

# **Health System Performance Assessment**

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In the thirteenth report of the Health System Performance Assessment (HSPA), the results of the fifth sample survey conducted in 2022 are provided.

Within the scope of this research, the problems of the health and healthcare system of the RA population aged 15 and older were considered.

In 2022, the HSPA survey covered the following topics:

- Assessment of the Armenian population’s general and mental health/prevalence of depression and chronic diseases
- Prevalence of behavioral and biological risk factors contributing to the development of non-communicable diseases (tobacco use, alcohol and salt abuse, excess weight and obesity, physical inactivity, Internet addiction, high blood pressure, high blood cholesterol and glucose levels, environmental factors, etc.)
- Population awareness of the factors mentioned above
- Utilization of health services, accessibility, appeal to organizations providing outpatient and hospital medical care, satisfaction with the services provided, participation of the population in screening studies, referrals, as well as problems related to Covid-19 (morbidity, appeal to medical organizations, impact of Covid-19 on the population’s general mental health).

The HSPA report is designed for health system organizers, field experts, clinicians, as well as other specialists interested and involved in health system issues.

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## **Health System Performance Assessment**

### **The need for mass research to evaluate the performance of the health system**

The healthcare sector can be viewed in a narrow sense as a healthcare system, which includes those organizations directly involved in the management of the healthcare system (Ministry of Health, regional healthcare management structures, agencies and organizations subordinate to the ministry), the provision of medical services (hospitals, polyclinics, clinics, medical centers, etc.), with the formation of resources (training of medical personnel, construction and repair of health facilities, procurement and distribution of equipment, supplies and medicines). However, population's health is determined not only by the functioning of the healthcare system but also, for example, by the environmental condition and the health behavior of the population. Those areas are outside the scope of health system management.

Systematic comprehensive collection, coordination, and analysis of timely and adequate health information are critical to managing the health system and the sector in general. Information about the system is collected through the Ministry of Health and its subordinate organizations, medical institutions, the RA National Statistical Committee, and other organizations. However, this information refers to those objects, including people, who are in direct contact with the healthcare system for various reasons.

For example, the physical existence of medical facilities does not mean that they are accessible to the entire population. For some populations they may be unaffordable due to financial or other reasons. Services in medical institutions can be affordable and of very high quality, but the characteristics of the health behavior of the population, such as tobacco or alcohol abuse, can significantly reduce their positive effect. Inadequate sanitary and hygienic living conditions of the population can cause outbreaks of epidemics.

In addition to the data collected as a result of the ongoing collection of health information, it's important to have data on those facilities and processes of the health sector that are not accessible to the current health data collection system. To fill that gap, various specialized types of research are being conducted, such as the mass research "Health System Performance Assessment" (HSPA) conducted regularly in Armenia.

### **The aim of the HSPA mass research**

The purpose of mass sociological research to evaluate the health system's performance is to fill the information gap needed by the managers of the health system.

### **HSPA research content (2022)**

The content of HSPA's research consists of four broad themes:

1. The general state of the Armenian population's health, which has four components:

- 1.1. General assessment of health status with the SF-12 specialized tool developed by WHO for that purpose,
  - 1.2 The evaluation of disease prevalence among the population, which aims to provide health managers with an overview of the prevalence of disease conditions and symptoms in the population,
  - 1.3 Evaluation of the general psychological state of the population of Armenia, which was carried out using the Zung scale,
  - 1.4 An estimate of the prevalence of chronic diseases, which provides data on the incidence of major chronic diseases diagnosed by a doctor and the percentage of cases where a doctor prescribes or treats them.
2. Prevalence of risk factors, which is the largest part of the report. The following risk factors were studied:
    - 2.1 Biological risk factors, including high blood pressure, blood cholesterol levels, blood glucose levels, excess weight,
    - 2.2 Behavioral risk factors, including tobacco use, alcohol use, physical inactivity, salt consumption, oil consumption, Internet addiction,
    - 2.3 Environmental conditions around the residential (domestic) area's risk factors and sanitary and hygienic conditions of the apartment.
3. Utility of health services with the following components:
    - 3.1 Implementation of preventive diagnostics, including sonographic and mammographic examinations of women's breasts, examination of Pap smears in women, fluorography examinations, prostate examinations in men,
    - 3.2. Medical facility's usage, accessibility, reasons for inaccessibility,
    - 3.3. Primary healthcare utilization, including referrals, primary healthcare consultation, case studies of primary care referrals, availability of medication in primary healthcare units, hospital referrals, and assessment of primary healthcare response.
    - 3.4. Utilization of hospital care, including hospital care, out-of-pocket payments, and assessment of hospital response.
    - 3.5. Physical accessibility of medical facilities, including outpatient clinics and polyclinics, hospitals, maternity hospitals, and pharmacies.
4. There are several unique topics in HSSP 2022 research:
    - 4.1 The study of COVID-19, in the scope of which the incidence of COVID-19 was considered, the behavior of those who are ill, treatment at home, treatment in hospital, vaccinations, and the impact of COVID-19 on the general mental state of the population.



4.2 Assessment of the impact of the 44-day war, in which the following issues were considered: participation in the war, losses as a result of the war, compensation for that losses, and their psychological impacts.

4.3 Sources of population health-related data.

## **Main results**

All the results of the report were obtained through the Pan-Armenian mass survey. Research sample: random, multilevel stratified, and cluster. The sample is representative according to the Armenian population's gender, age, region, and type of settlement. Sample size: 2502 people.

### **General state of health**

#### ***General health status assessment with the SF-12 instrument***

During the 2016-2022 time period, the Armenian population's general health status worsened, as assessed by the SF-12 tool. The scores of five domains have decreased: physical functioning (pf), physical component of role functioning (rp), emotional component of role functioning (re), bodily pain (bp), and mental health (mh). Only one domain was increased (social functioning (sf)), and the scores of two domains remained approximately the same: general health (gh) and energy/fatigue (vt).

#### ***Prevalence of diseased conditions***

The most common medical conditions are back pain (53.0%), headache (52.7%), and joint pain (48.5%). The second most prevalent diseases are insomnia (38.7%), neck/shoulder pain (33.2%), leg swelling (26.8%), and chest pain (22.0%). The third group contains toothache (17.8%), depression (16.0%), varicose veins (15.8%), swelling under the eyes (13.8%), and constipation (12.8%). The prevalence of skin diseases was 7.2%.

Compared to 2016, the prevalence of back pain, joint pain, edema of legs, dilatation of veins, and constipation has increased. The prevalence of headaches, insomnia, chest pain, toothache, and depression has decreased.

#### ***Mental health assessment of the population***

According to the Zung scale, the average mental health scores among Armenians aged 15 and above in 2016 and 2022 were 41.46 and 40.81, respectively.

In 2022, 26.9% of the Armenian population had mild depression (score in the range of 45-49), 2.1% had moderate depression (60-69), and 0.2% had severe depression (70-80).

In 2022 (compared to 2016), the relative number of Armenian people with mild and moderate depression increased slightly by 1.1% and 1.7%, respectively.

The prevalence of depression increases with the decrease in wealth and the increase in age. In rural areas it's higher than in urban areas, and the lowest is in rural areas. Depression is more common among women.

### ***Prevalence of chronic diseases***

In 2022, the most common chronic diseases diagnosed by a physician were heart disease (15.8%), hypertension (15.2%), eye disease (14.0%), nervous disease (12.0%), gastrointestinal disease (11.9%), and Covid-19 (11.0%).

In 2022 (compared to 2016), the number of cases diagnosed by a doctor increased significantly for all observed diseases. The largest relative increases were observed in diabetes mellitus (3.27 times), liver diseases (2.00 times), asthma (2.00 times), gastrointestinal diseases (1.98 times), nose-throat-ear diseases (1.95 times), and tuberculosis (1.94 times).

### **Prevalence of risk factors**

#### ***Blood pressure***

During the 2012 to 2022 time period, the number of people with high blood pressure in Armenia decreased monotonously from 33.8% in 2012 to 22.7% in 2022. Age is the strongest factor affecting the prevalence of high blood pressure. The prevalence of high blood pressure among people aged 15-19 is 3.5%, while in the age group over 65, it's 52.9%.

In 2022, the number of people whose high blood pressure was detected by a doctor increased from 62.3% to 75.3%. During the last 12 months, health worker's frequency of diagnostic measures to detect high blood pressure has increased. The population's compliance with the doctor's advice for controlling high blood pressure has increased.

10.3% of respondents had hidden high blood pressure; They assumed that they didn't have high blood pressure, but the measurements revealed the opposite.

#### ***Blood cholesterol levels***

In 2022 (compared to 2016), the number of people with a blood cholesterol level of 6.2 millimoles (mmol) or more increased from 8.5% to 11.6% among those aged 35 and above. The indicator is relatively higher among low-welfare groups, women, and 50-64-year-old people.

In 2022 (compared to 2016), the rate of physician-performed cholesterol measurements in the past year increased from 18.1% to 20.0%. In addition, the frequency of advice given by the doctor to regulate cholesterol levels has increased, and the level of drug prescriptions has decreased.

### ***Blood glucose levels***

In 2022 (compared to 2016), the number of people aged 35 and above with glucose levels higher than 6.1 mmol increased from 17.5% to 24.9%.

High glucose levels are more common among people with less than secondary education (40.7%) and in Yerevan (29.8%). That indicator increases significantly with age; If among 35-49-year-old people it is 16.6%, then among 50-64 and 65 and above people it's 27.9% and 36.7%, respectively.

Compared to 2016, in 2022, the rate of physician-performed glucose measurements in the past year increased from 20.0% to 24.0%. The frequency of consultations by doctors for the purpose of cholesterol level regulation, the level of drug prescriptions, and the effectiveness of drugs in the regulation of glucose levels have increased.

### ***Excess weight***

In 2022 (compared to 2016), the number of overweight people (with a body mass index of 25.0 to 30.0) or obese people (body mass index over 30) increased from 51.2% to 55.1% in Armenia. The increase occurred as a result of an increase in the number of people with obesity, from 22.3% to 27.7%.

The prevalence of overweight rapidly increases with age; If it is 12.8% among 15-19-year-olds, among people over 65, it is 37.8%.

Obesity is relatively more common among women (33.8%) and 50 to 64-year-old people (41.6%).

### ***Tobacco use***

As the majority of smokers are men, the main indicator of tobacco use is the number of men who smoke daily. In 2022, that indicator was 53.2%, which essentially didn't change compared to 2016 (53.4%). The same applies to women; In 2022 and 2016, the number of daily smokers was 2.0% and 2.3%, respectively.

The number of male smokers significantly increases from 14.7% to 60.6% from the 15-19 age group to the 20-34 age group. Among women, being a daily smoker is relatively more common among 50-64-year-olds (3.1%) and those divorced (15.2%).

96.5% of daily smokers use filter cigarettes. They smoke an average of 24.6 cigarettes per day. Electronic cigarettes are used by 3.3% of daily smokers, smoking an average of 9.7 cigarettes per day, and heated cigarettes are used by 3.0% of daily smokers, smoking 12.7 cigarettes per day.

The average age for starting to smoke filter cigarettes for the first time is 18.3 years; Note that it is the beginning of military service. The average age of first smoking e-cigarettes and heated cigarettes is 26.5 and 29.8 years, respectively.

A smoker spends, on average, 612.8 AMD every day on buying cigarettes. 96.8% of smokers buy cigarettes from a store or supermarket.

During the last 12 months, 33.3% of daily smokers tried to quit, which decreased compared to 2016 (46.2%). 47.0% of respondents are under the influence of secondhand smoke every day, 49.9% of respondents have seen smokers in public open spaces every day, and 7.8% of respondents have seen smokers in closed public spaces every day. 19.4% of **workers** saw a smoker in a closed area at their workplace during the last 30 days. 24.2% of workplaces don't have any smoking regulations. The prevalence of tobacco advertising is very low. 3.0% of respondents have seen a TV ad in the last 30 days, 3.0% have seen an in-store ad, and 2.4% have seen an ad on social media sites.

49.9% of the respondents saw anti-smoking ads on television, 23.1% in-store, 19.4% on social media sites, and 13.5% on posters and billboards.

### ***Alcohol consumption***

85% of respondents have ever consumed alcohol, 67.7% have consumed it in the last 12 months, and 37.9% have consumed it in the last 30 days.

The main indicator of alcohol consumption (the number of people consuming alcohol equivalent to 20 grams of alcohol per day) was 2.8% in 2022, which is significantly lower than in 2016 (7.9%). This indicator is 6.2% among men, and it wasn't found among women (in 2016, it was 0.7%).

On the other hand, the consumption of alcohol among women has started to become "younger." This is evidenced by the fact that the **ratio** of women and men who have ever consumed alcohol increases with age; it's equal to 82% for girls aged 15-19 and women aged 20-34, and among higher age groups decreases to 78 %, 72%, 68% values. The same trend is also present among people who have consumed alcohol in the last 12 months and in the last 30 days.

Alcohol abusers among men who consume 6 or more drinks (equivalent to 60 grams of pure alcohol) at a time, are as follows: 62.5% of them have never consumed 6 or more servings of alcohol equivalent to alcohol in the last 30 days, 19.3% of men have consumed this amount of alcohol once, 6.6% two times, 3.3% three times, 2.8% four times, 1.8% five times, **3.6% six or more times**.

Among women: 92.9% of them never consumed 6 or more servings of alcohol equivalent to alcohol in the last 30 days, 4.8% consumed once, 1.4% twice, and **0.4% had six or more drinks**.

The distribution of alcohol type: Store-bought alcohol by recalculated pure alcohol made up 64.9%, homemade vodka 26.2%, homemade wine 2.8%, homemade beer 0.6%, non-potable alcohol 0.1%, and excise-exempt alcohol 5.4%.

84.8% of store-bought alcohol was consumed by men and 15.2% by women, 96.1% of homemade vodka was consumed by men (3.9% by women), 66.3% of homemade wine was consumed by men, and 34.8% by women.

11.0% of the population consumed alcohol to prevent COVID. The number of those people was relatively higher in villages (14.0%), among men (12.2%), among 50-64-year-olds (17.5%), and among people with lower than secondary education level (17.3%).

### ***Physical activity***

In 2022, physical activity was assessed in the HSPA study using the STEPS study's methodology and wasn't comparable with previous studies.

In 2022, the physically inactive population aged 18-64, calculated by the STEPS methodology in Armenia, was 17.3%. In 2016, this indicator was 21.3% in Armenia, according to the STEPS survey.

Physical inactivity in socio-demographic groups had the following picture: Physical inactivity is relatively higher in Yerevan (20.4%), and among women (18.0%). Also, it's relatively higher among people with a lower than secondary education level (20.7%), and it decreases along with the increase in education level, but among people with higher and more education, it increases sharply to 21.0%. Physical inactivity is relatively higher in well-being quintile I at 19.0%, relatively lower in quintiles II, III, and IV, and increases again in well-being quintile V.

### ***Diet, consumption of fruits and vegetables***

According to the WHO, adults should consume 5 or more servings of fruits and/or vegetables per day. It's estimated by counting the consumption of fruits and vegetables in the last week. Therefore, it has a high sensitivity to the season. The HSPA research was carried out in 2022 (June–August). In Armenia in 2022 (June-August), the number of people consuming up to 5 portions per day was 52.6%. The number of such people in Yerevan (59.0%) is greater than in urban (50.5%) and rural (48.6%) areas. The number of men and women consuming 5 or more servings of fruit or vegetables per day is equal (52.6%), and among people with a less than secondary educational level, that indicator is significantly lower (35.8%). The indicator is in the range of 51-53% among people with secondary, vocational, and incomplete higher education, and among people with higher education, it's the highest (56.4%). Among wealth groups, the indicator is the lowest in quintile II (44.8%), and the highest in quintiles III (57.6%) and V (57.4%). Along with the increase in age, the number of people using 5 or more daily servings decreases. Among the 18-29 age group, they make up 54.9%, and in the 60+ age group, it's 48.2%.

### ***Diet, salt consumption***

Dietary salt consumption habits have been studied from several perspectives.

14.5% of the population "always" add salt to the already prepared meal without tasting it, 12.4% "often" behave as such (both together 37.5%). In 2016, the last indicator was 39.0%.

When preparing food, 37.8% of those who cook at home "always" add salt, salty spices, or sauces thickeners, while 13.7% "often" add.

Processed foods with high salt content, smoked meat or fish, fat, pickled cucumbers, salty chips, or pulses are "always" used by 4.8% of the population and "often" by 18.9%.

According to the self-assessment of the population, 3.5% of the population use "too much" salt or sauces containing salt, 11.6% use "a lot", both together 15.1%. 98.9% of the population uses iodized salt, 3.8% uses sea salt, 0.4% uses non-iodized salt, and 0.3% uses other types of salt (respondents were allowed to select multiple answers).

82.2% of the population knows that the abuse of salt is harmful to health.

27.8% of the population consider it important to reduce the use of salt in their diet.

19.6% of people who consider reducing the consumption of salt as "very important" or "important" avoid meals prepared "outside" to reduce the use of salt, 12.5% limit the use of processed food, and 10.2% use salt-free foods when preparing food spices.

### ***Diet, fat consumption***

in 2022 (compared to 2016), the consumption of all types of fats has increased in Armenia.

Among the population of Armenia, the use of vegetable oil is more common. In 2022, 93.2% of the population used vegetable oil. In 2016 (in comparison), that indicator increased by 6.2%. The second most common is the use of butter (59.9%), and the third is the use of melted butter (43.4%). 9.8% of the population uses lard. 7.9% use margarine.

### ***Environmental (domestic) risk factors***

In 2022, the most common household risk factors in Armenia were air pollution due to dust (45.6%), air pollution from automobile smoke (28.8%), traffic noise (20.0%), and drinking water pollution (18.4%).

In 2022 (compared to 2016), the prevalence of the following risk factors increased: air pollution due to dust, traffic noise, and domestic noise.

In 2022 (compared to 2016), the prevalence of the following risk factors decreased: drinking water pollution, accumulations of household waste, irrigation water pollution, air pollution by production emissions, production toxic waste accumulations, tree felling, radiation perception, and production noise.

### ***Sanitary and hygienic conditions***

**Location of toilet:** In 2022 (compared to 2016), the number of people with a bathroom in their apartment increased significantly in rural areas from 48.8% to 64.6%. In cities, the number of people with a bathroom inside the house also increased from 90.6% to 92.6%. In the villages, the number of people with backyard toilets has significantly decreased from 51.1% to 34.8%.

**Availability of sewage system:** In 2022, 96.0% of Yerevan's residents lived in apartments with sewerage; In cities, this number was 89.7%, and in villages, 34.6%. Compared to 2016 (43.0%), that indicator decreased in the villages. This is not impossible due to the characteristics of newly built houses in rural areas, most of which are not connected to a common drainage system.

**Heating of apartments:** In 2022 (compared to 2016), the number of people with individual heating systems at home has increased from 23.1% to 35.7%. The number of households heating their homes with manure has increased from 3.0% to 5.4%. The number of households heating their homes with wood or coal has decreased from 37.7 % to 23.9%, and the number of households heating the house with a gas stove decreased from 2.9% to 1.8%. The number of apartments heated by central heating decreased from 0.9% to 0.2%. 0.4% of respondents didn't heat their apartments in both 2022 and 2016.

## **Utilization of health services**

### ***Preventive screenings***

**Sonographic breast examinations:** According to the recommendations of the WHO, it's preferable for women aged 35-60 to undergo sonographic breast screening at least once in 3 years for early detection and more effective treatment of breast cancer.

In 2022 (compared to 2016), the percentage of women who underwent sonographic breast screening during the last 3 years was 24.2%, which is higher than this indicator in 2016 (22.5%). Moreover, in 2022, the percentage of women who underwent sonographic breast examination during the last year (9.9%) is less than in 2016 (13.3%); However, in 2022, those who underwent this examination 1-3 years ago is 14.3%, which is greater than this indicator in 2016 (9.2%).

**Mammographic breast screening:** The WHO suggests that women aged 30-60 undergo this examination at least once in 3 years.

In 2022, the percentage of women who underwent mammographic breast screening during the last 3 years was 11.3%. The number of women aged 30-60 who have never had a mammographic screening in both 2022 and 2016 remains very high (79.2%).

The most common source of payment for women's breast mammograms is their personal funds (57.1%). The second most common is the basic benefit package (23.6%). It is possible that financial barrier is the reason behind the small number of women who go for mammographic screening.

**Pap smear examination:** To prevent cervical cancer, the World Health Organization recommends that women aged 30-60 undergo a Pap test at least once every three years.

In 2022, the percentage of women who underwent Pap tests in the last 3 years was 31.0%. In 2016, this indicator was 29.6%. In 2022, the number of women aged 30-60 who had never had a Pap test was 46.2%

(in 2016, this value was 58.5%). In 2022 (compared to 2016), the number of women aged 30-60 who underwent a Pap test during the last year decreased significantly.

**Fluorography examination:** In 2022, the number of people aged 15 and over who underwent a fluorography examination in the last three years was 36.1%, which is a higher indicator than in 2016 (29.2%). During the last year, the number of people who underwent such an examination was 16.5%, which is slightly higher than this indicator in 2016 (15.8%). In 2022, the number of people who have never experienced a fluorography examination was 45.3%, which is higher than in 2016 (51.7%).

**Prostate sonographic screening:** In 2022, the number of men who underwent sonographic prostate examinations during the last 12 months was 6.9%, which is higher than in 2016 (5.4%). In 2022, the number of men who had a prostate sonographic screening 1-3 years ago was also higher (8.6%) compared with 2016 (5.3%). In 2022, the number of men who had never had a prostate ultrasound screening was 70.2%, which is lower than in 2016 (74.33%).

### ***Utilization of medical facilities***

**Health system efficiency:** The health care system is considered more efficient if, in case of need, people mostly turn to the primary health care center, health center, outpatient clinic, family doctor, and district therapist.

In 2022 (compared to 2016), the percentage of people who go to primary healthcare centers when they feel unhealthy increased from 68.7% to 77.2%, while those who immediately go to hospitals decreased from 17.2% to 12.0%.

**Inaccessibility of the medical facility:** In 2022, the number of people who didn't go to a healthcare center in case of need was 36.4%, which is almost no different than this indicator in 2016 (36.8%) and 2012 (35.2%). Among 17.7% of those who don't go to a healthcare center when they need treatment, the financial barrier remains the main reason for the inaccessibility of medical care. The second most common reason is lack of time (12.9%), the prevalence of which increased monotonically from 2009 to 2022. In 2022, the percentage of people engaged in self-medication increased significantly (12.1%). In 2016, this indicator was 4.6%.

### ***Utilization of primary healthcare services***

**Utilization of primary healthcare services:** During the last 12 months, 31.4% of the population turned to a primary medical unit, which is 2.1% lower than in 2016.

The number of people referring to a primary health care center is relatively higher in cities, among women, in the lower well-being quintiles I, II, and III; The referrals increase along with the increase in age.

The counseling received by the persons referred during visits to the primary medical unit was studied. Doctors measured their patients' blood pressure in 71.4% of cases, which is a significantly higher rate



compared to 2016 (53.5%). In 41.4% of cases, they explained the rules of proper nutrition (48.0% in 2016). In 38.2% of cases, they explained the rules of a healthy lifestyle (43.7% in 2016), and in 14.3% of cases explained the harms of smoking (30.5% in 2016).

**House calls:** During the last 12 months, 91.0% of the people who referred to the primary healthcare units, called for a primary household service. In 77.4% of cases, the doctors visited the home, in 11.2% of cases, they advised by phone and, at the same time, visited the home, in 6.5% of cases, they only advised by phone. In 8.4% of household calls, payment was made to the visiting doctor.

**Availability of medicines:** In the case of medical prescription, 85.7% of patients have acquired the medication in full, in 11.2% of cases partially, and in 2.3% of cases, they didn't receive it at all. The main reason for not purchasing or partially purchasing the drugs is financial inaccessibility, which was mentioned by 77.6% of respondents who didn't purchase or partially purchased the drugs.

**Referrals to the hospital:** In 35.1% of the referrals from primary care to the hospital, the patient was admitted to the hospital. In 89.4% of referrals from primary care to the hospital, the diagnosis of the disease made in primary care was confirmed in the hospital. In 2016, the number of such cases was 93.6%.

**Primary care response:** In 2022, all five domains of responsiveness observed in the survey (respect, communication, confidentiality, autonomy, and basic conditions) are in the range of very high scores. In addition, in 2022 (compared to 2016), the scores of confidentiality and autonomy have increased.

**Waiting time at primary care facility:** In 2022 (compared to 2016), the waiting time before seeing a doctor when referring to a primary health care center has increased.

23% of the patients who were referred to a primary care center didn't wait at all (30% in 2016), 32% (37.9% in 2016) waited up to 10 minutes, both together 55% (in 2016 67.9%), 15% (14.5% in 2016) waited 11-20 minutes. 20% waited from half an hour to an hour (3.4% in 2016), and 4% waited more than an hour (3.2% in 2016).

**Satisfaction level with the primary care facility services:** In 2022, the overall satisfaction of the population with the treatment they received in the primary medical institutions was very high; 92.2% of the people who were referred to the primary medical institution were "satisfied" or "rather satisfied" with the services. In 2022 (compared to 2016), the general satisfaction of the population with the services received in the primary medical unit has increased in all of Armenia and individual types of settlements.

### ***Utilization of the hospital care***

**Referrals to the hospital:** In 2022, the number of respondents who received hospital care was 10.3% (in 2016, that indicator was 8.5%). 77.5% of those admitted to the hospital were admitted once, 16.2% were admitted twice, and 6.3% were admitted three times.

During that period, 77.5%, 16.2%, and 6.3% of the population was admitted to the hospital once, twice, and three times, respectively. The average number of days of hospital stay was 7.8 days (9.0% in 2016).

40.3% of patients went to the hospital on their own, 42.4% were referred from the primary care unit, and 15.4% were taken to the hospital by emergency services. That distribution in 2022 compared to 2016 basically remained unchanged.

**Hospital treatment fees:** In 2022, 59.6% of hospital cases were treated within the framework of the basic benefit package and 19% with co-payment. In 2016, the relative number of hospital cases fully covered with the basic benefit package was 56.5%.

**Corruption risks in the hospital sector:** A hospital case was considered to involve a corruption risk (not to be confused with a corruption case) if any payment or part of it was made in person rather than into a hospital cash register.

In 2022, corruption risks were involved in 8.7% of hospital treatment cases. In 2022, 23.8% of paid hospital treatments, 12.2% of co-paid treatments, and 3.2% of fully state-ordered treatments contained corruption risks:

- In 2022, the incidence of payments for diagnoses during hospital treatment was 27.3%. Compared to 2016 (31.7%), the number of these cases decreased.
  - In 2022, payments to the treating doctor in the hospital were made in 11.3% of cases. That indicator has significantly decreased compared to 2016 (21.8%).
  - In 2022, payments to the treating physician prior to initiation of treatment constituted 16.8% of total payments to the treating physician, while during treatment, it constituted 8.3%.
  - In 2022, payments to the treating physician prior to initiation of treatment constituted 16.8% of total payments to the treating physician, while during treatment, it constituted 8.3%.
  - In 2022, additional payments to other doctors at the hospital or doctors in case of a referral to another hospital were made in 1.8% of cases, which significantly decreased compared to 2016 (7.4%).
  - In 2022, in 57.3% of cases, the hospital provided all necessary drugs. The situation has improved compared to 2016 (52.6%).
  - In 2022 (compared to 2016), the number of hospital cases when all the necessary medications were purchased by patients decreased significantly from 28.0% to 10.8%. On the other hand, the number of cases when the hospital mainly provided the medications has grown significantly from 8.5% to 15.5%.
  - In 2022 (compared to 2016), the number of cases when patients signed up for drugs they received for their hospital treatment increased significantly from 17.1% to 32.1%.

- In 2022 (compared to 2016), there was a significant decrease in the number of cases of hospital treatments when patients pay to nurses from 12.6% to 5.2%.
- In 2022, the number of cases when patients acquired needles, cotton, iodine, and alcohol for their injections was 5.8%, while in 2016, the indicator was 4.4%.
- In 2022, for cleaning the ward, taking out the garbage, and installing a nightstand the sanitarians were paid in 5.0% of cases; In 2016, that indicator was higher (10.4%).

**Hospital responses:** In 2022, the scores were very high across all domains of hospital responses. Compared to 2016, the domains of confidentiality and basic conditions have increased.

**Physical accessibility of medical units:** Physical accessibility of medical facilities is assessed by looking at how people get to different types of health facilities, health centers, outpatient clinics, and hospitals and how much time they spend to reach these medical institutions.

From the perspective of transportation, the physical accessibility of pharmacies is the highest. In 2022, 65.4% of the population reached the pharmacy on foot. Polyclinics/outpatient clinics are the second physically accessible places. In 2022, 43.8% of the population reached a polyclinic or an outpatient clinic on foot. Hospitals are in third place; In 2022, 18.3% of the population reach the hospital on foot.

From the perspective of transportation, the last place belongs to the maternity hospitals; In 2022, 13.9% of the population reach the maternity hospital on foot.

The number of people walking to the polyclinic/outpatient clinic is greater in cities, and Yerevan than in villages. The number of people driving to the polyclinic or an outpatient clinic is the highest in villages, followed by cities and finally, in Yerevan. In Yerevan, the number of people arriving at the polyclinic by taxis is the highest.

**Time to get to the hospital:** It is considered that accessing a medical facility is sufficient according to time if it takes up to 20 minutes to get to the given medical facility by a commonly used transportation.

Accessing a polyclinic or an outpatient clinic in less than 20 minutes is very high (86.6-89.0%) in different types of settlements.

The time availability of hospitals is the highest in cities (81.2%), followed by Yerevan (80.3%), and in villages, it's 59.0%.

Time availability of pharmacies is very high in Yerevan (96.9%), in cities, it's 96.9%, and in villages, it's 80.7%.

In Yerevan, 58.4% of the population reach a maternity hospital faster than 20 minutes using their usual common transport; In cities and villages, this indicator is 75.5% and 53.9%, respectively.

## **Special topics**

### ***Covid-19 study***

**The incidence:** From March 2020 to August 2022, 19.8% of respondents were infected with COVID-19. 89.0% of those infected with COVID-19 were infected once, 9.8% twice, and 1.2% three or more times. 45.0% of those infected with COVID-19 became ill in 2020, and 44.5% in 2021. Those who were infected in 2022, from January to August, construct 10.0% of all those who fell ill.

The incidence of COVID-19 was relatively higher in Yerevan (26.3%); In urban and rural areas, it was relatively lower (16.9% and 16.3%, respectively). The percentage of people infected with COVID-19 is relatively higher among women (22.7%); This indicator was 16.4% among men. Along with the increase in education level, the incidence of COVID-19 was increasing. Morbidity was comparatively highest in the most prosperous quintile (26.0%). In the remaining quintiles, the incidence was 18-20%.

The incidence of COVID-19 increases with age. If between 15-19-year-olds, it was 7.0%, 24.8% among 50-64-year-olds, and 26.3% among people over 65.

**Testing:** 54.9% of those infected with COVID-19 found out they were sick with COVID-19 by testing on their own, 29.4% were sent for testing by doctors, 1.0% were tested to travel abroad, 2.2% were tested in order to submit a reference to the workplace.

53.1% of those tested did it at their registration polyclinic, 18.0% at a specialized diagnostic center, 6.6% in a private medical center, and 8.3% at home.

The average price of testing in Yerevan was 10,906 AMDs, in villages, 10,266 AMDs, and in cities, 12,267 AMDs. Half of those tested in Yerevan paid 7,500-15,000 AMDs, in cities 8,000-15,000 AMDs, and villages 6,000 - 15,000 AMDs.

**Place of treatment:** 77.6% of those infected with COVID-19 were treated at home, 22.5% in hospital conditions, 16.7% directly in the hospital, and 5.8% first at home conditions, then in the hospital.

The total number of people treated in hospital (those treated in hospital and those treated first at home, and then in the hospital) in different types of residences made up approximately the same percentages. 23.1% of women and 21.3% of men were treated in the hospital. The majority of people treated in the hospital were those with lower than secondary education (33.5%) and secondary education (30.2%); Among

people with higher education, the indicator was 11.2%. A relatively larger number of people treated in the hospital consists of those in the lower quintiles of well-being; 27.9% from the I quintile and 27.6% from the II quintile. The number of people treated in the hospital was the highest among those aged 65 and over (42.3%); Among those aged 50-64, the indicator was 27.3%.

**Treatment at home:** 69.5% of COVID-19 patients treated at home had the opportunity of being isolated from other family members.

The most common form of care for those receiving treatment at home was calling the doctor from the medical center and advising; The doctor of the medical center visited 56.0%-10.6% of patients, and to 10.1%, any acquaintance or medical worker whom the patient found was visited free of charge.

57.7% of patients treated at home are "satisfied" or "rather satisfied" with the support they received from the polyclinic. Nevertheless, it is worth mentioning that 17.9% of patients with COVID-19 didn't receive support from the polyclinics during the illness. By type of residence, 20.6% of patients from Yerevan, 20.8% from cities, and 11.0% from villages didn't receive any support from polyclinic during COVID-19 illness.

**Hospital treatment of COVID-19 patients:** 15.0% of Yerevan residents are hospitalized in marzes to receive treatment for COVID-19, and 55.7% of residents of marzes received hospital treatment in Yerevan.

**Corruption risks during hospital treatment of COVID-19:** In Armenia, hospital care of COVID-19 patients was at the expense of the state budget.

During hospital treatment for COVID-19, patients paid for 5.8% of cases, while 2.0% refused to answer the question if they had made payments while receiving COVID-19 treatment in the hospital. Only 6 respondents paid for hospital treatments; 3 of them paid to the cash register of the hospital, while 5 were paid by hand. 3 of the respondents reported that they had paid 15,000, 30,000, and 40,000 AMDs.

**Vaccinations:** 46.2% of respondents have been vaccinated against COVID-19 from the beginning of the pandemic until August 2022.

Only 0.7% of those who were not vaccinated yet were planning to get vaccinated against COVID-19, and 1.8% answered, "probably yes, they will get vaccinated."

The vaccination rate was relatively higher in **Yerevan** (48.2%); In urban areas, it was 44.9%, and in rural areas 45.3%. The vaccination rate among **men** is higher (48.2%) than among women (44.5%). The highest vaccination rate was among those with higher education (61.2%). Along with the decrease in the level of education, the level of vaccination also decreases. Among those with less than secondary education, it was 27%. Vaccination rates in **disadvantaged** quintiles (I and II) are lower than in more prosperous quintiles (III,

IV, and V). By the age breakdown, the vaccination rate is the highest in the 50-64 age group (53.9%); In the 20-49-year-old, over 65, and 15-19-year-old groups, it was 48.2-49.5%, 41.6%, and 9.5%, respectively.

**Vaccines:** The most common vaccine was Sinopharm (40.0% of all vaccinated people were vaccinated by this), the second was Astrazeneca (19.5%), the third was Sputnik V (17.5%), the fourth was Moderna (15.1%).

**The impact of Covid-19 on the population's mental health:** The average mental health score among COVID-19 patients was 41.5, and among those who did not get sick was 40.2. However, this difference is statistically significant at the  $\alpha \leq 0.05$  level.

### ***Impact assessment of the consequences of the 44-day war***

**Participation in the war:** 5.4% of respondents personally participated in the 44-day war, and 12.4% had a family member who participated in the war.

**War losses:** 18.0% of the respondents who participated in the war or had a member who participated in the war had losses.

The most common type of loss was property damage, which was experienced by 43.2% of the respondents. Percentages were calculated from the number of people who participated in the war, or whose family members participated in the war, and whose families suffered losses as a result of the war. A member of your family was injured during the war, but the injuries are reparable (40.1%). 35.8% permanently left their residential areas. 19.3% reported having a family member who was seriously injured and suffered irreparable health damage. 15.2% temporarily moved from their residence.

Among those who personally participated in the war, 63.6% (11 people) were wounded, but the injuries received were recovered or could be recovered, and 18.4% (3 people) received irreparable health damage as a result of a serious injury.

**Compensation for war losses:** 21.0% of the respondents who took part in the war or have a family member who took part in the war know what compensation is considered for them or their families by the government. 24.7% know partially, and 54.3% don't know.

**Sources of the first information about compensation:** The most prevalent (33.1%) were personal contacts (acquaintances, friends, employees, neighbors), television (22.4%), Ministry of Defense (15.5%), Internet (11.4%), Ministry of Labor and Social Affairs (1.6%), and other governmental bodies (5.0%).

**Those who received compensation:** From the number of people who participated or whose family members participated in the war and, at the same time, whose families suffered losses as a result of the

war, 64.2% received monetary compensation. 54.7% of them received full compensation, while 9.5% received it partially.

7.2% of those who participated in the war or whose family members participated in the war received psychological support from any governmental body.

The number of people who received monetary support from any private or public organization (people who participated or whose family members participated in the war) was 16.1%.

The number of people who received professional psychological support (people who participated or whose family members participated in the war) from any private or public organization was 3.6%.

**The psychological impact of the 44-day war:** The mean level of depression among war veterans (36.04) is statistically significantly more favorable (lower) than among those who have a family member who participated in the war (41.37) and those who didn't participate and don't have a family member who participated (40.64).

The level of depression among those who suffered losses in the war is statistically significantly higher (43.0) than those who personally participated in the war or had a family member participate in the war but didn't have losses as a result of the war (39.01).

### ***Health information sources***

**More common sources:** More common sources of health information are personal acquaintances, relatives, friends, co-workers (36.2%), known doctors (35.5%), television (31.9%), Facebook (25.0%), and local therapist/family doctor (24.1%).

The most reliable sources are known doctors (89.3%) (from the number of people for whom known doctors are a source of health information), local therapist/family doctors (80.1%), the Ministry of Health website (59.3%), and relatives, friends, and employees (50.8%).

**Health-related television programs:** One-third of the respondents had watched a health TV program the day before the survey, half had watched it in the last two days, two-thirds had watched it in the last three days, and about 80% had watched it in the last 6 days.

## **HSPA 2022 elective research description**

### **Option description**

**The study population is:** The population of Armenia aged 15 years and above.

**The study sampling:** Multistage stratified random cluster.

**The sample unit is:** The household.

**The sample size:** 2500 households.

**The research unit is:** The person. In each household one randomly selected person will be interviewed.

**The sample selection consists of:** 10 sex-age groups.

**Age groups:** 15-19, 20-34, 35-49, 50-64, and over 65. The sample size in each sex-age group is 250.

**Sampling quotas** will be maintained within the clusters from which households were selected.

**The number of clusters:** 250.

The selected number of household addresses in clusters: 10.

## **Sampling method**

A multilevel stratified cluster sample was formed:

The study settings were the polling stations defined by the Central Electoral Commission in 2021, which are proportionally distributed in the urban and rural areas of the Republic of Armenia.

Based on the defined sample size of 2500 households, the entire population was divided into 250 clusters (10 households in each cluster).

**In the first step of the sampling:** The distribution of clusters was carried out according to marzes/Yerevan communities, using the cumulative method proportional to the population.

**In the second step,** the geographic location of the cluster was randomly selected, that is, a polling station corresponding to the number of clusters that were randomly selected in each region/Yerevan community. Then, 10 household addresses were randomly selected from the complete list of households in the polling station.

If it wasn't possible to conduct an interview in the household due to the refusal or absence of household members, the immediate next house was selected for the interview using the zigzag method.

Within each household, the study participants were selected according to quotas assigned to 10 sex-age groups. The sample size in each sex-age group will be, on average 250 people.



In each household, when the respondent belonged to the age group above 35, a second visit was conducted to perform laboratory measurements.

Since equal quotas were set for the sex-age groups for the survey, after sampling, it was weighted so that the volumes of the sex-age groups corresponded to the proportions of the Armenian population aged 15 and above reported by the RA National Statistical Committee 2021.

## **Data verification**

The process and the quality of Interviews were controlled using the following methods:

- 20% of the households who participated in the survey were randomly selected to be included in the checklist through phone calls,
- surveys and anthropometric measurements and subsequent blood cholesterol and glucose measurements unconditionally were done by different interviewers, as a result of which it was possible to cross-check their performance,
- The coordinators/supervisors of the fieldwork checked the completed questionnaires. As a result, some of the completed questionnaires were deleted. Some of the incomplete questionnaires were corrected (completed) by the coordinator and supervisors by talking and asking for clarifications of the questions from the respondents personally.

Along with the survey, telephone and face-to-face discussions with interviewees and their instructions were conducted in order to share accumulated experience and correct and improve current processes.

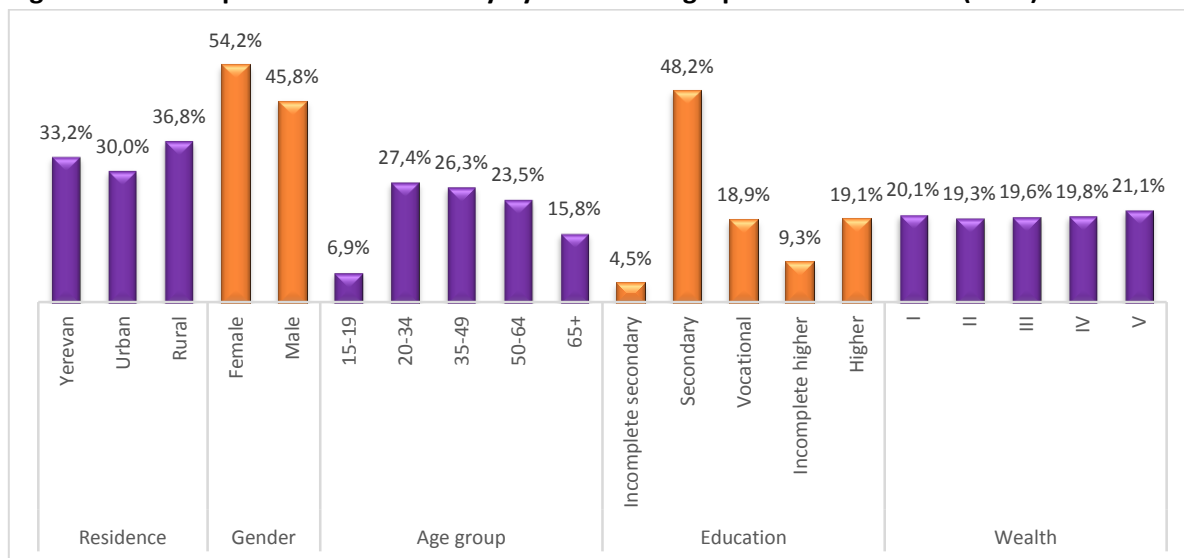
## **Socio-demographic characteristics of the sample**

The report considered health indicators in 5 socio-demographic groups: gender, age, educational level, welfare, and residency type.

In order to get an adequate idea about the value of the index in any category of the mentioned groups, it is important to know the number of people in those categories. Figure 1 and Table 1 show the percentages and sample units of the population in each category. Since the sample is balanced, both weighted and unweighted sample scores are given.

The survey data were calculated using a balanced database.

**Figure 1. The sample of the HSPA survey by socio-demographic characteristics (2022)**



**Table 1. Sample description of the HSPA survey (2022)**

Characteristic	Category	Percentage	Weighted quantity	Initial quantity
Residence	Yerevan	33.2%	830	831
	Urban	30.0%	749	748
	Rural	36.8%	920	923
	<b>Total</b>	<b>100.0%</b>	<b>2,500</b>	<b>2,502</b>
Gender	Female	54.2%	1,355	1,264
	Male	45.8%	1,144	1,238
	<b>Total</b>	<b>100.0%</b>	<b>2,500</b>	<b>2,502</b>
Age	15-19	6.9%	173	495
	20-34	27.4%	686	497
	35-49	26.3%	658	500
	50-64	23.5%	589	509
	65+	15.8%	394	501
	<b>Total</b>	<b>100.0%</b>	<b>2,500</b>	<b>2,502</b>
Education*	Less than secondary	4.5%	112	159
	Secondary	48.2%	1,204	1,264
	Vocational	18.9%	471	449
	Incomplete higher	9.3%	233	215
	Higher	19.1%	477	413
	<b>Total</b>	<b>100.0%</b>	<b>2,497</b>	<b>2,500</b>
Wealth*	I	20.1%	342	324
	II	19.3%	329	324
	III	19.6%	334	324

	IV	19.8%	338	324
	V	21.1%	360	323
	<b>Total</b>	<b>100.0%</b>	<b>1,704</b>	<b>1,619</b>
* The database was missing two respondent's education levels and 883 respondent's data on their monetary expenditures, which were used to delimit wealth quintiles.				

### **The selected study's questionnaire**

The survey questionnaire is given in the "Appendix: Research Questionnaire" section (page - 228 -).

The structure of the HSPA 2022 report repeats the structure of the Questionnaire.

## Population health assessment

### General assessment of health by SF-12 tool

The assessment of the general state of health was conducted using the “Questionnaire for the assessment of health and quality of life SF-12” recommended by the WHO, which consists of eight components (domains) that describe 4 aspects of physical and mental health of the population. Self-assessment of health is performed by this tool.

SF12 domains:

Components of physical health:

1. **General health** (gh)
2. **Physical functioning** (functionality)(pf)
3. **Role-physical** (rp)
4. **Bodily pain** (bp)

Components of mental health:

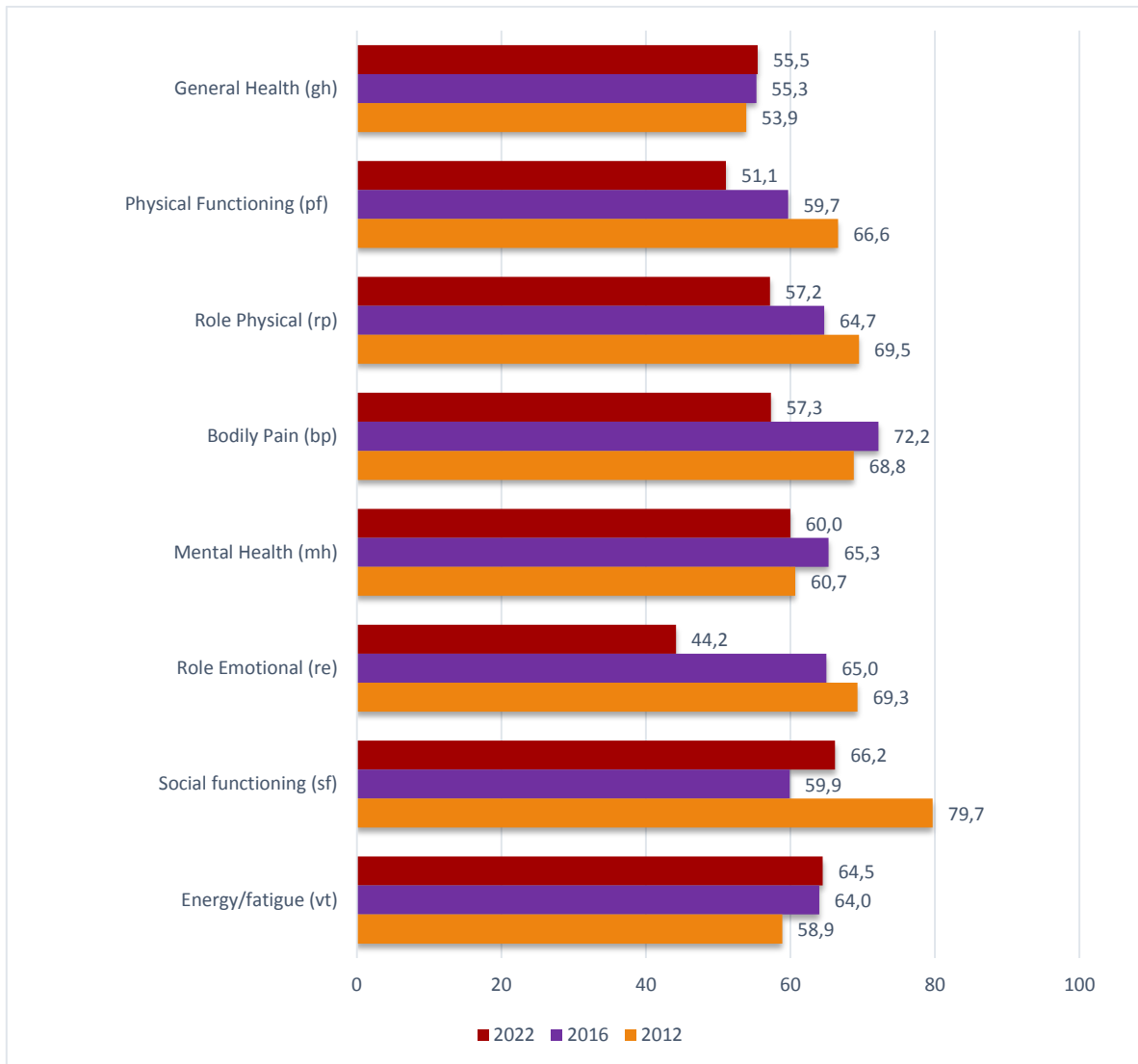
5. **Mental health** (mh)
6. **Role-emotional** (re)
7. **Social functioning** (sf)
8. **Energy/fatigue** (vt)

The values of all presented components can be changed in the range (0-100), where 0 is the worst state of the component and 100 is the most favorable.

Health status estimates of the population in 2012, 2016, and 2022 are depicted in Figure 2. For generalized interpretation of the data, the range of values was divided into 5 ranges:

1. Very low range [0-20),
2. Low range (20-40]
3. Moderate range (40-60]
4. High range (60-80),
5. Very high range (80-100).

**Figure 2. Health assessment (SF-12) 2012, 2016, 2022**



The main points emerging from the data in Figure 2 are:

- In 2022, none of the SF-12 domains was in the range of very high values.
- The domains of social functionality (sf) and energy/fatigue (vt) have very high values. The mental health (mh) domain is on the border between the medium and high domains.
- The physical component of the role physical (rp) and body pain (bp) domains are in the upper part of the middle domain. Also, the domains of general health (gh), physical functioning (pf), and the emotional component of role emotional (re) are in the middle range.
- There are no domains in low and very low ranges.

Observing the dynamics of domain levels shows that:

- From 2016 to 2022, the scores of five domains (physical functioning (pf), functional component of role physical (rp), role emotional (re), bodily pain (bp), and mental health (mh) decreased over time.
- The social functionality (sf) score of one domain has increased.
- The scores of two domains (general health (gh) and energy/fatigue (vt)) remained approximately at the same level.

## **Prevalence of health conditions**

Within the HSPA assessment, the general health condition of the population is also assessed by studying the prevalence of several disease states and symptoms. Prevalence is studied by the following question: “During the past month, have you had [disease condition/symptom]”.

The following 13 symptoms were studied: Headache, back pain, joint pain, sleeplessness, neck/shoulder pain, pain in chest when walking or doing other movements, toothache, severe mental depression, depression, edema of legs, dilatation of veins, constipation, dermatoses.

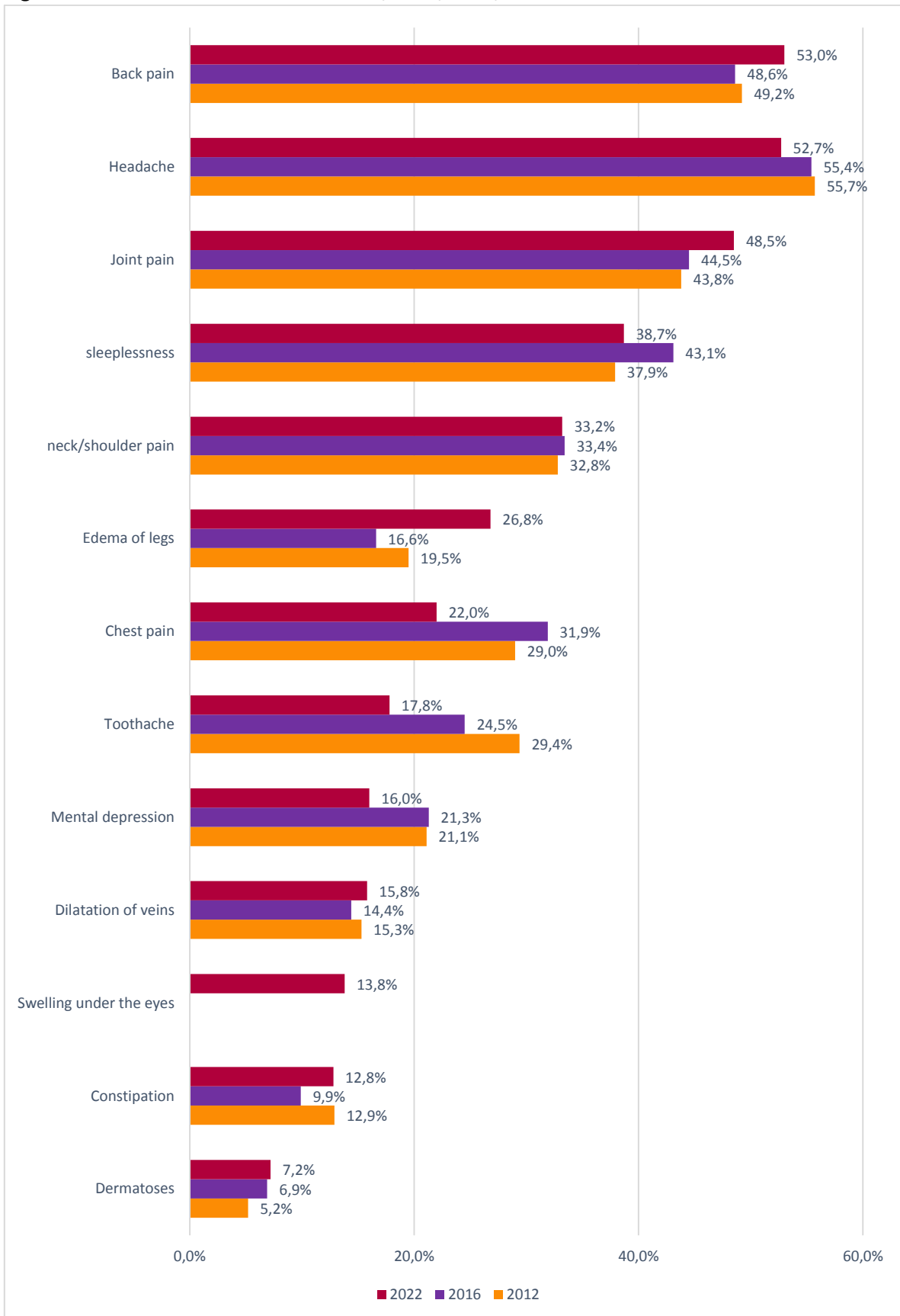
The same scale as the SF-12 health assessment instrument was used to formally assess the prevalence of symptoms and medical conditions.

1. Very low range [0-20),
2. Low range (20-40]
3. Moderate range (40-60]
4. High range (60-80],
5. Very high range (80-100).

However, the conceptual values of the prevalence of symptoms should be assessed by health professionals and physicians. In addition, it’s clear that in the case of conceptual assessments, it’s not impossible that the same prevalence levels of two symptoms, the prevalence of one, are assessed high or very high, and the other is low or very low.

The prevalence estimates of the most common diseased conditions and symptoms in the population of 2012, 2016, and 2022 are provided in Figure 3.

**Figure 3. Prevalence of health conditions, 2012, 2016, and 2022**



The main conclusions drawn from the data in Figure 3 are:

- Within the applied scale, the prevalence of non of the symptom is in the range of high or very high scores.
- The prevalence of back pain, headache, and joint pain are in the median range.
- Sleeplessness, neck/shoulder pain, edema of legs, and chest pain are in the low prevalence range.
- Depression, dilatation of veins, eye swelling, constipation, and dermatoses are in the very low range.

According to the data in Figure 3, the observation of the dynamics of the prevalence of morbid conditions gives the following results.

- During the 2012-2022 period, the prevalence of headaches and toothache decreased monotonically.
- During the 2012-2022 period, the prevalence of joint pain and dermatoses increased monotonously,
- In 2022, the prevalence of sleeplessness, chest pain, and depression decreased compared to 2016.
- In 2022, the prevalence of back pain, edema of legs, dilatation of veins, and constipation increased compared to 2016.

The prevalence of diseases and symptoms by the socio-demographic group in 2022 are provided in Tables 2 and 3. The boxes in the tables are colored; The red-shaded boxes correspond to high values of the index and the blue ones to low values. The darker red the color of the box, the higher its index. The darker the blue color of the box, the lower the indicator.

**It should be noted that the colors are comparable only according to the lines** so that the high and low values of the given diseases can be clearly separated in the socio-demographic groups.

The general picture of the data, according to the colored boxes of the table, is as follows:

- The prevalence of diseases is relatively low in Yerevan,
- It's higher among women,
- It's lowest in the youngest age group (15-19) and increases along with age,
- Is relatively lower in groups with high education (note that people with incomplete higher education are mostly young students),
- Relatively higher in lower welfare quintiles.



**Table 2. Prevalence of health conditions, according to sociodemographic characteristics, %, 2022**

Condition	Residency type			Gender		Age group				
	Yerevan	Urban	Rural	F	M	15-19	20-34	35-49	50-64	65+
Chest pain when walking or doing other movements	18.2	24.0	24.0	23.1	20.8	4.2	12.9	22.7	30.3	32.5
Joint pain	44.4	49.7	51.2	56.6	38.8	13.9	29.5	50.7	62.0	72.8
Back pain	45.9	54.8	58.0	60.5	44.3	25.8	37.3	59.6	65.3	63.1
Neck/shoulder pain	30.6	36.1	33.2	39.7	25.5	9.9	21.0	35.7	45.1	42.8
Edema of legs	25.5	28.3	26.7	33.8	18.4	3.9	12.3	26.6	38.0	45.4
Swelling under the eyes	11.9	15.9	13.8	17.0	9.9	5.1	7.5	12.9	20.3	20.1
Dilatation of veins	14.1	16.3	16.9	23.7	6.4	0.4	5.3	15.4	24.7	28.1
Dermatoses	8.0	7.2	6.5	7.4	7.0	6.2	7.4	7.6	6.9	6.9
Constipation	13.6	13.4	11.4	14.6	10.6	6.1	8.7	10.4	15.5	22.7
Headache	50.6	50.3	56.5	58.7	45.5	35.9	49.4	59.2	54.8	51.6
sleeplessness	33.9	42.8	39.6	42.2	34.5	14.7	27.6	36.1	52.2	52.6
Mental depression	15.2	17.1	16.0	20.7	10.5	5.7	12.7	16.6	21.0	18.0
Toothache	14.0	18.4	20.8	19.5	15.9	18.6	23.6	22.5	13.7	5.9

**Table 3. Prevalence of health conditions, according to sociodemographic characteristics, %, 2022**

Condition	Education					Welfare quintile					Total
	IS	Sec	Voc	IH	Higher	I	II	III	IV	V	
Chest pain when walking or doing other movements	22.4	25.8	22.2	14.8	16.1	25.3	25.3	18.5	22.2	18.4	21.9
Joint pain	50.1	51.9	52.3	34.3	42.9	55.2	55.5	45.8	49.7	48.2	50.9
Back pain	54.6	56.9	56.0	43.0	45.1	62.0	55.8	47.5	52.6	52.1	54.0
Neck/shoulder pain	34.4	34.3	34.5	31.8	29.9	35.4	34.5	30.1	35.1	30.9	33.2
Edema of legs	34.5	28.2	29.2	19.9	22.0	30.0	33.1	24.8	25.5	20.6	26.7
Swelling under the eyes	13.5	14.3	12.0	13.1	14.6	14.5	13.9	11.3	14.4	13.9	13.6
Dilatation of veins	15.0	15.6	20.3	12.7	13.6	19.9	17.6	10.0	19.0	14.0	16.1
Dermatoses	7.6	7.6	7.2	5.5	6.9	6.2	9.0	5.5	8.2	6.7	7.1
Constipation	16.9	12.9	13.1	8.6	13.3	15.0	15.6	7.8	9.8	12.6	12.2
Headache	58.8	53.7	52.5	53.3	48.4	60.0	51.2	50.5	57.3	52.6	54.3
sleeplessness	47.1	38.9	42.5	30.3	36.4	45.6	43.3	32.1	39.3	36.9	39.4
Mental depression	12.2	18.2	17.4	10.3	13.0	24.1	18.3	11.5	15.2	12.5	16.3
Toothache	13.0	19.9	15.4	18.5	15.9	21.1	21.9	15.5	21.7	19.4	19.9

## Mental health

In terms of the population's general health, the mental health condition of the population was studied in the HSPA in 2016 and 2022. This was done with the Zung Depression Scale (see Appendix for Questionnaire), developed by Duke University psychiatrist William Zung (1929-1992) to assess the degree of depression among patients diagnosed with depressive disorders.

The Zung Scale is a twenty-item questionnaire used as a screening tool that captures the emotional, psychological, and somatic symptoms of depression. Ten of the questions contain positive statements, and ten contain negative statements. Answer options for the questions are:

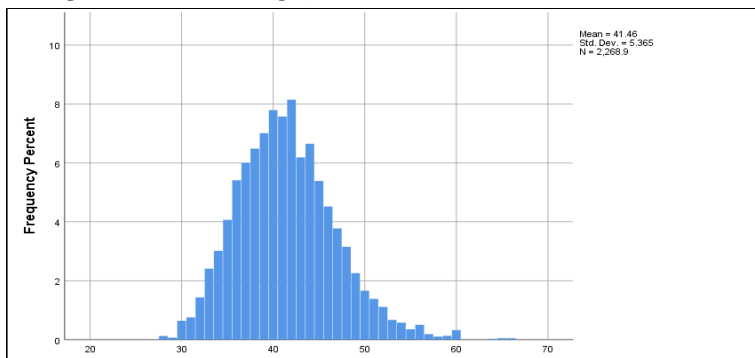
1. Rarely or never
2. Sometimes
3. Often
4. very often or always

Using the answers of the respondents, a total cumulative scale is formed with the range of 20-80. The scale is divided into four ranges:

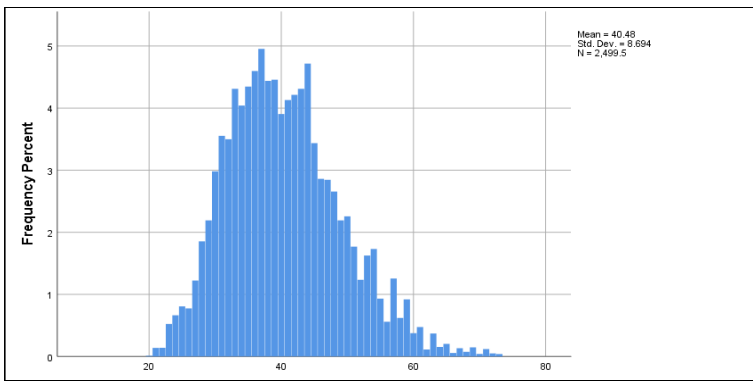
- 20-44 normal range,
- 45-59 mildly depressed,
- 60-69 moderately depressed,
- 70 and above, severely depressed

The distribution of mental health scores across the entire studies of 2016 and 2022 is shown in Figures 4 and 5.

**Figure 4. Distribution of depression assessments in 15 and older population according to Zung scale (scale changed in 20-100 range), 2016**



**Figure 4. Distribution of depression assessments in 15 and older population according to Zung scale (scale changed in 20-100 range), 2022**



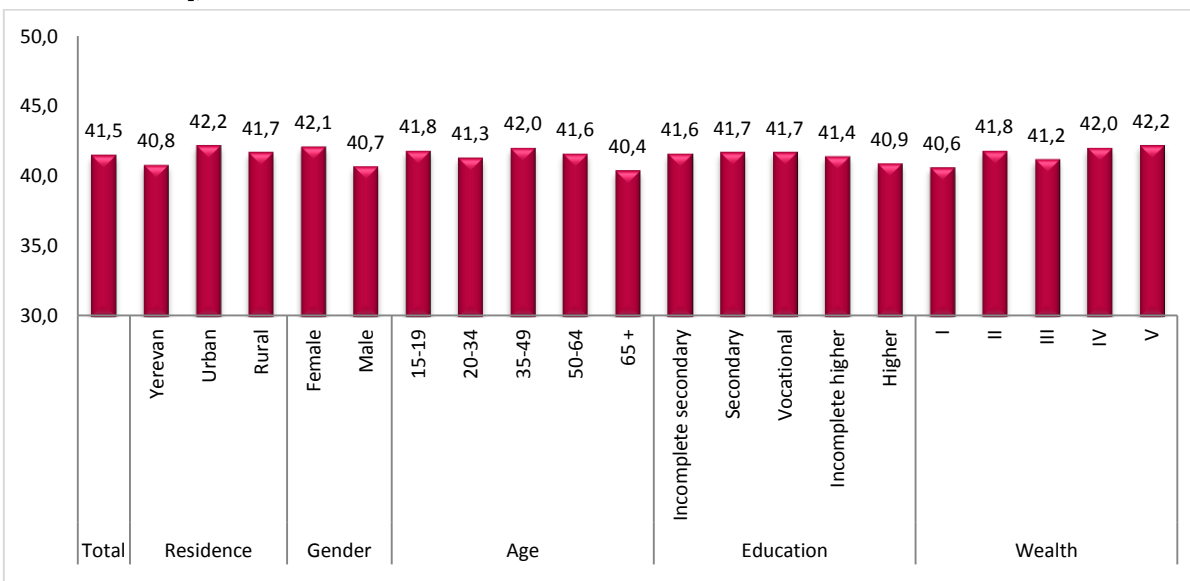
The Kolmogorov-Smirnov test showed that both distributions are normal distributions. In both cases, the significance level of the test was 0.000.

- **The average value of mental health scores among the population of Armenia aged 15 and above was 41.46 in 2016, and 40.81 in 2022, according to the Zung scale.**

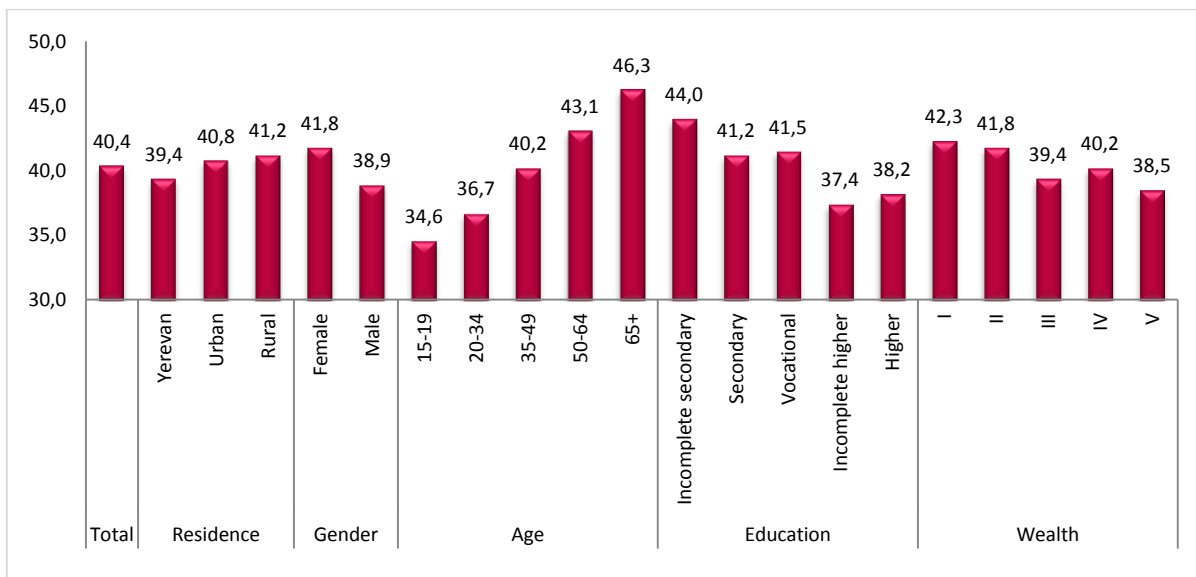
The study showed that distributions of mental health scores in all socio-demographic groups (gender, age, education, well-being, type of residence) are also normally distributed, therefore comparison of average values of these scores is permissible.

Average values of mental health assessments in socio-demographic groups in 2016 and 2022 are provided in Figures 6 and 7, respectively.

**Figure 6. Mean values of mental health assessment according to socio-demographic groups, [ranges between 20-80], 2016**



**Figure 7. Mean values of mental health assessment according to socio-demographic groups, [ranges between 20-80], 2022**



A general visual comparison of the graphs shows that in 2022, compared to 2016, the average values of mental health scores in socio-demographic groups have a significant larger dispersion, they differ from each other to a greater extent. It's possible that it's a consequence of the fact that the epidemic of COVID-19 and the 44-day war that started in 2020 had different effects on socio-demographic groups.

It's obvious from Figure 7 that in 2022:

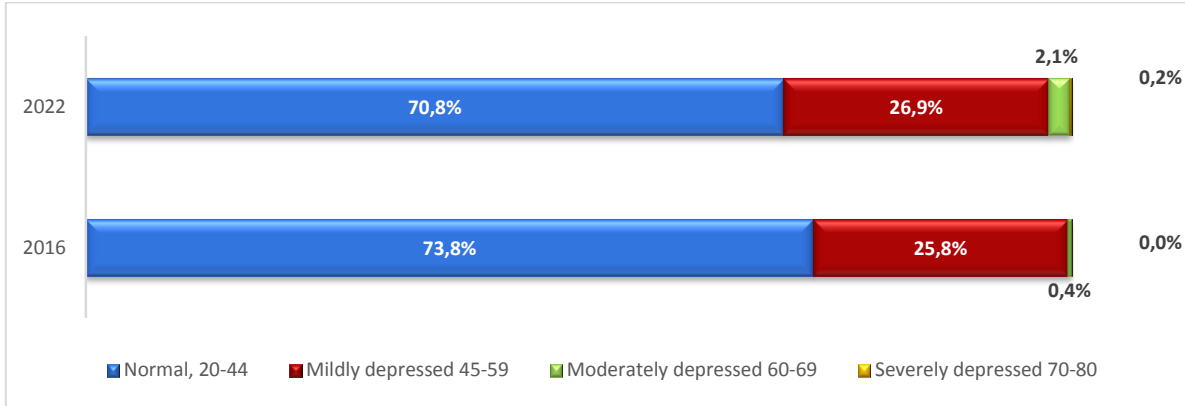
- The 60+ population is mildly depressed (46.3), while all other socio-demographic groups have a normal mental condition; Although the mental health scores in these groups (except for the younger age groups) are in the upper part of the normal mental health range.
- The level of depression is relatively higher in villages,
- Increases rapidly with increasing age,
- Decreases along with the increase in educational level,
- Decreases along with the increase in well-being.

The distribution of the population according to the classification of the Zung scale gives a different idea about the population's mental health:

- A segment of people with **normal mental health**, whose score is in the range of [20-44],
- A segment of **mildly depressed** individuals whose mental health score is in the range of [45-59]
- A segment of **moderately depressed** individuals whose mental health score is in the range of [60-69], and
- A segment of **severely depressed** individuals whose mental health score is in the range of [70-80].

The values of mental health scores in different segments in 2016 and 2022 are given in Figure 8.

**Figure 8. Mental health segments in 2016 and 2022**



- **The graph shows that in 2022 (compared to 2016), the relative number of Armenian people with mild and moderate depression increased slightly by 1.1% and 1.7%, respectively.**

Segmental distributions of mental health scores in separate socio-demographic groups in 2016 and 2022 are presented in Figures 9 and 10, respectively.

**Figure 9. Prevalence of depression according to sociodemographic groups, 2016**

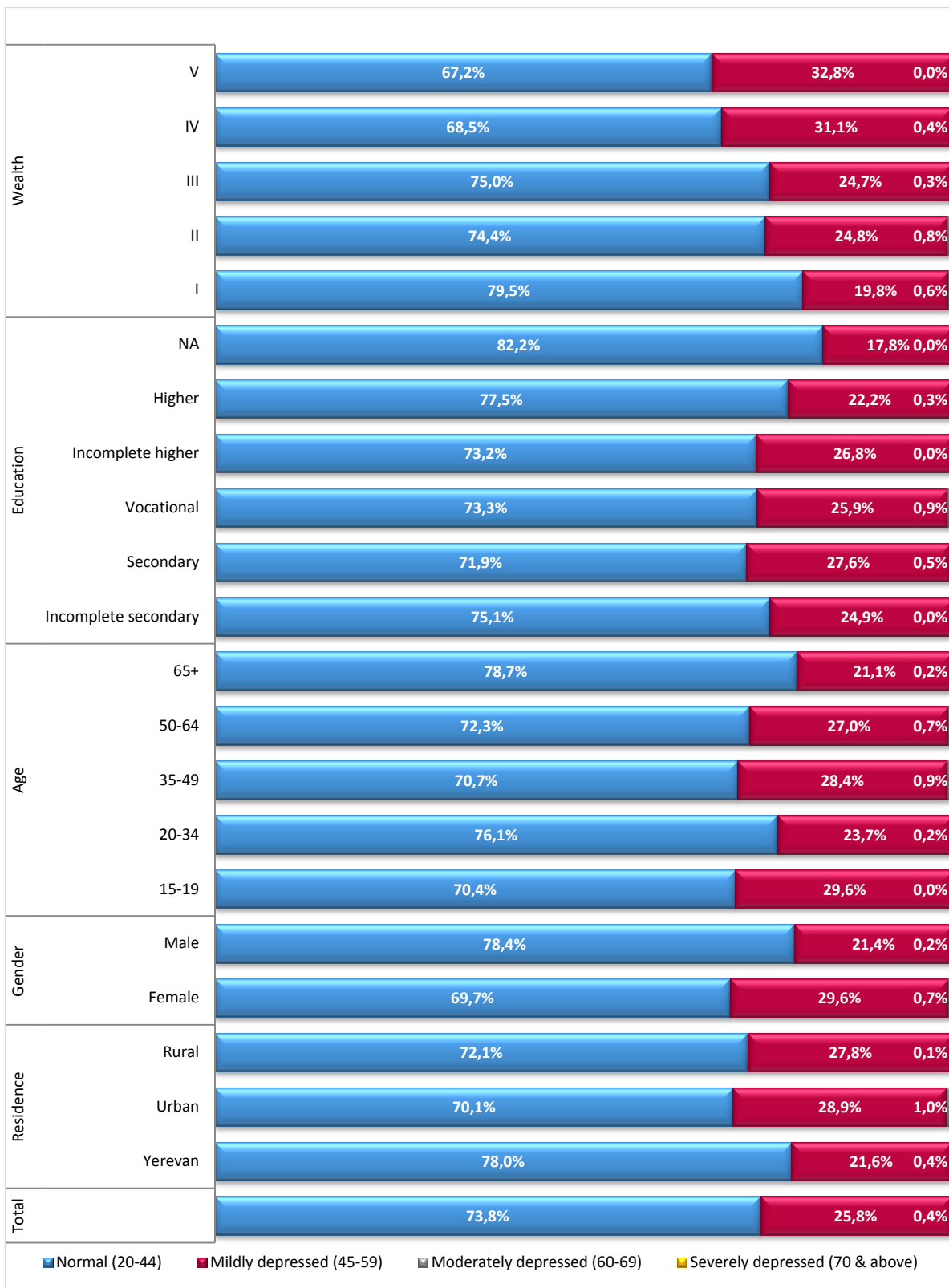
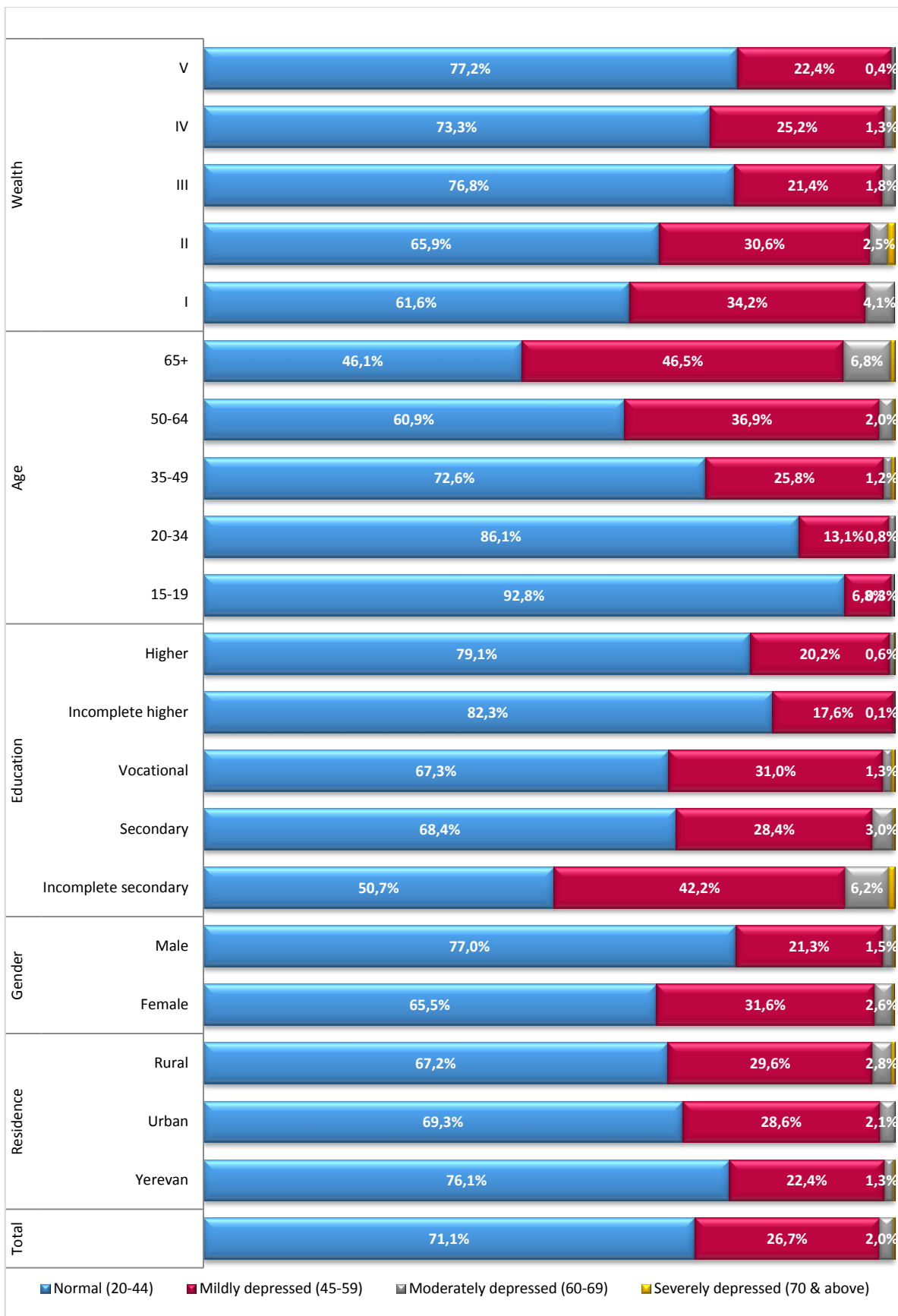


Figure 10. Prevalence of depression according to sociodemographic groups, 2022



The data in Figure 10 show that:

- **Wealth:** Depressive conditions predominate in the lower welfare quintiles (I and II) and are relatively lower in the higher welfare quintiles.
- **Age:** Depressive conditions are the lowest in the youngest 15-19-year-old group (about 7.1%) and monotonically increase with age, reaching 53.9% in the 65+ age group. It should be noted that the average level of depression is the highest in that age group (6.8%).
- **Education level:** Depressive mental conditions are very high in the group with the lowest educational level (49.3%). Depression decreases along with the increase in the level of education; It's 31.6% and 32.7% in the age groups with incomplete secondary and middle vocational levels, respectively, and 20.9% in the higher education group. The stratum with incomplete higher education is mainly composed of students (young people), therefore their low prevalence of depression (17.7%), is mostly because of younger age than the lower level of education.
- **Gender:** Depressive conditions are more common among women (34.4%). The prevalence of depression among men is 23.0%.
- **Type of residence:** The prevalence of depression is lower in Yerevan (23.9%) than in cities (30.7%) and villages (32.9%).
- Moderate depression is relatively more common in the most disadvantaged group (4.1%), in the highest age group (6.8%), and in the lowest education group (6.2%).

### **Estimating the prevalence of chronic diseases**

Another estimate of the population's general health is the prevalence of chronic diseases diagnosed by a doctor during the last year among the population aged 15 and older. The prevalence of chronic diseases in 2012, 2016 and 2022 are presented in Figure 11.

According to the chart, the most common diseases diagnosed by a physician in 2022 were heart diseases (15.8%), arterial hypertension (AH) (15.2%), vision disorders (14.0%), nervous diseases (12.0%), gastrointestinal diseases (11.9%), and Covid-19 (11.0%).

In 2022, the number of cases diagnosed by a doctor increased significantly for all observed diseases. The increase in physician-diagnosed diseases in 2022 (compared to 2016) is provided in Figure 12. The data show that among the diseases diagnosed by a doctor, the largest relative increase occurred in the following diseases: Diabetes mellitus (3.27 times), liver diseases (2.00 times), asthma (2.00 times), gastrointestinal diseases (1.98 times), ears nose throat (ENT) diseases (1.95 times), and thyroid (1.94 times).

**Figure 11. Most prevalent diseases diagnosed by a doctor in 15 and older population, 2012, 2016, 2022**



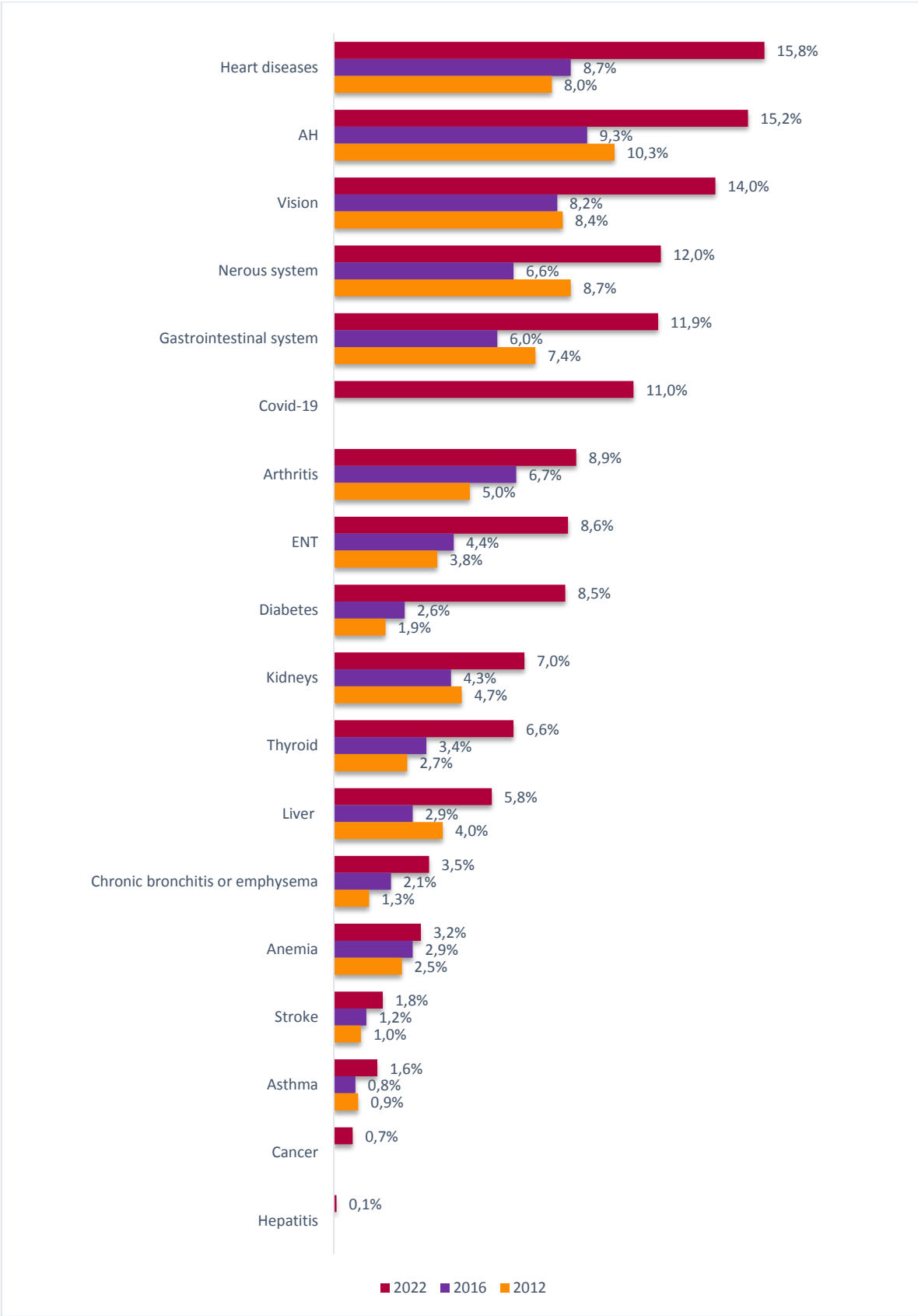
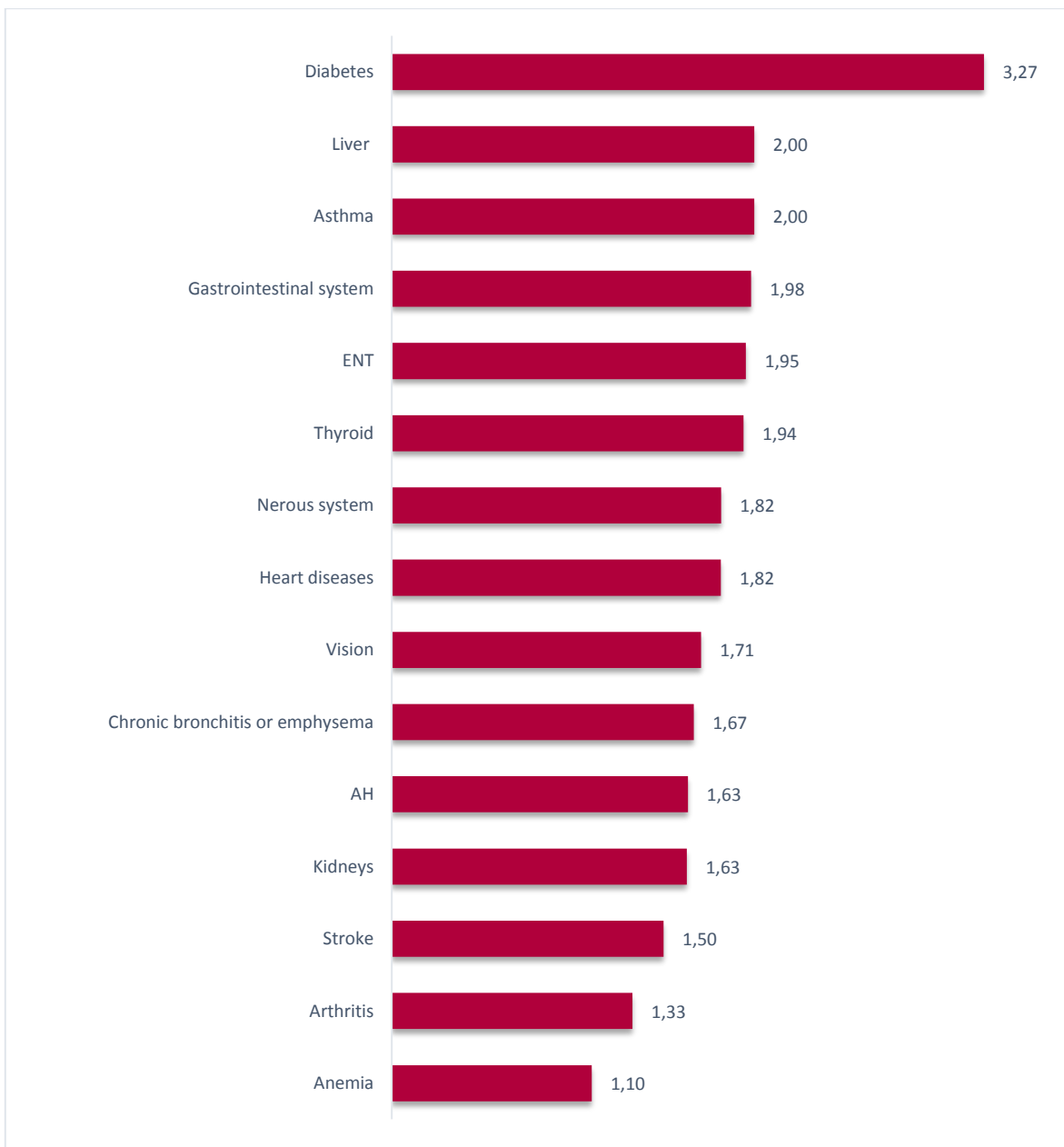


Figure 12. Increase in physician-diagnosed diseases in 2022 compared to 2016

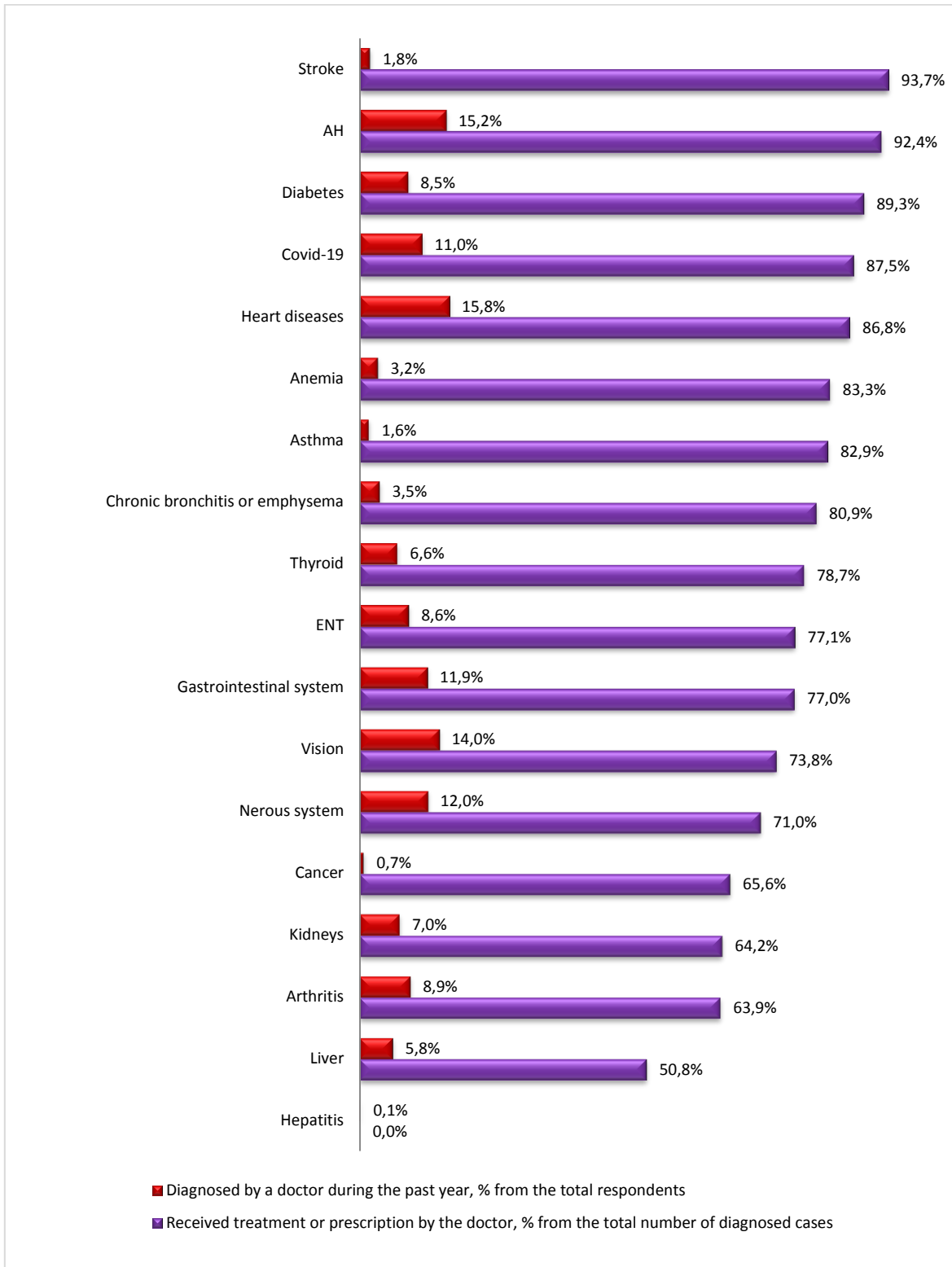


In addition to revealing the number of diseases diagnosed by the doctor during the last 12 months, the number of prescribed medicines by the doctor in the case of diagnoses was also calculated. That data is provided in Figure 13.

The chart shows that 80 percent or more of patients diagnosed with a stroke, arterial hypertension, diabetes, COVID-19, heart disease, anemia, asthma, and chronic bronchitis were prescribed medication.

Also, 70-80% of patients diagnosed with thyroid, ears nose throat diseases, gastrointestinal diseases, visual diseases, and nervous system diseases were prescribed drug treatment.

**Figure 13. Proportion of patients who receive treatment for most prevalent diseases diagnosed by a doctor or who are prescribed drugs (% from the total number of diagnosed cases) during the last year, 2022**



## Prevalence of risk factors

According to evidence-based medicine data, NCD development largely depends on one's lifestyle and the specifics of present risk factors that can trigger the development of these diseases. As WHO data witness, NCD development is strongly linked to the negative spin-off of smoking tobacco, alcohol abuse, unhealthy diet, lack of physical activity, hypertension and other harmful factors.

