohol									
Age Group (years)	Men			Women			Both Sexes		
	n	consuming unrecorded alcohol (%)	95% CI	n	consuming unrecorded alcohol (%)	95% CI	n	consuming unrecorded alcohol (%)	95% CI
18-44	156	22.4	14.5-30.2	174	6.5	0.8-12.2	330	17.1	11.8-22.5
45-69	179	19.8	13.1-26.5	139	15.0	7.7-22.3	318	18.7	13.4-23.9
18-69	335	21.3	16.0-26.6	313	9.2	4.8-13.6	648	17.7	13.9-21.6

Standard drinks of unrecorded alcohol per day in the past 7 days

Description

Mean number of standard drinks of unrecorded alcohol consumed on average per day in the past 7 days among current (past 30 days) drinkers.

Instrument question

- On average, how many standard drinks of the following did you consume during the past 7 days?

Table A 74. Mean number of standard drinks of unrecorded alcohol consumed on average per day in the past 7 days among current drinkers									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number	95% CI	n	Mean number	95% CI	n	Mean number	95% CI
18-44	28	0.6	0.3-0.9	8	0.2	0.1-0.2	36	0.5	0.3-0.8
45-69	28	0.4	0.3-0.6	14	0.2	0.1-0.2	42	0.4	0.3-0.5
18-69	56	0.5	0.3-0.7	22	0.2	0.1-0.2	78	0.5	0.3-0.6

Percent of unrecorded alcohol from all alcohol consumed

Description

Percentage of unrecorded alcohol from all alcohol consumed during the past 7 days among current (past 30 days) drinkers.

Instrument questions

- During each of the past 7 days, how many standard drinks did you have each day?
- During the past 7 days, did you consume any homebrewed alcohol, any alcohol brought over the border, not intended for drinking or other untaxed alcohol?
- On average, how many standard drinks of the following did you consume during the past 7 days?

Table A 75. Percentage of unrecorded alcohol from all alcohol consumed during past 7 days

Age Group (years)	Men		Women		Both Sexes	
	n	Unrecorded alcohol of all alcohol (%)	n	Unrecorded alcohol of all alcohol (%)	n	Unrecorded alcohol of all alcohol (%)
18-44	94	16.3	70	6.9	164	15.6
45-69	122	10.8	68	19.8	190	11.3
18-69	**216**	**14.1**	**138**	**10.8**	**354**	**13.9**

Types of unrecorded alcohol

Description

Percentage of each type of unrecorded alcohol of all unrecorded alcohol consumed in the past 7 days among current (past 30 days) drinkers.

Instrument questions

- During the past 7 days, did you consume any homebrewed alcohol, any alcohol brought over the border, not intended for drinking or other untaxed alcohol?
- On average, how many standard drinks of the following did you consume during the past 7 days?

Table A 76. Unrecorded alcohol consumption during the past 7 days by type

Age Group (years)	Men					
	n	Home-brewed spirits (%)	Home-brewed beer/ wine (%)	Brought over border (%)	Surro-gate alcohol (%)	Other (%)
18-44	28	91.9	6.9	1.1	0.0	0.0
45-69	28	92.0	8.0	0.0	0.0	0.0
18-69	**56**	**92.0**	**7.2**	**0.8**	**0.0**	**0.0**

Table A 77. Unrecorded alcohol consumption during the past 7 days by type						
Age Group (years)	Women					
	n	Home-brewed spirits (%)	Home-brewed beer/ Wine (%)	Brought over border (%)	Surro-gate alcohol (%)	Other (%)
18-44	8	61.5	34.2	4.3	0.0	0.0
45-69	14	55.6	44.4	0.0	0.0	0.0
18-69	**22**	**58.2**	**39.8**	**1.9**	**0.0**	**0.0**

Table A 78. Unrecorded alcohol consumption during the past 7 days by type						
Age Group (years)	Both Sexes					
	n	Home-brewed spirits (%)	Home-brewed beer/ Wine (%)	Brought over border (%)	Surro-gate alcohol (%)	Other (%)
18-44	36	90.9	7.9	1.2	0.0	0.0
45-69	42	88.7	11.3	0.0	0.0	0.0
18-69	**78**	**90.2**	**9.0**	**0.8**	**0.0**	**0.0**

Diet

Mean number of days of fruit and vegetable consumption

Description

Mean number of days fruit and vegetables consumed.

Instrument questions

- In a typical week, on how many days do you eat fruit?
- In a typical week, on how many days do you eat vegetables?

Table A 79. Mean number of days fruit consumed in a typical week

Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-44	365	5.3	5.0-5.6	777	5.7	5.5-5.9	1142	5.5	5.3-5.7
45-69	344	5.1	4.8-5.4	817	5.4	5.3-5.6	1161	5.3	5.1-5.5
18-69	709	5.2	5.0-5.5	1594	5.6	5.5-5.8	2303	5.4	5.3-5.6

Table A 80. Mean number of days vegetables consumed in a typical week

Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-44	364	5.0	4.6-5.3	775	5.1	4.9-5.3	1139	5.0	4.8-5.2
45-69	343	5.2	4.9-5.4	812	5.0	4.8-5.2	1155	5.1	4.9-5.3
18-69	707	5.0	4.8-5.3	1587	5.0	4.9-5.2	2294	5.0	4.9-5.2

Mean number of servings of fruit and vegetable consumption

Description

Mean number of fruit, vegetable, and combined fruit and vegetable servings on average per day.

Instrument questions

- In a typical week, on how many days do you eat fruit?
- How many servings of fruit do you eat on one of those days?
- In a typical week, on how many days do you eat vegetables?
- How many servings of vegetables do you eat on one of those days?

Table A 81. Mean number of servings of fruit on average per day

Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
18-44	351	1.8	1.6-2.1	756	2.1	1.9-2.2	1107	1.9	1.8-2.1
45-69	325	1.7	1.5-1.9	793	1.9	1.7-2.0	1118	1.8	1.7-1.9
18-69	676	1.8	1.6-2.0	1549	2.0	1.9-2.1	2225	1.9	1.8-2.0

Table A 82. Mean number of servings of vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
18-44	348	1.5	1.3-1.7	735	1.7	1.6-1.9	1083	1.6	1.5-1.7
45-69	325	1.8	1.6-1.9	779	1.6	1.5-1.7	1104	1.7	1.6-1.8
18-69	673	1.6	1.4-1.7	1514	1.7	1.6-1.8	2187	1.6	1.5-1.7

Table A 83. Mean number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
18-44	355	3.2	2.9-3.6	762	3.7	3.5-4.0	1117	3.5	3.2-3.7
45-69	332	3.4	3.1-3.7	801	3.4	3.2-3.6	1133	3.4	3.2-3.6
18-69	687	3.3	3.0-3.6	1563	3.6	3.4-3.8	2250	3.4	3.3-3.6

Fruit and vegetable consumption per day

Description

Frequency of fruit and/or vegetable consumption.

Instrument questions

- In a typical week, on how many days do you eat fruit?
- How many servings of fruit do you eat on one of those days?
- In a typical week, on how many days do you eat vegetables?
- How many servings of vegetables do you eat on one of those days?

Table A 84. Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Men								
	n	No fruit and/or vegetables (%)	95% CI	1-2 servings (%)	95% CI	3-4 servings (%)	95% CI	≥5 servings (%)	95% CI
18-44	355	7.3	4.4-10.2	48.2	41.5-55.0	25.4	19.6-31.1	19.1	13.8-24.5
45-69	332	12.9	8.7-17.2	35.6	29.9-41.4	25.1	19.9-30.3	26.3	20.8-31.9
18-69	687	9.3	6.8-11.7	43.8	38.6-49.0	25.3	21.2-29.4	21.6	17.6-25.7

Table A 85. Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Women								
	n	No fruit and/or vegetables (%)	95% CI	1-2 servings (%)	95% CI	3-4 servings (%)	95% CI	≥5 servings (%)	95% CI
18-44	762	5.5	3.6-7.4	38.9	34.5-43.3	28.1	24.1-32.2	27.4	23.3-31.6
45-69	801	12.6	9.6-15.5	37.1	32.8-41.3	25.4	21.6-29.2	24.9	21.2-28.7
18-69	1563	8.2	6.4-10.0	38.2	35.0-41.5	27.1	24.3-29.9	26.5	23.4-29.6

Table A 86. Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Both Sexes								
	n	No fruit and/or vegetables (%)	95% CI	1-2 servings (%)	95% CI	3-4 servings (%)	95% CI	≥5 servings (%)	95% CI
18-44	1117	6.5	4.6-8.3	43.8	39.5-48.1	26.7	22.7-30.6	23.0	19.3-26.8
45-69	1133	12.7	10.2-15.3	36.4	32.7-40.1	25.3	22.2-28.4	25.6	22.2-29.1
18-69	2250	8.7	7.1-10.4	41.1	37.9-44.4	26.2	23.5-28.8	24.0	21.1-26.8

Fruit and vegetable consumption per day

Description

Percentage of those eating less than five servings of fruit and/or vegetables on average per day.

Instrument questions

- In a typical week, on how many days do you eat fruit?
- How many servings of fruit do you eat on one of those days?
- In a typical week, on how many days do you eat vegetables?
- How many servings of vegetables do you eat on one of those days?

Table A 87. Less than five servings of fruit and/or vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	< five servings per day (%)	95% CI	n	< five servings per day (%)	95% CI	n	< five servings per day (%)	95% CI
18-44	355	80.9	75.5-86.2	762	72.6	68.4-76.7	1117	77.0	73.2-80.7
45-69	332	73.7	68.1-79.2	801	75.1	71.3-78.8	1133	74.4	71.0-77.8
18-69	687	78.4	74.3-82.4	1563	73.5	70.4-76.6	2250	76.0	73.2-78.9

Adding salt at meal

Description

Percentage of all respondents who always or often add salt or salty sauce to their food before eating or as they are eating.

Instrument question

- How often do you add salt or a salty sauce such as soya sauce to your food right before you eat it or as you are eating it?

Table A 88. Add salt always or often before eating or when eating									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	374	38.5	33.4-43.6	783	34.5	30.6-38.5	1157	36.6	33.4-39.9
45-69	355	43.4	37.3-49.5	822	22.8	19.4-26.2	1177	33.3	29.7-36.9
18-69	729	40.3	36.1-44.4	1605	30.1	27.1-33.1	2334	35.4	32.9-38.0

Adding salt when cooking

Description

Percentage of all respondents who always or often add salt to their food when cooking or preparing foods at home.

Instrument question

- How often is salt, salty seasoning or a salty sauce added in cooking or preparing foods in your household?

Table A 89. Add salt always or often when cooking or preparing food at home									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	366	67.2	58.9-75.5	784	73.8	69.2-78.5	1150	70.4	64.8-75.9
45-69	342	71.7	65.7-77.7	823	71.7	67.3-76.1	1165	71.7	67.4-76.0
18-69	708	68.8	62.3-75.4	1607	73.0	69.2-76.9	2315	70.9	66.3-75.4

Salty processed food consumption

Description

Percentage of all respondents who always or often eat processed foods high in salt.

Instrument question

- How often do you eat processed food high in salt?

Table A 90. Always or often consume processed food high in salt									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	376	35.0	29.3-40.7	784	30.4	26.5-34.2	1160	32.8	29.1-36.5
45-69	353	33.1	27.1-39.1	824	23.5	19.7-27.2	1177	28.4	24.8-32.0
18-69	729	34.3	30.0-38.7	1608	27.8	24.8-30.7	2337	31.2	28.4-34.0

Salt consumption

Description

Percentage of all respondents who think they consume far too much or too much salt.

Instrument question

- How much salt or salty sauce do you think you consume?

Table A 91. Think they consume far too much or too much salt									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	375	22.0	18.0-26.0	783	20.6	17.3-23.9	1158	21.3	19.0-23.7
45-69	353	28.0	22.9-33.0	823	15.5	12.7-18.3	1176	21.9	18.9-24.8
18-69	728	24.1	20.8-27.4	1606	18.7	16.4-21.0	2334	21.5	19.6-23.4

Table A 92. Self-reported quantity of salt consumed											
Age Group (years)	Men										
	n	Far too much (%)	95% CI	Too much (%)	95% CI	Just the right amount (%)	95% CI	Too little (%)	95% CI	Far too little (%)	95% CI
18-44	375	7.3	4.7-9.9	14.7	10.8-18.6	57.9	52.1-63.7	15.8	11.7-20.0	4.3	1.8-6.8
45-69	353	12.5	8.3-16.7	15.5	11.4-19.5	51.3	45.5-57.0	14.4	10.5-18.2	6.4	3.6-9.2
18-69	728	9.1	6.9-11.4	15.0	11.9-18.1	55.5	51.1-60.0	15.3	12.2-18.4	5.0	3.1-7.0

Table A 93. Self-reported quantity of salt consumed											
Age Group (years)	Women										
	n	Far too much (%)	95% CI	Too much (%)	95% CI	Just the right amount (%)	95% CI	Too little (%)	95% CI	Far too little (%)	95% CI
18-44	783	6.6	4.3-8.9	14.0	11.3-16.7	58.3	54.3-62.4	17.8	14.9-20.7	3.2	1.9-4.5
45-69	823	4.8	3.0-6.5	10.8	8.2-13.3	56.9	52.9-61.0	21.2	17.8-24.5	6.4	4.8-7.9
18-69	1606	5.9	4.4-7.5	12.8	10.8-14.8	57.8	54.7-60.9	19.1	16.9-21.3	4.4	3.3-5.5

Table A 94. Self-reported quantity of salt consumed											
Age Group (years)	Both Sexes										
	n	Far too much (%)	95% CI	Too much (%)	95% CI	Just the right amount (%)	95% CI	Too little (%)	95% CI	Far too little (%)	95% CI
18-44	1158	7.0	5.3-8.7	14.4	12.1-16.6	58.1	54.6-61.6	16.8	14.1-19.4	3.8	2.3-5.3
45-69	1176	8.7	6.4-10.9	13.2	10.7-15.7	54.1	50.3-57.8	17.7	15.0-20.5	6.4	4.7-8.0
18-69	2334	7.6	6.3-8.9	13.9	12.1-15.7	56.6	53.9-59.4	17.1	15.1-19.2	4.7	3.6-5.9

Lowering salt

Description

Percentage of respondents who think lowering salt in diet is very, somewhat or not at all important.