The following risk factors were studied in the HSPA (2022) study:

1. **Biological**, including
  - 1.1. Hypertension
  - 1.2 High cholesterol level
  - 1.3 High glucose level
  - 1.4 Being overweight
2. **Behavioral**, including
  - 2.1 Tobacco use
  - 2.2 Alcohol use
  - 2.3 Lack of physical activity
  - 2.4 Abuse of salt
  - 2.5 Consumption of fats
  - 2.6 Consumption of fruits and vegetables
  - 2.7 Dependence on the screen/internet
3. **Domestic** risk factors, including
  - 3.1 Air pollution, water and soil contamination, as well as radiation – outside the houses
  - 3.2 Toilets, wastewater disposal, house heating – within the houses

Presence of risk factors was defined based on below criteria and methodology.

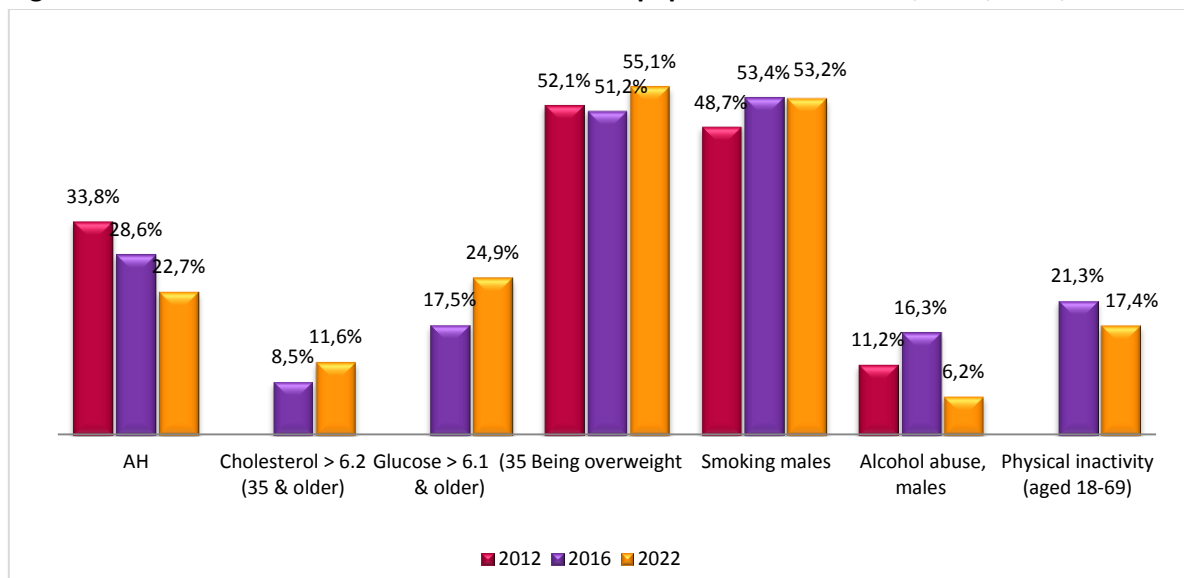
- **Arterial hypertension:** During the research it was performed on the right and left hand. AH was measured based on oscillometric method with an automatic blood pressure device OMRON S1. The presence of high blood pressure in the respondent was identified as follows: 1. When readings of two measurements of each arm show systolic level exceeding 140 mmHg, then AH is present regardless of the mean value of diastolic pressure measurements, 2. If the average value of diastolic pressure is greater than 90, then there is hypertension, regardless of the average value of systolic pressure.
- **Level of cholesterol:** The total content of cholesterol in capillary blood was defined after 10- 12 hour of fasting using Accutrend Plus– cholesterol meter and disposable test strips.

- **Level of glucose:** More than 6.1 mmol/L glucose in the blood is considered an excess level of glucose (accepted by the WHO). The content of glucose in capillary blood is defined after a 10-12 hour fasting using ACCU-CHECK Performa– glucometer and disposable test strips.
- **Being overweight:** Was defined through anthropometric measuring of respondent’s height and weight to calculate their body mass index (BMI) according to the formula:  $BMI=W/H^2$  [kg/m<sup>2</sup>]. WHO has defined the following BMI categories:
  - Underweight, when  $BMI \leq 18.5$  kg/m<sup>2</sup>
  - Normal weight, when BMI ranges from 18.5 to 25.0 kg/m<sup>2</sup>
  - Overweight, when BMI varies between 25.0 and 30.0 kg/m<sup>2</sup>
  - Obesity, when  $BMI \geq 30.0$  kg/m<sup>2</sup>
- **Tobacco use:** The main indicator is the number of daily smokers. Assessed based on the WHO’s international questionnaire.
- **Abuse of alcohol:** Was identified according to the WHO’s methodology. Those who consume the daily equivalent of 20 g or more of pure alcohol consider alcohol abusers.
- **Physical inactivity:** The main indicator is the number of physically inactive people. According to the World Health Organization, a person aged 18-64 years is physically inactive if he/she engages in less than 150 minutes of moderate and/or heavy physical work per week<sup>2</sup>.

### Prevalence of risk factors

Figure 14 presents the prevalence of risk factors in Armenia in 2012, 2016, and 2022. Data are missing in the chart if the given factor wasn’t assessed in the survey of the given year.

**Figure 14. Prevalence of risk factors in 15 and older population of Armenia, 2012, 2016, 2022**



**Prevalence of high blood pressure:** From 2012 to 2022, it decreased from 33.8% to 22.7% monotonously.

**Level of cholesterol:** The number of people aged 35 and older with blood cholesterol levels above 6.2 mmol increased from 8.5% to 11.6% from 2016 to 2022.

**Glucose level:** The number of people aged 35 and older with blood glucose levels above 6.1 mmol increased from 17.5% to 24.9% from 2016 to 2022.

**The number of people with excess (overweight or obesity) weight** in 2022 was 55.1%, which is slightly higher than in 2012 (52.1%) and 2016 (51.2%).

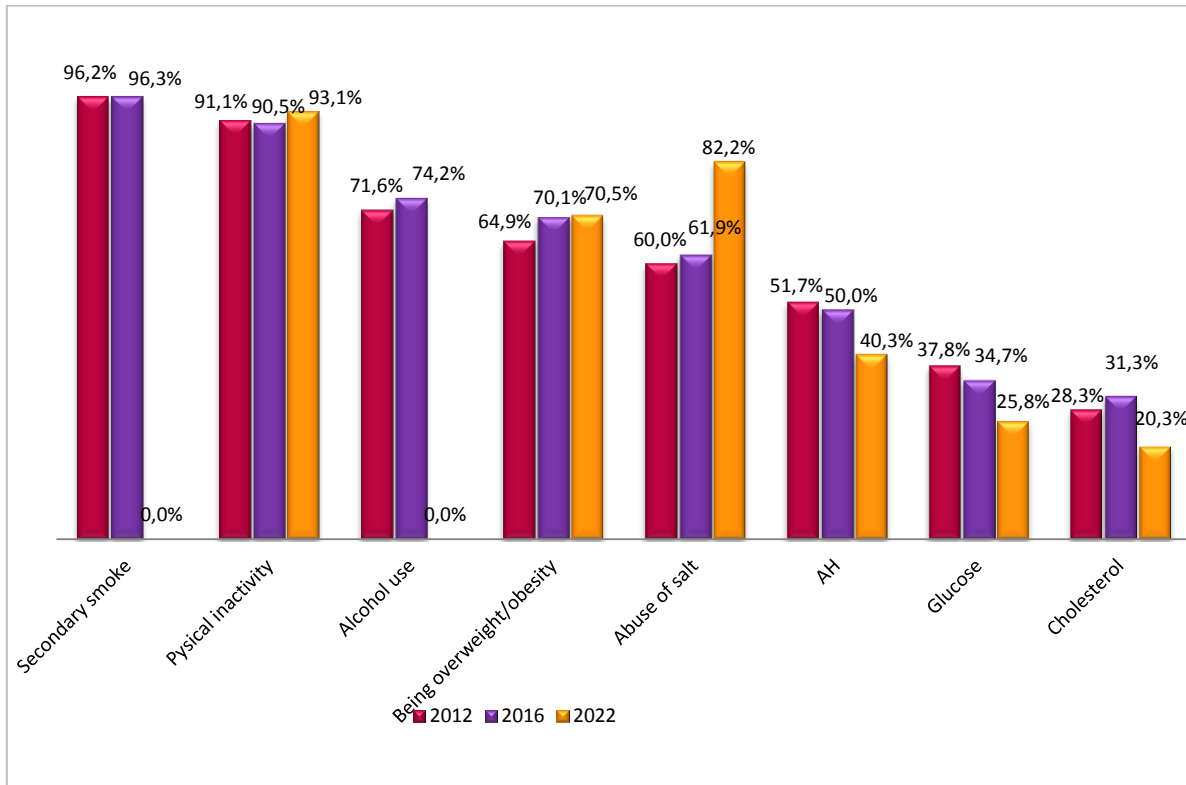
**The number of daily smoker men** was 53.2% in 2022, which is about the same as in 2016 (53.4%).

**Alcohol abuse among men:** The number of people who consume alcohol equivalent to 20 grams of spirit per day in 2022 (compared to 2016) significantly decreased from 16.3% to 6.2%.

**Physical inactivity:** According to the STEPS methodology, the number of physically inactive people decreased from 21.3% to 17.4%. The data was taken from Armenia in 2016 from the “National Research Institute STEPS, Armenia, 2018” study carried out from September to December (page 172). The indicator of that study was calculated for people aged 18-69 (although the WHO set the standard for people aged 18-64). For the comparability of the data, the number of physically inactive people in the figure (17.4%) is also calculated for the 18-69-year-olds. In the “Physical activity” (page 9) paragraph, that indicator was calculated according to WHO norms, for people aged 18-64; It was 17.3%, which essentially isn’t different from the value given in Figure 14.

People's knowledge level regarding the harmful effects of risk factors (in 2012 and 2016) is given in Figure 15. The level of awareness was assessed by asking, “Do you think [the risk factor] is harmful to a person's health?” The chart shows the percentage of those who answered “Yes” out of all respondents. In 2022, was assessed the knowledge level of the harmful effects of salt abuse, high blood pressure, and high levels of glucose and cholesterol.

**Figure 15. RA population's knowledge regarding harmfulness of risk factors, 2012, 2016, 2022.**



- Among the population of Armenia, the knowledge level of salt abuse has significantly increased from 61.9% (in 2016) to 82.2% (in 2022).
- Knowledge of the harmfulness of high blood pressure decreased from 50.0% to 40.3%.
- Knowledge of the harmfulness of high glucose levels decreased from 34.7% to 25.8%.
- Knowledge of the harmfulness of high cholesterol levels has decreased, from 31.3% to 20.3%.

## Arterial pressure

### Detection of arterial hypertension

During the field phase of the 2022 survey the team measured participants' arterial blood pressure with an OMRON S1 monitor. Measurements were taken on the right and left arms.

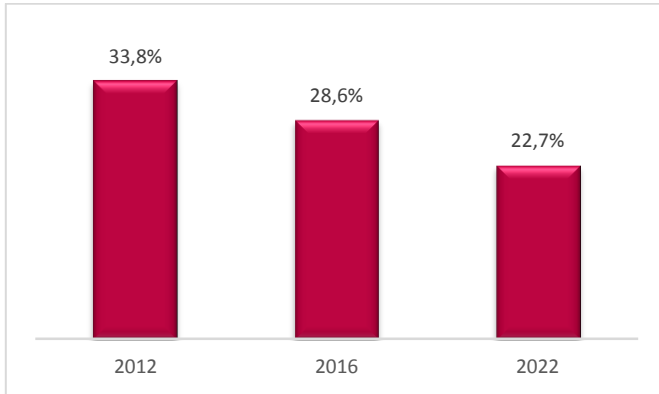
Hypertension was identified by doing the following:

- The systolic pressure results of the two measurements were averaged,
- The diastolic pressure results of the two measurements were averaged,
- If the average of systolic pressure is greater than 140, the participant has hypertension, regardless of the average diastolic value,

- If the average of diastolic pressure is greater than 90, the participant has elevated pressure, regardless of the average systolic value.

The prevalence of hypertension identified during the surveys from 2012 to 2022, is provided in Figure 16.

**Figure 16. Number of people with high blood pressure, 2012, 2016, 2022**

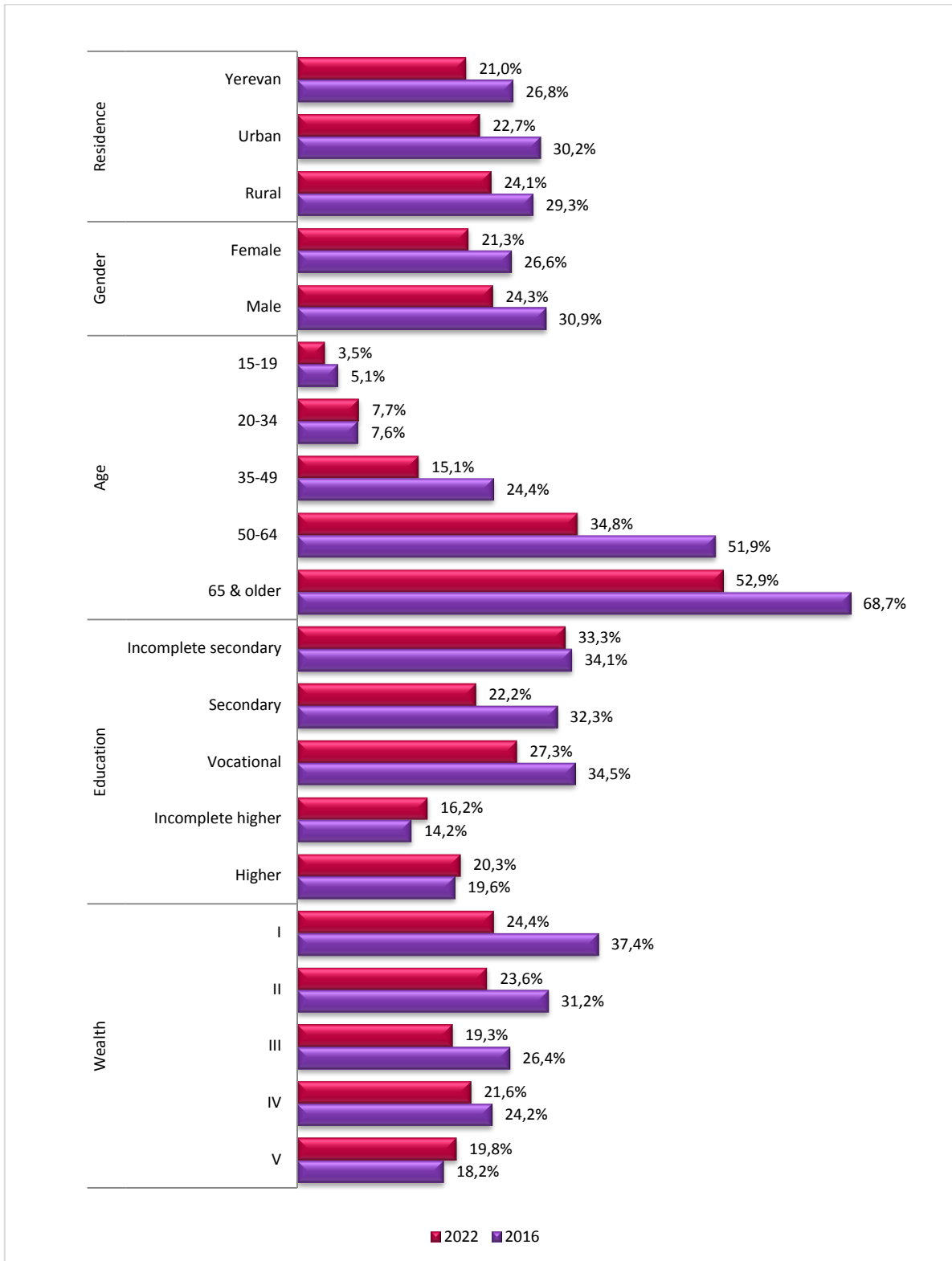


- **During the 2012-2022 period, the number of people with high blood pressure in Armenia decreased monotonously from 33.8% in 2012 to 22.7% in 2022.**

The number of people with high blood pressure by socio-demographic groups in 2016 and 2022 is presented in Figure 17.



**Figure 17. Arterial hypertension according to measurements taken during the survey, 2016, 2022**



The Figure suggests that:

- **Wealth:** If in 2016 the number of people with hypertension increased noticeably along with the decrease in wealth and had a fairly high level in I and II quintiles, then in 2022, the number of people with hypertension in the lowest quintiles (I, II and III) has significantly decreased.
- **Education:** In groups with a relatively higher level of education, the number of people with hypertension is less than in groups with a relatively lower level of education; However, this difference has significantly decreased. In 2022 (compared to 2016), the number of people with hypertension in secondary and vocational education groups has significantly decreased.
- **Age:** The number of people with hypertension increases with age; However, in 2022, compared to 2016, the number of hypertensive people in the 65+ and 50-64 age groups has significantly decreased.
- **Gender:** Among men, the number of people with hypertension slightly exceeds the index of women. However, in 2022, compared to 2016, the number of hypertensive people decreased in both groups.
- **Yerevan:** In Yerevan, the prevalence of hypertension is relatively lower (21.6%) than in regional cities (22.7%) and rural areas (24.13%).

Table 4 presents the findings of measurements taken during the survey with 10 age-gender breakdowns.

**Table 4. Prevalence of hypertension identified during the survey, age-gender breakdown, 2022**

Age	2016			2022		
	Gender		Total	Gender		Total
	Female	Male		Female	Male	
15-19	2.5%	7.7%	5.1%	2.0%	4.7%	3.5%
20-34	1.9%	13.6%	7.6%	4.1%	11.4%	7.7%
35-49	18.8%	30.9%	24.4%	11.5%	19.2%	15.1%
50-64	52.2%	51.5%	51.9%	31.2%	39.3%	34.8%
65 & older	69.6%	67.4%	68.7%	54.5%	50.4%	52.9%
Total	26.6%	30.9%	28.6%	21.3%	24.3%	22.7%

### ***Latent arterial hypertension***

The survey findings enable assessing the prevalence of latent hypertension.

- **Latent arterial hypertension is when the respondent has a high/elevated blood pressure, but unaware of it.**

The question asks, “Do you have high arterial blood pressure i.e. hypertension?” Measurement readings were cross-matched with the responses in order to understand the prevalence of latent hypertension during the study. The results of 2016 and 2022 are presented in Table 5.

**Table 5. Prevalence of latent arterial hypertension, % (individuals not aware that their BP is higher than 140/90 mmHg), 2016 and 2022**

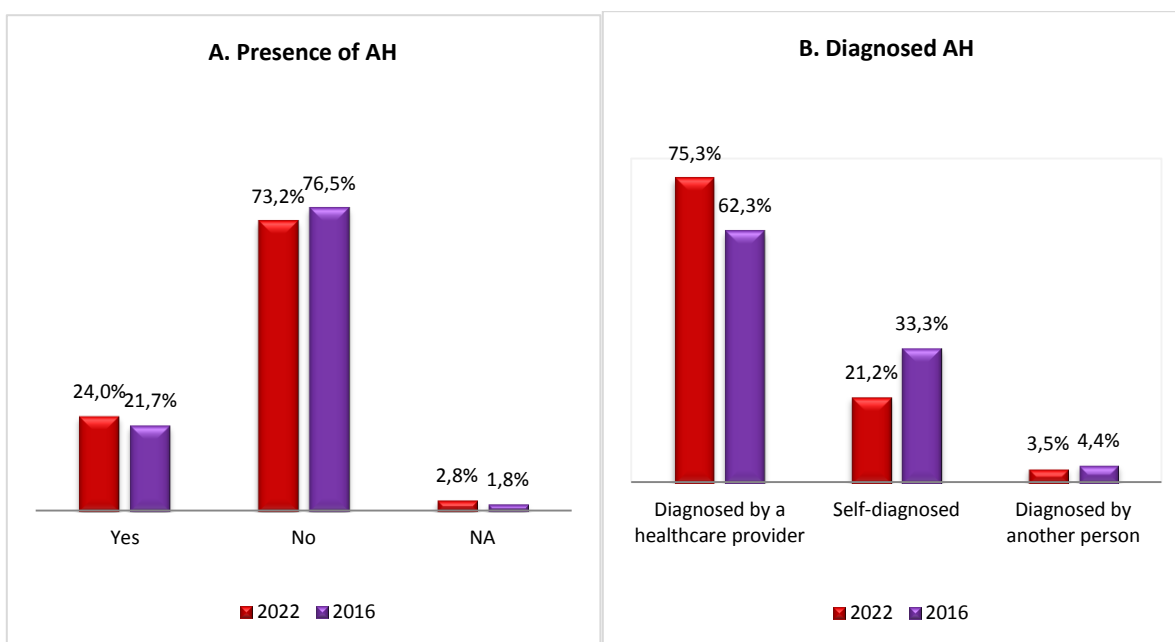
«Do you have high arterial blood pressure?»	2016			2022		
	Hypertension according to survey measurements		Total	Hypertension according to survey measurements		Total
	AP ≤140/90 mmHg	AP ≥140/90 mmHg		AP ≤140/90 mmHg	AP ≥140/90 mmHg	
No	61.1%	<b>15.4%</b>	76.5%	62.9%	<b>10.3%</b>	73.2%
Yes	9.2%	12.4%	<b>21.7%</b>	12.7%	11.4%	<b>24.0%</b>
NA	1.0%	0.7%	1.8%	1.8%	1.0%	2.8%
Total	71.4%	28.6%	100.0%	77.3%	22.7%	100.0%

- **The table shows, that in 2016, in Armenia the latent hypertension was 15.4%** (people who thought they did not have high blood pressure, but the measurements showed that they actually did).
- **In 2022, the number of people with latent hypertension has decreased (10.3%).**

During the study conducted in 2016, 21.7% of the population answered “Yes” to the question “Do you have high blood pressure - hypertension?” (Figure 18-A). In 2022, the number of these people increased to 24.0%. On the other hand, in 2016, hypertension was detected by a healthcare worker in 62.3% of those who reported “Yes” (Figure 18-B); 33.3% had detected hypertension on their own, and 1.8% by another person.

In 2022, the detection of hypertension by a physician improved, it increased to 75.3% (Figure 18-B); The relative number of self-diagnosed blood pressure decreased to 21.2%, and detection by others also decreased to 3.5 %.

**Figure 18. A. “Do you have high blood pressure (hypertension)?” B. “How do you know you have high blood pressure (hypertension)?”**



***Doctor's advice and their implementation in case of detection of hypertension by the doctor***

During the research, for the cases of hypertension detected by the doctor (75.3%), the advice given by the doctor was studied on the one hand, and on the other hand, the implementation of this advice by the patients. For this purpose, those who stated that their hypertension was detected by a healthcare worker were asked, “Which of the following prescriptions or advice have you been given by a doctor: A. Reduce or control your weight, B. Reduce salt intake, C. Be physically active, D. Reduce alcohol consumption, E. Quit smoking, F. Take medication regularly, G. Other advice or an appointment.” Then, to assess how well people follow the doctor's advice, a question was asked: “Are you currently doing anything to regulate your high blood pressure?” The same tips that were mentioned in the previous question were studied.

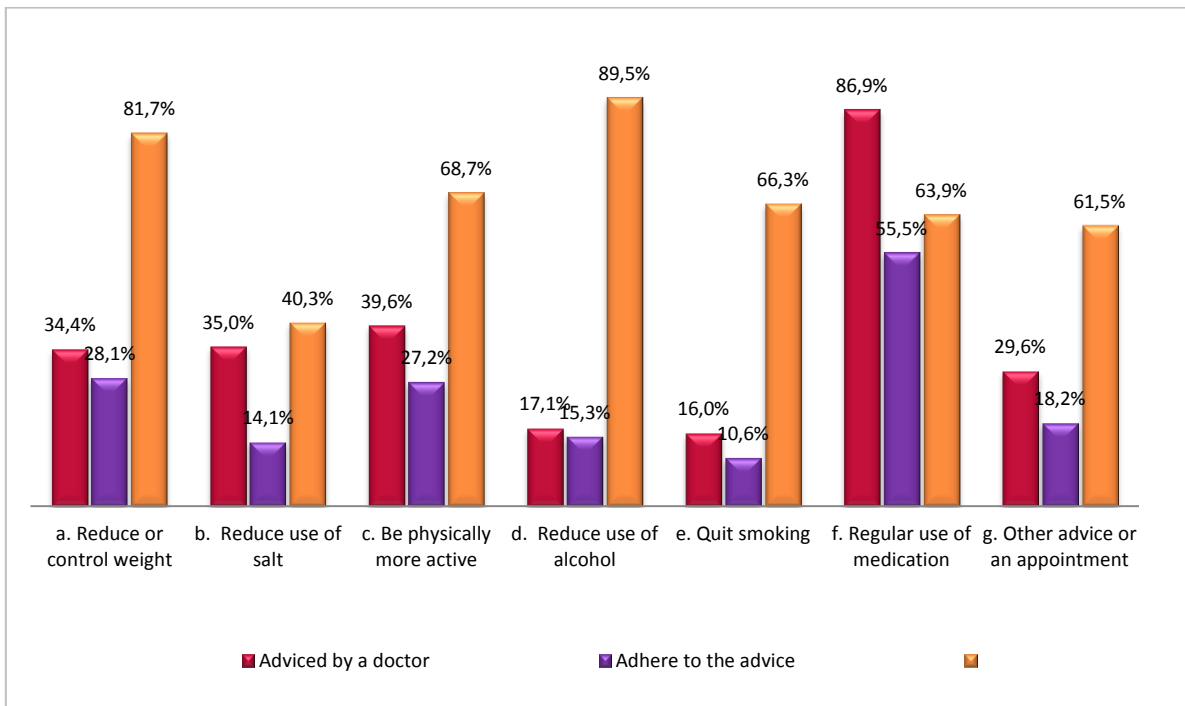
Figures 19 and 20 show the responses to the two questions in 2022 and 2016, respectively. In addition to that, the graphs also show the ratio of the number of people who have received the given instruction to the number of people who carry out the given instruction. Those three indicators describe the behavior of doctors and patients.

The data in Figure 19 show that patients follow the doctor's instructions with varying degrees of conscientiousness. The instruction to reduce alcohol consumption (89.5%) and weight control (81.7%) are most conscientiously carried out.

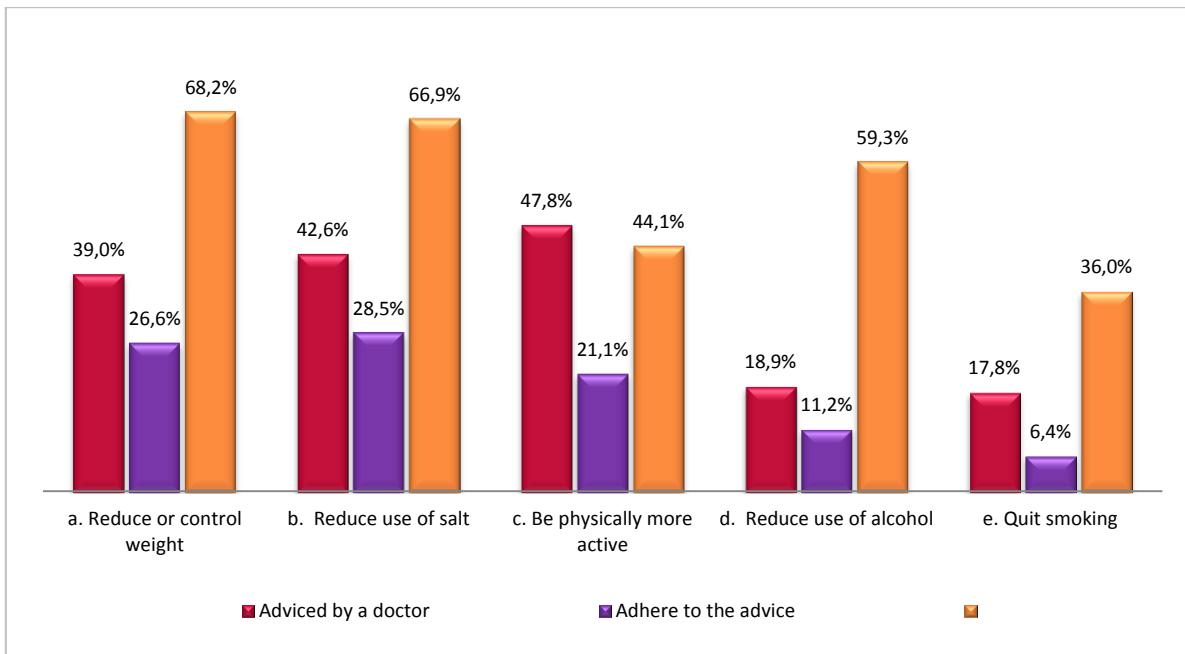
The fulfillment of instructions for increasing physical activity (68.7%), quitting smoking (63.9%), and regular use of medication (63.9%) is also relatively high.

People least follow the instruction to reduce salt consumption (40.3%).

**Figure 19. Percentage of respondents from all respondents who a) ever received a doctor's consultation for the purpose of high blood pressure regulation, b) followed the doctor's instructions, c) percentage of the doctor's instructions being followed from the number of those who received instructions, 2022**

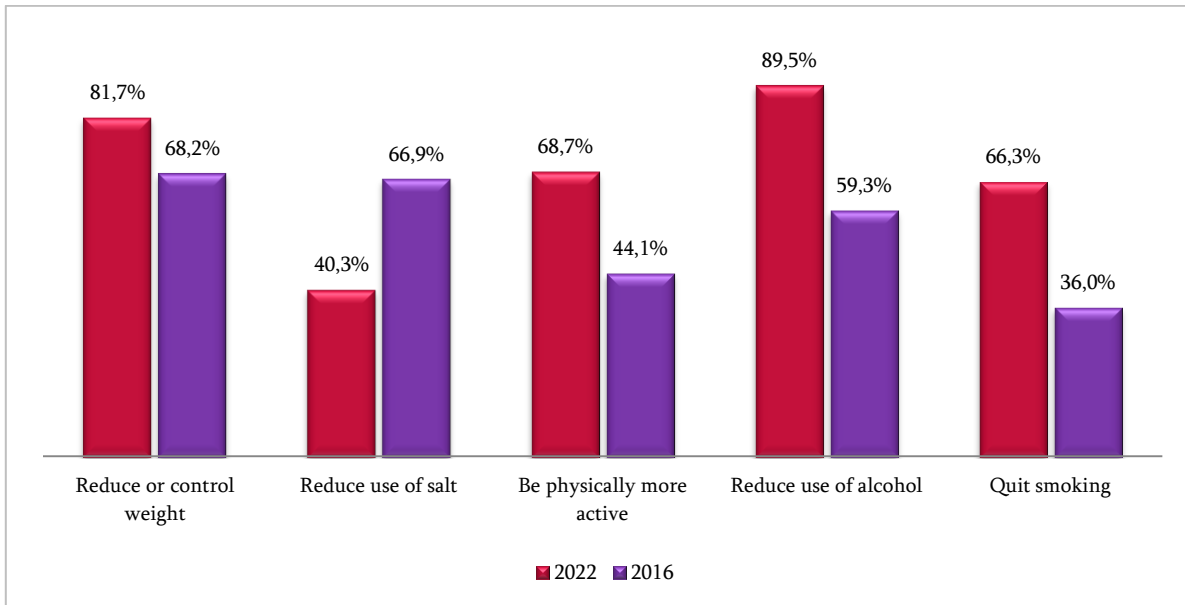


**Figure 20. Percentage of respondents from all respondents who a) ever received a doctor's consultation for the purpose of regulation of hypertension, b) followed the doctor's instructions, c) percentage of the doctor's instructions being followed out of the number of those who received instructions, 2016**



In order to assess the change in patient behavior in terms of adhering to the doctor's advice, Figure 21 shows the level of fulfillment of the doctor's orders for the control of hypertension in 2016 and 2022.

**Figure 21. Patient's adherence to the physician's orders to control hypertension, 2016 and 2022**



The chart shows that overall, patient's adherence to doctor's orders increased in four out of five orders, except for the salt reduction order.

## Hypertension monitoring

### *Effectiveness of the use of drugs prescribed by a doctor*

The respondent's **perception** of the overall effectiveness of drug treatment prescribed by the doctor is presented in Table 6.

**Table 6. Respondent's perception of the effectiveness of drug treatment prescribed by a doctor for patients with hypertension, 2022**

		Have you used blood pressure medication in the last 14 days?		
		No	Yes	Total
Does the medication regulate your blood pressure, i.e. it doesn't exceed 140/90?	No	43.1% (8)	17.6% (6)	26.9% (14)
	Yes	41.6% (8)	<b>76.3% (25)</b>	63.6% (33)
	NA	15.3% (3)	6.1% (2)	9.5% (5)
	Total	100.0% (19)	100.0% (33)	100.0% (52)

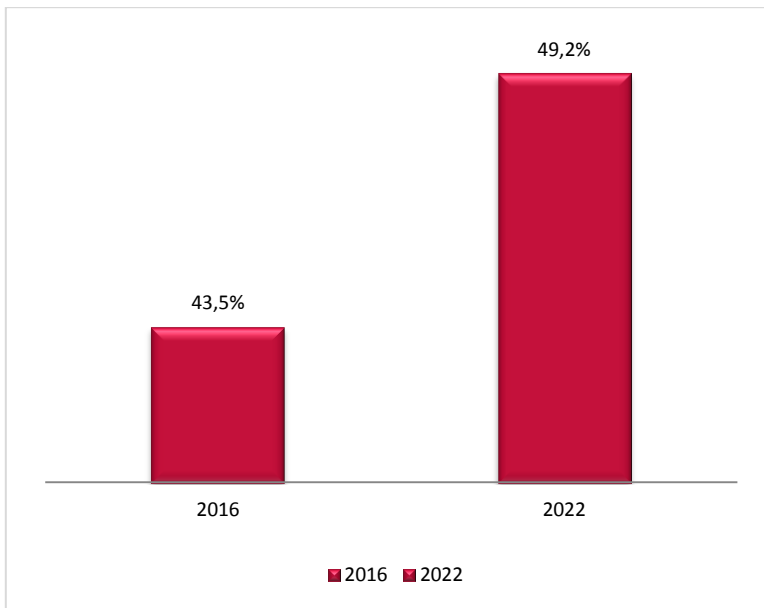
Despite the small number of cases (52), the  $\chi^2$  test shows that in the perceptions of 76.3% of the respondents who take medication regularly, taking the medication regularly regulates the respondent's blood pressure in a statistically significant way.

### *Implementation of preventive blood pressure measurements*

The level of implementation of high blood pressure prevention activities in the healthcare system of Armenia was evaluated through the question, "During the last 12 months, has your blood pressure been measured by a doctor or nurse?" That issue was also present in the research of 2016. The data show that:

- **In 2022 (compared to 2016), the rate of preventive measures for high blood pressure increased from 43.5% to 49.2%.**

**Figure 22. "During the last 12 months, has your blood pressure been measured by a doctor or nurse?" Percentage of "Yes" answers**



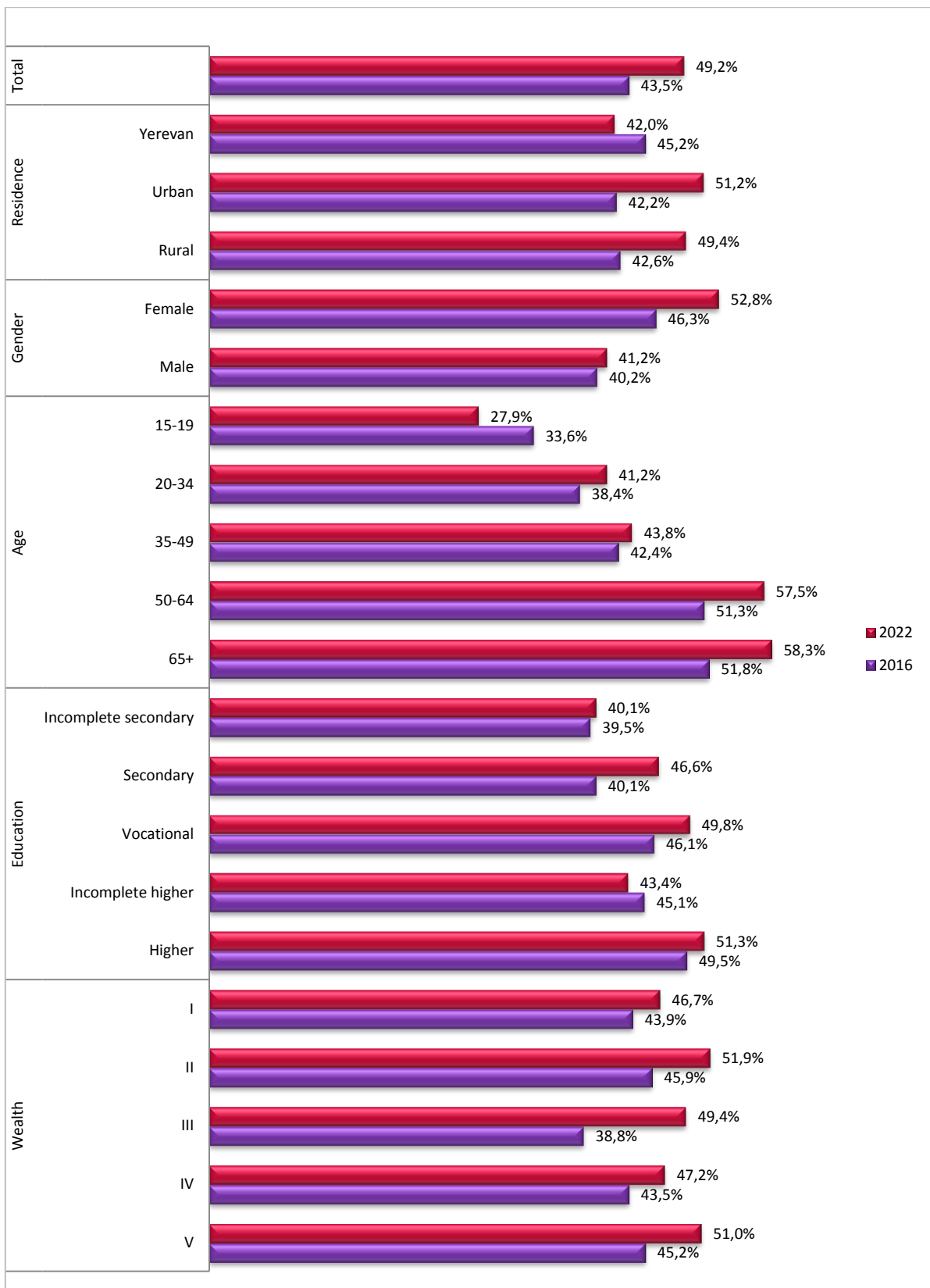
The performance of health workers during one year regarding preventive measures by socio-demographic groups in 2022 and 2016 is presented in Figure 23.

The data in the chart shows that:

- The value of the indicator in the highest quintile of wealth was 51.3%, and in the lowest quintile was 46.7%.
- The value of the indicator by the level of education is the highest among people with higher education (51.3%); It's significantly lower among people with incomplete higher education (43.4%) (who are mostly young students), and among those with incomplete secondary education (40.1%). It should be noted that the number of these people is only 4.5%.

**Figure 23. Measuring of arterial blood pressure by a healthcare provider (doctor or nurse) during the past 12 months, 2016, 2022**





- Blood pressure measurements by healthcare workers are relatively higher in the 50-64 and over 60 age groups, 57.5% and 58.3%, respectively. That level is lower in the 20-34 and 35-49 age groups

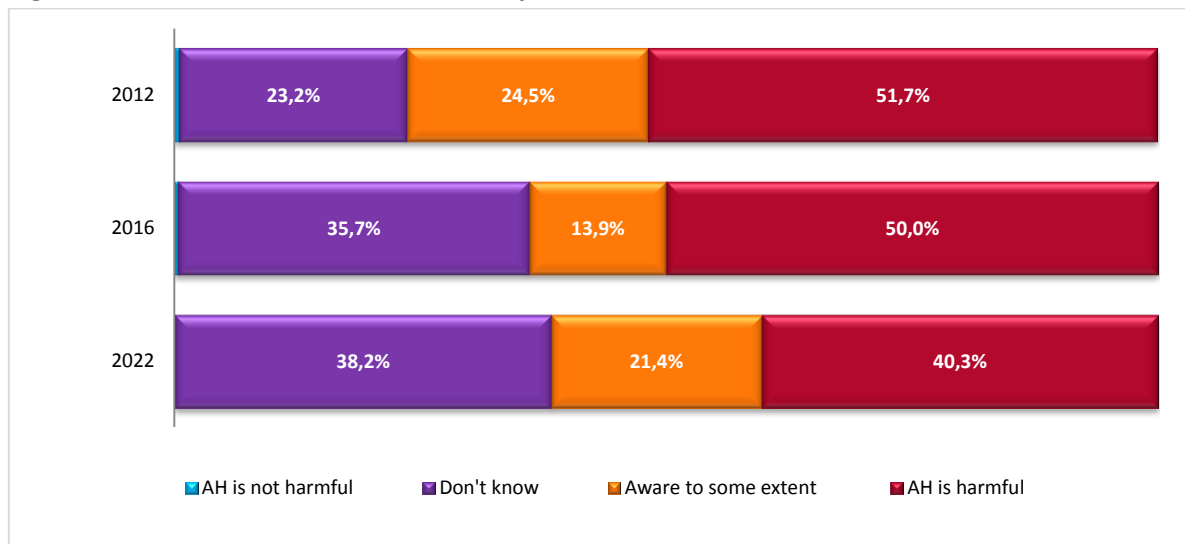
(which don't differ much from each other). In other words, the inclusion of 35-49-year-olds in the "Disease Prevention and Control" program had a weak effect on the level of blood pressure measurement among them. Probably, in order to increase that level, it's necessary to develop another strategy. For example, these measurements can be performed by local therapists if their duties include a mandatory visit to addresses in their area at least once a year, regardless of whether there was a call or not.

- The level of blood pressure measurement among women (52.8%) is higher than among men (41.2%).
- The measurement level in Yerevan is lower (42.0%) than in regional cities (51.2%) and rural areas (49.4%).

**Public awareness of the harmful impact of high/elevated arterial blood pressure**

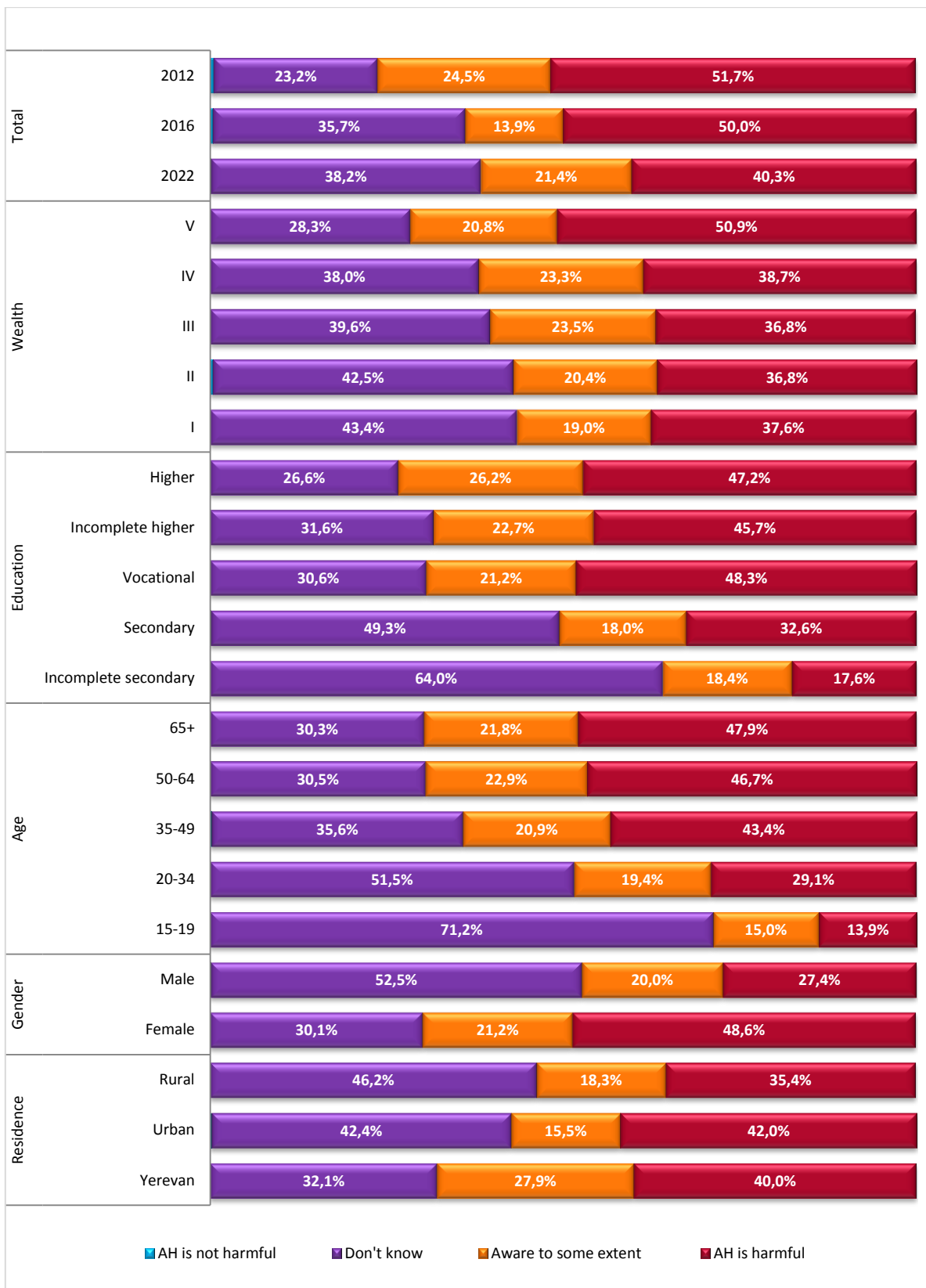
The survey studied public awareness of the harmful consequences of high/elevated arterial blood pressure (Figure 24). In 2022, the level of population's awareness of the harmfulness of high blood pressure (40.3%) has significantly decreased compared to 2016 (50.0%) and 2012 (51.7%).

**Figure 24. Public awareness of harmful impact of AH, 2012, 2016, 2022**



The same data in demographic groups are given in Figure 25.

**Figure 25. Public awareness of harmful impact of AH by demographic breakdown, 2022**



According to Figure 25:

The level of awareness about the harmfulness of high blood pressure is higher:

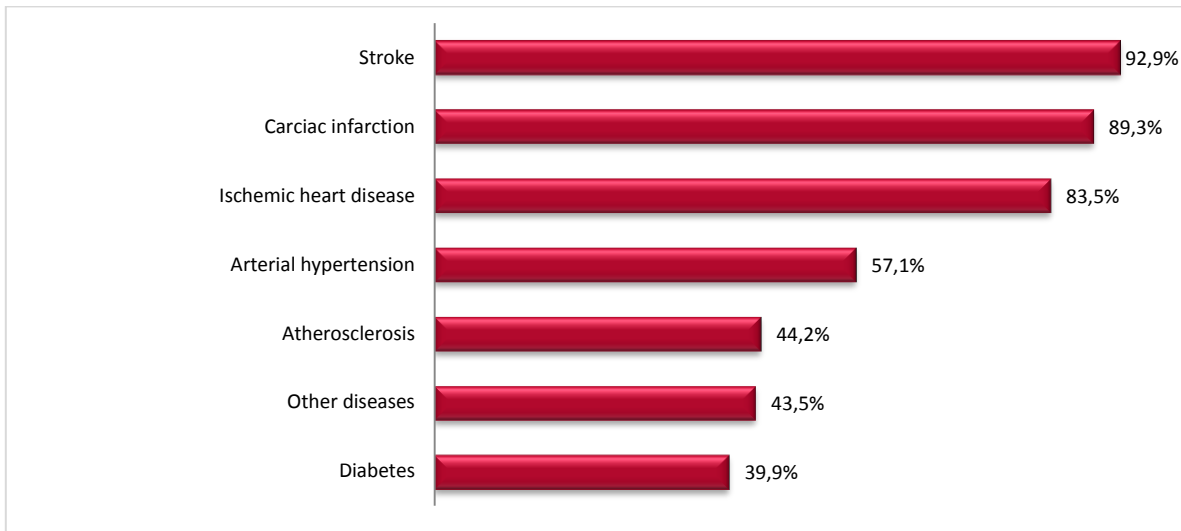
- o In higher welfare quintiles,
- o Among people with a higher level of education (higher, incomplete higher, and vocational),
- o In older age groups,
- o Among women,
- o In Yerevan and urban areas.

Figure 26 shows the number of respondents who know what chronic diseases high blood pressure can cause. The percentages are calculated from the number of respondents who consider that they “know” or “somewhat know” that high blood pressure can cause other diseases.

Respondents had the following perceptions of diseases caused by high/elevated blood pressure.

- stroke, which was mentioned by 92.2% of the respondents,
- heart attack (89.3%),
- ischemic heart disease (83.5%).

**Figure 26. Diseases caused by AH (What diseases can develop due to AH, % of people who reported to know or to some extent know about the harms of AH), 2022**



### Findings of cholesterol measurement

International criteria were used to identify high cholesterol:

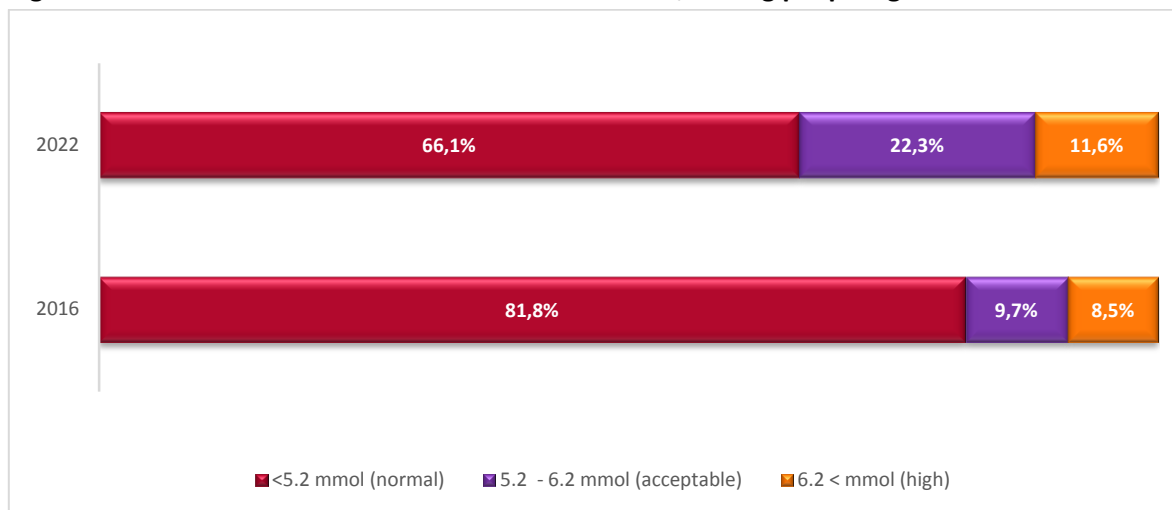
- Cholesterol content in the blood < 5.2 mmol/l is considered a normal level.
- 5.2 - 6.2 mmol/l is an acceptable level.

- $6.2 \leq \text{mmol/l}$  is high level.

### ***The results of measuring blood cholesterol levels among 35 and older people***

Within the framework of the HSPA, cholesterol levels are measured among people aged 35 and older. The results of those measurements in 2016 and 2022 are provided in Figure 27.

**Figure 27. Cholesterol measurements in 2016 and 2022, among people aged 35 and above**



- In 2022, compared to 2016, the number of people aged 35 and older with blood cholesterol levels greater than 6.2 mmol increased from 8.5% to 11.6%. The number of people with acceptable cholesterol levels (5.2-6.2 mmol) also increased significantly, from 9.7% to 22.3%.

Figure 28 shows the results of cholesterol measurement by socio-demographic groups in 2022.

According to Figure 28:

- Acceptable level of blood cholesterol content is relatively lower in the II **wealth** quintile and relatively higher in the higher wealth quintiles (IV and V).
- High levels of blood cholesterol are lower in the lowest (4.5%) and highest (8.9%) **educational** groups and relatively higher in other educational groups (12.1-13.5%).
- **women's** cholesterol level is relatively higher (13.4%) than **men's** (9.2%).
- According to **age** groups, the cholesterol levels are relatively higher in the 50-64 age group (15.9%), relatively lower in the 65+ age group (11.8%), and lowest in the 35-49 age group (7.7%).
- By **residence**, the number of people with high blood cholesterol levels is higher in Yerevan (13.0%) than in regional cities (11.5%) and rural areas (10.5%).

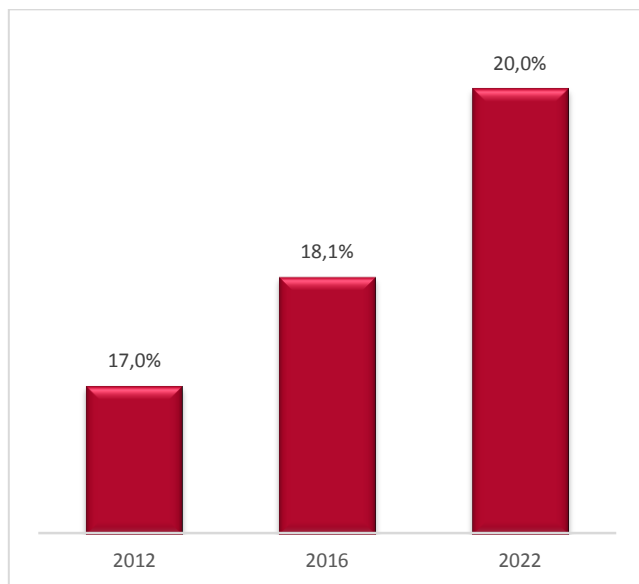
**Figure 28. Results of measuring the level of cholesterol in blood according to sociodemographic groups, 2022**



### ***Control of blood cholesterol levels in the population by health workers***

The cholesterol level measurements among the population by health workers in 2012, 2016, and 2022 are presented in Figure 29. Those levels were assessed through the “Has your blood cholesterol level been measured in the last 12 months?” question.

**Figure 29. Cholesterol measurements by a healthcare worker in the population 15 and over, 2012, 2016, and 2022.**



The data show that:

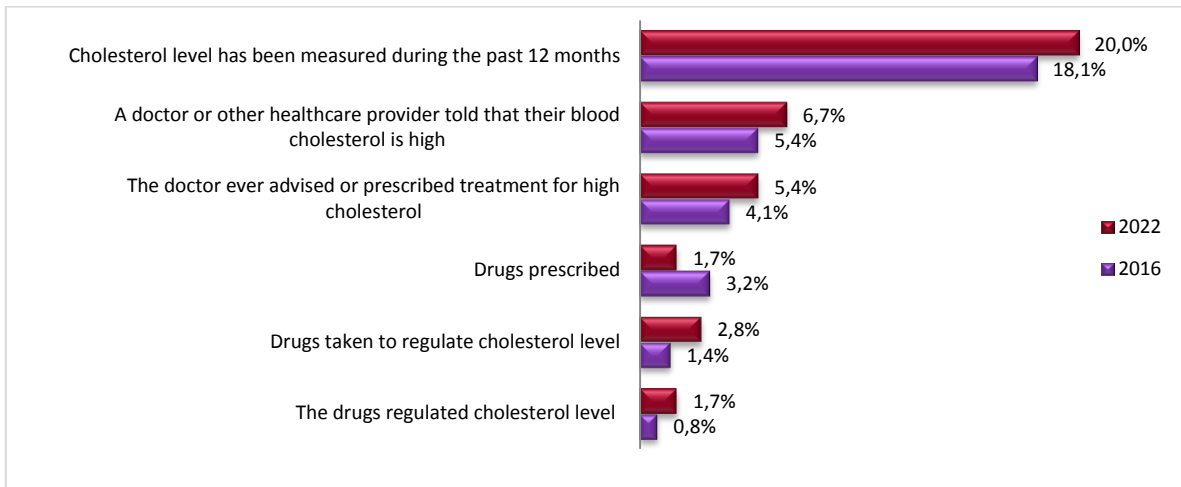
- **In Armenia, from 2012 to 2022 time period, cholesterol level measurements by doctors (monitoring level) increased (in 2022, it was 20.0%).**

The performance of cholesterol control activities in 2016 and 2022 is shown in Figure 30.

According to the chart, among the Armenian population aged 15 and above, the level of cholesterol measurements by health workers has improved. Not only have doctor's cholesterol measurements increased but also:

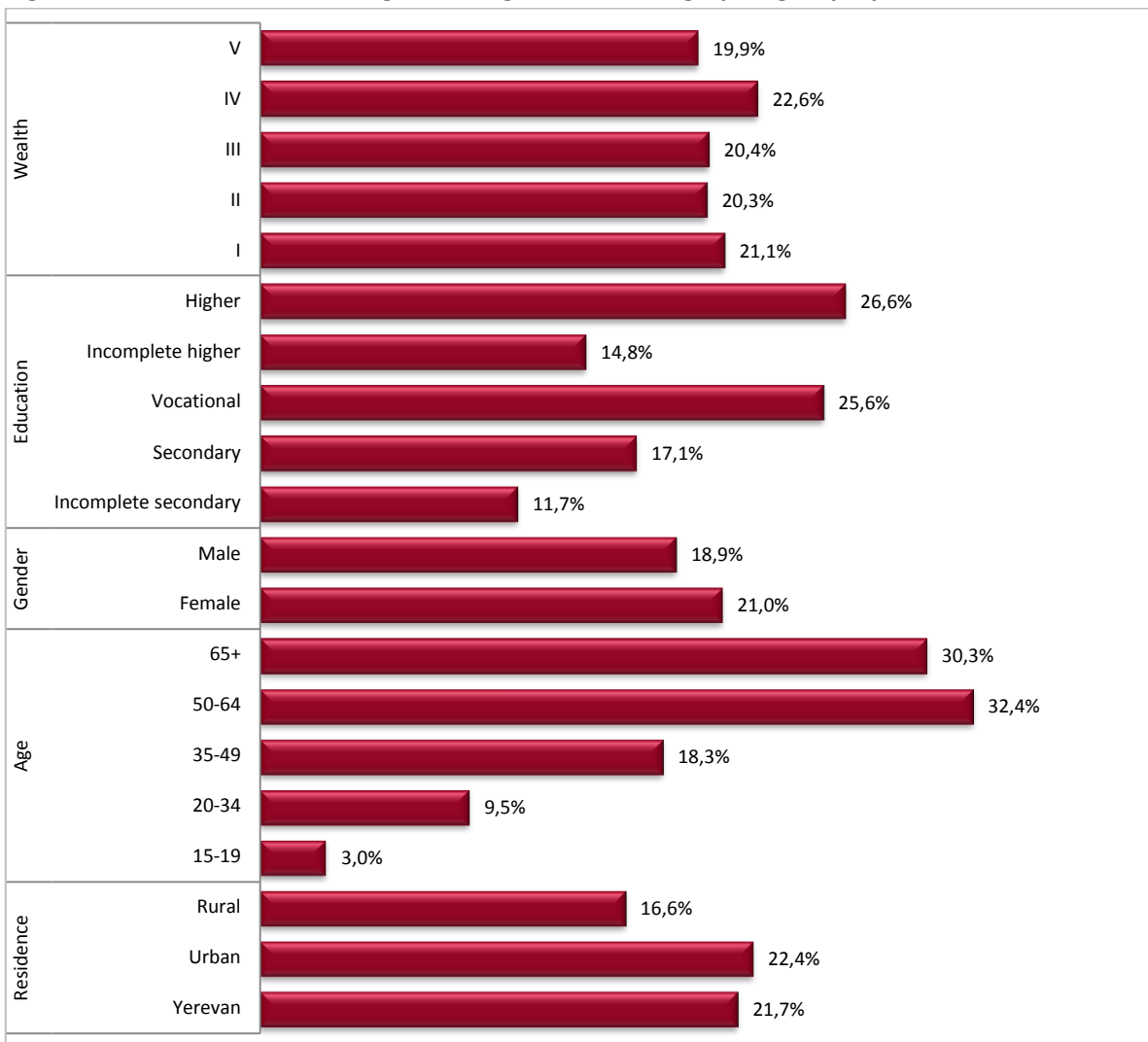
- The number of high cholesterol levels detected by a doctor has increased by 1.3%, reaching 6.7%.
- The number of people receiving doctor's advice regarding control of cholesterol levels increased by 1.3%, reaching 5.4% of the total number of measurements.
- Prescriptions of drug treatment by the doctor decreased from 3.2% to 1.7%.
- Patients taking prescription medications increased from 1.4% to 2.8%.
- The effectiveness of the use of medication prescribed by the doctor increased from 0.8% to 1.7%.

**Figure 30. Results of the study of cholesterol measuring and adherence to relevant prescriptions, 2016, 2022 (all percentages are calculated from the entire sample)**



The level of cholesterol level measurements in socio-demographic groups in 2022 are provided in Figure 31.

**Figure 31. Cholesterol measuring according to sociodemographic groups, past 12 months, 2022**



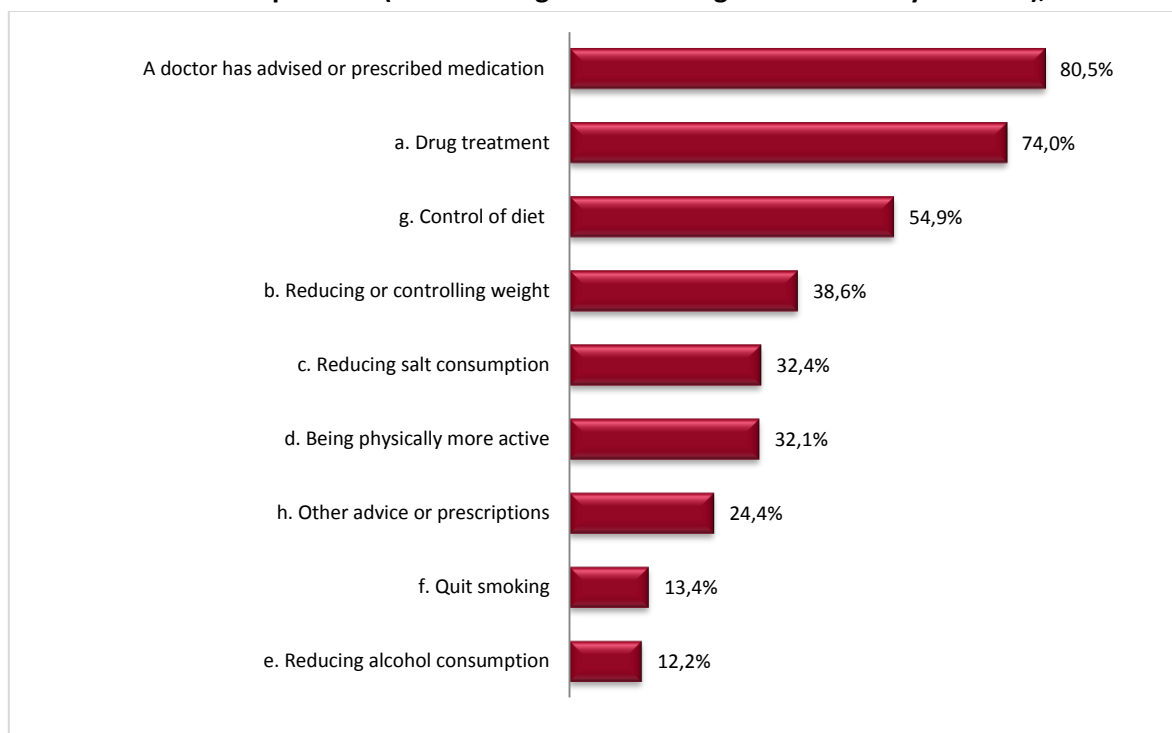


According to the data in Figure 31:

- Levels of cholesterol measurements are roughly the same across all **wealth** quintiles. It is slightly higher in the IV quintile.
- According to the level of **education**, the level of cholesterol measurements is the highest among people with higher and vocational levels, 26.6% and 25.6%, respectively. This indicator is the lowest among people with incomplete secondary education (11.7%),
- The rate of cholesterol level measurements among women (21.0%) is higher than among men (18.9%),
- The level of cholesterol measurements increases with age; During the last year, in the 15-19-year-old group, it was measured by 3.0%, in the 50-64-year-old group by 32.4%, and in the 65 and older age group, this figure was 30.3%,
- According to the place of residence, the indicator is relatively higher in Yerevan (21.7%), in cities (22.4%), and lower in villages (16.67%).

The doctor's advice provided to the patients in case of detection of high cholesterol levels by the doctor was studied. The results are presented in Figure 32.

**Figure 32. Which of the following advice or prescriptions related to high cholesterol were given by a doctor or health care provider (of those diagnosed with high cholesterol by a doctor), 2022**

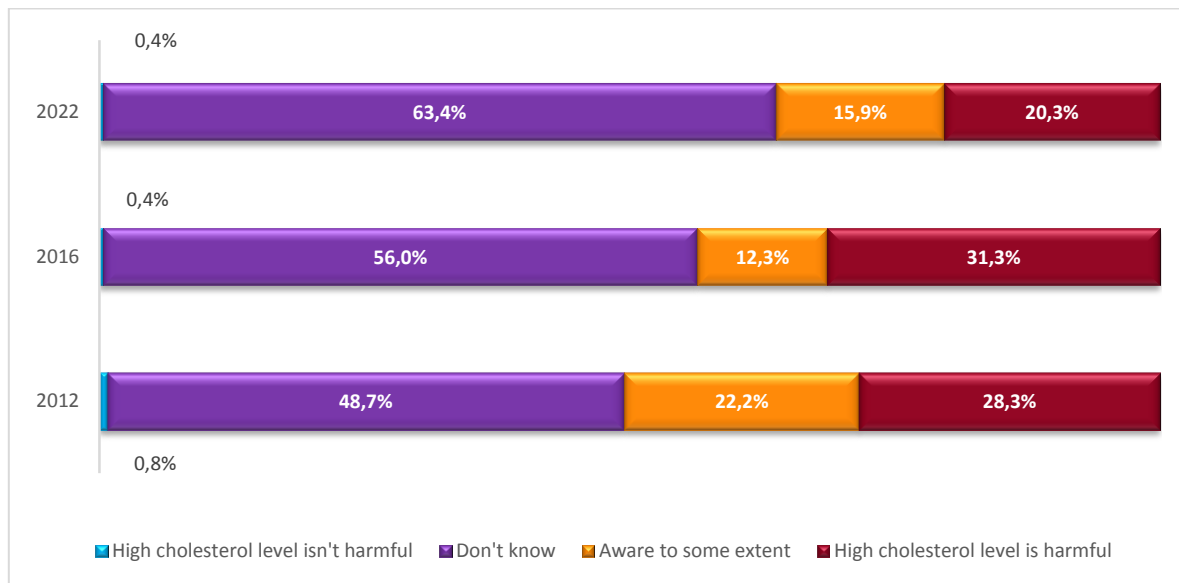


In 80.5% of cases of high cholesterol level detection, the doctor prescribed drug treatment or advised the patient. Drug treatment was prescribed in 74.0% of cases of detection. The most frequent pieces of advice were diet control (54.9%), reduction or control of weight (38.6%), reduction of salt consumption (32.4%), and increase in physical activity (32.1%).

**Knowledge of the population regarding the harmfulness of high blood cholesterol levels**

Changes in the level of population’s awareness regarding the harmfulness of high blood cholesterol levels in 2012 to 2022 are given in Figure 33.

**Figure 33. Awareness of the harmful impact of high blood cholesterol levels among people aged 15 and above, 2012, 2016, 2022**

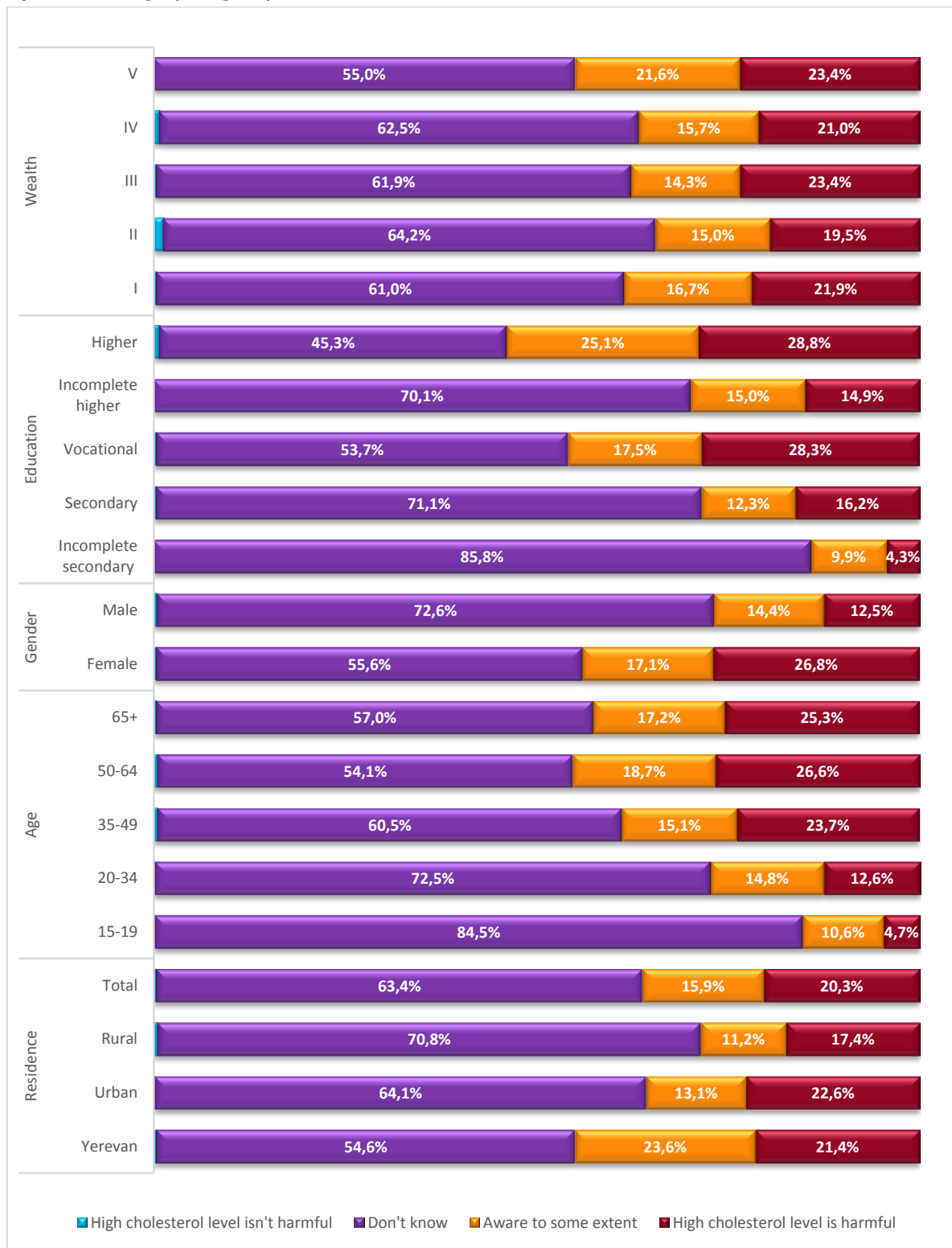


The figure shows that public awareness of the dangers of high cholesterol levels in 2022 has decreased compared to 2012 and 2016.

The level of awareness by socio-demographic groups is presented in Figure 34:

- Awareness of the harmfulness of high cholesterol levels is weakly correlated to wealth.
- People with higher and vocational educational levels are more informed in this matter,
- Women are significantly more informed (26.8%) than men (12.5%).
- The level of awareness increases significantly along with increase in age; it’s 4.7% in the 15-19-year-old group, and 26.6% in the 50-64-year-old group,
- Relatively more informed in Yerevan and urban areas than in rural areas.

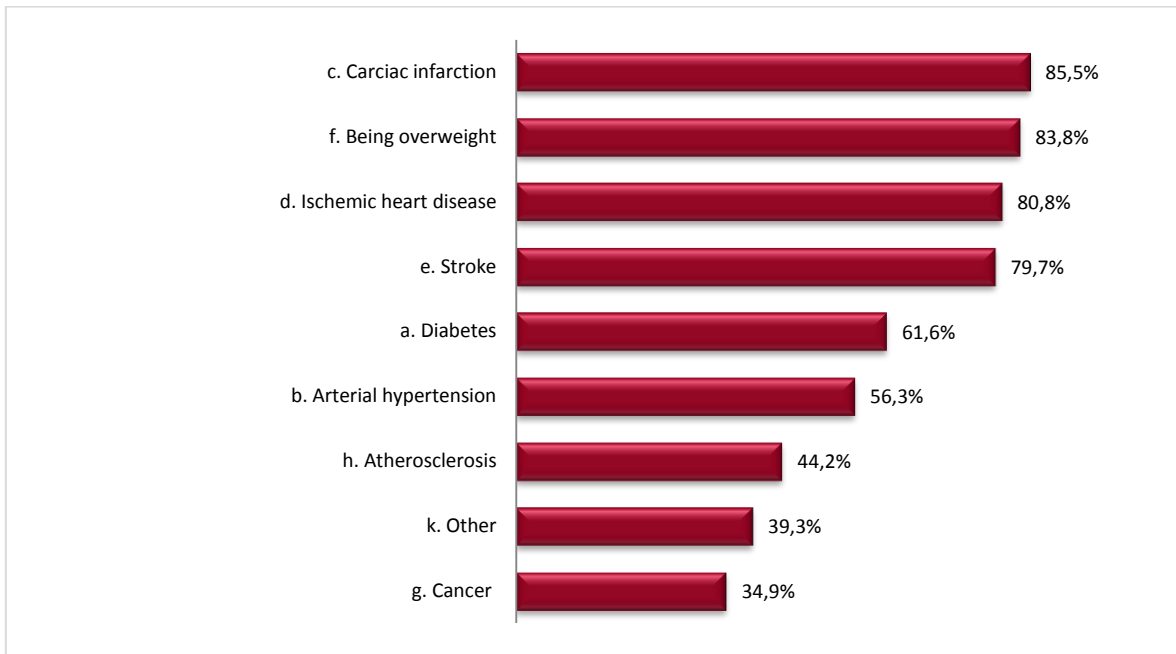
**Figure 34. Awareness of harmful impact of high blood cholesterol levels among people aged 15 and above by sociodemographic groups, 2012, 2016, 2022**



During the research, the respondents were asked, “What diseases do you think high cholesterol can cause?”

The received answers are presented in Figure 35.

**Figure 35. What diseases do you think high cholesterol can cause (from the population aged 15 and above), 2022**



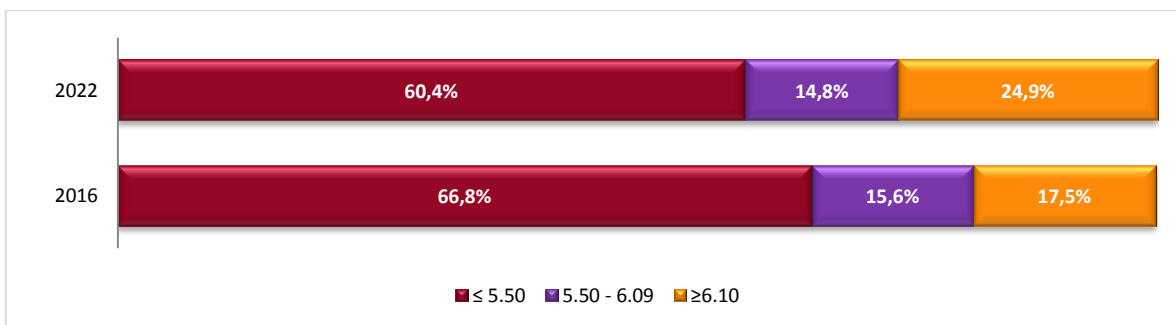
### Results of measuring the level of glucose

#### ***Results of blood glucose measurements during the study in patients aged 35 and above***

The level of glucose was measured using an ACCU-CHECK Performa device and disposable test strips. 6.1 mmol/l, defined by WHO, was taken as a threshold for a high level of glucose. A glucose test was performed among 1513 respondents aged 35 and older.

The results are presented in Figure 36:

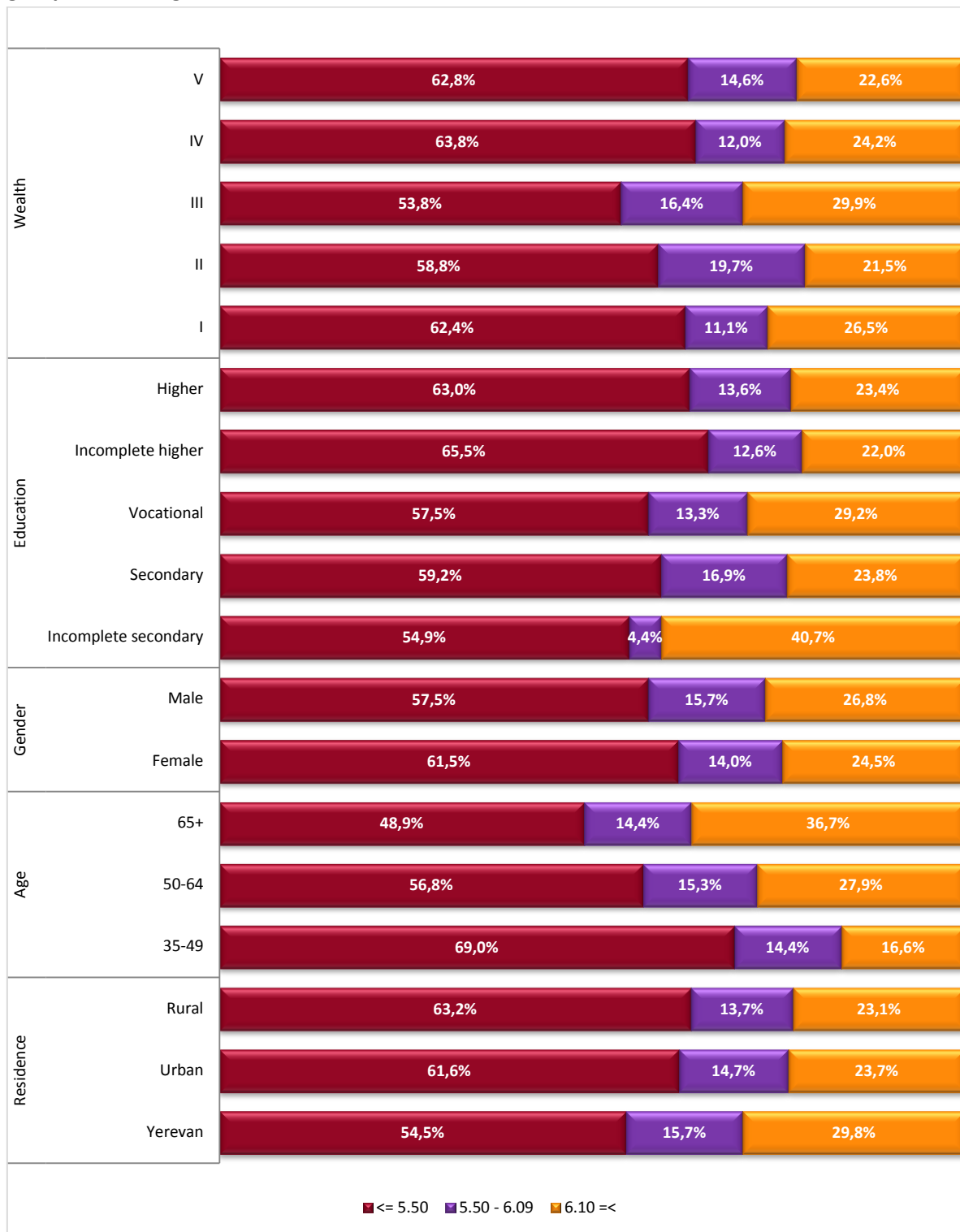
**Figure 36. Results of blood glucose measurement among Armenians aged 35 and older according to WHO classification in 2016 and 2022**



- The graph shows that in 2022 (compared to 2016), the number of people with high glucose content in Armenia has increased.

The measurement results by socio-demographic groups are provided in Figure 37:

**Figure 37. Blood glucose measurements among Armenians aged 35 and older by socio-demographic groups, according to the WHO classification, 2022**



The data show that the relative number of people with high blood glucose:

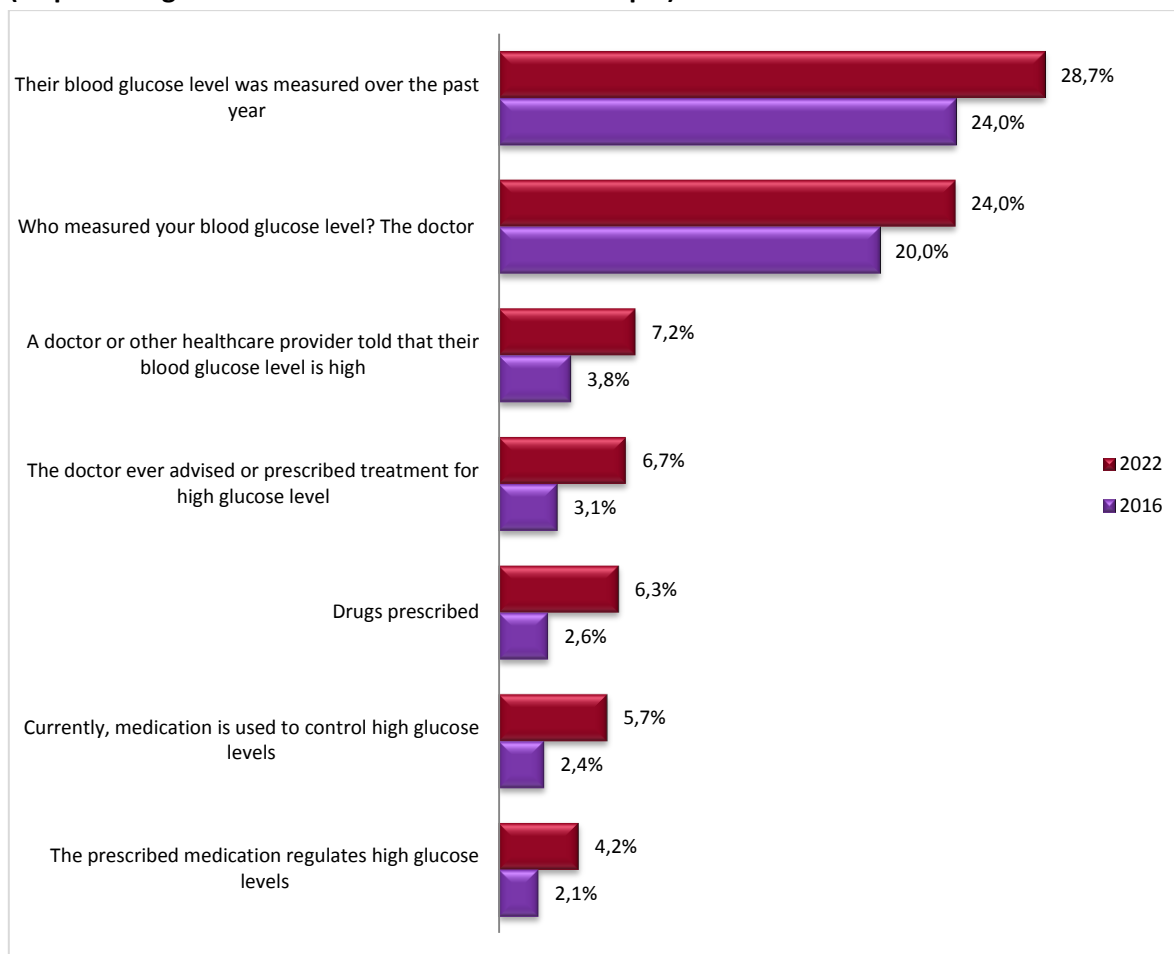
- Is relatively higher in wealth quintile III (29.4%),
- In groups with incomplete secondary (40.7%) and vocational education (29.1%),

- Among men (26.8%),
- It significantly increases along with age; The indicator is 16.6% among 35-49-year olds; Among 50-64-year olds it's 27.9%, and among 65 and older people it's 36.7%,
- It's relatively higher in Yerevan (29.8%), and lower in cities (23.7%) and villages (23.1%).

### ***Results of the study of the glucose level***

The effectiveness of controlling the glucose level is similar to the control of cholesterol level. The main results are provided in Figure 38:

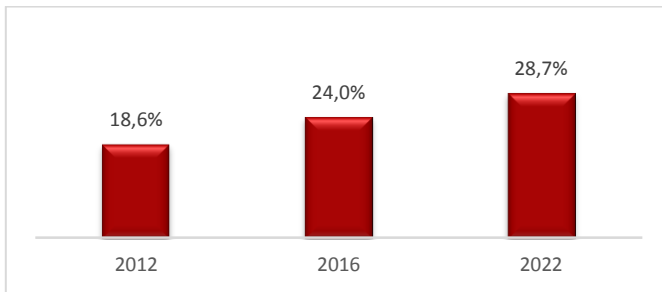
**Figure 38. Results of glucose level measurements and the relevant prescriptions of the doctor, 2016, 2022 (all percentages are calculated from the entire sample)**



According to the chart, in 2022 (compared to 2016), all the observed indicators of the effectiveness of glucose control activities in Armenian health system have improved.

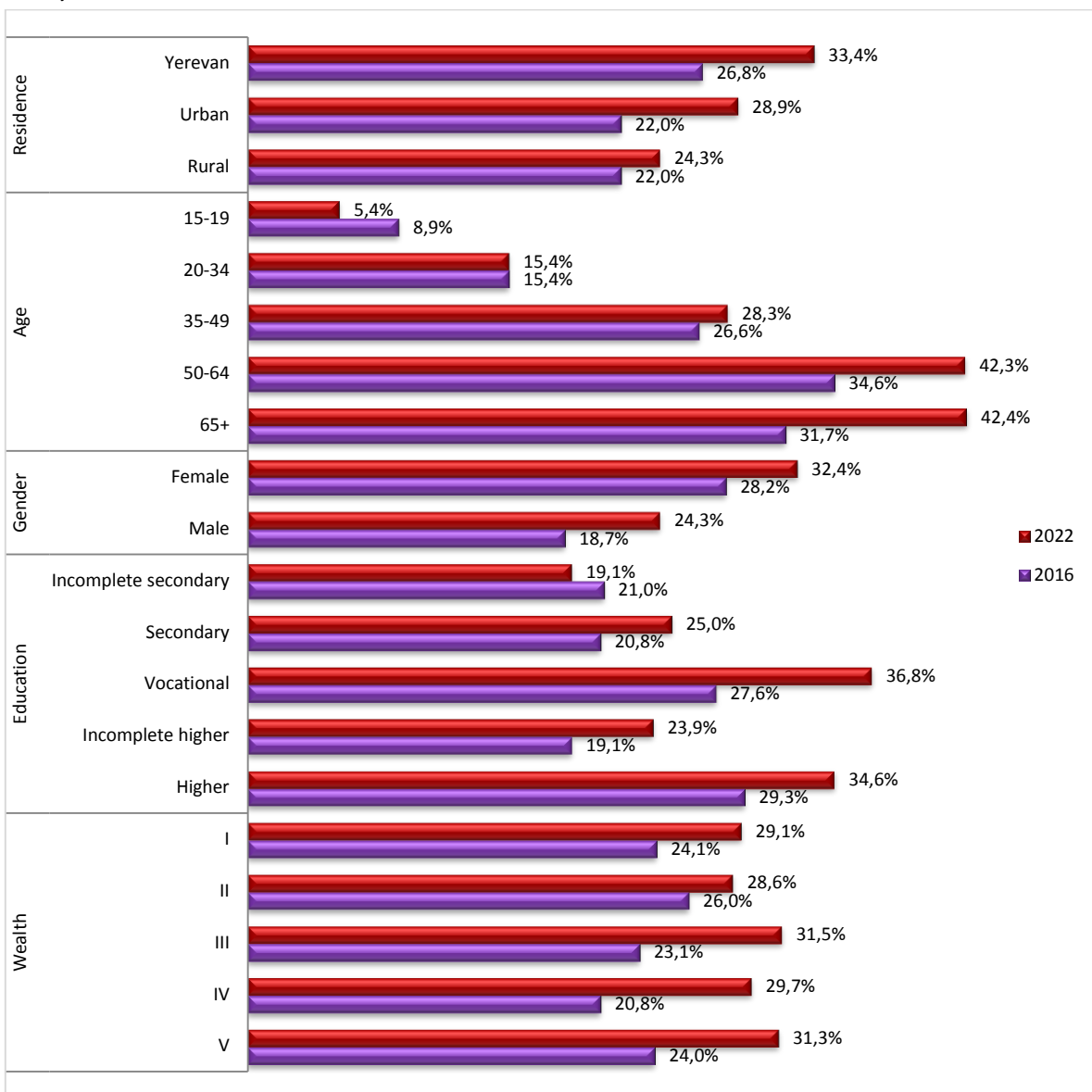
The levels of glucose measurements by a doctor or a healthcare worker in 2012, 2016, and 2022 are provided in Figure 39. According to the data, the level of measurements in 2012-2022 doubled from 18.6% to 36.7%.

**Figure 39. Glucose level measurements during the last 12 months among population aged 15 and older, 2012, 2016, 2022**



Measurement level of blood glucose in 2022 according to sociodemographic groups is presented in Figure 40.

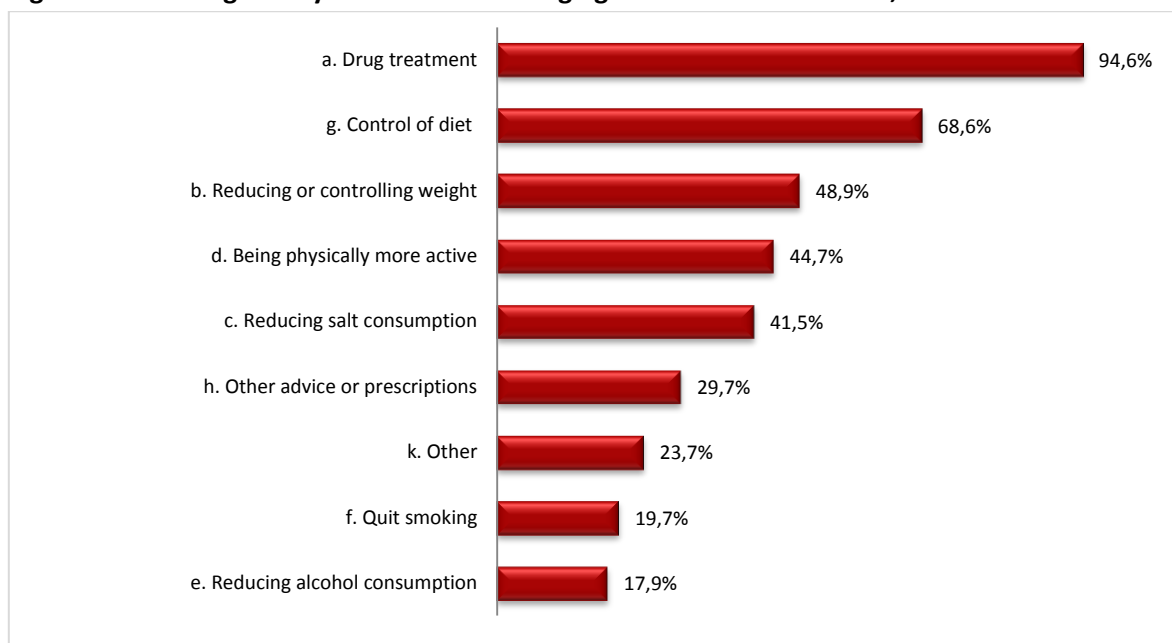
**Figure 40. Findings of glucose measurements during the past 12 months by sociodemographic groups, 2016, 2022**



Advice given by a doctor in case of high glucose level detection is provided in Figure 41:

- Glucose measurement rates over the past year were significantly higher in Yerevan (33.4%) than in urban (28.9%) and rural (24.3%) areas.
- Measurement levels increase significantly and rapidly with age. Glucose measurements were performed among 5.4% of 15-29-year-olds, while among 65 and older people, it was 42.4%.
- Measurements among women (32.4%) significantly exceed this level among men (24.3%).
- The number of measurements is relatively lower among people with incomplete secondary education (19.1%). It's higher among people with vocational education (36.8%).
- Measurements of glucose levels are roughly the same across wealth quintiles.

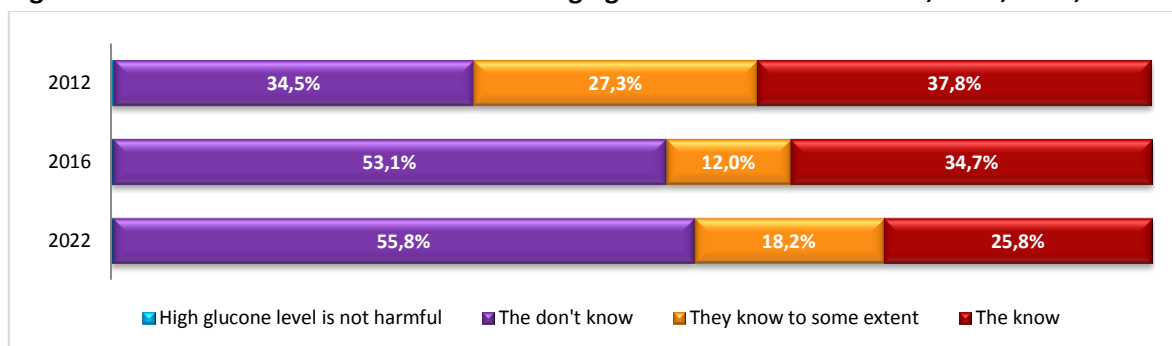
**Figure 41. Advice given by a doctor when a high glucose level is detected, 2022**



### ***Public awareness of the harms of high blood glucose levels***

Public awareness of the harms of high glucose levels is provided in Figure 42.