Instrument question

- How important to you is lowering the salt in your diet?

Table A 95. Importance of lowering salt in diet							
Age Group (years)	Men						
	n	Very important (%)	95% CI	Somewhat important (%)	95% CI	Not at all important (%)	95% CI
18-44	356	34.7	26.3-43.0	41.5	34.6-48.3	23.9	18.4-29.4
45-69	340	31.7	25.6-37.9	47.5	40.8-54.2	20.8	16.0-25.6
18-69	696	33.6	27.7-39.6	43.6	38.7-48.5	22.8	18.7-26.8

Table A 96. Importance of lowering salt in diet							
Age Group (years)	Women						
	n	Very important (%)	95% CI	Somewhat important (%)	95% CI	Not at all important (%)	95% CI
18-44	769	34.0	29.3-38.8	45.8	40.8-50.7	20.2	16.4-24.0
45-69	792	38.2	33.8-42.6	45.3	41.1-49.6	16.5	13.0-20.0
18-69	1561	35.6	31.9-39.2	45.6	41.9-49.3	18.8	16.1-21.6

Table A 97. Importance of lowering salt in diet							
Age Group (years)	Both Sexes						
	n	Very important (%)	95% CI	Somewhat important (%)	95% CI	Not at all important (%)	95% CI
18-44	1125	34.4	29.4-39.3	43.5	39.0-48.1	22.1	18.5-25.8
45-69	1132	34.9	30.9-38.9	46.4	42.2-50.7	18.7	15.7-21.7
18-69	2257	34.6	30.9-38.2	44.6	41.2-48.0	20.9	18.2-23.6

Salt knowledge

Description

Percentage of respondents who think consuming too much salt could cause a serious health problem.

Instrument question

- Do you think that too much salt or salty sauce in your diet could cause a health problem?

Table A 98. Think consuming too much salt could cause serious health problem									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	377	77.3	71.3-83.3	787	89.0	86.3-91.7	1164	82.8	79.0-86.6
45-69	359	79.4	74.6-84.2	826	84.0	80.9-87.0	1185	81.6	78.7-84.6
18-69	736	78.0	73.6-82.5	1613	87.1	84.8-89.4	2349	82.4	79.5-85.2

Controlling salt intake

Description

Percentage of respondents who take specific action on a regular basis to control salt intake.

Instrument question

- Do you do any of the following on a regular basis to control your salt intake?

Table A 99. Limit consumption of processed foods									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	377	15.3	11.0-19.5	787	22.0	17.9-26.1	1164	18.4	15.1-21.8
45-69	359	15.6	11.1-20.0	826	24.6	20.9-28.4	1185	20.0	16.8-23.2
18-69	736	15.4	12.1-18.6	1613	23.0	19.6-26.4	2349	19.0	16.2-21.8

Table A 100. Look at the salt or sodium content on food labels									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	377	4.7	2.3-7.1	787	6.9	4.8-9.1	1164	5.8	4.0-7.5
45-69	359	2.6	1.1-4.2	826	6.2	4.2-8.3	1185	4.4	3.1-5.7
18-69	736	4.0	2.4-5.6	1613	6.7	5.0-8.4	2349	5.3	4.0-6.5

Table A 101. Buy low salt/sodium alternatives									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	377	7.1	3.8-10.3	787	8.7	6.2-11.2	1164	7.9	5.6-10.2
45-69	359	5.2	2.7-7.8	826	12.3	9.7-14.9	1185	8.7	6.7-10.7
18-69	736	6.4	4.0-8.9	1613	10.1	8.2-12.0	2349	8.2	6.4-9.9

Table A 102. Use spices other than salt when cooking									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	377	15.6	10.7-20.4	787	24.4	19.9-29.0	1164	19.7	15.8-23.7
45-69	359	13.1	8.6-17.6	826	26.1	21.6-30.6	1185	19.5	15.8-23.1
18-69	736	14.7	10.8-18.5	1613	25.1	21.1-29.0	2349	19.6	16.2-23.0

Table A 103. Avoid eating foods prepared outside of a home									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	377	19.0	13.7-24.3	787	32.3	27.4-37.3	1164	25.3	20.9-29.6
45-69	359	23.2	17.5-28.9	826	35.4	30.3-40.5	1185	29.2	24.7-33.6
18-69	736	20.5	16.2-24.9	1613	33.5	29.2-37.9	2349	26.7	22.8-30.5

Table A 104. Do other things specifically to control your salt intake									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	377	0.2	0.0-0.6	787	0.6	0.0-1.3	1164	0.4	0.0-0.8
45-69	359	0.4	0.0-1.0	826	0.9	0.2-1.6	1185	0.6	0.2-1.1
18-69	736	0.3	0.0-0.6	1613	0.7	0.2-1.2	2349	0.5	0.2-0.8

Type of oil used most frequently

Description

Type of oil or fat most often used for meal preparation in households (presented only for both sexes because results are for the household not individuals).

Instrument question

- What type of oil or fat is most often used for meal preparation in your household?

Table A 105. Type of oil or fat most often used for meal preparation in household								
n (house-holds)	Vegetable oil (%)	95% CI	Lard or suet (%)	95% CI	Butter or Ghee (%)	95% CI	Other (%)	95% CI
2323	65.6	62.0-69.2	1.4	0.7-2.0	27.6	24.3-30.8	0.1	0.0-0.2

Table A 106. Type of oil or fat most often used for meal preparation in household		
n (house-holds)	none in particular (%)	95% CI
2323	5.3	3.6-7.1

Eating outside home

Description

Mean number of meals per week eaten outside a home.

Instrument question

- On average, how many meals per week do you eat that were not prepared at a home? By meal, I mean breakfast, lunch and dinner.

Table A 107. Mean number of meals eaten outside a home

Age Group (years)	Men			Women			Both Sexes		
	n	mean	95% CI	n	mean	95% CI	n	mean	95% CI
18-44	371	2.7	2.1-3.2	787	0.7	0.6-0.9	1158	1.8	1.4-2.1
45-69	355	0.8	0.6-1.0	826	0.3	0.2-0.3	1181	0.5	0.4-0.7
18-69	726	2.0	1.6-2.4	1613	0.6	0.5-0.7	2339	1.3	1.1-1.5

Physical Activity

Introduction

A population's physical activity (or inactivity) can be described in different ways. The two most common ways are
(1) to estimate a population's mean or median physical activity using a continuous indicator such as MET-minutes per week or time spent in physical activity, and
(2) to classify certain percentages of a population in specific groups by setting up cut-points for a specific amount of physical activity.

When analyzing GPAQ data, both continuous as well as categorical indicators are used.

Metabolic Equivalent (MET)

METs (Metabolic Equivalents) are commonly used to express the intensity of physical activities, and are also used for the analysis of GPAQ data.

Applying MET values to activity levels allows us to calculate total physical activity. MET is the ratio of a person's working metabolic rate relative to the resting metabolic rate. One MET is defined as the energy cost of sitting quietly, and is equivalent to a caloric consumption of 1 kcal/kg/hour. For the analysis of GPAQ data, existing guidelines have been adopted: It is estimated that, compared to sitting quietly, a person's caloric consumption is four times as high when being moderately active, and eight times as high when being vigorously active.

Therefore, for the calculation of a person's total physical activity using GPAQ data, the following MET values are used:

Domain	MET value
Work	• Moderate MET value = 4.0 • Vigorous MET value = 8.0
Transport	Cycling and walking MET value = 4.0
Recreation	• Moderate MET value = 4.0 • Vigorous MET value = 8.0

WHO global recommen-dations on physical activity for health

For the calculation of the categorical indicator on the recommended amount of physical activity for health, the total time spent in physical activity during a typical weekend the intensity of the physical activity are taken into account.

Throughout a week, including activity for work, during transport and leisure time, adults should do at least

- 150 minutes of moderate-intensity physical activity OR
- 75 minutes of vigorous-intensity physical activity OR
- An equivalent combination of moderate- and vigorous-intensity physical activity achieving at least 600 MET-minutes.

Former recommen-dations for comparison purposes

For comparison purposes, tables presenting cut-offs from former recommendations are also included in GPAQ data analysis.

The three levels of physical activity suggested for classifying populations were low, moderate, and high. The criteria for these levels are shown below.

- **High**

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**

A person not meeting the criteria for the "high" category, but meeting any of the following criteria is classified in this category:
- 3 or more days of vigorous-intensity activity of at least 20 minutes per day OR
- 5 or more days of moderate-intensity activity or walking of at least 30 minutes per day OR
- 5 or more days of any combination of walking, moderate- or vigorous-intensity activities achieving a minimum of at least 600 MET-minutes per week.

- **Low**

A person not meeting any of the above mentioned criteria falls in this category.

Not meeting WHO recommen-dations on physical activity for health

Description:
Percentage of respondents not meeting WHO recommendations on physical activity for health (respondents doing less than 150 minutes of moderate-intensity physical activity per week, or equivalent).

Instrument questions
- activity at work
- travel to and from places
- recreational activities

Table A 108. Not meeting WHO recommendations on physical activity for health

Age Group (years)	Men			Women			Both Sexes		
	n	Not meeting recs (%)	95% CI	n	Not meeting recs (%)	95% CI	n	Not meeting recs (%)	95% CI
18-44	362	18.4	13.9-22.9	764	19.4	15.4-23.3	1126	18.9	15.6-22.1
45-69	344	28.6	22.2-34.9	809	22.1	18.4-25.9	1153	25.4	21.3-29.4
18-69	706	22.0	18.0-26.1	1573	20.4	17.3-23.5	2279	21.3	18.4-24.1

Levels of total physical activity according to former recommen-dations

Description

Percentage of respondents classified into three categories of total physical activity according to former recommendations.

Instrument questions

- activity at work
- travel to and from places
- recreationalactivities

Table A 109. Level of total physical activity according to former recommendations

Age Group (years)	Men						
	n	Low (%)	95% CI	Moderate (%)	95% CI	High (%)	95% CI
18-44	362	22.6	17.9-27.3	18.5	14.0-23.1	58.9	52.6-65.2
45-69	344	31.2	24.8-37.6	16.2	11.5-20.8	52.6	46.3-58.9
18-69	706	25.7	21.6-29.7	17.7	14.2-21.1	56.7	51.8-61.5

Table A 110. Level of total physical activity according to former recommendations

Age Group (years)	Women						
	n	Low (%)	95% CI	Moderate (%)	95% CI	High (%)	95% CI
18-44	764	23.4	19.2-27.6	21.1	17.7-24.6	55.5	50.9-60.0
45-69	809	25.1	21.2-29.0	22.4	18.9-25.8	52.5	47.8-57.3
18-69	1573	24.1	20.8-27.3	21.6	18.9-24.3	54.3	50.5-58.2

Table A 111. Level of total physical activity according to former recommendations

Age Group (years)	Both Sexes						
	n	Low (%)	95% CI	Moderate (%)	95% CI	High (%)	95% CI
18-44	1126	23.0	19.5-26.4	19.7	16.7-22.7	57.3	53.0-61.6
45-69	1153	28.2	24.1-32.3	19.2	16.3-22.1	52.6	48.3-56.8
18-69	2279	24.9	22.0-27.8	19.6	17.3-21.8	55.6	52.1-59.0

Total physical activity-mean

Description

Mean minutes of total physical activity on average per day.

Instrument questions

- activity at work
- travel to and from places
- recreationalactivities

Table A 112. Mean minutes of total physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	362	239.4	204.9-273.9	764	206.2	187.2-225.2	1126	223.9	202.8-245.0
45-69	344	249.3	211.9-286.8	809	199.9	177.3-222.5	1153	225.0	201.0-248.9
18-69	706	242.9	215.5-270.4	1573	203.8	187.5-220.1	2279	224.3	206.9-241.6

Total physical activity-median

Description

Median minutes of total physical activity on average per day.

Instrument questions

- activity at work
- travel to and from places
- recreationalactivities

Table A 113. Median minutes of total physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44	362	145.7	34.3-400	764	120.0	30.0-325.7	1126	135.0	30-360
45-69	344	120.0	17.1-434.3	809	120.0	30.0-300.0	1153	120.0	20-360
18-69	706	141.4	30-420	1573	120.0	30.0-300.0	2279	120.0	30-360

Domain-specific physical activity-mean

Description

Mean minutes spent in work-, transport- and recreation-related physical activity on average per day.

Instrument questions

- activity at work
- travel to and from places
- recreationalactivities

Table A 114. Mean minutes of work-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	362	155.1	121.8-188.4	764	88.1	77.1-99.2	1126	123.8	104.1-143.5
45-69	344	158.1	130.9-185.3	809	102.9	87.0-118.8	1153	130.9	113.9-147.9
18-69	706	156.2	130.5-181.9	1573	93.7	83.5-103.9	2279	126.4	111.1-141.7

Table A 115. Mean minutes of transport-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	362	71.8	55.9-87.7	764	111.4	96.8-126.1	1126	90.3	78.4-102.2
45-69	344	88.1	66.5-109.7	809	92.0	79.4-104.6	1153	90.0	76.2-103.8
18-69	706	77.6	64.2-90.9	1573	104.1	92.4-115.7	2279	90.2	79.9-100.5

Table A 116. Mean minutes of recreation-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
18-44	362	12.5	7.0-18.1	764	6.6	4.2-9.0	1126	9.8	6.7-12.9
45-69	344	3.1	0.8-5.4	809	5.0	2.7-7.3	1153	4.0	2.4-5.7
18-69	706	9.2	5.5-12.9	1573	6.0	4.2-7.8	2279	7.7	5.6-9.8

Domain-specific physical activity - median

Description

Median minutes spent on average per day in work-, transport- and recreation-related physical activity.

Instrument questions

- activity at work
- travel to and from places
- recreationalactivities

Table A 117. Median minutes of work-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44	362	25.7	0-300	764	15.0	0-120	1126	17.1	0.0-180
45-69	344	17.1	0-300	809	17.1	0-145.7	1153	17.1	0.0-180
18-69	706	21.4	0-300	1573	17.1	0-120	2279	17.1	0.0-180

Table A 118. Median minutes of transport-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44	362	30.0	0.0-103.0	764	43.0	0.0-150.0	1126	30.0	0.0-120.0
45-69	344	21.4	0.0-120.0	809	30.0	0.0-120.0	1153	30.0	0.0-120.0
18-69	706	30.0	0.0-120.0	1573	30.0	0.0-120.0	2279	30.0	0.0-120.0

Table A 119. Median minutes of recreation-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
18-44	362	0.0	0.0	764	0.0	0.0	1126	0.0	0.0
45-69	344	0.0	0.0	809	0.0	0.0	1153	0.0	0.0
18-69	706	0.0	0.0	1573	0.0	0.0	2279	0.0	0.0

No physical activity by domain

Description

Percentage of respondents classified as doing no work-, transport- or recreational-related physical activity.

Instrument questions

- activity at work
- travel to and from places
- recreationalactivities

Table A 120. No work-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	No activity at work (%)	95% CI	n	No activity at work (%)	95% CI	n	No activity at work (%)	95% CI
18-44	362	44.0	36.7-51.3	764	47.9	42.8-53.0	1126	45.8	41.0-50.6
45-69	344	48.5	42.0-55.0	809	46.7	41.7-51.8	1153	47.6	43.0-52.3
18-69	706	45.6	39.7-51.4	1573	47.5	43.3-51.7	2279	46.5	42.5-50.5

Table A 121. No transport-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	No activity for transport (%)	95% CI	n	No activity for transport (%)	95% CI	n	No activity for transport (%)	95% CI
18-44	362	31.2	23.4-39.0	764	26.5	22.4-30.6	1126	29.0	24.0-34.0
45-69	344	41.3	34.6-47.9	809	32.6	28.2-37.0	1153	37.0	32.5-41.5
18-69	706	34.8	28.7-40.9	1573	28.8	25.2-32.4	2279	31.9	27.7-36.1

Table A 122. No recreation-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	No activity at recreation (%)	95% CI	n	No activity at recreation (%)	95% CI	n	No activity at recreation (%)	95% CI
18-44	362	81.1	75.9-86.3	764	85.1	81.7-88.5	1126	83.0	79.8-86.1
45-69	344	92.9	90.0-95.7	809	90.2	87.9-92.6	1153	91.6	89.6-93.5
18-69	706	85.3	81.8-88.8	1573	87.0	84.6-89.4	2279	86.1	83.9-88.4

Composition of total physical activity

Description

Percentage of work, transport and recreational activity contributing to total activity.

Instrument questions

- activity at work
- travel to and from places
- recreationalactivities

Table A 123. Composition of total physical activity							
Age Group (years)	Men						
	n	Activity from work (%)	95% CI	Activity for transport (%)	95% CI	Activity during leisure time (%)	95% CI
18-44	309	46.7	38.8-54.7	46.4	39.2-53.6	6.9	4.4-9.4
45-69	270	49.1	42.9-55.2	48.6	42.5-54.6	2.4	0.9-3.9
18-69	579	47.5	41.3-53.7	47.1	41.5-52.8	5.4	3.7-7.1

Table A 124. Composition of total physical activity							
Age Group (years)	Women						
	n	Activity from work (%)	95% CI	Activity for transport (%)	95% CI	Activity during leisure time (%)	95% CI
18-44	651	38.4	34.4-42.5	56.9	52.6-61.1	4.7	3.3-6.1
45-69	655	44.2	39.9-48.6	52.9	48.6-57.2	2.9	1.9-3.9
18-69	1306	40.6	37.1-44.0	55.4	51.9-58.9	4.0	3.0-5.0

Table A 125. Composition of total physical activity							
Age Group (years)	Both Sexes						
	n	Activity from work (%)	95% CI	Activity for transport (%)	95% CI	Activity during leisure time (%)	95% CI
18-44	960	42.9	37.8-47.9	51.3	46.6-56.0	5.9	4.5-7.3
45-69	925	46.6	42.4-50.9	50.8	46.6-54.9	2.6	1.7-3.5
18-69	1885	44.2	40.0-48.3	51.1	47.2-55.0	4.7	3.8-5.7

No vigorous physical activity

Description

Percentage of respondents not engaging in vigorous physical activity.

Instrument questions

- activity at work
- recreationalactivities

Table A 126. No vigorous physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI
18-44	362	65.0	59.5-70.5	764	89.6	87.0-92.2	1126	76.5	73.2-79.8
45-69	344	72.9	66.9-78.9	809	87.7	84.9-90.5	1153	80.2	76.8-83.6
18-69	706	67.8	63.6-72.0	1573	88.9	86.8-91.0	2279	77.9	75.4-80.3

Sedentary

Description

Minutes spent in sedentary activitieson a typicalday.

Instrument question

- sedentary behaviour

Table A 127. Minutes spent in sedentary activities on average per day					
Age Group (years)	Men				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
18-44	377	234.8	207.2-262.4	180.0	90.0-360.0
45-69	359	252.3	227.7-276.9	240.0	120.0-360.0
18-69	736	241.1	218.9-263.2	180.0	120.0-360.0

Table A 128. Minutes spent in sedentary activities on average per day					
Age Group (years)	Women				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
18-44	787	198.2	181.6-214.8	180.0	60.0-300.0
45-69	826	214.1	199.9-228.3	180.0	90.0-300.0
18-69	1613	204.2	191.5-216.9	180.0	60.0-300.0

Table A 129. Minutes spent in sedentary activities on average per day					
Age Group (years)	Both Sexes				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
18-44	1164	217.7	199.9-235.4	180.0	60.0-300.0
45-69	1185	233.7	218.4-248.9	180.0	120.0-330.0
18-69	2349	223.5	209.2-237.8	180.0	90.0-300.0

History of Raised Blood Pressure

Blood pressure measurement and diagnosis

Description

Blood pressure measurement and diagnosis among all respondents.

Instrument questions

- Have you ever had your blood pressure measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- Have you been told in the past 12 months?

Table A 130. Blood pressure measurement and diagnosis

Age Group (years)	Men								
	n	Never measured	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	377	42.5	35.6-49.4	53.6	46.8-60.3	1.3	0.2-2.5	2.6	0.9-4.3
45-69	359	33.8	27.3-40.2	48.4	42.3-54.4	6.0	2.9-9.1	11.9	8.7-15.1
18-69	736	39.4	34.0-44.8	51.7	46.7-56.7	3.0	1.5-4.4	5.9	4.2-7.7

Table A 131. Blood pressure measurement and diagnosis

Age Group (years)	Women								
	n	Never measured	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	787	26.3	22.5-30.2	66.6	62.5-70.7	2.4	1.4-3.5	4.7	3.1-6.3
45-69	826	18.0	14.8-21.3	51.8	47.8-55.7	6.7	4.9-8.6	23.5	20.1-26.9
18-69	1613	23.2	20.4-25.9	61.0	57.9-64.1	4.0	3.0-5.0	11.8	10.0-13.5

Table A 132. Blood pressure measurement and diagnosis

Age Group (years)	Both sexes								
	n	Never measured	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	1164	34.9	30.3-39.5	59.7	55.2-64.2	1.8	1.1-2.6	3.6	2.3-4.8
45-69	1185	26.1	22.2-30.0	50.0	46.5-53.5	6.3	4.6-8.1	17.6	15.1-20.0
18-69	2349	31.7	28.1-35.2	56.1	52.9-59.4	3.5	2.6-4.3	8.7	7.4-10.0

Blood pressure treatment among those diagnosed

Description

Raised blood pressure treatment results among those previously diagnosed with raised blood pressure.

Instrument questions

- Have you ever had your blood pressure measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- In the past two weeks, have you taken any drugs (medication) for raised blood pressure prescribed by a doctor or other health worker?

Table A 133. Currently taking drugs (medication) for raised blood pressure prescribed by doctor or health worker among those diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI
18-44	16	31.9	9.0-54.8	62	26.1	13.3-39.0	78	28.3	17.1-39.5
45-69	75	54.8	41.2-68.4	267	67.7	61.0-74.4	342	62.8	56.3-69.2
18-69	91	48.4	36.6-60.1	329	56.1	49.2-62.9	420	53.1	47.4-58.9

Blood pressure advice by a traditional healer

Description

Percentage of respondents who have sought advice or received treatment from a traditional healer for raised blood pressure among those previously diagnosed with raised blood pressure.

Instrument questions

- Have you ever had your blood pressure measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?
- Have you ever seen a traditional healer for raised blood pressure?
- Are you currently taking any herbal or traditional remedy for your high blood pressure?

Table A 134. Seen a traditional healer among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Seen trad. Healer (%)	95% CI	n	Seen trad. Healer (%)	95% CI	n	Seen trad. Healer (%)	95% CI
18-44	16	2.5	0.0-7.2	62	5.5	0.0-11.9	78	4.4	0.1-8.6
45-69	75	13.8	3.9-23.7	267	5.1	2.2-8.0	342	8.5	4.3-12.6
18-69	91	10.7	3.1-18.2	329	5.2	2.5-7.9	420	7.3	4.1-10.5

Table A 135. Currently taking herbal or traditional remedy for raised blood pressure among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Taking trad. Meds (%)	95% CI	n	Taking trad. Meds (%)	95% CI	n	Taking trad. Meds (%)	95% CI
18-44	16	2.5	0.0-7.2	62	27.9	14.9-40.9	78	18.1	9.5-26.8
45-69	75	21.6	11.3-32.0	267	27.1	20.7-33.5	342	25.0	19.7-30.3
18-69	91	16.3	8.3-24.3	329	27.3	21.2-33.5	420	23.1	18.2-28.0

History of Diabetes

Blood sugar measurement and diagnosis

Description

Blood sugar measurement and diagnosis among all respondents.

Instrument questions

- Have you ever had your blood sugar measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?
- Have you been told in the past 12 months?

Table A 136. Blood sugar measurement and diagnosis

Age Group (years)	Men								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	377	77.9	73.3-82.5	20.5	16.1-25.0	0.9	0.0-2.2	0.7	0.0-1.6
45-69	359	60.4	54.9-66.0	32.8	27.4-38.2	1.9	0.3-3.5	4.9	2.4-7.3
18-69	736	71.6	68.1-75.1	24.9	21.5-28.3	1.2	0.2-2.3	2.2	1.1-3.3

Table A 137. Blood sugar measurement and diagnosis

Age Group (years)	Women								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	787	62.4	57.9-67.0	35.9	31.3-40.4	0.8	0.2-1.4	0.9	0.1-1.7
45-69	826	45.5	41.3-49.6	46.8	42.3-51.2	1.2	0.5-1.9	6.6	5.0-8.2
18-69	1613	56.0	52.7-59.3	40.0	36.6-43.3	1.0	0.5-1.4	3.0	2.3-3.8

Table A 138. Blood sugar measurement and diagnosis

Age Group (years)	Both sexes								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	1164	70.7	67.1-74.2	27.7	24.2-31.2	0.9	0.1-1.6	0.8	0.2-1.4
45-69	1185	53.1	49.4-56.9	39.6	36.0-43.3	1.5	0.7-2.4	5.7	4.3-7.2
18-69	2349	64.2	61.4-67.0	32.1	29.3-34.8	1.1	0.5-1.7	2.6	2.0-3.2

Diabetes treatment among those diagnosed

Description

Diabetes treatment results among those previously diagnosed with raised blood sugar or diabetes.

Instrument questions

- Have you ever had your blood sugar measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?
- In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?
- Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?

Table A 139. Currently taking drugs (medication) prescribed for diabetes among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI
18-44	6	6.3	0.0-20.5	16	9.1	0.0-22.7	22	7.7	0.0-17.4
45-69	26	83.6	68.9-98.2	86	64.4	52.9-75.9	112	73.5	63.8-83.2
18-69	32	60.7	36.8-84.6	102	49.7	37.6-61.8	134	55.0	42.6-67.5

Table A 140. Currently taking insulin prescribed for diabetes among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Taking insulin (%)	95% CI	n	Taking insulin (%)	95% CI	n	Taking insulin (%)	95% CI
18-44	6	31.3	0.0-79.7	16	0.0	0.0-0.0	22	16.0	0.0-39.9
45-69	26	8.8	0.0-20.2	86	29.8	18.6-41.0	112	19.8	11.7-28.0
18-69	32	15.5	0.0-32.3	102	21.9	12.9-30.8	134	18.7	9.9-27.6

Diabetes advice by traditional healer

Description

Percentage of respondents who are have sought advice or treatment from a traditional healer for diabetes among those previously diagnosed.

Instrument questions

- Have you ever had your blood sugar measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?
- Have you ever seen a traditional healer for diabetes or raised blood sugar?
- Are you currently taking any herbal or traditional remedy for your diabetes?