**Figure 42. Public awareness of the harms of high glucose levels in the blood, 2012, 2016, 2022**

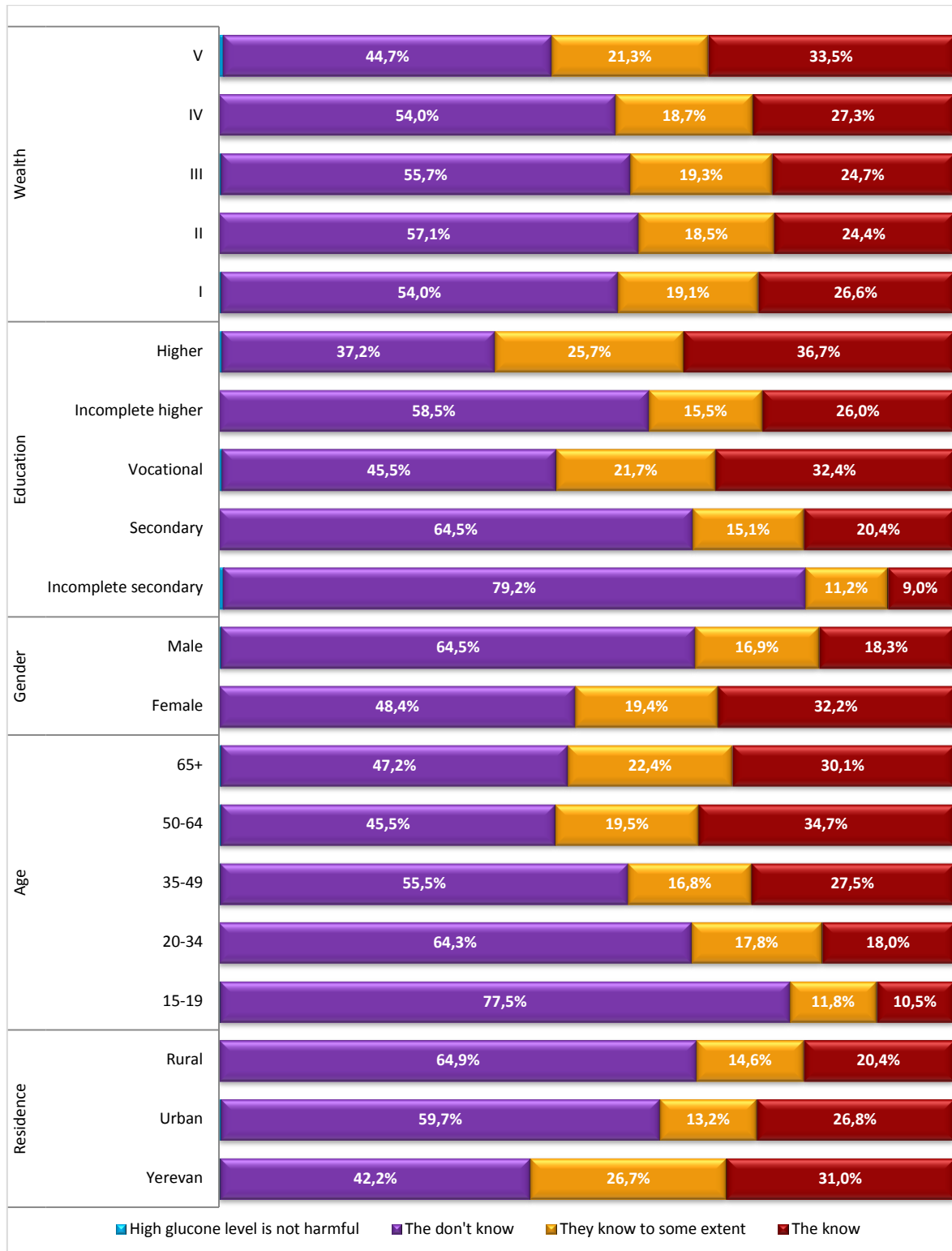




The data show that from 2012 to 2022, the level of awareness regarding the harmfulness of high glucose levels has decreased among the population aged 15 and older.

Population awareness of high glucose level in 2022 by socio-demographic groups is given in Figure 43.

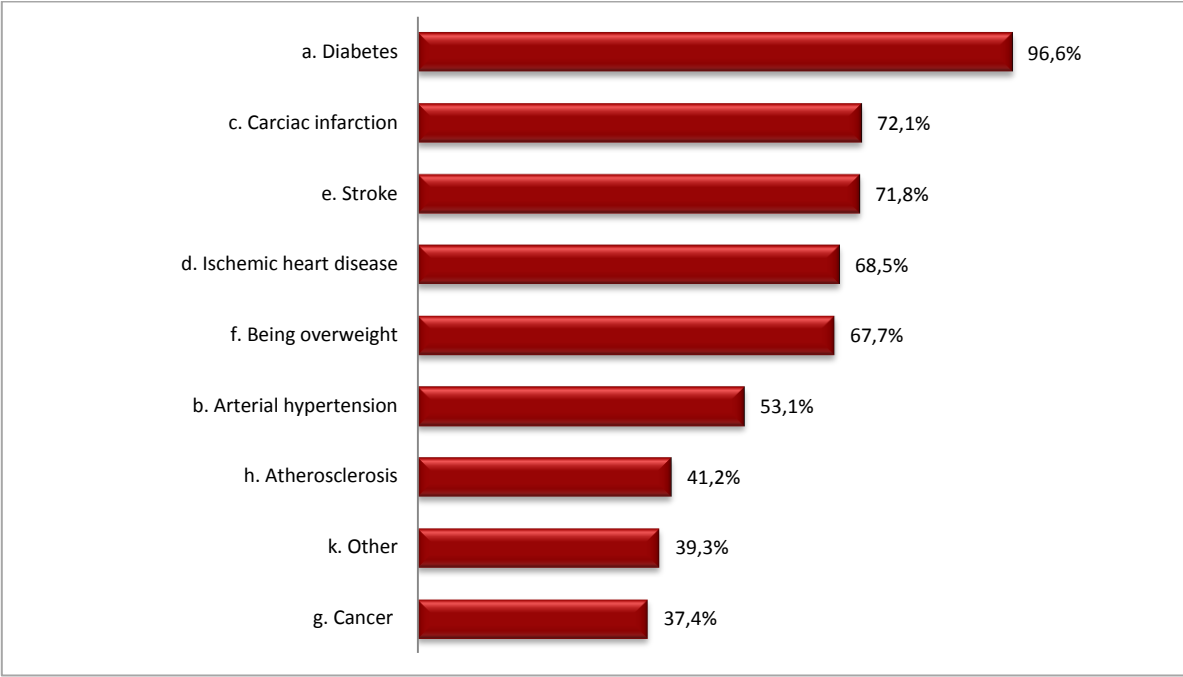
**Figure 43. Public awareness of the harms of high glucose levels in the blood, 2022**



The question of what diseases, according to the population, can be caused by a high level of glucose was also studied. The question was asked to those who answered that they “know” or “know to some extent” that high glucose levels are harmful to health. The data is provided in Figure 44.

Most prevalent perception of high/elevated blood glucose level is that it may lead to the development of diabetes (96.6%), cardiac infarction (72.1%), stroke (71.8%), ischemic heart diseases (68.5%), obesity (67.7%), arterial hypertension (53.1%), and cancer (37.4%).

**Figure 44. Diseases induced by high glucose level (What diseases can HGL cause? % of respondents who reported knowing or somewhat being aware of the harms of HGL), 2022**



### Being overweight

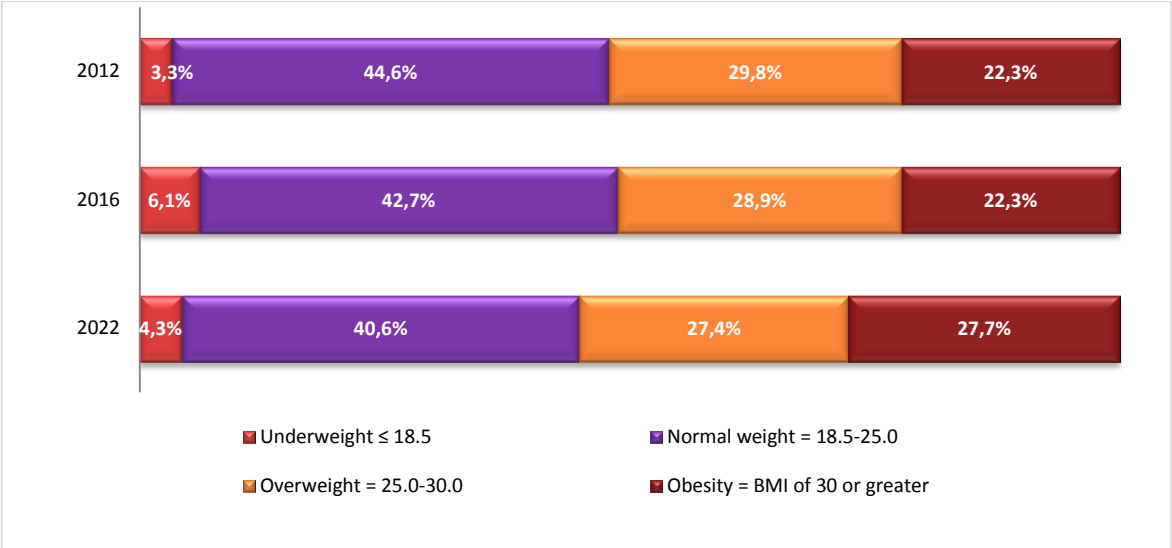
To assess the prevalence of overweight or obesity among adults, individual height and weight measurements were taken during the data collection for the surveys, and Quetelet  $W(\text{kg})/H^2(\text{m}^2)$  formula was used to identify the respondent’s Body Mass Index (BMI).

BMI categories are as follows:

- Underweight  $\leq 18.5$
- Normal weight = 18.5-25.0
- Overweight = 25.0-30.0
- Obesity = BMI of 30 or greater

The distribution of BMI among 15 and older people in Armenia in 2012, 2016, and 2022 is provided in Figure 45.

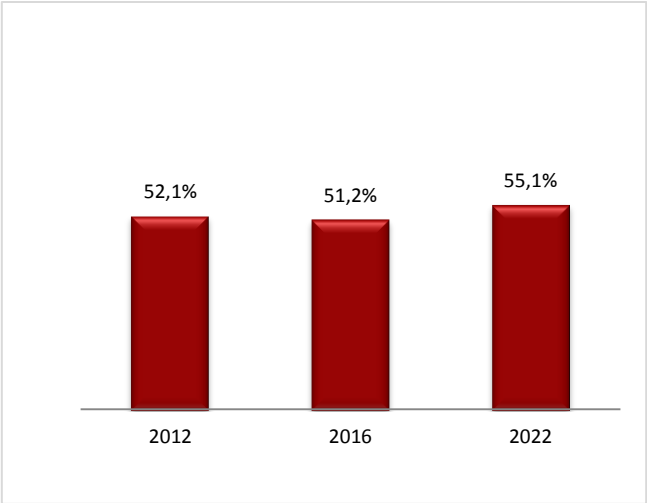
**Figure 45. Distribution of BMI among people aged 15 and older in Armenia in 2012, 2016, and 2022**



The data show that in 2022 (compared to 2016), the number of obese people increased by 5.4%, but the number of overweight people decreased by 1.5%.

The number of overweight or obese population in 2012, 2016, and 2022 is provided in Figure 46.

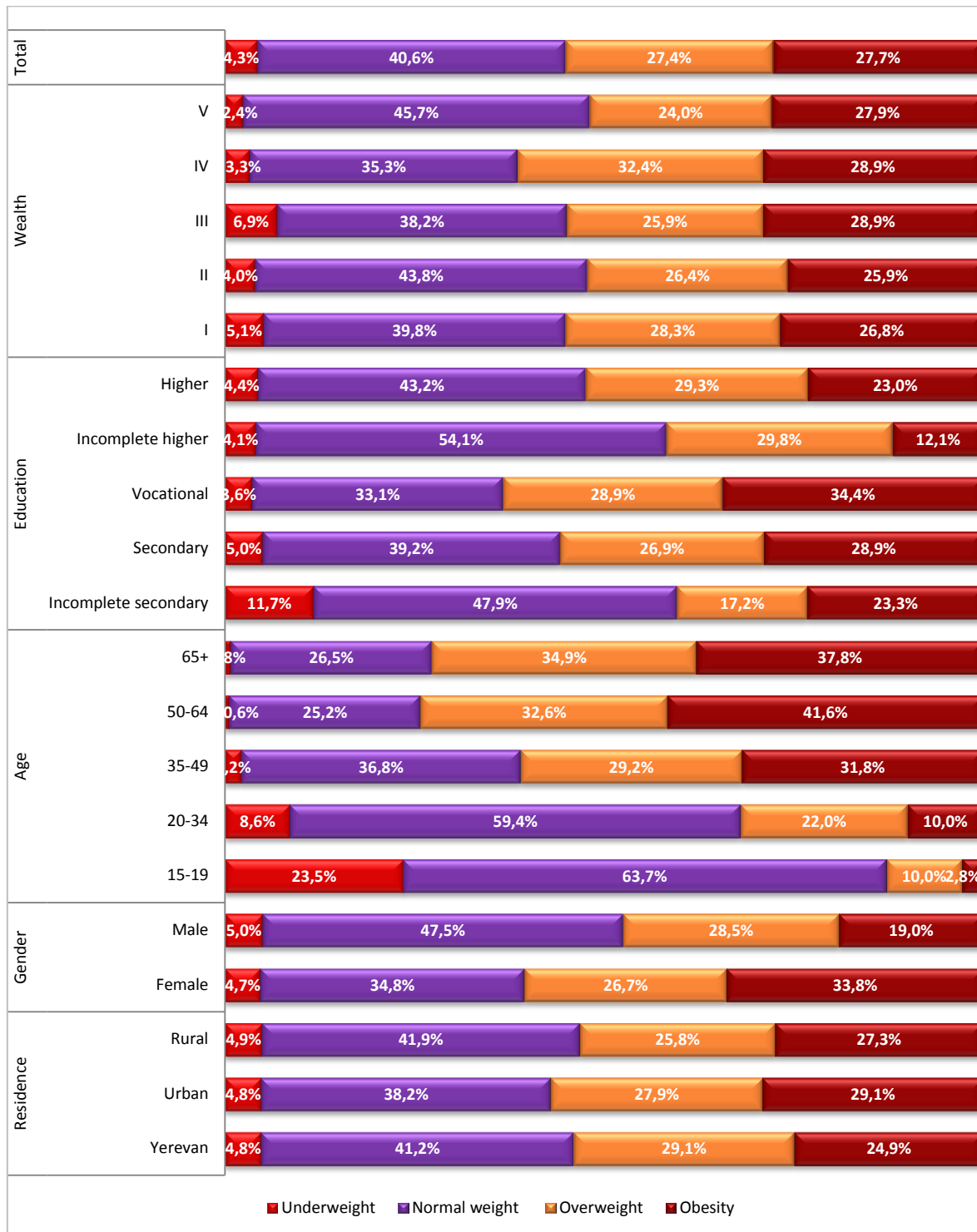
**Figure 46. The number of 15 and older people in Armenia who are overweight or obese in 2012, 2016, and 2022**



The distribution of BMI by sociodemographic groups among the population aged 15 and above in 2022 is given in Figure 47, and those with overweight or obesity in Figure 48.

According to Figure 47, it's easy to observe the distribution of obese people in sex-age groups.

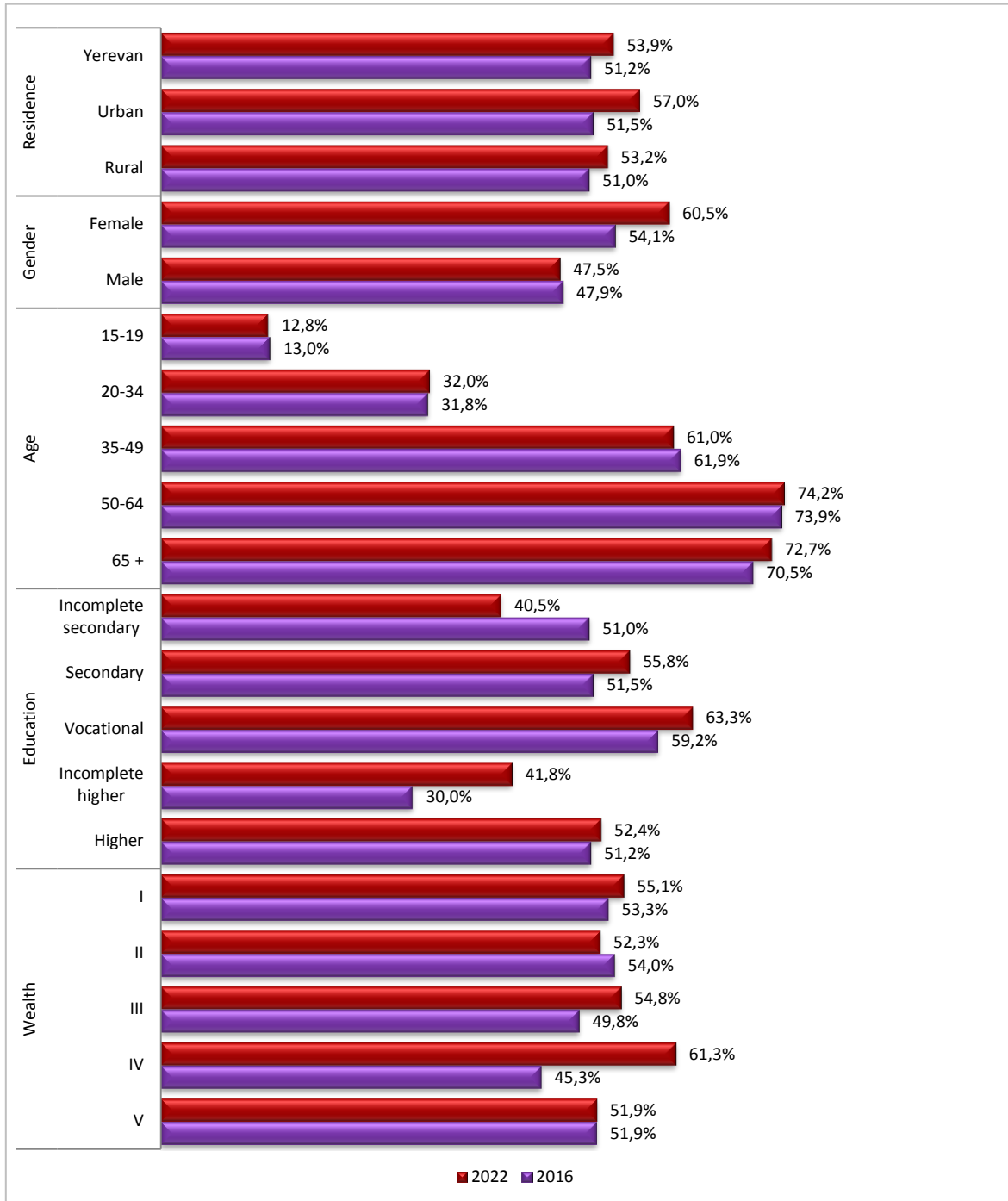
**Figure 47. BMI categories according to sociodemographic groups, 2022**



- The number of obese people within wealth groups ranges from 26% to 29%.
- According to the level of education, the number of obese people is relatively higher among people with vocational and secondary education.

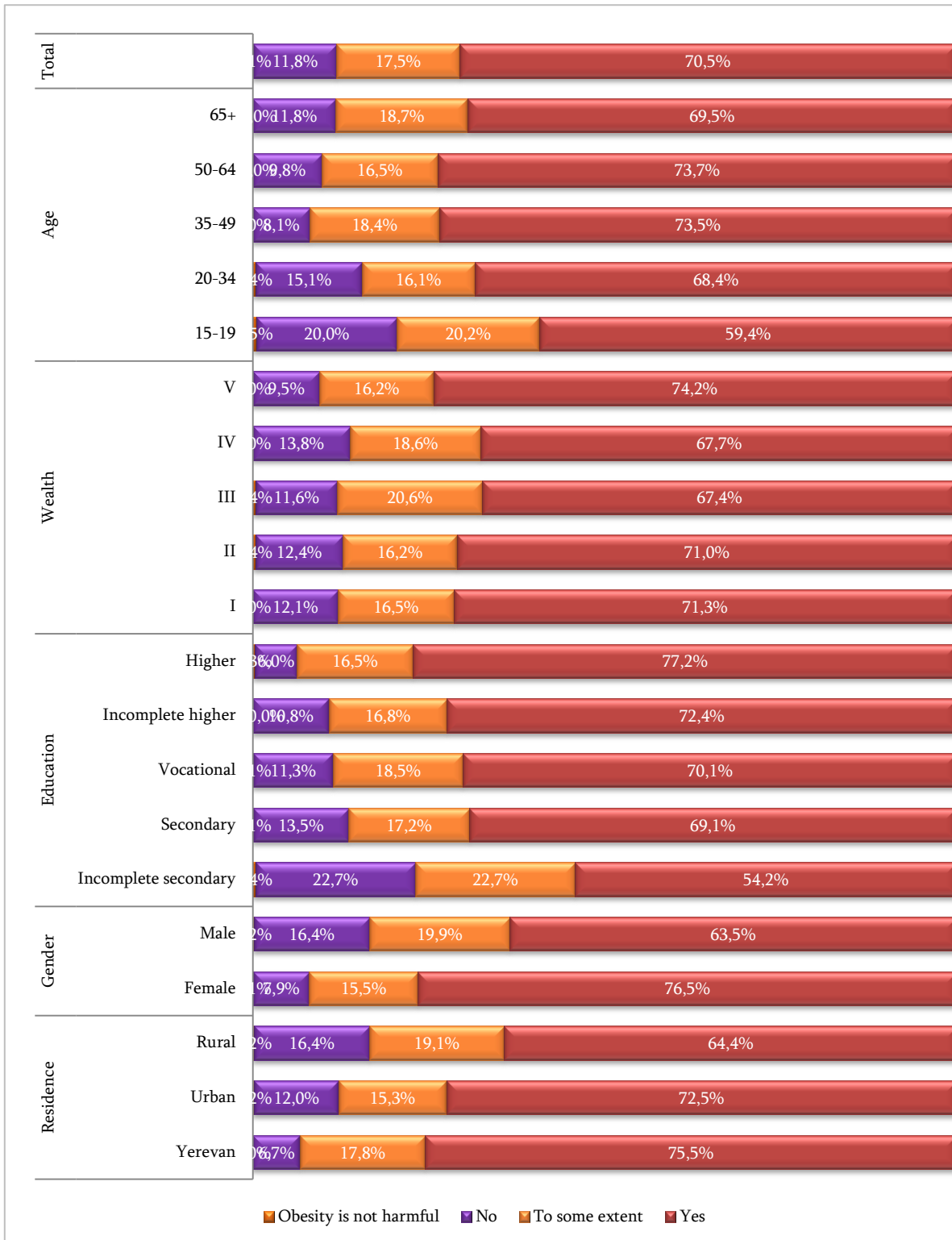
- The number of obese people rapidly increases along with increase in age. If it's 2.8% in the 15-19-year-old group, it's 41.6% in the 50-64-year-old group. That indicator is slightly lower in the 65+ age group; However, it's still very high (37.8%).
- The number of obese people among women (33.8%) is significantly higher than among men (19.0%).
- The number of obese people in urban areas is slightly higher than in Yerevan and rural areas.

**Figure 48. Prevalence of overweight and obesity according to sociodemographic groups, 2012, 2016**

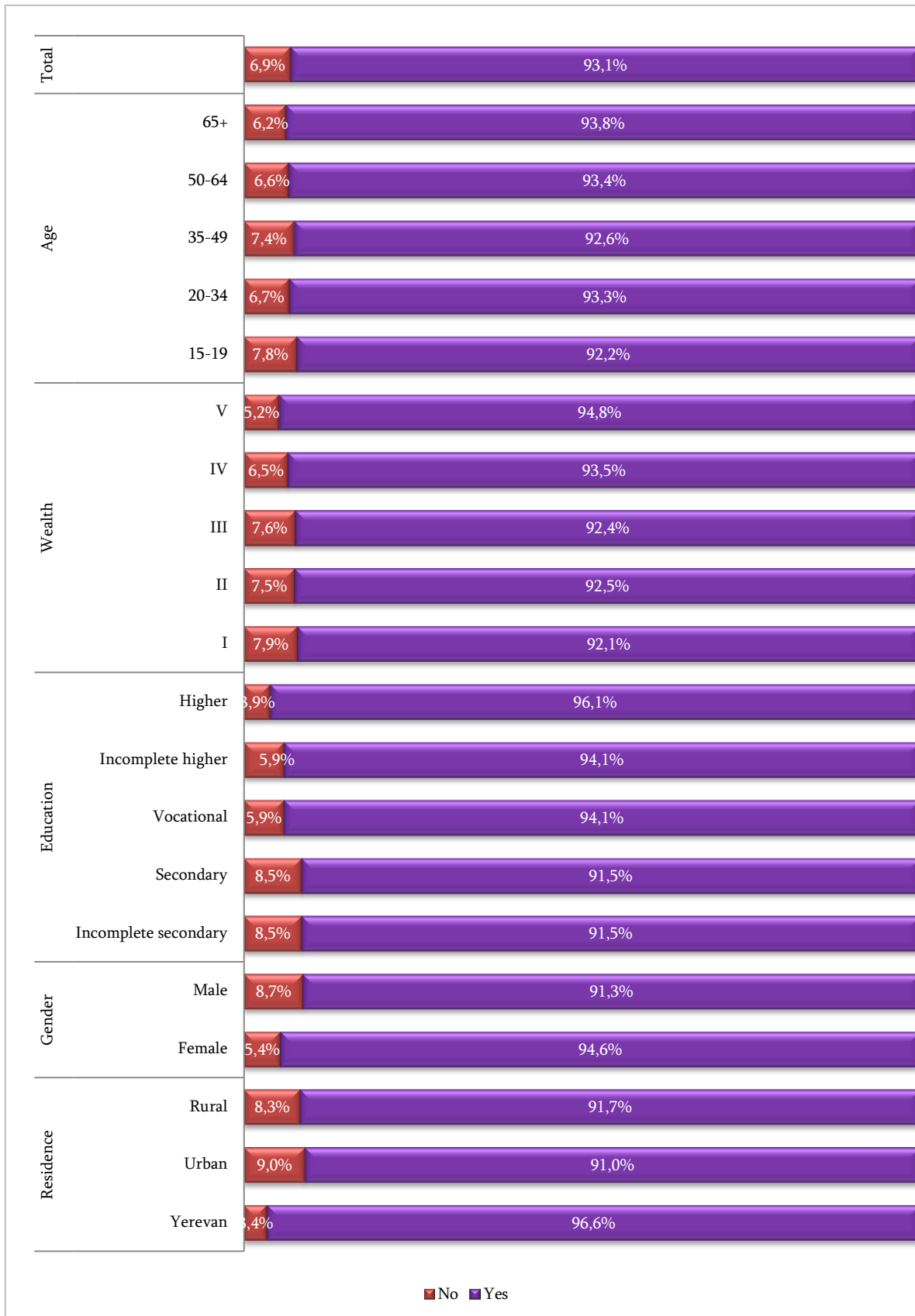


Population awareness of being overweight and physical inactivity are provided in Figures 49 and 50, respectively.

**Figure 49. Population awareness of dangers of obesity (“Do you know what harm obesity can cause to your health?”)**



**Figure 50. Public awareness of physical inactivity (“Do you think physical inactivity harms human health?”)**

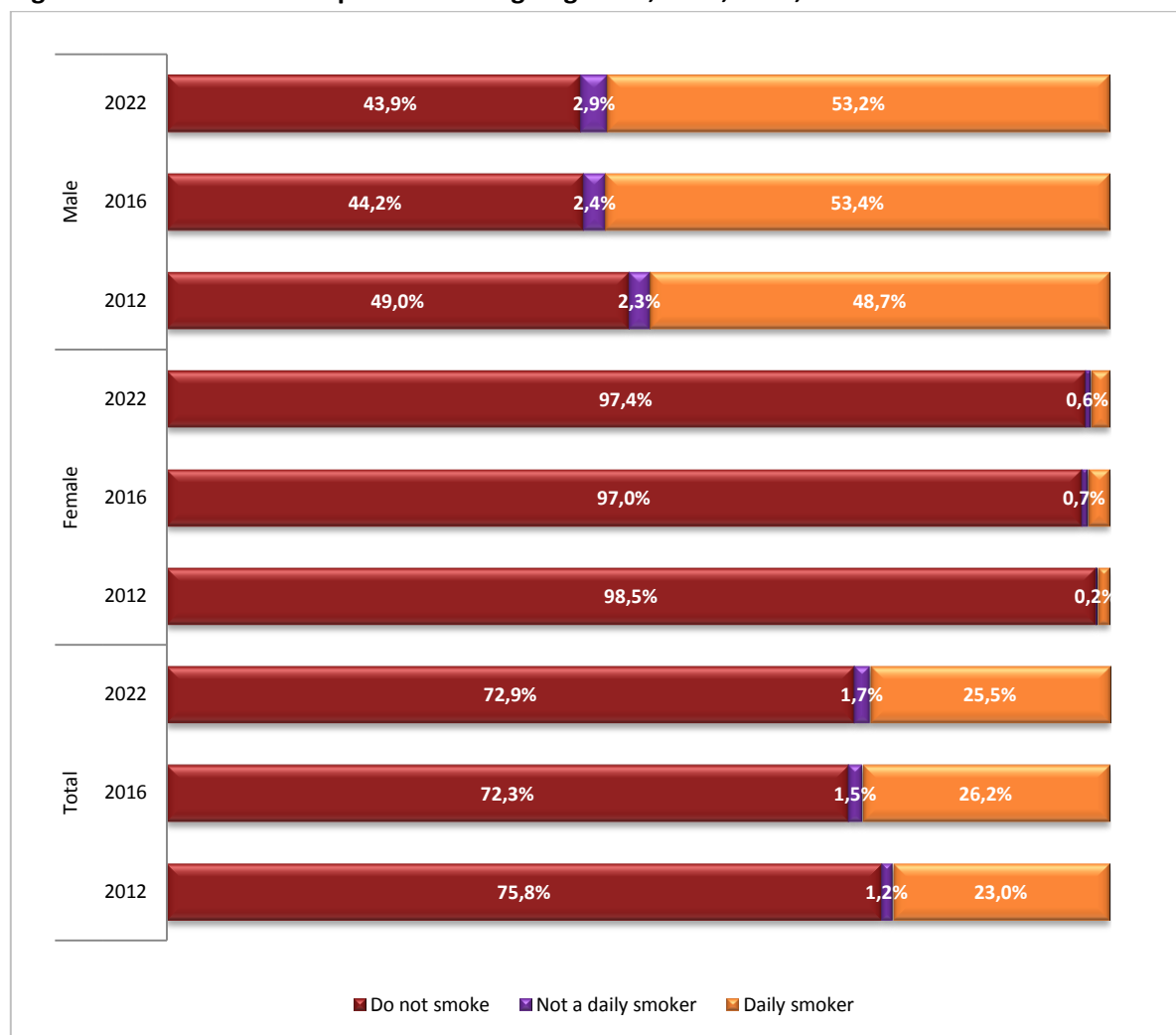


## Tobacco use

The most important indicator used to describe tobacco use as a risk factor is the number of daily smokers. As a rule, most non-daily smokers quickly become daily smokers, and a few quit smoking. The number of smoking men significantly exceeds the number of smoking women worldwide. The situation is the same in Armenia, as well.

Tobacco use in Armenia by gender in 2012, 2016, and 2022 is given in Figure 51.

**Figure 51. Tobacco consumption according to gender, 2012, 2016, 2022**



According to the data:

- The percentage of men and women who smoke every day in 2022 has not changed significantly.
- In 2022, the number of daily smokers men remained quite high (53.2%).
- In 2022, the percentage of daily smoker women was 2.0%.



- The percentage of non-daily smokers remains quite small (2.9% among men and 0.6% among women).

The number of daily smokers among men and women by age group is given in Figures 52 and 53.

**Figure 52. Number of men who smoke daily according to age group**

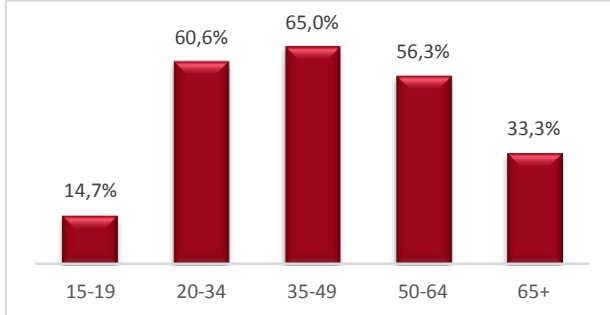


Figure 52 shows that smoking is becoming a serious problem among men during the transition from the 15-19 age group to the 20-34 age group. It's possible that most men start smoking during military service.

**Figure 53. Proportion of smoking women according to age**

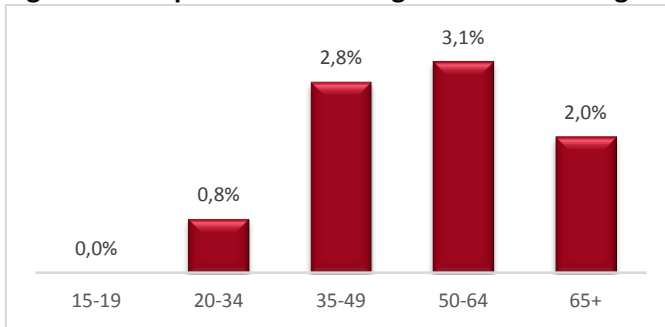
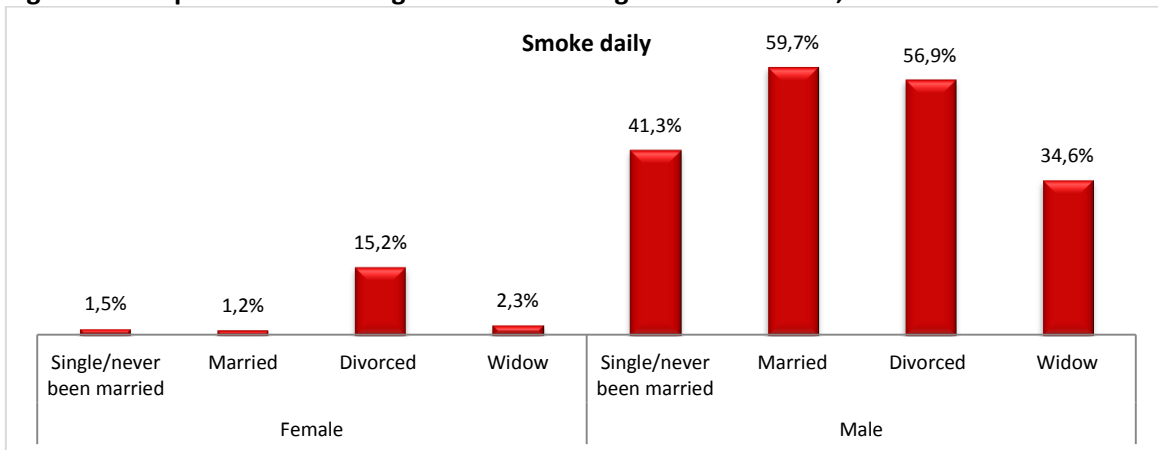


Figure 53 shows that the number of daily smokers among women is increasing dramatically during the transition from the 20-34 age group to the 35-49 age group.

Among women, the number of daily smokers is relatively much higher among divorced (15.2%) than among women with another marital status (1.5-2.3%). This phenomenon wasn't observed among men (Figure 54).

**Figure 54. Proportion of smoking women according to marital status, 2022**



## Types of tobacco

Various types of tobacco have increased in Armenia in recent years; Hence, the HSPA study looked at different types of daily tobacco consumption. Table 7 shows the number of different types used by the study sample. According to the table, the number of daily smokers equals 636, and the number of non-daily smokers is 42.

For each type of cigarette in the table, the number of consumers is given in the daily and non-daily smokers sample.

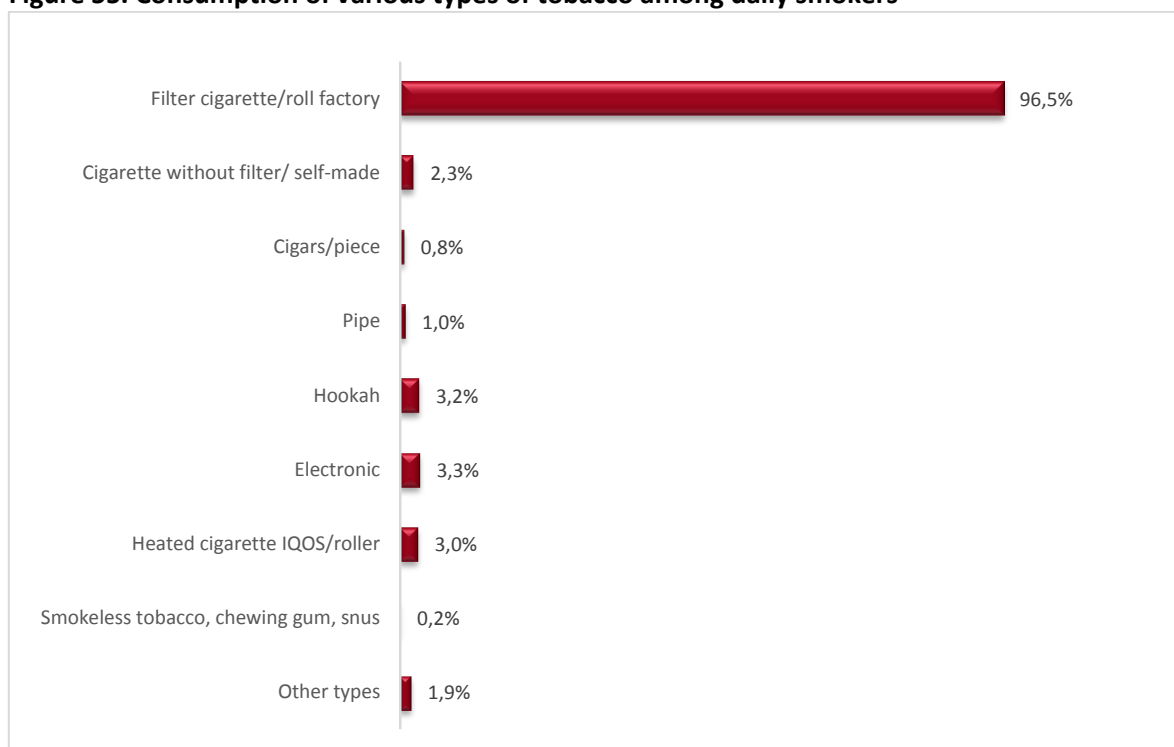
For example, there are daily (614 people) and non-daily smokers (35 people) who consume factory-filter or roller cigarettes in the sample.

**Table 7. Statistical description of tobacco use data**

<i>Case Processing Summary</i>							
	Currently smoke	Cases					
		Valid		Missing		Total	
		N	%	N	%	N	%
Filter cigarette/roll factory, daily	Not every day smoke	35	<b>83.6%</b>	7	16.4%	42	100.0%
	Smoke daily	614	<b>96.5%</b>	22	3.5%	636	100.0%
Cigarette without filter/ self-made, daily	Not every day smoke	1	<b>3.4%</b>	40	96.6%	42	100.0%
	Smoke daily	15	<b>2.3%</b>	622	97.7%	636	100.0%
Cigars/piece, daily	Not every day smoke	0	<b>0.0%</b>	42	100.0%	42	100.0%
	Smoke daily	5	<b>0.8%</b>	631	99.2%	636	100.0%
Pipes (one puff), daily	Not every day smoke	1	<b>3.3%</b>	40	96.7%	42	100.0%
	Smoke daily	6	<b>1.0%</b>	630	99.0%	636	100.0%
Hookah (one refill serving), daily	Not every day smoke	5	<b>11.6%</b>	37	88.4%	42	100.0%
	Smoke daily	21	<b>3.2%</b>	616	96.8%	636	100.0%
Electronic, daily	Not every day smoke	2	<b>5.8%</b>	39	94.2%	42	100.0%
	Smoke daily	21	<b>3.3%</b>	616	96.7%	636	100.0%
Heated cigarette, IQOS/roller, daily	Not every day smoke	1	<b>2.9%</b>	40	97.1%	42	100.0%
	Smoke daily	19	<b>3.0%</b>	617	97.0%	636	100.0%
Smokeless tobacco, chewing gum, snus, daily	Not every day smoke	0	<b>0.0%</b>	42	100.0%	42	100.0%
	Smoke daily	1	<b>0.2%</b>	635	99.8%	636	100.0%
Other types, daily	Not every day smoke	0	<b>0.0%</b>	42	100.0%	42	100.0%
	Smoke daily	12	<b>1.9%</b>	624	98.1%	636	100.0%

Use of various types of tobacco among daily smokers is provided in Figure 55.

**Figure 55. Consumption of various types of tobacco among daily smokers**



The average value of daily consumption of each type of cigarette is provided in Table 8. The average value is calculated from the number of people using the given type of tobacco (see Table 7).

**Table 8. Daily consumption of tobacco. (From the following types of tobacco or other smoking products, how many products or how many times a day do you use?)**

Types of tobacco	Do you smoke daily, or not every day, or are you a non-smoker?	
	Smoke non-daily	Smoke daily
Filter cigarette/roll factory, daily	4.0	24.6
Cigarette without filter/ self-made, daily	1.0	14.9
Heated cigarette IQOS/roller, daily	4.0	12.7
Electronic, daily	2.7	9.7
Pipes (one puff), daily	0.7	5.1
Hookah (one refill serving), daily	0.2	1.7
Cigars/piece, daily	-	0.3
Smokeless tobacco, chewing gum, snus, daily	-	0.1
Other types, daily	-	11.5

According to the table:

- Average number of all types of cigarettes used by daily smokers is more than non-daily smokers.
- Daily smokers smoke on average 24.6 cigarettes per day.
- Daily smokers smoke an average of 14.9 without filtered or self-made cigarettes per day.

### ***Age at first smoking***

Table 9 shows at what age smokers started smoking different types of cigarettes. Since age distributions are highly skewed to the right (as evidenced by the fact that medians are quite smaller than the mean values), the median is preferred to be used as the characteristic for the central tendency of the type of cigarette consumed for the first time.

According to the table:

- Half of the smokers start using smokeless tobacco before the age of 17.5 years.
- Half of the filter cigarettes, filterless cigarettes, cigars, and hookah smokers start consuming these types of tobacco for the first time at the age of 18.
- Half of the pipe smokers start using it for the first time in their 20s at the age.
- Electronic (22.0) and heated cigarettes (24.0) are the latest to start using.

**Table 9. Age at first smoking, years**

	Mean	25% percentile	Median	75% percentile
Smokeless tobacco, chewing gum, snus	17.5	15.0	<b>17.5</b>	20.0
Filter cigarette/roll factory	18.3	15.0	<b>18.0</b>	20.0
Cigarette without filter/ self-made	19.3	16.0	<b>18.0</b>	20.0
Cigars	20.7	16.0	<b>18.0</b>	21.0
Hookah (one refill serving)	21.3	17.0	<b>18.0</b>	21.0
Pipes (one puff)	21.6	17.0	<b>20.0</b>	23.0
Electronic	26.5	19.0	<b>22.0</b>	35.0
Heated cigarette IQOS/roller	29.8	22.0	<b>24.0</b>	38.0
Other types	15.8	15.0	<b>15.0</b>	18.0

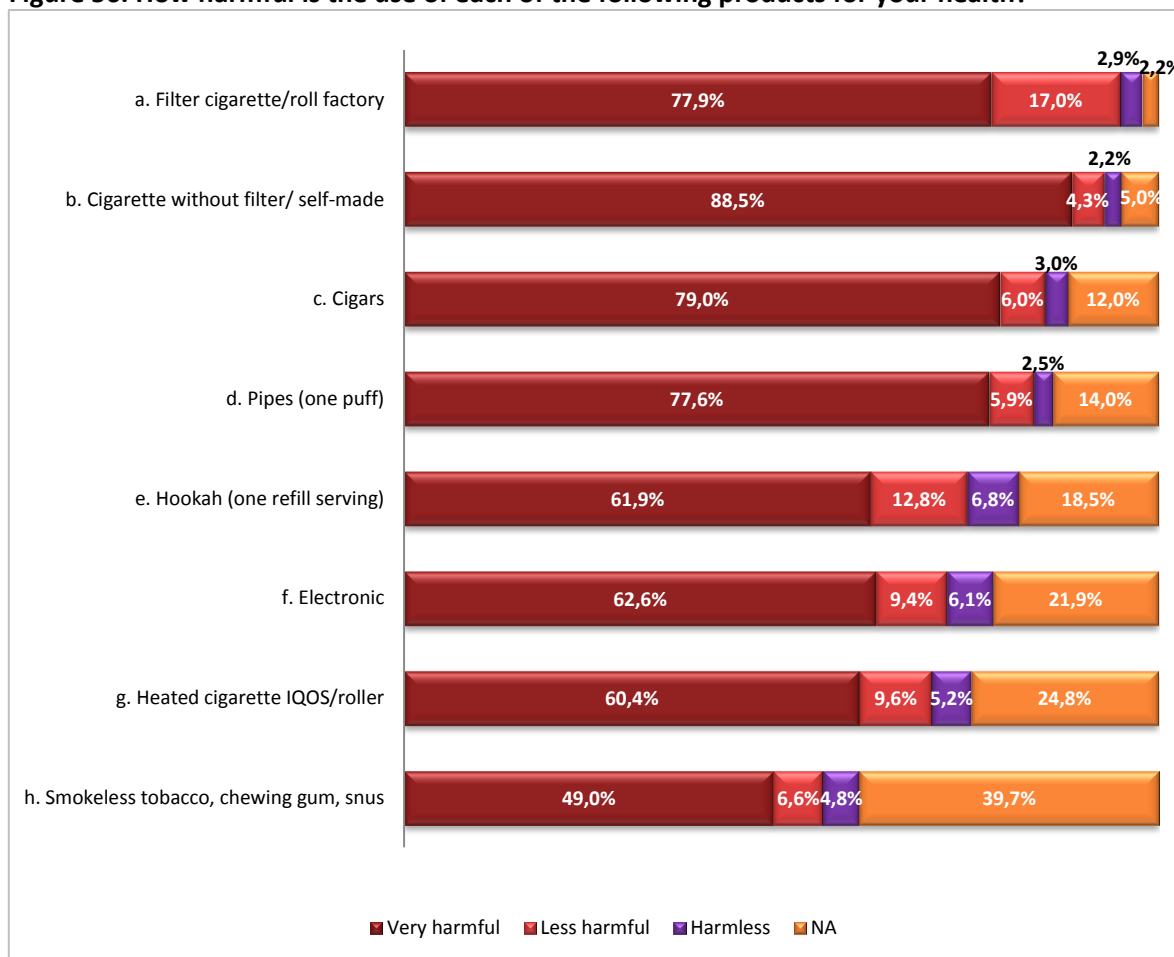
### ***Perception of harmfulness of types of tobacco***

Population awareness regarding the harms of each type of tobacco was studied (Figure 56).

According to the data:

- Population awareness regarding the harms of the “Traditional” types of cigarettes (filter cigarettes, filterless cigarettes, cigars, and pipes) is very high (85-95%).
- Population awareness of relatively “new” types of cigarettes (smokeless cigarettes, heated cigarettes, e-cigarettes, and hookahs) is very low; 18 to 40% of the population is not aware of the harmfulness of these types of cigarettes.
- However, when people get an idea of the “new” types of cigarettes, about 80% of them form the opinion that that types of cigarettes are “very harmful.”

**Figure 56. How harmful is the use of each of the following products for your health?**



***The amount of money spent on cigarettes***

The distribution of the amount spent on cigarettes is highly skewed to the right (Table 10 shows the mean value of the indicator (613) is significantly greater than the median), therefore the description of the indicator is more adequate using the median.

**Table 10. What is the cost of a pack of cigarettes or other tobacco products that you usually use?**

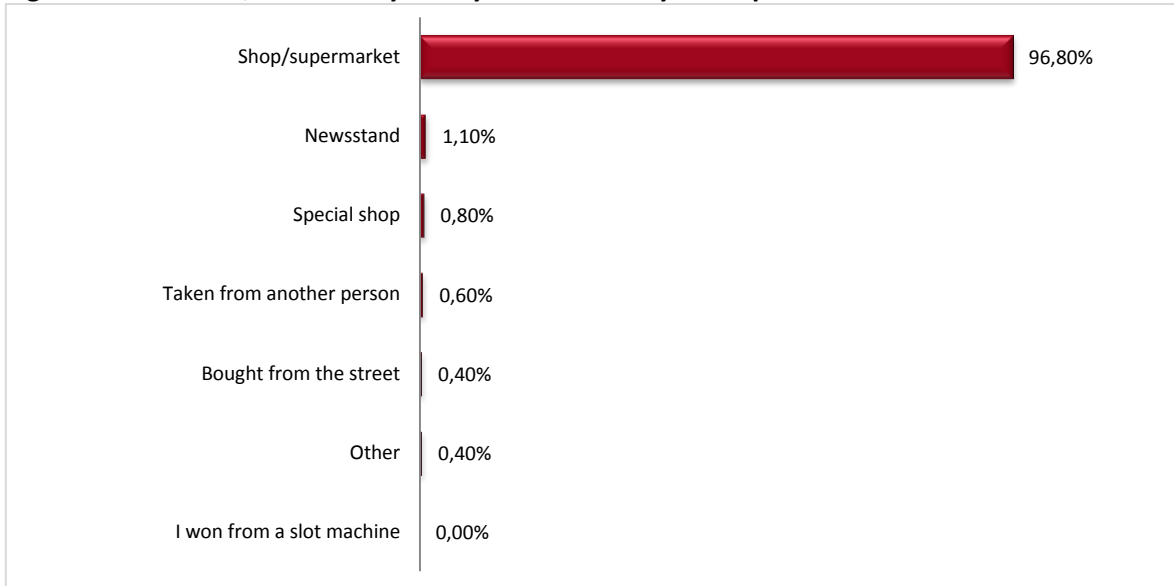
	Mean	25% percentile	50% percentile (median)	75% percentile
What is the cost of a pack of cigarettes or other tobacco products you usually use (AMD)?	612.8	500.0	500.0	600.0

Half the smokers spend up to 500 drams for their commonly used cigarettes or other tobacco products. On the other hand, those in the interquartile range (who constitute half of the smokers) spend 500-600 drams for a pack of cigarettes.

***Sources of obtaining tobacco***

The absolute majority of smokers (96.8%) buy cigarettes from shops and supermarkets (Figure 57).

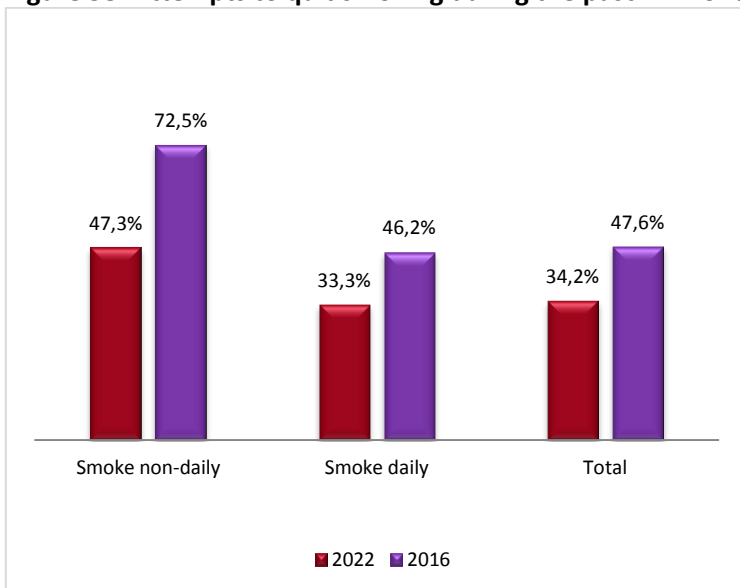
**Figure 57. Last time, where did you buy tobacco or any other product?**



***Quitting attempts in the past 12 months***

- Research data shows that 33.3% of daily smokers have tried to quit smoking within the last year. However, in 2022, that indicator decreased by 13% compared to 2016 (Figure 58).
- Among non-daily smokers, the number of people who have tried to quit smoking is higher; In 2022, it was 47.3% of non-daily smokers. That number also decreased compared to the indicator in 2016 (72.5%).
- In general, 34.2% of the total number of smokers tried to quit smoking.

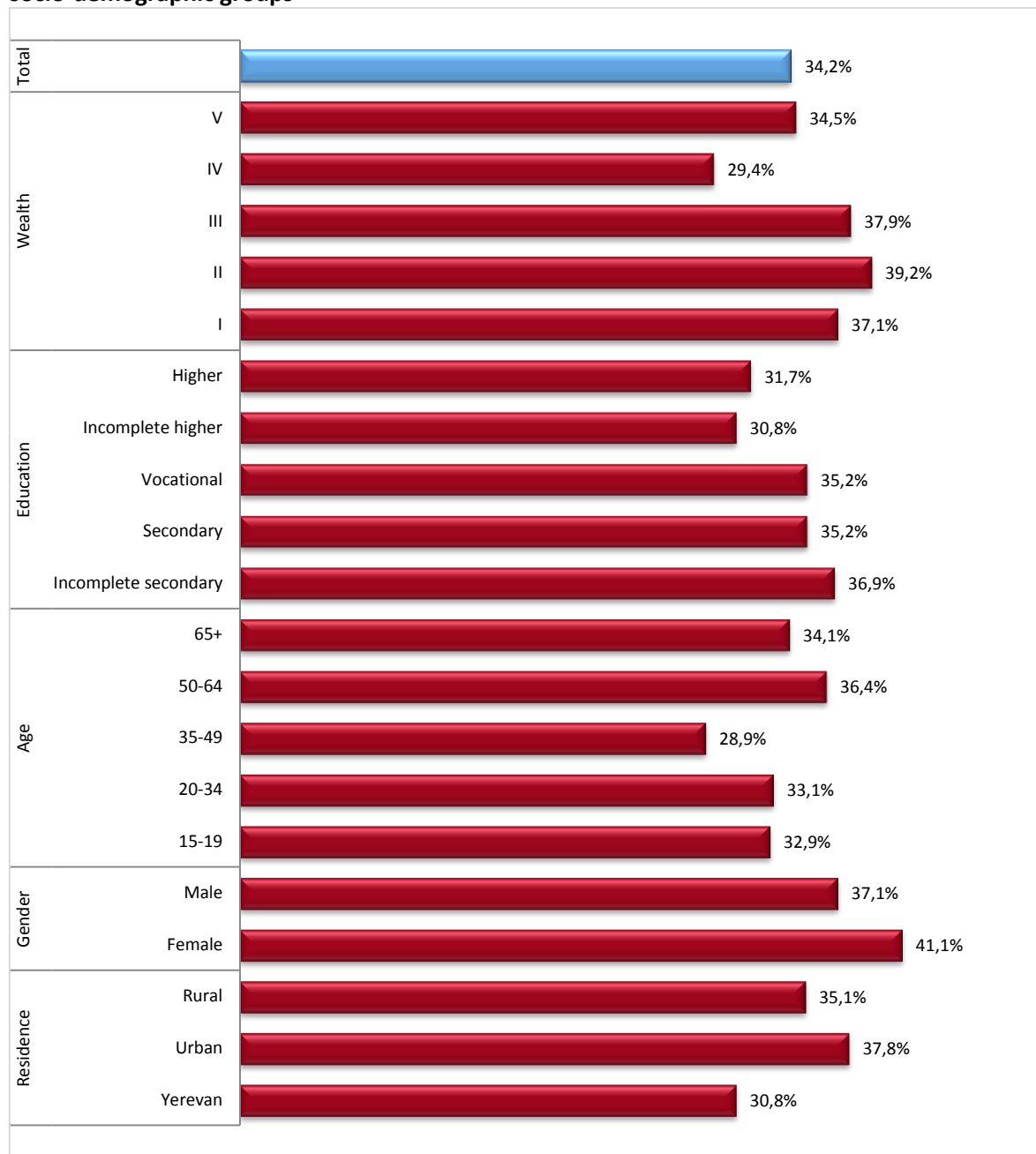
**Figure 58. Attempts to quit smoking during the past 12 months (% of positive responses), 2016, 2022**



The number of people who want to quit smoking among all smokers during the last 12 months by socio-demographic groups is provided in Figure 59:

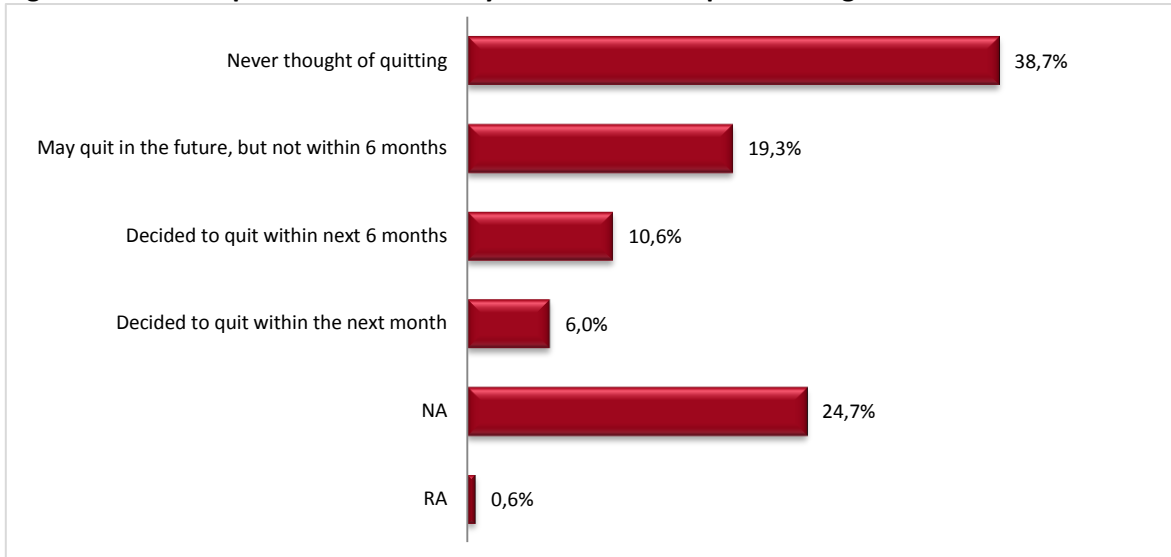
- Attempts to quit smoking were relatively higher in the lower wealth quintiles (I, II, and III),
- Among relatively lower educational level groups,
- Among women,
- Attempts to quit smoking were relatively smaller in the 35-49 age group and in Yerevan.

**Figure 59. Attempts to quit smoking during the past 12 months (% of positive responses), according to socio-demographic groups**



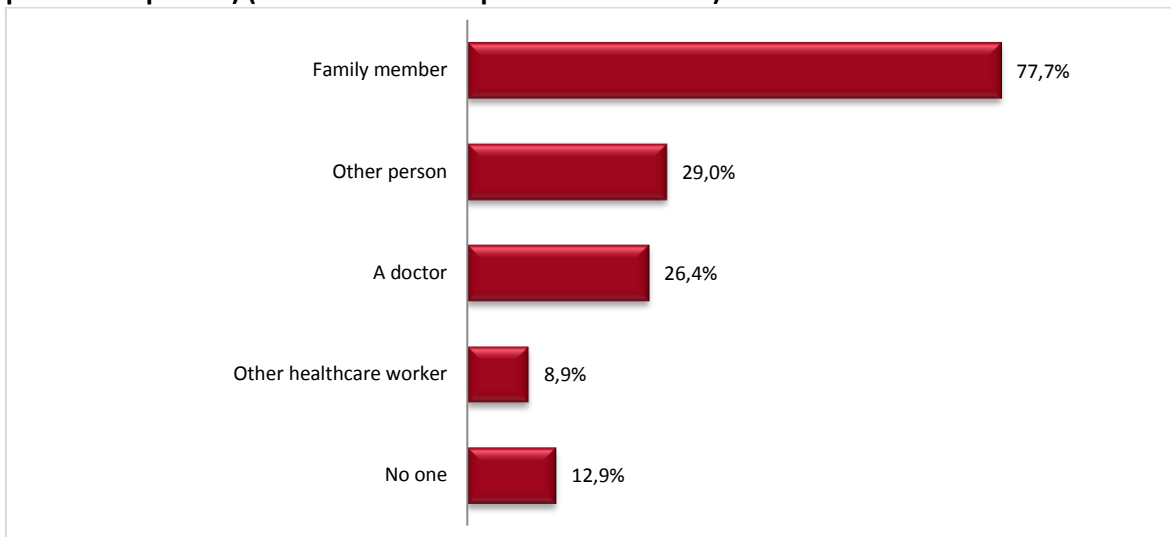
In general, 38.7% of smokers **never** had the intention to quit smoking (Figure 60). 16.6% of smokers intend to quit smoking within the next month or the next 6 months. However, there is a large number of people (24.7%) who don't have any stance on quitting smoking.

**Figure 60. Which option best describes your intention to quit smoking?**



Smokers have been advised by various people to quit smoking in the last 12 months. Out of them, family members are the first people (77.7%), and other people, friends, employees, etc., contain 29.0% (Figure 61). 26.4% and 8.9% of smokers received advice to quit smoking from a doctor or other healthcare worker, respectively.

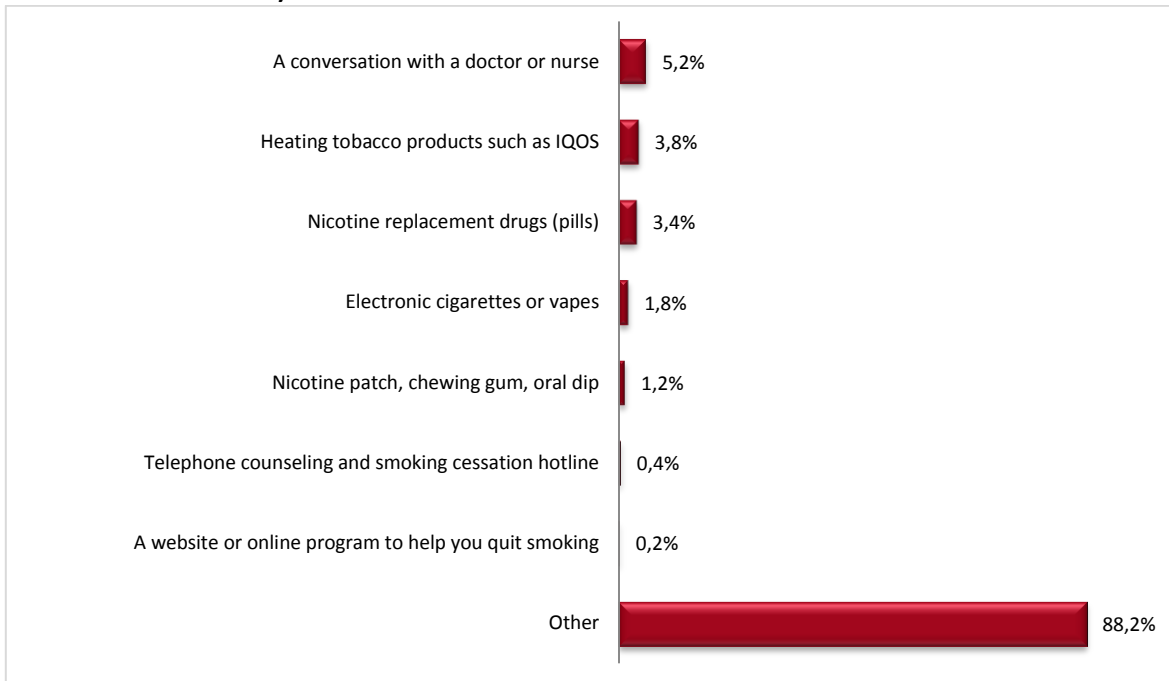
**Figure 61. Proportion of people who have been advised to quit smoking during the past 12 months (% of positive responses) (more than one response was allowed)**



Different methods to quit smoking by smokers have been investigated. A pre-defined list, presented in Figure 62, was studied. None of the options on that list have a sufficiently high degree of acceptability as a way to quit smoking. On the other hand, 88.2% of smokers mentioned "Other" options as a way to quit smoking, which wasn't identified during the research.

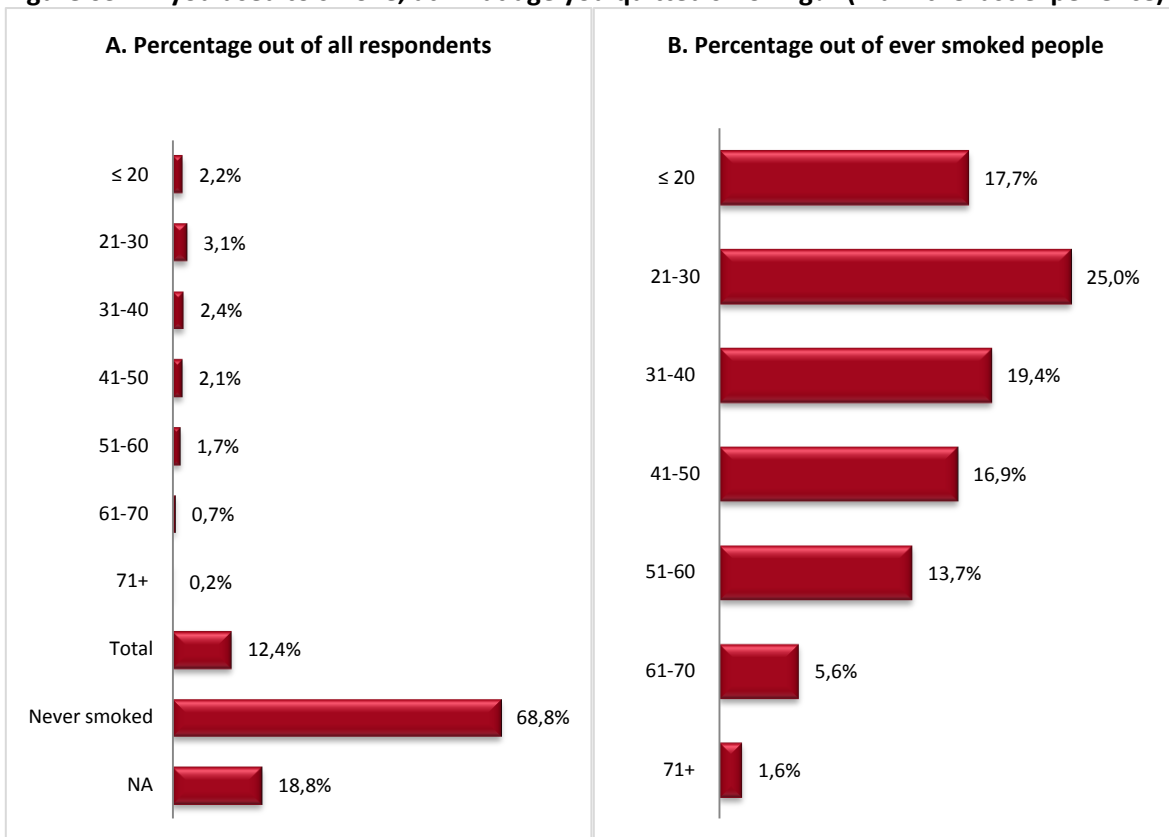


**Figure 62. If you were trying to quit smoking, which of the listed measures would you use? (more than one answer is allowed)**

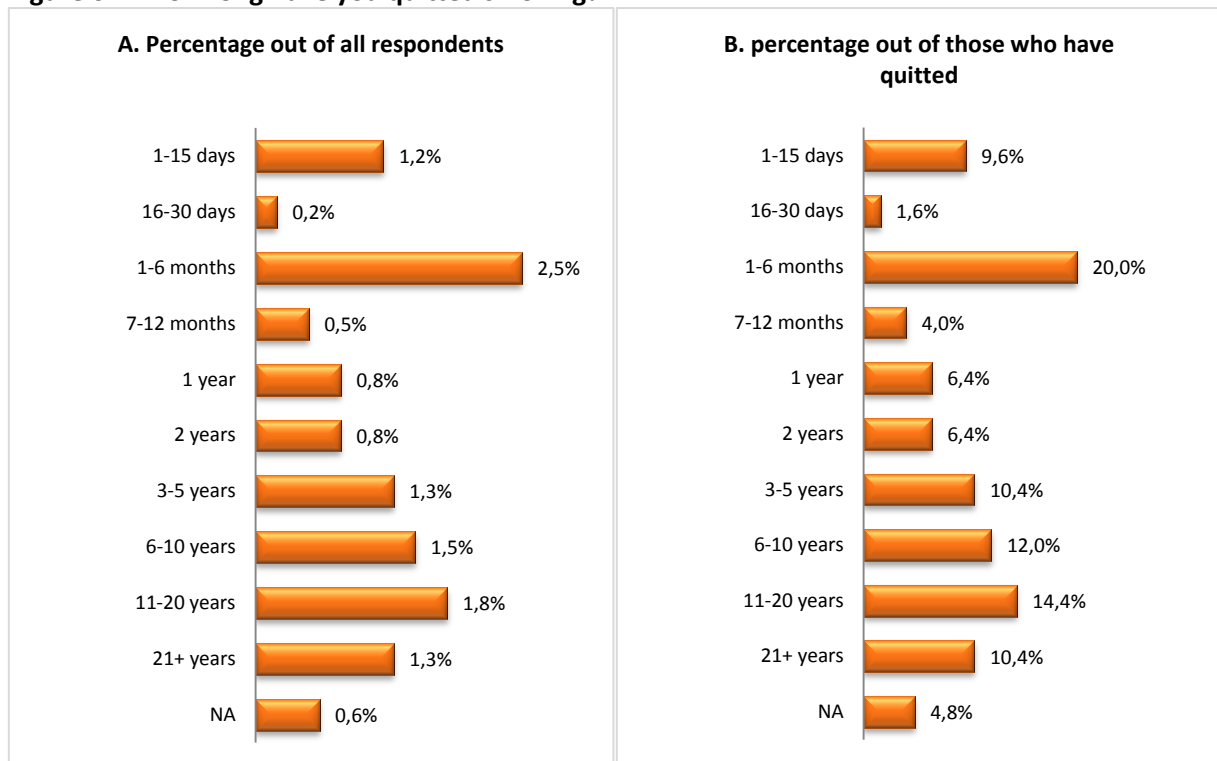


Age at last attempt to quit among ever smokers was examined (Figure 63), as well as the number of years since quitting among those who have quit (Figure 64).

**Figure 63. “If you used to smoke, at what age you quit smoking?” (mark the last experience)**



**Figure 64. “How long have you quit smoking?”**



### ***Assessment of secondhand smoke exposure***

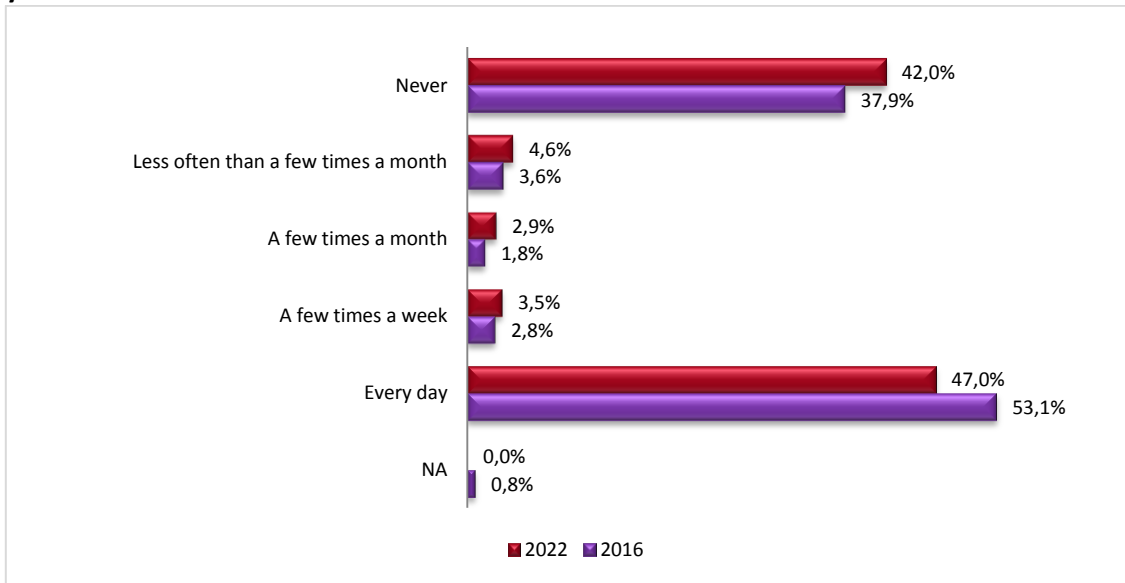
The study examined the prevalence of exposure to secondhand smoke in different settings, including home, outdoor and indoor public and workplaces.

#### **Smokers at home**

The number of people exposed to secondhand smoke at home (indoor area) was studied using the following question: “In the past 30 days, how often has anyone (including you) used tobacco (all products) in your home?” The results are presented in Figure 65:

- In Armenia, in 2022 (compared to 2016), the number of daily indoor smokers decreased from 53.1% to 47.0%, and the number of those who never smoke at home increased from 37.9% to 42.0%.
- The number of people who rarely smoke at home increased slightly.

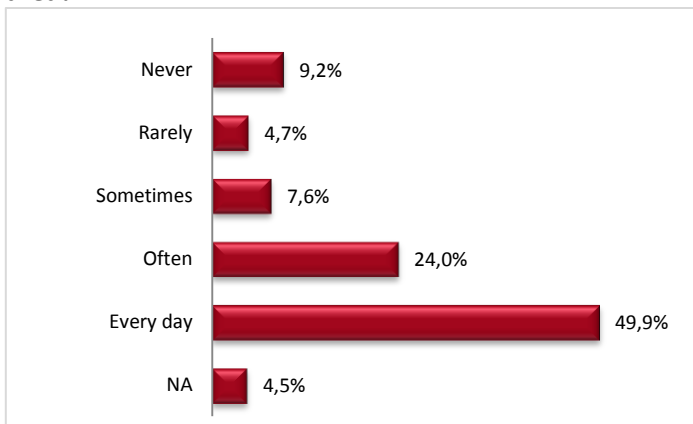
**Figure 65. In the past 30 days, how often has anyone (including you) used tobacco (from all products) in your home?**



**Smoking in an outdoor public space**

Smoking in public places surveyed by the “During the past 30 days, how often did you witness someone smoking in a public place? The examples of outdoor public spaces are school grounds, parking lots, open sport grounds, and parks. Don’t include the cases when you were the smoker through the question”. The results are given in figure 66.

**Figure 66. During the past 30 days, how often did you witness someone smoking in an outdoor public area?**



- In Armenia, the habit of smoking in an outdoor public area is very common. 73.9% of respondents every day or often met people who smoke in outdoor public places.

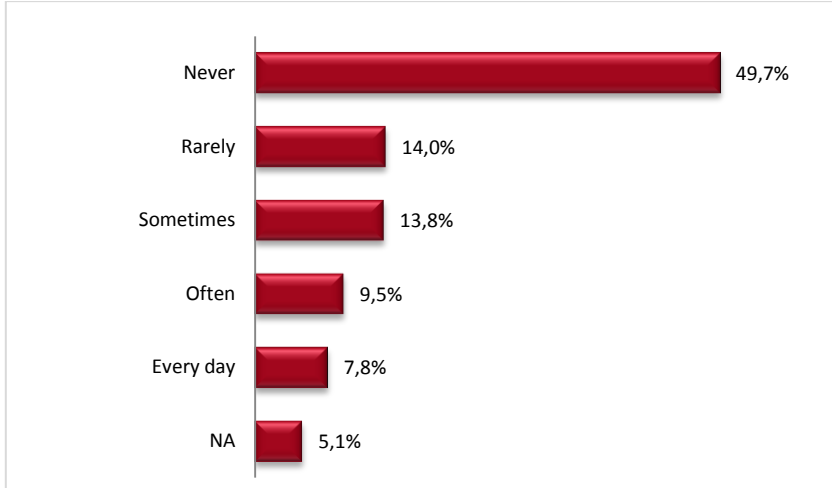
**Smoking in an indoor public space**

The prevalence of smoking in public indoor spaces was assessed by asking, “During the past 30 days, how often did you witness someone smoking in public indoor places? The examples of indoor public places are

school buildings, shops, restaurants, and indoor gym places. Don't include cases where you were the smoker."

The results are provided in Figure 67.

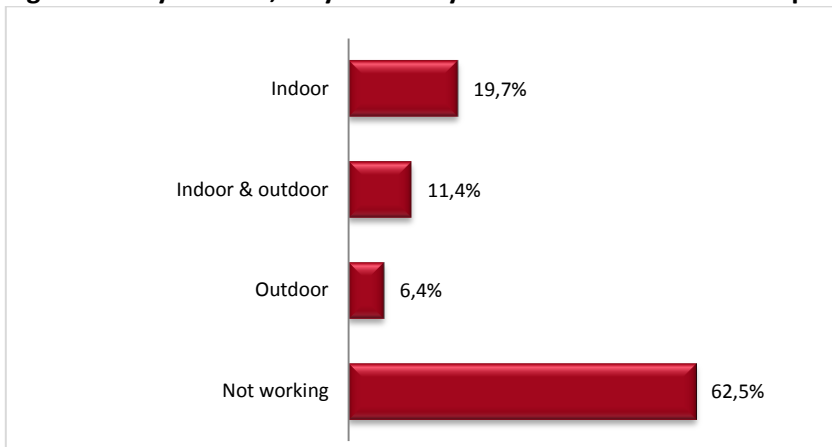
**Figure 67. During the past 30 days, how often did you witness someone smoking in an indoor public area?**



### Smoking in outdoor workplaces

First, the number of workers in outdoor and indoor areas was estimated (Figure 68).

**Figure 68. If you work, do you usually work in indoor or outdoor places?**



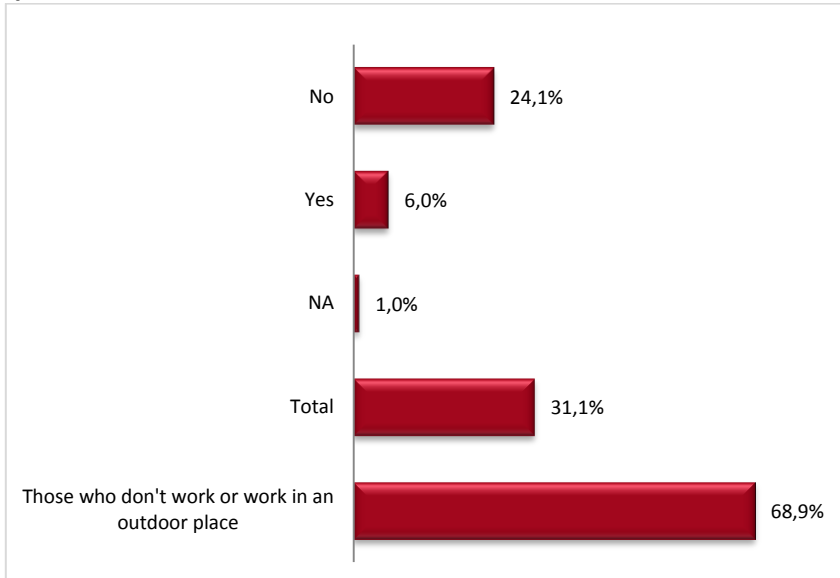
In Armenia, 62.5% of people aged 15 and older don't work, 19.7% of the entire population works only in indoor areas, 6.4% only in outdoor areas, and 11.4% in both outdoor and indoor areas.

The assessment of exposure to secondhand smoke in indoor workplaces was obtained using the following question: "In the past 30 days, has anyone used tobacco in indoor areas of your workplace?" The prevalence of smoking in indoor workplaces is provided in Figures 69 and 70. The former shows the percentages of the entire population, and the latter shows those who work in either "indoor" or "indoor & outdoor" places.

According to Figure 69:

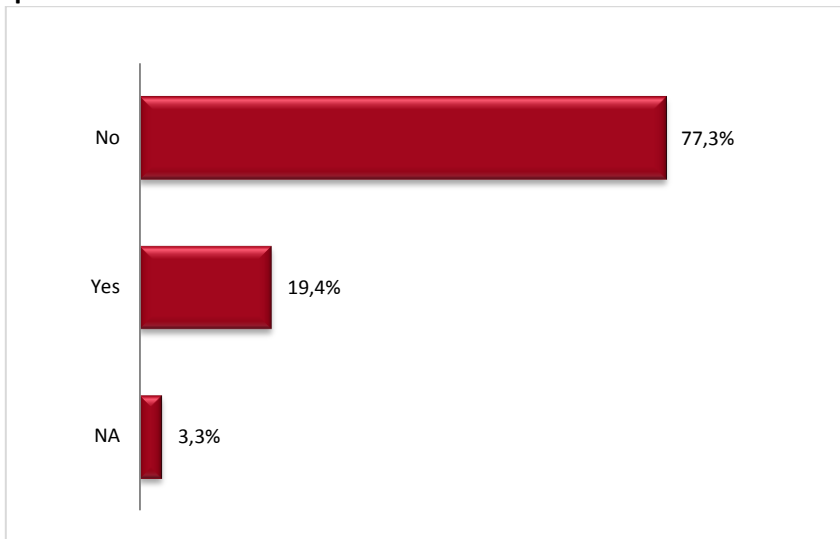
- 6.0% of the Armenian population is exposed to secondhand smoke in the indoor area of their workplace.

**Figure 69. During the past 30 days, has anyone used tobacco in indoor areas of your workplace? The question was asked to those who work in either “indoor” or “indoor & outdoor” places**



- The number of people exposed to second-hand smoke at their workplace, including those who work in either “indoor” or “indoor & outdoor” places is 19.4% (Figure 70).

**Figure 70. During the past 30 days, has anyone used tobacco in indoor areas of your workplace? The question was asked to those who work in either “indoor” or “indoor & outdoor” places**



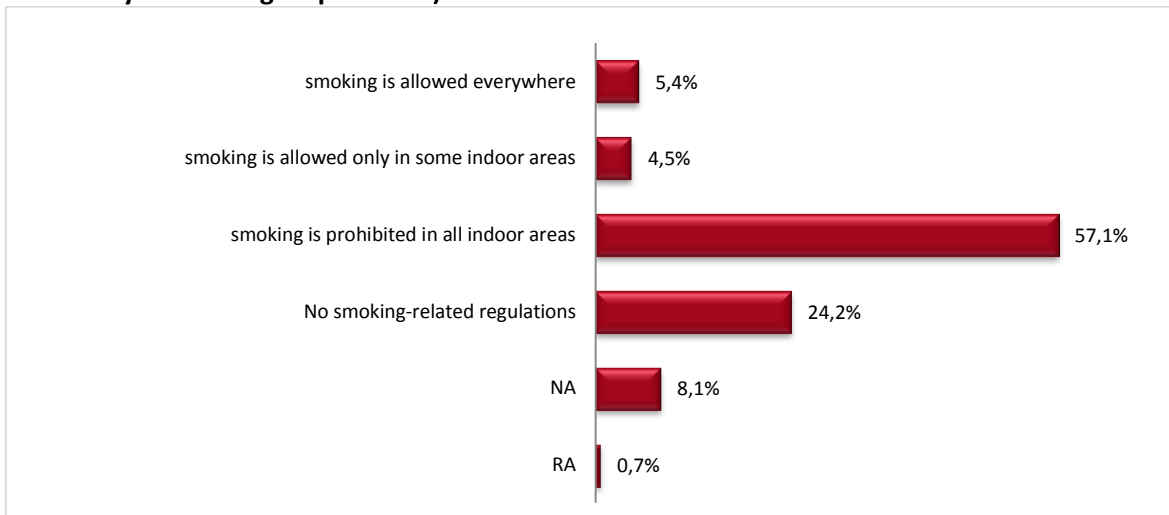
### **Tobacco consumption regulations in workplaces**

Figure 71 shows the smoking regulations in Armenian workplaces:

- 24.2% of workplaces don't have any smoking-related regulations.

- In 57.1%, smoking is prohibited in all indoor areas.
- In 4.5%, smoking is allowed only in some closed areas.
- In 5.4%, smoking is allowed everywhere.

**Figure 71. Which of the following best describes the smoking policy at your workplace? (The question was asked only to working respondents)**

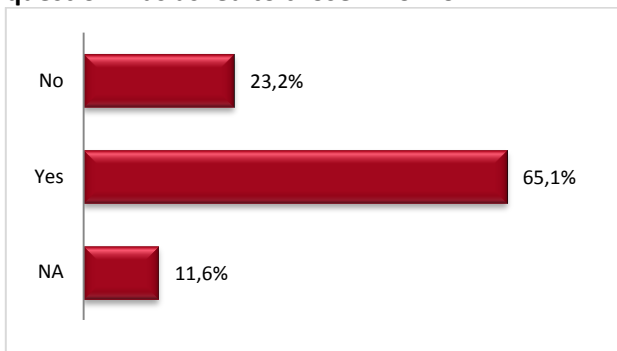


In Armenia, smoking in workplaces is quite common.

- During the past 30 days before the survey, 65.1% of the working respondents noticed smokers in the outdoor area of their workplace.

Note that in 2022, in Armenia, the number of male smokers was 53.2%.

**Figure 72. During the past 30 days, has anyone used tobacco in outdoor areas of your workplace? The question was asked to those who work**



### ***Tobacco and anti-tobacco advertisements***

During the research, the prevalence of tobacco and anti-tobacco advertisements in Armenia was studied.

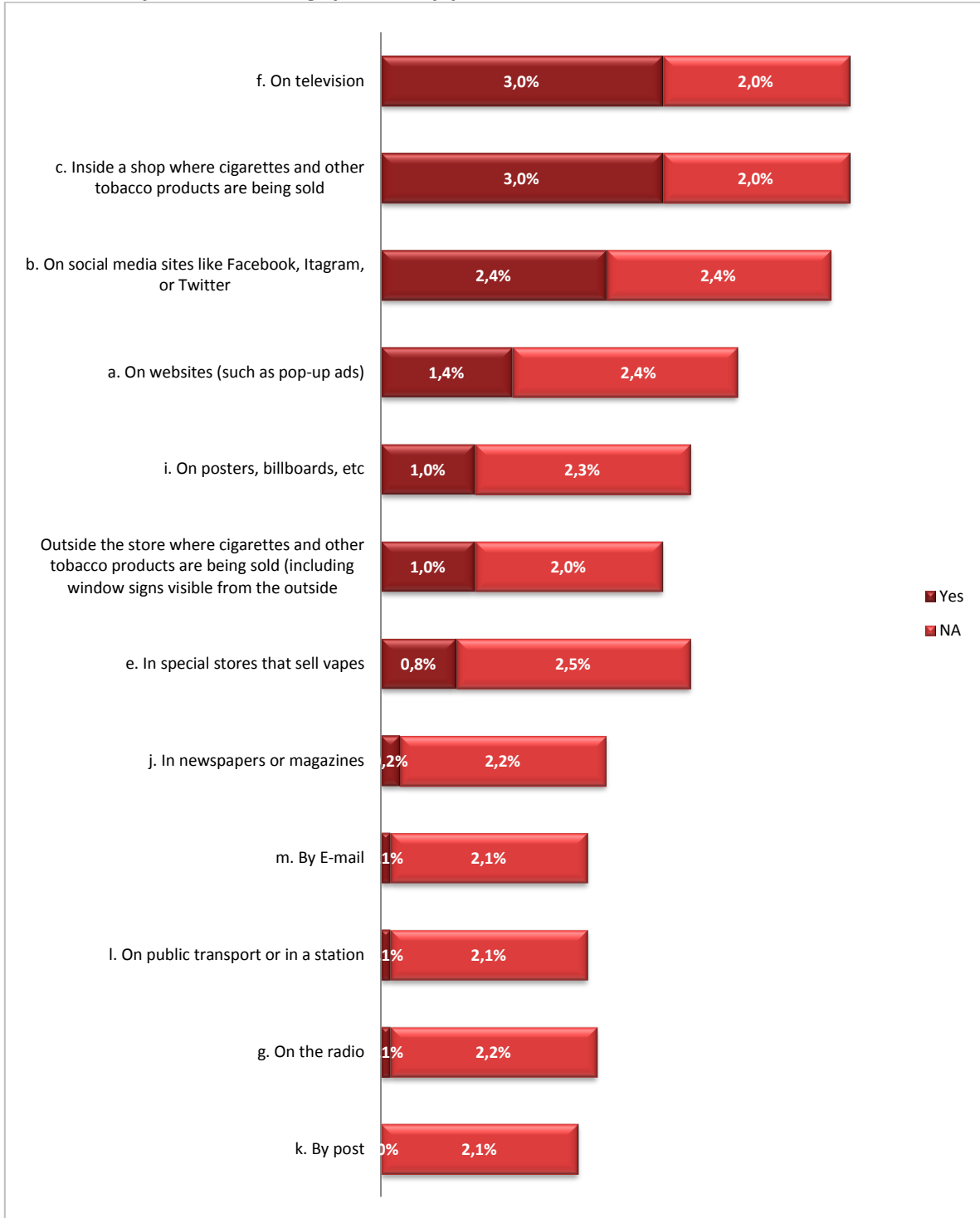
The prevalence of cigarette advertisements in different places is provided in Figure 73.

According to the data:

- In Armenia, the ban on tobacco advertisements are followed quite well,

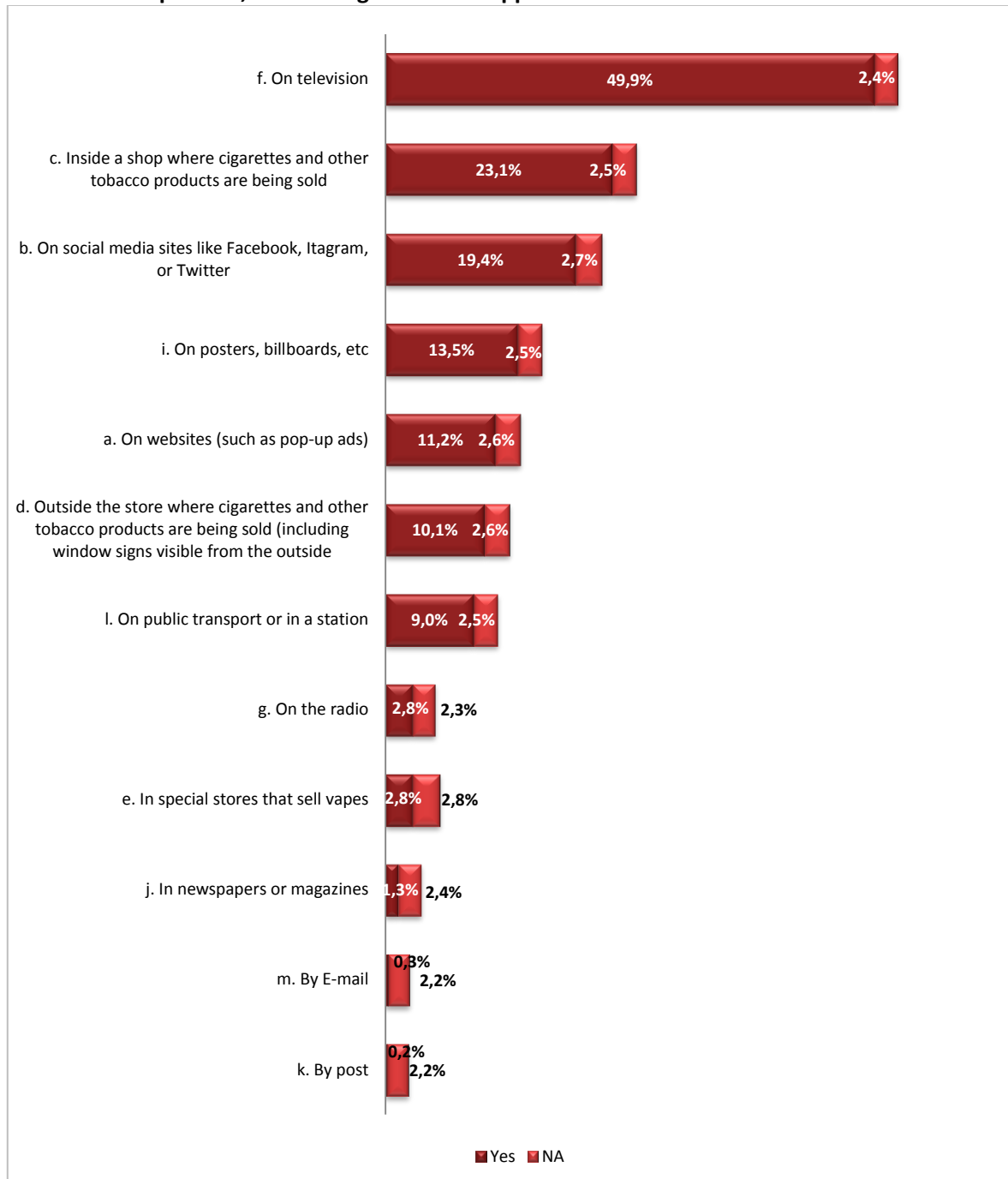
- Respondents witness most of the tobacco advertisements on television (3.0%),
- In the store where cigarettes and other tobacco products are being sold (3.0%),
- On social media (Facebook, Instagram, and other websites).

**Figure 73. In the past 30 days, have you noticed tobacco or other tobacco-related product advertisements in a store/ any of the following sponsorship places?**



The prevalence of anti-tobacco advertisements or cessation support information in different locations and press is provided in Figure 74. The data show that in Armenia, anti-tobacco advertisements are quite noticeable to the population.

**Figure 74. In the past 30 days, have you noticed any announcement related to the harms of tobacco or other tobacco product, or smoking cessation support?**



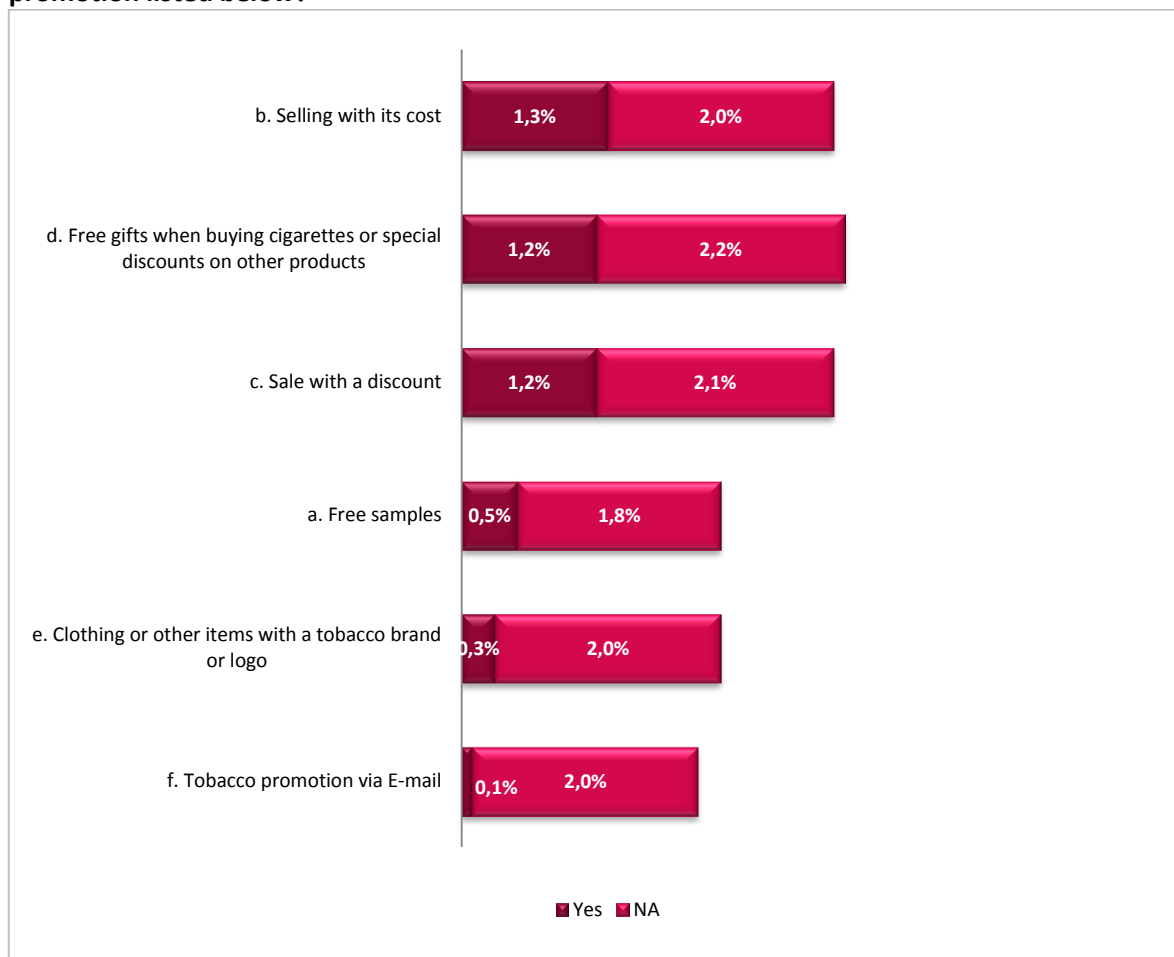
- Anti-tobacco advertising is more intense on television. It was noticed by 49.9% of respondents.
- Anti-tobacco advertising is also quite intense inside shops where cigarettes are sold (23.1%), as well as on social media (Facebook, Instagram, etc.)



- Significant percentages of people who have seen anti-smoking ads on posters and billboards (13.5%), on websites (11.2%), outside of shops where cigarettes are sold (10.1%), and on public transport or in stations (9.0%).

The prevalence of different forms of promotion of cigarettes or other tobacco products was also studied using the following question: “In the past 30 days, have you noticed any of the following types of tobacco or other tobacco product promotion listed below?” (Figure 75).

**Figure 75. In the past 30 days, have you seen any of the following types of tobacco or other product promotion listed below?**



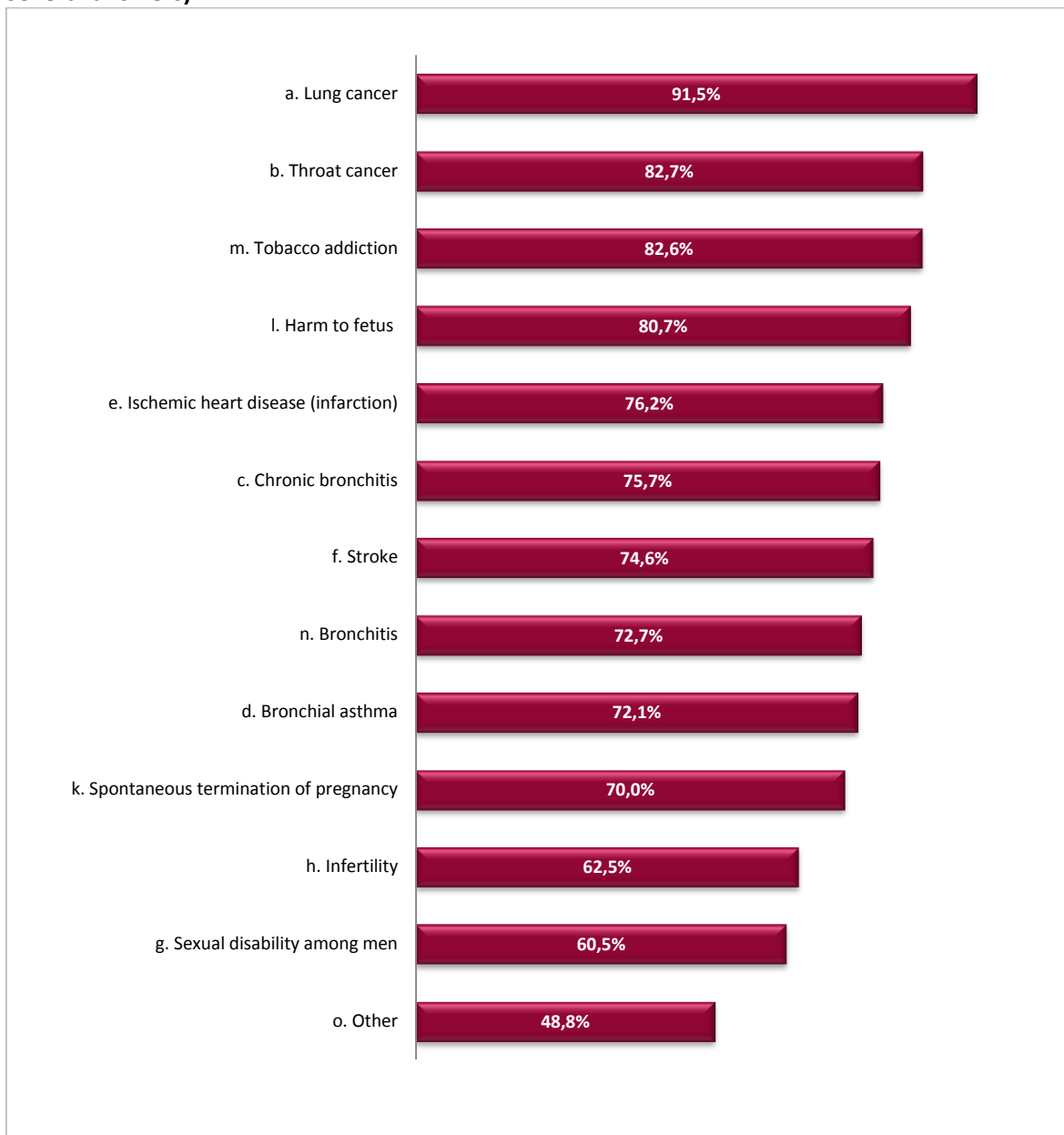
According to the data:

- In Armenia, forms of promotion of tobacco or tobacco products are not widespread and not noticeable by the population.

### ***Perception of diseases caused by tobacco***

The population of Armenia is well informed about what diseases can be caused by smoking. Figure 76 shows the number of respondents who consider that smoking can cause these diseases. The list of diseases wasn't presented during the study.

**Figure 76. Can you name the diseases induced by smoking? (Don't prompt the answers. You can mention several answers)**



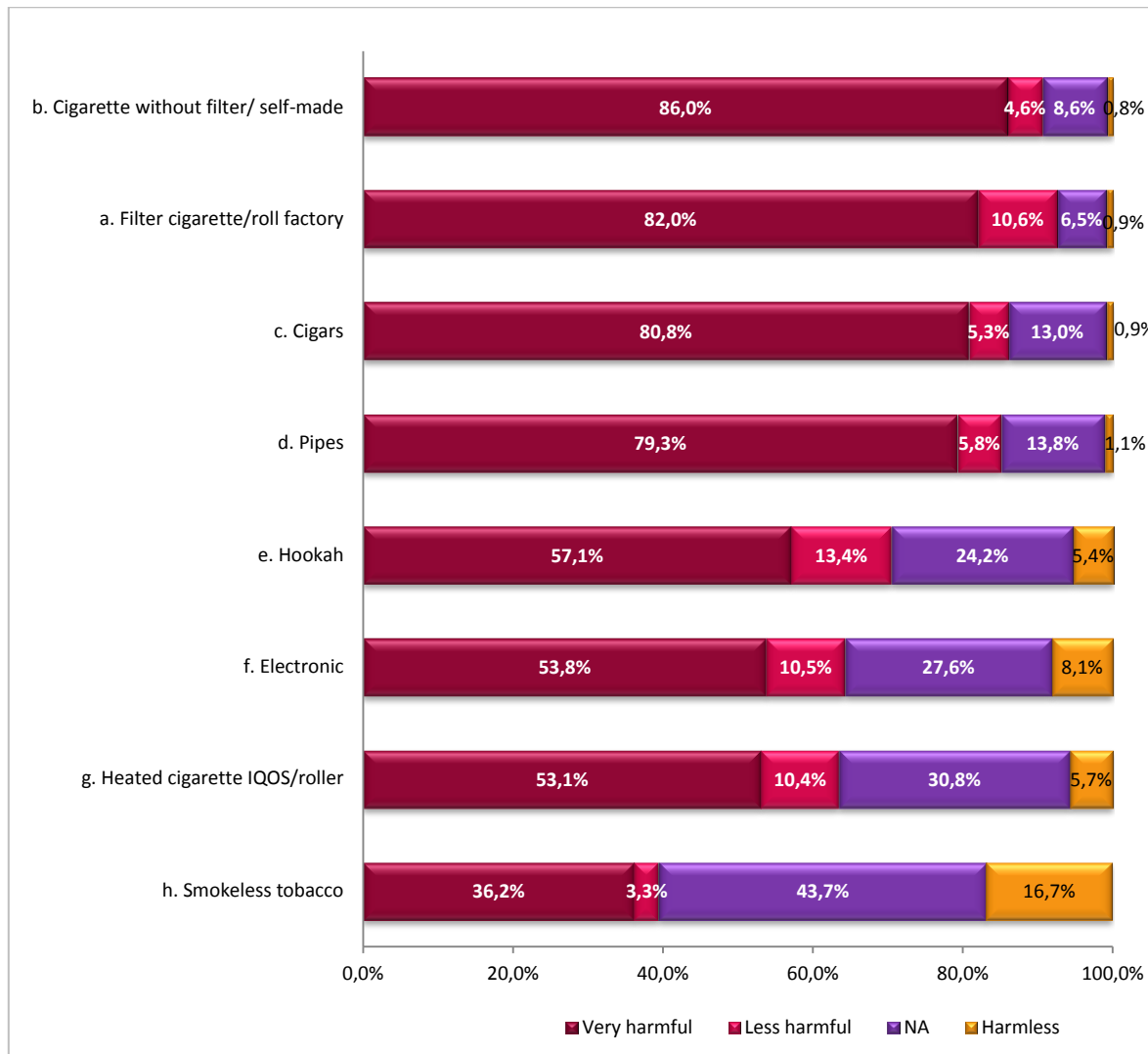
The most frequently mentioned:

- lung cancer (91.5%),
- followed by throat cancer (82.7%), tobacco addiction (82.6%), harms to the fetus (80.7%),
- Ischemic heart disease (76.2%), chronic bronchitis (75.7%), stroke (74.6%), bronchitis (72.7%), bronchial asthma (72.1%), and spontaneous abortion (70.0%).

### ***Non-smoker's perception of tobacco harms***

The population of Armenia is aware that smoking harms those who are in an environment of smokers. The perception of the harmfulness of different types of tobacco for people in the environment of smokers is provided in Figure 77.

**Figure 77. In your opinion, how harmful are each of the following products to people in the environment of smokers?**



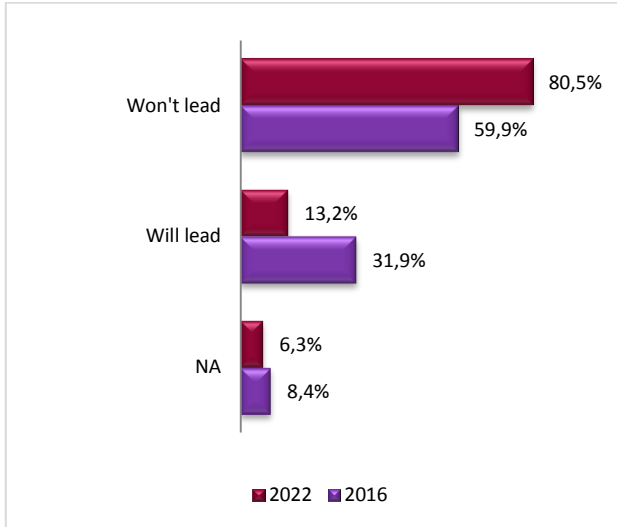
- Respondents mostly mentioned the harmfulness of unfiltered or self-made cigarettes to those who are being exposed to second-hand smoke; Filter cigarettes (82.0%), cigars (80.8%), and pipes (79.3%).

### ***Anti-tobacco measures***

The opinion of the population regarding various anti-tobacco measures was observed:

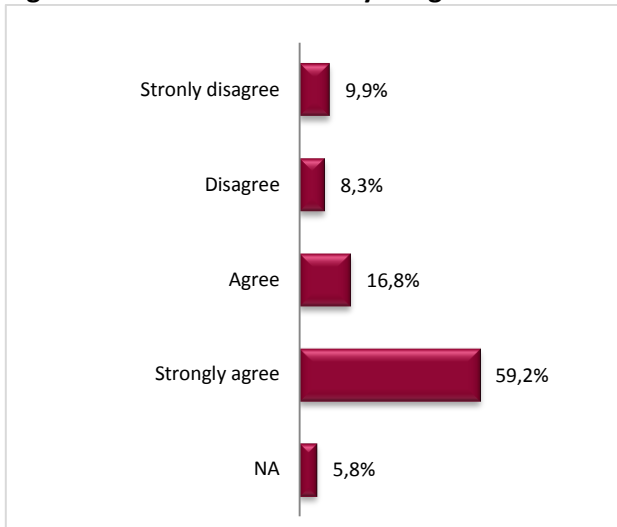
- The vast majority of the population (80.5%) believe that the increase in cigarette prices will not reduce the number of cigarette consumers. Moreover, that indicator has increased compared to 2016, which was 59.9% (Figure 78).

**Figure 78. Do you think that raising the price of cigarettes will reduce the prevalence of smoking?**



On the other hand, majority of population (76%) “Strongly agree” or “Agree” that those who violate the rules of smoking should be fined (Figure 79).

**Figure 79. To what extent do you agree that smokers who violate smoking bans should be fined?**



The degree of agreement of the population with a number of more private anti-smoking provisions was also observed. These data are presented in Figure 80.

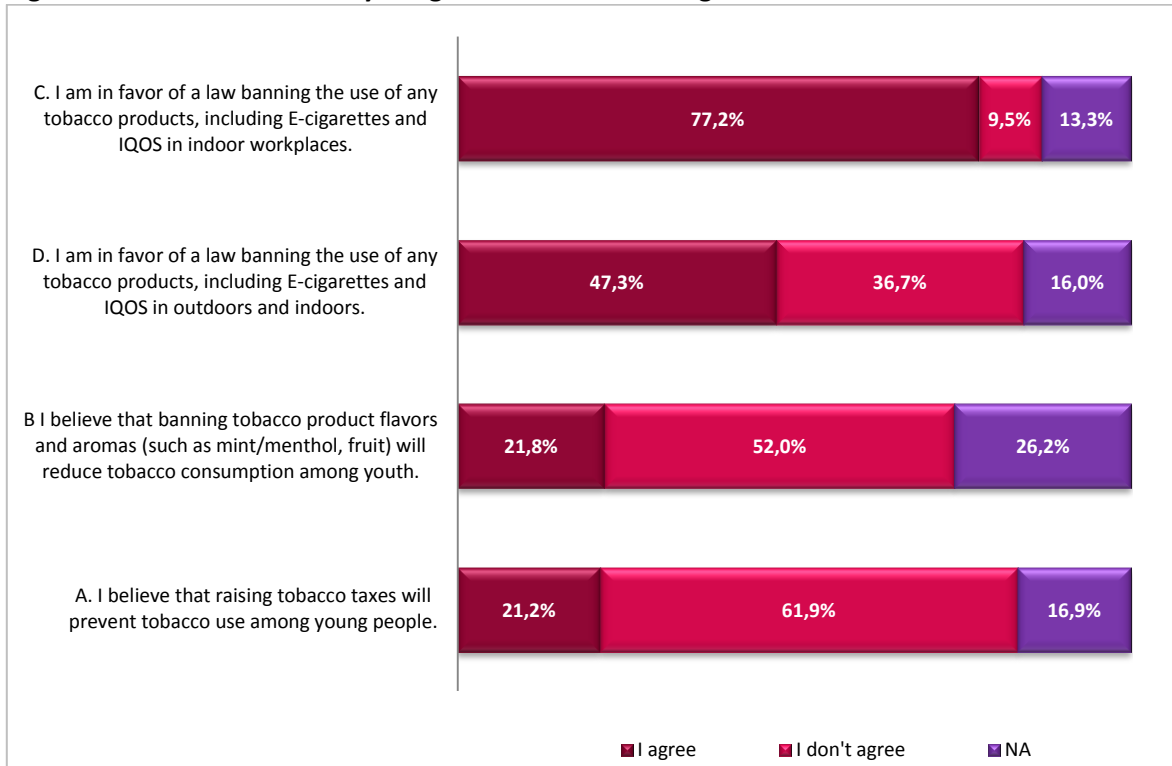
According to the data:

- Most of the Armenian population is in favor of banning smoking in indoor workplaces (77.2%),
- A significant part of the Armenian population is in favor of the ban on smoking in outdoor and indoor public places (47.3%).

A fifth of the population agrees on two more measures, which are:

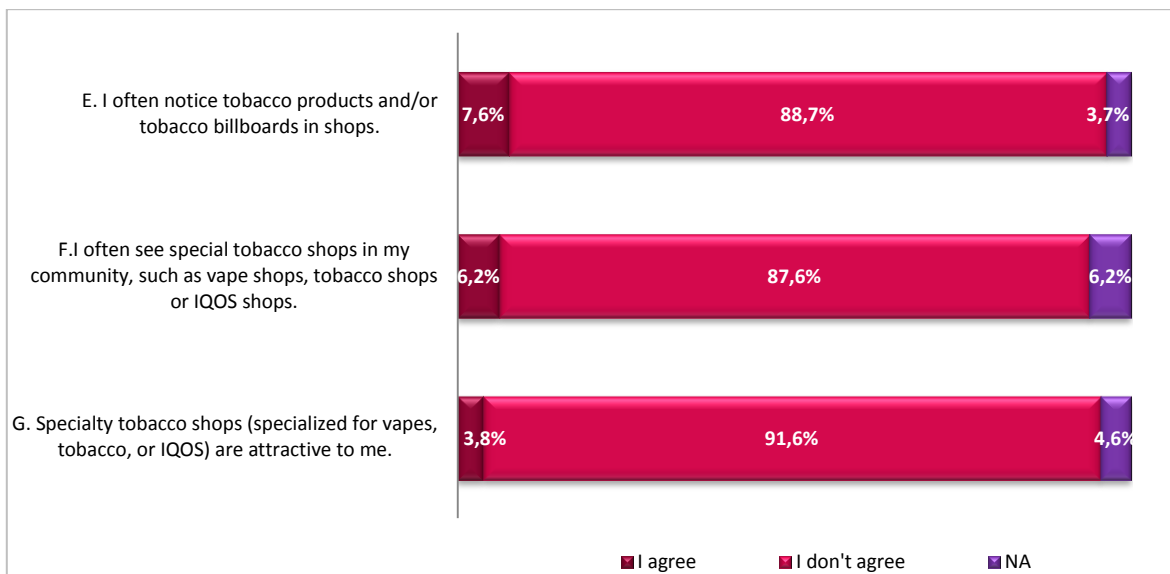
- About 21.82% of the population agree that a ban on different flavor and odor additives in tobacco products will lead to a reduction in tobacco consumption,
- 21.2% of the population agrees that the increase in tobacco taxes will lead to the reduction of tobacco consumption among youth.

**Figure 80. To what extent do you agree with the following statements?**



Several provisions related to tobacco advertising were also considered, which are presented in Figure 81. Based on the data, it can be concluded that there is still work to be done to implement anti-smoking advertisements more effectively.

**Figure 81. To what extent do you agree with the following statements?**



## Alcohol use

Alcohol consumption depends on the gender and age of the respondents. As a result, in addition to the separate sex, age, type of residence, wealth quintile, and educational levels used in the report, the distributions of alcohol consumption by gender and age groups were also considered.

Alcohol abuse (with the indicator of the number of people who consume alcoholic beverages equivalent to 20 grams of pure alcohol per day) is among the main problems regarding alcohol consumption among the population.

Alcohol consumption was assessed based on the concept of “standard servings of alcohol.”

- **One standard serving is any beverage containing approximately 10 grams of ethanol.**

In order to estimate the prevalence of alcohol use, the interviewers used response cards depicting the standard serving sizes of the four most commonly consumed types of alcoholic beverages.

- **Consumption of 6 or more standard servings of alcohol (equivalent to 60 grams of pure alcohol) was defined as “alcohol abuse.”**

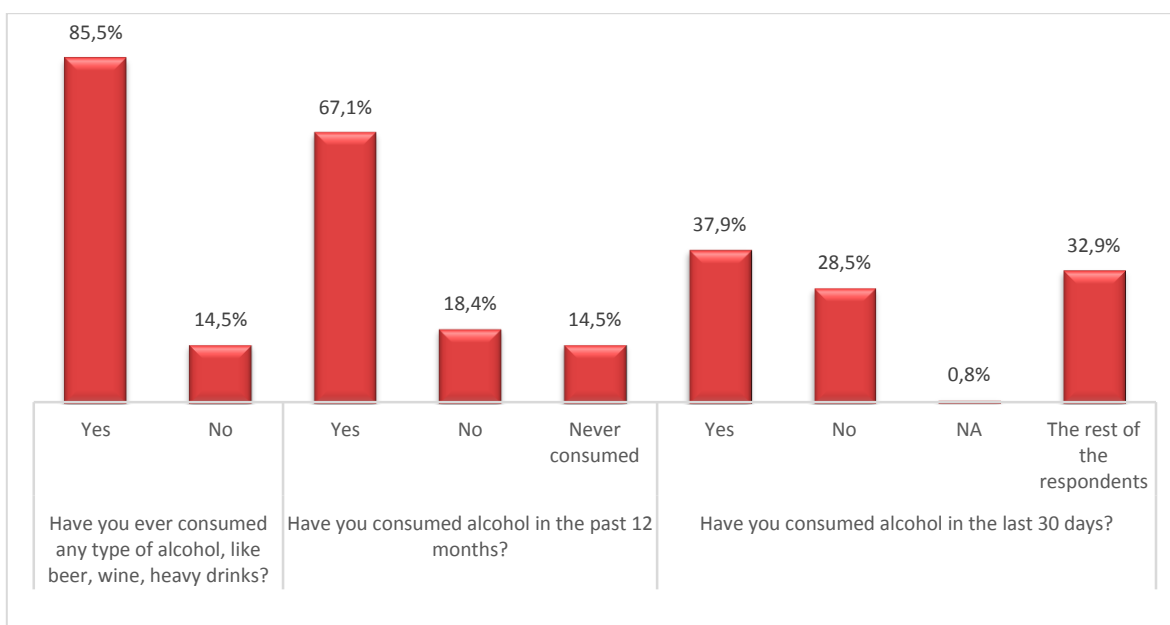
### ***Total consumption of alcohol***

The survey asked three questions to assess overall alcohol use:

- “Have you ever consumed any type of alcohol, like beer, wine, heavy drinks?”
- “Have you consumed alcohol in the past 12 months?”
- “Have you consumed alcohol in the last 30 days?”

The distributions of the answers given to those questions are presented in Figure 82.

**Figure 82. Alcohol consumption (Have you ever consumed any type of alcohol, like beer, wine, heavy drinks? Have you consumed alcohol in the past 12 months? Have you consumed alcohol in the last 30 days?)**



Based on the results:

- 85.5% of the Armenian population has ever consumed alcohol.
- 67.1% consumed alcohol during the past 12 months.
- 37.9% consumed alcohol during the past 30 days.

Table 11 shows the number ever consumed people by gender and age breakdown. According to the table:

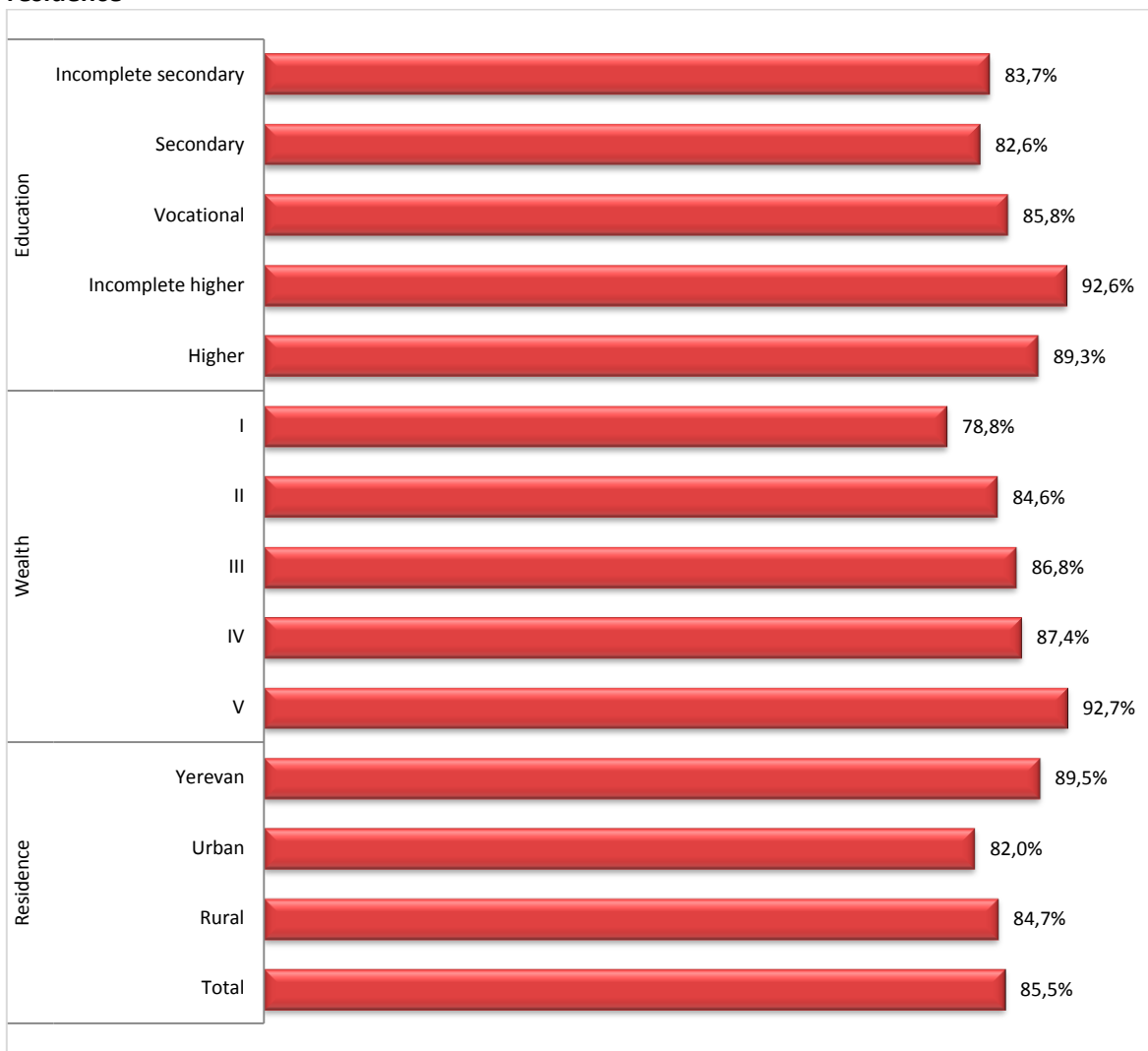
- More than 99% of men aged 20-64 have ever consumed alcohol.
- More than 70% of women aged 20-64 have ever consumed alcohol.
- The use of alcohol among women has started to become “younger.” This is evidenced by the fact that the ratio of women and men who have ever consumed alcohol increases along with a decrease in age; It’s equal to 82% for girls aged 15-19 and women aged 20-34. This indicator decreases among higher age groups, 78 %, 72%, and 68%, respectively.

**Table 11. Those who have ever consumed alcohol according to age and sex groups**

Age	Female	Male	Total	Female/ Male
15-19	68.8%	84.1%	77.5%	<b>81.8%</b>
20-34	81.7%	99.6%	90.4%	<b>82.0%</b>
35-49	77.6%	99.2%	87.5%	78.2%
50-64	71.6%	99.6%	83.7%	71.9%
65+	67.5%	98.8%	79.7%	68.3%
Total	74.9%	98.1%	85.5%	76.4%

The number of people who have ever consumed alcohol is provided in Figure 83 according to socio-demographic groups.

**Figure 83. People who have ever consumed alcohol according to educational level, wealth, and type of residence**





- The number of people who have ever consumed alcohol is relatively lower among people with lower than secondary and secondary education.
- Along with the increase in prosperity, the number of people who have ever consumed alcohol increased.
- The number of people who have ever consumed alcohol is relatively higher in Yerevan.

The number of people who consumed alcohol during the past 12 months according to age and sex groups is provided in Table 12. The already observed trend is expressed in the table:

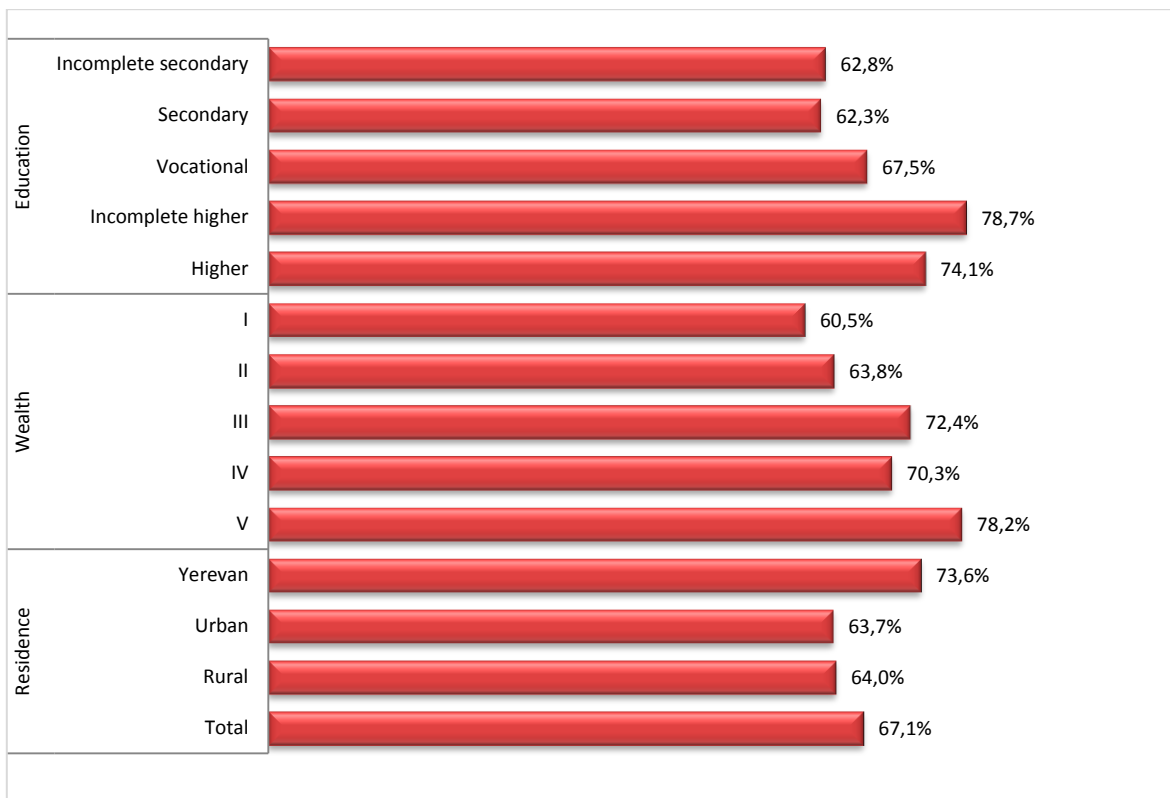
- The proportion of women and men who have consumed alcohol during the past 12 months increases with age. Moreover, if this relationship (those who have “ever” consumed alcohol) was equal in the 15-19 and 20-34 age groups, in the 15-19-year-old group, this relationship is greater than in the 20-34-year-old group.

**Table 12. People who consumed alcohol in the Past 12 months according to age and sex groups, 2022**

Age	Female	Male	Total	Female/ Male
15-19	54.0%	73.9%	65.3%	73.1%
20-34	64.5%	90.2%	77.1%	71.5%
35-49	59.4%	82.9%	70.2%	71.7%
50-64	46.3%	82.9%	62.1%	55.9%
65+	34.1%	81.5%	52.7%	41.8%
Total	52.8%	84.1%	67.1%	62.8%

The number of people who consumed alcohol during the past 12 months according to socio-demographic groups is given in Figure 84.

**Figure 84. People who have consumed alcohol during the past 12 months according to educational level, wealth, and type of residence, 2022**



The configuration of the data in the figure is similar to the configuration of Figure 83:

- The number of people who have consumed alcohol during the past 12 months is lower among people with lower than secondary and secondary education.
- This indicator increases along with an increase in wealth.
- The indicator is higher in Yerevan than in urban and rural areas.

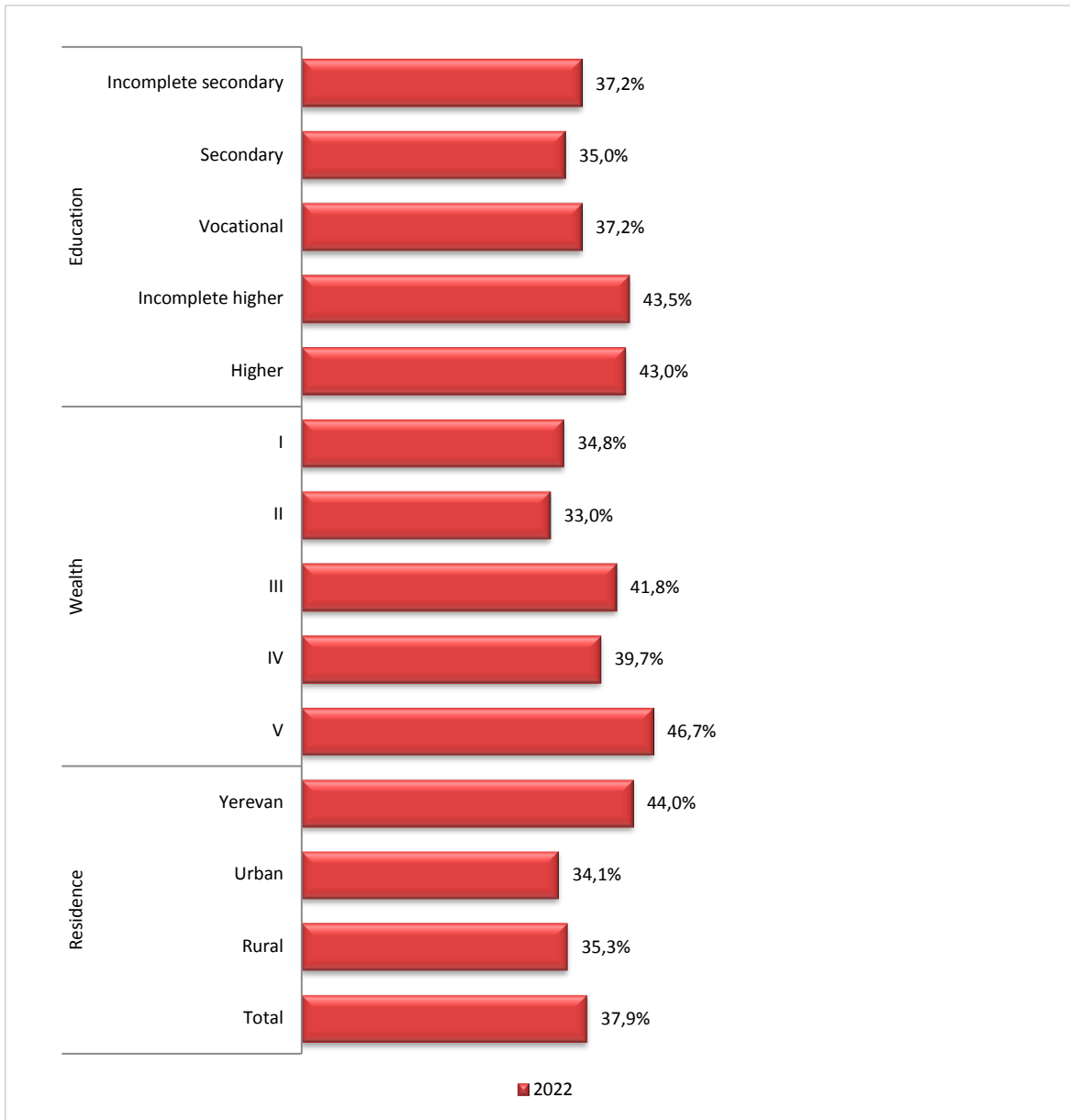
The number of alcohol consumers during the past 30 days according to age and sex groups is presented in Table 13, and the level of education, wealth, and type of residence is provided in Figure 85.

- **The most important pattern, which is already revealed, was repeated again in the table and the figure; Alcohol consumption among women is getting “younger.”**

**Table 13. Those who consumed alcohol in the past 30 days according to age and sex groups**

Age	Female	Male	Total	Female/ Male.
15-19	24.4%	40.8%	33.7%	59.8%
20-34	32.7%	64.6%	48.3%	50.6%
35-49	30.7%	55.3%	42.0%	55.5%
50-64	17.1%	47.2%	30.1%	36.2%
65+	13.5%	45.8%	26.2%	29.5%
Total	24.5%	53.7%	37.9%	45.6%

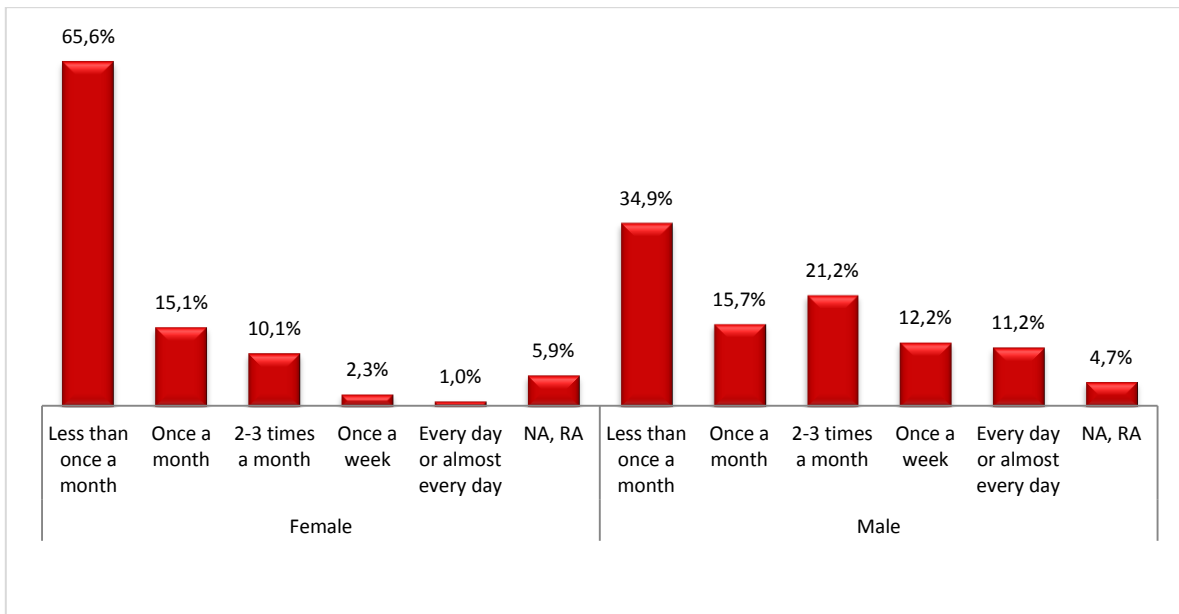
**Figure 85. Those who consumed alcohol in the past 30 days according to education level, wealth, and type of residence**



***Frequency of alcohol consumption in the past 12 months***

The frequency of alcohol use was assessed using the following question: “During the past 12 months, how often have you consumed even one standard serving of alcohol?” The question was asked to people who have ever consumed alcohol.

**Figure 86. The frequency of alcohol consumption among people who consumed alcohol during the past 12 months (“During the past 12 months, how often did you consume even one standard serving of alcohol?”), percent of people who have ever drunk alcohol**



The frequency of alcohol consumption among women is significantly lower than among men. 65.6% of women consume alcohol “Less than once a month” and as the intensity scale increases, this percentage rapidly decreases; 1.0% of women drink alcohol “every day” or 2-3 times a day.

Among men, the number of people who drink alcohol “Less than once a month” is almost twice as low as among women (34.9%). Although there is a downward trend along with the increase in the frequency scale, 21.1% of men consume alcohol 2-3 times a month, and 11.2% “Every day or almost every day.”

The frequency of alcohol consumption during the past 12 months by socio-demographic groups is provided in Table 14. According to the table:

- The number of “Every day or almost every day” alcohol consumers is relatively higher in urban areas than in Yerevan or rural areas.
- Among men, this indicator is 11.2% and is 11 times higher than among women (1.0%).
- The indicator is relatively higher in the I and IV wealth quintiles.
- The index increases rapidly along with increase in age. If it’s 2.0% among 15-19 year olds, it reaches 11.6% in the 65+ age group.

**Table 14. Frequency of alcohol consumption among people who consumed alcohol during the past 12 months according to socio-demographic groups (“During the past 12 months, how often did you consume even one standard serving of alcohol?”)**

Characteristic	Category	Less than once a month	Once a month	2-3 times a month	Once a week	Every day or almost every day	NA, RA
<b>Total</b>		48.0%	15.5%	16.5%	8.0%	6.9%	5.2%
<b>Residence</b>	Yerevan	46.0%	13.2%	15.0%	8.9%	6.9%	10.1%
	Urban	48.7%	17.6%	17.4%	6.2%	8.0%	2.1%
	Rural	49.5%	16.1%	17.2%	8.5%	5.9%	2.8%
<b>Gender</b>	Female	65.6%	15.1%	10.1%	2.3%	1.0%	5.9%

	Male	34.9%	15.7%	21.2%	12.2%	11.2%	4.7%
<b>Education</b>	Incomplete secondary	45.6%	16.7%	19.1%	6.8%	10.0%	1.8%
	Secondary	46.6%	15.0%	17.8%	7.1%	8.0%	5.5%
	Vocational	53.3%	17.8%	13.0%	5.2%	7.3%	3.4%
	Incomplete higher	44.7%	19.1%	17.2%	9.2%	3.4%	6.3%
	Higher	48.4%	12.0%	15.9%	12.0%	5.2%	6.6%
<b>Wealth</b>	I	55.4%	10.6%	13.0%	7.6%	8.5%	4.9%
	II	49.7%	13.4%	22.8%	4.8%	6.4%	2.9%
	III	48.7%	12.6%	14.8%	8.9%	7.9%	7.0%
	IV	40.4%	18.5%	20.3%	6.3%	8.3%	6.1%
	V	44.7%	18.2%	16.1%	10.1%	5.8%	5.3%
<b>Age</b>	15-19	57.4%	15.1%	13.4%	5.0%	2.0%	7.0%
	20-34	44.3%	15.6%	21.5%	8.5%	5.4%	4.7%
	35-49	46.6%	16.7%	15.0%	9.8%	6.2%	5.8%
	50-64	48.6%	15.8%	13.3%	7.1%	8.6%	6.5%
	65+	54.6%	11.9%	14.0%	5.7%	11.6%	2.3%

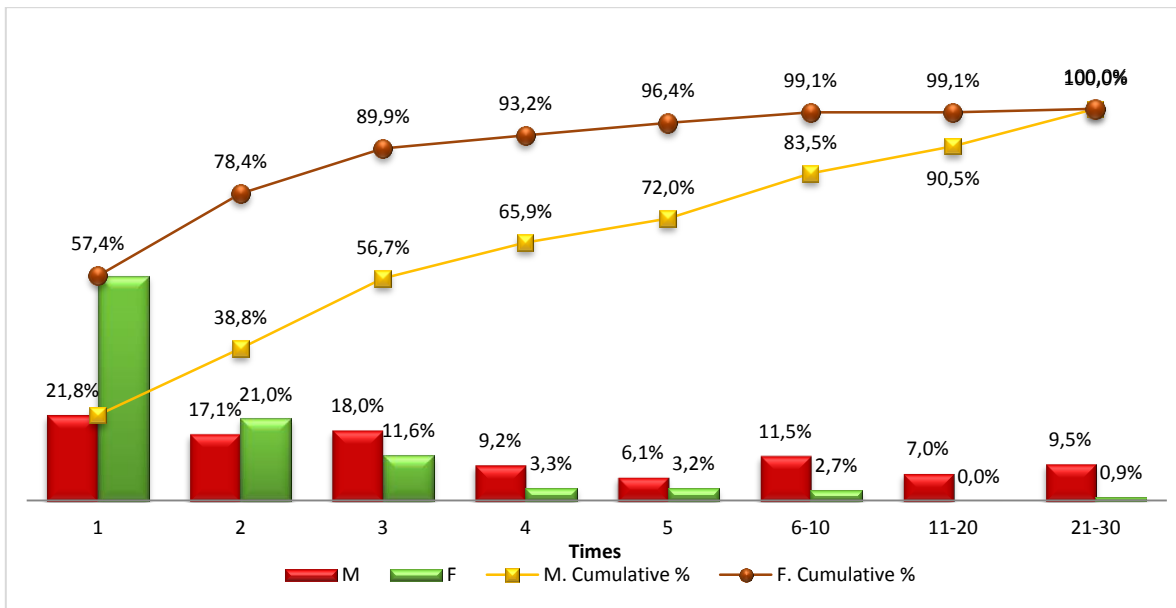
### ***Alcohol use in the past 30 days***

Consumption of even one standard serving of alcohol in the past 30 days among men and women, as well as the cumulative percentages of these distributions, are provided in Figure 87.

According to the figure, during the past 30 days:

- 21.8% of men and 57.4% of women used more than one serving of alcohol only once.
- 90% of women have consumed more than one serving up to 3 times, while this indicator equals 56.7% among men.
- More than one serving of alcohol was consumed 6 or more times and 11 or more times among 16.5% and 9.5% of men, respectively.
- Only 0.9% of women consumed more than one serving 6 or more times

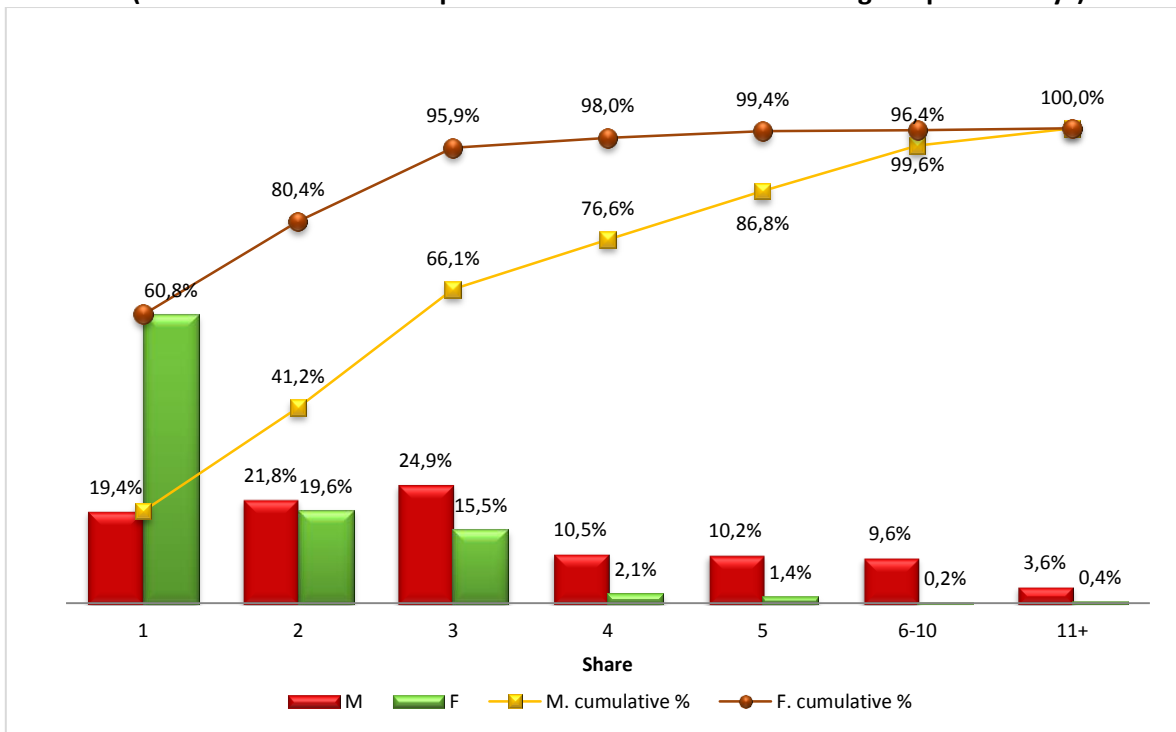
**Figure 87. “In the past 30 days, how many times have you consumed even one standard serving of alcohol?”**



The average amount of alcohol consumed during occasions in the past 30 days is given in Figure 88.

- On average, 19.4% of men and 60.8% of women consume one serving of alcohol on occasion.
- 66.1% of men and 95.9% of women use up to 3 servings during any occasion.
- Over the past 30 days, 13.2% of men and 0.6% of women have consumed, on average, 6 or more servings of alcoholic drinks.

**Figure 88. During the past 30 days, on average, how many servings of alcohol did you drink during an occasion? (out of the number of respondents who drank alcohol during the past 30 days)**

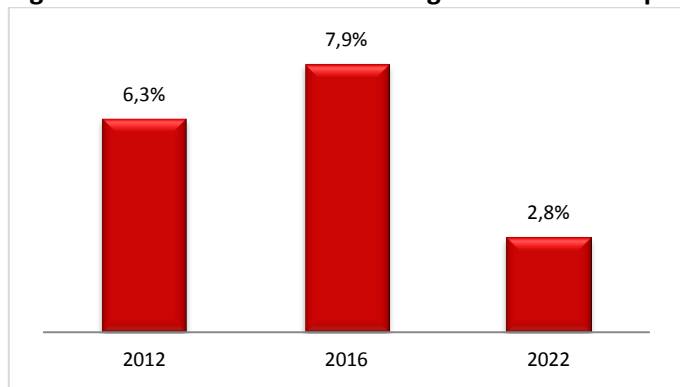


### ***Consumption of alcohol equivalent to more than 20 grams of alcohol per day***

The number of people who consume alcohol equivalent to 20 grams of pure spirit per day is provided in Figure 89.

In 2022, the number of people who consume alcohol (equivalent to 20 or more grams of alcohol per day) was calculated using standard portions of consumed alcohol during the past 30 days. In 2012 and 2016, the indicators were calculated by processing the questions “In general, how often do you drink beer/wine/heavy wine/vodka” and “On average, how many grams of that drink do you drink in one serving?” That is why the comparability of data in 2022 and its previous years is problematic;

**Figure 89. Those who consume 20 grams or more of pure alcohol per day in Armenia, 2012, 2016, 2022**

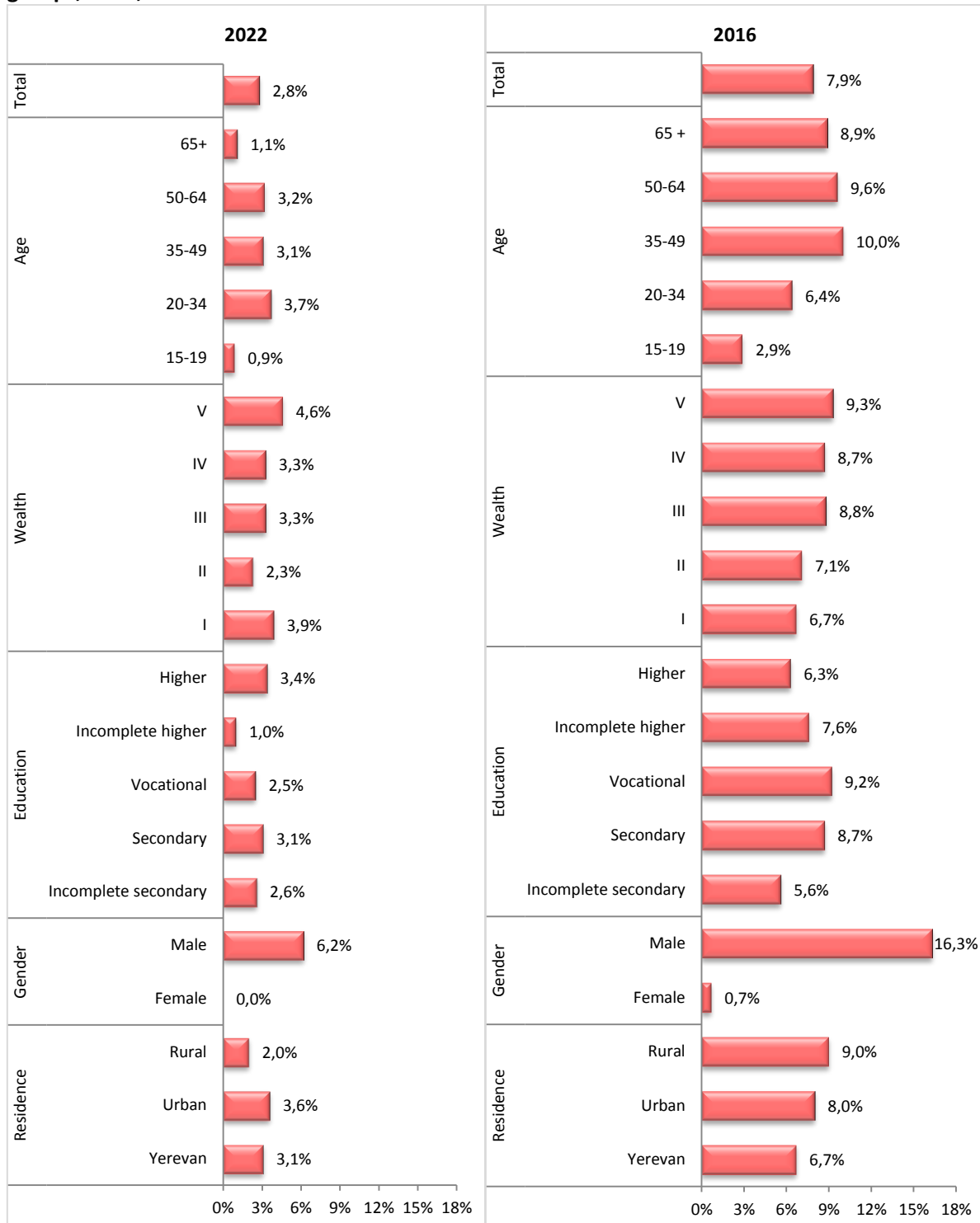


According to the data:

- **In 2022, the percentage of people consuming 20 grams of pure alcohol per day (2.8%) has decreased compared to 2016.**

The number of people consuming 20 or more grams of pure alcohol per day according to socio-demographic groups in 2022 and 2016 is provided in Figure 90.

**Figure 90. Those who consume 20 or more grams of pure alcohol per day according to socio-demographic groups, 2016, 2022**



Since those who consume 20 or more grams of pure alcohol per day are essentially men (the number of such women was only 0.6%), therefore Figure 91 shows the number of men who consume this amount of daily alcohol according to socio-demographic groups in 2016 and 2022.



**Figure 91. Men consuming 20 or more grams of alcohol per day according to socio-demographic groups, 2016, 2022**



According to the data in 2022, the number of men consuming more than 20 grams of alcohol per day is:

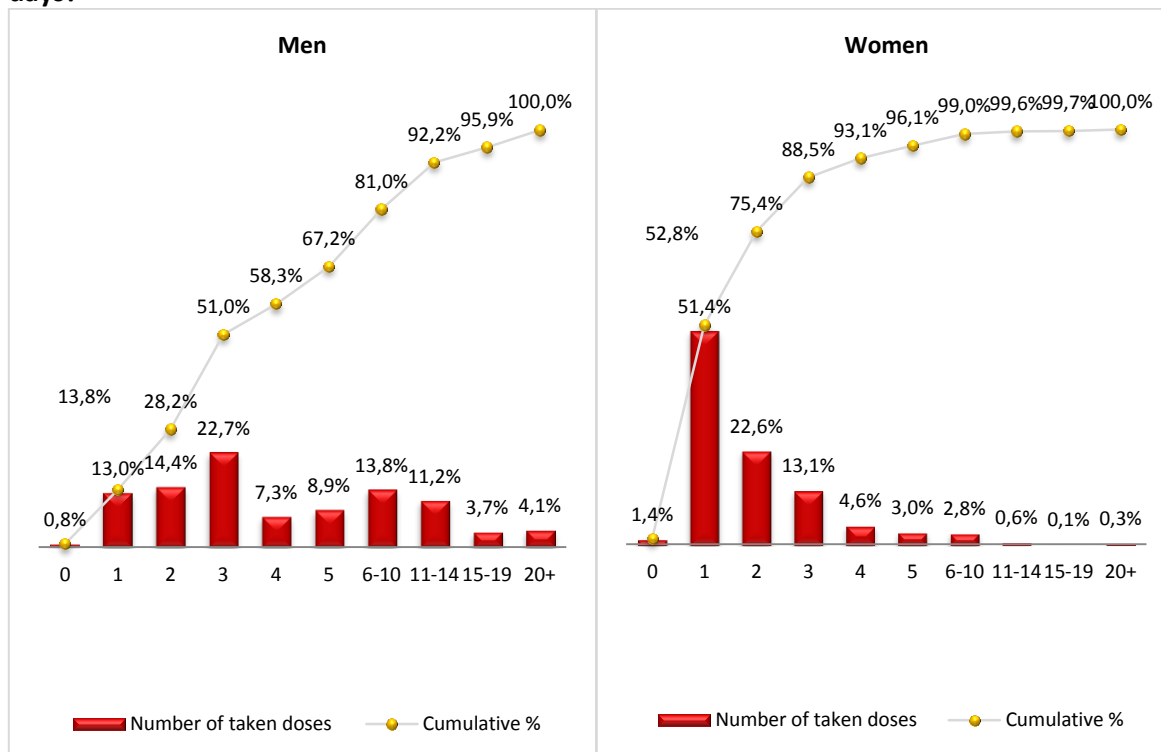
- relatively lower in I and V welfare quintiles,
- relatively higher in groups with higher and less than secondary educational levels,
- relatively higher in the 65+ age group,
- relatively lower in rural areas.

## Excessive consumption of alcohol

- Alcohol abuse is considered to be the consumption of alcoholic drinks equivalent to 6 or more servings (equivalent to 60 grams of pure alcohol) on an occasion.

Figure 92-A and B shows the average amount of drinks consumed on any occasion during the past 30 days.

**Figure 92. On average, how many alcoholic beverages did you drink on any occasion during the past 30 days?**



According to the figure, during the past 30 days:

- On average, 47.3% of men consume up to 3 servings of alcoholic beverages during any occasion, 62.4% consume up to 5 servings, and 19.0% take 6 or more servings.
- On average, 52.8% of women consume up to 1 serving of alcoholic beverages, 75.4% consume up to 2 servings, 96.1% consume up to 5 servings, and 3.9% take 6 or more servings.

Figures 93-A and B show the frequency of consuming 6 or more servings of alcoholic drinks during the past 30 days on an occasion. Figure A shows data for men, and Figure B shows data for women.

- 62.5% of men have never consumed 6 or more servings of alcohol (equivalent to pure spirit) in the past 30 days, 19.3% of men have consumed this amount of alcohol once, 6.6% twice, 3.3% three times, 2.8% four times, 1.8% five times, and 3.6% six or more times.
- 92.9% of women have never consumed 6 or more servings of alcoholic drinks (equivalent to pure spirit) in the past 30 days, 4.8% consumed once, 1.4% consumed twice, and 0.4% more than 6 times.

**Figure 93. During the past 30 days, how often did you drink 6 or more servings of alcoholic beverages on an occasion?**

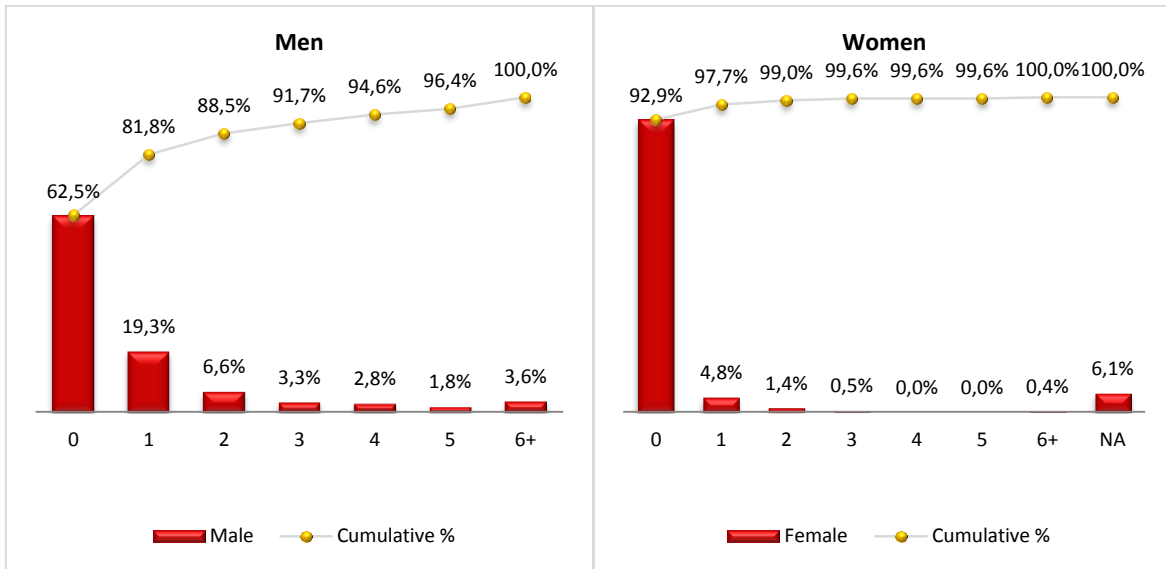


Figure 94 shows the number of people who consumed more than 20 grams of alcohol during the 30 and 7 days prior to the survey.

**Figure 94. Alcohol abuse in the past 30 and 7 days (more than 20 grams of alcoholic drinks equivalent to pure spirt)**

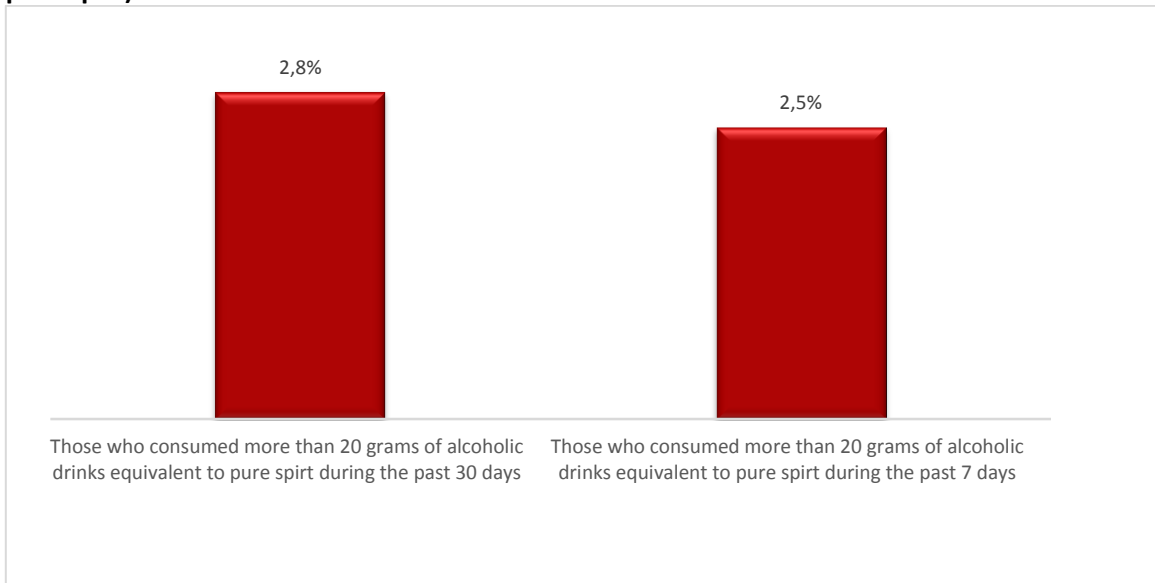
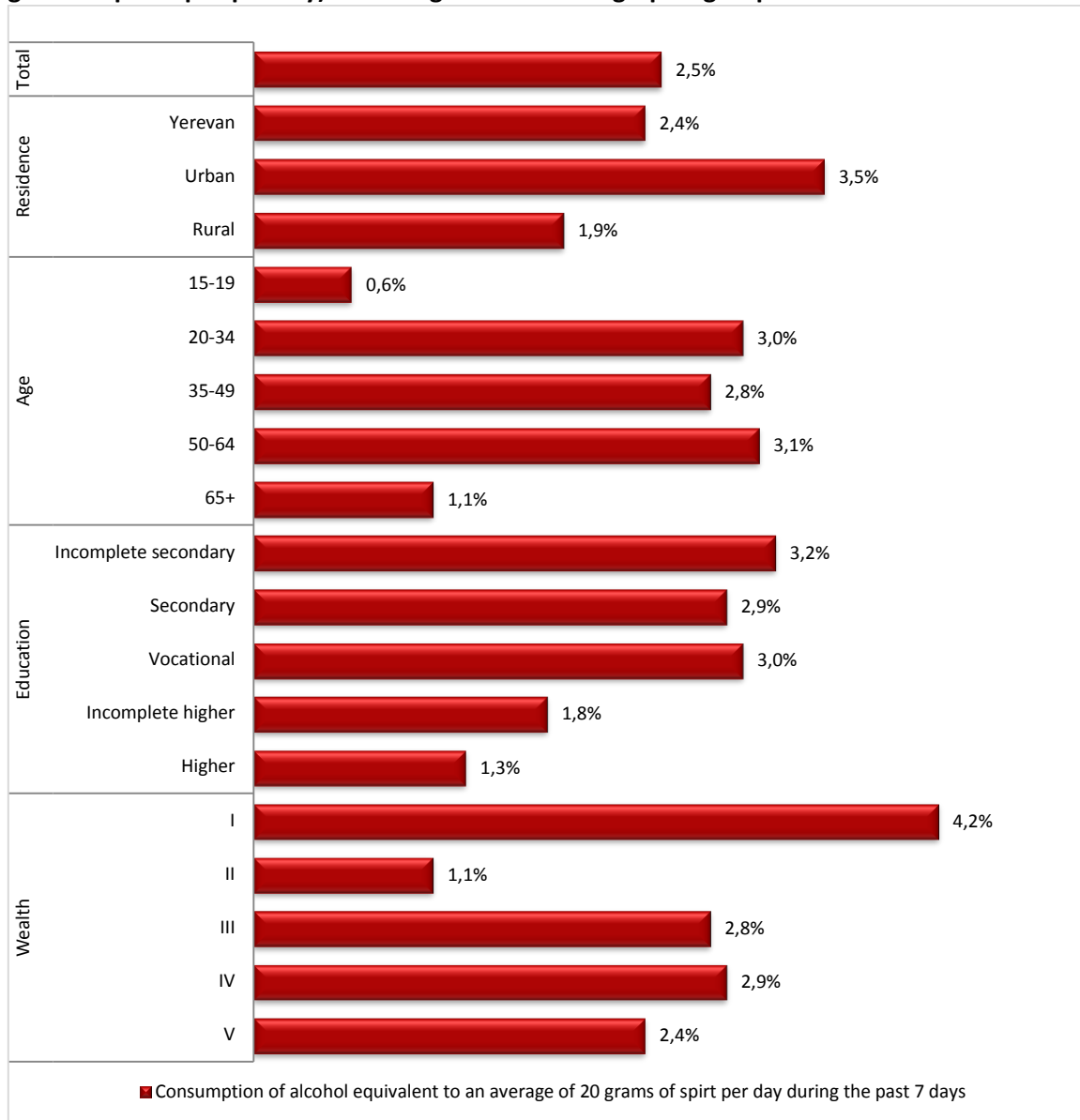


Figure 95 shows the alcohol abuse during the past 7 days according to socio-demographic groups.

- The number of people abusing alcohol was relatively higher in urban areas,
- In the 20-64 age group,
- in groups with vocational and lower educational levels,
- in the lowest wealth quintile.

**Figure 95. Alcohol abuse over the past 7 days by (those consuming alcohol equivalent to more than 20 grams of pure spirit per day) according to socio-demographic groups**



***Consumption of homemade, unregistered, or non-potable alcohol***

The study assessed the consumption of homemade, unregistered or non-potable alcohol. An estimate of such alcohol consumption is provided in Figure 96.

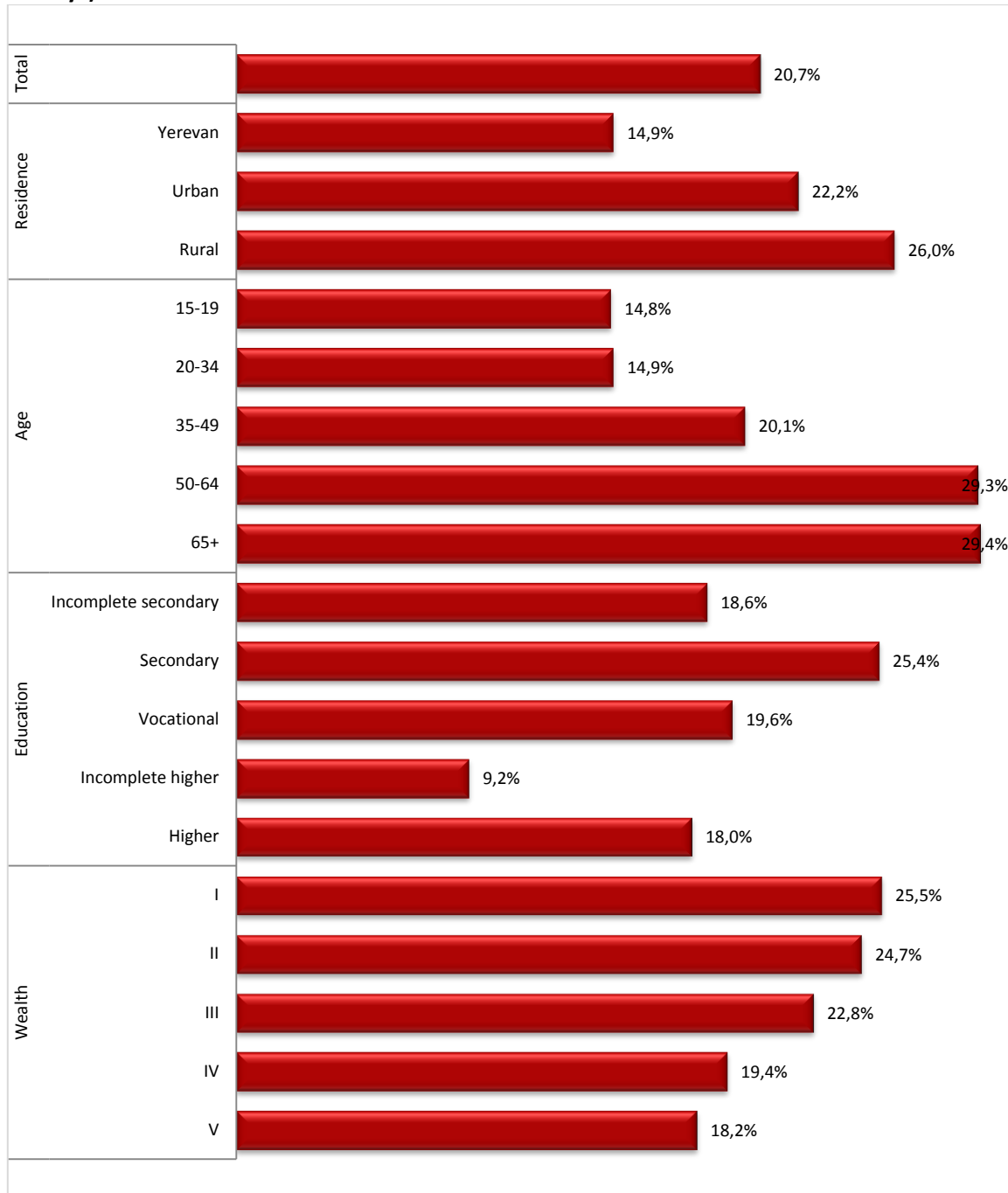
Consumption of such alcohol is:

- relatively more common in rural areas,
- In the age group of 50 and above,
- Consumption of such alcohol among different educational levels is approximately equal (except for the group of people with incomplete higher education). It should be assumed that the consumption

of homemade beverages is higher in groups with a relatively lower educational level, while in the group with a higher educational level, the consumption of imported beverages is more common.

- The consumption of such alcohol decreases along with an increase in wealth.

**Figure 96. “During the past 7 days, have you consumed homemade, locally manufactured, imported, or non-potable alcoholic beverages, as well as non-registered alcoholic beverages, such as beer, wine, and heavy drinks?” (Percentages are calculated from the number of people who consumed alcohol in the past 30 days)**



The consumption of homemade, unregistered, or non-potable alcohol according to types was studied. The data are presented in Table 15. The same data for men and women are provided in Table 16.

- 64.9% of alcoholic beverages consumed in Armenia during the past 30 days (calculated as equivalent to pure spirit) were purchased from stores (Table 15). 62.4% of alcohol consumed by men was bought from a store. This indicator among women was 82.9%.
- Homemade vodka made up 26.2% of the consumed alcohol, homemade wine made up 2.8%, alcoholic beverages that are not subject to taxation made up 5.4%.
- 28.6% of alcohol consumed by men was homemade vodka, while homemade wine made up 2.1%. Among women, homemade vodka and wine made up 8.6% and 8.3% of consumed alcohol, respectively.

**Table 15. Consumption of homemade, unregistered or non-potable alcohol according to type (from the number of people who consumed alcohol in the past 30 days)**

	Bought from the store	A. homemade vodka	B. homemade beer	C. homemade wine	D. Alcohol not intended for drinking	E. An alcoholic beverage that is not subject to excise tax	Total
Total	64.9%	26.2%	0.6%	2.8%	0.1%	5.4%	100.0%
Female	82.9%	8.6%	0.0%	8.3%	0.0%	0.3%	100.0%
Male	62.4%	28.6%	0.6%	2.1%	0.1%	6.1%	100.0%

- 84.8% of store-bought alcohol was consumed by men and 15.2% by women (Table 16).
- 96.1% of homemade vodka was consumed by men, 3.9% by women.
- 66.3% of homemade wine was consumed by men and 34.8% by women.

**Table 16. Consumption of homemade, unregistered or non-potable alcohol among men and women (from the number of people who consumed alcohol in the past 30 days)**

	Bought from the store	A. homemade vodka	B. homemade beer	C. homemade wine	D. Alcohol not intended for drinking	E. An alcoholic beverage that is not subject to excise tax
Male	84.8%	96.1%	100.0%	66.3%	100.0%	99.4%
Female	15.2%	3.9%	0.0%	34.8%	0.0%	0.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

### ***Alcohol use as a preventive measure for COVID-19***

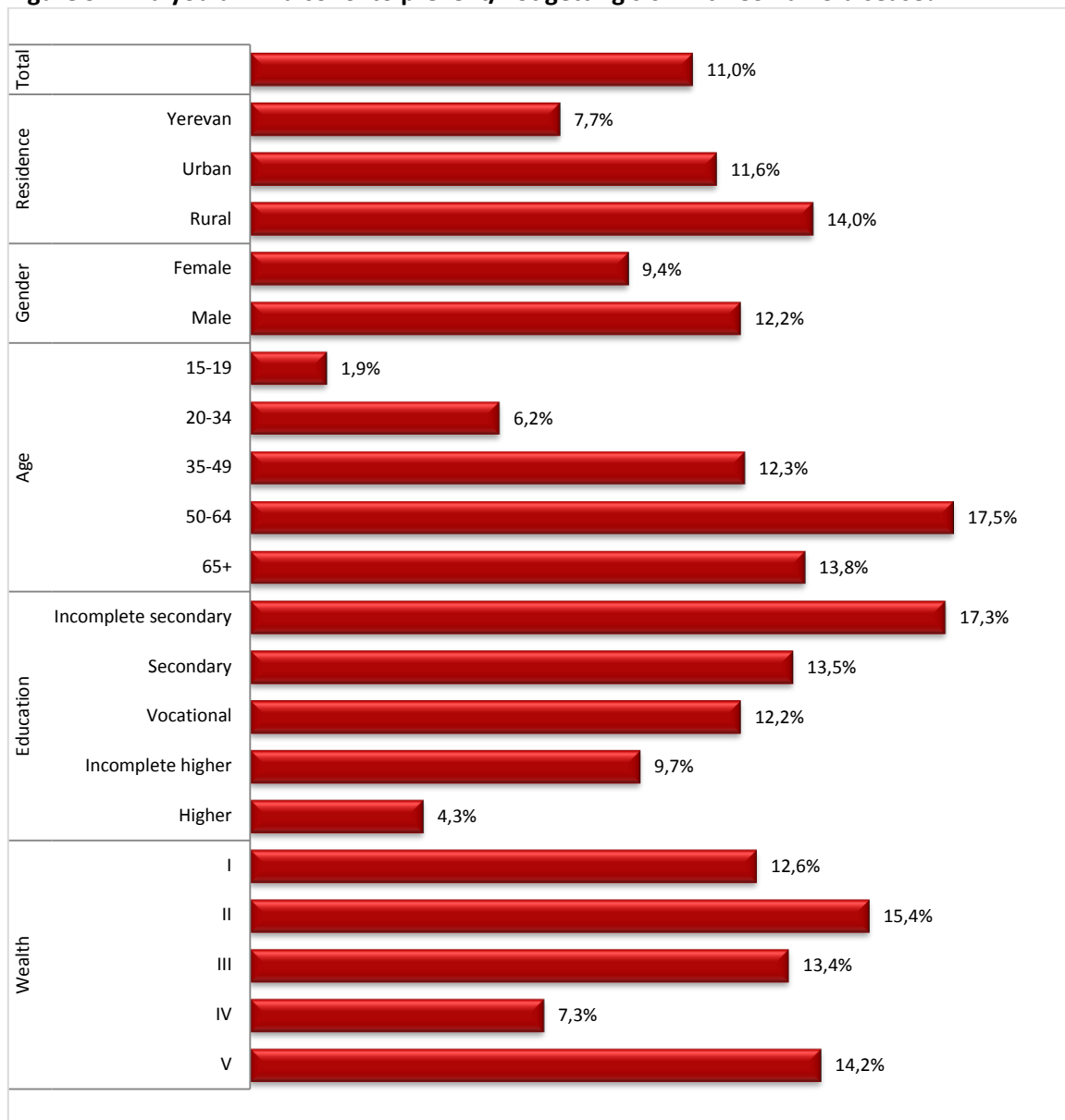
In 2020 During the COVID-19 pandemic, rumors were spread that drinking alcohol prevents getting sick with COVID. In this research, the effect of that news on population’s behavior was studied.

Figure 97 shows the number of people who drank alcohol to prevent COVID:

- 11.0% of the population used alcohol to prevent COVID.
- The number of those people was relatively higher in rural areas (14.0%).
- Among men (12.2%),
- Among 50-64-year-olds (17.5%).

- Among people with less than a secondary educational level (17.3%).
- This indicator was relatively lower in the IV wealth quintile.

**Figure 97. Did you drink alcohol to prevent/not getting sick with Covid-19 disease?**



## Physical activity

The physical activity of the population was evaluated according to the guidelines of the World Health Organization: “Adults should engage in at least 150-300 minutes per week of moderate-intensity aerobic physical activity or 75-150 minutes per week of vigorous-intensity aerobic physical activity, or for the activity to have additional health benefits, adults should have an adequate physical load, combining moderate and high-intensity physical activity.”

WHO divides these indications according to the following population’s categories:

- Children and teenagers: 5-15 years old,
- Adults: 18-64 years old,
- Elderly people: 65 years and older,
- Pregnant and postpartum women,
- Adults and elderly people with chronic pathologies,
- Children and adolescents with limited abilities
- Adults with limited abilities.

The age group of 18-64-year-olds was categorized as follows: 18-19, 20-34, 35-49, and 50-64.

In STEPS 2018, calculations were made for the 18-69 age group, but the WHO methodology defines adults as 18-64. In 2022, the indicator in the 18-64 age group was 17.3%, and in the 18-69 age group (as in STEPS 2018, whose data was collected in September-December 2016), it was 17.4%.

### ***Components of physical activity***

The following components of physical activity were taken into account for the assessment of physical inactivity in the HSPA 2022:

- Heavy physical activity is identified through the following question: “Does your job require more than 10 minutes of vigorous physical activity, during which breathing and heart rate are significantly increased, for example, weight lifting, dusty or construction works?”
- Moderate physical activity is identified through the following question: “Does your job require more than 10 minutes of **moderate-intensity** physical activity, exertion, during which breathing and heart work is slightly accelerated (for example, fast walking, light weight lifting)?”
- Physical movement between locations is identified through the following question: “Do you walk or ride a bicycle to get around for at least 10 minutes at a time?”
- Active leisure in the nature of high physical activity is identified through the following question: “Do you engage in any intense sports, fitness, or active recreation that involves **vigorous physical activity** that significantly increases your breathing and heart rate (e.g., running, soccer)?”
- Active leisure time of a moderate physical intensity nature, identified through the following question: “Do you engage in at least 10 minutes of **moderate-intensity** daily exercise, fitness, or any type of active recreation that increases your breathing and heart rate **to some extent**?”

Table 17 shows the presence of the physical activity components mentioned above in different population groups.

For easy orientation, the boxes on the table are colored. The cells with relatively higher values are red, the darker the color, the higher the value. The boxes containing relatively lower values are blue. The lower the



value written in the box, the darker the blue color. Boxes containing intermediate values are close to white with slight shades of red or blue.

Comparability of colors and shades:

- The colors of the “Total” row of the table are comparable. They are not comparable to any other row or column colors.
- The colors of each column are comparable to each other, except for the colors of the boxes in the “Total” row.
- The colors of different columns are not comparable to each other.
- The colors of different lines are not comparable to each other.

**Table 17. Components of physical activity: Number of respondents who perform the mentioned physical activity (persons aged 15 and older)**

Characteristic	Category	Heavy physical activity	Moderate-intensity physical activity	They walk or ride a bike	Heavy sports	Moderate-intensity sports
Total		19.2%	45.5%	78.7%	4.1%	6.7%
Residence	Yerevan	8.4%	31.6%	78.5%	5.4%	9.1%
	Urban	16.2%	48.6%	78.1%	5.1%	8.1%
	Rural	31.3%	55.4%	79.5%	2.2%	3.3%
Gender	Female	11.4%	45.4%	79.6%	2.5%	5.8%
	Male	28.4%	45.5%	77.7%	6.0%	7.6%
Education	Incomplete secondary	16.3%	45.4%	68.2%	5.0%	6.1%
	Secondary	24.4%	49.4%	79.9%	3.7%	4.8%
	Vocational	17.3%	46.9%	80.2%	3.0%	6.6%
	Incomplete higher	12.9%	37.9%	83.1%	5.2%	6.5%
	Higher	11.6%	37.7%	74.9%	5.7%	11.8%
Wealth	I	22.9%	41.4%	79.8%	3.1%	3.6%
	II	25.0%	49.8%	74.2%	2.1%	4.0%
	III	21.6%	51.5%	82.8%	5.2%	8.3%
	IV	17.5%	52.6%	83.7%	4.0%	5.8%
	V	16.0%	45.4%	81.3%	6.2%	10.9%
Age	15-19	12.7%	44.6%	89.7%	17.3%	18.5%
	20-34	21.6%	48.0%	79.7%	7.8%	11.3%
	35-49	25.4%	50.2%	79.8%	1.8%	3.8%
	50-64	18.4%	45.1%	78.6%	0.9%	3.6%
	65+	8.5%	33.9%	70.7%	0.5%	2.8%

The main results arising from the data in the table:

- The most common form of physical activity among the population of Armenia is walking or riding a bicycle. It's performed by 78.7% of the population.
- The second most common form of physical activity is moderate physical work (45.5%).
- The third most common form of physical activity is heavy physical work (45.5%).
- Moderate and heavy sports activities are 4.1% and 6.7%, respectively.

According to the columns of the table:

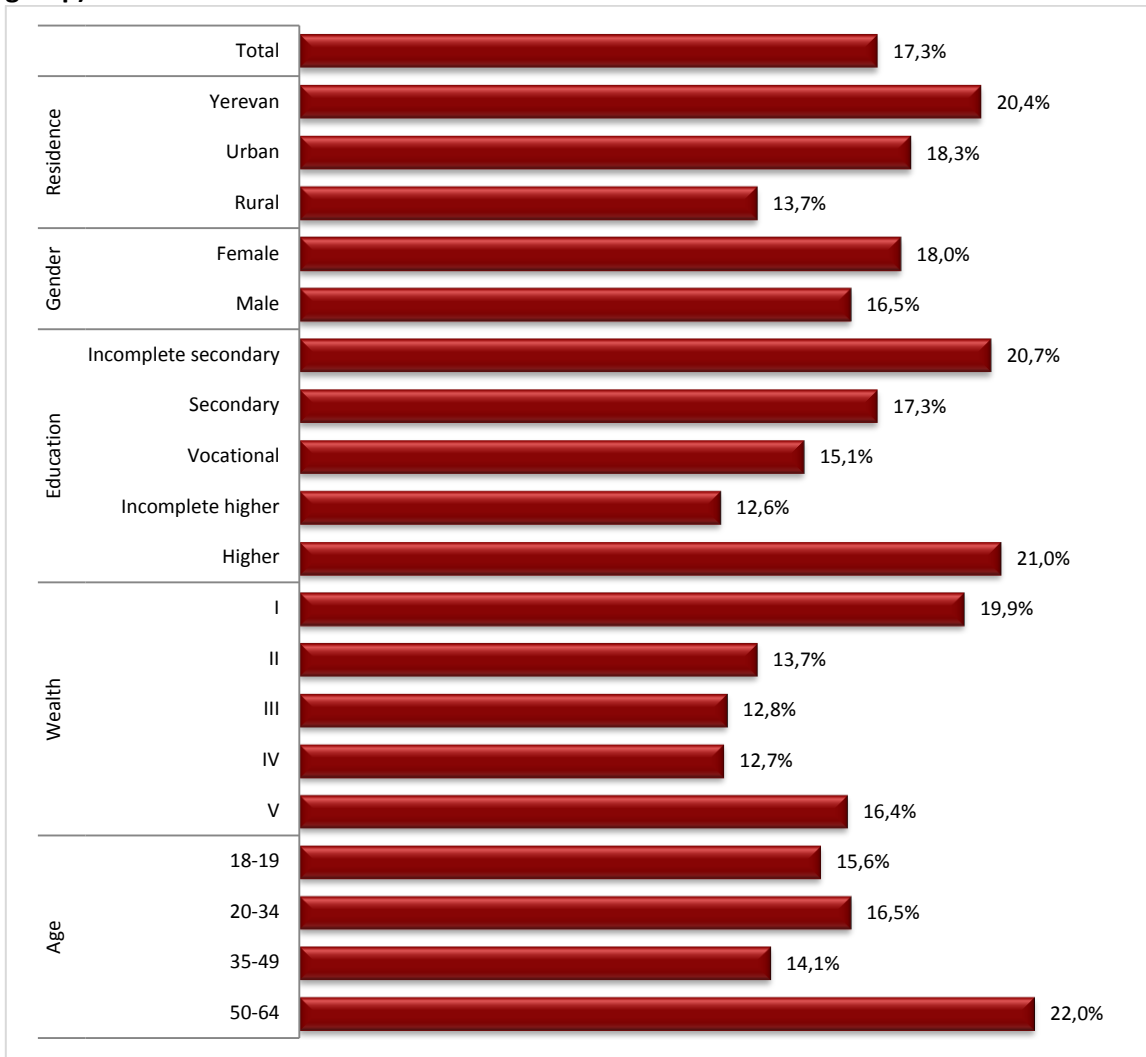
- The number of people performing heavy physical activities is relatively more common among those located in rural areas, among men, among people with secondary education levels, in I and II wealth quintiles, and among 20-49-year-olds. This indicator is very low among 65 and older people.
- Medium-intensity work is relatively prevalent in rural and urban areas, has the same level among men and women, is prevalent among people with secondary education, is relatively lower among people with incomplete higher and higher education, is relatively higher in II, III and IV welfare quintiles, is relatively higher among 20-49-year-olds, and lower among 65 and older people.
- Walking or cycling is relatively more common among those with incomplete higher education and 15-19-year-olds.
- Heavy sports activity is relatively more common among 15-19-year-olds.
- Moderate-intensity sports are more common among 15-19 and 20-34-year-old people.

### ***Physically inactive population in Armenia in 2022***

The physical activity of a given person was calculated by asking two questions about the five types of activity: "How many days a week do you perform [this type of physical activity]?" and "How many hours a day do you usually perform [this type of physical activity]?" The obtained results are added up.

The physically inactive population in Armenia calculated by the STEPS methodology among the 18-64 age group is provided in Figure 98.

**Figure 98. Physically inactive people, 2022, (calculated by the STEPS methodology among the 18-64 age group)**



- **The physically inactive population calculated by the STEPS methodology among the 18-64 age group in Armenia was 17.3%.**
- **According to the STEPS survey conducted in Armenia in 2016, the percentage of the physically inactive population was 21.3%.**

Physical inactivity in socio-demographic groups had the following picture:

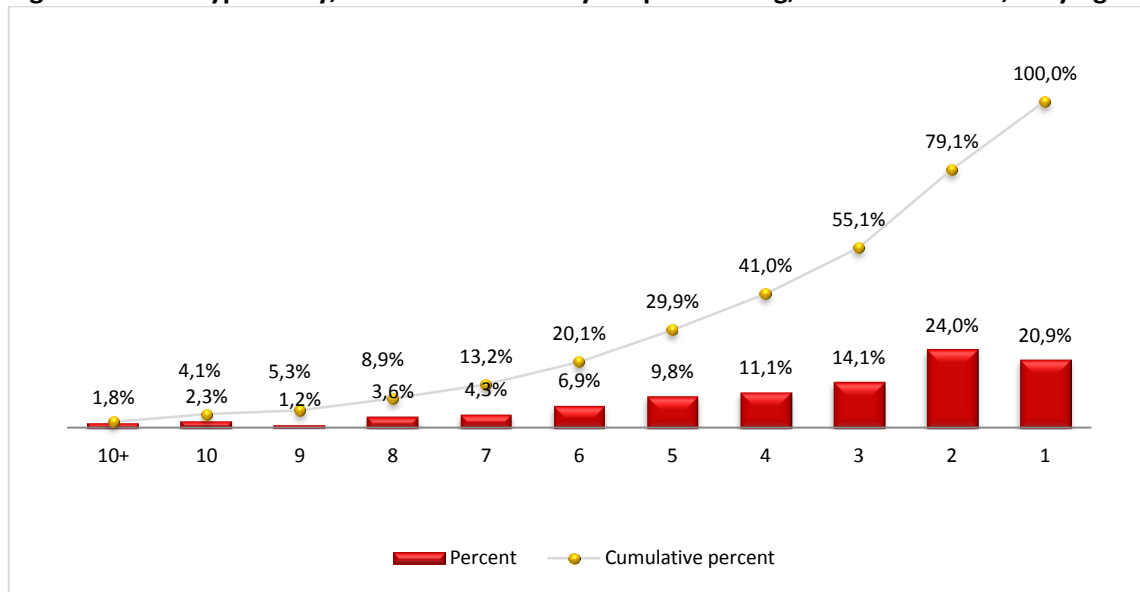
- Physical inactivity is relatively higher in Yerevan (20.4%),
- Among women (18.0%),
- Physical inactivity is relatively higher among people with less than a secondary educational level (20.7%), it decreases along with an increase in educational level, but among people with higher and more education, it increases sharply to 21.0%.
- Physical inactivity is relatively higher in the I wealth quintile (19.0%), relatively lower in II, III, and IV wealth quintiles, and increases in the V wealth quintile.