Table A 141. Seen a traditional healer for diabetes among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Seen trad. Healer (%)	95% CI	n	Seen trad. Healer (%)	95% CI	n	Seen trad. Healer (%)	95% CI
18-44	0	0.0	0.0-0.0	16	0.0	0.0-0.0	16	0.0	0.0-0.0
45-69	0	0.0	0.0-0.0	86	3.4	0.0-8.3	86	3.4	0.0-8.3
18-69	**0**	0.0	0.0-0.0	102	2.5	0.0-6.1	102	2.5	0.0-6.1

Table A 142. Currently taking herbal or traditional treatment for diabetes among those previously diagnosed									
Age Group (years)	Men			Women			Both Sexes		
	n	taking trad. Meds (%)	95% CI	n	taking trad. Meds (%)	95% CI	n	taking trad. Meds (%)	95% CI
18-44	6	0.0	0.0-0.0	16	0.0	0.0-0.0	22	0.0	0.0-0.0
45-69	26	32.3	8.8-55.8	86	10.8	4.2-17.3	112	21.0	9.2-32.8
18-69	32	22.7	3.6-41.8	102	7.9	2.9-12.9	134	15.1	5.9-24.4

History of Raised Total Cholesterol

Cholesterol measurement and diagnosis

Description

Total cholesterol measurement and diagnosis among all respondents.

Instrument questions

- Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised cholesterol?
- Have you been told in the past 12 months?

Table A 143. Total cholesterol measurement and diagnosis

Age Group (years)	Men								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	377	81.9	77.0-86.9	17.1	12.2-22.0	0.3	0.0-0.8	0.7	0.0-1.4
45-69	359	64.1	58.2-69.9	27.6	22.3-32.9	3.0	0.9-5.1	5.4	2.7-8.1
18-69	736	75.5	71.5-79.5	20.9	17.1-24.7	1.2	0.4-2.0	2.4	1.2-3.5

Table A 144. Total cholesterol measurement and diagnosis

Age Group (years)	Women								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	787	72.8	68.5-77.2	26.2	21.9-30.6	0.1	0.0-0.3	0.9	0.3-1.4
45-69	826	55.8	51.5-60.1	32.0	28.0-36.1	5.1	3.3-6.9	7.0	5.2-8.9
18-69	1613	66.4	63.1-69.7	28.4	25.2-31.6	2.0	1.3-2.7	3.2	2.4-4.0

Table A 145. Total cholesterol measurement and diagnosis

Age Group (years)	Both sexes								
	n	Never measured (%)	95% CI	Measured, not diagnosed (%)	95% CI	Diagnosed, but not within past 12 months (%)	95% CI	Diagnosed within past 12 months (%)	95% CI
18-44	1164	77.7	73.9-81.4	21.4	17.7-25.1	0.2	0.0-0.5	0.8	0.3-1.2
45-69	1185	60.0	56.3-63.8	29.8	26.3-33.2	4.0	2.7-5.4	6.2	4.5-7.9
18-69	2349	71.2	68.2-74.1	24.5	21.7-27.3	1.6	1.1-2.1	2.8	2.0-3.5

Cholesterol treatment among those diagnosed

Description

Cholesterol treatment results among those previously diagnosed with raised cholesterol.

Instrument questions

- Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised cholesterol?
- In the past two weeks, have you taken oral treatment (medication) for raised total cholesterol prescribed by a doctor or other health worker?

Table A 146. Currently taking oral treatment (medication) prescribed for raised total cholesterol among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI	n	Taking meds (%)	95% CI
18-44	5	0.0	0.0-0.0	12	22.5	0.0-47.4	17	10.8	0.0-23.9
45-69	29	26.7	6.3-47.1	112	19.6	11.1-28.0	141	22.5	13.3-31.8
18-69	34	22.3	4.7-39.9	124	19.9	12.0-27.8	158	20.9	12.9-28.9

Cholesterol advice by traditional healer

Description

Percentage of respondents who are have sought advice or treatment from a traditional healer for raised cholesterol among those previously diagnosed.

Instrument questions

- Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?
- Have you ever been told by a doctor or other health worker that you have raised cholesterol?
- Have you ever seen a traditional healer for raised cholesterol?
- Are you currently taking any herbal or traditional remedy for your raised cholesterol?

Table A 147. Seen a traditional healer for raised cholesterol among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Seen trad. Healer (%)	95% CI	n	Seen trad. Healer (%)	95% CI	n	Seen trad. Healer (%)	95% CI
18-44	5	0.0	0.0-0.0	12	16.1	0.0-38.4	17	7.7	0.0-19.2
45-69	29	5.7	0.0-14.0	112	0.6	0.0-1.9	141	2.7	0.0-6.2
18-69	34	4.7	0.0-11.8	124	2.4	0.0-5.4	158	3.4	0.0-6.8

Table A 148. Currently taking herbal or traditional treatment for raised cholesterol among those previously diagnosed

Age Group (years)	Men			Women			Both Sexes		
	n	Taking trad. Meds (%)	95% CI	n	Taking trad. Meds (%)	95% CI	n	Taking trad. Meds (%)	95% CI
18-44	5	0.0	0.0-0.0	12	27.6	1.3-53.9	17	13.3	0.0-28.3
45-69	29	11.4	0.7-22.1	112	10.5	4.0-17.1	141	10.9	5.2-16.5
18-69	34	9.5	0.4-18.5	124	12.5	6.2-18.8	158	11.2	6.0-16.4

History of Cardiovascular Diseases

History of cardio-vascular diseases

Description

Percentage of respondents who have ever had a heart attack or chest pain from heart disease (angina) or a stroke among all respondents.

Instrument questions

- Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?

Table A 149. Having ever had a heart attack or chest pain from heart disease or a stroke

Age Group (years)	Men			Women			Both Sexes		
	n	CVD history (%)	95% CI	n	CVD history (%)	95% CI	n	CVD history (%)	95% CI
18-44	377	5.2	2.6-7.9	787	6.5	4.3-8.6	1164	5.8	3.9-7.7
45-69	359	16.3	12.1-20.5	826	14.8	11.9-17.6	1185	15.6	13.0-18.1
18-69	736	9.2	6.8-11.5	1613	9.6	7.8-11.4	2349	9.4	7.8-10.9

Prevention and treatment of heart disease

Description

Percentage of respondents who are currently taking aspirin or statins regularly to prevent or treat heart disease.

Instrument questions

- Are you currently taking aspirin regularly to prevent or treat heart disease?
- Are you currently taking statins (Lovostatin/Simvastatin/Atorvastatin or any other statin) regularly to prevent or treat heart disease?

Table A 150. Currently taking aspirin regularly to prevent or treat heart disease

Age Group (years)	Men			Women			Both Sexes		
	n	Taking aspirin (%)	95% CI	n	Taking aspirin (%)	95% CI	n	Taking aspirin (%)	95% CI
18-44	377	0.3	0.0-0.8	787	1.2	0.5-2.0	1164	0.8	0.3-1.2
45-69	359	11.3	7.2-15.3	826	12.3	9.9-14.8	1185	11.8	9.4-14.2
18-69	736	4.3	2.7-5.8	1613	5.4	4.3-6.5	2349	4.8	3.8-5.8

Table A 151. Currently taking statins regularly to prevent or treat heart disease

Age Group (years)	Men			Women			Both Sexes		
	n	Taking statins (%)	95% CI	n	Taking statins (%)	95% CI	n	Taking statins (%)	95% CI
18-44	377	0.5	0.0-1.1	787	0.3	0.0-0.8	1164	0.4	0.0-0.8
45-69	359	4.2	2.1-6.3	826	1.5	0.7-2.3	1185	2.9	1.7-4.1
18-69	736	1.8	1.0-2.6	1613	0.8	0.3-1.2	2349	1.3	0.8-1.8

Lifestyle Advice

Lifestyle advice

Description

Percentage of respondents who received lifestyle advice from a doctor or health worker during the past three years among all respondents.

Instrument question

- During the past three years, has a doctor or other health worker advised you to do any of the following?

Table A 152. Advised by doctor or health worker to quit using tobacco or don't start

Age Group (years)	Men			Women			Both Sexes		
	n	Advised(%)	95% CI	n	Advised(%)	95% CI	n	Advised(%)	95% CI
18-44	377	12.8	8.6-17.0	787	1.2	0.3-2.1	1164	7.4	5.2-9.6
45-69	359	25.6	20.1-31.2	826	2.6	1.4-3.8	1185	14.4	11.4-17.4
18-69	736	17.4	13.7-21.1	1613	1.7	1.0-2.5	2349	10.0	8.1-11.8

Table A 153. Advised by doctor or health worker to reduce salt in the diet

Age Group (years)	Men			Women			Both Sexes		
	n	Advised(%)	95% CI	n	Advised(%)	95% CI	n	Advised (%)	95% CI
18-44	377	9.7	6.4-13.1	787	11.9	8.9-14.9	1164	10.8	8.6-12.9
45-69	359	21.3	15.6-27.0	826	19.2	16.1-22.4	1185	20.3	16.9-23.7
18-69	736	13.9	10.5-17.2	1613	14.7	12.4-16.9	2349	14.3	12.2-16.3

Table A 154. Advised by doctor or health worker to eat at least five servings of fruit and/or vegetables each day

Age Group (years)	Men			Women			Both Sexes		
	n	Advised(%)	95% CI	n	Advised(%)	95% CI	n	Advised(%)	95% CI
18-44	377	14.0	9.7-18.4	787	24.0	20.3-27.7	1164	18.7	15.6-21.8
45-69	359	25.0	18.9-31.1	826	27.4	24.0-30.9	1185	26.2	22.3-30.0
18-69	736	18.0	14.0-21.9	1613	25.3	22.4-28.1	2349	21.4	18.6-24.2

Table A 155. Advised by doctor or health worker to reduce fat in the diet

Age Group (years)	Men			Women			Both Sexes		
	n	Advised(%)	95% CI	n	Advised(%)	95% CI	n	Advised(%)	95% CI
18-44	377	10.9	6.9-14.9	787	14.9	11.9-17.9	1164	12.7	10.1-15.4
45-69	359	24.3	19.0-29.5	826	21.8	18.1-25.4	1185	23.0	19.6-26.5
18-69	736	15.7	12.4-18.9	1613	17.5	14.9-20.0	2349	16.5	14.3-18.8

Table A 156. Advised by doctor or health worker to start or do more physical activity

Age Group (years)	Men			Women			Both Sexes		
	n	Advised(%)	95% CI	n	Advised(%)	95% CI	n	Advised(%)	95% CI
18-44	377	13.6	9.0-18.2	787	14.7	11.5-18.0	1164	14.1	11.1-17.1
45-69	359	18.1	13.0-23.1	826	17.2	14.1-20.4	1185	17.7	14.4-20.9
18-69	736	15.2	11.5-18.9	1613	15.7	13.1-18.3	2349	15.4	13.0-17.9

Table A 157. Advised by doctor or health worker to maintain a healthy body weight or to lose weight

Age Group (years)	Men			Women			Both Sexes		
	n	Advised(%)	95% CI	n	Advised(%)	95% CI	n	Advised(%)	95% CI
18-44	377	8.2	4.8-11.5	787	13.0	9.7-16.2	1164	10.4	7.9-12.9
45-69	359	15.0	9.9-20.0	826	17.9	14.8-21.0	1185	16.4	13.3-19.6
18-69	736	10.6	7.7-13.5	1613	14.8	12.4-17.3	2349	12.6	10.5-14.8

Cervical Cancer Screening

Cervical cancer screening

Description

Percentage of female respondentswho have ever had a screening test for cervical cancer among all female respondents.

Instrument question

- Have you ever had a screening test for cervical cancer, using any of these methods described above?

Table A 158. Percentage of female respondents who have ever had a screening test for cervical cancer

Age Group (years)	Women		
	n	Ever tested (%)	95% CI
18-44	764	24.6	20.8-28.3
45-69	775	34.7	30.3-39.0
18-69	1539	28.3	25.3-31.2

Cervical cancer screening among women aged 30-49 years

Description

Percentage of female respondents aged 30-49 yearswho have ever had a screening test for cervical cancer among all female respondents aged 30-49 years.

Instrument question

- Have you ever had a screening test for cervical cancer, using any of these methods described above?

Table A 159. Percentage of female respondents aged 30-49 years who have ever had a screening test for cervical cancer

Age Group (years)	Women		
	n	Ever tested (%)	95% CI
18-69	592	33.2	28.4-37.9

Physical Measurements

Blood pressure

Description

Mean blood pressure among all respondents, including those currently on medication for raised blood pressure.

Instrument question

- Reading 1-3 systolic and diastolic blood pressure

Table A 160. Mean systolic blood pressure (mmHg)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	289	127.4	126.0-128.9	700	117.2	115.9-118.4	989	122.2	121.2-123.3
45-69	288	140.8	138.0-143.6	753	142.2	139.7-144.6	1041	141.5	139.6-143.4
18-69	577	132.3	130.8-133.7	1453	126.7	125.1-128.3	2030	129.4	128.3-130.5

Table A 161. Mean diastolic blood pressure (mmHg)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	289	81.7	80.5-82.9	700	78.9	78.0-79.9	989	80.3	79.6-81.1
45-69	288	89.2	87.6-90.8	753	90.1	88.8-91.3	1041	89.7	88.6-90.7
18-69	577	84.4	83.4-85.5	1453	83.2	82.3-84.1	2030	83.8	83.1-84.5

Raised blood pressure

Description

Percentage of respondents with raised blood pressure.

Instrument question

- Reading 1-3 systolic and diastolic blood pressure
- During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?

Table A 162. SBP ≥140 and/or DBP ≥ 90 mmHg, excluding those on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	278	22.3	16.9-27.8	675	15.5	12.3-18.7	953	18.9	15.8-22.0
45-69	236	57.0	48.9-65.1	531	52.4	47.0-57.8	767	54.8	49.9-59.6
18-69	514	33.9	28.8-38.9	1206	27.2	24.0-30.4	1720	30.5	27.5-33.6

Table A 163. SBP ≥140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	290	25.1	19.6-30.6	700	18.1	14.9-21.3	990	21.6	18.5-24.7
45-69	292	64.0	56.8-71.2	757	65.6	61.3-69.9	1049	64.8	60.7-68.9
18-69	582	39.3	34.3-44.2	1457	36.3	32.9-39.7	2039	37.8	34.7-40.8

Table A 164. SBP ≥160 and/or DBP ≥ 100 mmHg, excluding those on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	278	5.1	2.3-7.9	675	2.9	1.6-4.3	953	4.0	2.5-5.6
45-69	236	22.6	16.5-28.6	531	22.1	18.2-26.1	767	22.3	18.7-26.0
18-69	514	10.9	8.2-13.7	1206	9.0	7.3-10.7	1720	10.0	8.3-11.7

Table A 165. SBP ≥160 and/or DBP ≥ 100 mmHg or currently on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	***(%)***	95% CI
18-44	290	8.5	4.9-12.1	700	5.9	4.1-7.7	990	7.2	5.2-9.2
45-69	292	35.2	28.9-41.5	757	43.7	39.4-47.9	1049	39.6	35.9-43.4
18-69	582	18.2	14.9-21.6	1457	20.4	17.9-22.8	2039	19.3	17.2-21.4

Treatment and control of raised blood pressure

Description

Percentage of respondents with treated and/or controlled of raised blood pressure among those with raised blood pressure(SBP ≥140 and/or DBP ≥ 90 mmHg) or currently on medication for raised blood pressure.