## Sedentary lifestyle

The sedentary lifestyle was studied separately and evaluated by assessing time spent while sitting semi-recumbent or lying position (apart from sleeping). The distribution of a sedentary lifestyle is provided in Figure 99, and its sex-age breakdown is depicted in Table 18.

- 20.9% and 24.0% of the population are sedentary for one and two hours a day, respectively.
- 59.0% are sedentary for 1-3 hours a day.
- 8.9% of the population is sedentary for 8 or more hours a day.

**Figure 99. On a typical day, how much time do you spend sitting, semi-recumbent, or lying down?**



- Sedentary lifestyles of 1-2 hours per day are more common among women aged 20-34 and men and women aged 35-49.
- 3-6 hours of daily sedentary lifestyle is relatively more common among girls and women aged 15-19 and men aged 50-64 and 65 and older people.
- 7 or more hours of daily sitting is common among 15-19-year-old people, 35-49-year-old, and 50-64-year-old women.

**Table 18. How much time do you usually spend sitting, semi-recumbent, or lying down?, according to age and sex groups**

Hours	15-19		20-34		35-49		50-64		65+		Total	
	F	M	F	M	F	M	F	M	F	M	F	M
7+ hours	8.8%	6.5%	8.5%	13.5%	6.1%	14.9%	8.9%	15.4%	26.2%	28.5%	11.0%	15.8%
3-6 hours	52.1%	45.2%	35.6%	41.5%	38.0%	32.0%	45.1%	50.0%	48.5%	47.7%	41.7%	42.1%
1-2 hours	39.2%	48.3%	55.9%	45.0%	55.9%	53.1%	46.0%	34.6%	25.3%	23.8%	47.3%	42.2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

## Diet

Within the framework of the HSPA in 2022, the study of diet included:

- Salt consumption habits among the population,
- Consumption of fats,
- Consumption of food outside the home,
- Consumption of fruits and vegetables.

### ***Consumption of fruits and vegetables***

Consumption of fruits and vegetables is an important part of a healthy diet. The research examined how many days a week and how many servings of fruits and vegetables the Armenian population consumes daily.

Distributions of weekly consumption and daily servings of fruits are provided in Figures 100-A and B, respectively. These distribution's sum (cumulative) percentages are also given in the same charts. Also, the distributions and cumulative distributions of weekly consumption and daily portions of vegetables are provided in Figures 101-A and B.

When considering the data, it should be taken into account that the field phase of the research lasted from June 22 to August 22, 2022. Fruit and vegetable consumption has a strong seasonal component. Therefore, the obtained data should be considered in the context of the summer months.

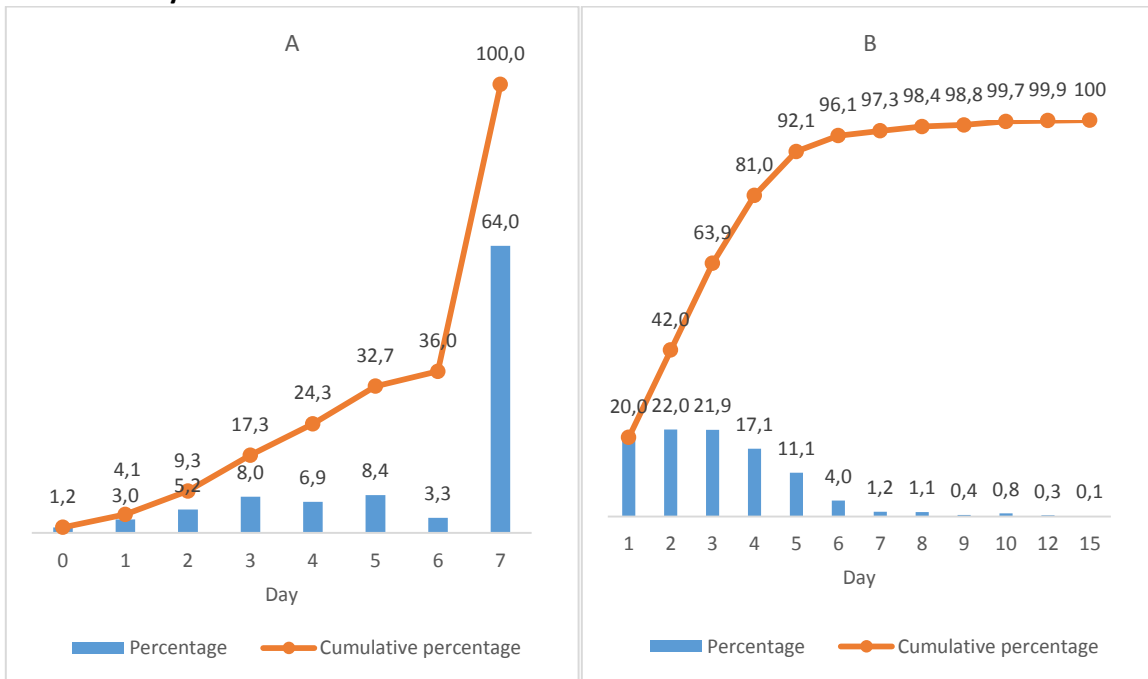
A visual inspection of the figures shows that the distributions of the number of days of weekly consumption of both fruits and vegetables are significantly skewed to the left (the absolute majority of the population consumes both fruits and vegetables 7 days a week). The number of daily servings consumed in the case of the distributions of fruits and vegetables is skewed to the right (the absolute majority of the population consumes 1- 4 portions, but this number reaches 15). The Kolmogorov-Smirnov test confirms this visual conclusion: the significance of the test for all distributions is 0.000, which means that these distributions are not normal distributions. Therefore, when studying these distributions, average values are not adequate. It's necessary to use other indicators of central tendencies. However, in our case, it's preferable to look at distributions and cumulative distributions because they give a complete picture of the population's fruit and vegetable consumption habits. On the other hand, these distributions are easily understandable for readers and analysts.

According to Figures 100-A and B:

- 1.2% of the Armenian population didn't consume fruit for a single day in summer, and 3.0% consumed only one day.
- 17.3% of the population consumed fruits up to 3 days per week.

- 75.7% of the population consumed fruits 5 or more days per week.

**Figure 100. A) How many days a week do you consume fruits? B) How many servings of fruit do you consume daily?**



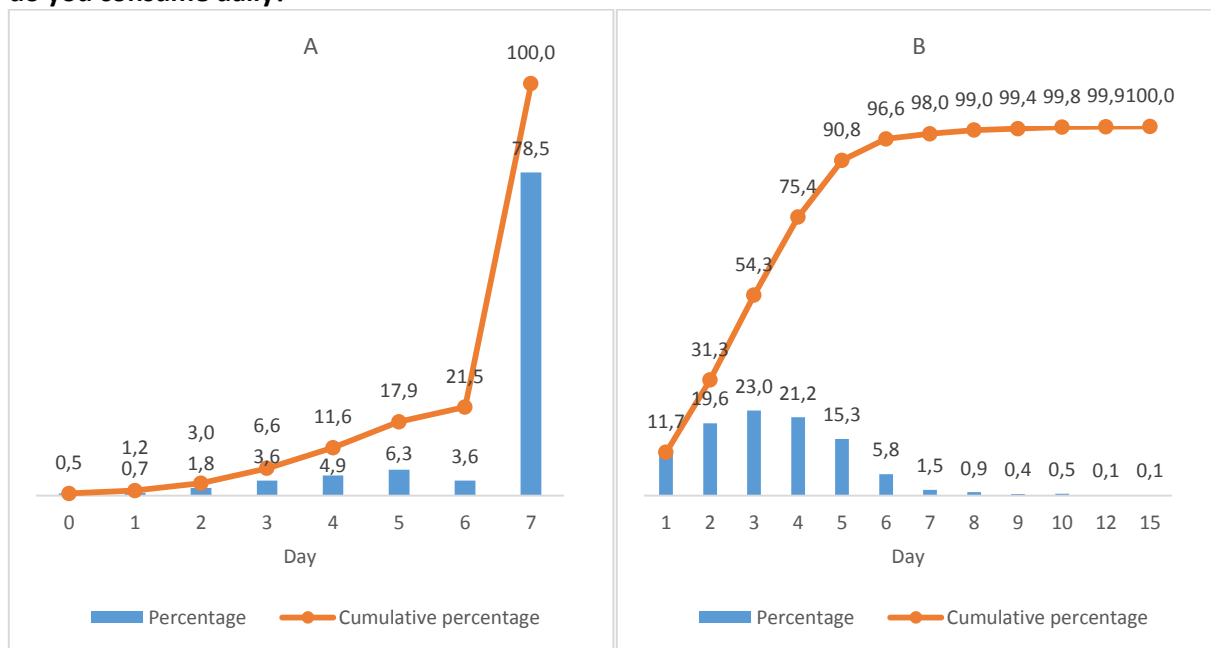
According to the data on daily fruit servings (Figure 100-B):

- 19% and 58% of the population consumed 5 or more and 3 or more servings of fruits per day, respectively.
- 42.0% of the population consumed 1 or 2 servings of fruit.

Figure 101-A depicting the consumption of vegetables shows that:

- 0.5% of the population did not consume vegetables during the week.
- 78.5% consumed vegetables every day during the week.
- 11.6% used vegetables up to 4 days during the week.
- 88.4% used vegetables for 5 or more days during the week.

**Figure 101. A) How many days a week do you consume vegetables? B) How many servings of vegetables do you consume daily?**



From the distribution of daily portions of vegetables (Figure 101-B), it's obvious that:

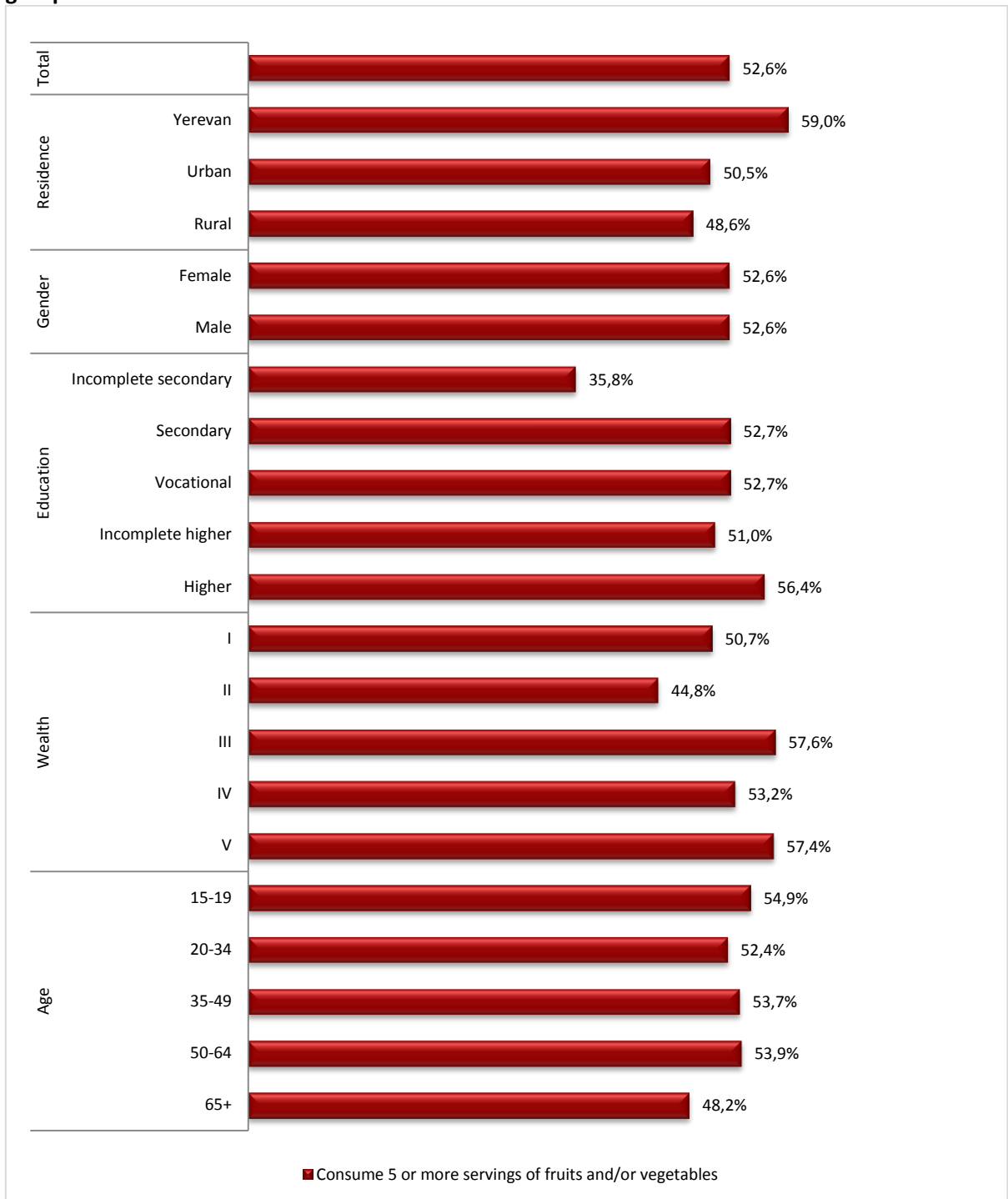
- 11.7% of people who consumed vegetables during the week consumed one portion per day.
- 31.3% consumed up to 2 portions, 54.3% up to 3 portions, 75.4% up to 4 portions, and 90.8% up to 5 portions.

According to WHO, an adult should consume 5 or more servings of fruits and/or vegetables per day. Figure 102 shows the number of people consuming more than 5 servings of fruits or vegetables per day according to the age and gender breakdown in 2022.

- In 2022, In Armenia, the number of people consuming up to 5 portions per day from June to August was 52.6%.
- The number of such people in Yerevan (59.0%) is greater than in urban (50.5%) and rural (48.6%) areas.
- The number of men and women consuming 5 or more servings of fruits or vegetables per day is equal (52.6%).
- Among people with less than a secondary educational level, that indicator is significantly lower (35.8%). The indicator is in the range of 51-53% among people with secondary, vocational, and incomplete higher education, and among people with higher education, it's the highest (56.4%).
- Among welfare groups, the indicator is the lowest in the II quintile (44.8%), and the highest in III (57.6%) and V (57.4%) quintiles.

- As age increases, the number of people consuming 5 or more portions per day decreases. In the 18-29 age group, they make up 54.9%, and in the 60+ age group 48.2%.

**Figure 102. Consumers of up to 5 servings of fruits and/or vegetables per day by socio-demographic groups**

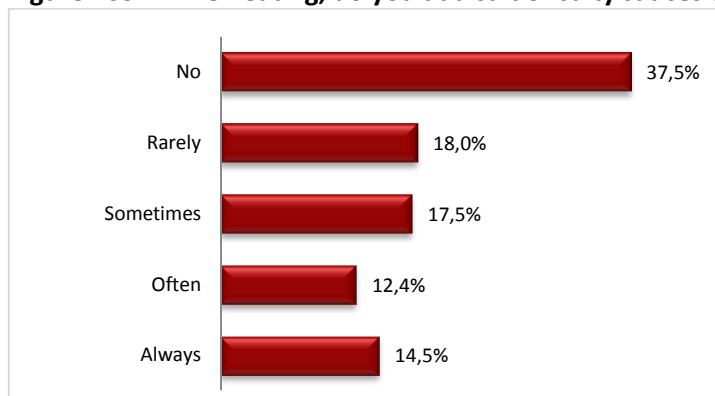




### **Salt consumption habits**

Dietary salt consumption habits were studied using several questions. The first question concerns all respondents. “When eating, do you add salt or salty sauces to the prepared meals?” (Figure 103)

**Figure 103. “When eating, do you add salt or salty sauces to the prepared meals?”**

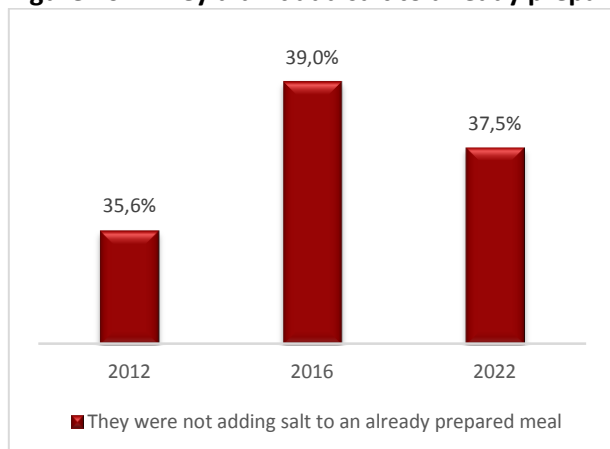


According to the data, the habit of adding salt to the already prepared meal is quite common among the population of Armenia. 37.5% don't add salt to their meals, and 26.9% add it “Often” or “Always”.

The data in 2022 for this question are partially comparable with the data in 2012 and 2016 data, because the scale used in the 2022 question on salt consumption habits (“Always”, “Often”, “Sometimes”, “Rarely”, and “No”) is different than the scale used in 2012 and 2016 (“Always before tasting”, “Yes, almost always”, “Yes, when salt is lacking”, and “No”). In the scales used in the three surveys, only the “No” answer options were comparable, however it was possible to some extent since in 2022, in addition to salt, the phrase “salty sauces” was also present in the question.

Figure 104 shows the “No” responses to the question of “When eating, do you add salt or salty sauces to the prepared meals?” in 2012, 2016, and 2022.

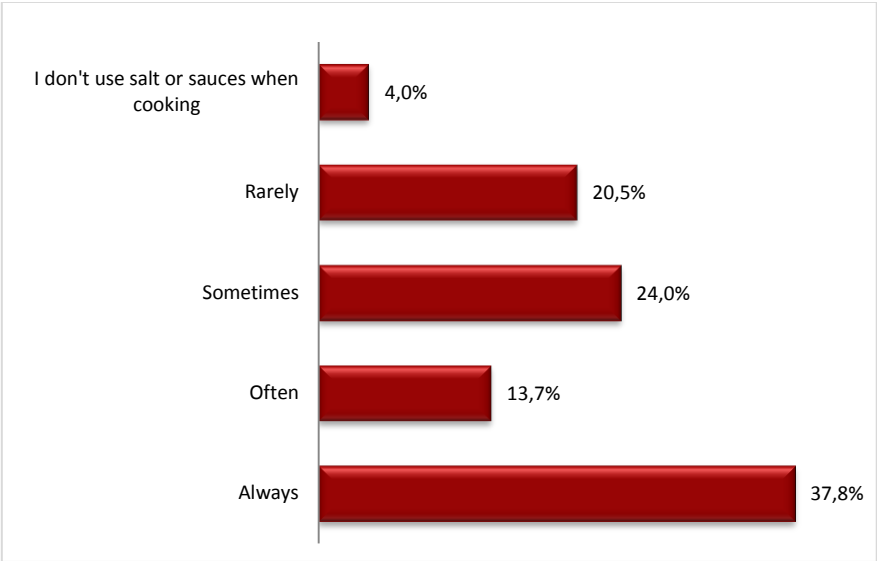
**Figure 104. They didn't add salt to already prepared meals, 2012, 2016, 2022**



- **In 2022 (compared to 2016), the consumption of salt during meals has decreased.**

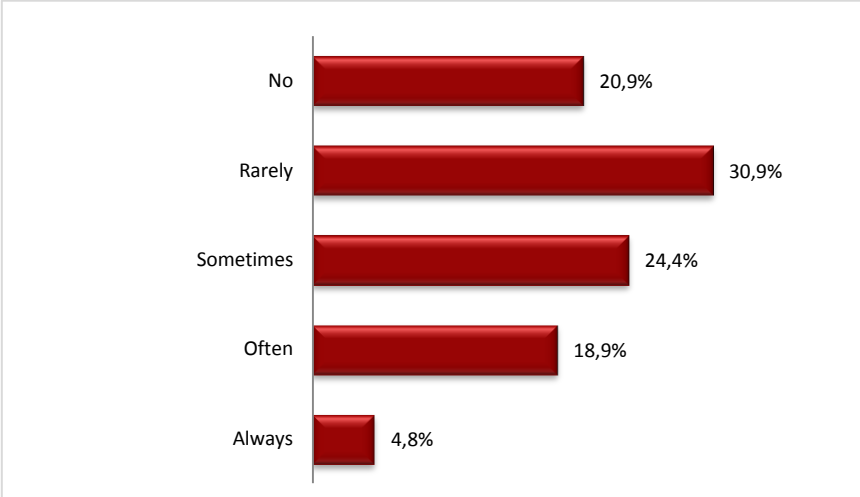
The use of salt during food preparation was also studied. The question was asked only to those who personally cook at home. The following question was applied: “How often do you add salt, salty spices, or thick sauces when cooking?” (Figure 105).

**Figure 105. How often do you add salt, salty spices, or thick sauces when cooking? (The question was asked to those who cook at home, N= 826)**



The study also examined the consumption of foods containing a large amount of salt by the population of Armenia using the following question: “How often do you eat salty processed food, such as smoked meats or fish, lard, pickles, salty chips or pulses?” (Figure 106).

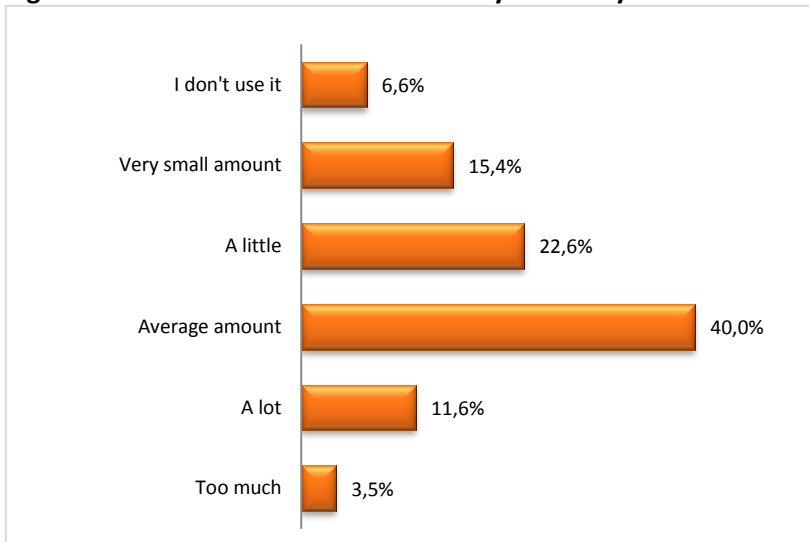
**Figure 106. How often do you eat salty processed food, such as smoked meats or fish, lard, pickles, salty chips or pulses?**



- **23.7% of the Armenian population “Always” or “Often” use foods containing a large amount of salt.**

Moreover, most people in Armenia don't consider that they use too much salt or sauces (Figure 107).

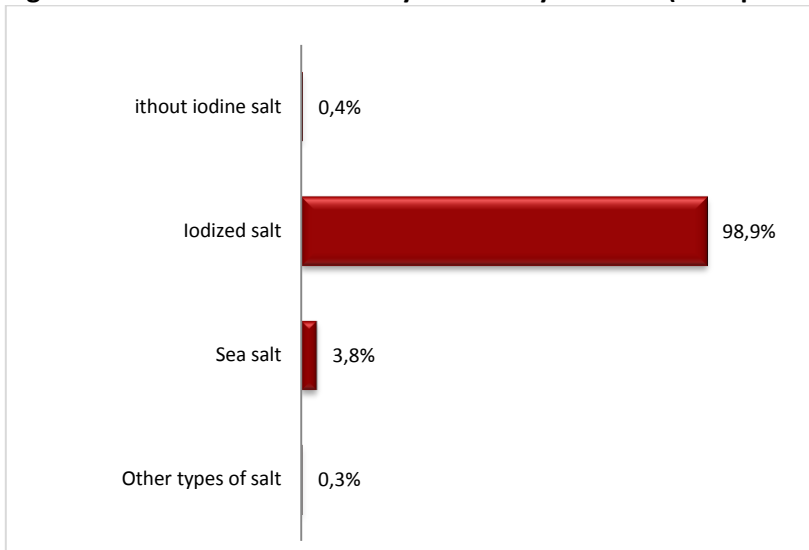
**Figure 107. How much salt or sauces do you think you use?**



### ***Consumption of types of salt***

Types of salt consumed by the population of Armenia were studied (Figure 108). 98.9% of the Armenian population consumes iodized salt, and 3.8% consumes sea salt.

**Figure 108. What kind of salt do you add to your meal (multiple answers are permitted)**

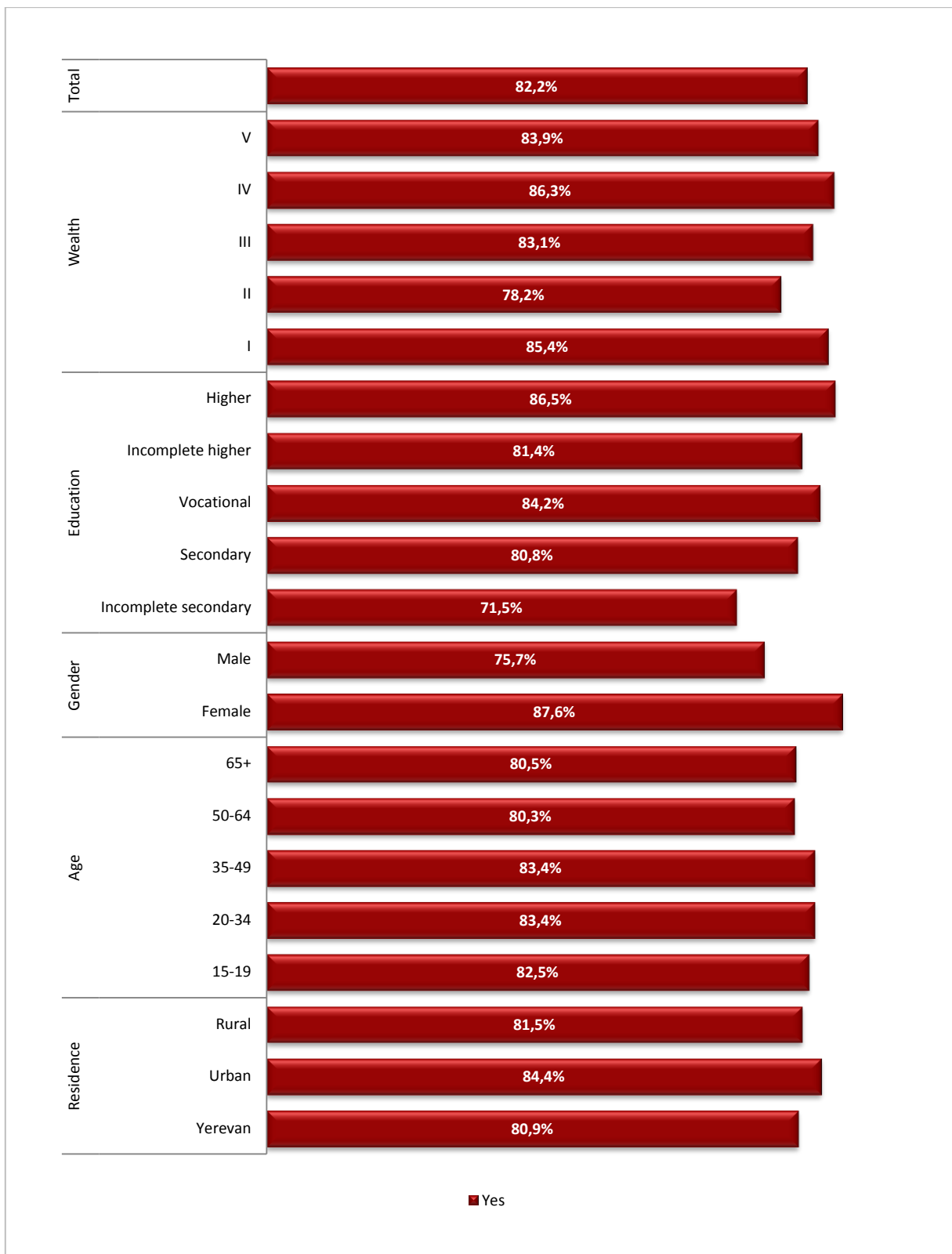


### ***Attitudes toward salt abuse***

- The absolute overwhelming majority of the population of Armenia (82.0%) is aware that the abuse of salt or salty substances is harmful to health.

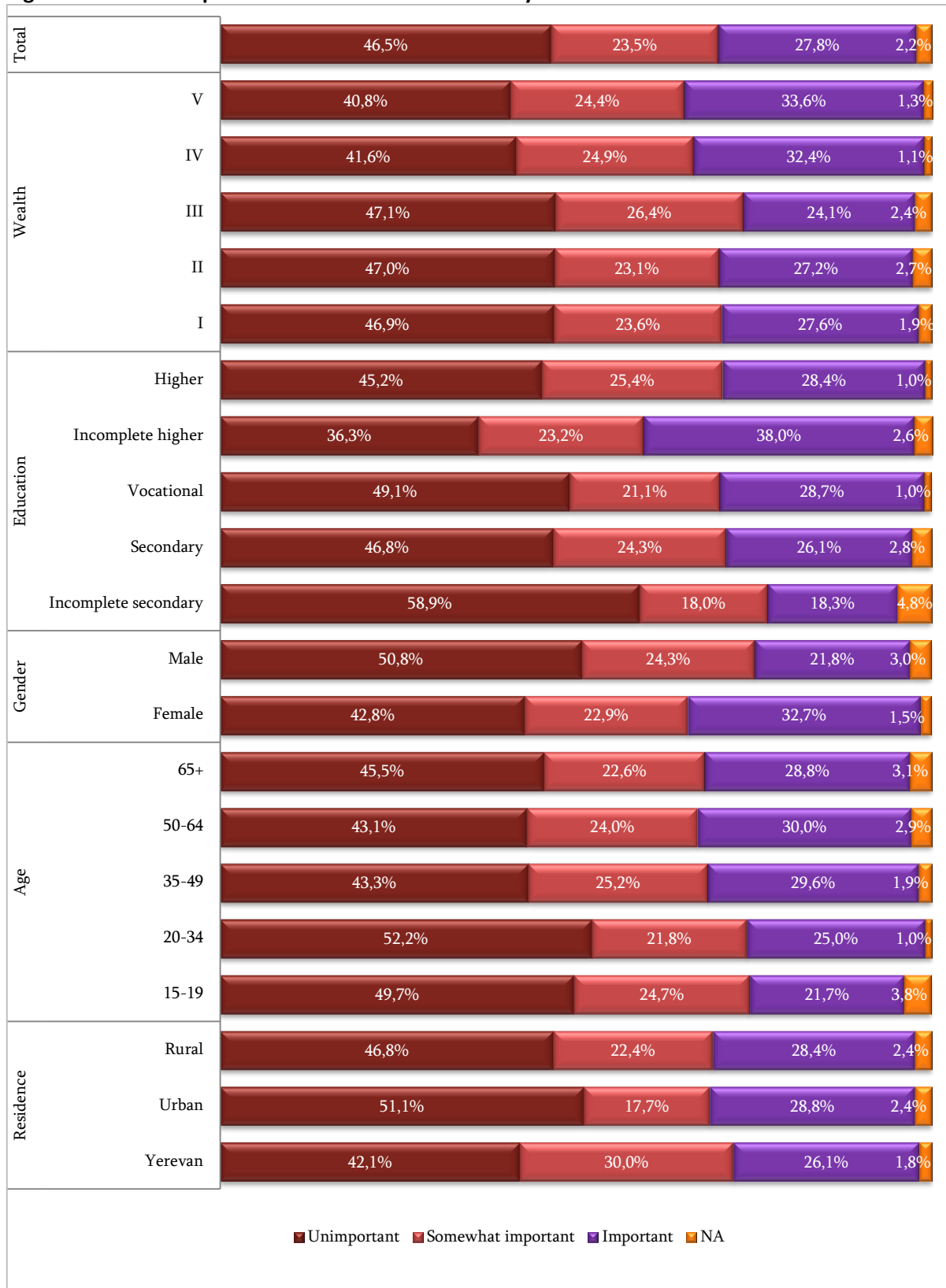
Awareness of the harmfulness of salt abuse in socio-demographic groups is provided in Figure 109.

**Figure 109. “Do you think the abuse of salt or salty solutions can lead to health problems?” (“Yes” answers)**



Perceptions of the reduction of salt consumption by the population of Armenia was studied through the following question: “How important is the reduction of salt in your diet?” The data is presented in Figure 110.

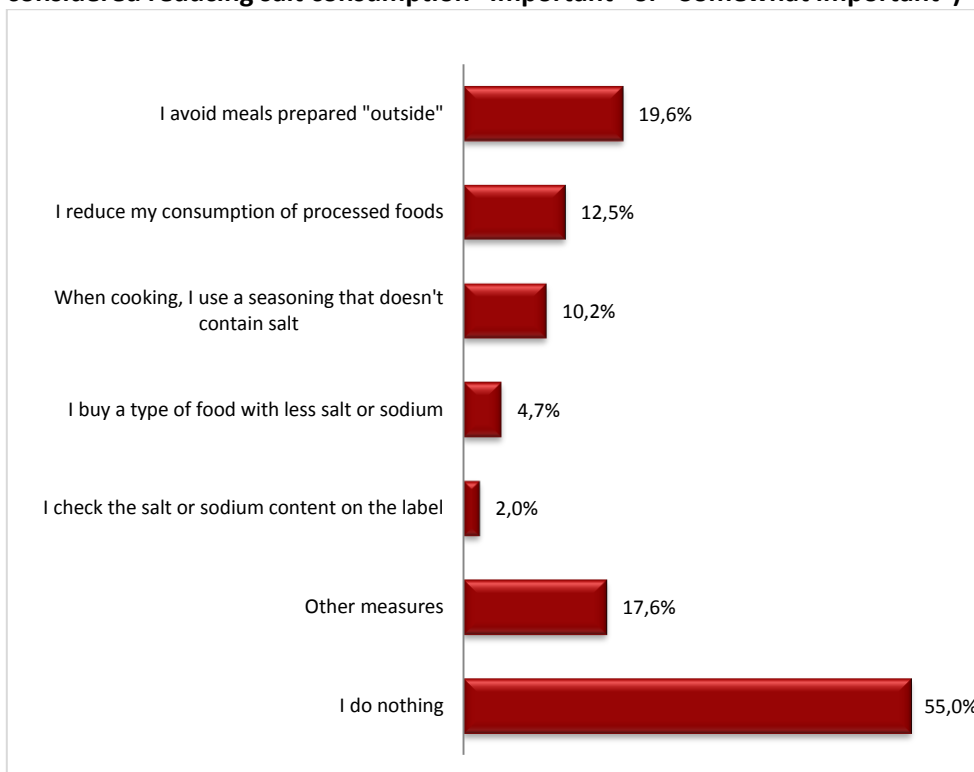
**Figure 110. “How important is the reduction of salt in your diet?”**



- In general, a significant part of the population (46.5%) perceives the reduction of salt consumption as an unimportant attempt.

Those who considered the importance of salt consumption in their diet “Important” or “Somewhat important” (70.0% of all respondents) were asked what measures they use to reduce salt consumption.

**Figure 111. Do you use the following measures to reduce salt consumption? (% from those who considered reducing salt consumption “Important” or “Somewhat important”)**



According to the figure:

- 55.0% of those who perceive reducing salt consumption as “Important” or “Somewhat important” don’t take any measures to reduce salt consumption.
- The most common ways to reduce salt consumption are avoiding meals prepared “outside” (19.6%), limiting the consumption of processed foods (12.5%), and using salt-free seasonings when cooking (10.2%).

### ***Consumption of fats***

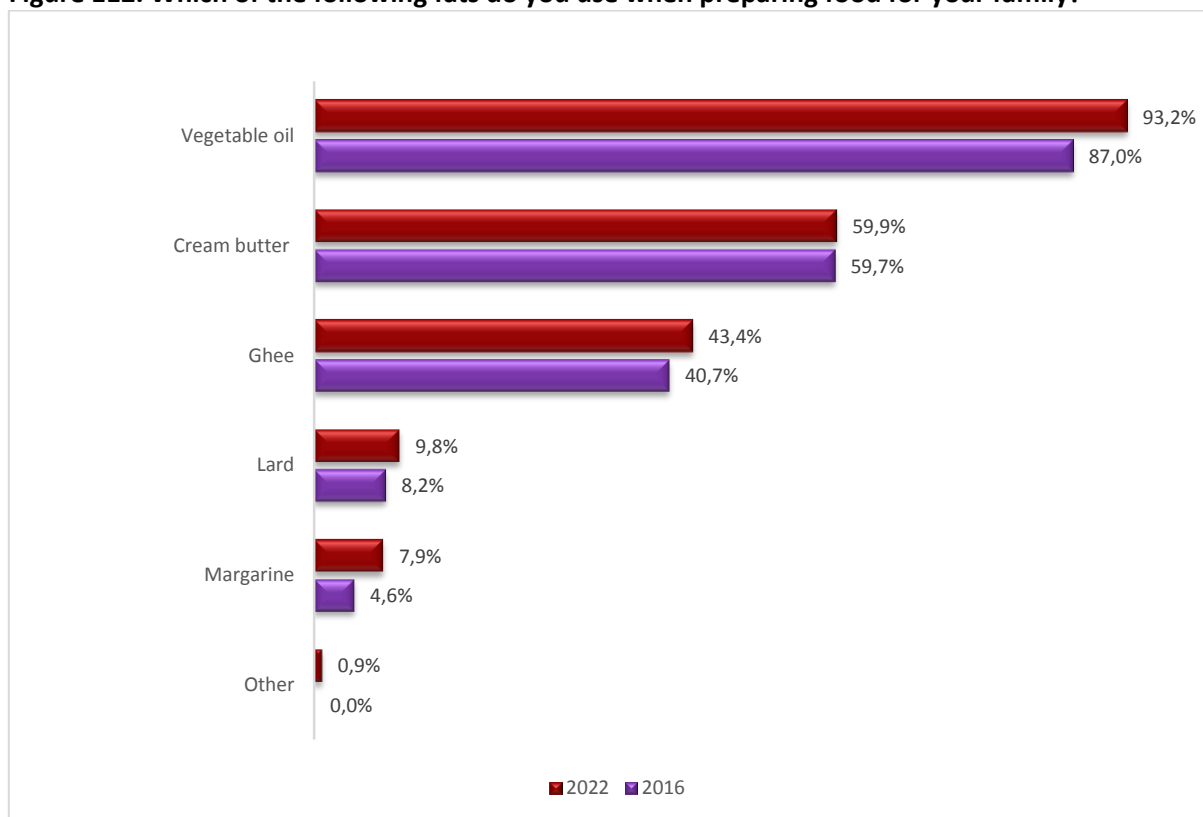
Consumption of fats is among the important predictors of a healthy diet for the population. Figure 112 shows what types of fats the population of Armenia consumes according to 2016 and 2022 research data.

According to the data in the figure:

- In 2022 (compared to 2016), the consumption of all types of fats has increased in Armenia.
- The consumption of vegetable oil is more common among the population of Armenia. In 2022, 93.2% of the population used vegetable oil. The indicator has increased by 6.2% compared to 2016.
- The second most common is the consumption of cream butter (59.9%).

- The third is the consumption of ghee (43.4%).
- 9.8% of the population uses lard.

**Figure 112. Which of the following fats do you use when preparing food for your family?**



Consumption of fats according to type of residence in 2016 and 2022 is provided in Table 19.

**Table 19. Consumption of fats by type of residence, 2016, 2022**

Type	Yerevan		Urban		Rural	
	2016	2022	2016	2022	2016	2022
Vegetable oil	92.4%	94.9%	90.3%	93.9%	<b>80.2%</b>	<b>91.1%</b>
Cream butter	61.8%	63.7%	60.0%	59.4%	57.7%	57.0%
Ghee	22.5%	25.5%	<b>35.4%</b>	<b>44.6%</b>	60.2%	58.7%
Lard	<b>2.1%</b>	<b>6.6%</b>	10.0%	10.6%	12.6%	12.0%
Margarine	<b>2.8%</b>	<b>5.0%</b>	<b>5.4%</b>	<b>9.1%</b>	<b>5.7%</b>	<b>7.9%</b>

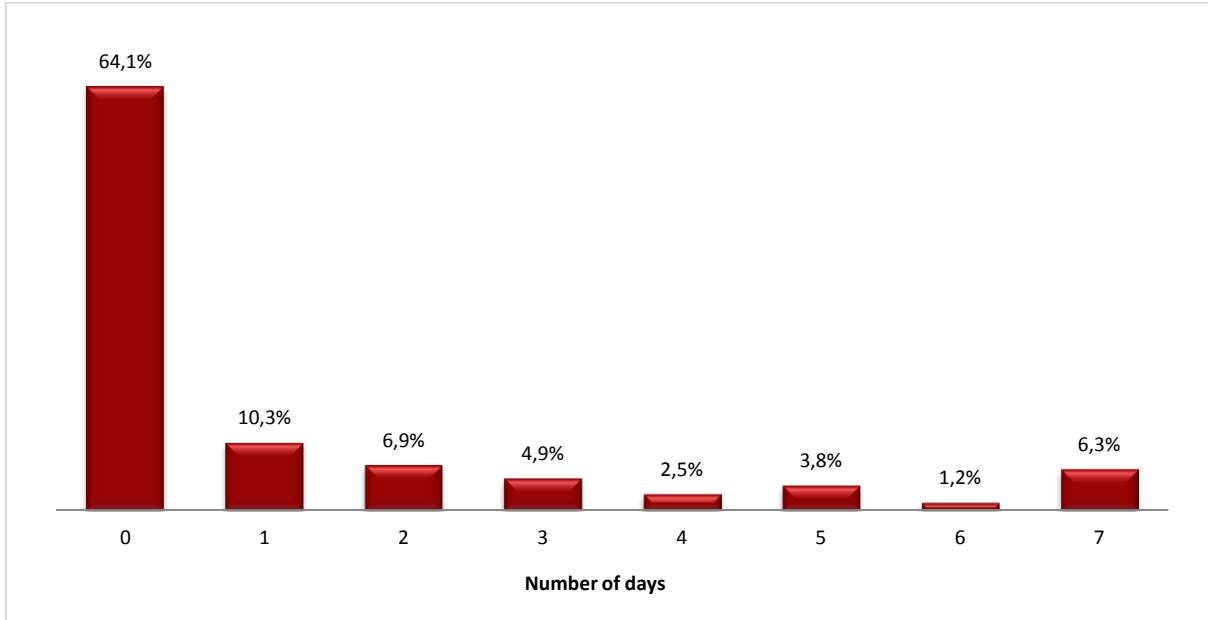
- In 2022 (compared to 2016 vegetable oil consumption increased significantly, from 80.2% to 91.1%.
- Among the urban population, consumption of ghee increased from 35.4% to 44.6%.
- Consumption of margarine has increased in all settlements.
- Consumption of lard has increased in Yerevan.



### **Eating out**

64.1% of the Armenian population didn't eat out for a week before the survey. 22.1% ate outside the house 1-3 times, and 13.8% 4-7 times (Figure 113).

**Figure 113. How many days did you eat out during the last week? (The number of days is counted, not the number of meals.)**



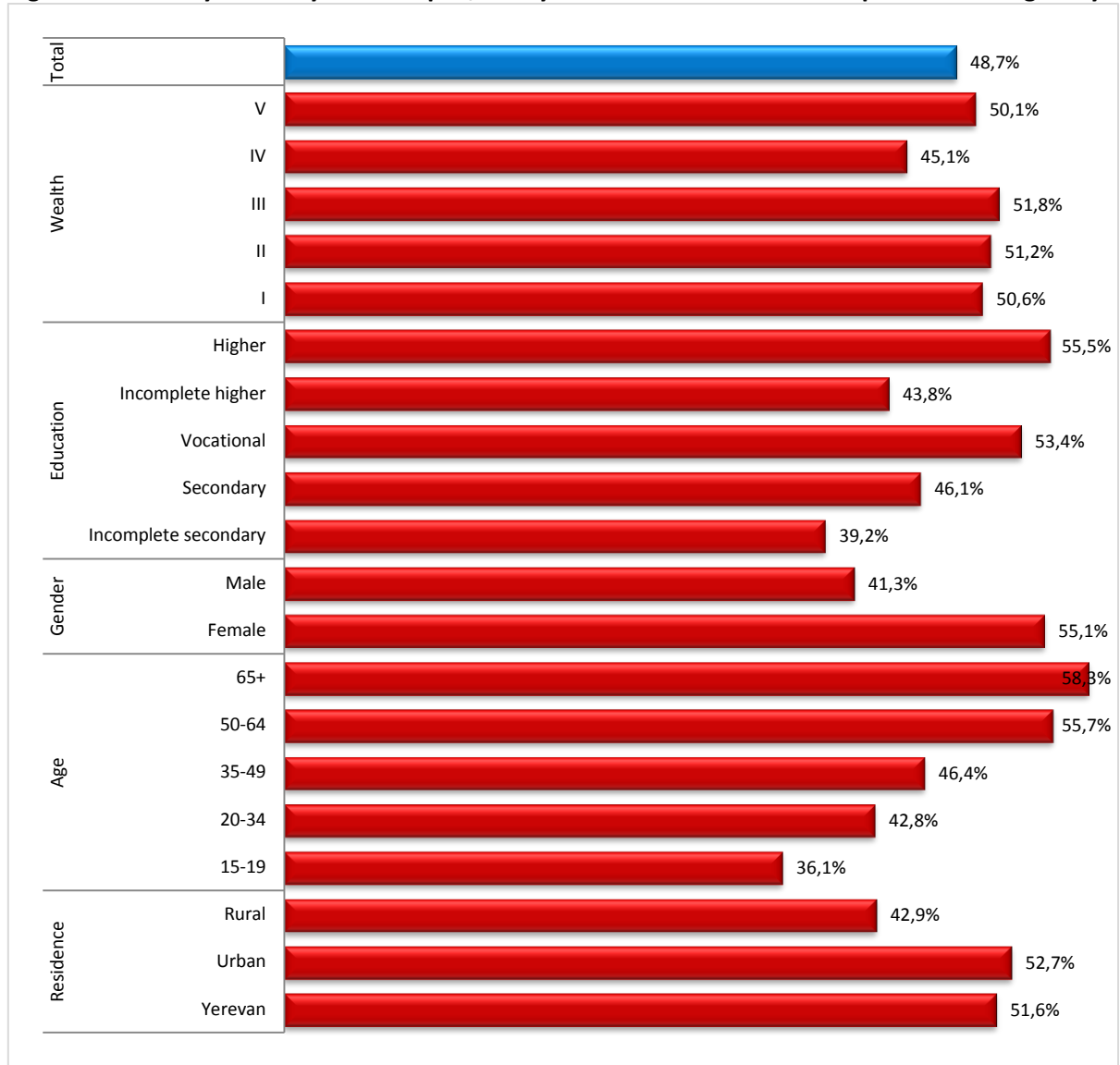
### **Healthy lifestyle tips**

The prevalence of informing the population about healthy lifestyle by doctors was studied. For doing so, the following question was asked first: "Have you seen your therapist/family doctor or other healthcare provider during last year?" The index of receiving advice from a doctor was calculated from those people who met their therapist, family doctor, or any other health care provider in the last year.

The number of people who have met a therapist or a family doctor during the last year according to socio-demographic groups is provided in Figure 114.

- The indicator don't differs among wealth quintiles, but it's relatively smaller in the IV quintile.

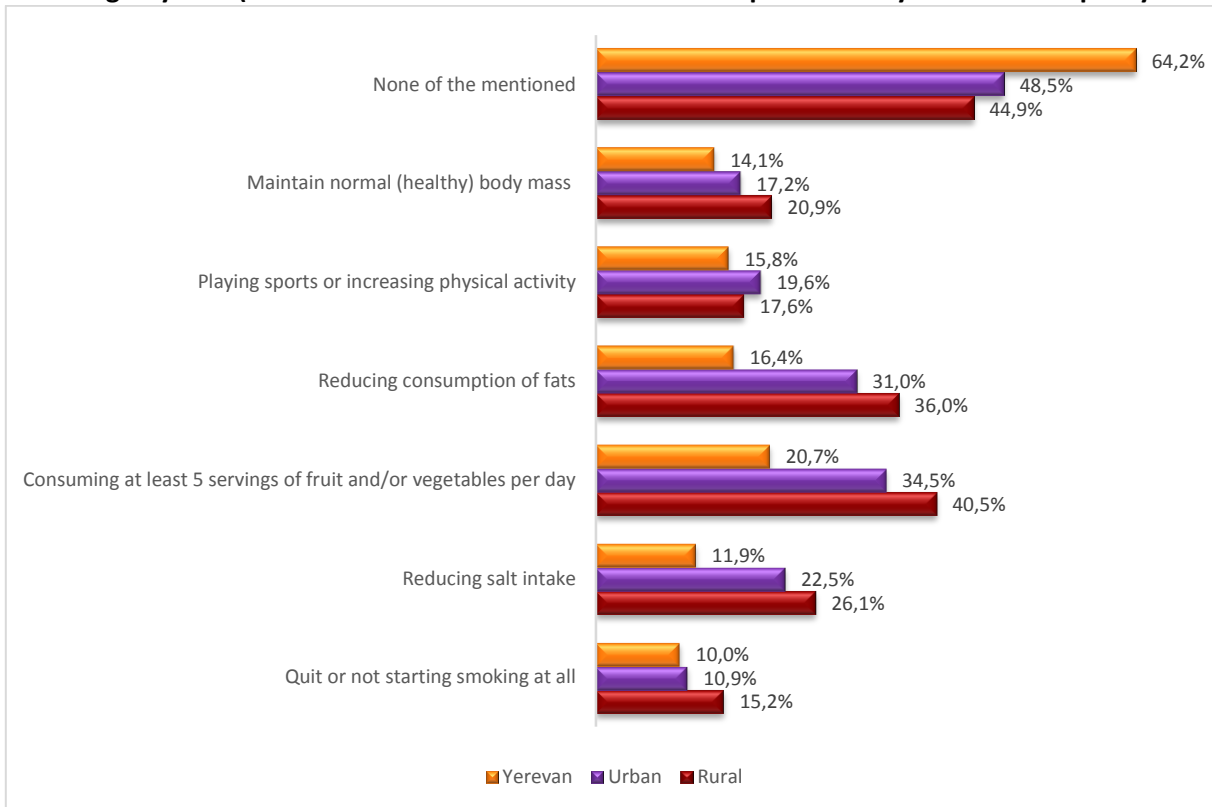
**Figure 114. Have you seen your therapist/family doctor or other healthcare provider during last year?**



- It's relatively higher among people with higher and vocational educational levels,
- It's significantly higher among women than among men;
- It increases rapidly with age. If among 15-19-year-olds, the indicator equals 36.1%, then among 65-year-olds, it's 58.3%.
- In Yerevan and urban areas, the index is relatively higher than in rural areas.

People who had seen their therapist or family doctor in the past year were asked: "During the past year, has any doctor or other health care provider recommended any of the following to you?" The question was followed by a list of advice, which is supposed to be given by the therapist or family doctor to those consulted by the doctor. Figure 115 shows the number of people who were given the considered consultation by the doctor during the last year according to the type of residence.

**Figure 115. “During the past year, has any doctor or other health care provider recommended any of the following to you?” (% out of those who have seen their therapist or family doctor in the past year)**



According to the data:

- Residents of rural settlements more often received advice from a doctor than residents of urban areas or Yerevan.

### Screen time (sitting at a computer)

The HSPA study of 2022 examined several indicators that indirectly give an idea of the risk of computer addiction.

Four directions of computer technology use were considered:

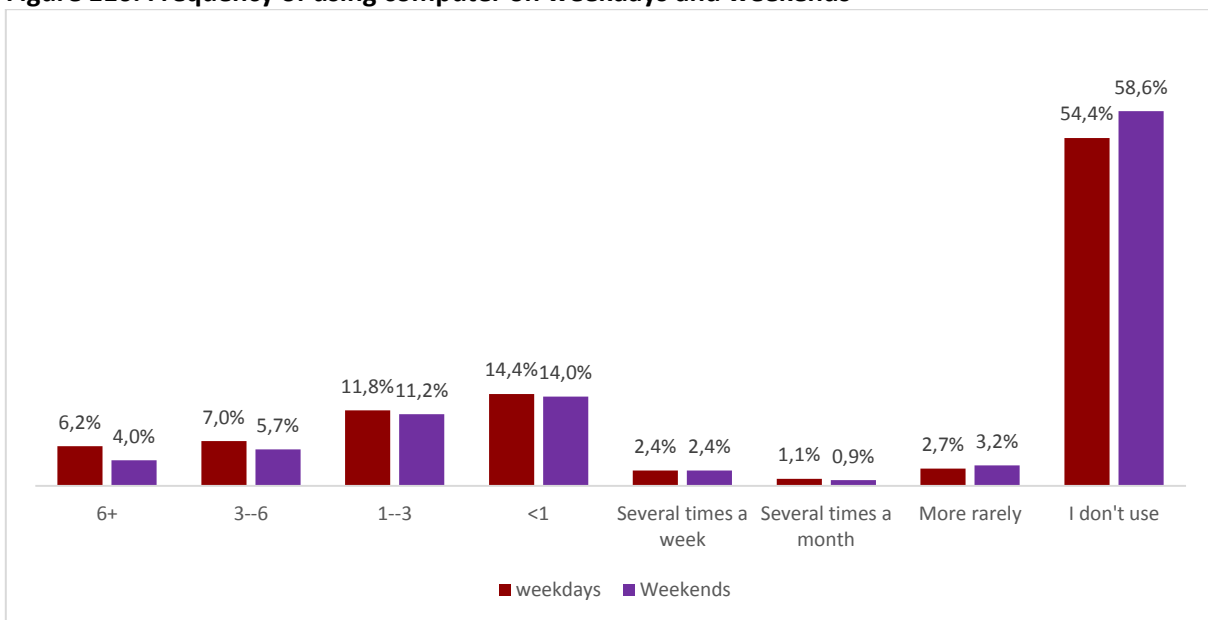
- The frequency of using computer equipment on weekdays was studied through the following question: “In general, how often do you use a computer, tablet, including using social media and playing video games on weekdays?”
- The frequency of using computer technology during the weekend was studied through the following question: “In general, how often do you use computer on weekends?”
- The frequency of using social media was studied through the following question: “How often do you use social media on any device (computer, tablet, or phone)?”

- The frequency of playing video games, which was studied through the following question: “How often do you play video games on any device (computer, tablet, or phone)?”

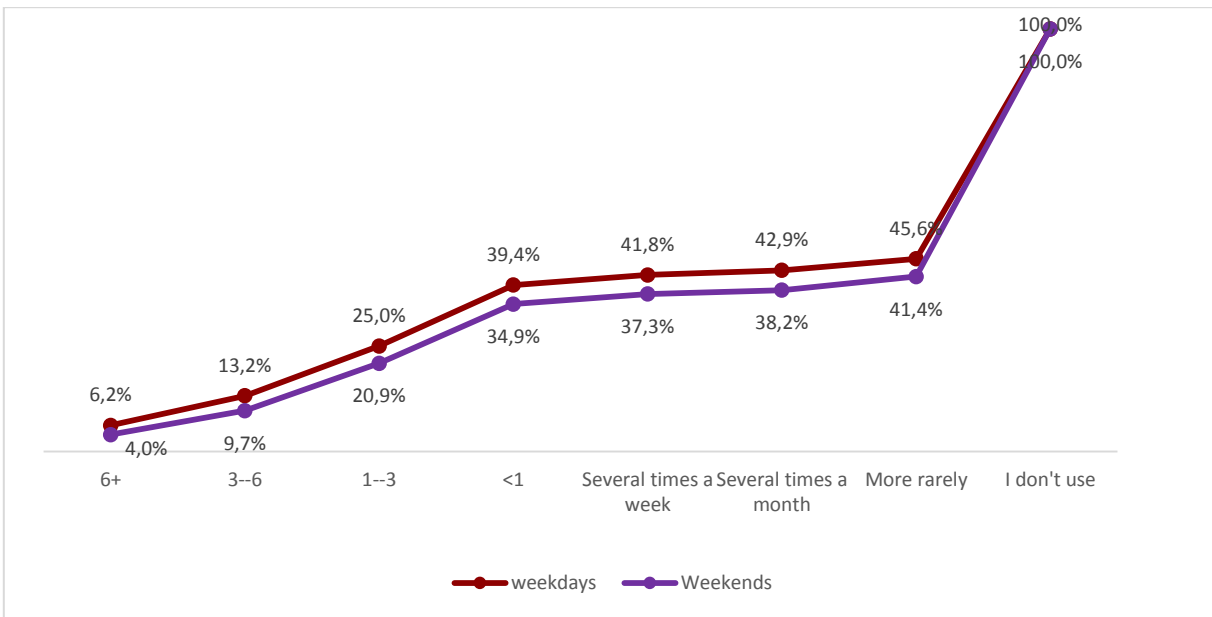
The frequency of using a computer on weekdays and weekends is provided in Figure 116, and the cumulative percentages of these distributions are shown in Figure 117:

- The frequency of computer use on weekdays is generally higher than on weekends.
- 58.6% and 54.4% of the population don’t use a computer on weekends and weekdays, respectively.
- 6.2% of the population use computers 6 or more hours a day on weekdays and 4.0% on weekends.
- 13.2% of the population use a computer 3 or more hours a day on weekdays, and 9.7% on weekends.

**Figure 116. Frequency of using computer on weekdays and weekends**



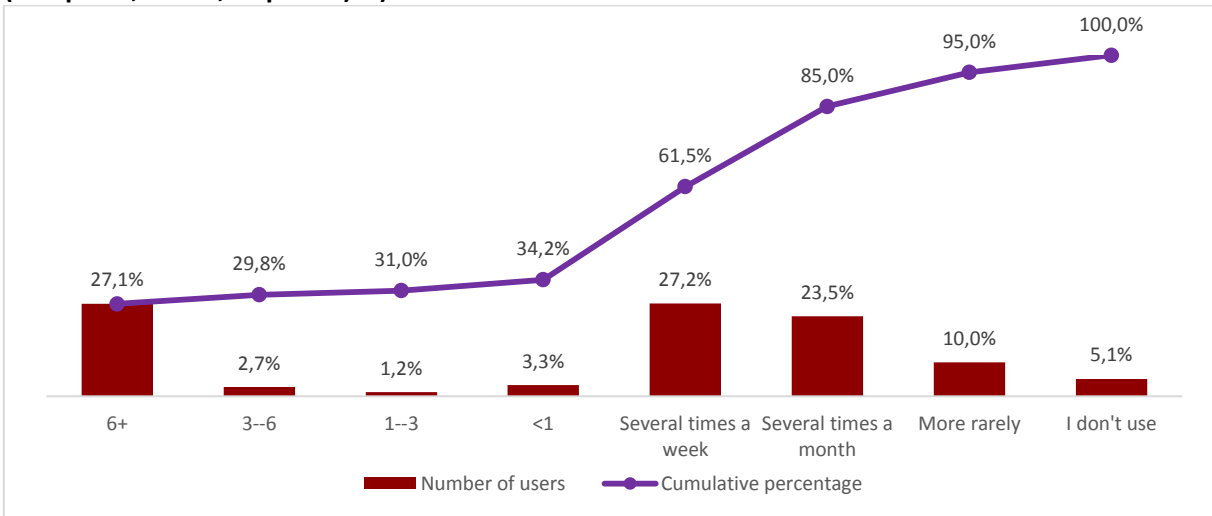
**Figure 117. Frequency of using computer on weekdays and weekends, cumulative percentage**



The frequency of using social media is provided in Figure 118:

- 5.1% of the population doesn't use social media.
- 27.1% of the population uses social media for 6 or more hours a day.
- Daily users of social media, excluding those who use 6 or more hours, make up 7.2%.

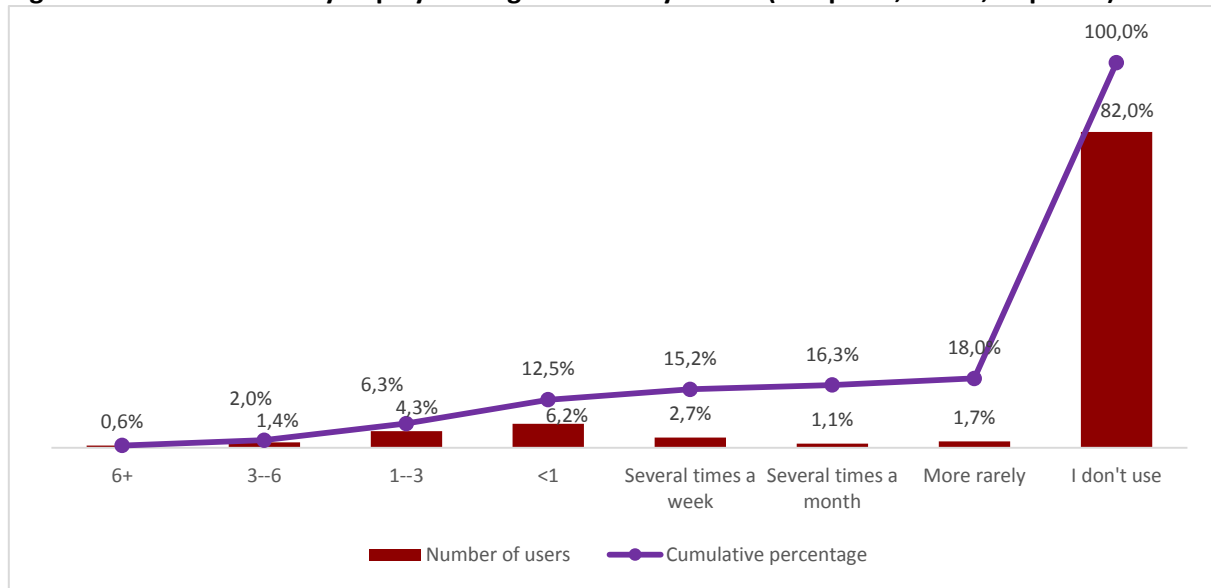
**Figure 118. Frequency of using social media ("How often do you use social media on any device (computer, tablet, or phone)?")**



The frequency of playing video games is provided in Figure 119.

- 82.0% of the Armenian population don't play video games.
- 0.6% and 2.0% of the population play computer games for 6 or more hours a day, and more than 3 hours a day, respectively.
- 10.5% of the population play video games up to 3 hours a day.

**Figure 119. How often do you play video games on any device (computer, tablet, or phone)?**



The frequency of using information technology, social media, and video games according to age and educational level is provided in Table 20.

By age groups:

- From the point of view of all four ways of using the computer, the most intense, more than 6 hours a day, are used in the 15-19 and 20-34 age groups.
- Moreover, the relative number of computer users on weekdays is greater in the 20-34 age group and on weekends in the 15-19 age group.
- The frequency of using social media and playing video games in the 15-19 age group is also higher than in the 20-24 age group.

By educational level:

- Those who use computer technology for 6 hours or more per day (both on weekdays and on weekends) are relatively higher among people with higher education.
- The number of people who use social media for 6 or more hours a day is relatively less in the group with vocational education, and those who use video games for 6 or more hours per day are relatively lower among people with incomplete higher education.

**Table 20. Intensive users of information technology and technologies according to age and educational level**

How often do you use computer on weekdays?	Age						Education					
	15-19	20-34	35-49	50-64	65+	Total	IS	Sec.	Voc.	IH	High.	Total
3-6 hours a day	15.3%	13.1%	3.8%	4.1%	2.5%	7.0%	3.6%	4.9%	5.6%	12.0%	12.1%	7.0%
More than 6	8.7%	11.9%	4.9%	4.0%	0.6%	6.2%	4.3%	3.6%	4.3%	4.7%	15.6%	6.2%

hours a day												
How often do you use computer on weekends?	Age						Education					
	15-19	20-34	35-49	50-64	65+	Total	IS	Sec.	Voc.	IH	High.	Total
3-6 hours a day	13.4%	10.6%	3.2%	2.9%	2.2%	5.7%	5.8%	4.9%	3.8%	6.5%	9.1%	5.7%
More than 6 hours a day	8.0%	6.8%	3.5%	2.5%	0.2%	4.0%	3.9%	3.2%	2.7%	3.4%	7.4%	4.0%
How often do you use social media?	Age						Education					
	15-19	20-34	35-49	50-64	65+	Total	IS	Sec.	Voc.	IH	High.	Total
3-6 hours a day	26.4%	18.1%	7.2%	4.1%	1.9%	10.0%	11.6%	7.7%	7.9%	13.0%	16.0%	10.0%
More than 6 hours a day	16.6%	9.0%	3.5%	2.1%	0.2%	5.1%	5.6%	5.7%	2.6%	5.5%	5.5%	5.1%
How often do you play video games?	Age						Education					
	15-19	20-34	35-49	50-64	65+	Total	IS	Sec.	Voc.	IH	High.	Total
3-6 hours a day	5.1%	1.2%	1.2%	1.4%	0.3%	1.4%	1.0%	1.7%	1.5%	0.3%	1.0%	1.4%
More than 6 hours a day	2.9%	0.4%	0.8%	0.3%	0.0%	0.6%	0.4%	0.7%	0.6%	0.4%	0.6%	0.6%
Full wording of the questions in the questionnaire:												
<ol style="list-style-type: none"> <li>1. "In general, how often do you use a computer, tablet, including using social media and playing video games on weekdays?"</li> <li>2. "In general, how often do you use computer on weekends?"</li> <li>3. "How often do you use social media on any device (computer, tablet, or phone)?"</li> <li>4. "How often do you play video games on any device (computer, tablet, or phone)?"</li> </ol>												

## Prevalence of environmental and domestic risk factors and sanitary and hygienic conditions

Domestic risk factors that threaten health occur mainly in the environment. These factors include cleanliness of air, drinking and irrigation water, and soil, presence of noise and radiation of various origins, presence of garbage, etc. Domestic risk factors are insufficient sanitary and hygienic conditions: the presence and condition of toilets and sewers, and the apartment's heating system.

The report presents the prevalence of domestic risk factors in Armenia in 2012, 2016, and 2022.

### *Domestic risk factors*

The prevalence of domestic risk factors in Armenia in 2012, 2016, and 2022 is provided in Figure 120.

In 2022, the most common domestic risk factors in Armenia were:

- Air pollution due to dust (45.6%),
- Air pollution due to automobile smoke (28.8%),
- Transport noise (20.0%),

- Drinking water contamination (18.4%).

In 2022 (compared to 2012), the prevalence of almost all risk factors has decreased; however, compared to 2016, the picture is different.

In 2022 (compared to 2016), the prevalence of the following risk factors increased:

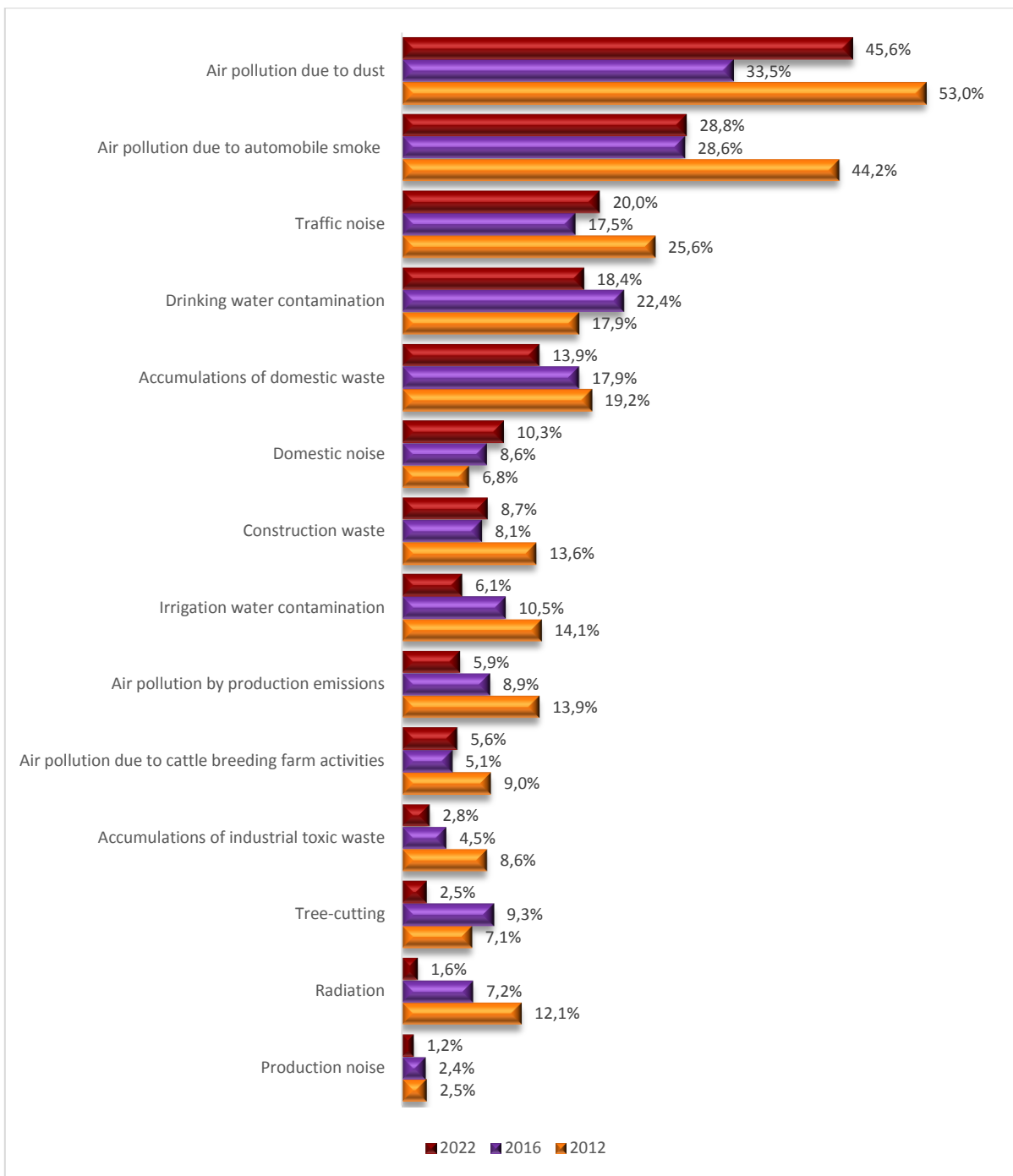
- Air pollution due to dust,
- Traffic noise,
- Domestic noise,

In 2022 (compared to 2016), the prevalence of the following risk factors has decreased:

- Drinking water contamination,
- Accumulations of domestic waste,
- Irrigation water contamination,
- Air pollution by production emissions,
- Accumulations of industrial toxic waste,
- Tree cutting,
- Radiation perception,
- Production noise.

**Figure 120. Prevalence of domestic factors, 2012, 2016, 2022**





The distribution of household factors according to the type of residence is presented in Table 21. The data in the table are arranged according to the decreasing prevalence of risk factors in Yerevan.

**Table 21. Prevalence of domestic risk factors according to place of residence, 2022**

Pollution source	Residence		
	Yerevan	Urban	Rural
Air pollution due to dust	57.7%	37.8%	41.1%
Air pollution due to automobile smoke	46.7%	27.5%	13.6%
Traffic noise	33.2%	18.7%	9.0%
Domestic noise (restaurant, bar, neighbors)	20.5%	7.4%	3.5%

Drinking water contamination	16.5%	13.9%	24.0%
Accumulations of domestic waste	15.3%	15.9%	10.8%
Construction waste	13.3%	9.7%	3.8%
Air pollution by production emissions	4.3%	8.5%	5.3%
Tree cutting	3.0%	3.0%	1.7%
Production noise	2.1%	0.5%	1.0%
Air pollution due to cattle breeding farm activities	1.0%	3.6%	11.4%
Accumulations of industrial toxic waste	1.0%	4.8%	2.9%
Radiation	0.5%	1.6%	2.7%
Irrigation water contamination	0.2%	3.2%	13.8%

Among the risk factors in Yerevan, Urban, and rural areas, the following are more common:

- Air pollution due to dust, air pollution due to automobile smoke, traffic noise, domestic noise, accumulations of construction waste, and production noise.

In urban areas (compared to Yerevan and rural areas), more common risk factors are:

- Accumulations of domestic waste, air pollution due to industrial emissions, and accumulations of industrial toxic waste.

In rural areas (compared to Yerevan and urban areas), more common risk factors are:

- Drinking water contamination, air pollution due to cattle breeding farm activities, radiation, and irrigation water contamination.

### ***Sanitary and hygienic risk factors***

Among the sanitary and hygienic conditions, the location of the toilet, existence of a sewage system, and apartment/house heating were considered in the research.

#### **Location of the toilet**

Table 22 shows the location of the toilet in 2022 and 2016 by type of residence:

- In 2022 (compared to 2016), the number of people with a toilet inside the apartment increased significantly in rural areas, from 48.8% to 64.6%.
- In urban areas, the number of people with a toilet inside the house also increased, from 90.6% to 92.6%.
- In rural areas, the number of people with backyard toilets has significantly decreased, from 51.1% to 34.8%.

**Table 22. Where is your toilet located?**

Where is your toilet located?	2022			2016		
	Yerevan	Urban	Rural	Yerevan	Urban	Rural
Inside the house	92.9%	83.4%	28.5%	-	-	-
Both inside the house and in the backyard	3.3%	9.2%	36.1%	-	-	-

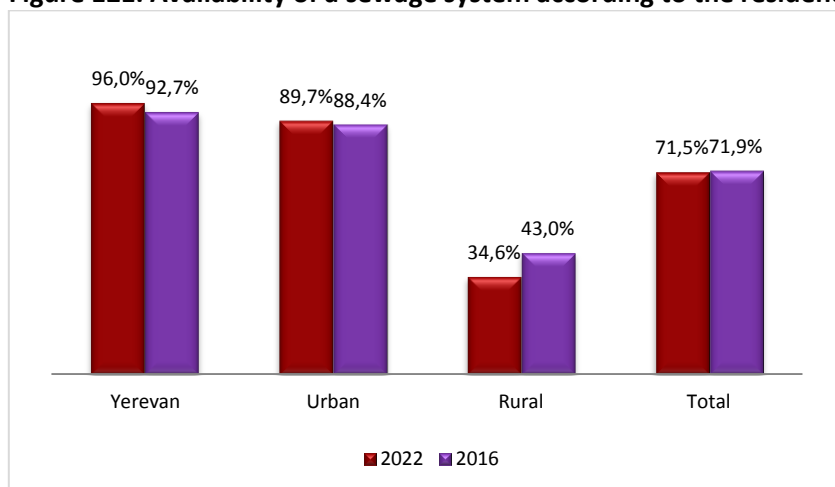
<b>Total inside the house</b>	<b>96.20%</b>	<b>92.60%</b>	<b>64.60%</b>	<b>96.6%</b>	<b>90.6%</b>	<b>48.8%</b>
Inside the building shared by several households	0.4%	0.8%	0.2%	0.0%	0.0%	0.1%
In the backyard	3.3%	6.4%	34.8%	3.3%	9.4%	51.1%
In the backyard shared by several households	0.2%	0.2%	0.4%	0.1%	0.0%	0.0%
We don't have a toilet	0.0%	0.0%	0.0%	-	-	-
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

### Existence of a sewage system

The availability of unified drainage sewers by type of settlement in 2022 and 2016 is provided in Figure 121.

- The number of residents reporting the presence of a common drainage sewage system in rural areas decreased from 43.0% to 34.6%. It's possible that this is due to the characteristics of newly built houses in rural areas, most of which are not connected to the common drainage system.

**Figure 121. Availability of a sewage system according to the residence, 2016, 2022**



### Apartment/house heating

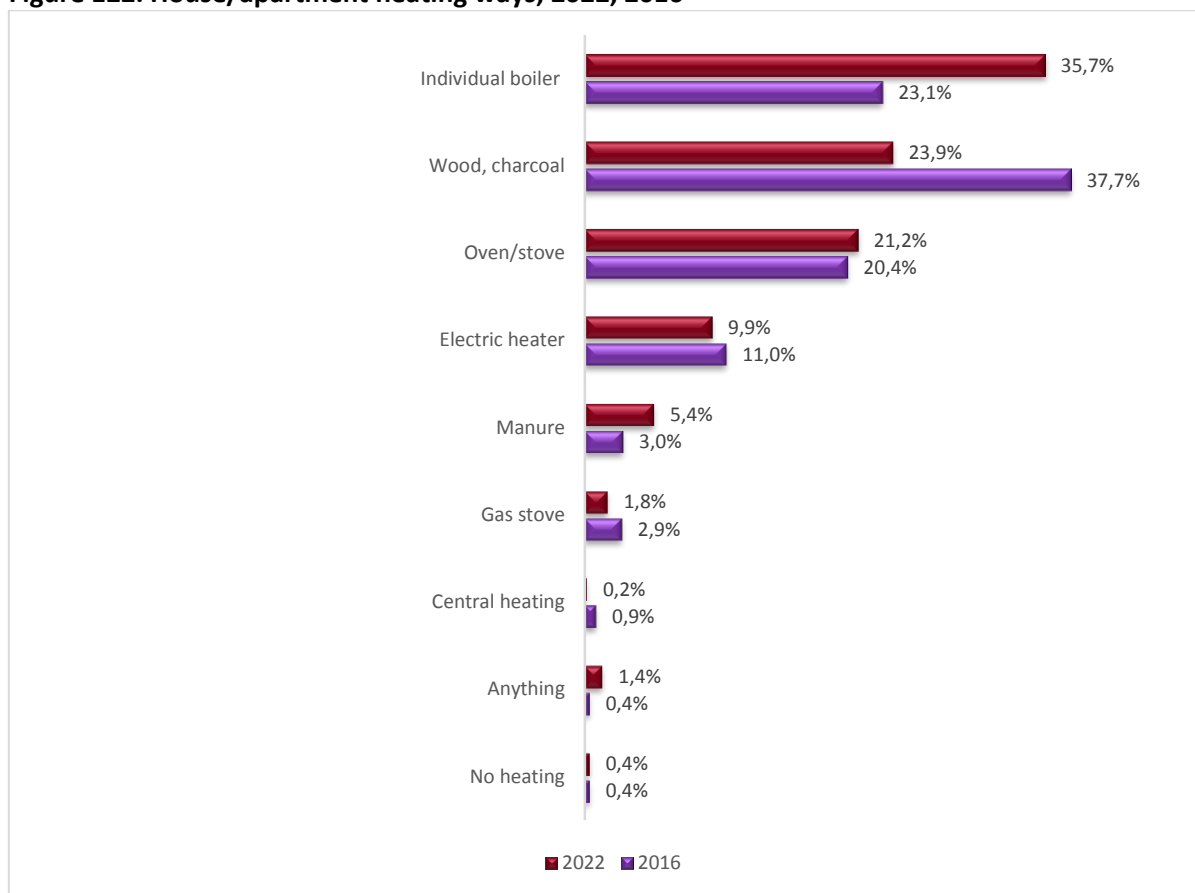
The forms of heating of apartments according to the type of residence in 2022 and 2016 are provided in Figure 122.

In 2022 in Armenia (compared to 2016):

- The number of people with the individual boiler at home has increased from 23.1% to 35.7%.
- The number of house heating with manure increased from 3.0% to 5.4%.
- The number of households heating their apartment with wood or charcoal decreased from 37.7% to 23.9%.
- The number of households heating the house with an oven/stove has decreased from 2.9% to 1.8%.
- The number of apartments heated by central heating decreased from 0.9% to 0.2%.

- In 2016 and 2022, 0.4% of respondents didn't heat their apartments.

**Figure 122. House/apartment heating ways, 2022, 2016**



The means of heating the apartment according to the type of residence and wealth is provided in Table 23.

- Individual boilers are more common in Yerevan; The prevalence of these systems is increasing along with increase in wealth.
- Home heating with wood is more common in rural areas and in the lower wealth quintiles (I and II).
- Heating an apartment with a gas stove is relatively more common in urban areas.
- Home heating with electric heaters is most common in Yerevan and in the highest wealth quintile.
- Manure home heating is common in rural areas and lower wealth quintiles.
- Heating the apartment with an oven/stove is relatively more common in the lower wealth quintiles (I and II).
- The apartment is heated “anything” in the lowest wealth quintile.

**Table 23. Apartment/house heating in winter according to residence and wealth groups, 2022**

Heating type	Yerevan	Urban	Rural	I	II	III	IV	V	Total
Individual heating system	54.1%	37.3%	17.8%	22.6%	24.2%	37.7%	41.7%	40.3%	33.4%

Wood, charcoal	3.3%	17.7%	47.5%	37.9%	30.2%	17.8%	16.5%	16.3%	23.6%
Gas heater	20.8%	28.5%	15.5%	22.0%	20.7%	23.8%	23.4%	20.6%	22.1%
Electrical heater	17.9%	10.2%	2.4%	5.8%	10.0%	11.7%	11.0%	16.3%	11.0%
Manure	0.1%	0.8%	14.0%	6.1%	9.2%	5.4%	4.8%	3.3%	5.7%
Oven/stove	2.4%	2.6%	0.7%	3.0%	3.2%	1.8%	1.1%	1.3%	2.1%
Anything	0.2%	1.3%	1.2%	1.8%	1.0%	0.3%	0.7%	1.0%	1.0%
Other	0.5%	0.6%	0.5%	0.4%	0.8%	0.8%	0.4%	0.4%	0.6%
No heating	0.5%	0.7%	0.1%	0.3%	0.0%	0.3%	0.3%	0.0%	0.2%
Central heating	0.2%	0.3%	0.3%	0.0%	0.6%	0.5%	0.3%	0.4%	0.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## Utilization of healthcare services

This section of HSPA presents the description of the utilization of services provided by the healthcare system to the population in 2022. It includes the implementation of preventive measures for women, men, and the entire population, availability of medical facilities, inaccessibility and factors of inaccessibility, utilization of primary and hospital care, and physical accessibility of medical facilities.

### Preventive measures

The research examined the implementation of the following preventive measures:

- Sonographic breast examinations,
- Mammographic breast examinations,
- Pap tests,
- Fluorography studies,
- Prostate examinations.

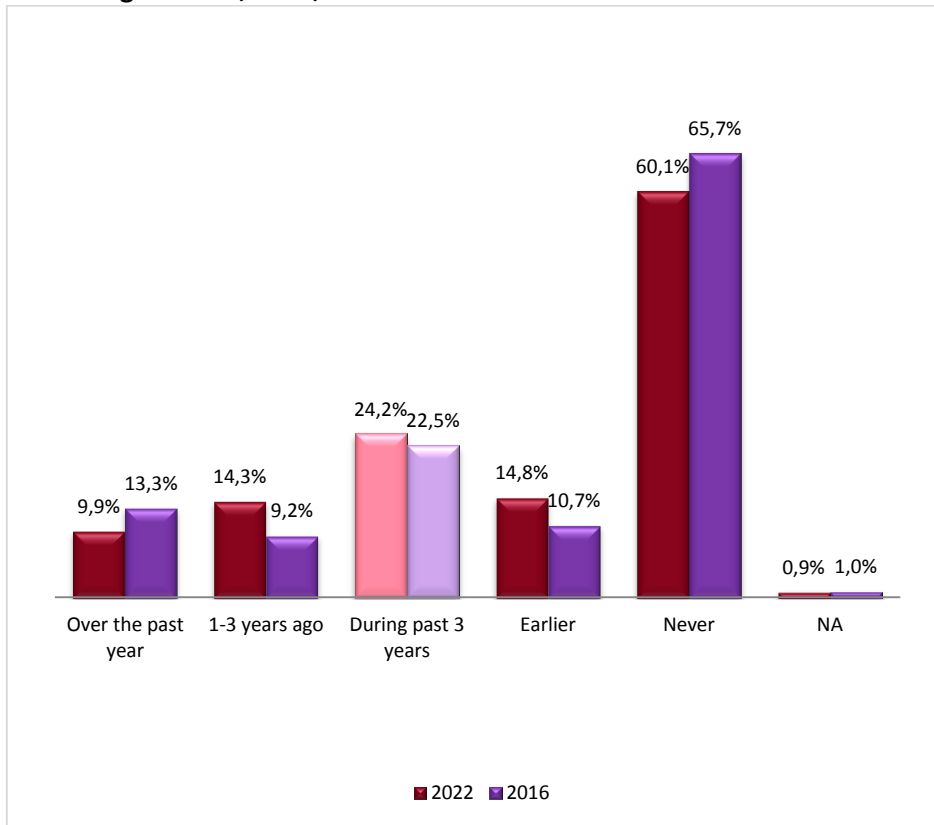
#### ***Sonographic breast examinations***

The WHO recommends that every woman aged 35-60 undergo a sonographic examination of the breast at least once in 3 years in order to increase the effectiveness of early detection and treatment of breast cancer.

The number of women who underwent sonographic examination of the breast during the past 3 years in 2016 and 2022 is provided in Figure 123.

- **In 2022 (compared to 2016), the number of women who underwent sonographic breast examination during the past 3 years was 24.2%, which is higher than this indicator in 2016 (22.5%).**
- Moreover, in 2022, the number of women who underwent sonographic breast examination during the past year is 9.9% less than this indicator in 2016 (13.3%); However, the number of women who underwent this examination 1-3 years ago in 2022 (14.3%) is greater than the same indicator in 2016 (9.2%).
- In 2022, the number of women who passed the examination earlier than 3 years (14.8%), is also higher than in 2016 (10.7%).
- In 2022, the number of women aged 30-60 who have never had a breast sonographic examination (60.1%) was lower than in 2016 (65.7%).
- **Nevertheless, the number of women aged 35-60 who have never had a sonographic breast examination in Armenia is very large.**

**Figure 123. “Have you ever had a breast sonographic examination? If so, when was the last time?” women aged 30-60, 2016, 2022**

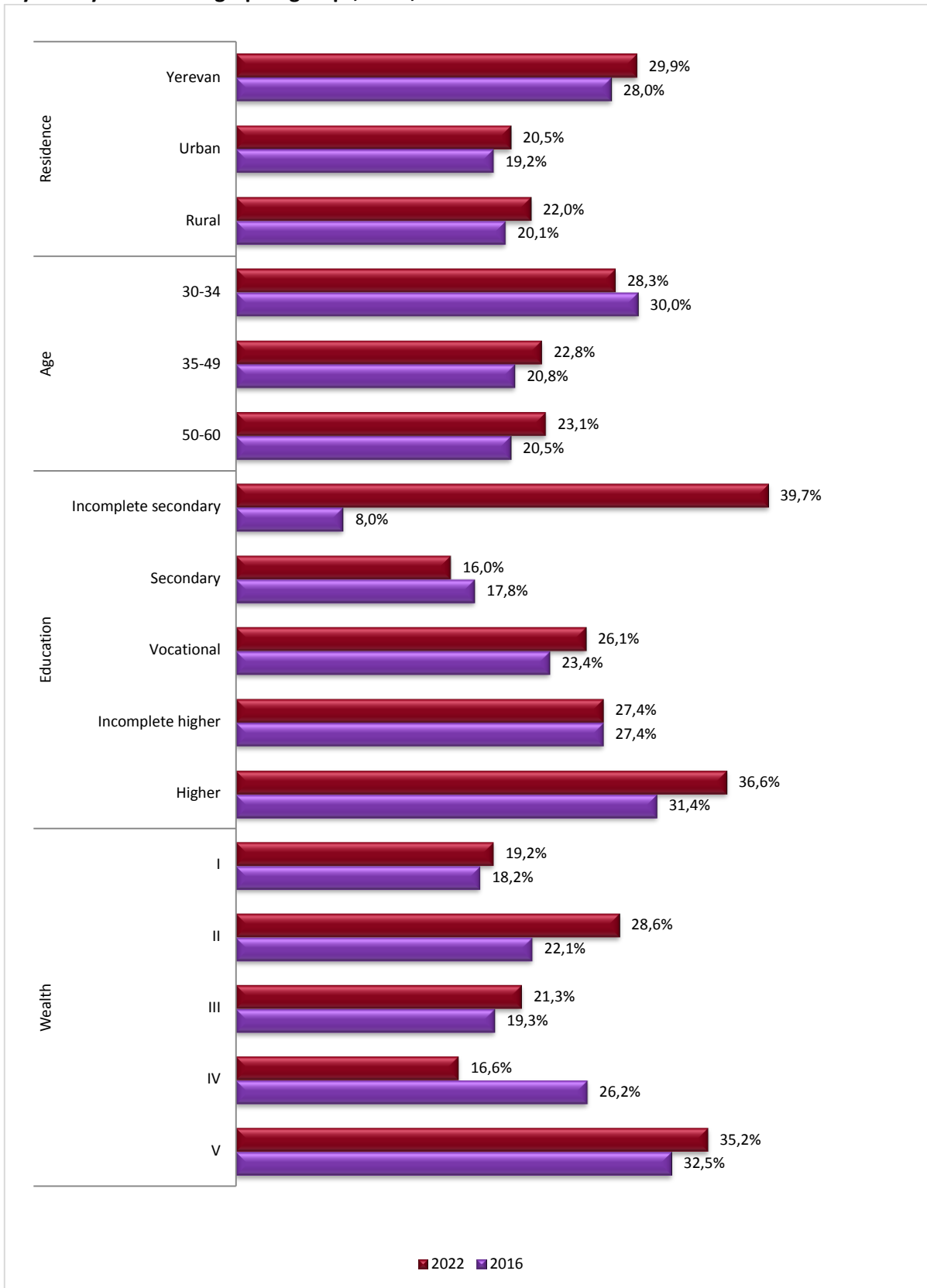


The number of women who underwent sonographic breast examination during past 3 years according to socio-demographic groups in 2016 and 2022 is provided in Figure 124.

The level of breast sonographic examinations in 2022:

- It's higher in Yerevan than in urban and rural areas.
- It's higher among women aged 30-34 than 35-49 and 50-60.
- In 2022 (compared to 2016), women with less than secondary education, the rate of sonographic examinations increased dramatically and became the highest compared to groups with different educational levels. In other educational categories, the level of sonographic examinations increases along with increase in educational level.
- According to wealth groups, the rate of sonographic examinations is highest among the most well-off women.

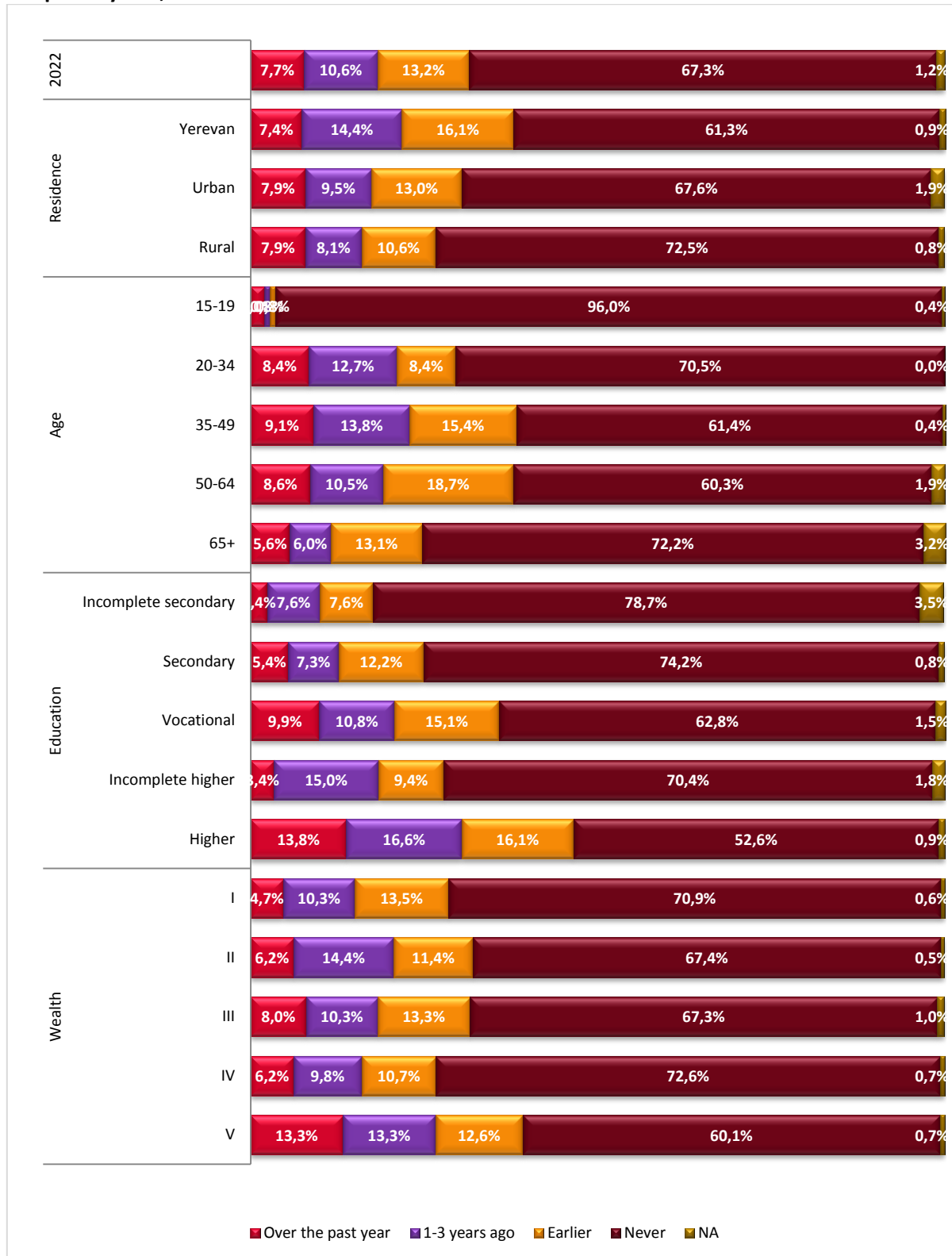
**Figure 124. Percentage of women aged 30-60 who underwent breast sonographic examination in the past 3 years by socio-demographic groups, 2016, 2022**





The number of women who underwent sonographic breast examination by its time according to socio-demographic groups in 2022 is provided in Figure 125.