Instrument questions

- During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?
- Reading 1-3 systolic and diastolic blood pressure

Table A 166. Respondents with treated and/or controlled raised blood pressure							
Age Group (years)	Men						
	n	On medication and SBP<140 and DBP<90 (%)	95% CI	On medication and SBP≥140 and/orDBP≥90 (%)	95% CI	Not on medication and SBP≥140 and/orDBP≥90 (%)	95% CI
18-44	77	7.5	1.7-13.3	5.6	0.2-10.9	86.9	79.5-94.3
45-69	188	6.4	2.9-9.8	17.5	11.4-23.5	76.2	69.3-83.1
18-69	265	6.8	3.4-10.3	12.6	8.3-16.9	80.6	75.0-86.1

Table A 167. Respondents with treated and/or controlled raised blood pressure							
Age Group (years)	Women						
	n	On medication and SBP<140 and DBP<90 (%)	95% CI	On medication and SBP≥140 and/or DBP≥90 (%)	95% CI	Not on medication and SBP≥140 and/orDBP≥90 (%)	95% CI
18-44	148	6.5	2.1-10.8	10.5	4.4-16.6	83.1	75.9-90.3
45-69	517	10.7	7.4-14.1	31.2	26.4-36.0	58.0	52.8-63.3
18-69	665	9.4	6.8-12.1	24.8	21.1-28.5	65.8	61.5-70.0

Table A 168. Respondents with treated and/or controlled raised blood pressure							
Age Group (years)	Both Sexes						
	n	On medication and SBP<140 and DBP<90 (%)	95% CI	On medication and SBP≥140 and/or DBP≥90 (%)	95% CI	Not on medication and SBP≥140 and/orDBP≥90 (%)	95% CI
18-44	225	7.1	3.3-10.9	7.7	3.6-11.7	85.3	80.1-90.4
45-69	705	8.7	6.3-11.1	24.8	20.9-28.7	66.5	62.2-70.9
18-69	930	8.1	5.9-10.3	18.6	15.7-21.6	73.2	69.7-76.8

Mean heart rate

Description

Mean heart rate (beats per minute).

Instrument question

- Reading 1-3 heart rate

Table A 169. Mean heart rate (beats per minute)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	mean	95% CI	n	mean	95% CI
18-44	300	76.1	74.8-77.4	725	78.1	77.3-79.0	1025	77.1	76.3-77.9
45-69	301	75.9	74.6-77.1	765	76.5	75.6-77.4	1066	76.2	75.4-77.0
18-69	601	76.0	75.0-77.0	1490	77.5	76.9-78.2	2091	76.8	76.2-77.4

Height, weight and BMI

Description

Mean height, weight, and body mass index among all respondents (excluding pregnant women).

Instrument questions

- For women: Are you pregnant?
- Height
- Weight

Table A 170. Mean height (cm)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
18-44	307	172,6	171,5-173,7	694	160.1	159.5-160.7
45-69	298	169,5	168,4-170,6	755	157.8	157.3-158.3
18-69	605	171,5	170,7-172,3	1449	159.2	158.8-159.7

Table A 171. Mean weight (kg)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
18-44	307	73.4	71.7-75.1	695	61.3	60.1-62.5
45-69	306	76.8	74.8-78.7	760	74.5	72.9-76.2
18-69	613	74.6	73.3-76.0	1455	66.4	65.3-67.5

Table A 172. Mean BMI (kg/m^2)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	306	24.6	24.1-25.1	692	23.9	23.4-24.4	998	24.3	23.9-24.6
45-69	298	26.8	26.1-27.6	754	29.9	29.3-30.5	1052	28.4	28.0-28.9
18-69	604	25.4	25.0-25.8	1446	26.3	25.8-26.7	2050	25.8	25.5-26.1

BMI categories

Description

Percentage of respondents (excluding pregnant women) in each BMI category.

Instrument questions

- For women: Are you pregnant?
- Height
- Weight

Table A 173. BMI classifications									
Age Group (years)	Men								
	n	Under-weight <18.5 (%)	95% CI	Normal weight 18.5-24.9 (%)	95% CI	BMI 25.0-29.9 (%)	95% CI	Obese ≥30.0 (%)	95% CI
18-44	306	3.1	0.9-5.3	59.7	53.6-65.8	28.7	23.0-34.4	8.5	4.9-12.1
45-69	298	3.6	0.9-6.2	36.4	30.0-42.7	36.3	29.8-42.7	23.8	18.5-29.1
18-69	604	3.3	1.6-5.0	51.3	46.5-56.2	31.4	26.9-36.0	14.0	10.9-17.0

Table A 174. BMI classifications									
Age Group (years)	Women								
	n	Under-weight <18.5 (%)	95% CI	Normal weight 18.5-24.9 (%)	95% CI	BMI 25.0-29.9 (%)	95% CI	Obese ≥30.0 (%)	95% CI
18-44	692	10.4	7.2-13.6	57.3	52.7-61.8	20.1	16.4-23.7	12.3	9.6-15.0
45-69	754	1.3	0.4-2.2	20.4	16.8-24.0	33.0	28.9-37.2	45.2	40.6-49.8
18-69	1446	6.9	4.9-8.9	43.0	39.6-46.4	25.1	22.3-27.9	25.0	22.4-27.7

Table A 175. BMI classifications									
Age Group (years)	Both Sexes								
	n	Under-weight <18.5 (%)	95% CI	Normal weight 18.5-24.9 (%)	95% CI	BMI 25.0-29.9 (%)	95% CI	Obese ≥30.0 (%)	95% CI
18-44	998	6.6	4.6-8.7	58.5	54.5-62.5	24.5	20.9-28.1	10.3	8.0-12.6
45-69	1052	2.4	1.1-3.8	28.1	24.5-31.8	34.6	30.6-38.6	34.8	31.3-38.4
18-69	2050	5.1	3.7-6.5	47.2	44.2-50.2	28.3	25.5-31.1	19.5	17.4-21.6

BMI ≥25

Description

Percentage of respondents (excluding pregnant women) classified as overweight (BMI≥25).

Instrument questions

- For women: Are you pregnant?
- Height
- Weight

Table A 176. BMI ≥ 25									
Age Group (years)	Men			Women			Both Sexes		
	n	BMI≥25 (%)	95% CI	n	BMI≥25 (%)	95% CI	n	BMI≥25 (%)	95% CI
18-44	306	37.2	31.1-43.2	692	32.3	27.9-36.8	998	34.8	30.9-38.8
45-69	298	60.1	53.7-66.5	754	78.3	74.5-82.0	1052	69.5	65.8-73.1
18-69	604	45.4	40.6-50.2	1446	50.1	46.7-53.5	2050	47.7	44.7-50.8

Waist circumference

Description

Mean waist circumference among all respondents (excluding pregnant women).

Instrument questions

- For women: Are you pregnant?
- Waist circumference measurement

Table A 177. Waist circumference (cm)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
18-44	285	89.3	87.7-90.9	683	81.9	80.6-83.1
45-69	281	98.6	96.6-100.6	740	97.9	96.4-99.3
18-69	566	92.7	91.3-94.1	1423	88.0	86.9-89.2

Hip circumference

Description

Mean hip circumference among all respondents (excluding pregnant women).

Instrument questions

- For women: Are you pregnant?
- Hip circumference measurement

Table A 178. Hip circumference (cm)						
Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
18-44	281	96.3	94.5-98.0	680	97.9	96.7-99.0
45-69	281	102.2	100.6-103.7	740	110.3	109.0-111.6
18-69	562	98.4	97.0-99.8	1420	102.7	101.6-103.7

Waist / hip ratio

Description

Mean waist-to-hip ratio among all respondents (excluding pregnant women).

Instrument questions

- For women: Are you pregnant?
- Waist circumference measurement
- Hip circumference measurement

Table A 179. Mean waist / hip ratio

Age Group (years)	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
18-44	281	0.9	0.9-0.9	680	0.8	0.8-0.8
45-69	281	1.0	1.0-1.0	740	0.9	0.9-0.9
18-69	562	0.9	0.9-1.0	1420	0.9	0.8-0.9

Biochemical Measurements

Mean fasting blood glucose

Description

Mean fasting blood glucose results including those currently on medication for diabetes (non-fasting recipients excluded).

Instrument questions

- During the last 12 hours have you had anything to eat or drink, other than water?
- Blood glucose measurement

Table A 180. Mean fasting blood glucose (mmol/L)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	261	4.6	4.4-4.9	595	4.2	4.1-4.4	856	4.5	4.3-4.7
45-69	262	5.1	4.9-5.4	663	5.0	4.8-5.2	925	5.1	4.9-5.3
18-69	523	4.8	4.6-5.0	1258	4.5	4.4-4.6	1781	4.7	4.5-4.8

Raised blood glucose

Description

Categorization of respondents into blood glucose level categories and percentage of respondents currently on medication for raised blood glucose (non-fasting recipients excluded).

Instrument questions

- In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?
- Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?
- During the last 12 hours have you had anything to eat or drink, other than water?
- Blood glucose measurement
- Today, have you taken insulin or other drugs (medication) that have been prescribed by a doctor or other health worker?

Table A 181. Impaired Fasting Glycaemia*									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	261	6.1	3.0-9.2	595	3.1	1.4-4.9	856	5.0	2.9-7.1
45-69	262	8.0	4.3-11.6	663	5.3	3.1-7.6	925	6.7	4.5-8.9
18-69	523	6.6	4.3-9.0	1258	4.0	2.5-5.4	1781	5.5	4.0-7.1

Table A 182. Raised blood glucose or currently on medication for diabetes**									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	261	5.1	1.8-8.5	595	2.1	0.8-3.3	856	4.0	1.8-6.1
45-69	262	10.2	6.0-14.4	663	8.9	6.3-11.5	925	9.6	7.0-12.1
18-69	523	6.5	3.9-9.2	1258	4.6	3.4-5.8	1781	5.7	4.1-7.4

Table A 183. Currently on medication for diabetes									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	(%)	(%)	95% CI
18-44	377	0.9	0.0-2.1	787	0.3	0.0-0.6	1164	0.7	0.0-1.4
45-69	359	5.7	2.9-8.4	826	6.0	4.4-7.6	1185	5.8	4.2-7.5
18-69	736	2.2	1.1-3.4	1613	2.3	1.7-3.0	2349	2.3	1.6-3.0

* Impaired fasting glycaemia (IFG) is defined as either

- plasma venous value: ≥ 6.1mmol/L (110mg/dl) and < 7.0mmol/L (126mg/dl); or
- capillary whole blood value: ≥ 5.6mmol/L (100mg/dl) and < 6.1mmol/L (110mg/dl)

** Raised blood glucose is defined as either:

- plasma venous value: ≥ 7.0 mmol/L (126 mg/dl)
- capillary whole blood value: ≥ 6.1 mmol/L (110 mg/dl)

Total cholesterol

Description

Mean total cholesterol among all respondents including those currently on medication for raised cholesterol.

Instrument question

- Total cholesterol measurement

Table A 184. Mean total cholesterol (mmol/L)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	262	4,1	3,9-4,2	601	4,0	3,9-4,1	863	4.0	3.9-4.1
45-69	268	4,6	4,5-4,8	667	4,9	4,8-5.0	935	4.8	4.7-4.8
18-69	530	4,1	3,9-4,2	1268	4,3	4,2-4,4	1798	4.3	4.2-4.3

Raised total cholesterol

Description

Percentage of respondents with raised total cholesterol and percentage of respondents currently on medication for raised cholesterol.

Instrument questions

- Total cholesterol measurement
- During the past two weeks, have you been treated for raised cholesterol with drugs (medication) prescribed by a doctor or other health worker?

Table A 185. Total cholesterol ≥ 5.0 mmol/L or ≥ 190 mg/dl or currently on medication for raised cholesterol									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	262	17.0	12.1-21.9	601	11.7	8.7-14.6	863	15.0	11.6-18.3
45-69	268	36.9	29.6-44.2	667	47.1	42.2-52.0	935	41.8	37.3-46.2
18-69	530	22.6	17.9-27.3	1268	24.8	22.0-27.6	1798	23.5	20.4-26.6

Table A 186. Total cholesterol ≥ 6.2 mmol/L or ≥ 240 mg/dl or currently on medication for raised cholesterol									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	262	1.2	0.1-2.3	601	1.6	0.6-2.6	863	1.4	0.6-2.1
45-69	268	7.0	3.5-10.5	667	14.0	10.9-17.1	935	10.3	7.9-12.7
18-69	530	2.9	1.4-4.4	1268	6.2	4.8-7.6	1798	4.2	3.2-5.3

Introduction to intake of salt per day

Levels of sodium and creatinine in spot urine samples are used in STEPS to estimate population 24 hour salt intake, using the INTERSALT equation:

Estimated 24 hour sodium (Na) intake in mmol for males: 23.51+0.45*spot Na concentration (mmol/L) -3.09*spot creatinine concentration (mmol/L)+4.16*BMI+0.22*Age

Estimated 24 hour sodium (Na) intake in mmol for females: 3.74+0.33* spot Na concentration (mmol/L)-2.44* spot creatinine concentration (mmol/L)+2.42* BMI +2.34* Age -0.03* Age ^2

The 24 hour sodium values in mmol are divided by 17.1 in order to get grams of salt.

WHO recommen-dation

The WHO recommendation is less than 5 grams of salt or 2 grams of sodium per person per day.

Intake of salt per day

Description

Mean intake of salt in grams per day among all respondents

Instrument question

- Are you pregnant?
- Had you been fasting prior to urine collection?
- Urinary sodium measurement
- Urinary creatinine measurement

Table A 187. Mean salt intake (g/day)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	111	10.7	10.4-11.0	326	8.2	8.0-8.4	437	9.6	9.3-9.8
45-69	150	11.5	11.2-11.9	398	8.8	8.7-9.0	548	10.2	9.9-10.4
18-69	261	11.0	10.8-11.3	724	8.4	8.3-8.6	985	9.8	9.6-10.0

High density lipoprotein (HDL)

Description

Mean HDL among all respondents and percentage of respondents with low HDL.

Instrument question

- HDL cholesterol measurement

Table A 188. Mean HDL (mmol/L)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-44	262	1.0	1.0-1.1	601	1.2	1.2-1.3	863	1.1	1.1-1.1
45-69	268	1.1	1.0-1.2	667	1.2	1.1-1.2	935	1.1	1.1-1.2
18-69	530	1.0	1.0-1.1	1268	1.2	1.2-1.2	1798	1.1	1.1-1.1

Table A 189. Percentage of respondents with HDL <1.03mmol/L or <40 mg/dl			
Age Group (years)	Men		
	n	(%)	95% CI
18-44	262	55.5	48.9-62.2
45-69	268	45.1	37.2-52.9
18-69	530	52.6	47.1-58.1

Table A 190. Percentage of respondents with HDL <1.29mmol/L or <50 mg/dl			
Age Group (years)	Women		
	n	(%)	95% CI
18-44	601	62.3	57.5-67.1
45-69	667	66.7	62.6-70.9
18-69	1268	64.0	60.5-67.4

Cardiovascular disease risk

CVD risk of ≥30% or existing CVD

Description

Percentage of respondents aged 40-69 years with a 10-year cardiovascular disease (CVD) risk* ≥30% or with existing CVD

Instrument questions

combined from Step 1, 2 and 3

- Gender, age
- Current and former smoking
- History of diabetes, CVD
- Systolic blood pressure measurements
- Fasting status, glucose and total cholesterol measurements.

Table A 191. Percentage of respondents with a 10-year CVD risk ≥30% or with existing CVD

Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
40-54	121	13.3	6.1-20.5	368	13.9	9.2-18.7	489	13.6	8.8-18.4
55-69	135	22.1	14.7-29.5	370	19.3	14.5-24.1	505	20.6	16.3-24.9
40-69	256	16.8	11.8-21.8	738	16.3	13.0-19.6	994	16.5	13.4-19.7

* A 10-year CVD risk of ≥30% is defined according to age, sex, blood pressure, smoking status (current smokers OR those who quit smoking less than 1 year before the assessment), total cholesterol, and diabetes (previously diagnosed OR a fasting plasma glucose concentration >7.0 mmol/l (126 mg/dl)).

Drug therapy and counseling for those with CVD risk ≥30% or existing CVD

Description

Percentage of eligible persons (defined as aged 40-69 years with a 10-year cardiovascular disease (CVD) risk* ≥30%, including those with existing CVD) receiving drug therapy and counseling** (including glycaemic control) to prevent heart attacks and strokes.

Instrument questions

combined from Step 1, 2 and 3

- Gender, age
- Current and former smoking
- History of diabetes, CVD
- Lifestyle advice
- Systolic blood pressure measurements
- Fasting status, glucose and total cholesterol measurements.

Table A 192. Percentage of eligible persons receiving drug therapy and counseling to prevent heart attacks and strokes

Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
40-54	17	31.0	4.6-57.3	51	12.9	3.9-21.8	68	22.0	7.3-36.6
55-69	35	42.8	22.7-63.0	74	43.1	30.6-55.6	109	43.0	31.1-54.9
40-69	52	37.1	20.7-53.5	125	28.8	20.7-36.9	177	33.0	23.5-42.5

* A 10-year CVD risk of ≥30% is defined according to age, sex, blood pressure, smoking status (current smokers OR those who quit smoking less than 1 year before the assessment), total cholesterol, and diabetes (previously diagnosed OR a fasting plasma glucose concentration >7.0 mmol/l (126 mg/dl)).

**Counseling is defined as receiving advice from a doctor or other health worker to quit using tobacco or not start, reduce salt in diet, eat at least five servings of fruit and/or vegetables per day, reduce fat in diet, start or do more physical activity, maintain a healthy body weight or lose weight.

Summary of Combined Risk Factors

Summary of Combined Risk Factors

Description

Percentage of respondents with 0, 1-2, or 3-5 of the following risk factors:

- Current daily smoking
- Less than five servings of fruit and/or vegetables per day
- Not meeting WHO recommendations on physical activity for health (<150 minutes of moderate activity per week, or equivalent)
- Overweight or obese (BMI ≥ 25 kg/m^2)
- Raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP).

Instrument questions

combined from Step 1 and Step 2

Table A 193. Summary of Combined Risk Factors

Age Group (years)	Men						
	n	With 0 risk factors (%)	95% CI	With 1-2 risk factors (%)	95% CI	With 3-5 risk factors (%)	95% CI
18-44	274	6.4	2.6-10.1	60.0	53.7-66.2	33.7	27.6-39.7
45-69	270	1.8	0.0-4.2	37.9	31.3-44.6	60.3	53.3-67.3
18-69	544	4.7	2.2-7.3	52.1	47.3-56.8	43.2	38.3-48.1

Table A 194. Summary of Combined Risk Factors

Age Group (years)	Women						
	n	With 0 risk factors (%)	95% CI	With 1-2 risk factors (%)	95% CI	With 3-5 risk factors (%)	95% CI
18-44	641	13.2	10.1-16.3	73.2	69.6-76.9	13.5	10.7-16.4
45-69	718	3.1	1.4-4.7	45.7	41.1-50.3	51.3	46.6-55.9
18-69	1359	9.2	7.2-11.3	62.4	59.2-65.6	28.4	25.3-31.4

Table A 195. Summary of Combined Risk Factors

Age Group (years)	Both Sexes						
	n	With 0 risk factors (%)	95% CI	With 1-2 risk factors (%)	95% CI	With 3-5 risk factors (%)	95% CI
18-44	915	9.8	7.2-12.3	66.5	62.9-70.1	23.7	20.3-27.2
45-69	988	2.5	1.0-3.9	42.0	38.0-46.1	55.5	51.2-59.7
18-69	1903	7.0	5.3-8.7	57.3	54.3-60.3	35.7	32.6-38.7

PREVALENCE OF NONCOMMUNICABLE DISEASE RISK FACTORS IN THE REPUBLIC OF ARMENIA

DATA BOOK

TOBACCO POLICY

STEPS NATIONAL SURVEY 2016

Tobacco Policy

Anti-cigarette information

Description

Percentage of all respondents who noticed information in newspapers or magazines, television or radio about the dangers of smoking or that encourages quitting during the past 30 days.

Instrument questions

- During the past 30 days, have you noticed information about the dangers of smoking cigarettes or that encourages quitting through the following media?
    - Newspapers or magazines

Table B 1. Noticed information in newspapers or magazines about dangers of smoking or that encourages quitting

Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	356	27.1	20.7-33.4	749	29.5	25.4-33.5	1105	28.2	24.1-32.3
45-69	350	18.3	13.8-22.8	783	20.3	16.7-24.0	1133	19.3	16.3-22.2
18-69	706	23.8	19.4-28.4	1532	26.0	23.0-29.0	2238	24.9	21.9-27.8

Table B 2. Noticed information on television about dangers of smoking or that encourages quitting

Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	362	38.7	32.4-45.0	745	41.0	36.4-45.7	1107	39.8	35.5-44.0
45-69	348	46.7	39.8-53.5	775	48.8	44.1-53.5	1123	47.7	43.2-52.1
18-69	710	41.5	36.5-46.6	1520	43.9	40.2-47.7	2230	42.7	39.2-46.2

Table B 3. Noticed information on the radio about dangers of smoking or that encourages quitting

Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	346	10.0	3.9-16.0	708	7.0	4.4-9.6	1054	8.6	5.1-12.2
45-69	339	11.8	7.4-16.2	753	6.6	4.5-8.8	1092	9.3	6.7-11.9
18-69	685	10.6	6.1-15.2	1461	6.9	4.9-8.8	2146	8.9	6.2-11.5

Cigarette advertising

Description

Percentage of all respondents who noticed advertisements or signs promoting cigarettes in stores where cigarettes are sold during the past 30 days.

Instrument questions

- During the past 30 days, have you noticed any advertisements or signs promoting cigarettes in stores where cigarettes are sold?

Table B 4. Noticed advertisements or signs promoting cigarettes in stores

Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	356	22.5	15.1-29.9	752	14.2	11.0-17.4	1108	18.6	14.3-22.8
45-69	348	11.3	7.0-15.7	783	11.8	9.0-14.6	1131	11.6	8.9-14.2
18-69	704	18.4	13.1-23.7	1535	13.3	11.0-15.6	2239	16.0	12.9-19.0

Cigarette promotion

Description

Percentage of all respondents who noticed cigarette promotions during the past 30 days.

Instrument questions

- During the past 30 days, have you noticed any of the following types of cigarette promotions?

Table B 5. Noticed free samples of cigarettes									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	359	7.5	4.6-10.4	717	2.2	0.9-3.5	1076	5.1	3.4-6.7
45-69	329	3.0	1.1-5.0	738	2.5	1.2-3.8	1067	2.8	1.5-4.0
18-69	688	5.9	4.0-7.9	1455	2.3	1.4-3.2	2143	4.2	3.1-5.4

Table B 6. Noticed sale prices on cigarettes									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	349	11.6	8.0-15.3	703	3.7	2.0-5.3	1052	8.0	5.8-10.1
45-69	326	5.6	3.0-8.2	724	3.9	2.3-5.6	1050	4.8	3.2-6.4
18-69	675	9.5	6.8-12.1	1427	3.8	2.6-4.9	2102	6.8	5.3-8.4

Table B 7. Noticed coupons for cigarettes									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	344	2.0	0.4-3.6	690	1.7	0.5-2.8	1034	1.8	0.8-2.8
45-69	319	1.5	0.1-2.8	712	1.3	0.4-2.2	1031	1.4	0.5-2.2
18-69	663	1.8	0.7-2.9	1402	1.6	0.8-2.3	2065	1.7	1.0-2.4

Table B 8. Noticed free gifts or special discount offers on other products when buying cigarettes									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	340	15.3	9.0-21.5	688	5.2	3.2-7.1	1028	10.6	7.0-14.2
45-69	320	7.0	3.2-10.8	707	4.3	2.5-6.1	1027	5.7	3.5-7.9
18-69	660	12.3	7.8-16.8	1395	4.8	3.5-6.2	2055	8.8	6.3-11.4

Table B 9. Noticed clothing or other items with a cigarette brand name or logo									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	338	3.9	1.8-6.0	685	0.4	0.0-0.7	1023	2.3	1.1-3.4
45-69	317	1.3	0.0-2.9	707	0.4	0.0-0.9	1024	0.9	0.1-1.7
18-69	655	3.0	1.5-4.4	1392	0.4	0.1-0.7	2047	1.8	1.0-2.6

Table B 10. Noticed cigarette promotions in the mail									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	331	1.3	0.0-2.6	670	1.3	0.1-2.5	1001	1.3	0.4-2.2
45-69	314	0.1	0.0-0.4	694	0.3	0.0-0.6	1008	0.2	0.0-0.4
18-69	645	0.9	0.0-1.7	1364	0.9	0.2-1.7	2009	0.9	0.3-1.5

Table B 11. Noticed cigarette any promotion									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	321	24,1	17,5-30,6	653	7,6	5,1-10,2	974	16,5	12,6-20,4
45-69	311	12,9	8,4-17,5	673	6,2	4,1-8,3	984	9,7	7,2-12,3
18-69	632	20,0	15,2-24,8	1326	7,1	5,4-8,8	1958	14,0	11,2-16,8

Cigarette package health warnings

Description

Percentage of current smokers who noticed health warnings on cigarette packages during the past 30 days.

Instrument questions

- During the past 30 days, did you notice any health warnings on cigarette packages?

Table B 12. Current smokers who noticed health warnings on cigarette packages									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	180	75.3	64.6-85.9	14	83.4	62.1-100.0	194	75.4	64.9-86.0
45-69	175	70.8	62.1-79.5	25	97.4	91.8-100.0	200	72.2	63.8-80.5
18-69	355	73.6	65.6-81.6	39	92.0	82.4-100.0	394	74.2	66.4-82.0

Quitting

Description

Percentage of current smokers who noticed health warnings on cigarette packages during the past 30 days that thought about quitting due to the health warnings they saw.

Instrument questions

- During the past 30 days, did you notice any health warnings on cigarette packages?
- During the past 30 days, have warning labels on cigarette packages led you to think about quitting?

Table B 13. Current smokers who saw health warnings on cigarette packages that thought of quitting									
Age Group (years)	Men			Women			Both Sexes		
	n	(%)	95% CI	n	(%)	95% CI	n	(%)	95% CI
18-44	138	25.0	15.5-34.4	12	23.3	0.0-50.0	150	24.9	15.7-34.2
45-69	126	35.3	25.7-45.0	23	21.5	0.4-42.5	149	34.4	25.2-43.5
18-69	264	28.5	21.9-35.1	35	22.1	6.9-37.4	299	28.3	21.9-34.7

Cigarette costs

Description

Average price paid for 20 manufactured cigarettes, based on the last manufactured cigarette purchase.