**Figure 125. Percentage of women aged 15 and above who underwent breast sonographic examination in the past 3 years, 2022**

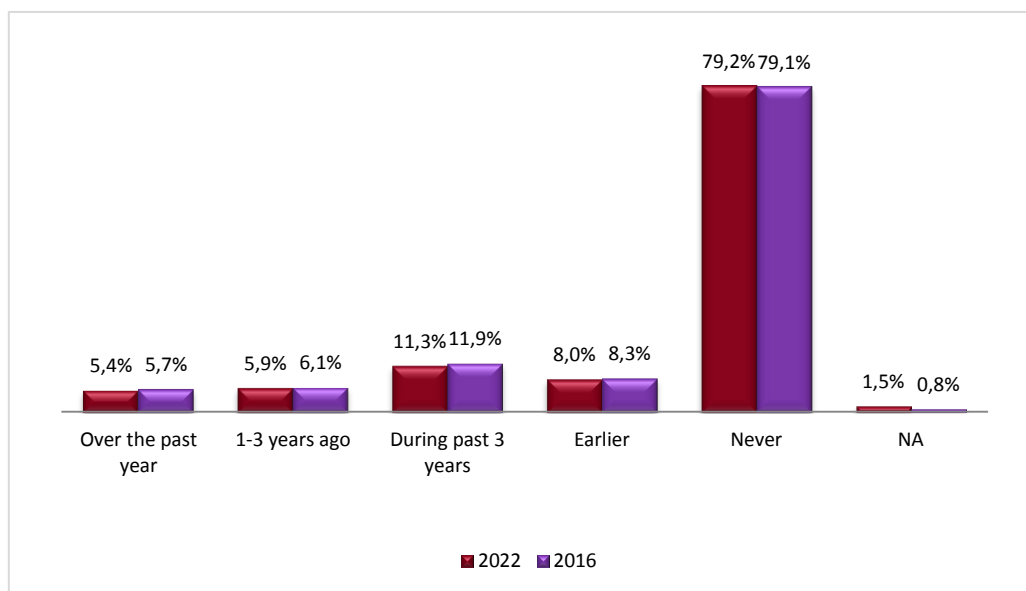


### ***Mammographic breast examinations***

Breast mammography is a more effective method for the early detection of breast cancer than sonography. According to the advice of WHO, it's desirable for women aged 30-60 to undergo such an examination at least once in 3 years. The number of women who underwent mammographic examination according to the examination period in 2016 and 2022 is provided in Figure 126:

- **During the past 3 years, the number of women who underwent breast mammography examination was 11.3%.**
- **The number of women aged 30-60 who have never had a mammographic examination in both 2022 and 2016 remains very high (79.2%).**
- The distributions of the number of women who underwent breast mammography in 2022 and 2016 are not statistically different from each other.

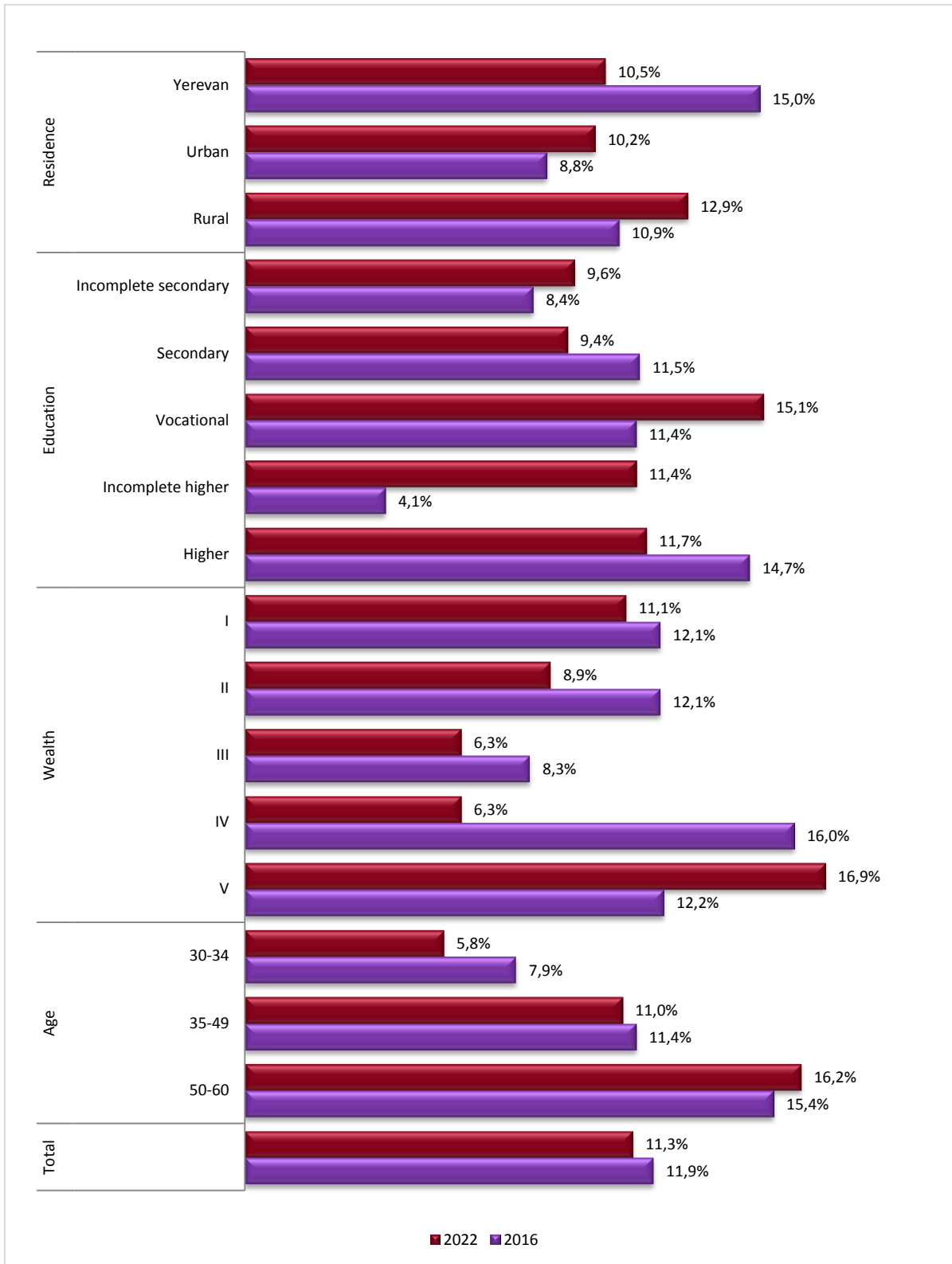
**Figure 126. "Have you ever had a breast mammographic examination? If so, when was the last time?" women aged 30-60, 2016, 2022**



The number of women who underwent breast mammography examination according to socio-demographic groups in 2016 and 2022 is provided in Figure 127:

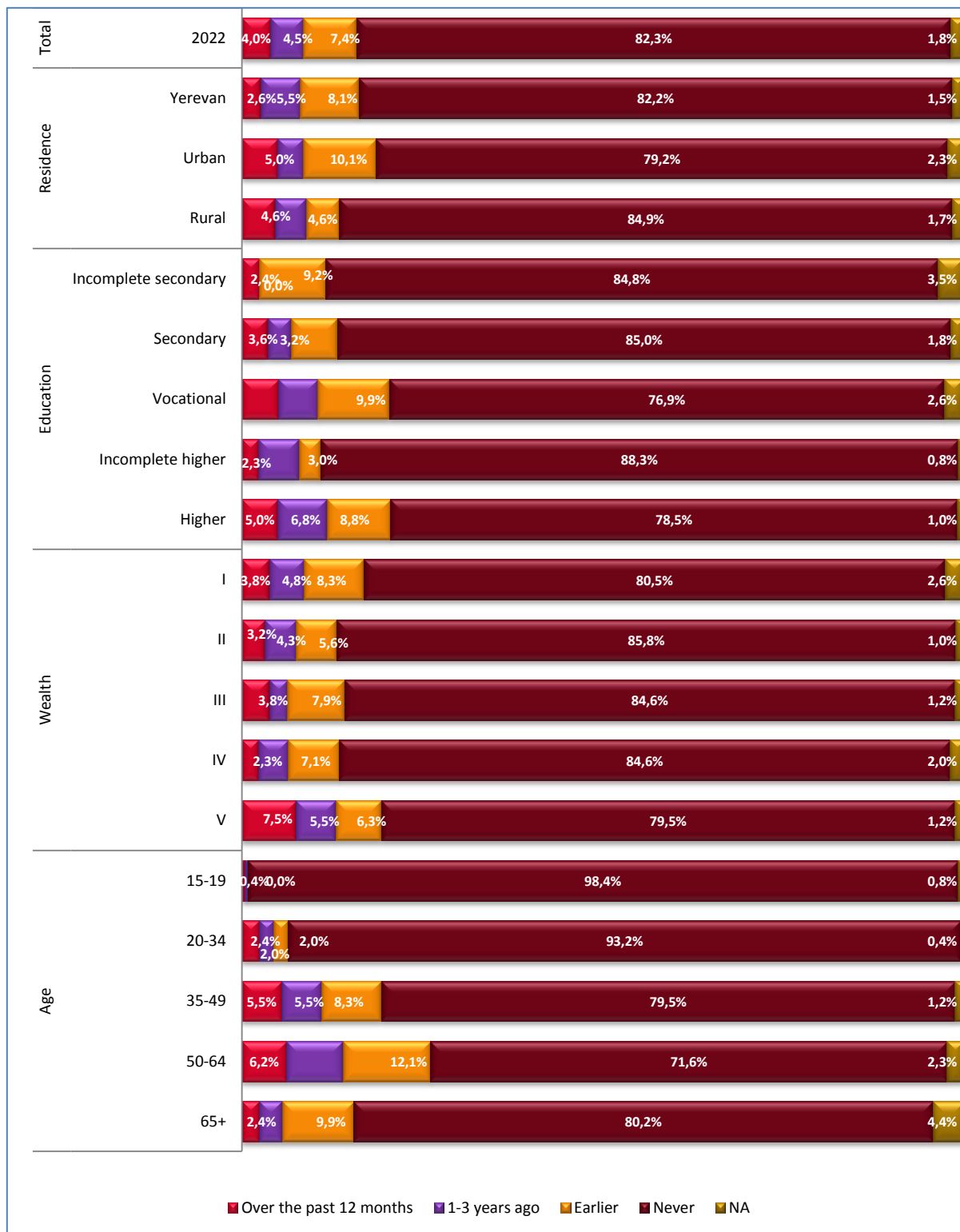
- In 2022, the number of women who have undergone mammographic examination is greater in rural areas than in urban areas and Yerevan. In 2016, that indicator was higher in Yerevan.
- According to the level of education, this indicator is relatively higher among women with a vocational education. In 2016, it was relatively higher among women with higher education.
- According to the wealth, the most prosperous quintile (V) is the highest, but the least prosperous quintile (I) is in the second place.
- The index is the lowest in the 30-34 age group and increases along with increase in age.

**Figure 127. Percentage of women aged 30-60 who underwent breast mammography in the past 3 years, 2022**



The number of women who underwent breast mammographic examination according to the period of the examination by socio-demographic groups is provided in Figure 128.

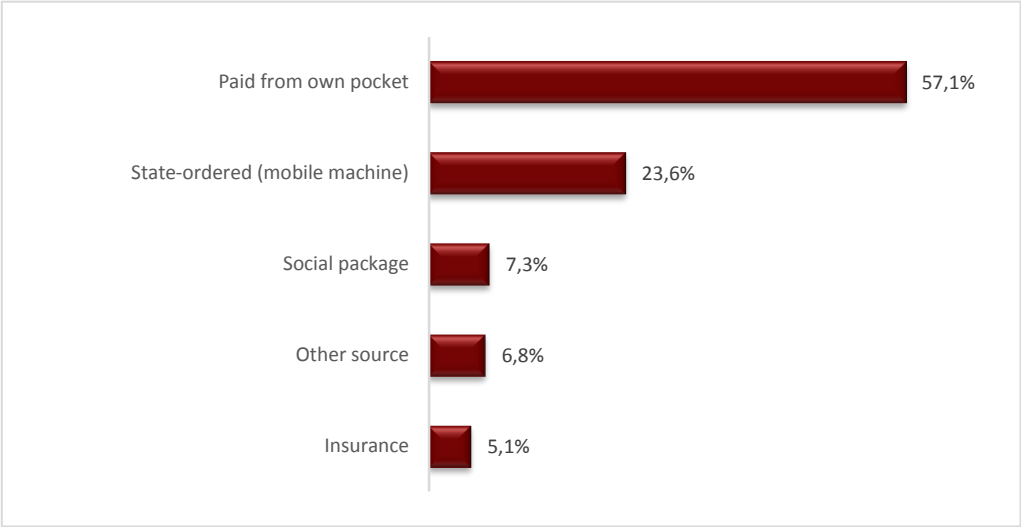
**Figure 128. Women aged 15 years and older who underwent breast mammography according to socio-demographic groups, 2022**



Since mammography examination is a paid service, the sources of payment for the examination were also studied (Figure 129).

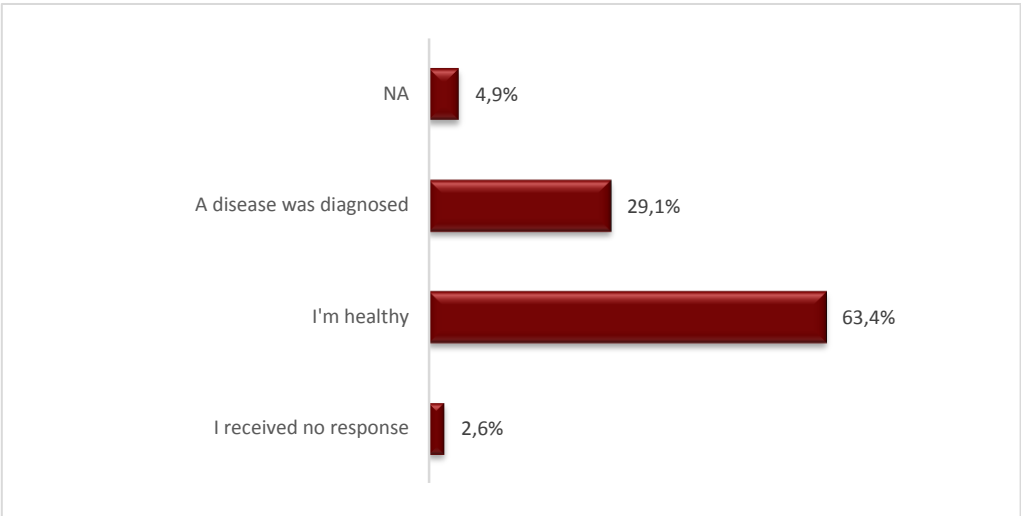
The most common source of payment for breast mammography screening is women's own funds (57.1%). The second most common is the state-ordered projects (23.6%). It's possible that the small number of women who underwent mammography examination is due to the financial inaccessibility of this examination.

**Figure 129. How did you pay for the mammography? The question was asked only to those who had a mammography screening within the past year, N = 55**



Disease was diagnosed in 29.1% of mammographic examinations (Figure 130).

**Figure 130. "What answer did you receive for the last examination?" The question was asked only to those who had a mammography screening within the past year, N = 55**



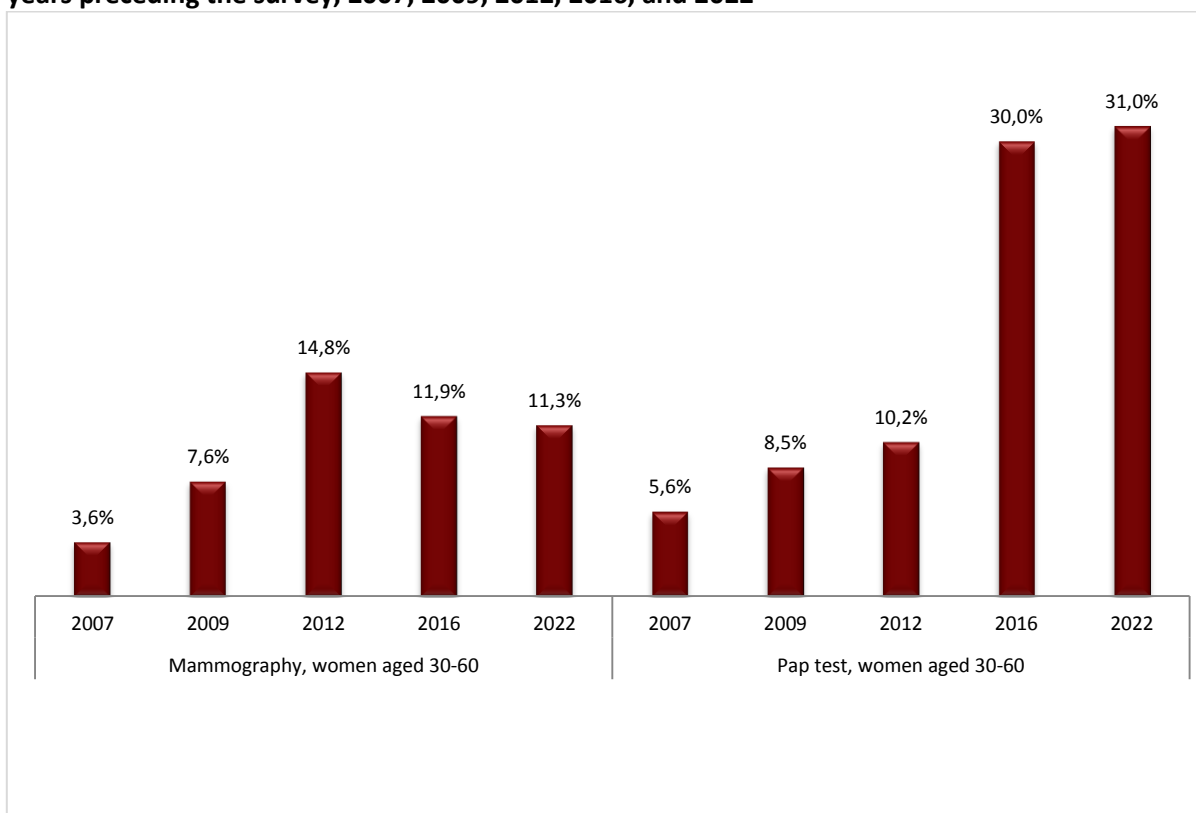
***Number of women aged 30-60 who underwent breast mammography screening and Pap smear tests from 2007 to 2022***

The number of women aged 30-60 who underwent breast mammography screening and Pap smear tests from 2007 to 2022 is provided in figure 131.

According to the figure:

- The number of women aged 30-60 who underwent mammography screening increased from 3.6% to 14.8% during the 2007-2012 period, after which it decreased to 11.3% in 2016 and 2022.
- The number of women aged 30-60 who underwent Pap tests increased monotonically from 5.6% to 31.0% during the 2007-2022 period.

Figure 131. Proportion (%) of 30-60 aged women who had mammography screening and Pap test in the 3 years preceding the survey, 2007, 2009, 2012, 2016, and 2022



### ***Pap smear test***

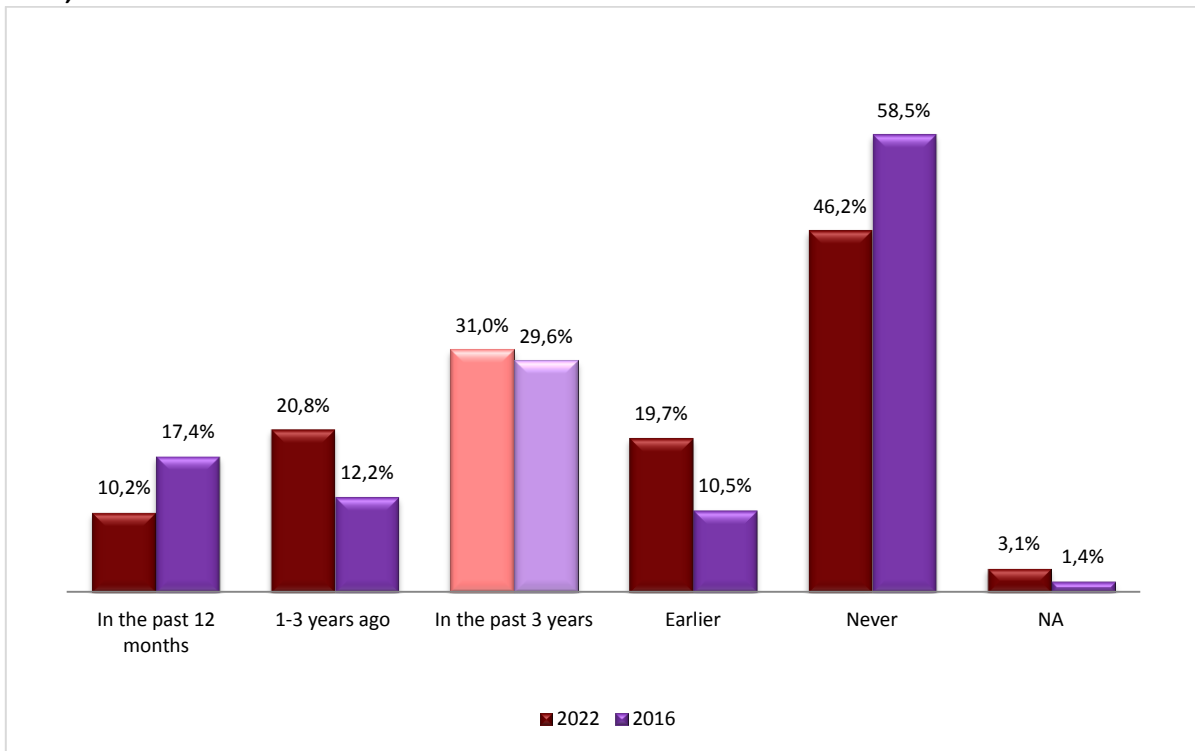
Cervical cancer occupies the second place in the structure of women's malignant diseases.

In order to prevent cervical cancer, the WHO recommends that women aged 30-60 undergo a Pap test at least once every three years. The distribution of women aged 30-60 who underwent Pap smear examination in 2016 and 2022 is provided in Figure 132:

- In 2022, the percentage of women who underwent Pap test in the past 3 years was 31.0%. In 2016, that indicator was 29.6%.
- In 2022, the number of women aged 30-60 who had never had a Pap test was 46.2%; In 2016, that indicator was 58.5%.

- In 2022 (compared to 2016), the number of women aged 30-60 who underwent a Pap test during the past year decreased significantly.

Figure 132. “Have you ever had a Pap smear test? If so, when was the last time?” women aged 30-60, 2016, 2022



The number of women who underwent Pap test in the past 3 years in 2016 and 2022 according to socio-demographic groups is presented in Figure 133:

- The number of tested women was relatively higher in urban areas,
- Among women with a relatively higher level of education,
- In the highest wealth quintile,
- It was relatively lower among 50-60-year-old people.

Figure 134 shows the number of women aged 15 and older who underwent Pap smear test in socio-demographic groups. Similarly, in this case:

- The number of tested women was relatively higher in urban areas,
- Among women with a relatively higher level of education,
- In the highest wealth quintile,
- The indicator was 1.6% and 25.9% in the 15-19-year-old and 20-34-year-old groups, respectively.

**Figure 133. 30-60-year-old women who underwent Pap smear test in the past 3 years, 2016, 2022**



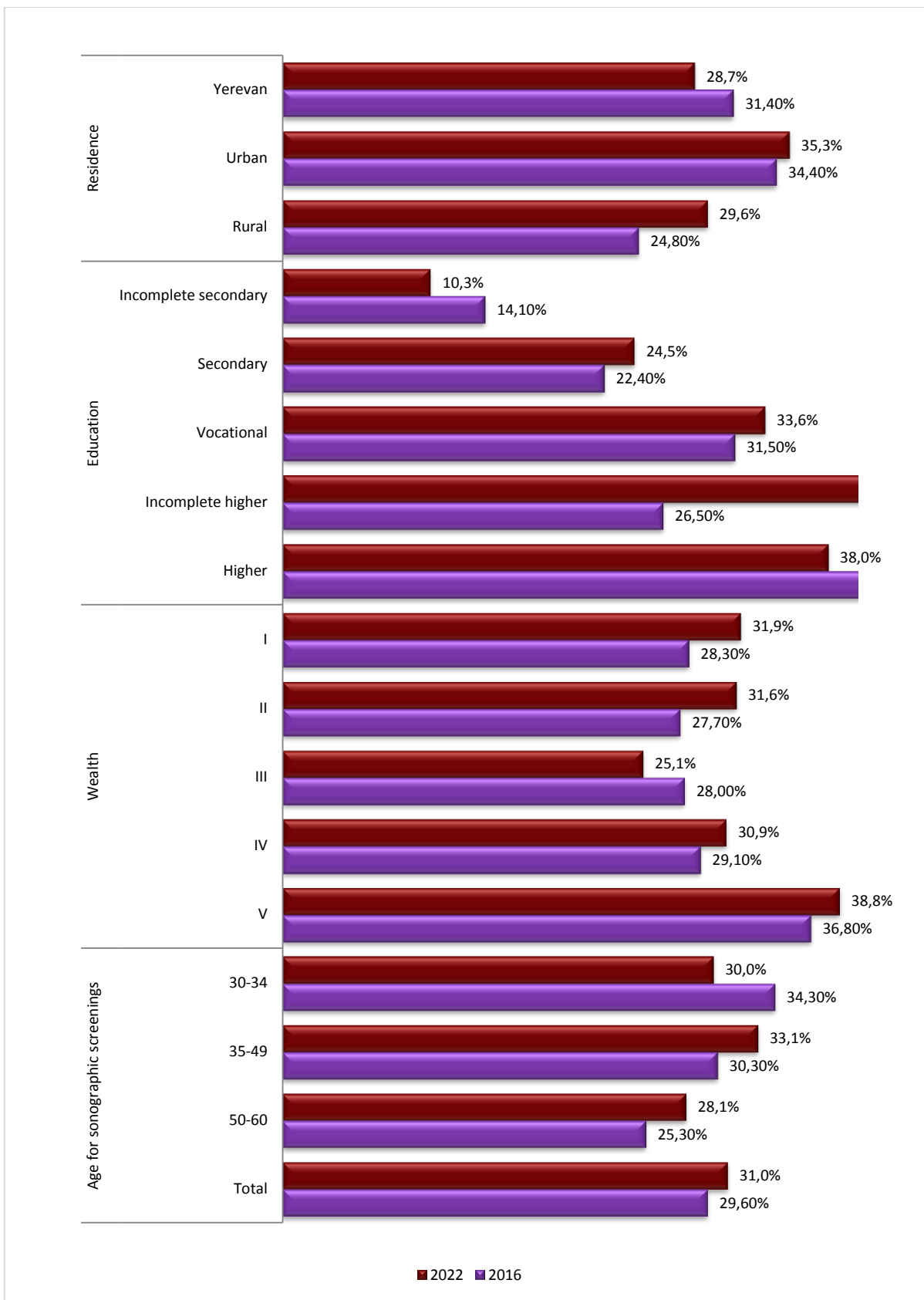
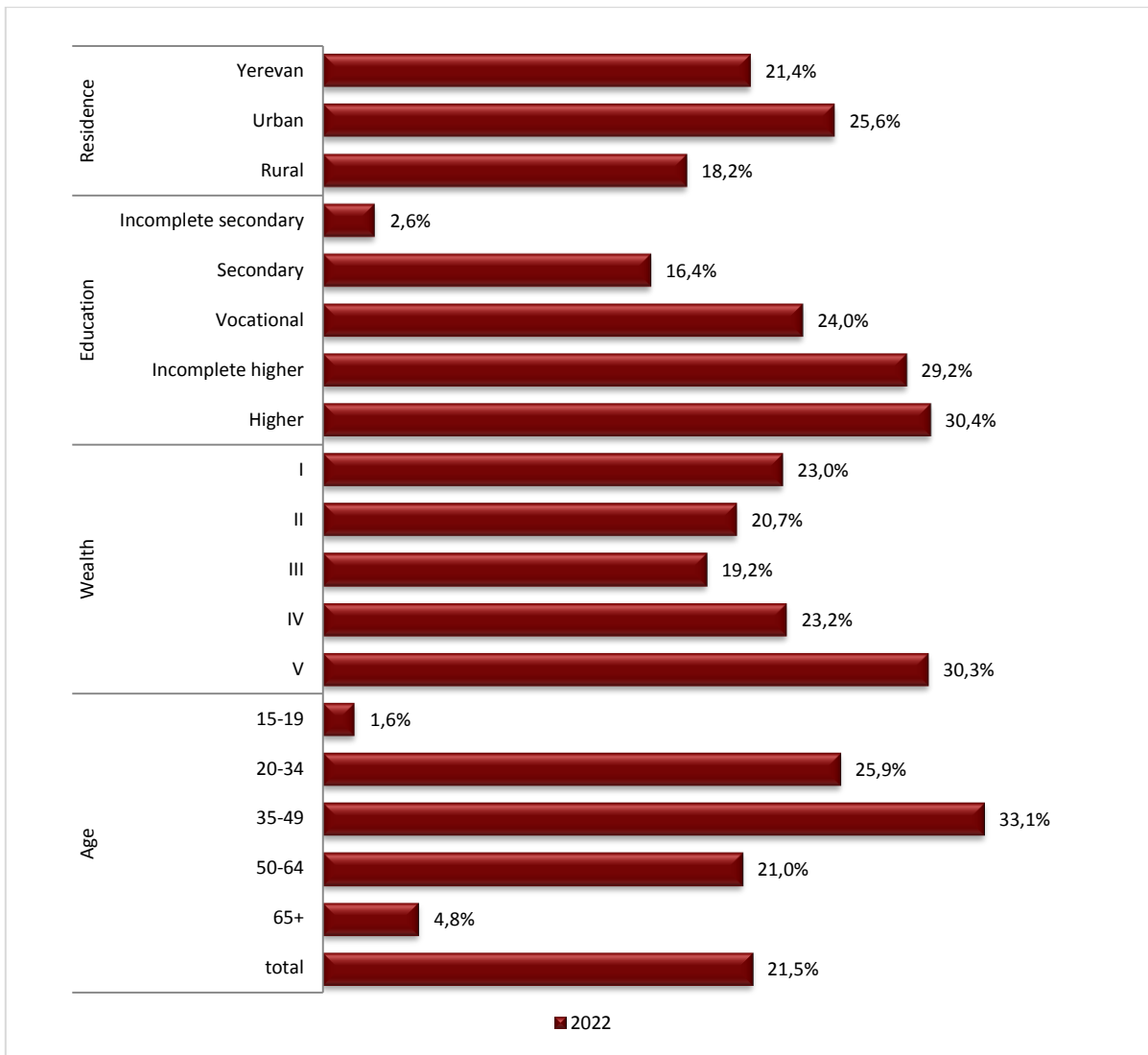
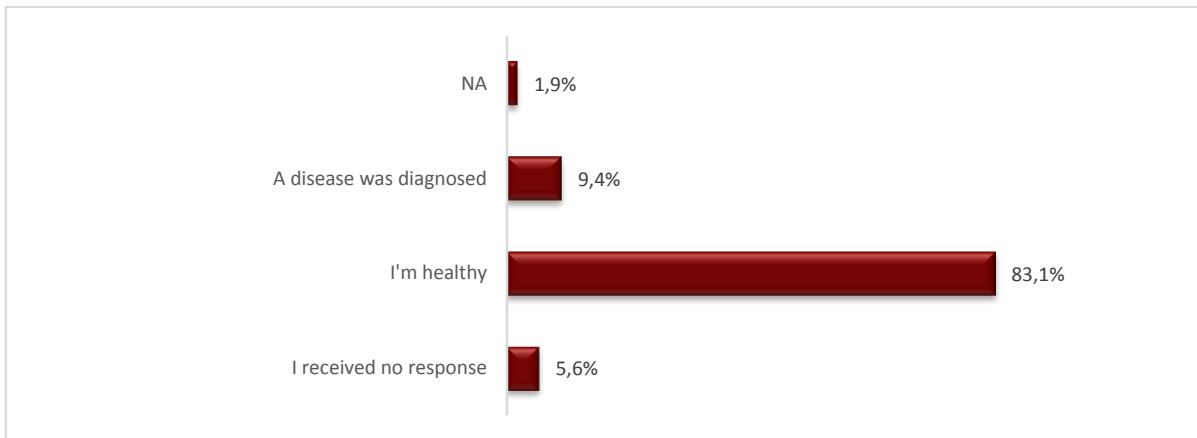


Figure 134. Percentage of women aged 15 and above who had a Pap test in the past 3 years, 2022



- Disease was diagnosed in 9.4% of Pap smear examinations.

**Figure 135. “What was the result of the last Pap smear test?” The question was asked to those women who had a Pap test within the past year, N = 74**

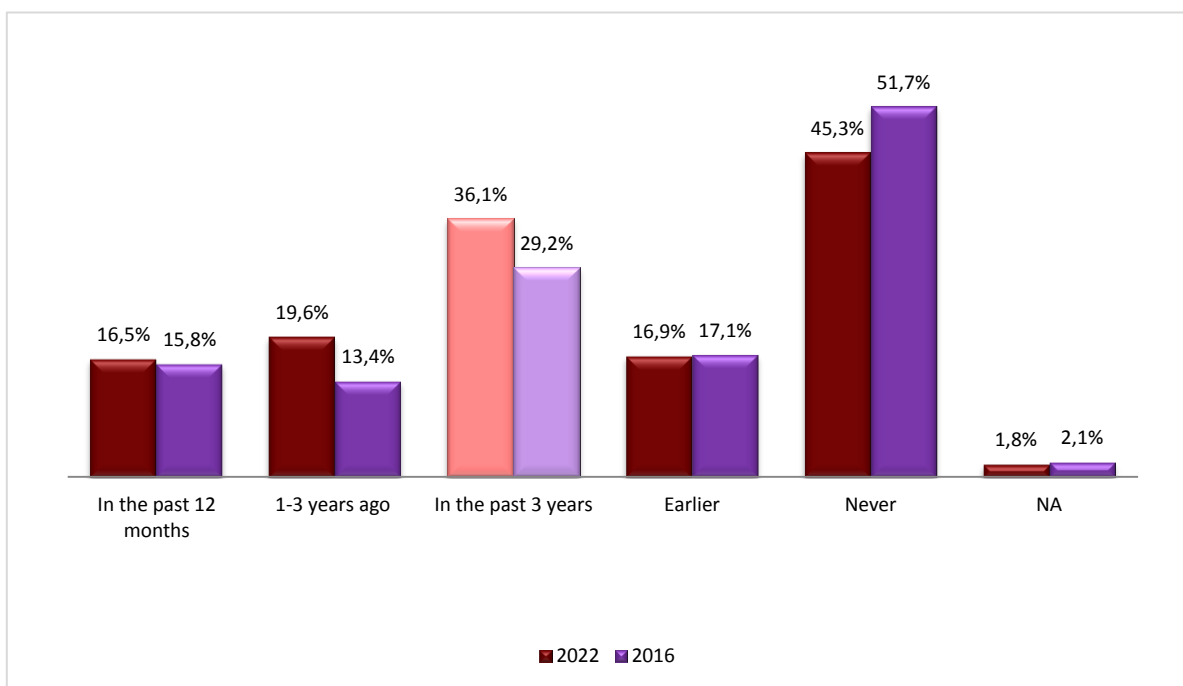


### **Fluorography examination**

The number of people aged 15 and above who underwent fluorography examination in 2022 and 2016 is provided in Figure 136:

- In 2022, the number of people aged 15 and above who underwent a fluorography examination in the past three years was 36.1%, which is a higher indicator than in 2016 (29.2%).
- During the past year, the number of people who underwent such an examination was 16.5%, which is slightly higher than in 2016 (15.8%).
- In 2022, the number of people who have never had a fluorography examination was 45.3%, which is higher than this indicator in 2016 (51.7%).

Figure 136. “Have you ever had a lung fluorography examination? If so, when was the last time?” 2016, 2022

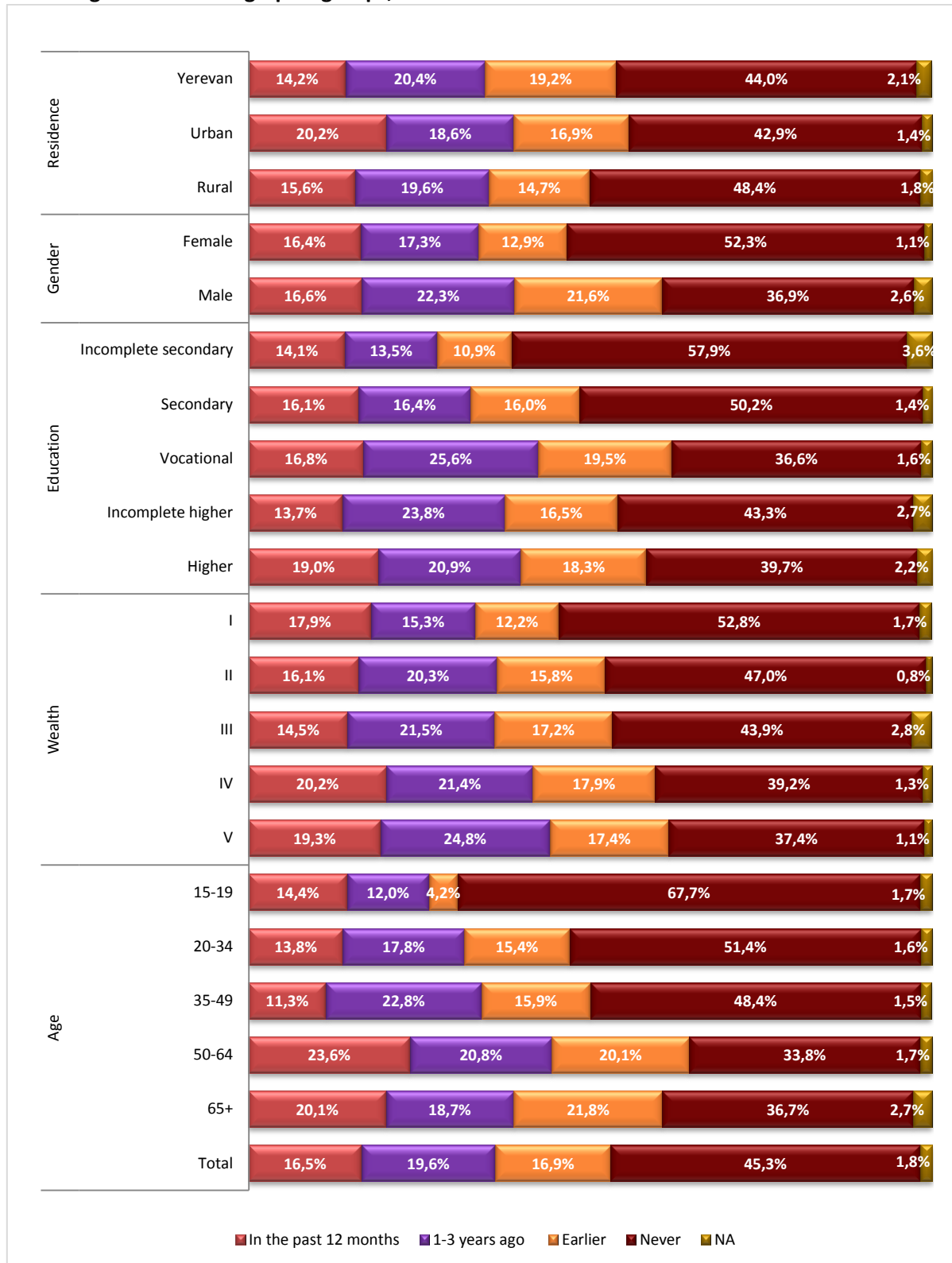


The number of people aged 15 and above who have ever had a fluorography examination in Armenia by socio-demographic groups according to the period of that examination is provided in Figure 137:

Let's see the number of fluorography examinations during the past year in that chart:

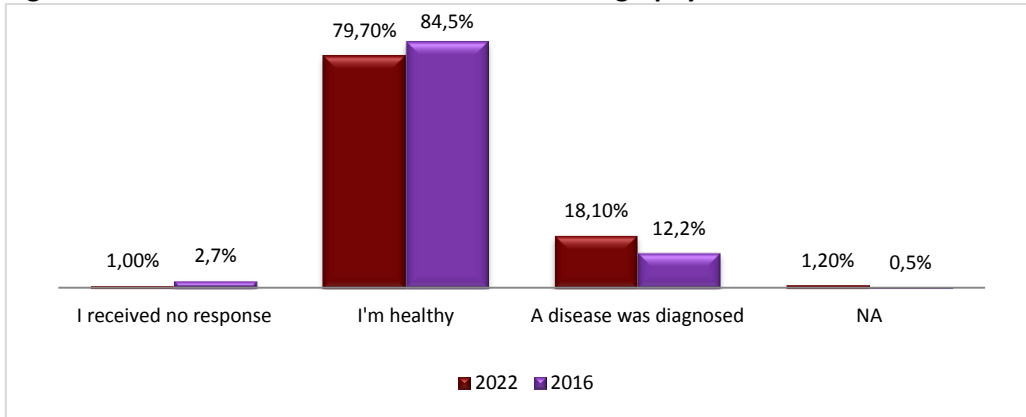
- The number of people who underwent fluorography is relatively higher in urban areas,
- The indicators are not different from each other among men and women,
- The indicator is relatively higher among people with higher education,
- The index is relatively higher in IV and V quintiles,
- The index is significantly higher in the 50-64 and 65+ age groups.

**Figure 137. “Have you ever had a lung fluorography examination? If so, when was the last time?” according to socio-demographic groups, 2022**



- In 2022, 18.1% of fluorography examinations diagnosed the disease, which is a significantly higher indicator than in 2016.

**Figure 138. “What was the result of the last fluorography test?”**



### ***Prostate ultrasound***

The number of men aged 15 and above who underwent prostate ultrasound examination in 2022 and 2016 is provided in Figure 139:

- In 2022, the number of men who had a prostate ultrasound examination during the past 12 months was 6.9%, which is higher than in 2016 (5.4%).
- In 2022, the number of men who had a prostate ultrasound examination 1-3 years ago was also higher (8.6%), compared to 2016 (5.3%).
- In 2022, the number of men who have never had a prostate ultrasound examination was 70.2%, which is lower than this indicator in 2016 (74.3%).

**Figure 139. “Have you ever had a prostate ultrasound examination? If so, when was the last time?” 2016, 2022**

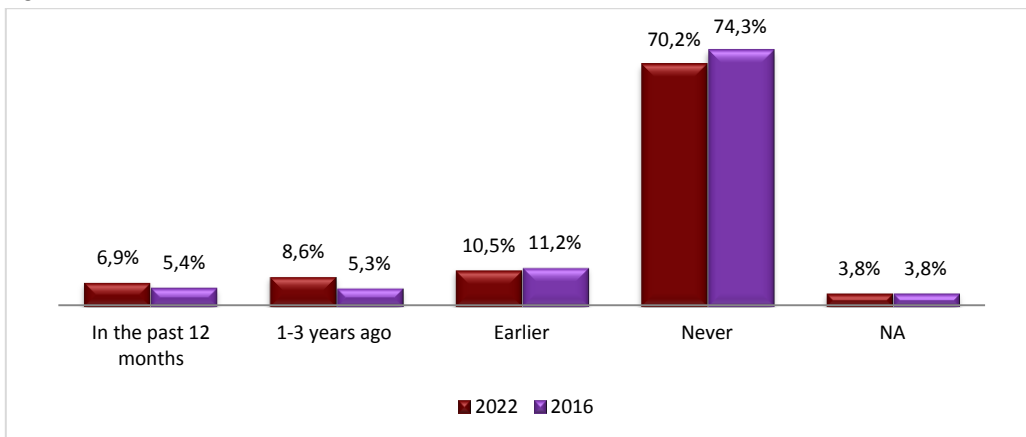
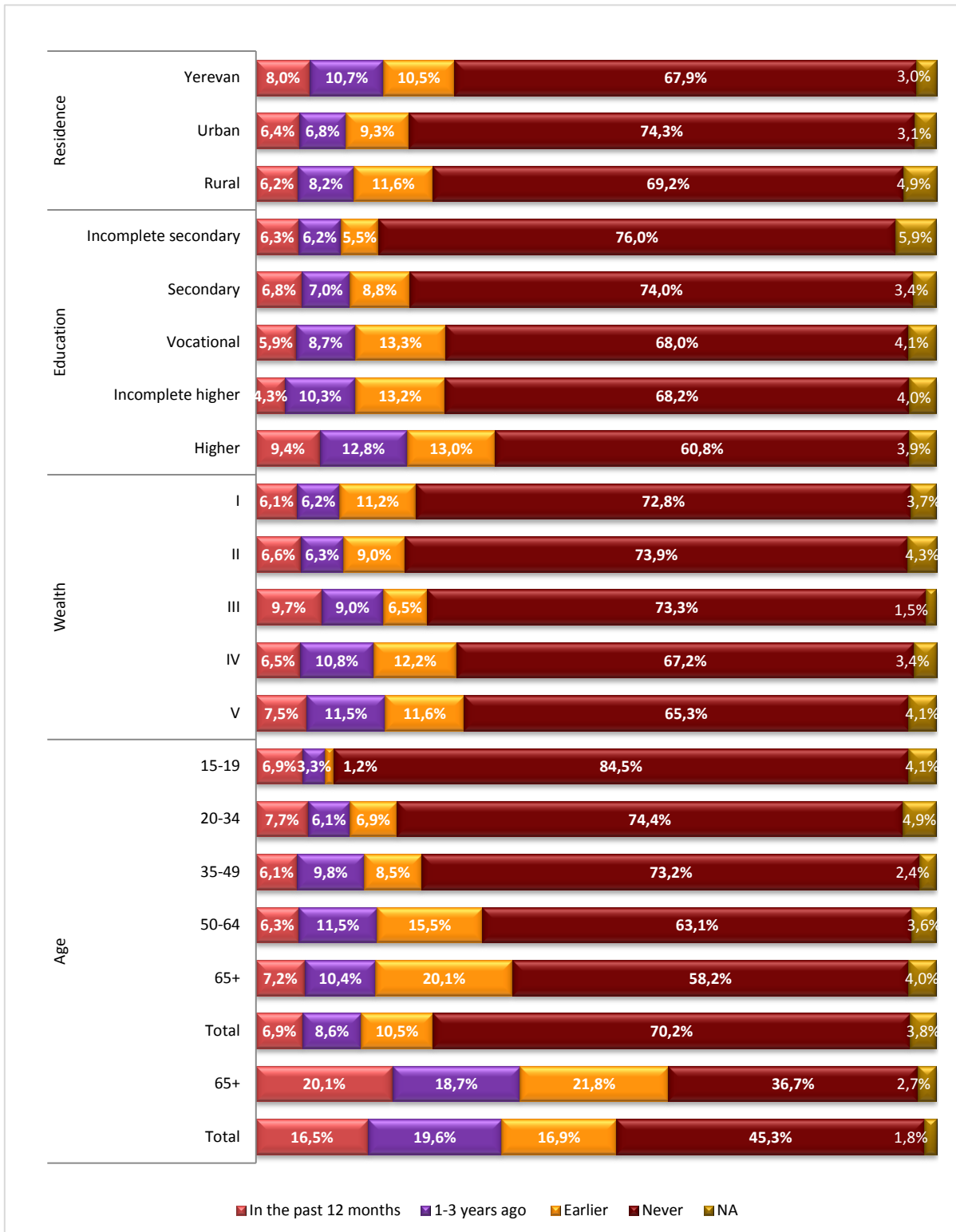


Figure 140 shows the number of men aged 15 and above who underwent sonographic examination of the prostate in 2022 according to socio-demographic groups:

- The number of tested people is slightly higher in Yerevan,
- Among people with higher education,

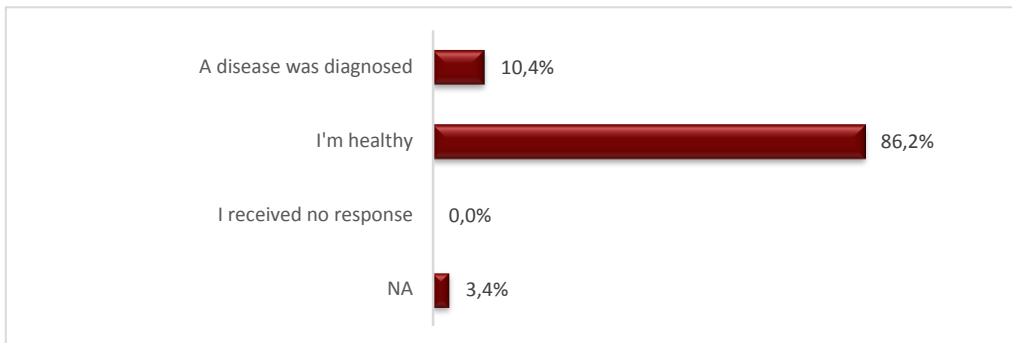
- In the III wealth quintile,
- Very high among 65 and older men.

**Figure 140. “Have you ever had a prostate ultrasound examination? If so, when was the last time?” according to socio-demographic groups, men 2022**



- A disease was diagnosed in 10.4% of prostate examinations (Figure 141).

**Figure 141. “What was the result of the last prostate examination?”**

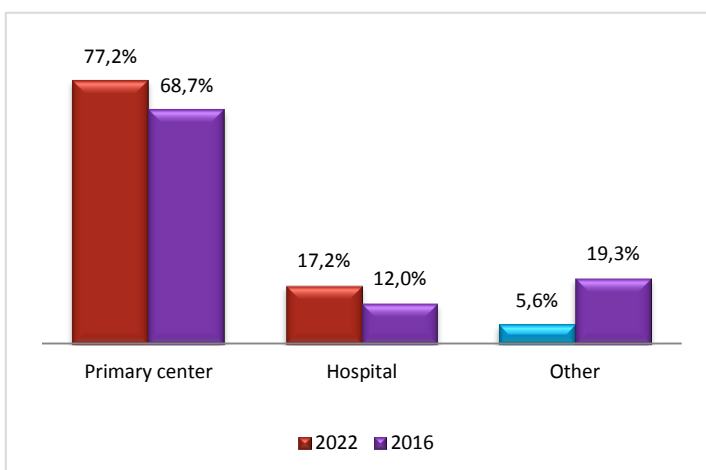


### Utilization and accessibility of healthcare facilities

The healthcare system is considered more efficient if, in case of need, people mostly turn to the primary healthcare centers: Health centers, ambulatory, family doctors, and district therapists. In 2022, the scale of answers to the following question has changed: “When you feel sick, when you consider it necessary to go to a doctor or a medical institution, where do you usually go first?” For the purpose of comparability of 2016 and 2022 data, these scales were made as comparable as possible so that it becomes clear what percentage of people first go to the primary health center and what percentage to the hospital. The data is presented in Figure 142.

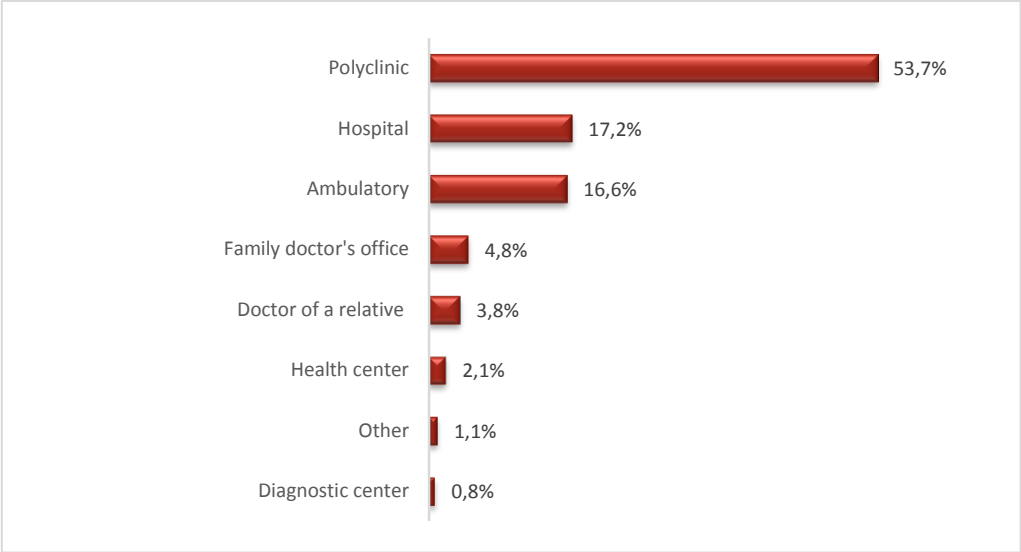
- In 2022 (compared to 2016), the number of those who first approach the primary care center when they feel sick increased from 68.7% to 77.2%.
- The number of people who approached the hospital immediately when they felt sick decreased from 17.2% to 12.0%.

**Figure 142. “When you feel sick when you consider it necessary to go to a doctor or a medical institution, where do you usually go first?”, 2022, 2016**



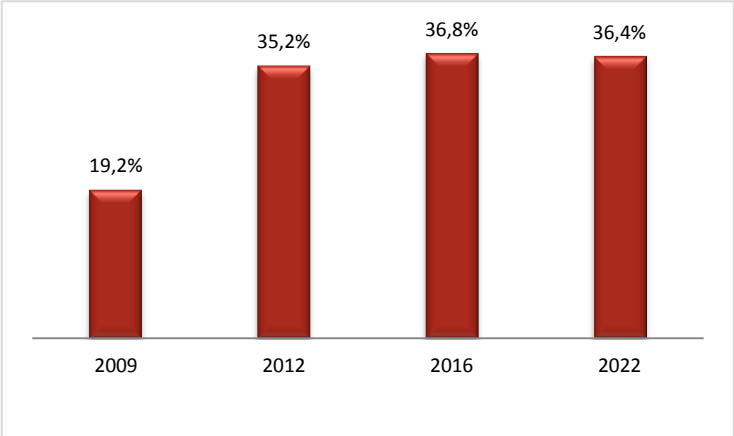
The detailed distribution of the answers to the following question is presented in Figure 143: “When you feel sick, when you consider it necessary to go to a doctor or medical institution, where do you usually go first?”

**Figure 143. “When you feel sick when you consider it necessary to go to a doctor or a medical institution, where do you usually go first?” 2022, 2016**



Accessibility of medical services was studied within the scope of the HSPA with the following question: “During the past year, is there a case when you considered it necessary to consult a doctor, polyclinic/ambulatory, or hospital, but you haven’t approached (except for dental problems)?” The 2009-2022 data is presented in Figure 144.

**Figure 144. Percentage of the population aged 15 and older who haven’t consulted a doctor upon realizing the need for medical care, 2009 - 2022**

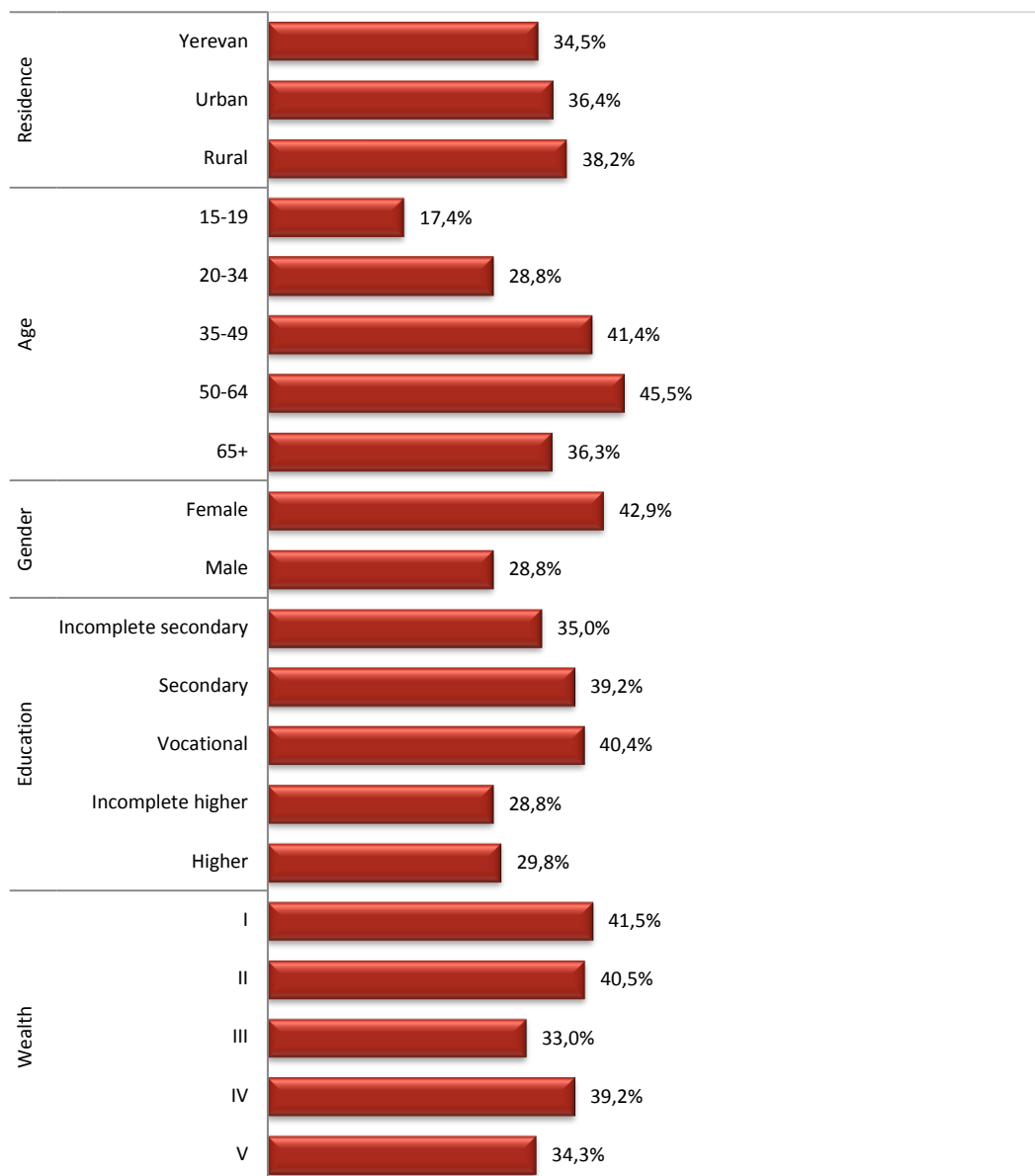


In 2022, the number of people who haven’t sought medical care in case of need according to socio-demographic groups is provided in Figure 145:



- The number of people who haven't sought medical care in case of need is relatively higher in rural areas,
- among 35-49 and 50-64-year-olds,
- among women,
- among people with a low level of education,
- in low-wealth quintiles.

**Figure 145. Percentage of the population aged 15 and older who haven't consulted a doctor in case of need for medical care, according to socio-demographic groups, 2022**

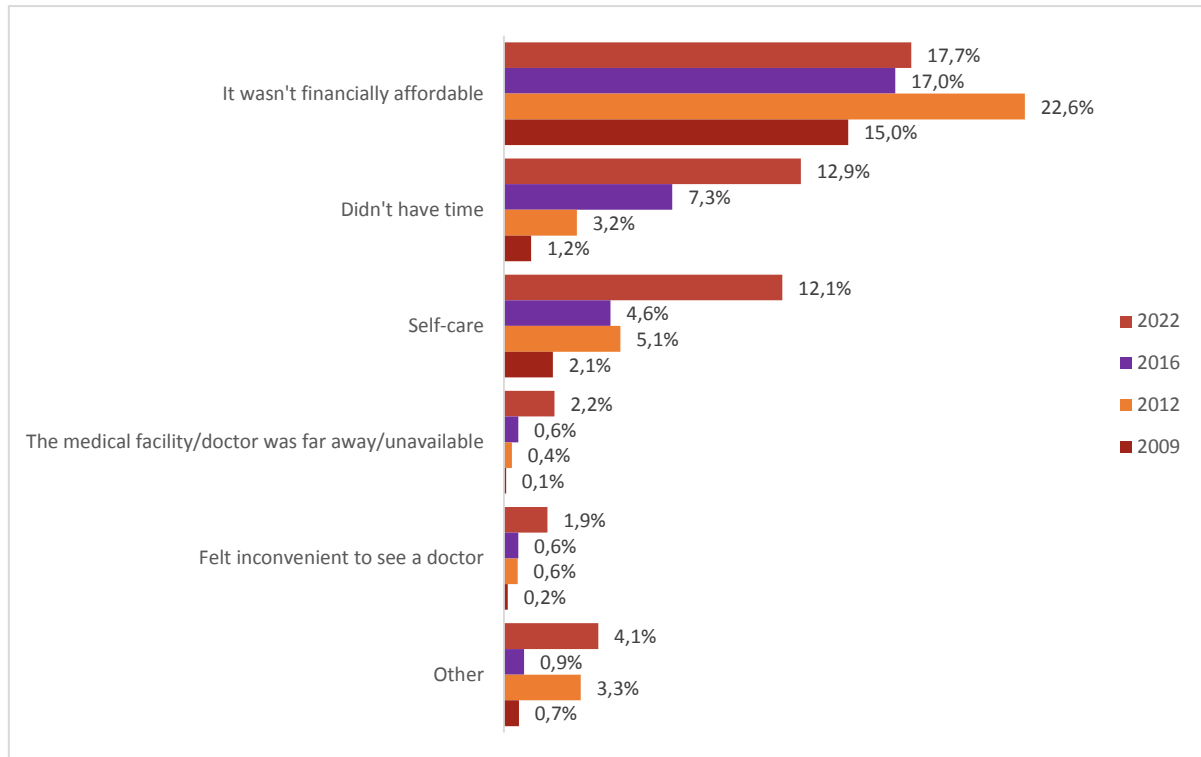


The most common reasons for not seeing a doctor when necessary in 2022 are provided in Figure 146:

- The main reason for the inaccessibility of medical care remains financial inaccessibility.

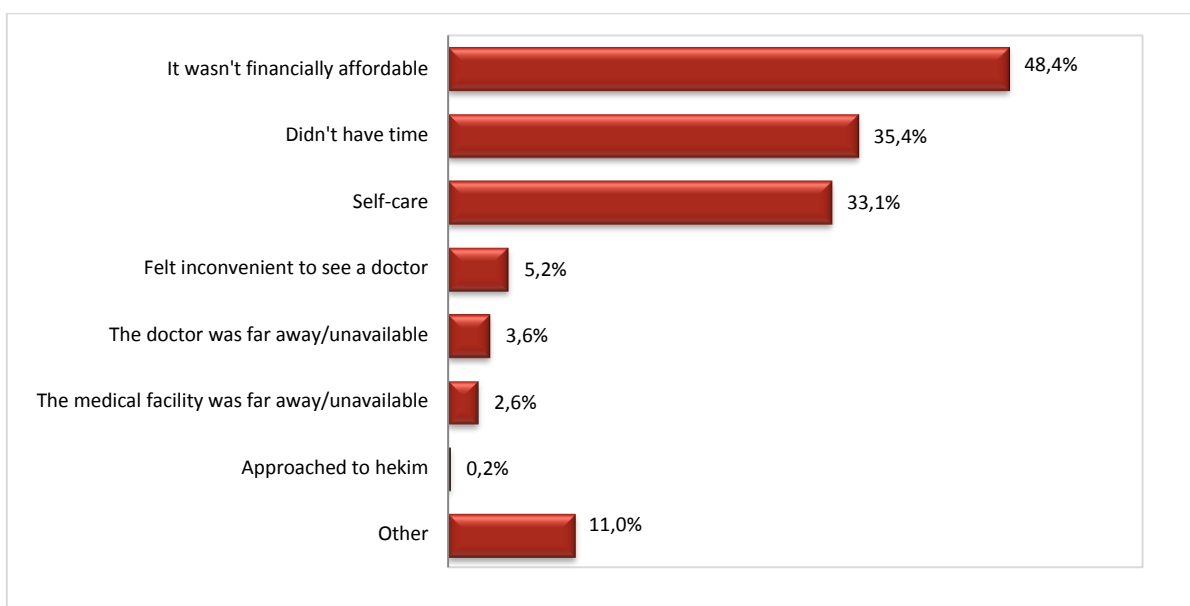
- The second most common reason is lack of time, the prevalence of which increased monotonically between 2009 and 2022.
- In 2022, the number of self-medication increased.

**Figure 146. Reasons for not consulting a doctor in case of realizing the need for medical care, 2009-2022. Multiple answers allowed, percentages are calculated from the entire population**



The reasons for not approaching medical care in 2022, calculated from the number of people who realized they needed medical care but didn't seek are given in Figure 147.

**Figure 147. Reasons for not going to a doctor when realizing the need for medical care. Multiple responses were allowed, 2022, out of the number of people who realized they needed medical care but did not seek**



The reasons for not approaching medical care in case of need according to the type of residence and wealth quintiles are provided in Table 24:

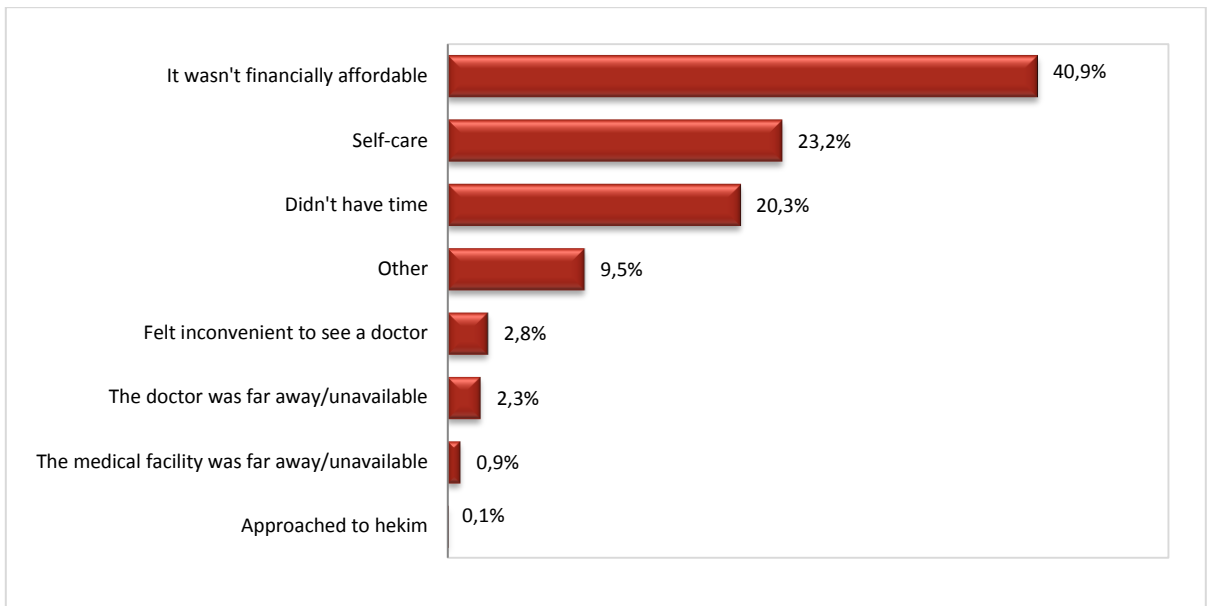
- Financial inaccessibility is relatively higher in rural areas and in I and II wealth quintiles.
- “Not having time” is more common in rural areas and in the III and IV wealth quintiles.
- Self-medication is more common in Yerevan and in the highest wealth quintile.
- “Feel inconvenient to see a doctor” is more common in urban areas and lower wealth quintiles (I and II).
- “The medical facility was far away” is relatively more common in urban and rural areas, as well as in the lowest quintile of wealth.

**Table 24. Reasons for not consulting a doctor in case of need according to types of residence and wealth quintiles. Multiple answers allowed, 2022**

Reasons	Residence			Wealth					Total
	Yerevan	Urban	Rural	I	II	III	IV	V	
It wasn't financially affordable	41.7%	41.2%	59.5%	62.8%	51.6%	45.5%	46.6%	40.7%	49.9%
Didn't have time	34.0%	34.1%	37.7%	28.9%	27.2%	39.5%	46.8%	31.5%	34.6%
Self-care	41.8%	32.0%	26.8%	29.2%	30.1%	32.9%	32.5%	40.8%	32.9%
Felt inconvenient to see a doctor	4.5%	8.1%	3.4%	7.3%	7.5%	3.2%	5.3%	5.3%	5.8%
The doctor was far away/unavailable	3.4%	5.0%	2.7%	2.8%	2.8%	5.9%	5.8%	4.4%	4.3%
The medical facility was far away/unavailable	1.6%	3.1%	3.0%	6.7%	0.7%	2.1%	4.1%	0.8%	3.0%
Approached to hekim	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%
Other	12.6%	12.5%	8.5%	8.8%	9.4%	12.2%	10.4%	12.3%	10.5%

The main reasons for not consulting a doctor in case of need, when only one answer was allowed, are provided in Figure 148.

**Figure 148. The main reasons for not consulting a doctor in case of need, only one answer is allowed**



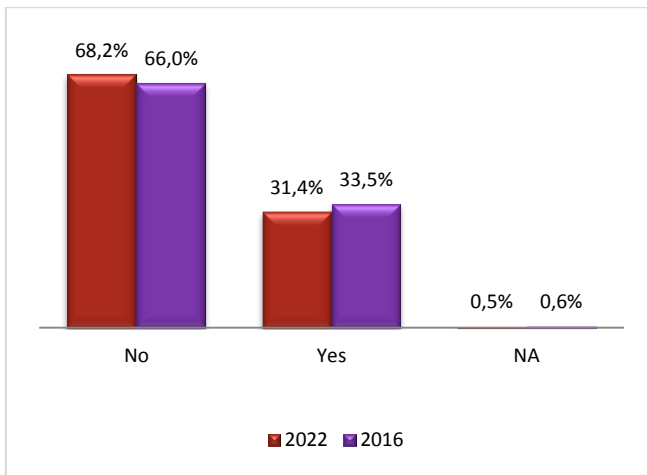
### Utilization of primary care

In order to get an idea about the utilization of primary health care services during HSPA, the following points were studied: The number of people who went to primary health care facilities during the past 12 months, the advice they received at the primary health care facility, the study of the last case of going to a health care facility during the past 12 months, which health care facility they approached, whom they met, the reasons for the visit, the implementation of diagnoses in the medical institution, the actions of the doctor, house calls, the availability of drugs for the treatment of primary diseases, the reasons for the unavailability of drugs, referrals from the primary medical institutions to the hospital, the confirmation of the primary diagnoses in the hospitals, and the evaluations of the primary medical response.

### *Utilization of primary healthcare*

During the past 12 months, 31.4% of the population approached a primary healthcare facility (Figure 149), which is lower than this indicator in 2016 (2.1%).

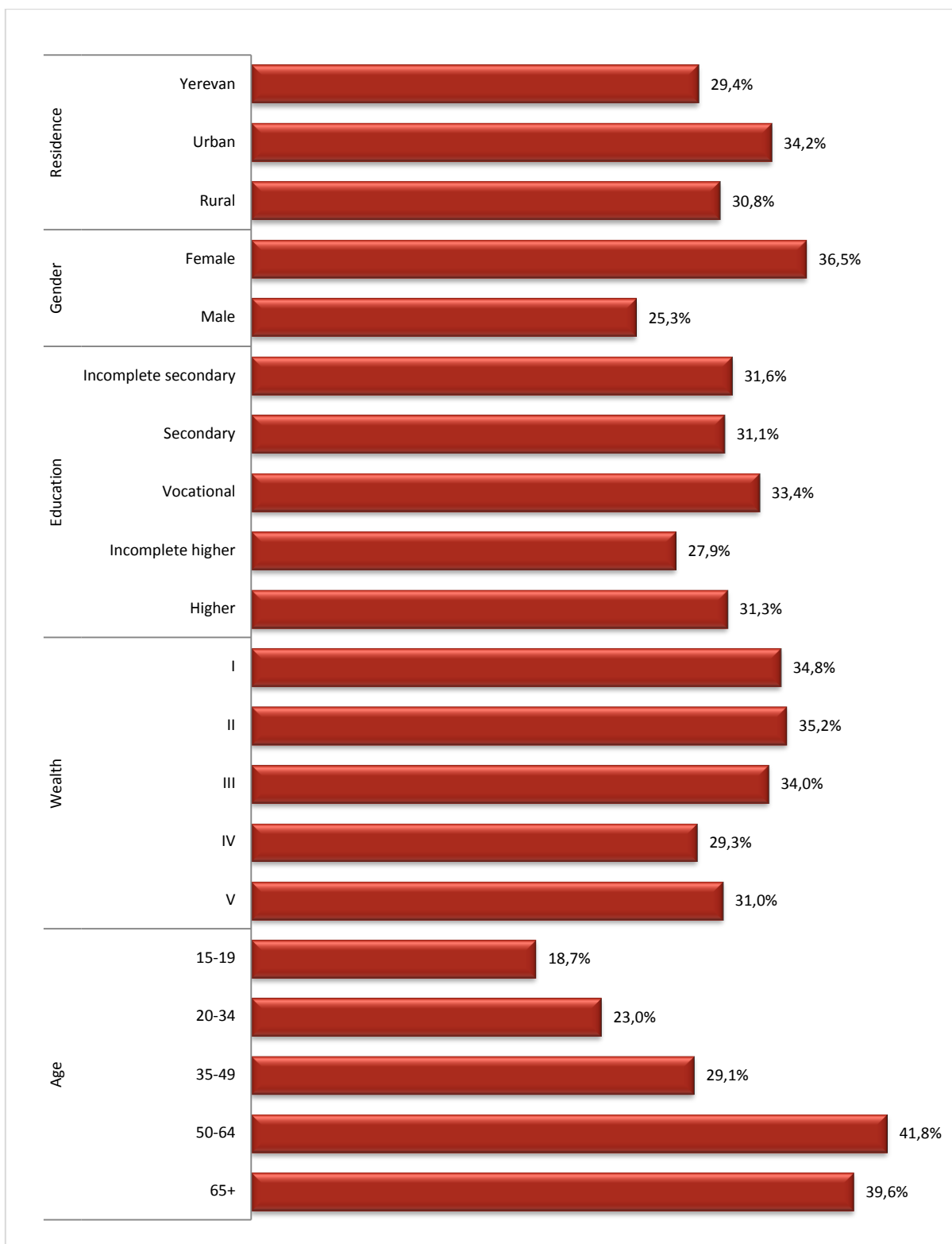
**Figure 149. "During the past 12 months, have you met your family/district doctor at an outpatient clinic or polyclinic because of illness?"**



The number of people who approached the primary institution according to socio-demographic groups is provided in Figure 150:

- The number of people who approached the primary medical institution is relatively higher in urban areas,
- Among women,
- Low wealth quintiles (I, II, and III),
- The utilization increases along with an increase in age.
- According to the level of education, the utilization is relatively lower among people with incomplete higher education (students).

**Figure 150. “During the past 12 months, have you met your family/district doctor at an outpatient clinic or polyclinic because of illness?” the “Yes” answers**

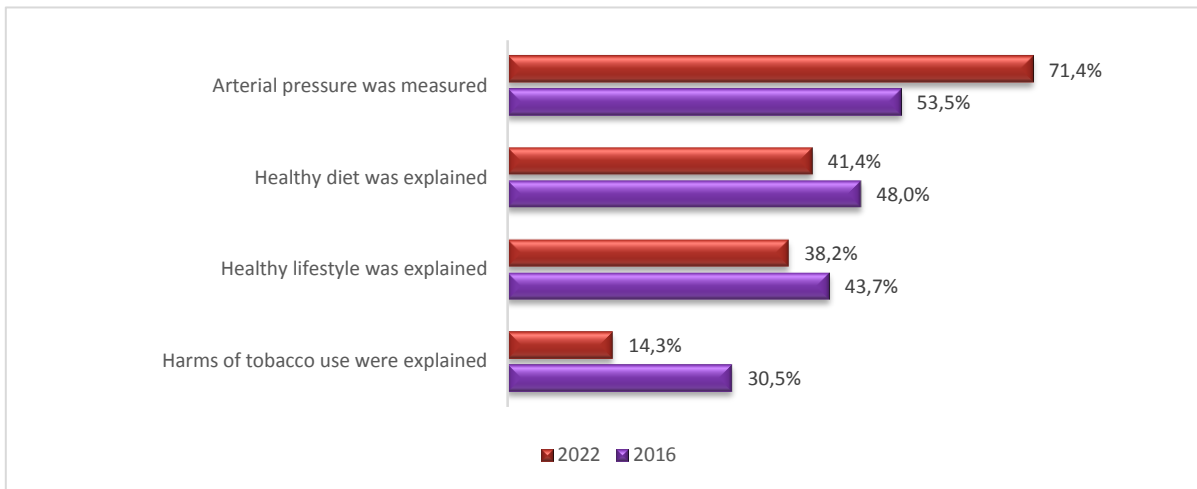


### ***Health counseling provided to primary care patients***

The consultation provided to people who approached the primary medical institutions was studied (Figure 151). Doctors have measured the blood pressure of 71.4% of people who approached them, which is a

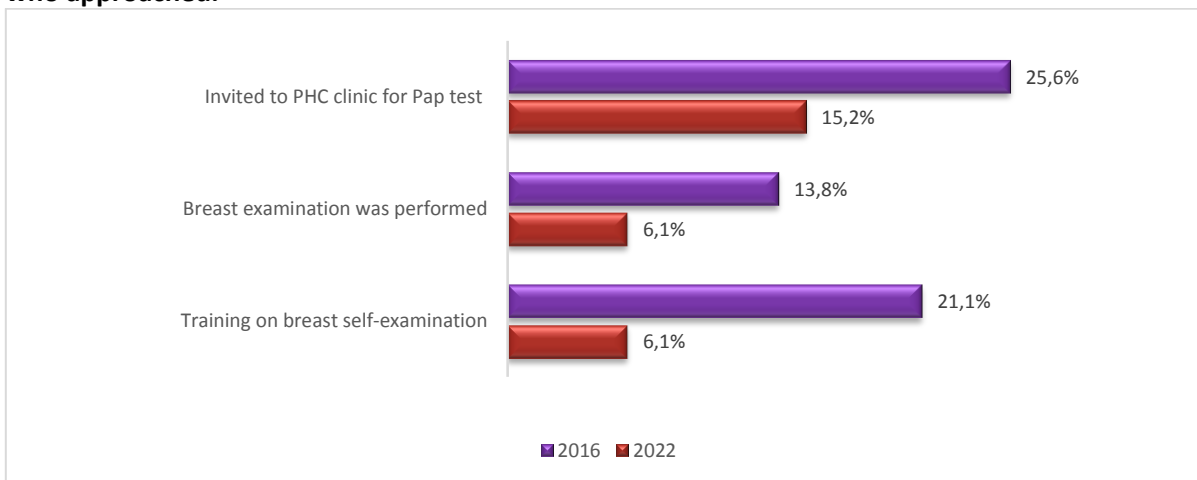
significantly higher number compared to the indicator of 2016 (53.5%). Doctors explained the rules of proper nutrition in 41.4% of cases (in 2016, it was 48.0%), in 38.2% of cases, they explained the rules of a healthy lifestyle (43.7% in 2016), and in 14.3% of cases, they explained the harms of smoking (30.5% in 2016).

**Figure 151. “During the past 1 year, during your meeting or any of the meetings with the doctor, did the doctor [give the following advice], the percentages are calculated from the number of all those who approached.”**



In the case of women who approached primary care, 25.6% of women aged 30-60 were invited to a polyclinic or outpatient clinic for a Pap smear test (in 2016, this indicator was 15.2%), 13.8% performed breast screening (6.1% in 2016). In 21.1% of cases, they explained the forms of self-examination of the breast (Figure 152).

**Figure 152. “During the past 1 year, during your meeting or any of the meetings with the doctor, did the doctor [give the following advice], the percentages are calculated from the number of women aged 30-60 who approached.”**

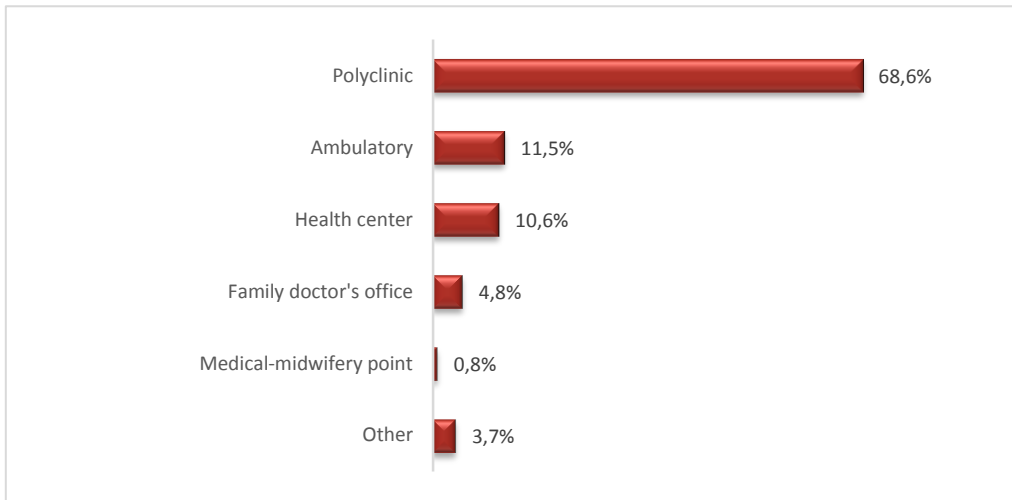


## ***A case study of primary care visits in the past year***

### **What primary care institutions were visited**

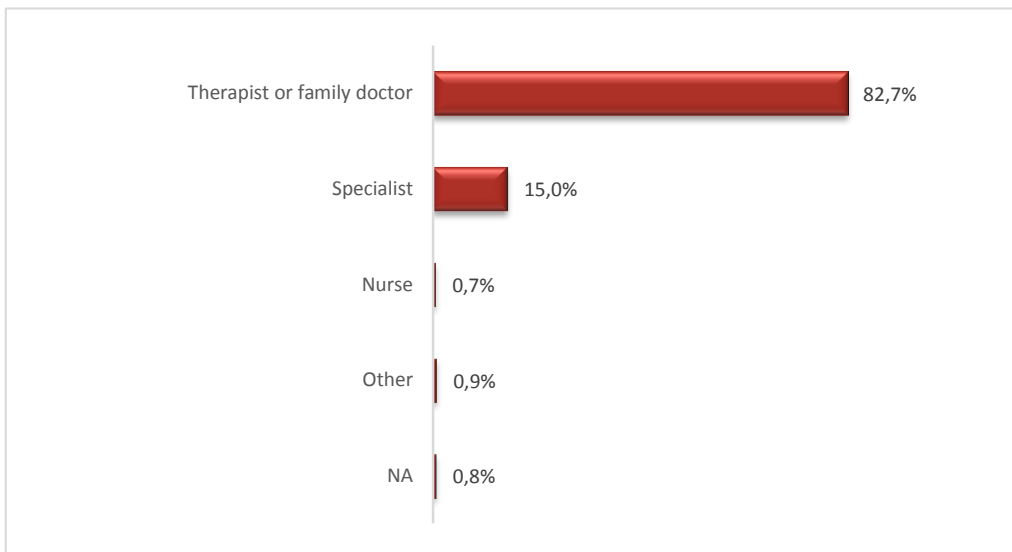
During the last 12 months, 68.8% of the cases where patients approached a primary care institution were in a polyclinic, 11.5% in an ambulatory, 10.6% in a health center, 4.8% in a family doctor's office, 0.8% to an aid station (Figure 153):

**Figure 153. "Let's talk about your last visit. What medical institution did you visit?"**



In 82.7% of those visits, people first turned to a therapist or family doctor, 15.0% to a specialist, and 0.7% to a nurse (Figure 154).

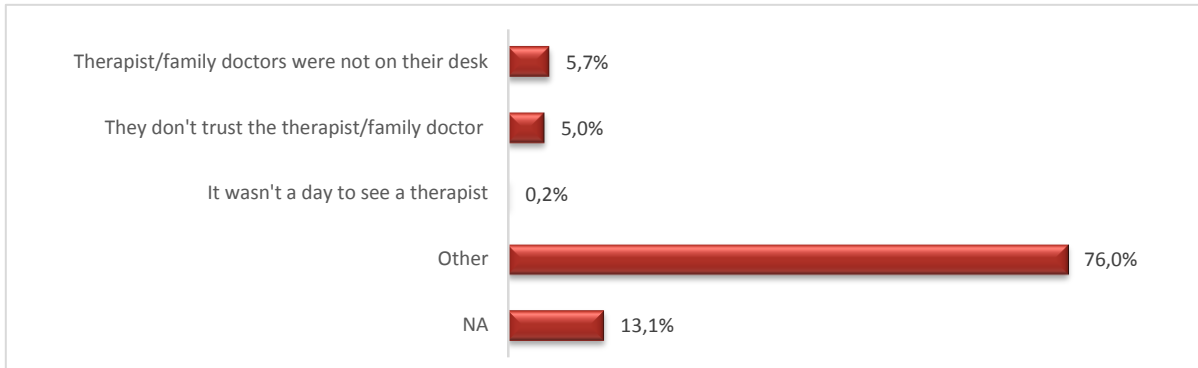
**Figure 154. "During that visit, who did you turn to first?" (a family physician equates to a therapist)**



In 5.7% of cases, the reason for not consulting a therapist was that the therapist/family doctors were not at their desks, and in 5.0% of cases, they were not trusting the therapist/family doctor (Figure 155).

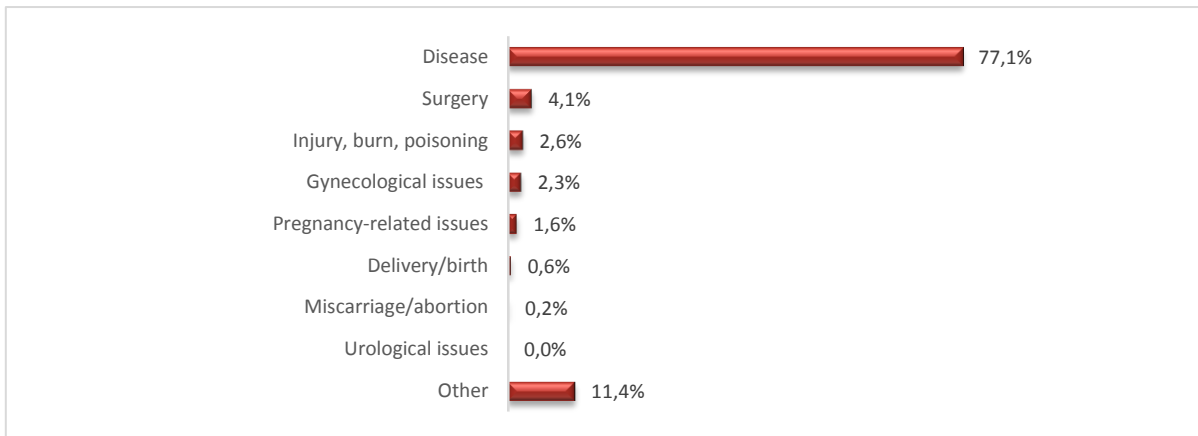


**Figure 155. "Why didn't you first consult a therapist/family doctor?" (for those cases when they didn't consult a therapist/family doctor)**



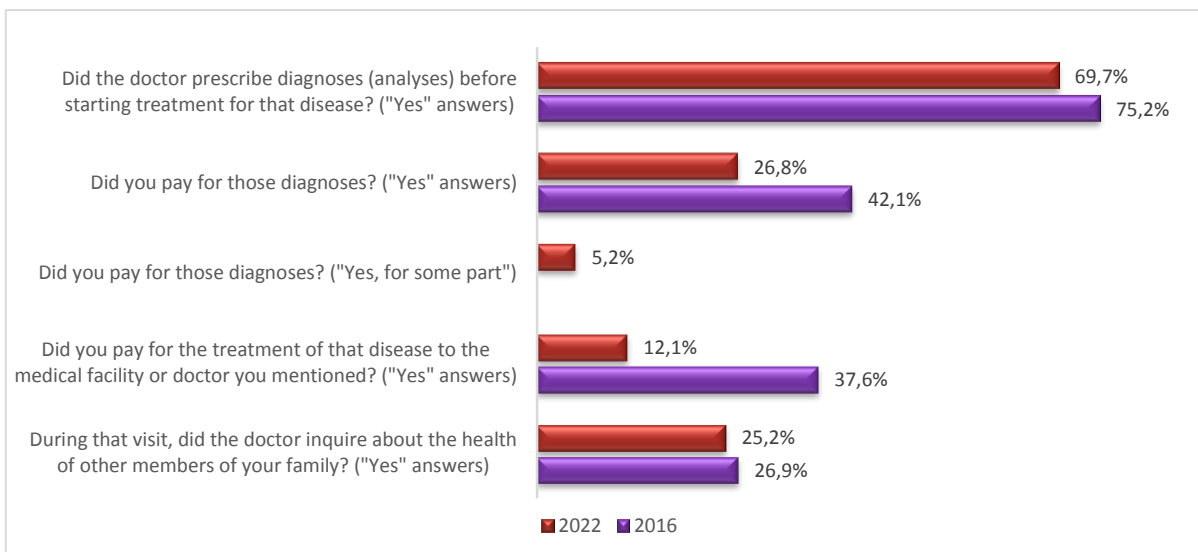
The main reason for going to the primary healthcare institution was illness (77.1%), surgery (4.1%), injury, burn, poisoning (2.6%), and gynecological issues (2.3%) (Figure 156).

**Figure 156. "What was the main reason for that visit?"**



- Before treatment of that disease, 21.9% of cases were prescribed diagnoses (Figure 157).

**Figure 157. Doctor's actions during the visit**

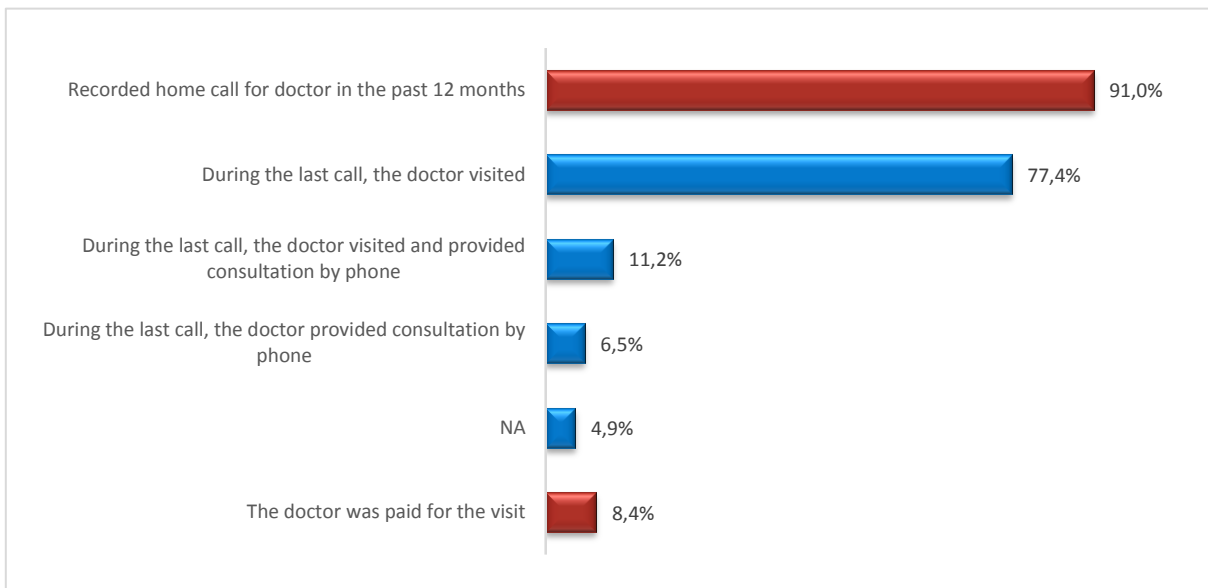


- In 5.9% of diagnoses, the patient has paid for that, and in 1.1% of cases, they paid for part of the diagnoses.
- In 7.9% of their last visit, the doctor asked the patient about other family member’s health.

### Home calls

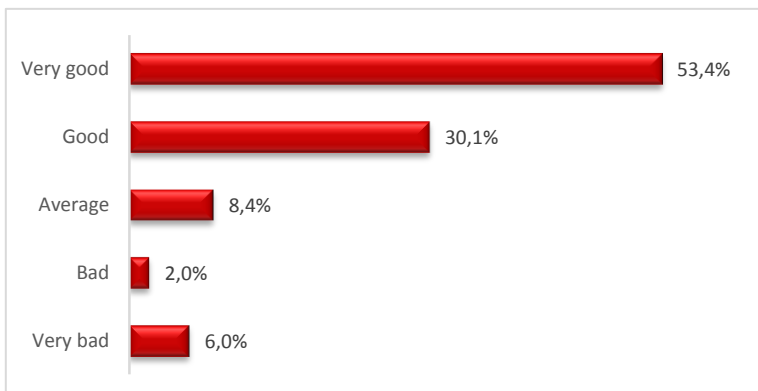
During the last 12 months, 91.0% of people who approached the primary care medical institution registered a home call (Figure 158). In 77.4% of the cases of last house call, the doctor visited the home, in 11.2% of cases they advised by phone and visited the home, and in 6.5% of cases they only advised by phone. In the case of 8.4% of home calls, payment was made to the visiting doctor.

**Figure 158. “During the past 12 months, have you registered a home call from a polyclinic or an outpatient doctor because of a health issue or illness?”**



In the case of home calls, 83.5% of patients rated the assistance provided by the doctor as “very good” or “good” (Figure 159).

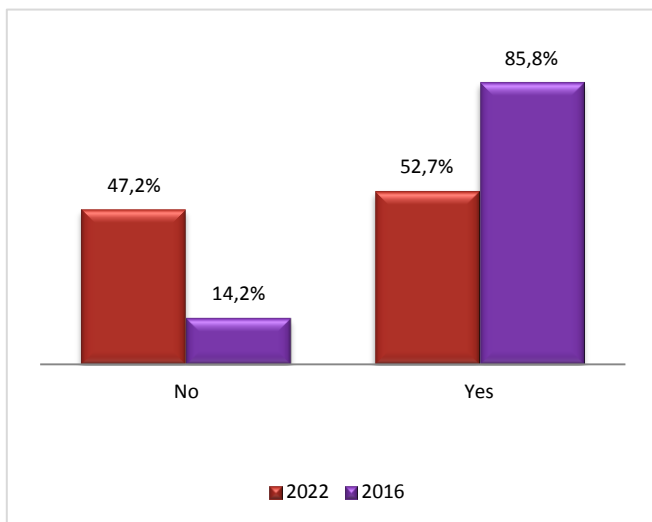
**Figure 159. “How do you rate the service provided by the doctor during that visit?”**



### Availability of medicines in primary care

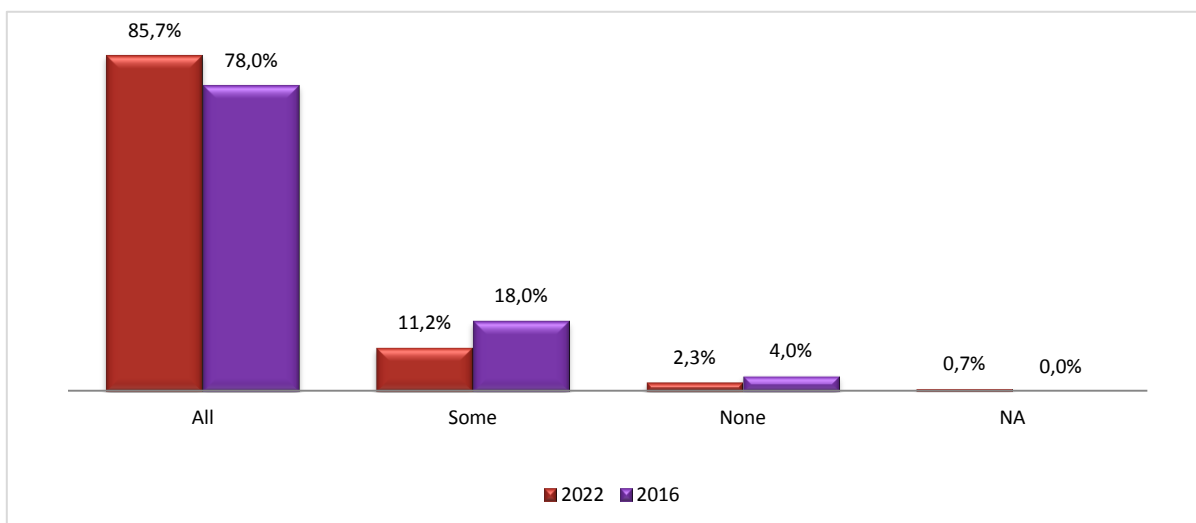
During the past 12 months, the doctor prescribed medicines in 52.7% of visits to a health facility or home call for an illness (Figure 160).

**Figure 160. “During your last visit to a medical facility or a home call for doctor, did the doctor prescribe medicines?”**



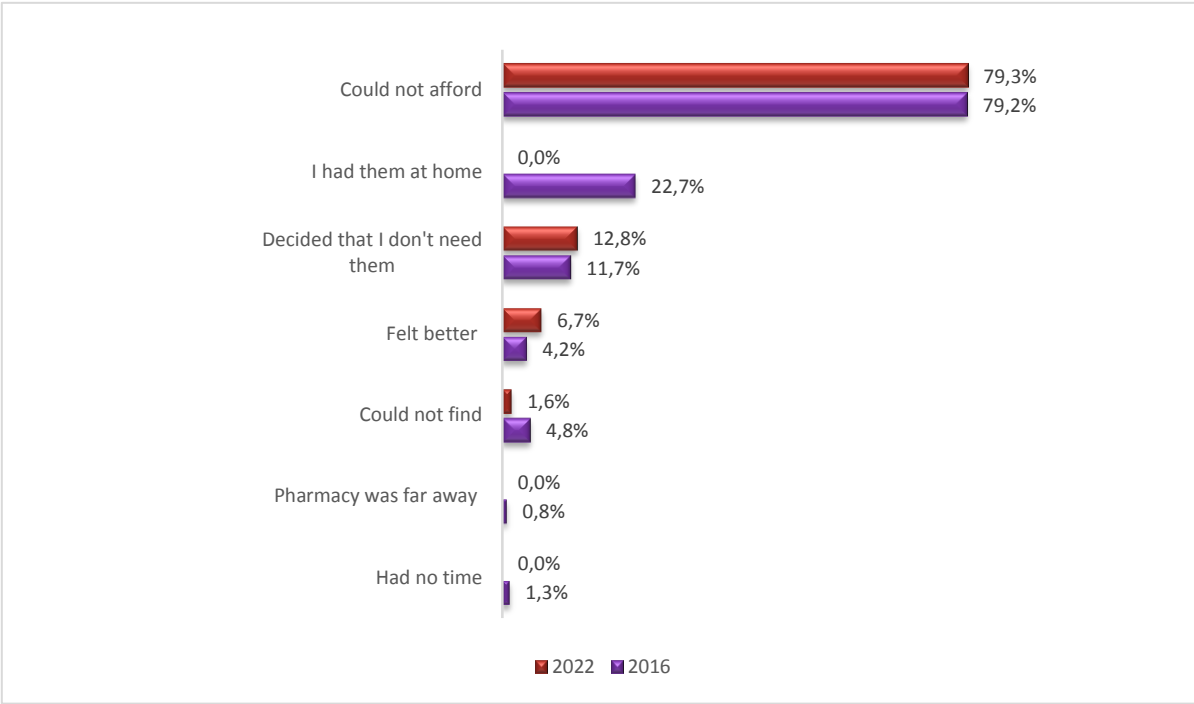
85.7% of patients, in the case of medication prescription, received the full medication, in 11.2% of cases, they received it partially, and in 2.3% of cases, they didn't receive it at all (Figure 161).

**Figure 161. “How much of that medicine were you able to buy or get (all, some, or none)?”**



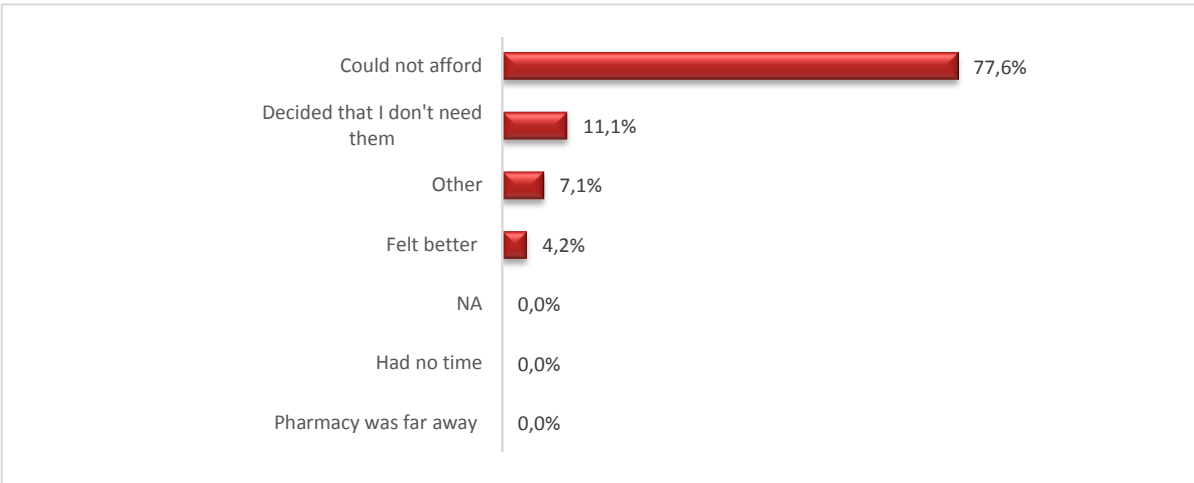
The most common reason for partially or not completely purchasing the drugs (when the respondent was allowed to name several reasons for not purchasing the drugs) remains financial inaccessibility (79.3%) (Figure 162). Financial inaccessibility as **the most common** reason for not purchasing medicines in 2016 also accounted for approximately the same percentage (79.2%).

**Figure 162. “What was the reason for not purchasing that medication or purchasing partially? You can mention several answers”**



Financial inaccessibility was mentioned as the main reason for not purchasing or partially purchasing the drugs (when the respondent was asked to indicate only one, the most basic reason for not purchasing) by 77.6% of respondents who did not purchase or partially purchased the drugs (Figure 163).

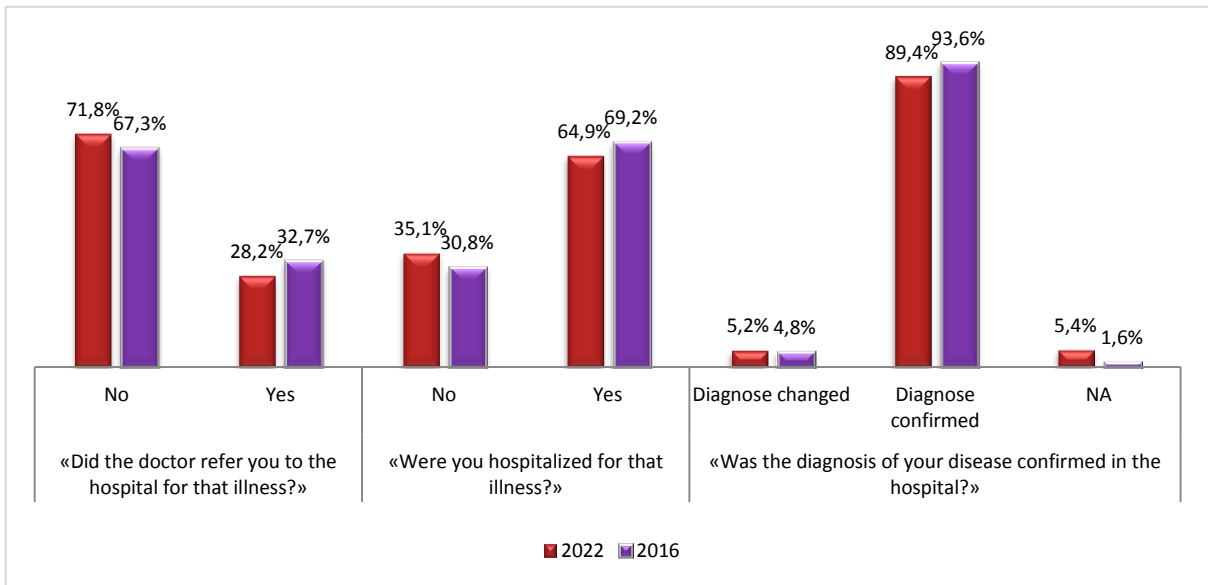
**Figure 163. What is the most important reason for not purchasing or partially purchasing the medications?**



***PHC referrals to hospital***

During the past 12 months, in 32.7% of cases, when the patient approached a primary care doctor for an illness, the doctor referred the patient to a hospital. In 2016, the number of such cases was 28.2% (Figure 164).

**Figure 164. Referrals to hospital, hospitalization following PHC referral, confirmation of the PHC diagnosis by the hospital**



In 35.1% of referrals from primary care to hospital, the patient was admitted to the hospital. In 2016, this indicator made up 30.8%.

In 89.4% of referrals from primary care to hospital, the diagnosis of the disease made in primary care was confirmed in the hospital. In 2016, the number of such cases was 93.6%.

### **Primary healthcare response**

The response of the medical institution shows its behavior toward patients. The more responsive of the two health institutions is the one that:

1. provides more information to the patient,
2. the medical staff explains the issues related to the disease in a way that the patient can understand,
3. dedicates enough time to the patient so that they can ask questions they are interested in,
4. includes the patient in the decision-making process regarding his/her treatment,
5. ensures private discussions with the patient about the disease,
6. provides private medical examinations,
7. keeps confidential the information received from the person,
8. enables a person to freely choose his/her treating doctor,
9. has clean and spacious areas,
10. is physically more accessible to users of its services,
11. does not wait for the patient to provide the service,
12. has polite and respectful staff.

Health system responsiveness is assessed in 8 domains covering the above characteristics. Those domains are divided into two groups, the first one includes the domains that express the **behavior towards the person**, and the second one includes the domains that **orient the users of the health care system**.

Domains of the first group:

1. **Respect domain:** Expression of respect for the patient. Were the health workers respectful to the patients? Were the medical examinations carried out in private conditions?
2. **Communication domain:** The nature of communication with the patient, whether the doctors explained health conditions to the patient, the significance of the diagnoses, and the process of the treatment. Did the patient have the opportunity to ask the questions he was interested in?
3. **Autonomy domain:** Did the doctor clearly explain the possible treatment options to the patient? Was the patient's opinion taken into account when choosing treatment options?
4. **Confidentiality domain:** Does the medical facility and the doctor ensure the confidentiality of information about the patient and the disease?

Domains of the second group:

5. **Adequate quality of basic amenities:** Are there basic living conditions in the medical institution?
6. **Timely response domain:** Does the medical staff respond quickly to the patient's requests?
7. **Possibility of choice:** Does the person or the patient have the opportunity to choose the medical institution or treating doctor?
8. **Social support:** Does the patient have the opportunity to receive social support during treatment?

A questionnaire for each domain was developed at the World Health Organization to assess the characteristics of the health system's response.

The responsiveness assessment of health systems refers to the health services users, that is, those seeking care.

In 2022, the following domains were evaluated in the scope of the HSPA sample survey:

1. Respect,
2. Communication,
3. Confidentiality,
4. Autonomy,
5. Basic conditions.

Figure 165 shows the assessments of the response domains of the Armenian primary health care system, and Figures 166, 167, and 168 show this indicator in Yerevan, urban and rural areas, respectively. For the qualitative assessment of response domains, the following scale has been used:

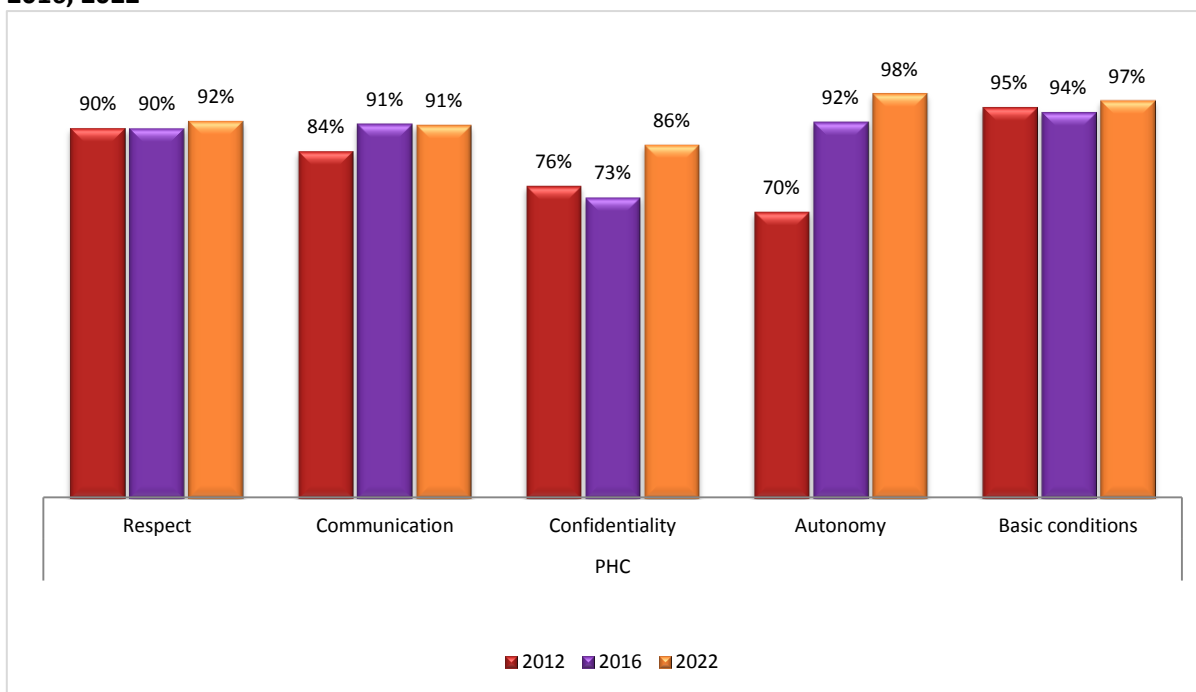
- Very low [0-20%]

- Low [20-40%)
- Average: [40-60%)
- High: [60-80%)
- Very high [80-100%]

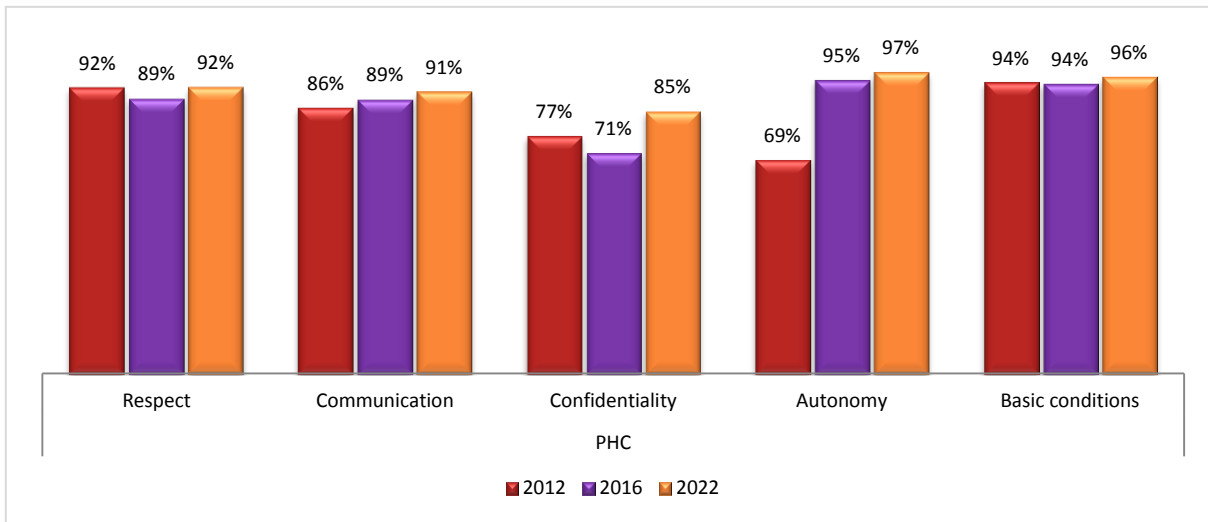
According to the figures:

- **The grades of the assessment of response domains of the Armenian healthcare system in the primary healthcare sector are very favorable.**
- In 2022, all five domains of responsiveness (respect, communication, confidentiality, autonomy, and basic conditions) were in the range of very high scores (Figure 165).
- In 2022 (compared to 2016), the ratings of confidentiality and autonomy domains have increased.
- In Yerevan, urban and rural areas, the scores of all five domains in 2022 were in the range of very high scores.
- In 2022 (compared to 2016), the rating of the confidentiality domain has increased in Yerevan.
- In 2022 (compared to 2016), the ratings of confidentiality, autonomy, and basic conditions domains have increased in urban areas.
- In 2022 (compared to 2016), the ratings of confidentiality and autonomy domains have increased in rural areas.

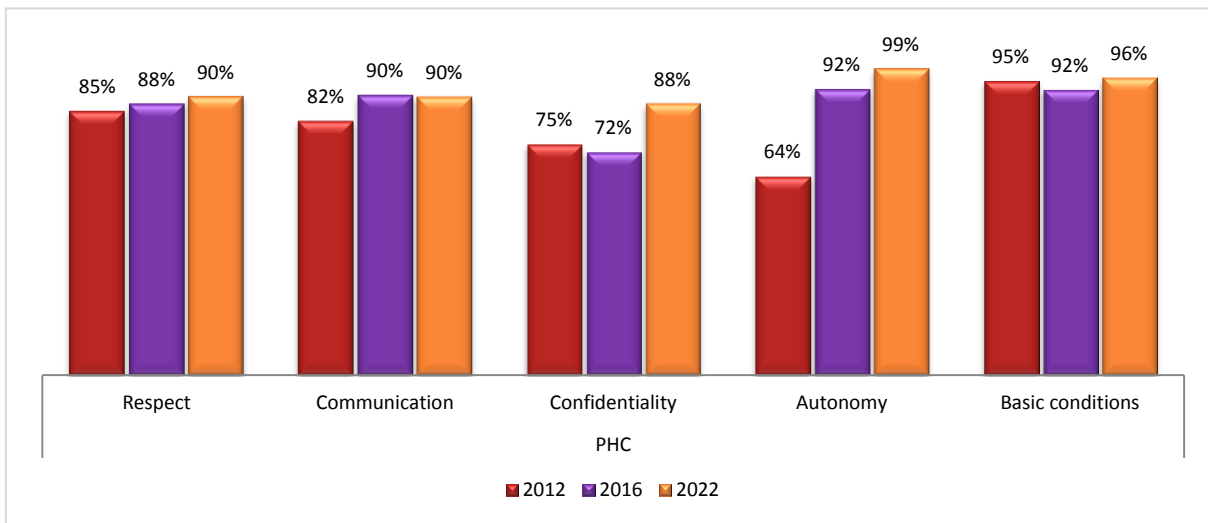
**Figure 165. Response domains of the healthcare system in primary healthcare institutions, Armenia 2012, 2016, 2022**



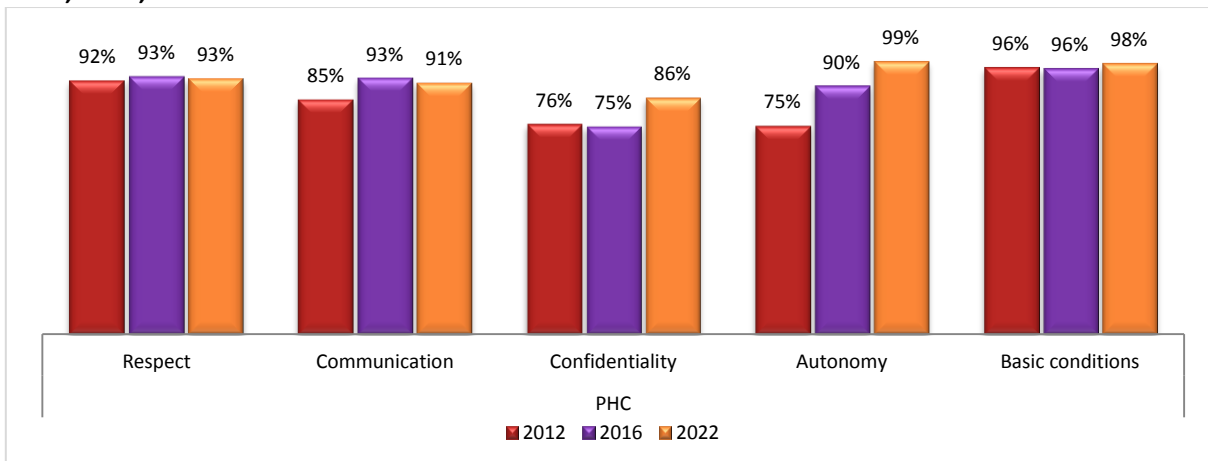
**Figure 166. Response domains of the healthcare system in primary healthcare institutions, Yerevan 2012, 2016, 2022**



**Figure 167. Response domains of the healthcare system in primary healthcare institutions, urban areas 2012, 2016, 2022**



**Figure 168. Response domains of the healthcare system in primary healthcare institutions, rural areas 2012, 2016, 2022**





Waiting time to see a doctor is also an important characteristic of the healthcare system’s responsiveness.

Table 25 shows the distribution of waiting time before seeing the doctor in a medical institution in 2022 in Armenia, Yerevan, urban and rural areas, and Table 26 shows the same data for 2016.

**Table 25. Approximately how long did you wait before seeing the doctor in [primary] healthcare facility, 2022**

Waiting time, minutes	Yerevan	Urban	Rural	Armenia
0	16%	21%	30%	23%
1-10	31%	29%	37%	32%
11-20	17%	15%	12%	15%
21 - 30	11%	9%	7%	9%
31 - 40	3%	2%	1%	2%
41 - 50	2%	0%	1%	1%
51 - 60	3%	7%	2%	4%
60+	3%	7%	2%	4%
NA	12%	10%	10%	11%
Total	100.0%	100.0%	100.0%	100.0%

**Table 26. Approximately how long did you wait before seeing the doctor in [primary] healthcare facility, 2016**

Waiting time, minutes	Yerevan	Urban	Rural	Armenia
<= 0	31.2%	28.1%	30.4%	30.0%
1 - 10	33.3%	40.6%	40.1%	37.9%
11 - 20	17.6%	13.1%	12.7%	14.5%
21 - 30	9.2%	11.3%	10.0%	10.1%
31 - 40	0.3%	1.8%	0.3%	0.7%
41 - 50	0.0%	0.0%	0.2%	0.1%
51 - 60	4.3%	2.0%	3.9%	3.5%
60+	4.2%	3.1%	2.4%	3.2%
Total	100.0%	100.0%	100.0%	100.0%

The comparison of the table’s data shows that:

- **In 2022 (compared to 2016), the waiting time before seeing the doctor when approaching a primary health care institution has increased.**

23% of the patients didn’t wait at all when approaching the primary care institution (30% in 2016), 32% waited up to 10 minutes (37.9% in 2016), 55% both together (67.9% in 2016), 15% waited 11-20 minutes (14.5% in 2016), 20% waited from half an hour to an hour (3.4% in 2016), and 4% waited more than an hour (3.2% in 2016).

Table 27 shows the distribution of the population’s **overall satisfaction** with the **treatment received** in the primary health care facility in Armenia, Yerevan, urban and rural areas in 2022 and 2016. Data comparison shows that:

- In 2022 (compared to 2016), the general satisfaction level of the population with the treatment received in primary medical institutions has increased in Armenia and in all types of settlements.

**Table 27. Are you satisfied or dissatisfied with the treatment you received at the [primary] health care facility, 2016, 2022?**

Satisfaction level of treatment received	2022				2016			
	Yerevan	urban	Rural	Arm.	Yerevan	urban	Rural	Arm.
Dissatisfied	2.4%	4.3%	3.5%	3.4%	6.2%	8.1%	4.8%	6.2%
Rather dissatisfied	3.9%	8.7%	3.2%	5.2%	6.2%	3.5%	2.2%	3.9%
Rather satisfied	21.9%	12.3%	10.9%	14.8%	22.5%	12.0%	15.8%	17.0%
Satisfied	70.3%	72.9%	80.9%	75.0%	62.6%	71.6%	74.4%	69.6%
<b>Total number of satisfied or rather satisfied</b>	<b>92.2%</b>	<b>85.2%</b>	<b>91.8%</b>	<b>89.8%</b>	<b>85.1%</b>	<b>83.6%</b>	<b>90.2%</b>	<b>86.6%</b>
NA	1.5%	1.8%	1.6%	1.6%	2.6%	4.8%	2.8%	3.3%

Table 28 shows the distributions of the population's satisfaction with primary healthcare services in 2022 and 2016. Data comparison shows:

- In 2022, the overall satisfaction of the population with the services received from primary healthcare institutions is very high (90.0%) (the number of “satisfied” or “rather satisfied” respondents).
- In 2022 (compared to 2016), the degree of satisfaction decreased slightly (in 2016, it was 92.1%).

**Table 28. Are you satisfied or dissatisfied with the service of the [primary] medical institution, 2016, 2022?**

Satisfaction level of services received	2022				2016			
	Yerevan	urban	Rural	Arm.	Yerevan	urban	Rural	Arm.
Dissatisfied	2.5%	5.7%	2.3%	3.5%	5.4%	6.5%	2.6%	4.6%
Rather dissatisfied	5.5%	8.6%	2.6%	5.5%	4.3%	2.8%	1.9%	2.9%
Rather satisfied	20.4%	11.4%	10.7%	14.0%	24.4%	14.0%	14.9%	17.8%
Satisfied	69.9%	73.7%	83.3%	76.0%	65.9%	75.4%	80.7%	74.3%
<b>Total number of satisfied or rather satisfied</b>	<b>90.3%</b>	<b>85.1%</b>	<b>94.0%</b>	<b>90.0%</b>	<b>90.3%</b>	<b>89.4%</b>	<b>95.6%</b>	<b>92.1%</b>
NA	1.7%	0.5%	1.1%	1.1%	0.0%	1.2%	0.0%	0.3%

## Utilization of hospital services

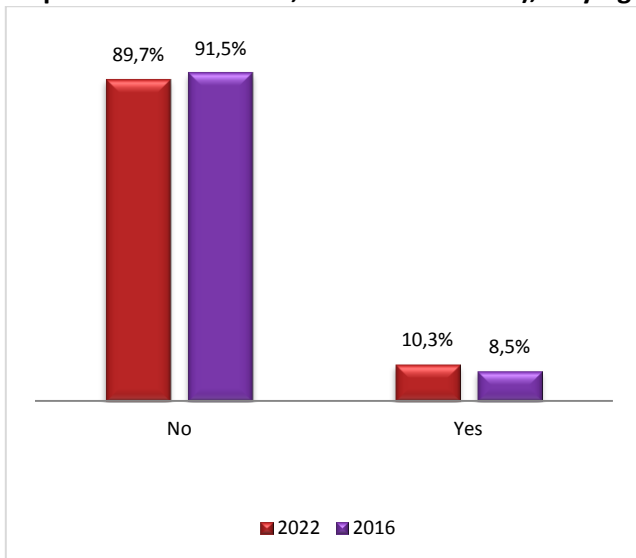
In the HSPA surveys of 2016 and 2022, the process of hospital care, the prevalence of out-of-pocket payments, and the scores of hospital responsiveness domains were assessed.

### ***The process of hospital care and the prevalence of out-of-pocket payments***

The number of people who received hospital care was assessed using the following question: “During the past 12 months, have you been admitted to a hospital for treatment (if the respondent is a woman, also for childbirth), staying there over night?”

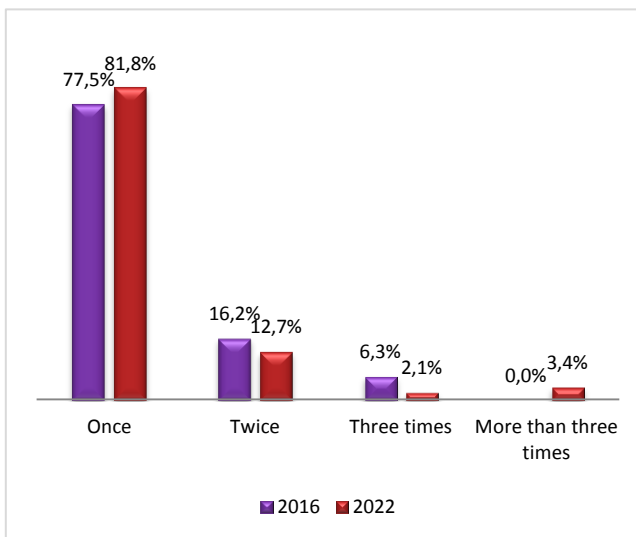
- In 2022, 10.3% of the Armenian population aged 15 and above were hospitalized in the past 12 months, which is slightly higher than this indicator in 2016 (8.5%) (Figure 169).

**Figure 169. “During the past 12 months, have you been admitted to a hospital for treatment (if the respondent is a woman, also for childbirth), staying there overnight?” 2016, 2022**



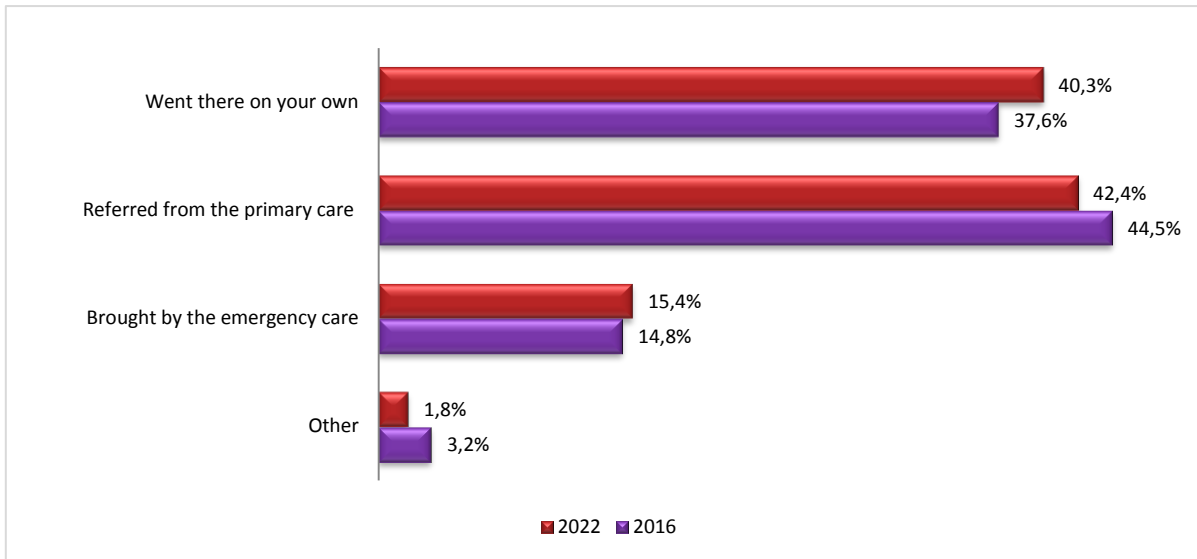
During that period, 77.5% of the population was admitted to the hospital once, 16.2% twice, and 6.3% three times (Figure 170).

**Figure 170. “How many times were you admitted to hospital during the past 12 months?” 2016, 2022**



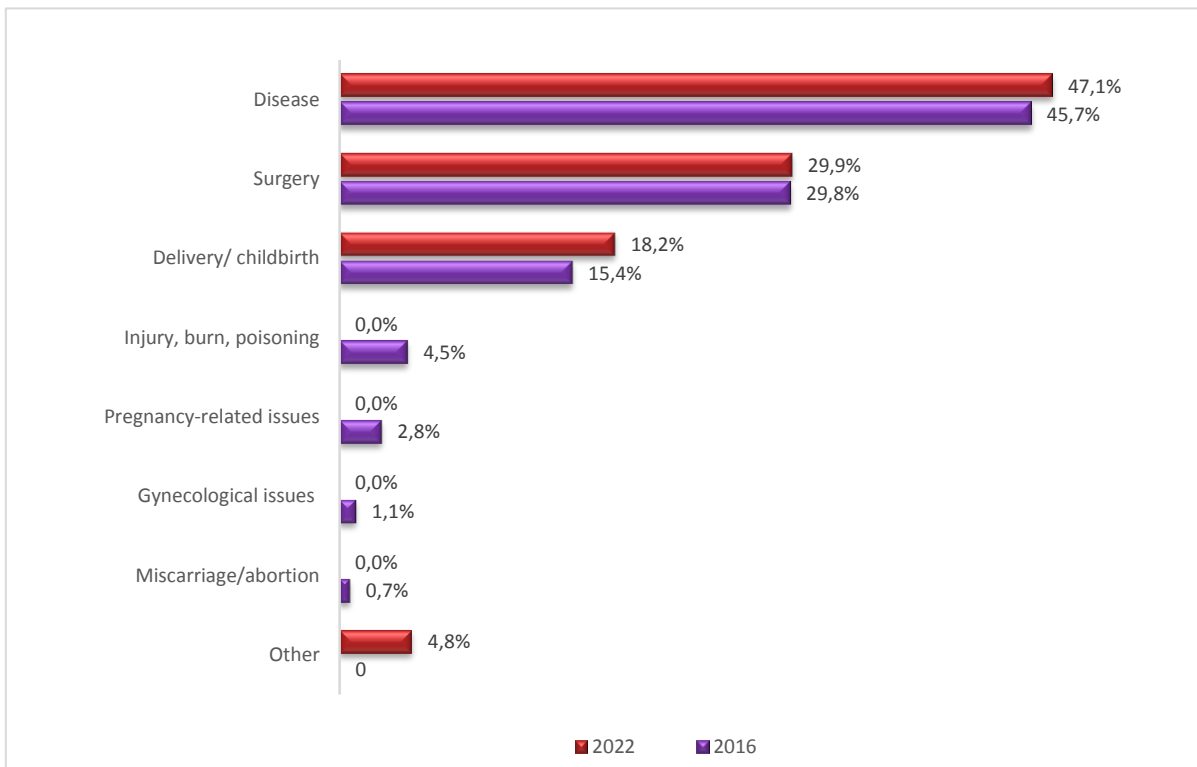
- 40.3% of patients went to the hospital on their own, 42.4% were referred from the primary care unit, and 15.4% were taken to the hospital by emergency care (Figure 171).
- That distribution in 2022 is essentially unchanged from 2016.

Figure 171. “Did you get referred to the hospital by the regional therapist, the specialist, or the family doctor, the emergency service brought you to the hospital, or did you go there on your own?”



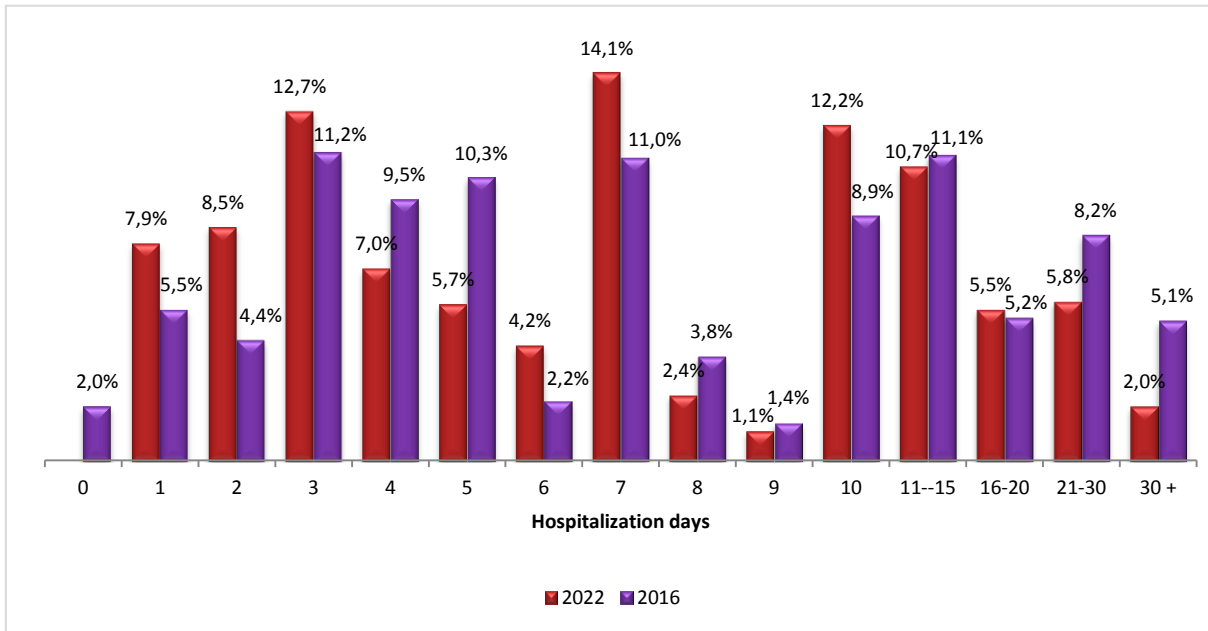
- The main reasons for hospitalization were diseases (47.1%), surgery (29.9%), and delivery/childbirth (18.2%) (Figure 172).
- That ratio in 2022 has not changed compared to 2016.

Figure 172. “Why did you go to the hospital?”



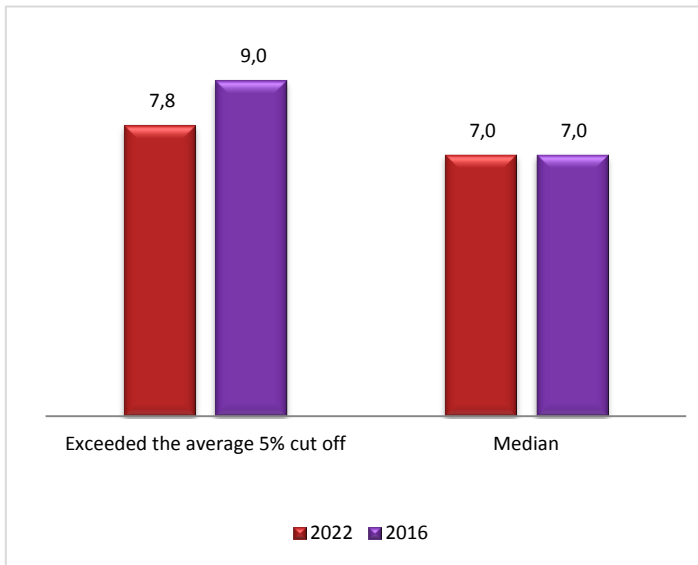
The distribution of the number of days of hospitalization in 2022 and 2016 is provided in Figure 173.

**Figure 173. “How many days did you stay in the hospital?”**



- In 2022, inpatients stayed in the hospital for an average of 7.8 days (median 7.0 days), which is less than this indicator in 2016 (9.0 days) (Figure 174).

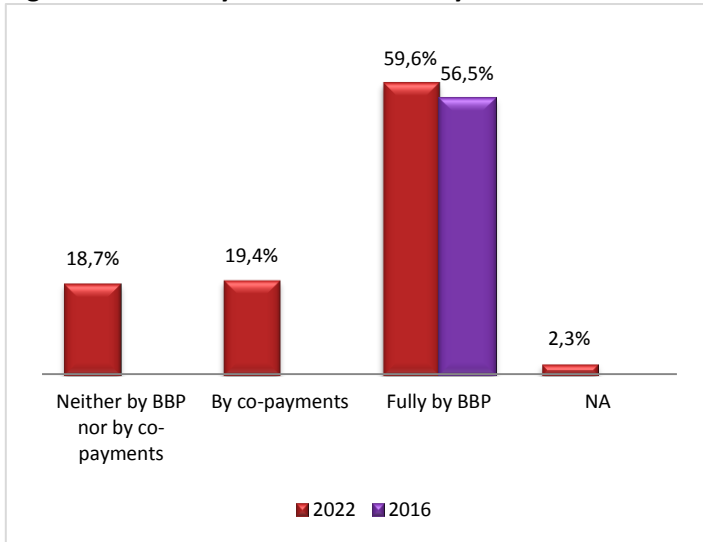
**Figure 174. Average (and median) number of days spent in hospital, 2016, 2022**



**Payments for hospital care**

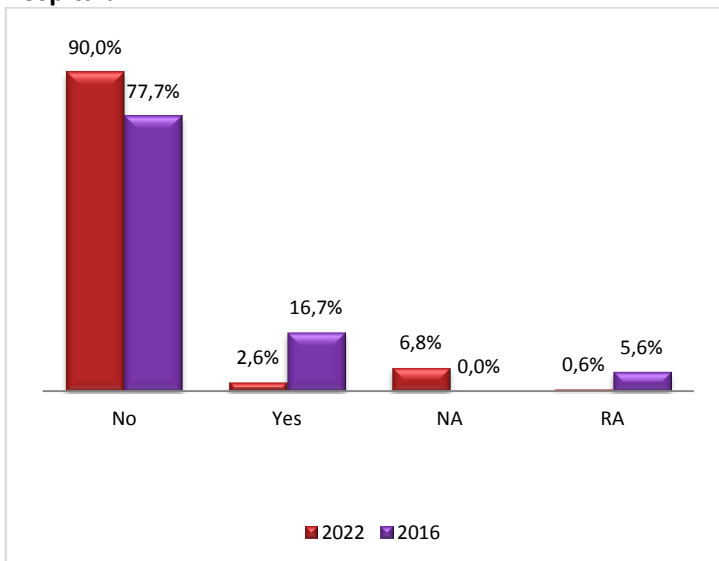
- In 2022, 59.6% of hospital cases were treated within the framework of state order (BBP) and 19% with co-payments.
- In 2016, the relative number of fully state-ordered hospital cases was 56.5%.

**Figure 175. “Was your treatment fully state-ordered or with co-payments?”**



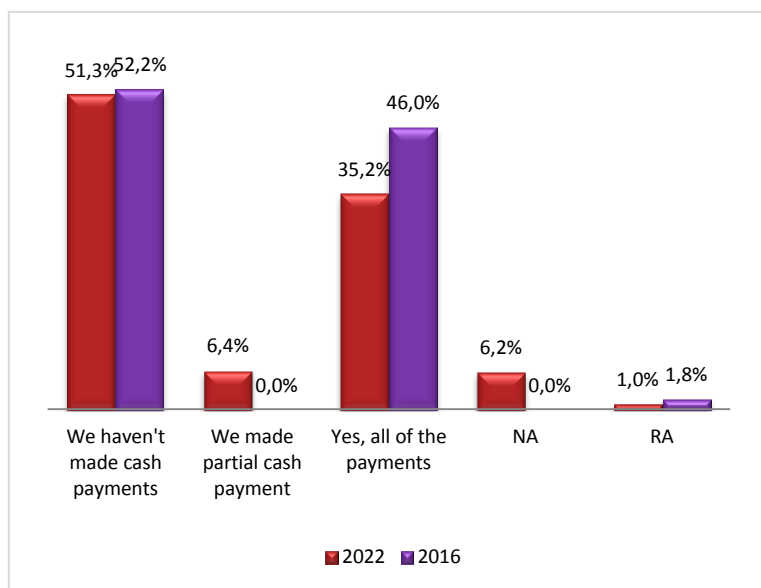
In 2016, the number of cases where money was taken from patients for filling out documents during admission to the hospital (16.7%) (Figure 176). In 2022, the number of such cases has significantly decreased (2.6%).

**Figure 176. “Did you pay extra money for filling out the documents when you were admitted to the hospital?”**



In 2022, the number of cases where all hospital payments were made at the cash register was 35.2% (Figure 177). In 2016, the number of these cases was 46.0%. In 2022, the number of cases when payments were partially made to the cash desk was 6.4% (in 2016, there were no such cases). In 2022, cash payments were not made in 51.3% of hospital cases (including BBP), while in 2016, it was 52.2%.

**Figure 177. “Did you make all the payments for the treatment of the disease to the hospital’s cash register?”**



**Corruption risks in the hospital sector**

A general assessment of corruption risks in the field of hospital treatment can be obtained from Table 29. Corruption risks are contained in the cases given in the yellow boxes of the table because, in the case of hospital treatment, all payments must be made to the cash register.

- In 2022, corruption risks were contained in 8.7% of hospital treatment cases.

**Table 29. Overall assessment of corruption risks in the field of hospital care**

Was your treatment done fully by BBP or co-payments?	Did you make all the payments for the treatment of the disease to the hospital’s cash register?						Total
	We made payments	haven't cash payments	We made partial cash payment	Yes, all of the payments	NA	RA	
Neither by BBP nor by co-payments	1.2%	3.3%	14.0%	0.3%	0.0%	18.7%	
By co-payments	1.1%	1.2%	14.8%	1.7%	0.5%	19.4%	
Fully by BBP	47.9%	1.9%	5.4%	3.9%	0.5%	59.6%	
NA	1.1%	0.0%	1.0%	0.3%	0.0%	2.3%	
Total	51.3%	6.4%	35.2%	6.2%	1.0%	100.0%	

The relative number of corruption risks in the case of different types of payments for treatment is provided in Table 30. For each payment method, the number of cases involving corruption risks equals the sum of the numbers in the yellow boxes in the given row.

- In 2022, corruption risks were observed in 23.8% of paid hospital treatment cases, 12.2% of co-payments, and 3.2% of full BBP cases.

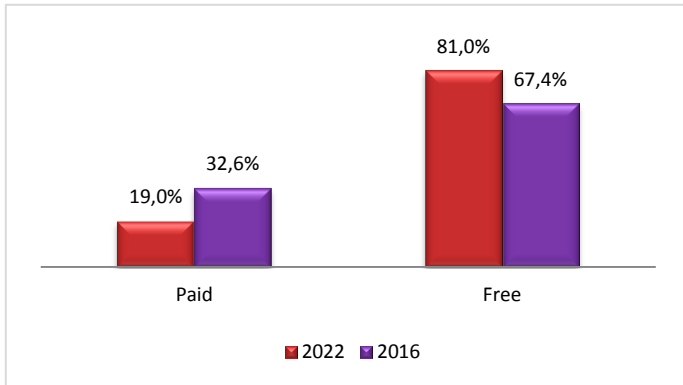
**Table 30. Various types of corruption risks by payment types in the field of hospital care**

Was your treatment done fully by BBP or co-payments?	Did you make all the payments for the treatment of the disease to the hospital's cash register?					
	We haven't made cash payments	We made partial cash payment	Yes, all of the payments	NA	RA	Total
Neither by BBP nor by co-payments	6.3%	17.5%	74.7%	1.4%	0.0%	100.0%
By co-payments	5.8%	6.4%	76.4%	9.0%	2.5%	100.0%
Fully by BBP	80.3%	3.2%	9.1%	6.5%	0.8%	100.0%
NA	46.4%	0.0%	42.0%	11.6%	0.0%	100.0%
Total	51.3%	6.4%	35.2%	6.2%	1.0%	100.0%

There are no direct corruption risks in cases where the patient is treated in a paid room in the hospital, where there are more favorable living conditions. However, there are cases when the patient would prefer to be treated in a free room but is forced to be treated in a paid room because he/she is informed that there are no places in the free rooms.

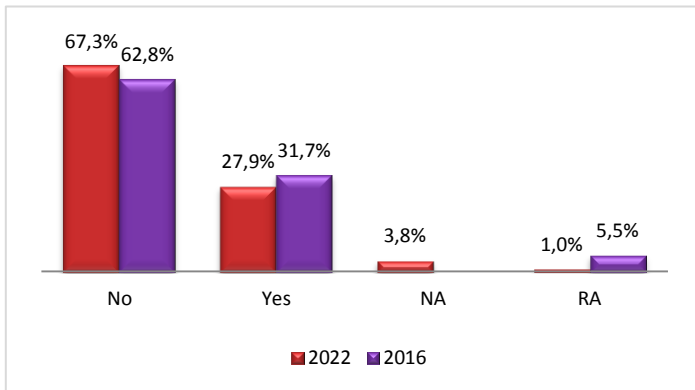
- In 2022, in 19.0% of hospitalization cases, patients were treated in paid rooms; This indicator has significantly decreased compared to 2016 (32.6%) (Figure 178).

**Figure 178. “Did you hospitalize in a paid or free room?”**



- In 2022, the incidence of payments for diagnoses during hospital treatment was 27.3%. This indicator has decreased compared to 2016 (31.7%) (Figure 179).

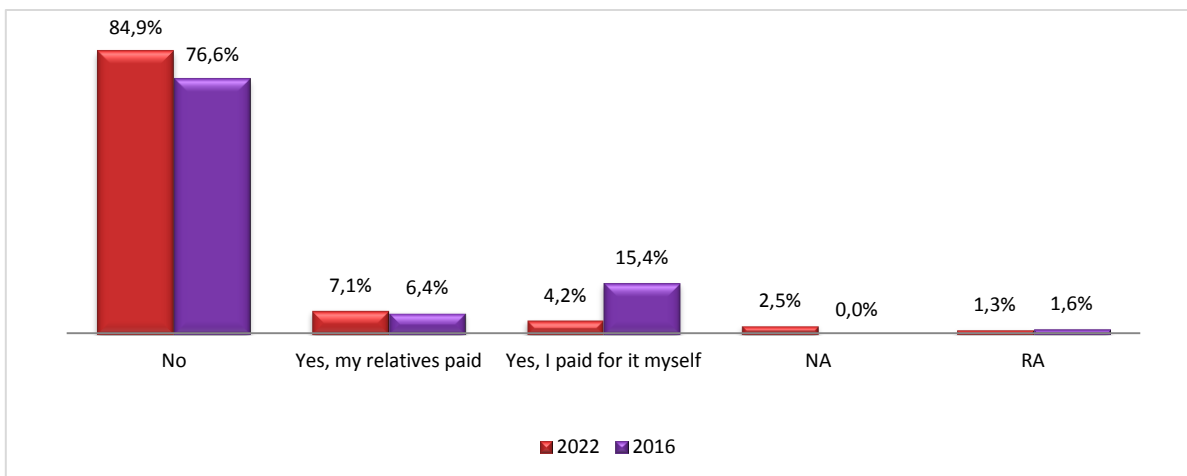
**Figure 179. “Did you pay for diagnoses?” hospital care**





- In 2022, in 11.3% of cases, payments have been made to the treating doctor in the hospital. This indicator has significantly decreased compared to 2016 (21.8%) (Figure 180).

**Figure 180. “Have you paid the treating doctor extra for the treatment?” hospital care**

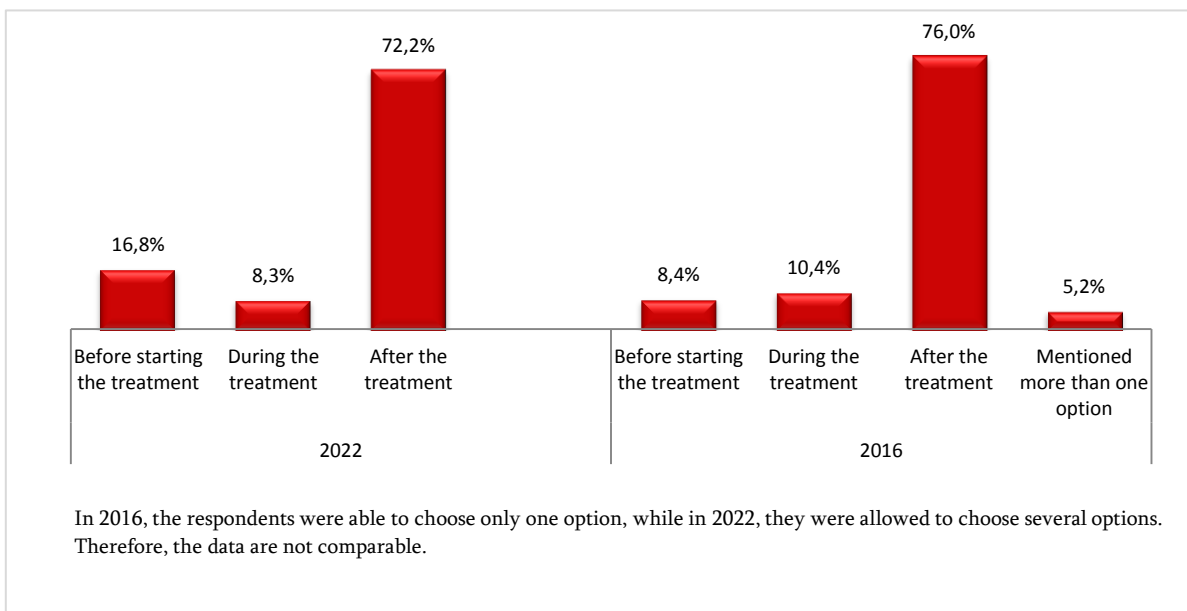


As a rule, payments to the treating doctor are made after the treatment is completed. Those cases are not simply cases of corruption. Perhaps a significant part of them is a form of expressing gratitude for the treatment accepted in society.

The risk of corruption is higher when the doctor is paid for the treatment before and during the treatment.

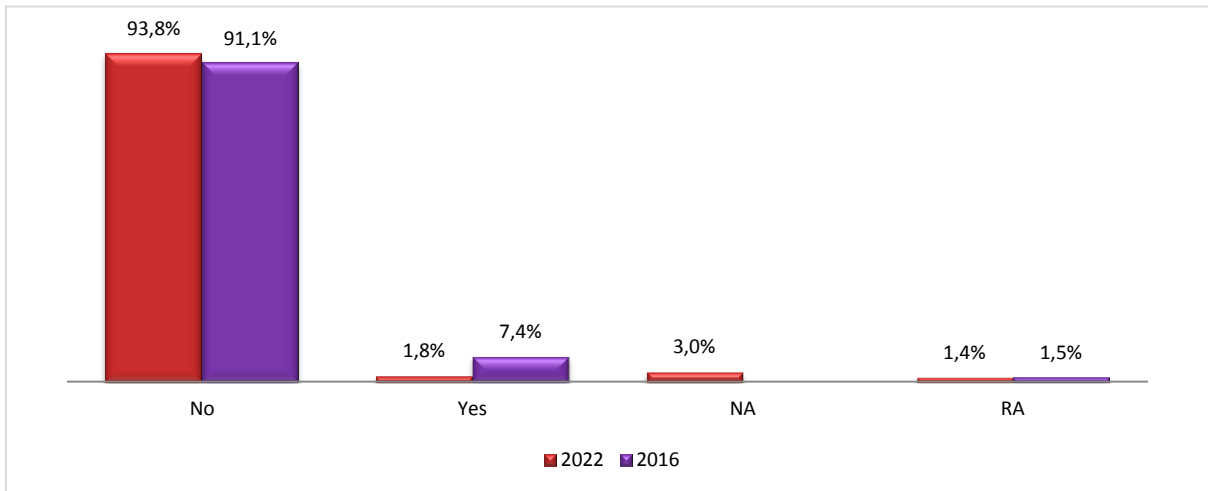
- In 2022, payments to the attending physician before starting treatment accounted for 16.8% of payments to the attending physician and 8.3% during treatment (Figure 181).

**Figure 181. “Did you pay the treating doctor before starting the treatment, during the treatment, or after completing the treatment?”**



- In 2022, additional payments were made to other doctors in the hospital or to other doctors in case of a referral to another hospital in 1.8% of cases, which has significantly decreased compared to the indicator of 2016 (7.4%) (Figure 182).

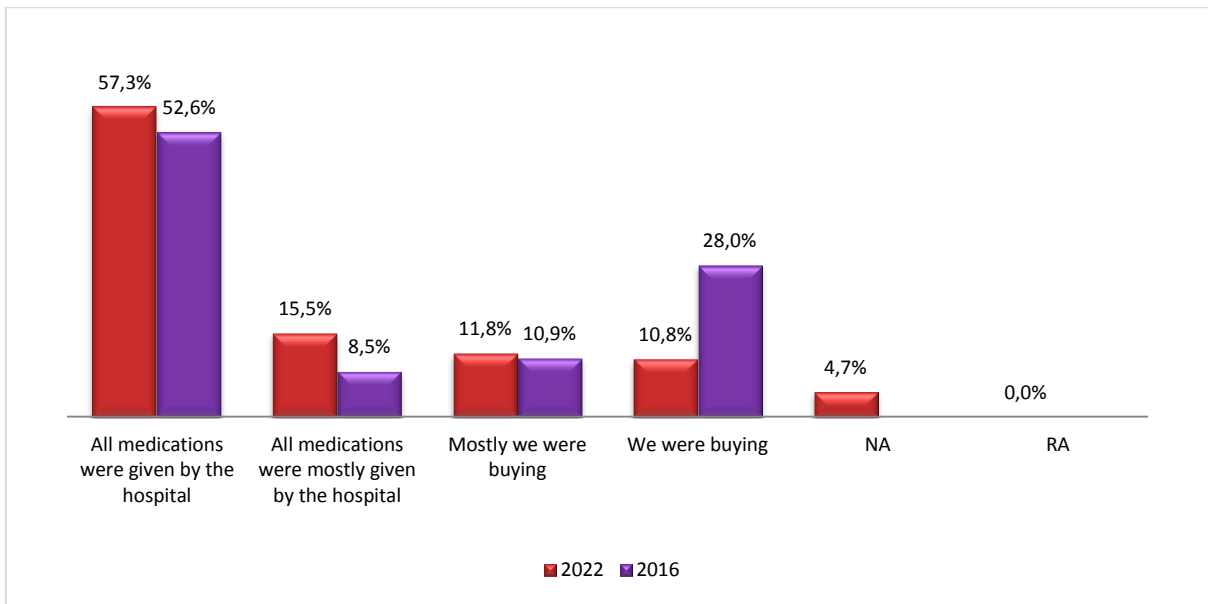
**Figure 182. “Did you pay extra for a doctor or doctors other than your treating doctor in the hospital (including also in case of referral to another hospital for related treatment)?”**



Purchase of drugs by patient’s funds during hospital treatment remains high.

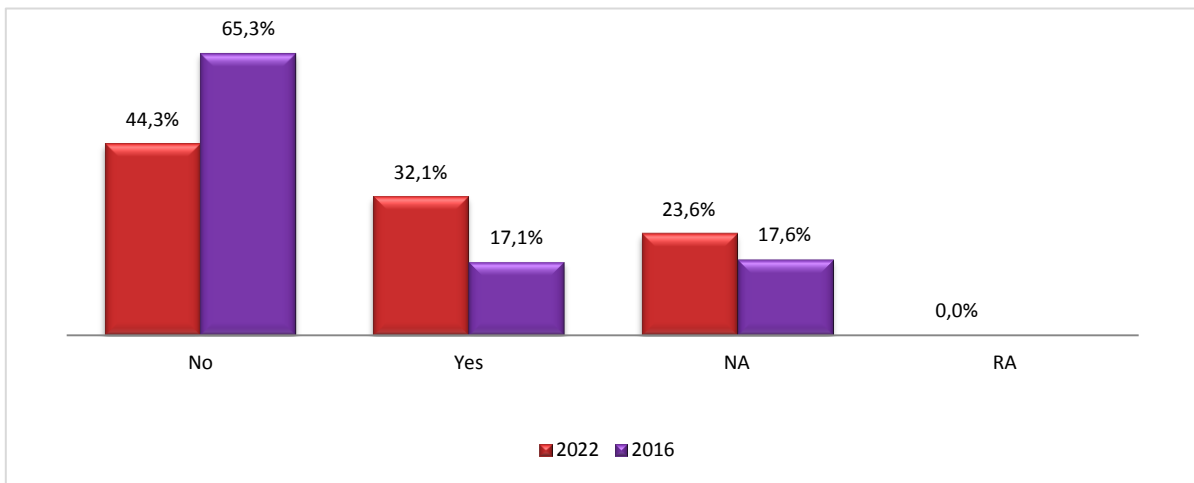
- In 2022, in 57.3% of hospital treatments, the hospital provided all necessary drugs. This indicator has improved compared to 2016 (52.6%) (Figure 183).
- In 2022 (compared to 2016), there was a significant decrease in the number of cases in which patients purchased all drugs for hospital treatment from 28.0% to 10.8%. On the other hand, the number of cases when the hospital “mostly gave the medications” increased significantly, from 8.5% to 15.5%.

**Figure 183. “Did the hospital provide the medications for treatment, or did you buy them?”**



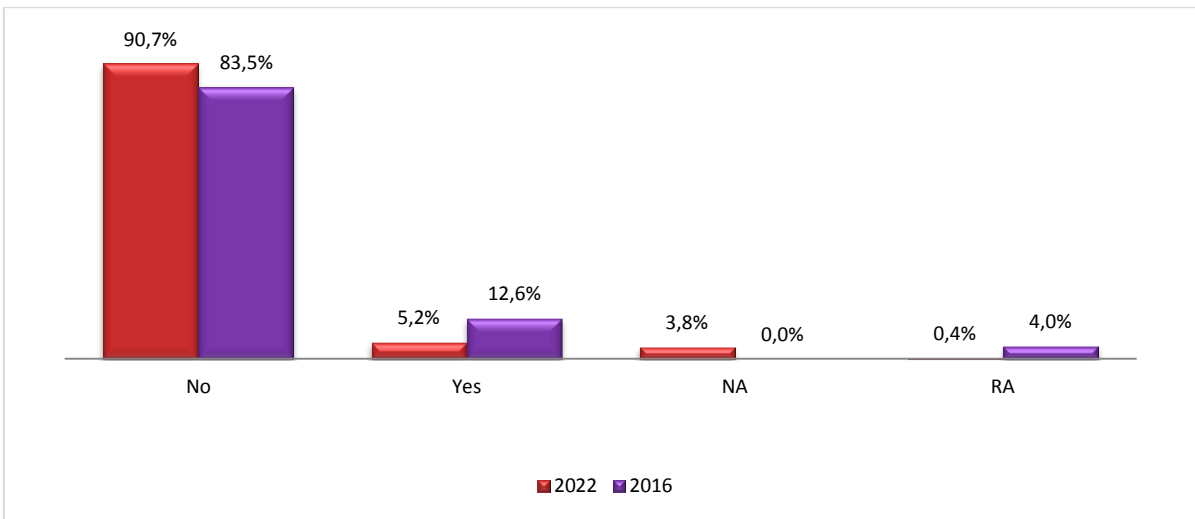
- In 2022 (compared to 2016), there was a significant increase in the number of hospital treatments where patients signed somewhere for the medications they received, from 17.1% to 32.1% (Figure 184).

**Figure 184. “Did you sign anywhere for the medications received from the hospital?” (The question was asked in cases where the hospital has provided medications)**



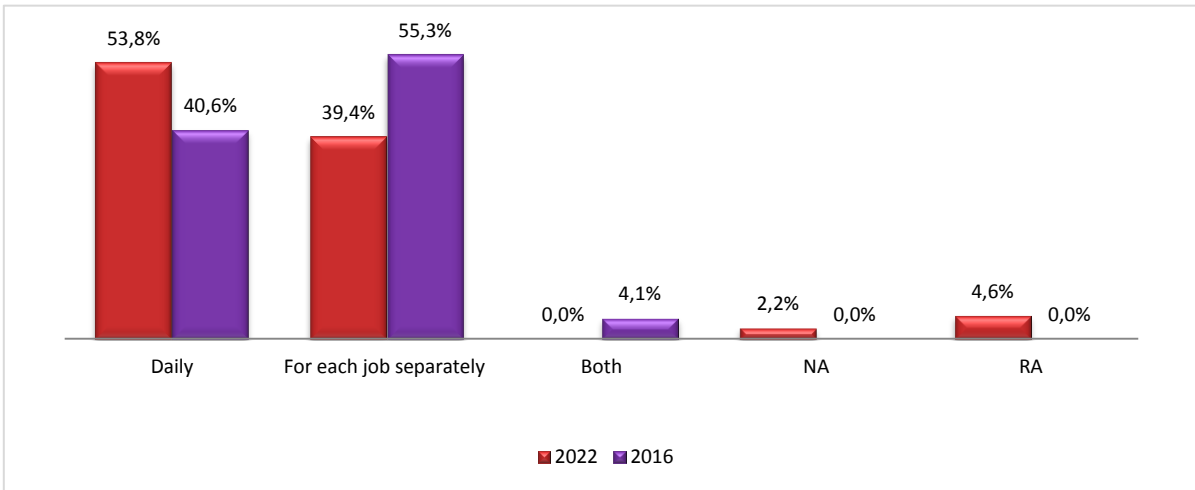
- In 2022 (compared to 2016), there was a significant decrease in the number of hospital treatment cases where patients paid nurses, from 12.6% to 5.2% (Figure 185).

**Figure 185. “Did you pay nurses for injections, system connection, wears, blood tests, or other works?”**



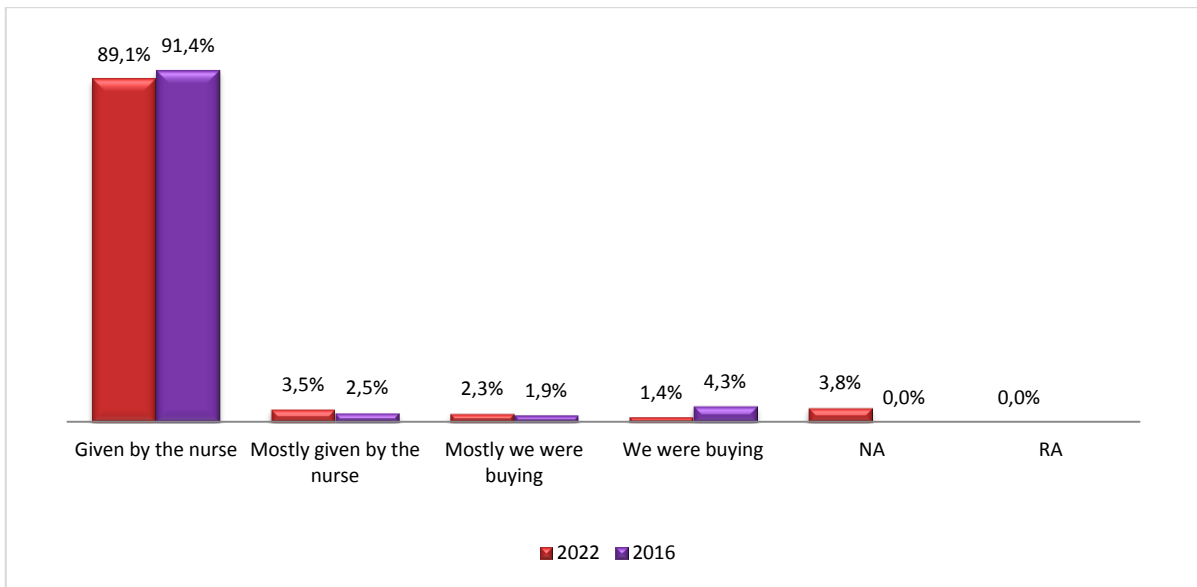
In 2022, if payments were made to nurses, they were typically made on a daily basis (53.8%), whereas in 2016, most payments to nurses were made separately for each job (55.3%) (Figure 186).

**Figure 186. “Did you pay [nurses] on a daily basis or for each job separately?”**



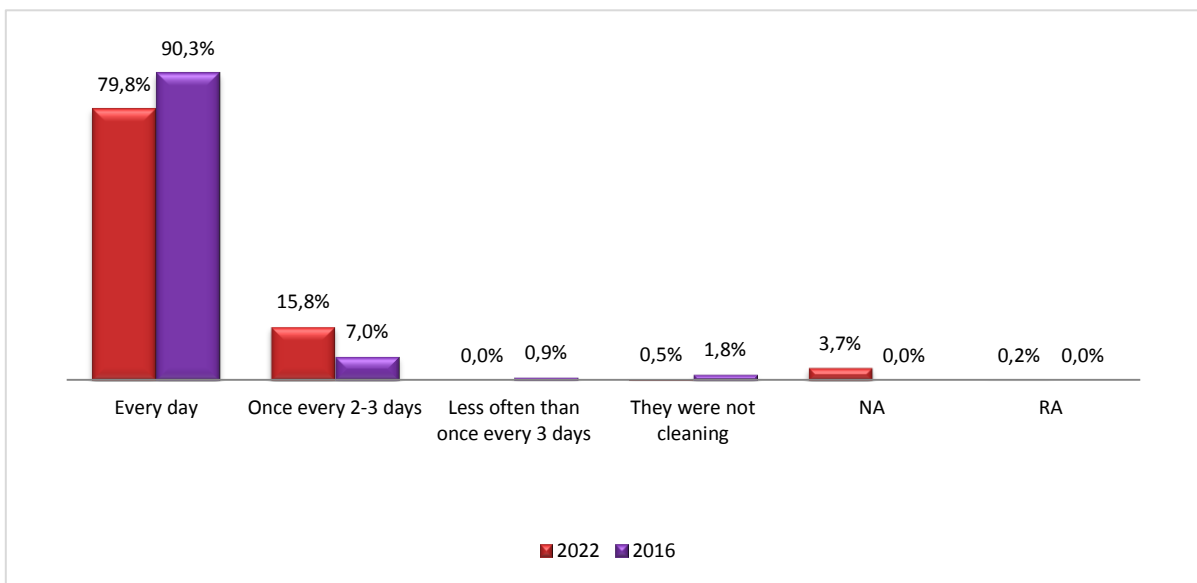
- In 2022, the number of cases when patients acquired needles, cotton, iodine, and alcohol for injections was 5.8%, while in 2016, the indicator was 4.4% (Figure 187).

**Figure 187. “Was the nurse bringing the needles, cotton, iodine, and alcohol needed for the injections, or were you getting them on your own?”**

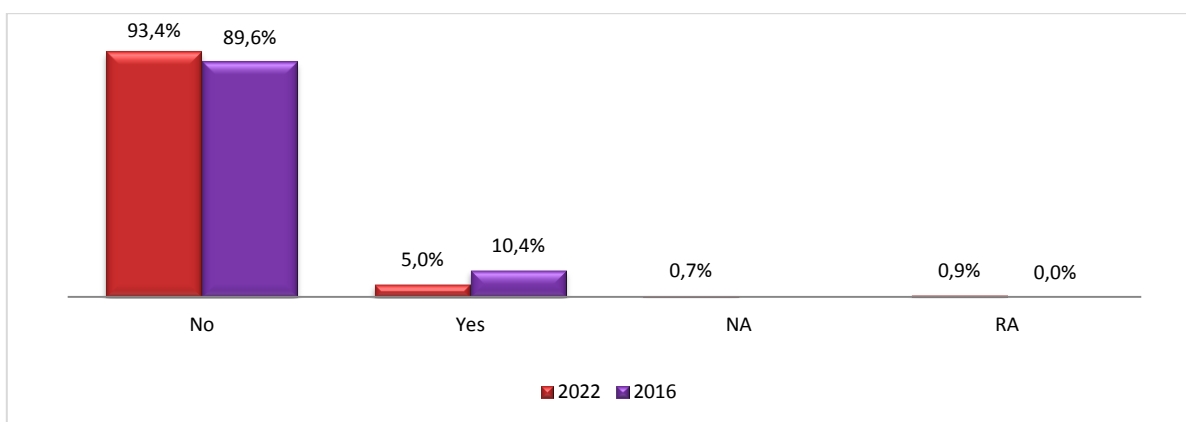


- In 2022, in 79.8% of cases, the sanitarians cleaned the ward every day. In 2016, the indicator was higher (90.3%) (Figure 188).
- In 2022, sanitary workers were paid for cleaning the hospital room, taking out the garbage, and installing a nightstand in 5.0% of cases; In 2016, this indicator was higher (10.4%) (Figure 189).

**Figure 188. “How often were the sanitarians cleaning the wards?”**



**Figure 189. “Did you pay the sanitarian for cleaning the hospital room, taking out the garbage, or installing a nightstand?”**



### ***Amounts of out-of-pocket payments during hospital care***

Table 31 shows the statistical indicators of the observed hospital fees. Since these indicators are not normally distributed, not only their average values but also their medians are provided.

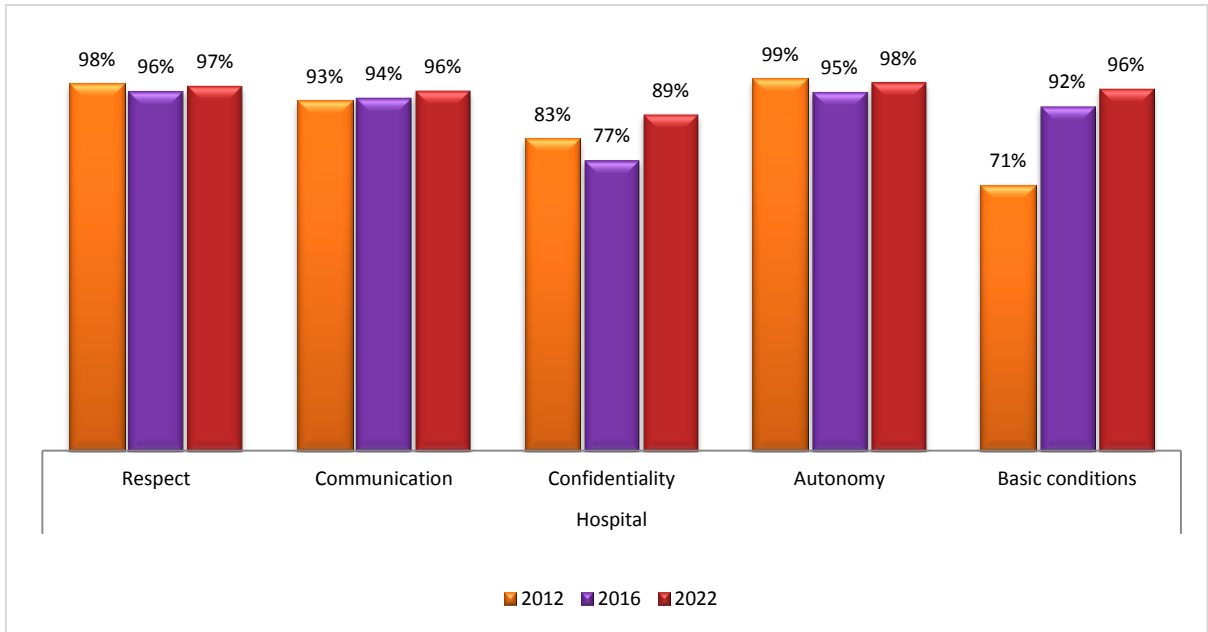
**Table 31. Statistical description of hospital payments**

Payment	5% average	25% percentile	Median	75% percentile	Minimum	Maximum
How much did you pay to the hospital cash register, AMD?	278,450	90,620	202,600	425,968	500	2,000,000
If you have paid manually (fully or partialy), how much did you pay in AMD?	100,132	30,000	39,650	196,100	10,000	310,000
What was the charge for 1 day of the ward? AMD	14,051	10,000	15,000	15,332	2,000	42,500
How much did you pay for all the diagnoses, AMD?	35,062	12,000	29,460	50,000	25	250,000
How much did you pay your treating doctor, AMD?	78,595	20,000	30,000	90,000	10,000	450,000
How much have you paid to other doctors in AMD?	13,581	3,900	10,375	25,000	2,000	25,000
How much did you pay for buying medications, AMD?	34,583	10,049	24,200	50,000	2,000	300,000
How much did you pay the sanitarian per day, AMD?	937	1,000	1,000	1,000	100	2,000

### ***Hospital responsiveness***

The same domains of hospital response as in primary care were assessed in the HSPA study. The estimates of those domains for Armenia in 2012, 2016, and 2022 are provided in Figure 190.

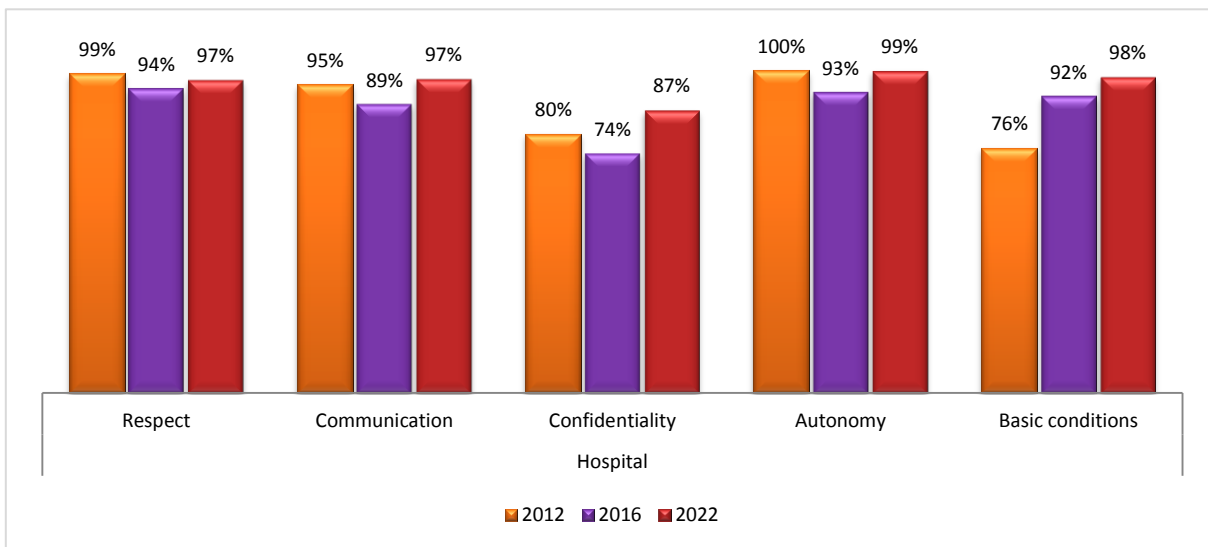
**Figure 190. Domains of health system responsiveness in hospital, RA, 2012, 2016, 2022**



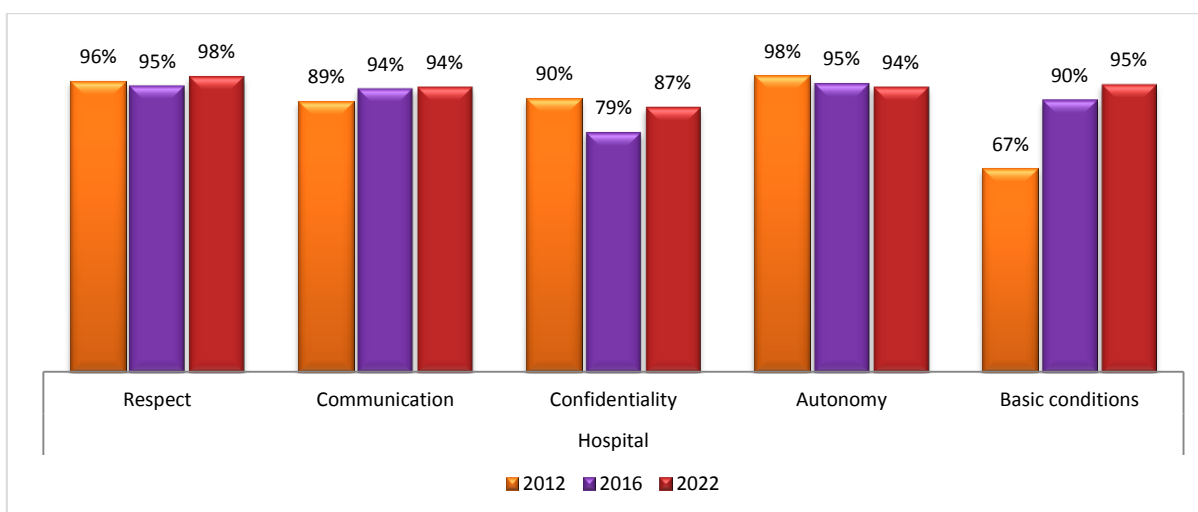
- In 2022, scores for all domains of hospital response were in the very high range.
- Compared to 2016, the domains of confidentiality and basic conditions have increased.

The domains of hospital response in Yerevan, urban and rural areas are provided in Figures 191, 192, and 193, respectively. According to the data, the general picture of the scores of the domains of hospitals by different types of settlements is similar to the picture of the response domains of hospitals in the whole Armenia.

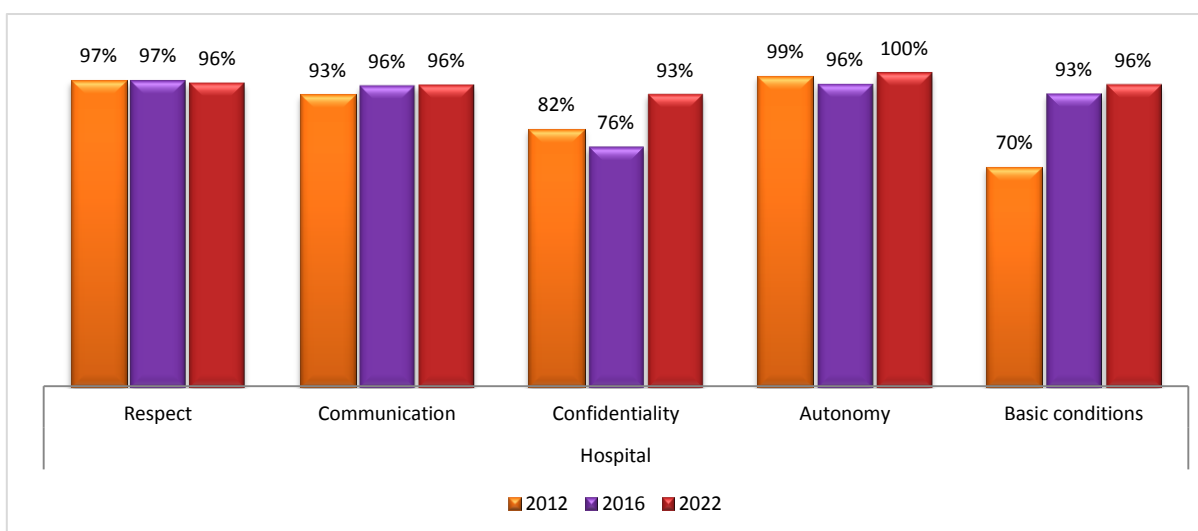
**Figure 191. Domains of the healthcare system responsiveness in hospital, Yerevan, 2012, 2016, 2022**



**Figure 192. Domains of the healthcare system responsiveness in hospital, urban areas, 2012, 2016, 2022**



**Figure 193. Domains of the healthcare system responsiveness in hospital, rural areas, 2012, 2016, 2022**



### Physical accessibility of healthcare facilities

Physical accessibility is an important characteristic of the accessibility of healthcare facilities (HCFs). Medical facility’s physical accessibility is assessed by looking at how (by what kind of transport) people reach different types of medical institutions, health centers, ambulatory, and hospitals and how much time they spend to reach these centers.

#### ***How people get to different HCFs, according to residence***

Table 32 shows by what type of transportation people reach different HCFs in Armenia.

- The physical accessibility of pharmacies is higher from the point of view of vehicles. In 2022, 65.4% of the population reached the pharmacy on foot.
- The physical accessibility of polyclinics/ambulatories is in second place. In 2022, 43.8% of the population reached the polyclinic or ambulatory on foot.



- The third is hospitals. In 2022, 18.3% of the population reached the hospital on foot.
- From the point of view of transportation, maternity hospitals are the last ones. In 2022, 13.9% of the population reached the maternity hospital on foot.
- In 2022 (compared to 2016), the number of people reaching HCFs on foot remained approximately at the same level.
- In 2022 (compared to 2016), the number of people arriving at HCFs by car or taxi has increased, which is probably due to the increase in the number of families with cars in Armenia, and the characteristics of the types of settlements.

How people reached different types of HCFs according to the residence in 2016 and 2022 is provided in tables 32, 33, and 34. The general picture of the ways of reaching different HCFs in different types of residence is similar to the data of Armenia.

**Table 32. How people reach different HCFs (physical accessibility of healthcare facilities), RA, 2016, 2022**

Residence	HCF	Year	Walking	Car/taxi	Public taxi	Bus	NA	Total
RA	Polyclinic/ambulatory	2016	45.6%	37.5%	9.9%	3.6%	3.5%	100.0%
RA	Polyclinic/ambulatory	2022	43.8%	44.9%	4.3%	4.0%	3.0%	100.0%
RA	Hospital	2016	16.8%	59.9%	13.4%	5.1%	4.8%	100.0%
RA	Hospital	2022	18.3%	66.7%	7.2%	4.7%	3.1%	100.0%
RA	Maternity hospital	2016	12.6%	64.3%	9.1%	3.2%	10.8%	100.0%
RA	Maternity hospital	2022	13.9%	65.2%	4.2%	2.4%	14.4%	100.0%
RA	Pharmacy	2016	65.0%	28.0%	2.7%	2.2%	2.1%	100.0%
RA	Pharmacy	2022	65.4%	31.5%	0.7%	0.6%	1.8%	100.0%

**Table 33. How people reach different HCFs (physical accessibility of healthcare facilities), Yerevan, 2016, 2022**

Residence	HCF	Year	Walking	Car/taxi	Public taxi	Bus	NA	Total
Yerevan	Polyclinic/ambulatory	2016	40.8%	31.2%	18.9%	4.9%	4.2%	100.0%
Yerevan	Polyclinic/ambulatory	2022	44.0%	33.8%	7.7%	9.2%	5.3%	100.0%
Yerevan	Hospital	2016	20.3%	46.2%	21.3%	5.3%	7.0%	100.0%
Yerevan	Hospital	2022	20.8%	49.3%	13.2%	11.0%	5.7%	100.0%
Yerevan	Maternity hospital	2016	15.2%	56.2%	12.4%	2.3%	13.9%	100.0%
Yerevan	Maternity hospital	2022	14.3%	43.1%	5.3%	5.1%	32.2%	100.0%
Yerevan	Pharmacy	2016	90.7%	6.1%	1.1%	0.6%	1.6%	100.0%
Yerevan	Pharmacy	2022	89.2%	6.8%	0.3%	0.9%	2.9%	100.0%

**Table 34. How people reach different HCFs (physical accessibility of healthcare facilities), urban areas, 2016, 2022**

Residence	HCF	Year	Walking	Car/taxi	Public taxi	Bus	NA	Total
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Urban	Polyclinic/ambulatory	2016	53.8%	36.6%	5.3%	2.0%	2.3%	100.0%
Urban	Polyclinic/ambulatory	2022	46.6%	44.6%	4.3%	2.3%	2.1%	100.0%
Urban	Hospital	2016	32.8%	52.1%	8.5%	3.1%	3.6%	100.0%
Urban	Hospital	2022	34.5%	56.4%	5.4%	1.3%	2.4%	100.0%
Urban	Maternity hospital	2016	26.3%	55.2%	7.2%	2.6%	8.7%	100.0%
Urban	Maternity hospital	2022	28.3%	59.7%	3.9%	0.9%	7.1%	100.0%
Urban	Pharmacy	2016	79.1%	17.3%	1.7%	0.5%	1.4%	100.0%
Urban	Pharmacy	2022	78.9%	19.0%	0.6%	0.3%	1.1%	100.0%

**Table 35. How people reach different HCFs (physical accessibility of healthcare facilities), rural areas, 2016, 2022**

Residence	HCF	Year	Walking	Car/taxi	Public taxi	Bus	NA	Total
Rural	Polyclinic/ambulatory	2016	44.9%	43.8%	4.4%	3.3%	3.6%	100.0%
Rural	Polyclinic/ambulatory	2022	41.3%	55.2%	1.3%	0.8%	1.5%	100.0%
Rural	Hospital	2016	3.9%	77.2%	9.2%	6.1%	3.6%	100.0%
Rural	Hospital	2022	2.9%	90.9%	3.2%	1.7%	1.3%	100.0%
Rural	Maternity hospital	2016	1.9%	77.2%	7.2%	4.4%	9.3%	100.0%
Rural	Maternity hospital	2022	1.6%	89.6%	3.4%	1.2%	4.3%	100.0%
Rural	Pharmacy	2016	32.8%	54.7%	4.8%	4.7%	2.9%	100.0%
Rural	Pharmacy	2022	32.9%	64.1%	1.0%	0.6%	1.4%	100.0%

The physical accessibility of a given healthcare facility in different types of residence is more meaningful and feasible when it's given in by the physical accessibility of one type of HCF in different types of residence.

### ***How people get to different HCFs, according to residence***

Tables 36 to 39 provide a comparison of the physical accessibility of each type of HCF according to the residence.

- The number of people walking to the polyclinic/ambulatory is higher in urban areas and Yerevan than in rural areas.
- The number of people who reach the polyclinic or ambulatory by car is highest in rural areas, then in urban areas, and finally in Yerevan.
- The number of people arriving at the polyclinic by public taxis is the highest in Yerevan.

**Table 36. Ways of reaching polyclinics/ambulatory clinics according to residence, RA, 2016, 2022**

HCF	Year	Residence	Walking	Car/taxi	Public taxi	Bus	NA	Total
Polyclinic/ambulatory	2016	RA	45.6%	37.5%	9.9%	3.6%	3.5%	100.0%
Polyclinic/ambulatory	2016	Yerevan	40.8%	31.2%	18.9%	4.9%	4.2%	100.0%
Polyclinic/ambulatory	2016	Urban	53.8%	36.6%	5.3%	2.0%	2.3%	100.0%
Polyclinic/ambulatory	2016	Rural	44.9%	43.8%	4.4%	3.3%	3.6%	100.0%
Polyclinic/ambulatory	2022	RA	43.8%	44.9%	4.3%	4.0%	3.0%	100.0%

Polyclinic/ambulatory	2022	Yerevan	44.0%	33.8%	7.7%	9.2%	5.3%	100.0%
Polyclinic/ambulatory	2022	Urban	46.6%	44.6%	4.3%	2.3%	2.1%	100.0%
Polyclinic/ambulatory	2022	Rural	41.3%	55.2%	1.3%	0.8%	1.5%	100.0%

- The number of people walking to the hospital is the highest in urban areas (34.5%). In Yerevan, this indicator is 20.8%, and in rural areas 2.9%.
- 90.9% of the population in rural areas reach the hospital by car or taxi, while in Yerevan, this indicator is 49.3%.
- In Yerevan, 11.0% of the population reaches the hospital by bus.

**Table 37. Ways of reaching hospital according to residence, RA, 2016, 2022**

HCF	Year	Residence	Walking	Car/taxi	Public taxi	Bus	NA	Total
Hospital	2016	RA	16.8%	59.9%	13.4%	5.1%	4.8%	100.0%
Hospital	2016	Yerevan	20.3%	46.2%	21.3%	5.3%	7.0%	100.0%
Hospital	2016	Urban	32.8%	52.1%	8.5%	3.1%	3.6%	100.0%
Hospital	2016	Rural	3.9%	77.2%	9.2%	6.1%	3.6%	100.0%
Hospital	2022	RA	18.3%	66.7%	7.2%	4.7%	3.1%	100.0%
Hospital	2022	Yerevan	20.8%	49.3%	13.2%	11.0%	5.7%	100.0%
Hospital	2022	Urban	34.5%	56.4%	5.4%	1.3%	2.4%	100.0%
Hospital	2022	Rural	2.9%	90.9%	3.2%	1.7%	1.3%	100.0%

- Walking to maternity hospitals is more common in urban areas (28.3%) and less common in rural areas (1.6%).
- 89.6% of rural residents and 43.1% of Yerevan residents reach maternity hospitals by car or taxi.

**Table 38. Ways of reaching maternity hospital according to residence, RA, 2016, 2022**

HCF	Year	Residence	Walking	Car/taxi	Public taxi	Bus	NA	Total
Maternity hospital	2016	RA	12.6%	64.3%	9.1%	3.2%	10.8%	100.0%
Maternity hospital	2016	Yerevan	15.2%	56.2%	12.4%	2.3%	13.9%	100.0%
Maternity hospital	2016	Urban	26.3%	55.2%	7.2%	2.6%	8.7%	100.0%
Maternity hospital	2016	Rural	1.9%	77.2%	7.2%	4.4%	9.3%	100.0%
Maternity hospital	2022	RA	13.9%	65.2%	4.2%	2.4%	14.4%	100.0%
Maternity hospital	2022	Yerevan	14.3%	43.1%	5.3%	5.1%	32.2%	100.0%
Maternity hospital	2022	Urban	28.3%	59.7%	3.9%	0.9%	7.1%	100.0%

Maternity hospital	2022	Rural	1.6%	89.6%	3.4%	1.2%	4.3%	100.0%
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- 89.2% of Yerevan residents and 32.9% of rural residents reach the pharmacy by walking.
- 64.1% of rural residents and 19.0% of urban residents reach the pharmacy by car or taxi.