Instrument questions

- The last time you bought manufactured cigarettes for yourself, how many cigarettes did you buy in total?
- In total, how much money did you pay for this purchase?

Table B 14. Average price paid for 20 manufactured cigarettes									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean [insert currency]	95% CI	n	Mean [insert currency]	95% CI	n	Mean [insert currency]	95% CI
18-44	177	504.1	386.8-621.4	13	420.6	326.4-514.8	190	502.6	387.4-617.8
45-69	170	485.5	295.7-675.4	24	306.9	277.7-336.0	194	476.6	296.1-657.0
18-69	347	497.5	397.2-597.8	37	349.9	305.0-394.9	384	493.1	395.8-590.5

PREVALENCE OF NONCOMMUNICABLE DISEASE RISK FACTORS IN THE REPUBLIC OF ARMENIA

WHO STEPS Instrument (Core and Expanded)

STEPS NATIONAL SURVEY 2016

Overview

Introduction	This is the generic STEPS Instrument which sites/countries will use to develop their tailored instrument. It contains the: • CORE items (unshaded boxes) • EXPANDED items (shaded boxes).
Core Items	The Core items for each section ask questions required to calculate basic variables. For example: • current daily smokers • mean BMI. **Note:** All the core questions should be asked, removing core questions will impact the analysis.
Expanded items	The Expanded items for each section ask more detailed information. Examples include: • use of smokeless tobacco • sedentary behaviour.
Guide to the columns	The Table below is a brief guide to each of the columns in the Instrument.

Column	Description	Site Tailoring
Question	Each question is to be read to the participants	• Select sections to use. • Add expanded and optional questions as desired.
Response	This column lists the available response options which the interviewer will be circling or filling in the text boxes. The skip instructions are shown on the right hand side of the responses and should be carefully followed during interviews.	• Add site specific responses for demographic responses (e.g. C6). • Change skip question identifiers where necessary.
Code	The column is designed to match data from the instrument into the data entry tool, data analysis syntax, data book, and fact sheet.	This should never be changed or removed. The code is used as a general identifier for the data entry and analysis.

Survey Information

Location and Date	Response	Code
Cluster/Centre/Village ID	⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	I1
Cluster/Centre/Village name		I2
Interviewer ID	⌊_⌋⌊_⌋⌊_⌋	I3
Date of completion of the instrument	⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ dd mm year	I4

Consent, Interview Language and Name	Response		Code
Consent has been read and obtained	Yes	1	I5
	No	2 **If NO, END**	
Interview Language *[Insert Language]*	English	1	I6
	[Add others]	2	
	[Add others]	3	
	[Add others]	4	
Time of interview (24 hour clock)	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins		I7
Family Surname			I8
First Name			I9
Additional Information that may be helpful			
Contact phone number where possible			I10

Step 1 Demographic Information

CORE: Demographic Information			
Question	**Response**		**Code**
Sex (*Record Male / Female as observed)*	Male	1	C1
	Female	2	
What is your date of birth? *Don't Know 77 77 7777*	⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *If known, Go to C4* dd mm year		C2
How old are you?	Years	⌊_⌋⌊_⌋	C3
In total, how many years have you spent at school and in full-time study (excluding pre-school)?	Years	⌊_⌋⌊_⌋	C4

EXPANDED: Demographic Information			
What is the **highest level of education** you have completed? *[INSERT COUNTRY-SPECIFIC CATEGORIES]*	No formal schooling	1	C5
	Less than primary school	2	
	Primary school completed	3	
	Secondary school completed	4	
	High school completed	5	
	College/University completed	6	
	Post graduate degree	7	
	Refused	88	
What is your **marital status**?	Never married	1	C7
	Currently married	2	
	Separated	3	
	Divorced	4	
	Widowed	5	
	Cohabitating	6	
	Refused	88	
Which of the following best describes your **main work** status over the past 12 months? *[INSERT COUNTRY-SPECIFIC CATEGORIES]* (*USE SHOWCARD)*	Government employee	1	C8
	Non-government employee	2	
	Self-employed	3	
	Non-paid	4	
	Student	5	
	Homemaker	6	
	Retired	7	
	Unemployed (able to work)	8	
	Unemployed (unable to	9	
	Refused	88	
How many people older than 18 years, including yourself, live in your household?	Number of people	⌊_⌋⌊_⌋	C9

EXPANDED: Demographic Information, Continued			
Question	**Response**		**Code**
Taking **the past year**, can you tell me what the average earnings of the household have been? *(RECORD ONLY ONE, NOT ALL 3)*	Per week	⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *Go to T1*	C10a
	OR per month	⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *Go to T1*	C10b
	OR per year	⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *Go to T1*	C10c
	Refused	88	C10d
If you don't know the amount, can you give an **estimate** of the annual household income if I read some options to you? Is it *[INSERT QUINTILE VALUES IN LOCAL CURRENCY]* *(READ OPTIONS)*	≤ Quintile (Q) 1	1	C11
	More than Q 1, ≤ Q 2	2	
	More than Q 2, ≤ Q 3	3	
	More than Q 3, ≤ Q 4	4	
	More than Q 4	5	
	Don't Know	77	
	Refused	88	

Step 1 Behavioural Measurements

CORE: Tobacco Use			
Now I am going to ask you some questions about tobacco use.			
Question	**Response**		**Code**
Do you **currently** smoke any **tobacco** products, such as cigarettes, cigars or pipes? *(USE SHOWCARD)*	Yes	1	T1
	No	2 *If No, go to T8*	
Do you currently smoke tobacco products **daily**?	Yes	1	T2
	No	2	
How old were you when you **first started** smoking?	Age (years)		T3
	Don't know 77	⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	
Do you remember how long ago it was? *(RECORD ONLY 1, NOT ALL 3)* *Don't know 77*	In Years	⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	T4a
	OR in Months	⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	T4b
	OR in Weeks	⌊_⌋⌊_⌋	T4c
On average, **how many** of the following products do you smoke **each day/week?** *(IF LESS THAN DAILY, RECORD WEEKLY)* *(RECORD FOR EACH TYPE, USE SHOWCARD)* *Don't Know 7777*		DAILY↓ WEEKLY↓	
	Manufactured cigarettes	⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋	T5a/T5aw
	Hand-rolled cigarettes	⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋	T5b/T5bw
	Pipes full of tobacco	⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋	T5c/T5cw
	Cigars	⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋	T5d/T5dw
	Number of Shisha sessions	⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋	T5e/T5ew
	Other	⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋ *If Other, go to T5other, else go to T6*	T5f/T5fw
	Other (please specify):	⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5other/ T5otherw
During the past 12 months, have you tried to **stop smoking**?	Yes	1	T6
	No	2	
During any visit to a doctor or other health worker in the past 12 months, were you advised to quit smoking tobacco?	Yes	1 *If T2=Yes, go to T12; if T2=No, go to T9*	T7
	No	2 *If T2=Yes, go to T12; if T2=No, go to T9*	
	No visit during the past 12 months	3 *If T2=Yes, go to T12; if T2=No, go to T9*	
In the past, did you **ever smoke** any tobacco products? *(USE SHOWCARD)*	Yes	1	T8
	No	2 *If No, go to T12*	
In the past, did you **ever** smoke **daily**?	Yes	1 *If T1=Yes, go to T12, else go to T10*	T9
	No	2 *If T1=Yes, go to T12, else go*	

EXPANDED: Tobacco Use			
Question	**Response**		**Code**
How old were you when you **stopped** smoking?	Age (years)		T10
	Don't Know 77	└─┴─┘ *If Known, go to T12*	
How **long ago** did you stop smoking? *(RECORD ONLY 1, NOT ALL 3)* *Don't Know 77*	Years ago	└─┴─┘ *If Known, go to T12*	T11a
	OR Months ago	└─┴─┘ *If Known, go to T12*	T11b
	OR Weeks ago	└─┴─┘	T11c
Do you **currently use** any **smokeless tobacco** products such as *[snuff, chewing tobacco, betel]*? *(USE SHOWCARD)*	Yes	1	T12
	No	2 *If No, go to T15*	
Do you **currently use smokeless tobacco** products **daily?**	Yes	1	T13
	No	2 *If No, go to T14aw*	
On average, how many **times a day/week** do you use …. *(IF LESS THAN DAILY, RECORD WEEKLY)* *(RECORD FOR EACH TYPE, USE SHOWCARD)* *Don't Know 7777*		DAILY↓ WEEKLY↓	
	Snuff, by mouth	└─┴─┴─┴─┘ └─┴─┴─┴─┘	T14a/ T14aw
	Snuff, by nose	└─┴─┴─┴─┘ └─┴─┴─┴─┘	T14b/ T14bw
	Chewing tobacco	└─┴─┴─┴─┘ └─┴─┴─┴─┘	T14c/ T14cw
	Betel, quid	└─┴─┴─┴─┘ └─┴─┴─┴─┘	T14d/ T14dw
	Other	└─┴─┴─┴─┘ └─┴─┴─┴─┘ *If Other, go to T14other, if T13=No, go to T16, else go to T17*	T14e/ T14ew
	Other (please specify):	└─┴─┴─┴─┴─┴─┘ *If T13=No, go to T16, else go to T17*	T14other/ T14otherw
In the **past**, did you **ever use** smokeless tobacco products such as *[snuff, chewing tobacco, or betel]*?	Yes	1	T15
	No	2 *If No, go to T17*	
In the **past**, did you **ever use** smokeless tobacco products such as *[snuff, chewing tobacco, or betel]* **daily**?	Yes	1	T16
	No	2	
During the past 30 days, did someone smoke **in your home**?	Yes	1	T17
	No	2	
During the past 30 days, did someone smoke in closed areas **in your workplace** (in the building, in a work area or a specific office)?	Yes	1	T18
	No	2	
	Don't work in a closed	3	

CORE: Alcohol Consumption			
The next questions ask about the consumption of alcohol.			
Question	**Response**		**Code**
Have you **ever** consumed any alcohol such as beer, wine, spirits or *[add other local examples]*? *(USE SHOWCARD OR SHOW EXAMPLES)*	Yes	1	A1
	No	2 *If No, go to A16*	
Have you consumed any alcohol within the **past 12 months**?	Yes	1 *If Yes, go to A4*	A2
	No	2	
Have you stopped drinking due to health reasons, such as a negative impact on your health or on the advice of your doctor or other health worker?	Yes	1 *If Yes, go to A16*	A3
	No	2 *If No, go to A16*	
During the past 12 months, **how frequently** have you had at least one standard alcoholic drink? *(READ RESPONSES, USE SHOWCARD)*	Daily	1	A4
	5-6 days per week	2	
	3-4 days per week	3	
	1-2 days per week	4	
	1-3 days per month	5	
	Less than once a month	6	
Have you consumed any alcohol within the **past 30 days**?	Yes	1	A5
	No	2 *If No, go to A13*	
During the past 30 days, on how many **occasions** did you have at least one standard alcoholic drink?	Number Don't know 77	⌊_⌋⌊_⌋	A6
During the past 30 days, when you drank alcohol, how many **standard drinks on average** did you have during one drinking occasion? *(USE SHOWCARD)*	Number Don't know 77	⌊_⌋⌊_⌋	A7
During the past 30 days, what was the **largest number** of standard drinks you had on a single occasion, counting all types of alcoholic drinks together?	Largest number Don't Know 77	⌊_⌋⌊_⌋	A8
During the past 30 days, how many times did you have **six or more** standard drinks in a single drinking occasion?	Number of times Don't Know 77	⌊_⌋⌊_⌋	A9
During each of the **past 7 days**, how many standard drinks did you have each day? *(USE SHOWCARD)* *Don't Know 77*	Monday	⌊_⌋⌊_⌋	A10a
	Tuesday	⌊_⌋⌊_⌋	A10b
	Wednesday	⌊_⌋⌊_⌋	A10c
	Thursday	⌊_⌋⌊_⌋	A10d
	Friday	⌊_⌋⌊_⌋	A10e
	Saturday	⌊_⌋⌊_⌋	A10f
	Sunday	⌊_⌋⌊_⌋	A10g

CORE: Alcohol Consumption, continued

I have just asked you about your consumption of alcohol during the past 7 days. The questions were about alcohol in general, while the next questions refer to your consumption of homebrewed alcohol, alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol. Please only think about these types of alcohol when

Question	Response		Code
During the **past 7 days**, did you consume any **homebrewed** alcohol, any alcohol **brought over the border/from another country**, any alcohol **not intended for drinking** or other **untaxed** alcohol? *[AMEND ACCORDING TO LOCAL CONTEXT]*	Yes	1	A11
	No	2 *If No, go to A13*	
On average, **how many standard drinks** of the following did you consume **during the past 7 days**? *[INSERT COUNTRY-SPECIFIC EXAMPLES]* *(USE SHOWCARD)* *Don't Know 77*	Homebrewed spirits, e.g. moonshine	⌊_⌋⌊_⌋	A12a
	Homebrewed beer or wine, e.g. beer, palm or fruit wine	⌊_⌋⌊_⌋	A12b
	Alcohol brought over the border/from another country	⌊_⌋⌊_⌋	A12c
	Alcohol not intended for drinking, e.g. alcohol-based medicines, perfumes, after shaves	⌊_⌋⌊_⌋	A12d
	Other untaxed alcohol in the country	⌊_⌋⌊_⌋	A12e

CORE: Diet

The next questions ask about the fruits and vegetables that you usually eat. I have a nutrition card here that shows you some examples of local fruits and vegetable s. Each picture represents the size of a serving. As you answer these questions please think of a typical week in the last year.

Question	Response		Code
In a typical week, on how many days do you **eat fruit**?	Number of days Don't Know 77	⌊_⌋⌊_⌋ **If Zero days, go to D3**	***D1***
How many **servings** of fruit do you eat on **one** of those days? (*USE SHOWCARD)*	Number of servings Don't Know 77	⌊_⌋⌊_⌋	***D2***
In a typical week, on how many days do you **eat vegetable s**? *(USE SHOWCARD)*	Number of days Don't Know 77	⌊_⌋⌊_⌋ **If Zero days, go to D5**	D3
How many **servings** of vegetables do you eat on one of those days? *(USE SHOWCARD)*	Number of servings Don't know 77	⌊_⌋⌊_⌋	D4

Dietary salt

With the next questions, we would like to learn more about salt in your diet. Dietary salt includes ordinary Table salt, unrefined salt such as sea salt, iodized salt, salty stock cubes and powders, and salty sauces such as soya sauce or fish sauce (see showcard). The following questions are on adding salt to the food right before you eat it, on how food is prepared in your home, on eating processed foods that are high in salt such as* [insert country specific examples]*, and questions on controlling your salt intake. Please answer the questions even if you consider yourself to eat a diet low in salt.

How often do you **add salt or a salty sauce such as soya sauce** to your food right before you eat it or as you are eating it? *(SELECT ONLY ONE)*	Always	1	D5
	Often	2	
	Sometimes	3	
	Rarely	4	
	Never	5	
	Don't know	77	

How often is **salt, salty seasoning or a salty sauce added** in cooking or preparing foods in your household?	Always	1	D6
	Often	2	
	Sometimes	3	
	Rarely	4	
	Never	5	
	Don't know	77	
How often do you eat **processed food high in salt**? By processed food high in salt, I mean foods that have been altered from their natural state, such as packaged salty snacks, canned salty food including pickles and preserves, salty food prepared at a fast food restaurant, cheese, bacon and processed meat *[add country specific examples].* *[INSERT EXAMPLES]*	Always	1	D7
	Often	2	
	Sometimes	3	
	Rarely	4	
	Never	5	
	Don't know	77	
How much salt or salty sauce do you think you consume?	Far too much	1	D8
	Too much	2	
	Just the right amount	3	
	Too little	4	
	Far too little	5	
	Don't know	77	

EXPANDED: Diet			
Question	**Response**		**Code**
How important to you is **lowering the salt** in your diet?	Very important	1	D9
	Somewhat important	2	
	Not at all important	3	
	Don't know	77	
Do you think that too much salt or salty sauce in your diet could cause a **health problem**?	Yes	1	D10
	No	2	
	Don't know	77	
Do you do any of the following on a regular basis to **control your salt intake**? *(RECORD FOR EACH)*			
Limit consumption of processed foods	Yes	1	D11a
	No	2	
Look at the salt or sodium content on food labels	Yes	1	D11b
	No	2	
Buy low salt/sodium alternatives	Yes	1	D11c
	No	2	
Use spices other than salt when cooking	Yes	1	D11d
	No	2	
Avoid eating foods prepared outside of a home	Yes	1	D11e
	No	2	
Do other things specifically to control your salt intake	Yes	1 *If Yes, go to*	D11f
	No	2	
Other (please specify)	⌊_⌋_⌋_⌋_⌋_⌋_⌋_⌋		D11other

The next questions ask about the oil or fat that is most often used for meal preparation in your household, and about meals that you eat outside a home.			
What type of **oil or fat is most often** used for meal preparation in your household? *(USE SHOWCARD)* *(SELECT ONLY ONE)*	Vegetable oil	1	D12
	Lard or suet	2	
	Butter or ghee	3	
	Margarine	4	
	Other	5 *If Other, go to D12 other*	
	None in particular	6	
	None used	7	
	Don't know	77	
	Other	⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	D12other
On average, how many meals per week do you eat that were not prepared at a home? By meal, I mean breakfast, lunch and dinner.	Number Don't know 77	⌊_⌋⌊_⌋	D13

CORE: Physical Activity

Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.
Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, study/training, household chores, harvesting food/crops, fishing or hunting for food, seeking employment. *[Insert other examples if needed].* In answering the following questions 'vigorous-intensity activities' are activities that require hard physical effort and cause large increases in breathing or heart rate, 'moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate.

Question	**Response**		**Code**
Work			
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?	Yes	1	***P1***
	No	2 *If No, go to P 4*	
In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days	⌊_⌋	***P2***
How much time do you spend doing vigorous-intensity activities at work on a typical day?	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	P3 (a-b)
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? *[INSERT EXAMPLES] (USE SHOWCARD)*	Yes	1	P4
	No	2 *If No, go to P 7*	
In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days	⌊_⌋	P5
How much time do you spend doing moderate-intensity activities at work on a typical day?	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	P6 (a-b)

Travel to and from places			
The next questions exclude the physical activities at work that you have already mentioned. Now I would like to ask you about the usual way you travel to and from places. For example to work, for shopping, to market, to place of worship. *[Insert other examples if needed]*			
Do you walk or use a bicycle *(pedal cycle)* for at least 10 minutes continuously to get to and from places?	Yes	1	P7
	No	2 *If No, go to P 10*	
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?	Number of days	⌊_⌋	P8
How much time do you spend walking or bicycling for travel on a typical day?	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	P9 (a-b)

CORE: Physical Activity, Continued			
Question	**Response**		**Code**
Recreational activities			
The next questions exclude the work and transport activities that you have already mentioned. Now I would like to ask you about sports, fitness and recreational activities (leisure), *[Insert relevant terms]*.			
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? *[INSERT EXAMPLES] (USE SHOWCARD)*	Yes	1	P10
	No	2 *If No, go to P 13*	
In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational *(leisure)* activities?	Number of days	⌊_⌋	P11
How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	P12 (a-b)
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, volleyball]* for at least 10 minutes continuously?	Yes	1	P13
	No	2 *If No, go to P16*	
In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational *(leisure)* activities?	Number of days	⌊_⌋	P14
How much time do you spend doing moderate-intensity sports, fitness or recreational *(leisure)* activities on a typical day?	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	P15 (a-b)

EXPANDED: Physical Activity			
Sedentary behaviour			
The following question is about sitting or reclining at work, at home, getting to and from places, or with friends including time spent sitting at a desk, sitting with friends, traveling in car, bus, train, reading, playing cards or watching television, but do not include time spent sleeping. *[INSERT EXAMPLES] (USE SHOWCARD)*			
How much time do you usually spend sitting or reclining on a typical day?	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	P16 (a-b)

CORE: History of Raised Blood Pressure			
Question	**Response**		**Code**
Have you ever had your blood pressure measured by a doctor or other health worker?	Yes	1	H1
	No	2 *If No, go to H6*	
Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?	Yes	1	H2a
	No	2 *If No, go to H6*	
Have you been told in the past 12 months?	Yes	1	H2b
	No	2	
In the past two weeks, have you taken any drugs (medication) for raised blood pressure prescribed by a doctor or other health worker?	Yes	1	H3
	No	2	
Have you ever seen a traditional healer for raised blood pressure or hypertension?	Yes	1	H4
	No	2	
Are you currently taking any herbal or traditional remedy for your raised blood pressure?	Yes	1	H5
	No	2	

CORE: History of Diabetes			
Have you ever had your blood sugar measured by a doctor or other health worker?	Yes	1	H6
	No	2 *If No, go to H12*	
Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?	Yes	1	H7a
	No	2 *If No, go to H12*	
Have you been told in the past 12 months?	Yes	1	H7b
	No	2	
In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?	Yes	1	H8
	No	2	
Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?	Yes	1	H9
	No	2	
Have you ever seen a traditional healer for diabetes or raised blood sugar?	Yes	1	H10
	No	2	
Are you currently taking any herbal or traditional remedy for your diabetes?	Yes	1	H11
	No	2	

CORE: History of Raised Total Cholesterol			
Question	**Response**		*Code*
Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?	Yes	1	H12
	No	2 *If No, go to H17*	
Have you ever been told by a doctor or other health worker that you have raised cholesterol?	Yes	1	H13a
	No	2 *If No, go to H17*	
Have you been told in the past 12 months?	Yes	1	H13b
	No	2	
In the past two weeks, have you taken any oral treatment (medication) for raised total cholesterol prescribed by a doctor or other health worker?	Yes	1	H14
	No	2	
Have you ever seen a traditional healer for raised cholesterol?	Yes	1	H15
	No	2	
Are you currently taking any herbal or traditional remedy for your raised cholesterol?	Yes	1	H16
	No	2	

CORE: History of Cardiovascular Diseases			
Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?	Yes	1	H17
	No	2	
Are you currently taking aspirin regularly to prevent or treat heart disease?	Yes	1	H18
	No	2	
Are you currently taking statins (Lovastatin/Simvastatin/Atorvastatin or any other statin) regularly to prevent or treat heart disease?	Yes	1	H19
	No	2	

CORE: Lifestyle Advice			
During the past three years, has a doctor or other health worker advised you to do any of the following? *(RECORD FOR EACH)*			
Quit using tobacco or don't start	Yes	1	H20a
	No	2	
Reduce salt in your diet	Yes	1	H20b
	No	2	
Eat at least five servings of fruit and/or vegetables each day	Yes	1	H20c
	No	2	
Reduce fat in your diet	Yes	1	H20d
	No	2	
Start or do more physical activity	Yes	1	H20e
	No	2	
Maintain a healthy body weight or lose weight	Yes	1 *If C1=1 go to M1*	H20f
	No	2 *If C1=1 go to M1*	

CORE (for women only): Cervical Cancer Screening			
The next question asks about cervical cancer prevention. Screening tests for cervical cancer prevention can be done in different ways, including Visual Inspection with Acetic Acid/vinegar (VIA), pap smear and Human Papillomavirus (HPV) test. VIA is an inspection of the surface of the uterine cervix after acetic acid (or vinegar) has been applied to it. For both pap smear and HPV test, a doctor or nurse uses a swab to wipe from inside your vagina, take a sample and send it to a laboratory. It is even possible that you were given the swab yourself and asked to swab the inside of your vagina. The laboratory checks for abnormal cell changes if a pap smear is done, and for the HP virus if an HPV test is done.			
Question	**Response**		**Code**
Have you ever had a screening test for cervical cancer, using any of these methods described above?	Yes	1	CX1
	No	2	
	Don't know	77	

Step 2 Physical Measurements

CORE: Blood Pressure			
Question	**Response**		**Code**
Interviewer ID		⌊_⌋⌊_⌋⌊_⌋	M1
Device ID for blood pressure		⌊_⌋⌊_⌋	M2
Cuff size used	Small	1	M3
	Medium	2	
	Large	3	
Reading 1	Systolic (mmHg)	⌊_⌋⌊_⌋⌊_⌋	M4a
	Diastolic (mmHg)	⌊_⌋⌊_⌋⌊_⌋	M4b
Reading 2	Systolic (mmHg)	⌊_⌋⌊_⌋⌊_⌋	M5a
	Diastolic (mmHg)	⌊_⌋⌊_⌋⌊_⌋	M5b
Reading 3	Systolic (mmHg)	⌊_⌋⌊_⌋⌊_⌋	M6a
	Diastolic (mmHg)	⌊_⌋⌊_⌋⌊_⌋	M6b
During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?	Yes	1	M7
	No	2	
CORE: Height and Weight			
For women: Are you pregnant?	Yes	1 *If Yes, go to M 16*	M8
	No	2	
Interviewer ID		⌊_⌋⌊_⌋⌊_⌋	M9
Device IDs for height and weight	Height	⌊_⌋⌊_⌋	M10a
	Weight	⌊_⌋⌊_⌋	M10b
Height	in Centimetres (cm)	⌊_⌋⌊_⌋⌊_⌋. ⌊_⌋	M11
Weight *If too large for scale 666.6*	in Kilograms (kg)	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	M12

CORE: Waist			
Device ID for waist		⌊_⌋⌊_⌋	M13
Waist circumference	in Centimetres (cm)	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	M14

EXPANDED: Hip Circumference and Heart Rate			
Hip circumference	in Centimeters (cm)	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	M15
Heart Rate			
Reading 1	Beats per minute	⌊_⌋⌊_⌋⌊_⌋	M16a
Reading 2	Beats per minute	⌊_⌋⌊_⌋⌊_⌋	M16b
Reading 3	Beats per minute	⌊_⌋⌊_⌋⌊_⌋	M16c

Step 3 Biochemical Measurements

CORE: Blood Glucose			
Question	**Response**		**Code**
During the past 12 hours have you had anything to eat or drink, other than water?	Yes	1	B1
	No	2	
Technician ID		⌊_⌋⌊_⌋⌊_⌋	B2
Device ID		⌊_⌋⌊_⌋	B3
Time of day blood specimen taken (24 hour clock)	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	B4
Fasting blood glucose *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]*	mmol/l	⌊_⌋⌊_⌋.⌊_⌋⌊_⌋	B5
	mg/dl	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	
Today, have you taken insulin or other drugs (medication) that have been prescribed by a doctor or other health worker for raised blood glucose?	Yes	1	B6
	No	2	
CORE: Blood Lipids			
Device ID		⌊_⌋⌊_⌋	B7
Total cholesterol *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]*	mmol/l	⌊_⌋⌊_⌋.⌊_⌋⌊_⌋	B8
	mg/dl	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	
During the past two weeks, have you been treated for raised cholesterol with drugs (medication) prescribed by a doctor or other health worker?	Yes	1	B9
	No	2	
CORE: Urinary sodium and creatinine			
Had you been fasting prior to the urine collection?	Yes	1	B10
	No	2	
Technician ID		⌊_⌋⌊_⌋⌊_⌋	B11

Device ID		⌊_⌋⌊_⌋	B12
Time of day urine sample taken (24 hour clock)	Hours : minutes	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	B13
Urinary sodium	mmol/l	⌊_⌋⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	B14
Urinary creatinine	mmol/l	⌊_⌋⌊_⌋.⌊_⌋⌊_⌋	B15

EXPANDED: Triglycerides and HDL Cholesterol			
Question	**Response**		**Code**
HDL Cholesterol *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]*	mmol/l	⌊_⌋.⌊_⌋⌊_⌋	B17
	mg/dl	⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	

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