**Table 39. Ways to reaching pharmacy according to residence, RA, 2016, 2022**

HCF	Year	Residence	Walking	Car/taxi	Public taxi	Bus	NA	Total
Pharmacy	2016	RA	65.0%	28.0%	2.7%	2.2%	2.1%	100.0%
Pharmacy	2016	Yerevan	90.7%	6.1%	1.1%	0.6%	1.6%	100.0%
Pharmacy	2016	Urban	79.1%	17.3%	1.7%	0.5%	1.4%	100.0%
Pharmacy	2016	Rural	32.8%	54.7%	4.8%	4.7%	2.9%	100.0%
Pharmacy	2022	RA	65.4%	31.5%	0.7%	0.6%	1.8%	100.0%
Pharmacy	2022	Yerevan	89.2%	6.8%	0.3%	0.9%	2.9%	100.0%
Pharmacy	2022	Urban	78.9%	19.0%	0.6%	0.3%	1.1%	100.0%
Pharmacy	2022	Rural	32.9%	64.1%	1.0%	0.6%	1.4%	100.0%

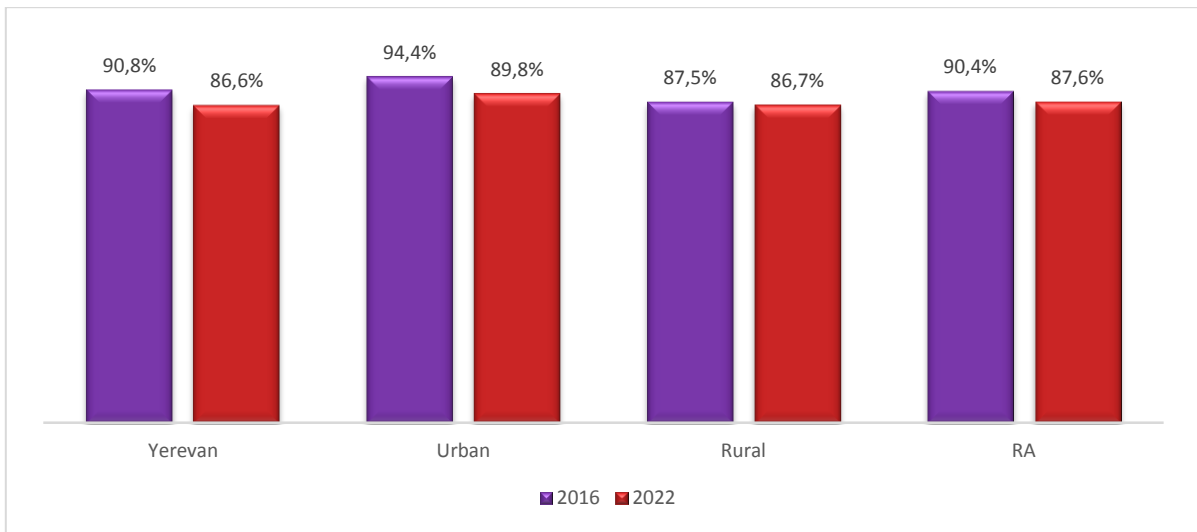
### ***Time to reach HCF***

It's considered that the access to the healthcare facility is proper in terms of timing if it's possible to reach the given HCF **in less than 20 minutes by the commonly used transportation.**

In the 2016 report, the calculations were made by using the "It's difficult to me to choose the options." In this report, "It's difficult to answer" options were counted so that in 2016 the data was recalculated.

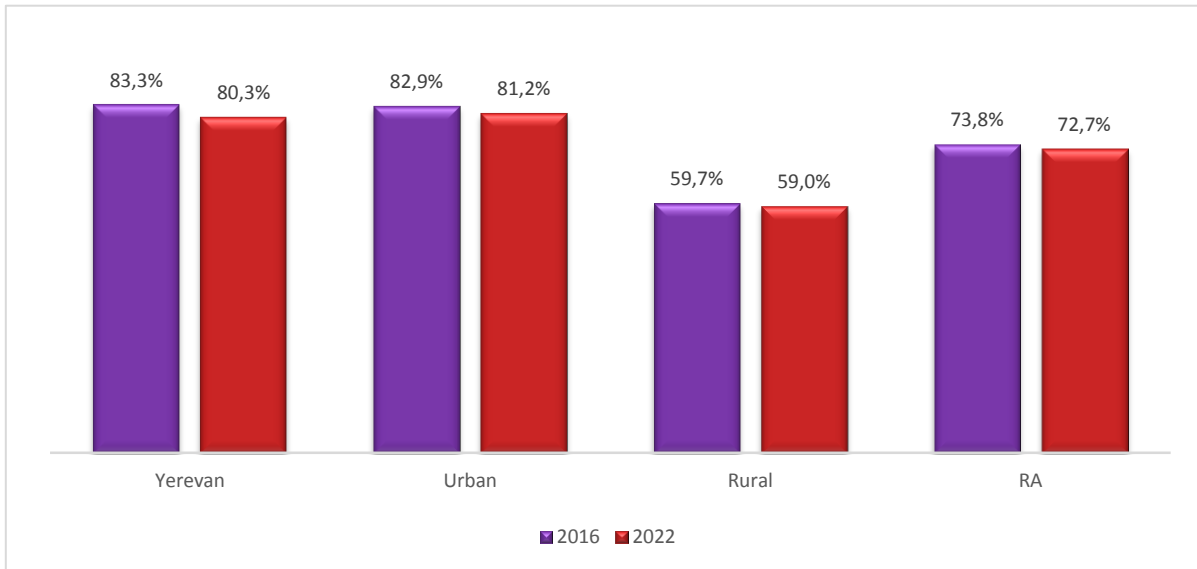
- **Accessing to a polyclinic or an ambulatory in less than 20 minutes is very high and is 86.6-89.0% in different types of settlements (Figure 194).**

**Figure 194. Population arriving at the ambulatory/polyclinic in less than 20 minutes by the transportation mentioned by themselves**



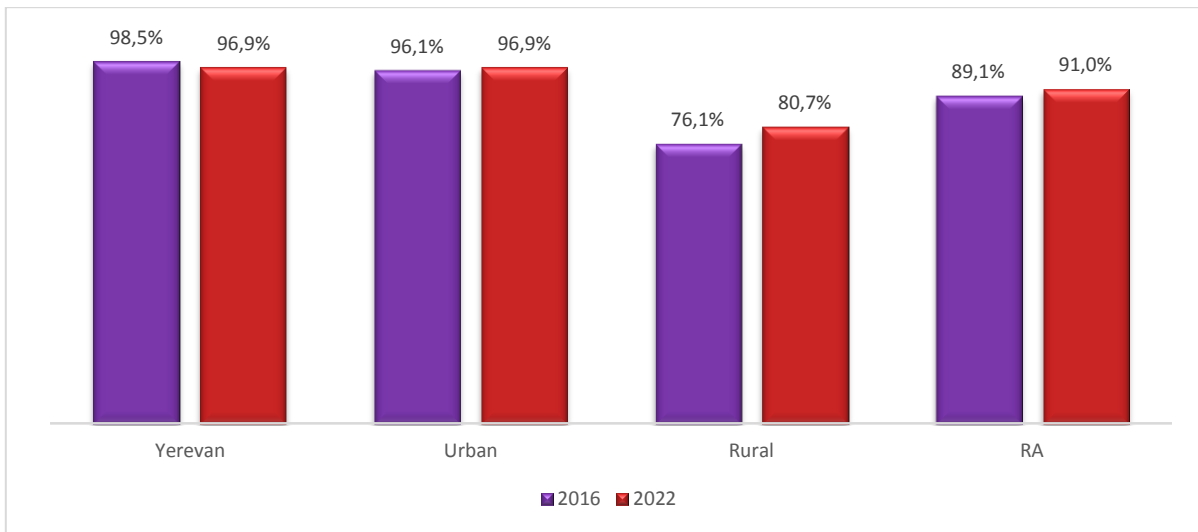
- The availability of hospitals is the highest in urban areas (81.2%) and Yerevan (80.3%). In rural areas this indicator is 59.0% (Figure 195).

Figure 195. Population arriving at the hospital in less than 20 minutes by the transportation mentioned by themselves



- The time availability of pharmacies is very high in Yerevan (96.9%) and in urban areas (96.9%). In rural areas, it's 80.7% (Figure 196).

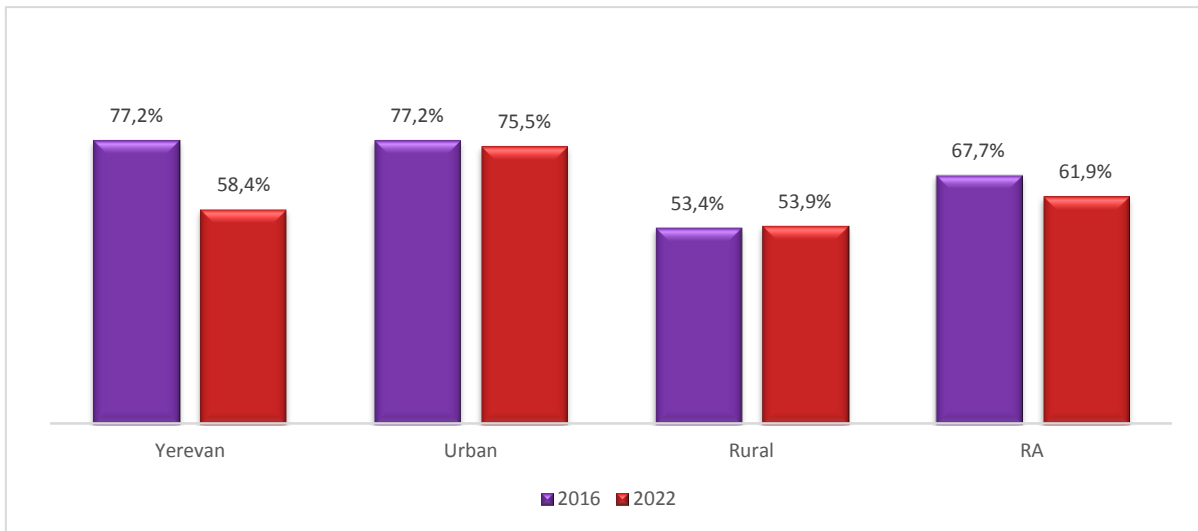
Figure 196. Population arriving at the pharmacy in less than 20 minutes by the transportation mentioned by themselves



The time availability of maternity hospitals is relatively lower in all types of HCFs.

- **58.4% of the population in Yerevan, 75.5% in urban areas, and 53.9% in rural areas reach maternity hospitals faster than 20 minutes using their commonly used transportation (Figure 197).**

**Figure 197. Population arriving at the maternity hospital in less than 20 minutes by the transportation mentioned by themselves**



### Special topics

The HSPA study of 2022 assessed two specific topics that emerged in 2020; The COVID-19 pandemic that began in Armenia in March 2020 and the 44-day war that took place from September 27 to December 9.

## The study of COVID-19

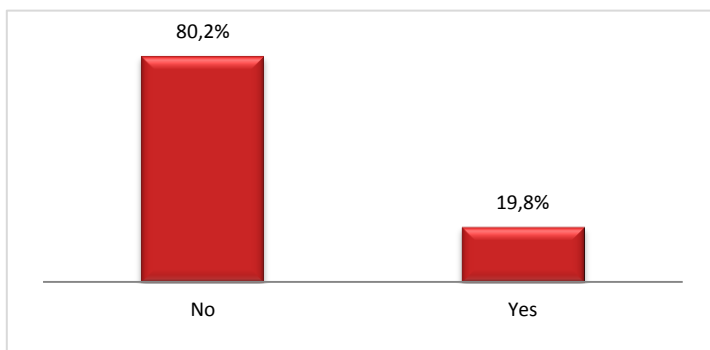
The study of COVID-19 included:

- Incidence
- The behavior of people infected with COVID-19
- Testing
- Treatment place (at home or in a hospital)
- Treatment conditions at home
- Assistance received in case of treatment at home
- Satisfaction with the assistance received from the polyclinic during treatment at home
- Payments made in hospitals
- Vaccinations against COVID-19
- The impact of COVID-19 on the mental state of people infected with COVID-19.

### **COVID-19 incidence**

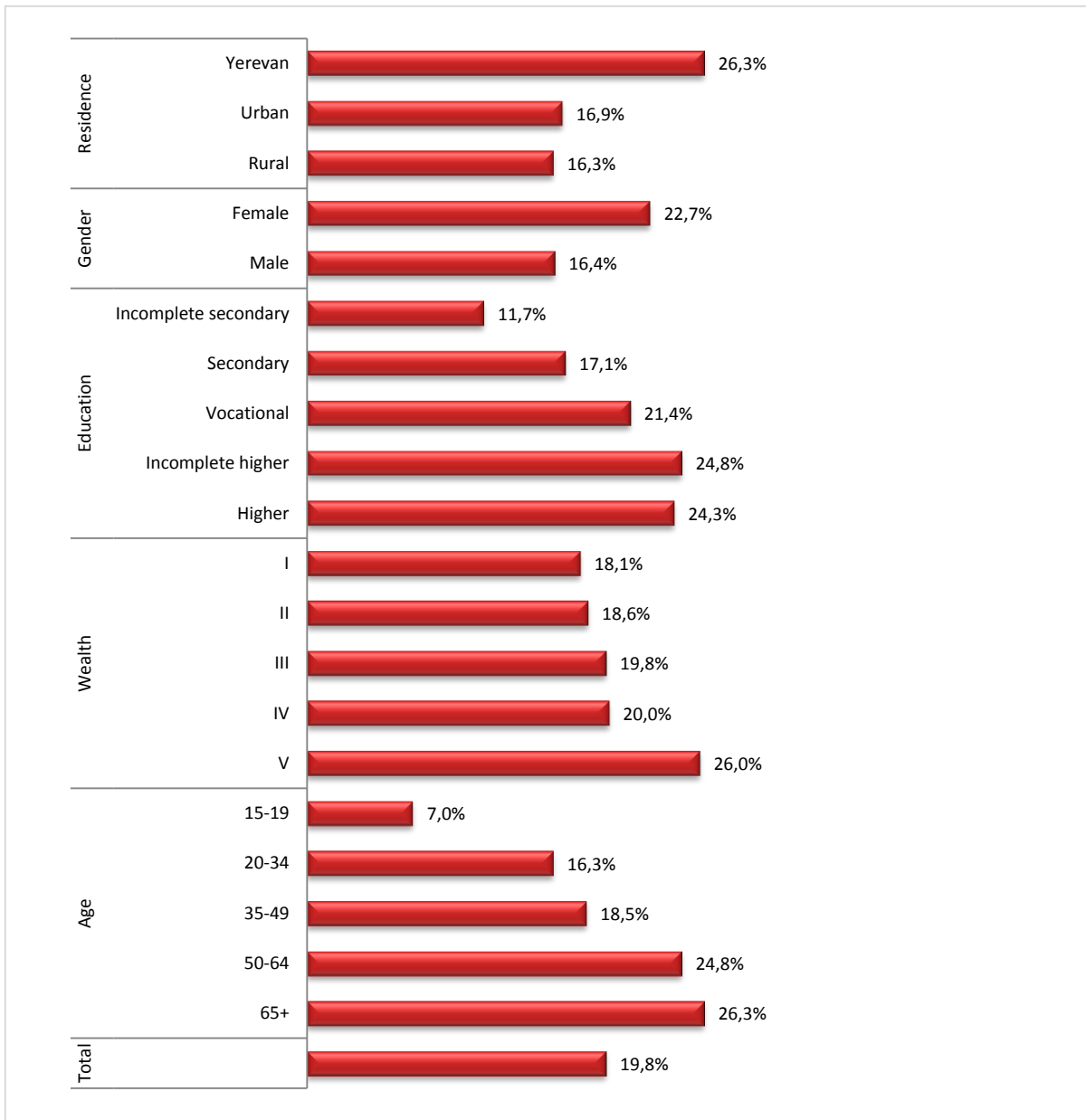
- From March 2020 to August 2022, 19.8% of respondents were infected with COVID-19 (Figure 198).

**Figure 198. “Since March 2020, when the COVID-19 pandemic began in Armenia, have you been infected with COVID-19?”**



The number of people infected with COVID-19 according to socio-demographic groups is provided in Figure 199.

**Figure 199. “Since March 2020, when the COVID-19 pandemic began in Armenia, have you infected with COVID-19?” according to socio-demographic groups**

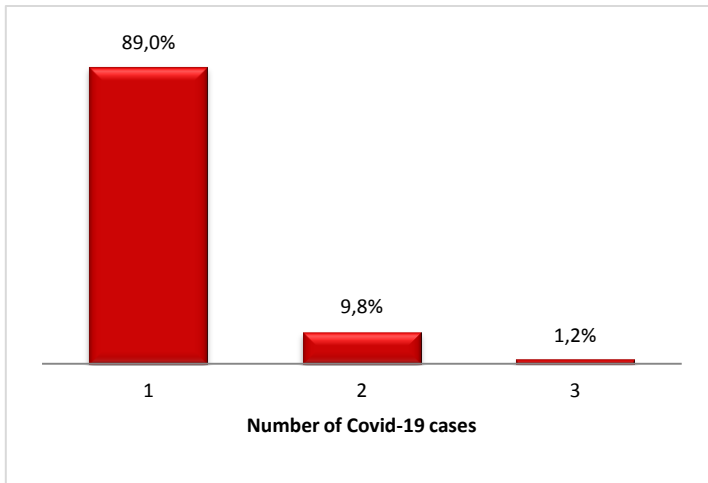


- The incidence of COVID-19 is relatively higher in Yerevan (26.3%), while it’s relatively lower in urban and rural areas (16.9% and 16.3%, respectively).
- Relatively more women are infected with COVID-19 (22.7%); the indicator among men was 16.4%.
- The incidence of COVID-19 increases along with an increase in education.
- Incidence was relatively the highest in the most prosperous quintile (26.0%). The incidence in the rest of the quintiles was 18-20%.
- The incidence of COVID-19 increases along with an increase in age. It was 7.0% among 15-19-year-olds, 24.8% among 50-64-year-olds, and 26.3% among people over 65 years old.



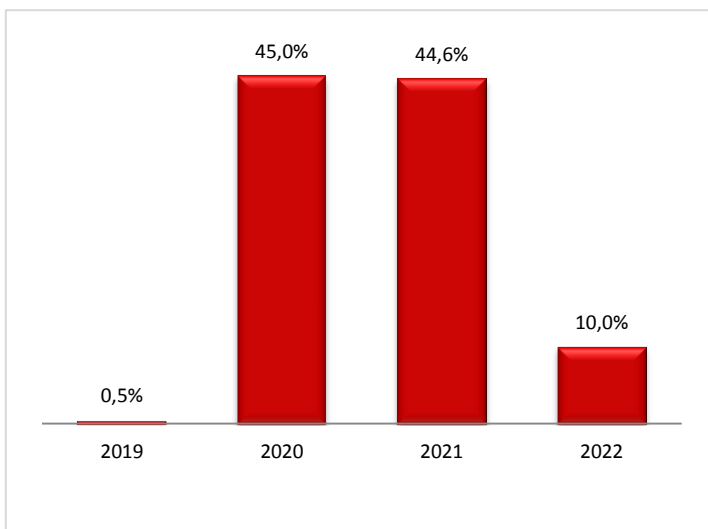
- 89.0% of those who have been infected with COVID-19 have been infected once, 9.8% twice, and 1.2% three or more times (Figure 200).

**Figure 200. “Since March 2020 till now, how many times have you been infected with Covid-19?”**



- 45.0% of infected people have infected with COVID-19 in 2020, while 44.5% in 2021. In 2022 (January - August), the number of infected people made up 10.0% of all those who have infected (Figure 201).

**Figure 201. “Let's talk about your latest illness with Covid-19. When was the last time you got sick with COVID-19?”**

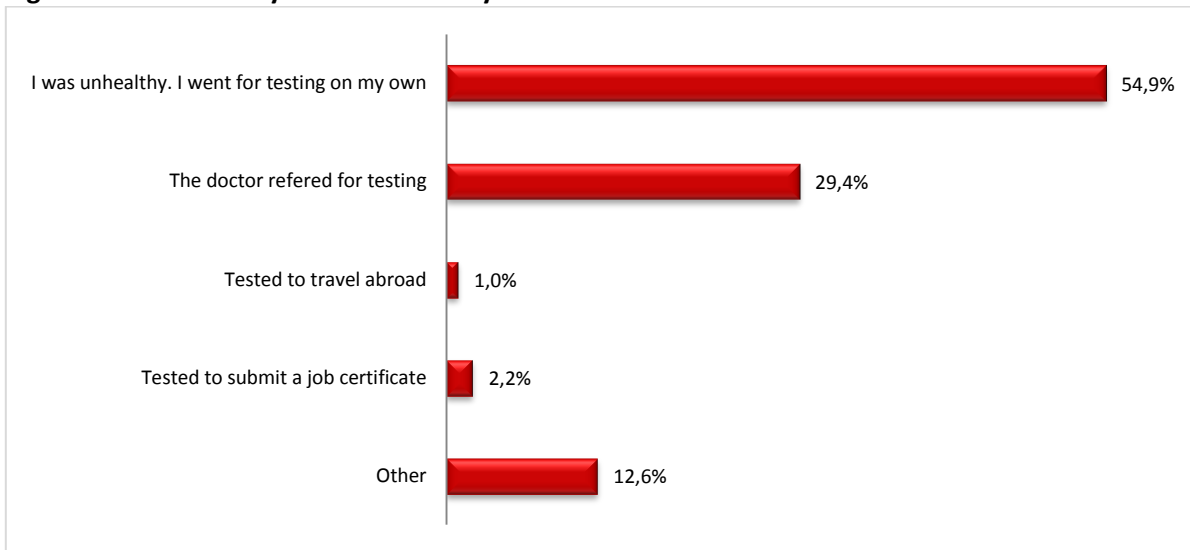


### **Testing**

- 54.9% of Covid-19 patients noticed that they were infected when they went for the Covid-19 test on their own when they felt bad (Figure 202).
- In 29.4%, the doctor required testing.

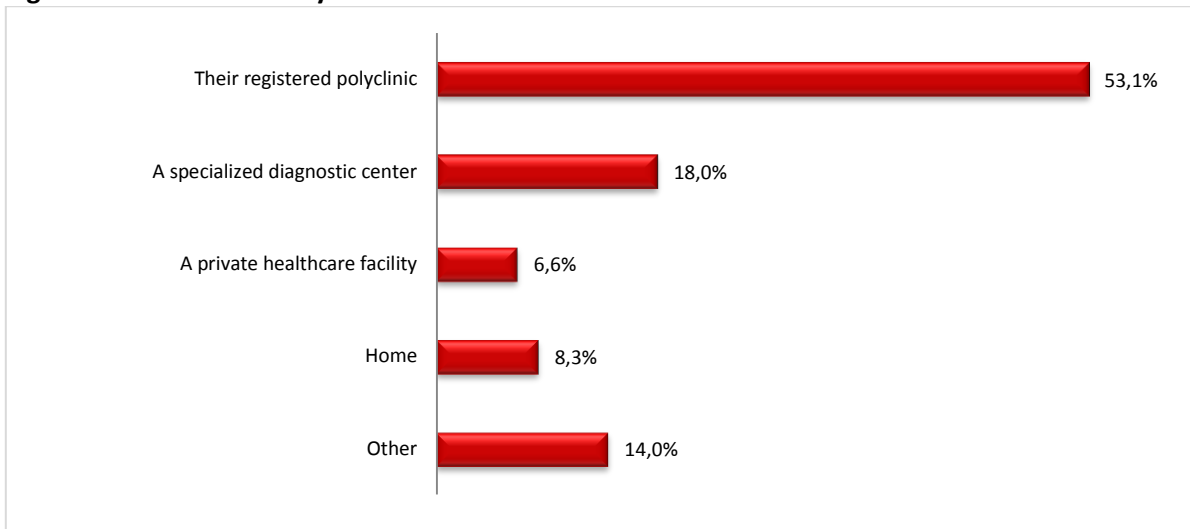
- 1.0% have been tested to travel abroad.
- 2.2% have been tested to submit a job certificate.

**Figure 202. “How did you find out that you were sick with Covid-19?”**



- 53.1% of tests people have undergone testing in their registered polyclinic, 18.0% in a specialized diagnostic center, 6.6% at a private healthcare facility, and 8.3% at home (Figure 203).

**Figure 203. “Where have you been tested?”**



- More people have been tested in their polyclinics in urban areas (65.9%) (Table 40).
- The number of people tested at a specialized diagnostic center was relatively higher in Yerevan (24.5%).
- The number of people tested in a private medical institution was relatively higher in Yerevan (9.6%).

**Table 40. “Where have you been tested?” according to residence**

Place of testing	Yerevan	Urban	Rural	RA
Their registered polyclinic	43.4%	65.9%	56.2%	53.1%
A specialized diagnostic center	24.5%	11.7%	14.0%	18.0%
A private healthcare facility	9.6%	0.8%	7.3%	6.6%
Home	9.5%	7.0%	7.6%	8.3%
Other	13.0%	14.6%	14.9%	14.0%
Total	100.0%	100.0%	100.0%	100.0%

The statistical description of the payments made for testing is provided in Table 41.

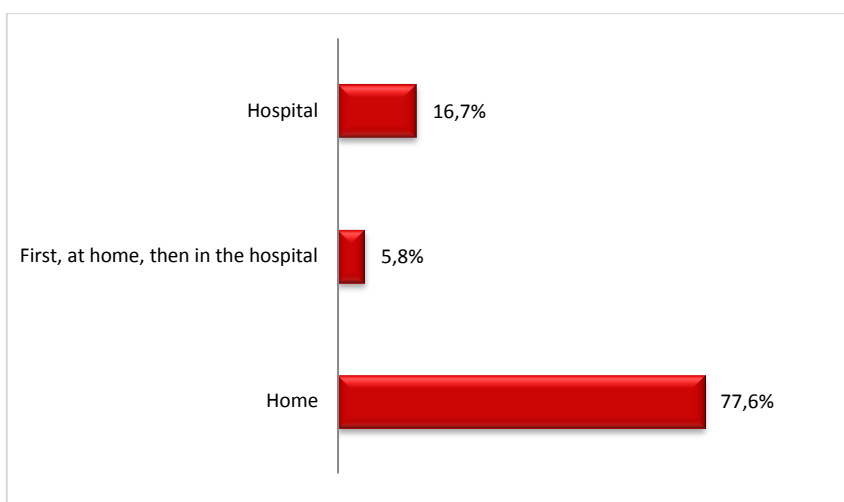
- The average price of testing in Yerevan was 10,906 AMD, in rural areas, 10,266 AMD, and in urban areas, 12,267 AMD.
- Half of the tested people in Yerevan paid 7,500 - 15,000, in urban areas, 8,000 - 15,000 AMD, and in rural areas, 6,000 - 15,000 AMD.

**Table 41. “How much have you paid for testing?” The amount of Covid-19 testing fees**

How much have you paid for testing?	5% Segment Medium	25% percentile	Median	75% percentile	Minimum	Maximum
Yerevan	10,905.99	7,500.00	10,000.00	15,000.00	4,000	30,000
Urban	12,267.11	8,000.00	10,000.00	15,000.00	3,000	36,000
Rural	10,266.16	6,000.00	10,000.00	15,000.00	1,000	20,000

- 77.6% of Covid-19 patients have been treated at home, 22.5% in a hospital (16.7% were immediately hospitalized), and 5.8% first at home and then in a hospital (Figure 204).

**Figure 204. “Have you been treated at home or in the hospital?”**



#### Total people treated in the hospital

- The indicator made up the same amount in different types of residences.
- 23.1% of women and 21.3% of men have been treated in hospitals.
- According to education, the number of people treated in the hospital was relatively higher among those with less than secondary (33.5%) and secondary (30.2%) education. Among people with higher education, the indicator was 11.2%.
- Treated in the hospital was relatively more common among lower wealth quintiles; 27.9% in I and 27.6% in II quintiles.
- The number of people treated in the hospital was the highest among 65 and older people (42.3%).
- 27.3% of people aged 50-64 received hospital treatment (Table 42).

**Table 42. Have you been treated at home or in hospital?, According to social-demographic groups**

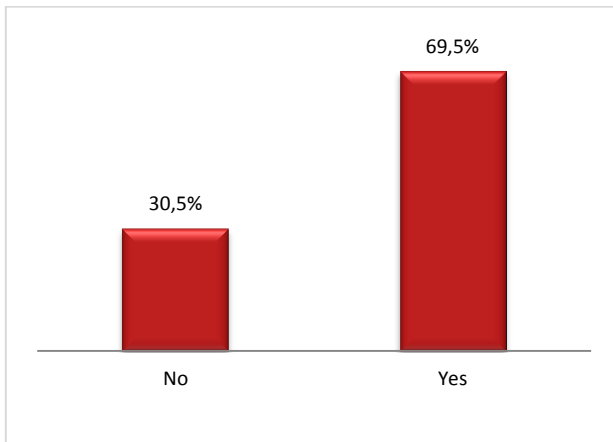
Description	Category	Home	Total hospital	First at home, then in the hospital	Hospital	Total
Residence	Yerevan	78.3%	21.7%	8.1%	13.6%	100.0%
	Urban	77.8%	22.2%	5.1%	17.2%	100.0%
	Rural	76.3%	23.7%	3.0%	20.7%	100.0%
Gender	Female	76.9%	23.1%	7.2%	15.9%	100.0%
	Male	78.7%	21.3%	3.4%	17.9%	100.0%
Education	Incomplete secondary	66.5%	33.5%	9.5%	24.0%	100.0%
	Secondary	69.8%	30.2%	8.4%	21.8%	100.0%
	Vocational	73.6%	26.4%	5.5%	20.9%	100.0%
	Incomplete higher	90.9%	9.1%	1.6%	7.5%	100.0%
	Higher	88.8%	11.2%	3.2%	8.0%	100.0%
Wealth	I	72.0%	28.0%	1.5%	26.4%	100.0%
	II	72.4%	27.6%	6.3%	21.3%	100.0%
	III	80.0%	20.0%	8.9%	11.0%	100.0%
	IV	82.6%	17.4%	3.3%	14.1%	100.0%
	V	80.1%	19.9%	9.1%	10.8%	100.0%

Age	15-19	95.0%	5.0%	2.5%	2.5%	100.0%
	20-34	89.0%	11.0%	1.2%	9.8%	100.0%
	35-49	88.0%	12.0%	4.5%	7.5%	100.0%
	50-64	72.7%	27.3%	7.6%	19.7%	100.0%
	65+	57.8%	42.2%	10.1%	32.2%	100.0%
Total		77.6%	22.4%	5.8%	16.7%	100.0%

### **Covid-19 treatment at home**

- 69.5% of Covid-19 patients treated at home could be isolated from other family members (Figure 205).

**Figure 205. “When treated at home, had you had the opportunity of being isolated from other family members?”**



- According to wealth, 74.4% of people in the V wealth quintile treated at home had the opportunity to isolate themselves from family members.
- According to the type of residence, the number of people who have the opportunity to isolate themselves from family members was relatively higher in Yerevan (73.3%). In urban areas, it's 66.4%, and in rural areas 66.1% (Table 43).

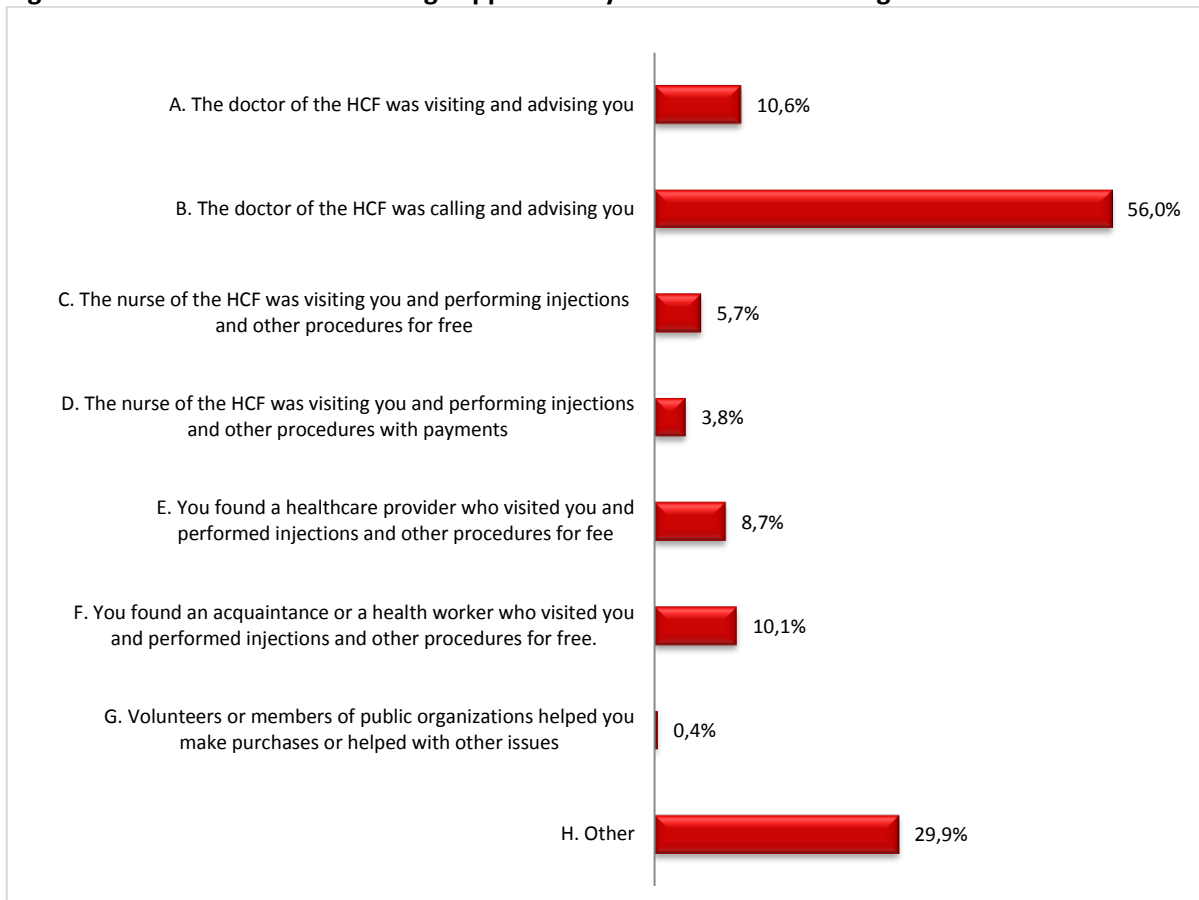
**Table 43. “When treated at home, had you had the opportunity of being isolated from other family members?” according to residence and wealth**

		No	Yes	Total
Wealth	I	36.1%	63.9%	100.0%
	II	31.7%	68.3%	100.0%
	III	30.5%	69.5%	100.0%
	IV	41.1%	58.9%	100.0%
	V	25.6%	74.4%	100.0%
Residence	Yerevan	26.7%	73.3%	100.0%
	Urban	33.6%	66.4%	100.0%
	Rural	33.9%	66.1%	100.0%

Data on the support received by COVID-19 patients treated at home is provided in Figure 206.

- The most common medical support was that the doctor of the medical institution was calling and advising patients treated at home (56.0%),
- 10.6% were visited by the doctor of the medical institution.
- 10.1% were visited free of charge by any acquaintance or medical worker whom the patient found.

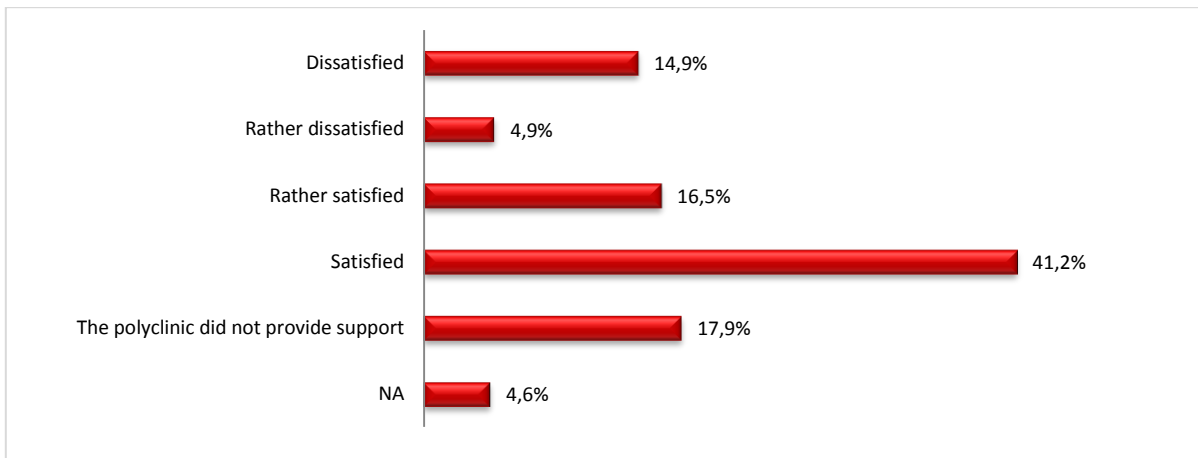
**Figure 206. “Which of the following supports did you receive while being treated at home?”**



The satisfaction level of COVID-19 patients treated at home with the support received from polyclinic is provided in Figure 208.

- 57.7% of patients treated at home are “satisfied” or “rather satisfied” with the support they received from the polyclinic (Figure 207).

**Figure 207. “Are you satisfied or dissatisfied with the support provided by your polyclinic during treatment at home?”**



The degree of satisfaction with polyclinic services when suffering from Covid-19 by socio-demographic groups is provided in Table 44.

- Within wealth groups, the satisfaction with the support received from polyclinic when treating at home is relatively higher among low wealth quintiles.
- According to the type of residence, satisfaction is relatively higher in Yerevan (62.1%).

**Table 44. Are you satisfied or dissatisfied with the support provided by your polyclinic during treatment at home?**

	Dissatisfied	satisfied	The didn't provide support	NA	Total	
Wealth	I	24.1%	61.2%	12.7%	2.1%	100.0%
	II	20.4%	66.5%	9.5%	3.5%	100.0%
	III	14.4%	65.6%	13.2%	6.8%	100.0%
	IV	23.9%	58.0%	13.4%	4.6%	100.0%
	V	21.7%	54.3%	19.5%	4.4%	100.0%
Residence	Yerevan	12.9%	62.1%	20.6%	4.3%	100.0%
	Urban	25.3%	48.8%	20.8%	5.0%	100.0%
	Rural	25.7%	58.5%	11.0%	4.7%	100.0%
Total	19.8%	57.7%	17.9%	4.6%	100.0%	

- Nevertheless, it's worth mentioning that 17.9% of Covid-19 patients did not receive any support from the polyclinic during the illness.
- The number of people who didn't receive any polyclinic assistance during the period of illness is relatively higher in the V quintile of wealth (19.5%).

- According to the residence, 20.6% of patients in Yerevan, 20.8% in urban areas, and 11.0% in rural areas didn't receive any support from polyclinic when suffering from Covid-19.

### ***Treatment of COVID-19 in a hospital setting***

During the period of the most intense spread of the Covid-19 epidemic, the number of hospital places wasn't enough, which was the result of "the consequence of the optimization" of the hospital sectors in the 2000s. During the Soviet period, the "surplus" of hospitals and hospital beds was intended to provide necessary hospital medical care in case of such epidemics and intensive war operations.

Table 45 shows the proportion of residents of the regions and Yerevan who received medical care in the regions and Yerevan.

**Table 45. Location of the hospitals provided health service to the population of Yerevan and regions, "Where was the hospital that you treated for Covid-19 located?"**

		Residence of the respondent		
		Yerevan	Urban	Rural
Where was the hospital that you treated for Covid-19 located?	Region	15.0%	44.3%	49.3%
	Yerevan	85.0%	55.7%	50.7%
	Total	100.0%	100.0%	100.0%

- 15.0% of Yerevan residents received hospital treatment for Covid-19 in regions, and 55.7% of the residents of regions received hospital treatment in Yerevan.

In Armenia, hospital care for Covid-19 was organized at the expense of the state budget.

- Patients paid for 5.8% of cases during hospital treatment for Covid-19, and 2.0% refused to answer the question of whether they paid for hospital treatment for Covid-19.
- Only 6 respondents made payments for treatment in the hospital, 3 of them made the payment to the hospital cash register, and 5 paid manually.
- 3 of the respondents reported the amount of payments: 15,000, 30,000, and 40,000 AMD.

### ***Vaccinations against Covid-19***

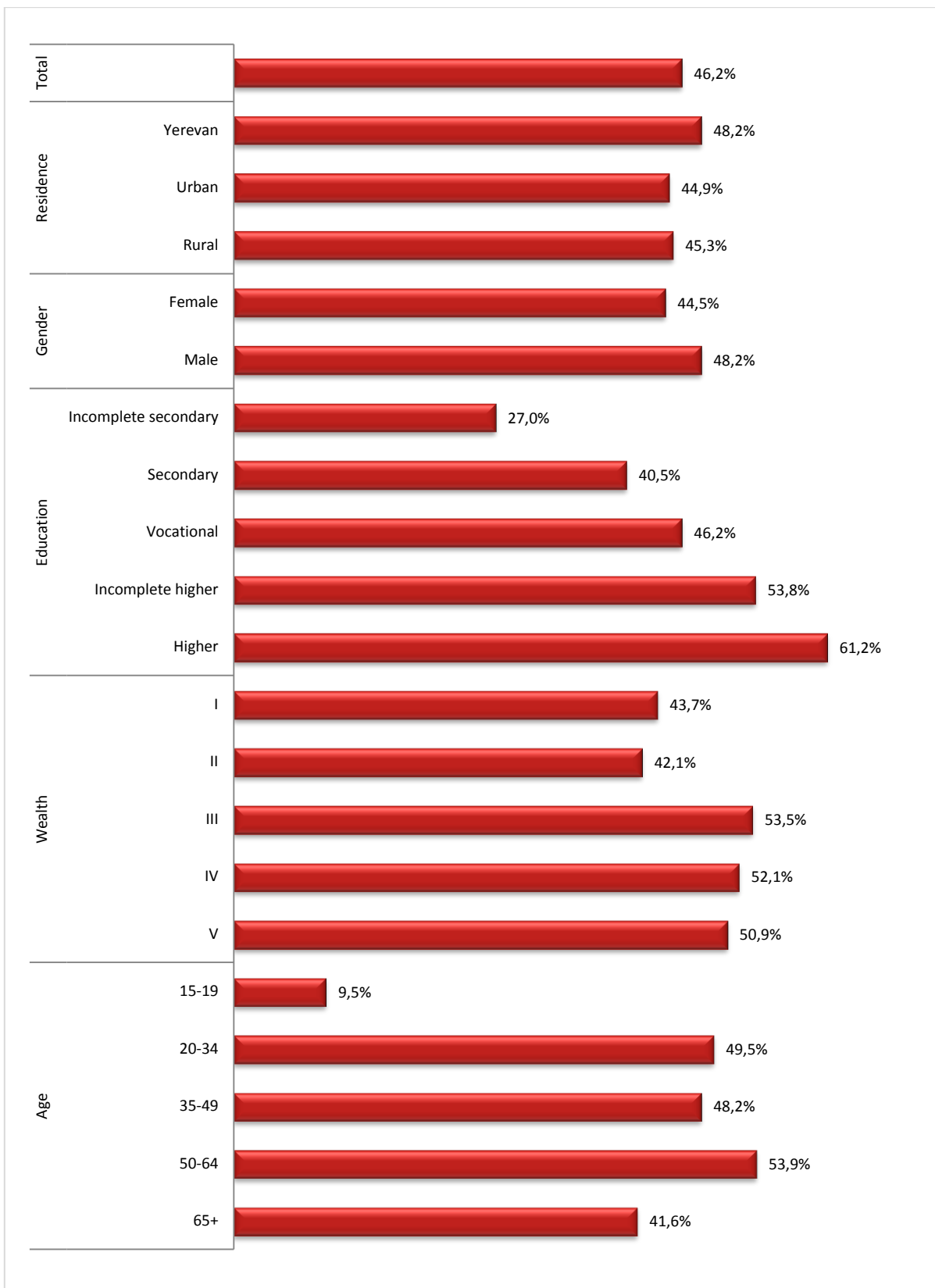
The number of vaccinations against Covid-19 in socio-demographic groups is provided in Figure 208.

- 46.2% of respondents were vaccinated against Covid-19 from the beginning of the pandemic until August 2022.
- The vaccination rate was relatively higher in Yerevan (48.2%), in urban areas, it was 44.9%, and in rural areas, it was 45.3%.



- The vaccination rate among men is higher (48.2%) than among women (44.5%).
- The vaccination rate was highest among those with higher education at (61.2%). Along with the decrease in the level of education, the level of vaccination also decreases. In the group with less than secondary education, it was 27%.

**Figure 208. "Have you been vaccinated against Covid-19?"**



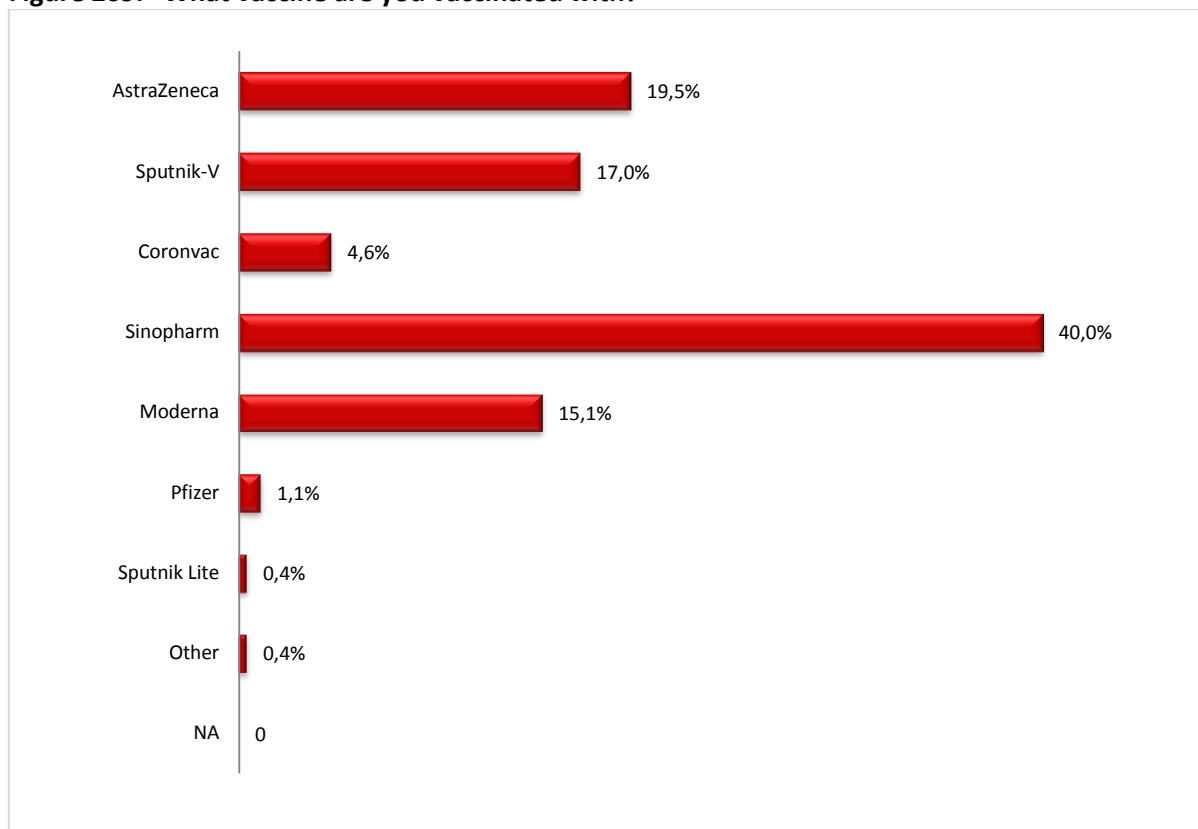
- Vaccination rates among the disadvantaged quintiles (I and II) are lower than in more prosperous quintiles (III, IV, and V).

- According to age, the vaccination rate is the highest in the 50-64 age group (53.9%), in the 20-49-year-old group it was 48.2-49.5%, in the 65 and older age group it was 41.6%, and in the 15-19-year-old group 9.5%.

The prevalence of vaccines used is provided in Figure 209.

- The most common vaccine was Sinopharm, by which 40.0% of all vaccinated people were vaccinated.
- The second was AstraZeneca (19.5%)
- Third was Sputnik-V (17.5%)
- Fourth was Moderna (15.1%)

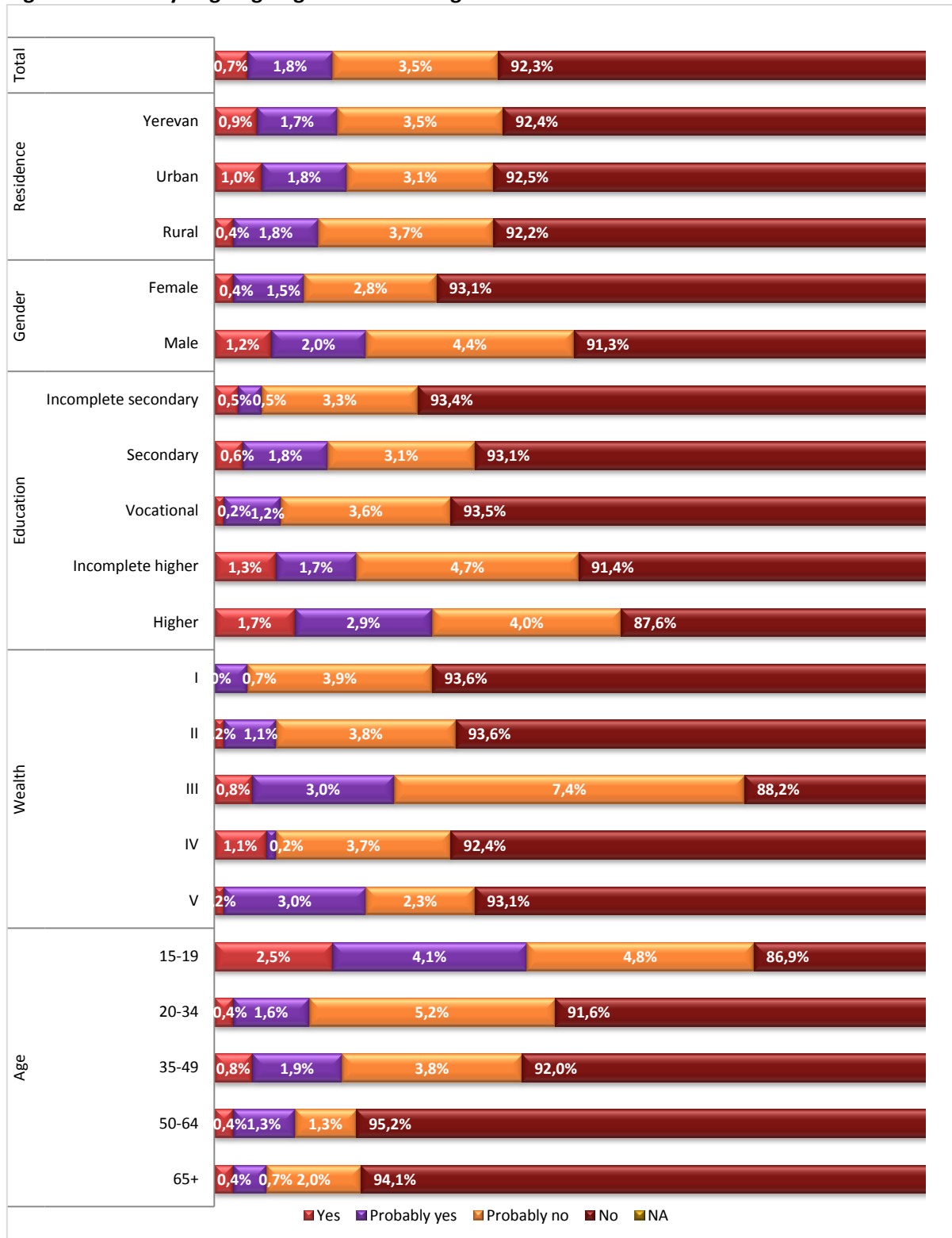
**Figure 209. “What vaccine are you vaccinated with?”**



Respondents who have not yet been vaccinated were asked, “Are you going to get vaccinated to be prevented against Covid-19?” (Figure 210).

- Only 0.7% of the not-yet-vaccinated population was planning to get vaccinated against Covid-19, and 1.8% answered, “probably yes, they will get vaccinated.”
- A relatively higher number of persons with a position to be vaccinated in urban areas 1.0%, among men 1.2%, with incomplete higher education 1.3%, with higher education 1.7%, and among the population of IV quintile of wealth.

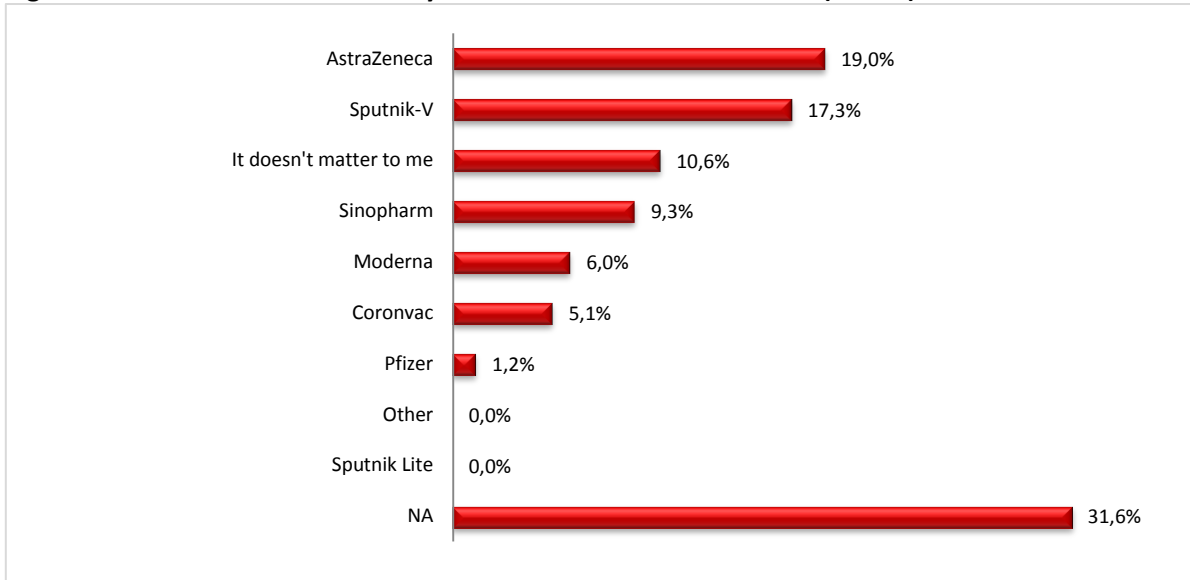
**Figure 210. “Are you going to get vaccinated against Covid-19?”**



Among the responses to the question, “Which vaccine would you like to be vaccinated with?”

- AstraZeneca (19.0%) and Sputnik-V (17.3%) made up relatively larger numbers. 10.6% answered that it doesn't matter to them what vaccine they will be vaccinated with (Figure 211).

**Figure 211. “Which vaccine would you like to be vaccinated with?” (N = 33)**

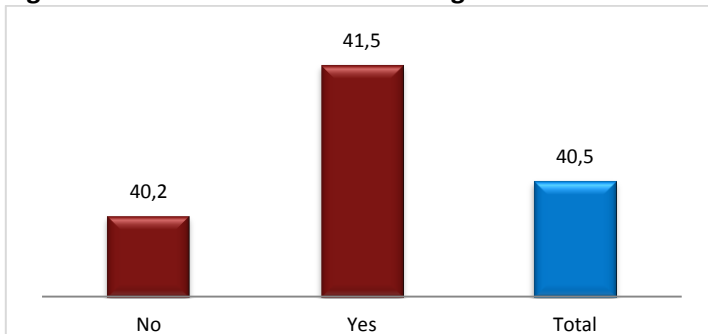


### ***Covid-19 impact on people's mental state***

In figure 212, the impact of Covid-19 on people's mental state shows the mean mental state score among respondents infected and not infected with Covid-19.

- **A t-test comparing the means of the mental state scores showed that the mean level of mental health in the infected group (41.5) was statistically higher than among those not infected (40.2). In other words, the level of depression among those infected with Covid-19 was slightly but statistically significantly higher ( $\alpha \leq 0.05$ ).**

**Figure 212. Mental state score among those infected and not infected with Covid-19**



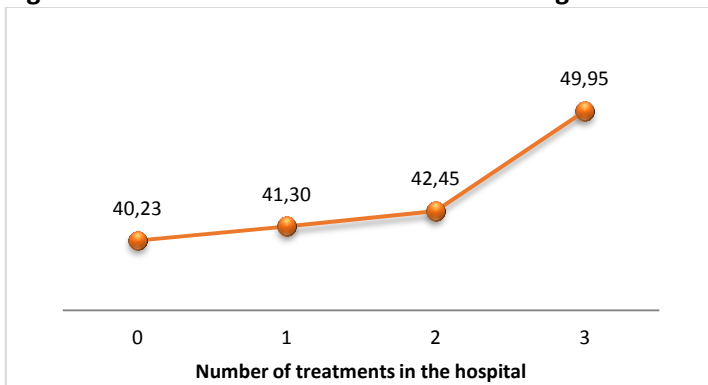
The impact of the number of cases of Covid-19 on the mental state of those affected was estimated (Figure 213).

The statistical test showed:

- The average values of mental depression of the groups infected with Covid-19 once or twice (41.30 and 42.45, respectively) are not statistically different from each other.

- The average value of mental depression in the groups three times infected with Covid-19 (49.95) is statistically significantly higher than in the group infected once or twice.

**Figure 213. Mean mental health scores among those with multiple cases of Covid-19**

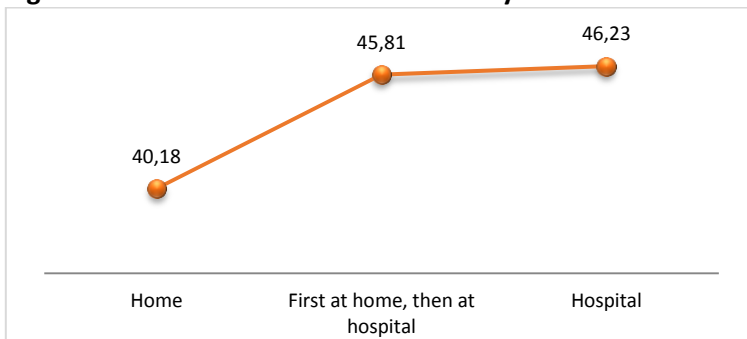


Levels of mental depressive scores according to treatment conditions for Covid-19 (home, home then hospital, hospital) are provided in Figure 214.

According to the statistical test:

- Among those treated for Covid-19 at home, the mental depression score is statistically significantly lower (40.15) than those treated first at home, then in the hospital (45.81), and those in the hospital (46.23).
- The treatment groups first treated at home then at the hospital, and those at the hospital aren't statistically significantly different from each other.

**Figure 214. Mean mental health scores by treatment condition for Covid-19**



### **Assessment of the consequences and impact of the 44-day war**

The following topics were considered as part of the assessment of the consequences and impact of the 44-day war:

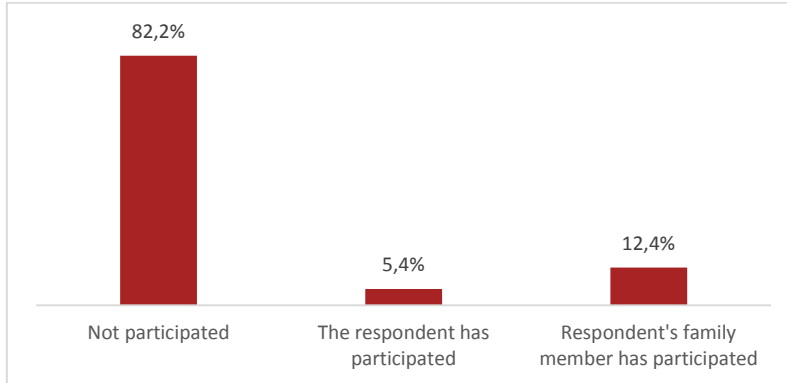
- Participation in the war,
- Families who suffered losses,
- Types of losses,

- Support provided to bereaved families and individuals,
- Received compensations,
- Evaluation of the psychological impact of the war.

### **Participation in the war**

- 5.4% of respondents have personally participated in the 44-day war (Figure 215).
- In the case of 12.4% of respondents, a family member participated in the war.

**Figure 215. “Did you or any member of your family participate in that (44-day) war?”**

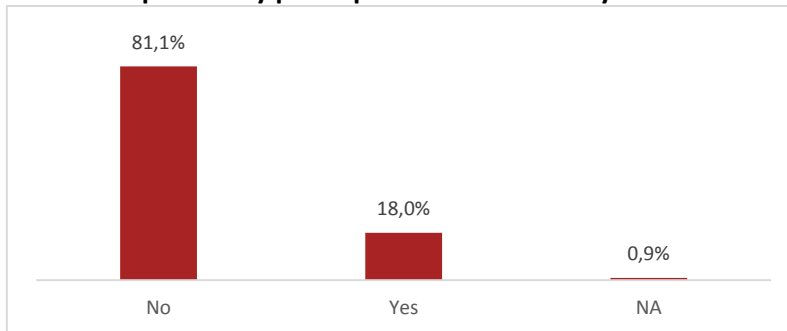


In the sample, the number of respondents who personally participated in the war or had a family member participated in the war was 446 people.

### **War losses**

- 18.0% of respondents who participated or had a family member who participated in the war (a total of 80 people) experienced losses (Figure 216).

**Figure 216. “Did your family suffer losses in 2020 because of the 44-day war?” (The question was asked to those who personally participated or had a family member who participated in the war, N = 446).**

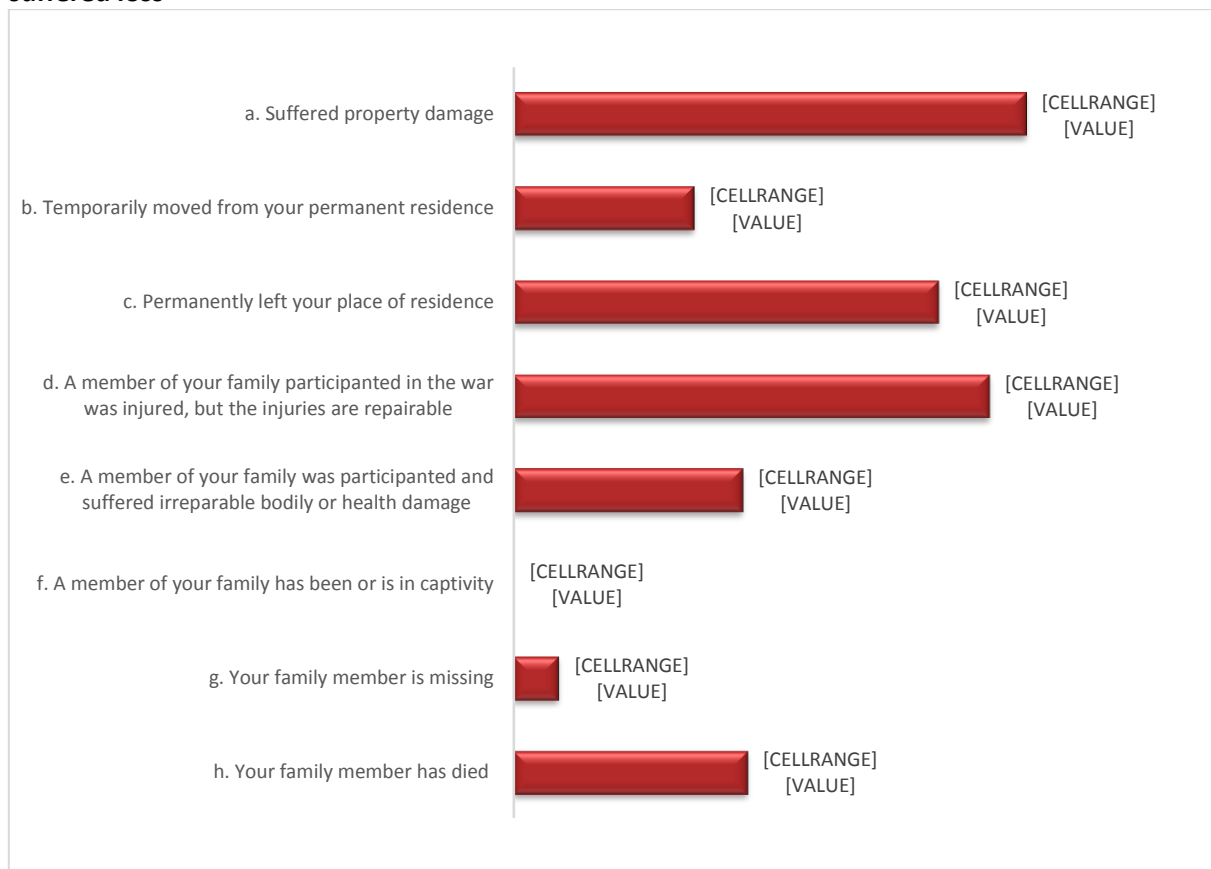


During the survey, the respondents who participated or whose family members participated in the war and (at the same time) suffered losses in the war were studied.

The losses as a result of the war are provided in Figure 217.

- The most common type of loss is **property damage**, which was experienced by 43.2% of respondents. Percentages were calculated from the number of individuals who participated or whose family members participated in the war and suffered losses as a result of the war.
- A family member was **injured** (40.1%).
- **Permanently left their place of residence** (35.8%).
- A family member was seriously injured (19.3%).
- A family member was martyred (19.7%).

**Figure 217. “Which of the following losses did your family experience?” (the question was asked only to those respondents who participated or have a family member participated in the war and, at the same time, suffered losses as a result of the war, N = 80), absolute number and percentage of respondents suffered loss**

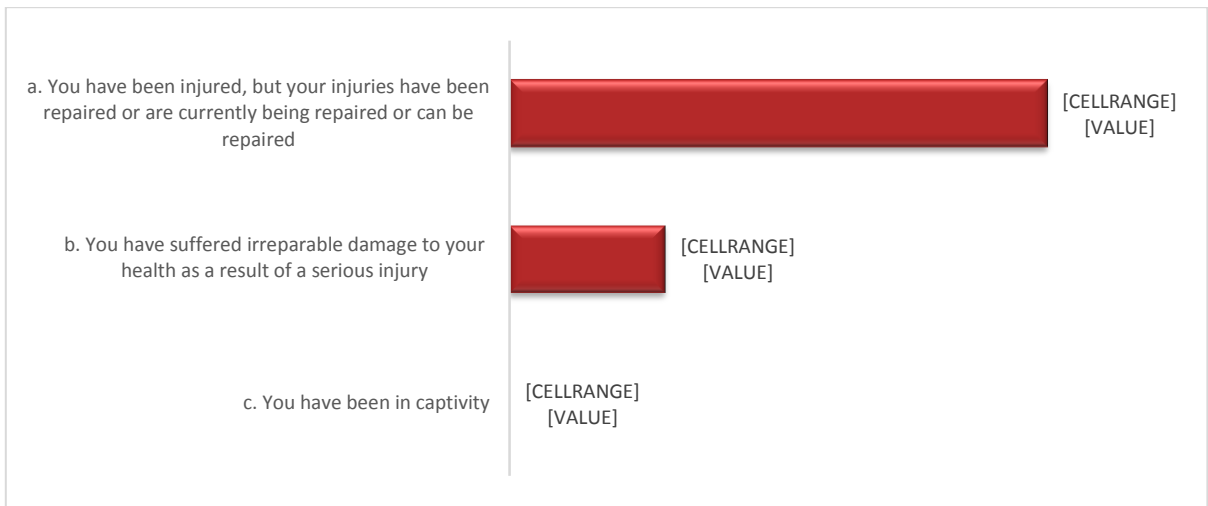


Among those who personally participated in the war:

- 63.6% (11 people) were injured, but the received injuries were recovered or could be recovered (Figure 218).
- 18.4% (3 people) suffered irreparable health damage as a result of severe injury.

**Figure 218. The losses suffered by the war participants (the questions were asked only to those personally participated in the war and whose families suffered losses, N = 17, 3 people refused to answer)**



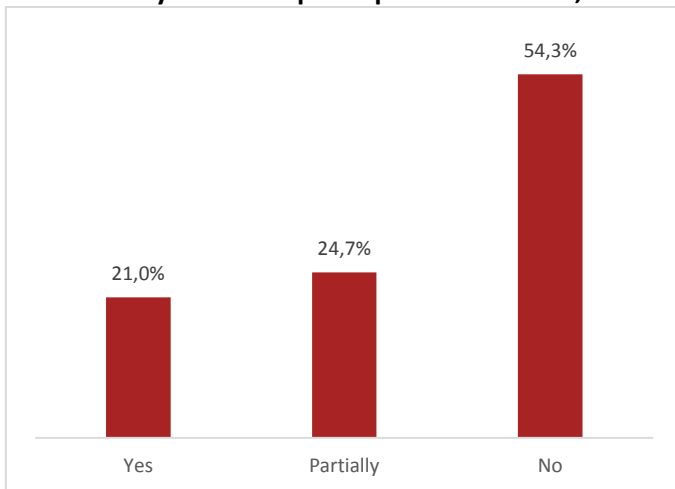


### ***Compensation for war losses***

People who personally participated in the war or whose family members participated were asked: “Do you know what compensation is considered by the state for the individuals and families who suffered losses?”

- 21.0% of the persons who personally participated in the war or whose family members participated in the war know what compensation is considered by the state for them or their families, 24.7% know partially, and 54.3% don’t know (Figure 219).

**Figure 219. “Do you know what compensation is considered by the state for individuals and families who have suffered losses?” (the question was asked to respondents who personally participated in the war or whose family members participated in the war, N = 446)**

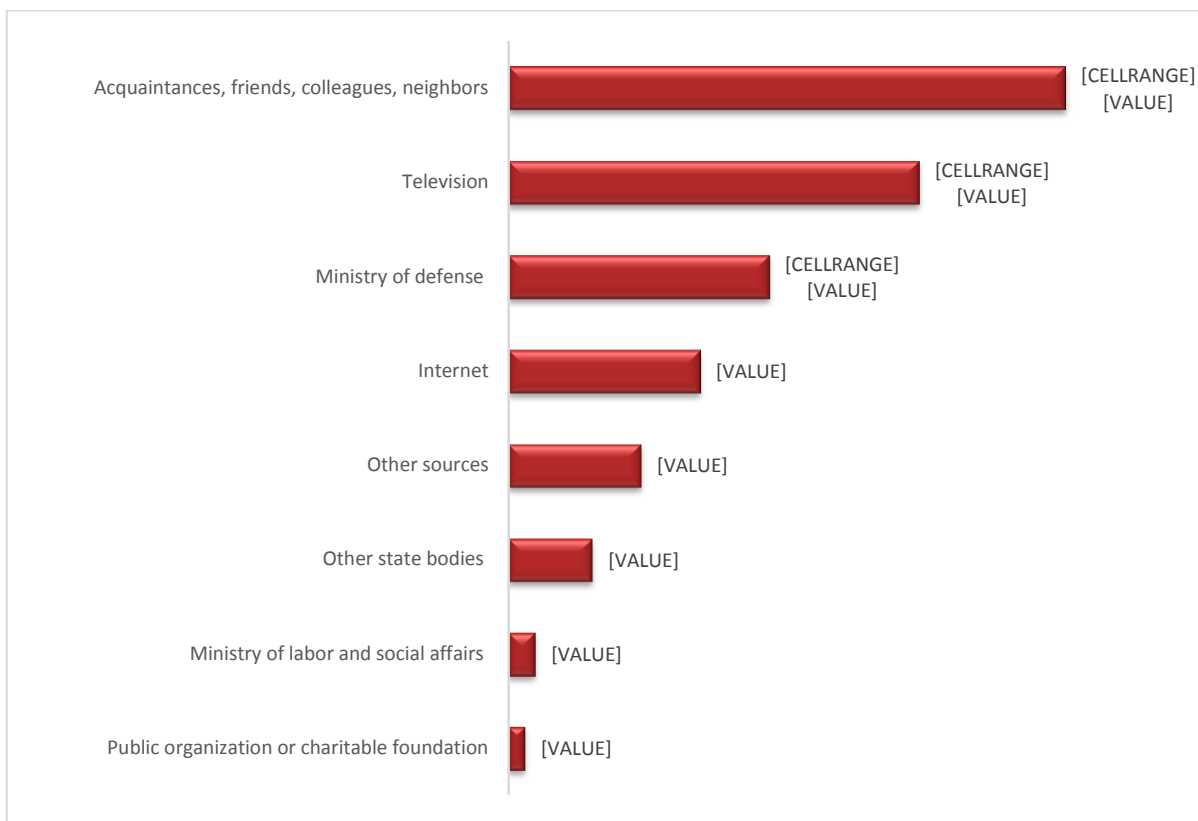


Sources of information received for the first time on compensations are presented in Figure 220. The question was asked to those persons who personally participated in the war, or whose family members participated in the war, and at the same time, who knew or partially knew what compensation was considered for the persons or families who suffered losses. The most common sources of information are:

- Personal contacts (acquaintances, friends, colleagues, neighbors) (33.1%)

- Television (22.4%)
- Ministry of defense (15.5%)
- Internet (11.4%)
- Ministry of labor and social affairs (1.6%)
- Other state bodies (5.0%)

**Figure 220. “Where did you first find out about the planned compensations?” (the question was asked to those who personally participated in the war, or whose family members participated in the war, and at the same time, who knew or partially knew what compensation was considered for individuals or families who suffered losses, N = 204)**

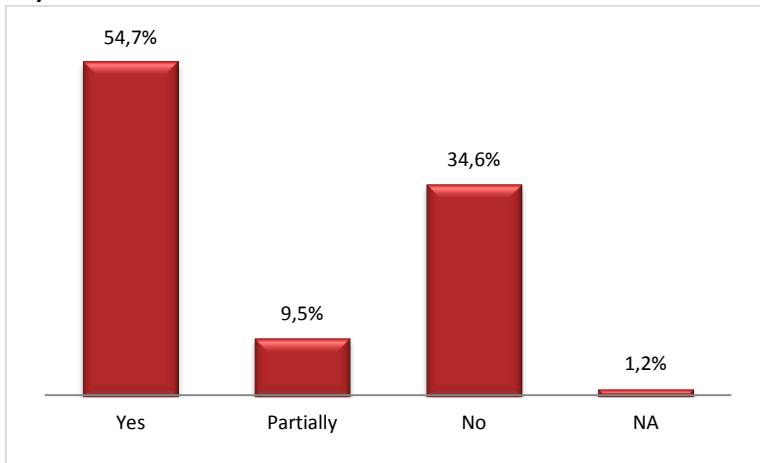


The number of people or families who received monetary compensation is provided in Figure 221 (from the number of people who participated or whose family members participated in the war and, at the same time, whose families suffered losses as a result of the war):

- 64.2% of the relevant people received compensation
- Out of which, 54.7% received fully
- 9.5% received partially

**Figure 221. “Did your family receive MONETARY support or compensation provided by the state for the damages you suffered?” (the question was asked to people who participated or whose family member**

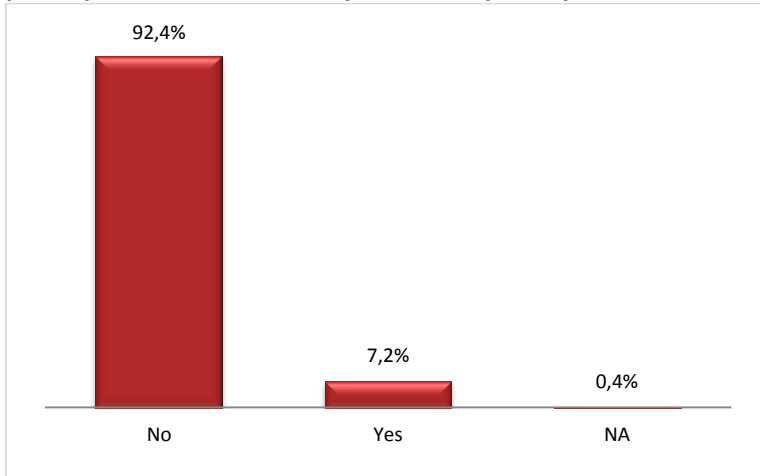
participated in the war and, at the same time, whose families suffered losses during the war result, N = 80)



The number of people who received professional psychological support (from the number of people who participated or whose family members participated in the war) from a social worker or a psychologist from any state body is provided in Figure 222.

- **7.2% of people who participated or whose family members participated in the war received psychological support from any state body.**

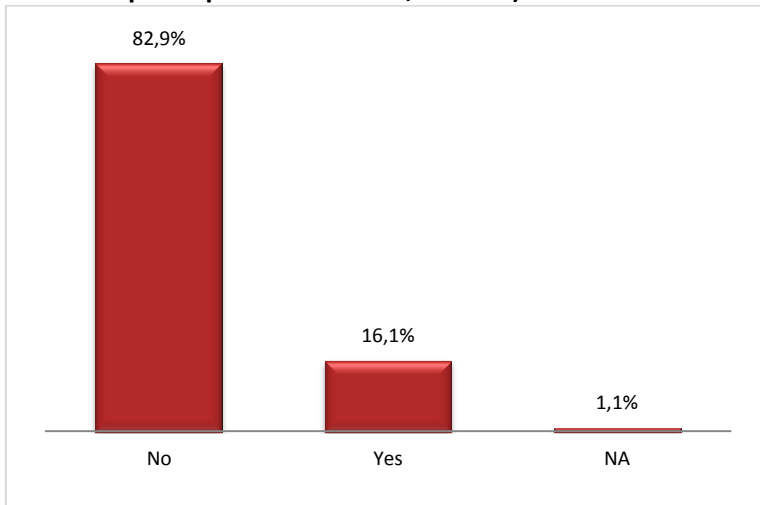
**Figure 222. “Did your family or family member receive professional PSYCHOLOGICAL support from a social worker or psychologist from any government agency?” (the question was asked to those who participated or whose family members participated in the war, N = 446)**



The monetary support received from private or public organizations was studied.

- **The number of people who received monetary support from any private or public organization (people who participated or whose family members participated in the war) was 16.1% (Figure 223).**

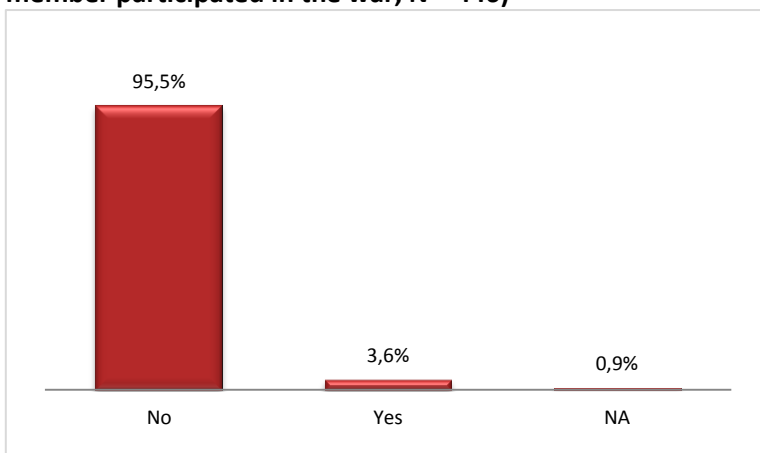
**Figure 223. “Did your family or a member affected by the war receive MONETARY medical support from any private or public organization?” (the question was asked to those who participated or whose family members participated in the war, N = 446)**



The number of people who received professional psychological support from any private or public organization is provided in Figure 224.

- **The number of people who received professional psychological support from any private or public organization was 3.6% (out of those who participated or whose family members participated in the war).**

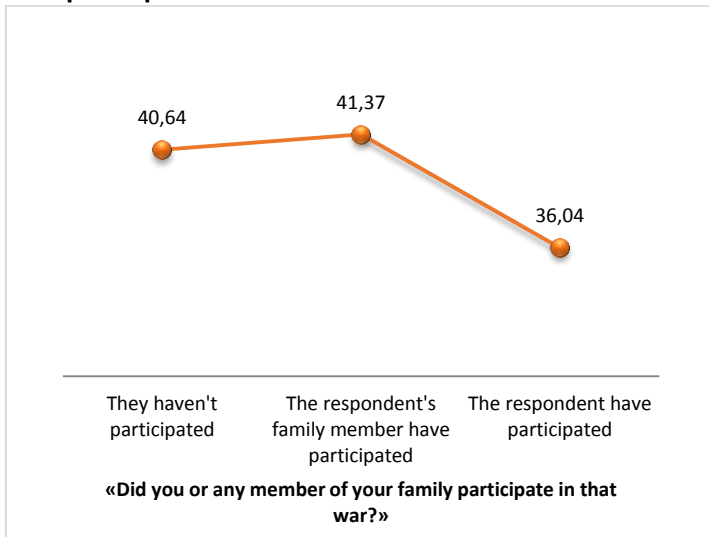
**Figure 224. “Did your family or a family member receive professional psychological support from any private or public organization?” (the question was asked to those who participated or whose family member participated in the war, N = 446)**



### ***The psychological impact of the 44-day war***

The assessment of the psychological impact of the war on the respondents who haven't participated in the war and have no participant family member, who had a family member who participated in the war, and who participated in the war is provided in Figure 225.

**Figure 225. The average score of mental health among respondents with and without a family member who participated in the war**

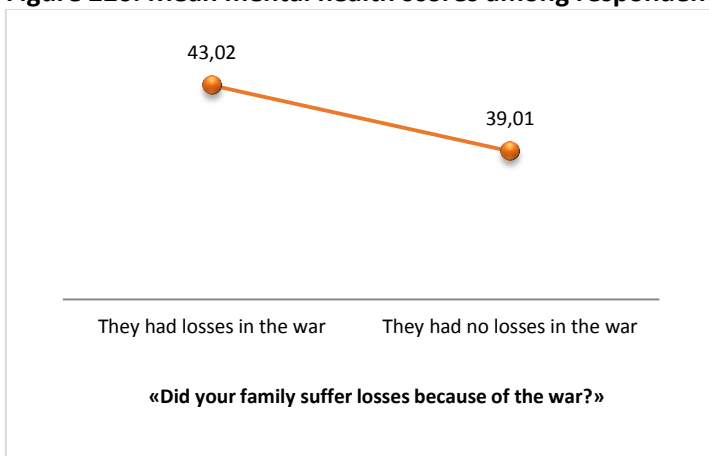


- Statistical testing showed that the average level of depression in the group of people who participated in the war (36.04) was statistically significantly more favorable than the group of people whose family members participated in the war (41.37) and those who neither participated nor had a family member participated in the war (40.64).

Estimates of depression in the groups of people who suffered losses in the war and those who didn't have losses are provided in Figure 226.

- Statistical testing showed that the level of depression in the group of people who had losses in the war (43.0) was statistically significantly higher than in the group of people who personally participated or had a family member participate in the war but didn't have losses (39.01).

**Figure 226. Mean mental health scores among respondents from families with and without war losses**

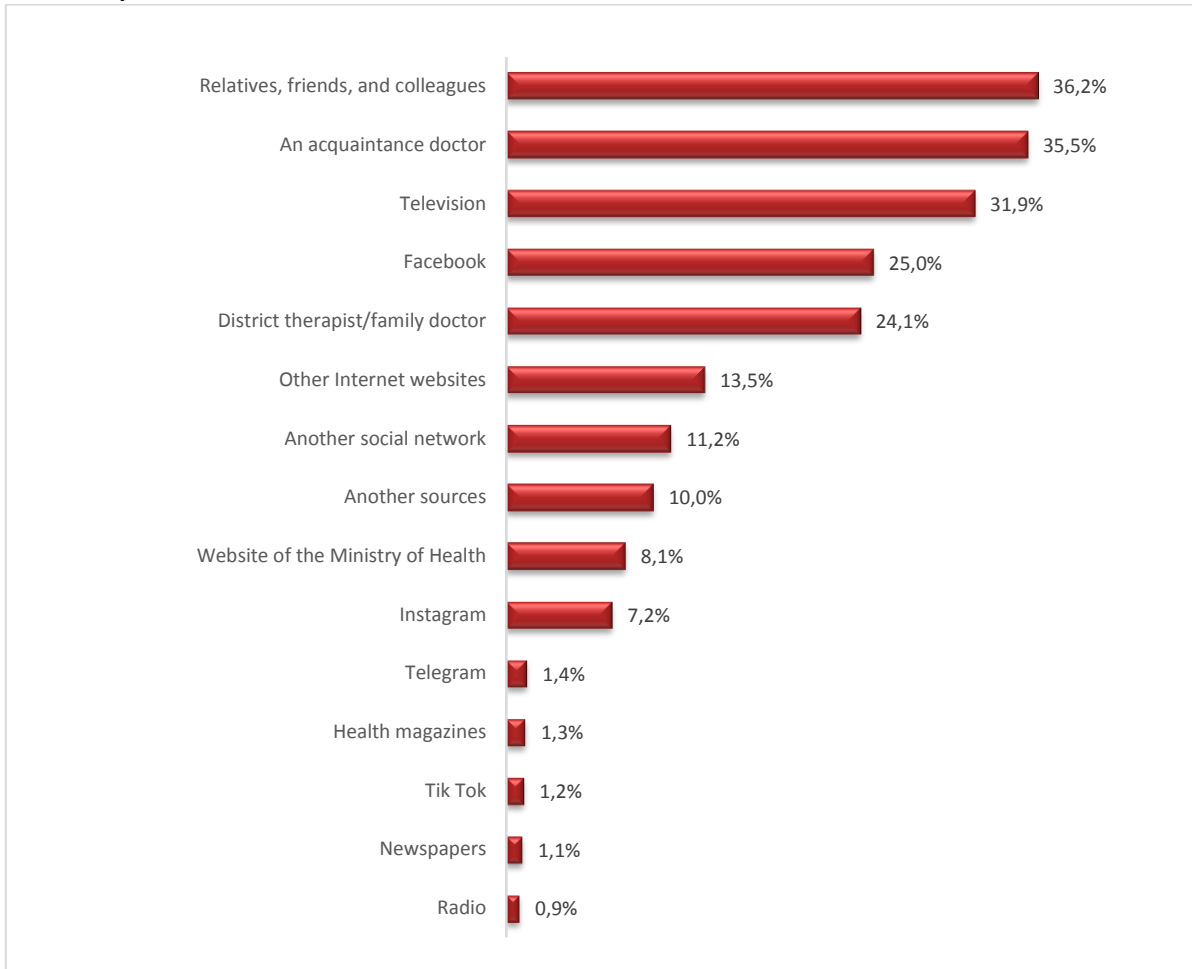


### Sources of health information

The HSPA study of 2022 examined the question of the sources of health information.

Figure 227 shows the prevalence of health information sources.

**Figure 227. “From which sources do you mainly obtain health information?” (several answers can be indicated)**



The most common sources of health information are:

- Personal connections; Relatives, friends, colleagues (36.2%)
- Acquaintance doctors (35.5%)
- Television (31.9%)
- Facebook (25.0%)
- District therapist/family doctor (24.1%)

Table 45 shows the prevalence of health information sources, the level of trust in these sources, and the relative trust of information sources, which was calculated as the ratio of the number of people trusting a given source to the number of people who mentioned that source. The sources with the greatest relative reliability are:

- Acquaintance doctors (89.3%)
- District therapist/family doctor (80.1%)

- Ministry of Health website (59.3%)
- Relatives, friends, colleagues (50.8%)

**Table 46. Prevalence, trustworthiness, and relative trustworthiness of health information sources**

Source	Source prevalence	Source reliability	Relative reliability
Relatives, friends, and colleagues	36.2%	18.4%	50.8%
An acquaintance doctor	35.5%	31.7%	89.3%
Television	31.9%	18.3%	57.4%
Facebook	25.0%	7.9%	31.6%
District therapist/family doctor	24.1%	19.3%	80.1%
Other Internet websites	13.5%	5.3%	39.3%
Another social network	11.2%	5.0%	44.6%
Website of the Ministry of Health	8.1%	4.8%	59.3%
Instagram	7.2%	2.4%	33.3%
Telegram	1.4%	0.5%	35.7%
Health magazines	1.3%	0.5%	38.5%
Tik Tok	1.2%	0.3%	25.0%
Newspapers	1.1%	0.1%	9.1%
Radio	0.9%	0.3%	33.3%

The distribution of sources of health information according to socio-demographic groups is provided in table 47.

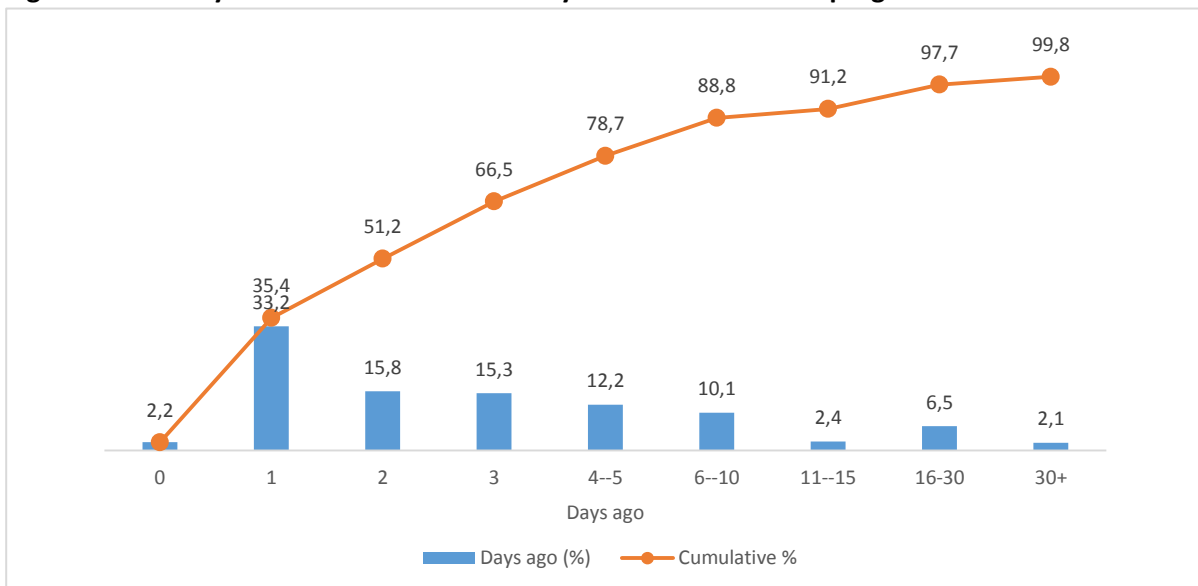
**Table 47. From which sources do you usually obtain health information? According to socio-demographic groups**

Source	Residence			Gender		Education					Wealth					Age				
	Yer	Urb	Rur	F	M	IS	Sec	Voc	IH	Hig h	I	II	III	IV	V	15-19	20-34	35-49	50-64	65+
Personal connections	44%	33%	32%	34%	39%	39%	35%	36%	32%	39%	29%	34%	43%	41%	39%	43%	37%	34%	35%	37%
acquaintance doctor	36%	35%	35%	35%	36%	25%	32%	40%	41%	39%	31%	33%	37%	37%	45%	25%	35%	36%	38%	37%
TV	25%	34%	37%	37%	25%	35%	33%	38%	24%	28%	39%	35%	36%	33%	27%	20%	24%	28%	37%	49%
Facebook	27%	26%	23%	29%	20%	16%	22%	25%	32%	32%	21%	22%	28%	32%	27%	30%	36%	29%	18%	8%
Therapist	20%	25%	27%	27%	20%	17%	24%	28%	22%	24%	24%	34%	27%	26%	20%	17%	19%	24%	31%	27%
Internet websites	15%	15%	11%	15%	11%	7%	11%	12%	10%	24%	13%	11%	12%	16%	17%	19%	21%	13%	9%	4%
Other social networks	17%	9%	7%	11%	11%	4%	10%	9%	18%	16%	9%	10%	13%	12%	21%	15%	16%	13%	9%	2%
MOH website	8%	8%	8%	11%	5%	4%	6%	7%	9%	15%	7%	9%	7%	8%	11%	10%	14%	7%	5%	2%

- Personal connections are relatively more common in Yerevan, among men, in groups with less than secondary and higher education levels, in relatively higher wealth groups, and in the 15-19-year-old group.
- An acquaintance doctor is a relatively more common source among men, among groups with a relatively higher level of education, among the most affluent group, and among those aged 50 and above.
- Television is relatively more common in rural areas, among women, in groups with a relatively higher level of education, in the lowest wealth group, and in the 65 and older age group.
- Facebook is relatively more common in Yerevan, among women, in the groups with incomplete higher and higher education, in the IV wealth quintile, and in the 15-34 age group.
- The therapist/family doctor is a relatively more common source in rural areas, among women, in the group with vocational education, in the II wealth quintile, and in the 50 and above age group.
- Internet websites are relatively more common in Yerevan and urban areas, among women, in the group of people with higher education, in IV and V wealth quintiles, and in the 15-34-year-old people.
- Other social networks are relatively more common in Yerevan, in the groups with incomplete higher and higher education, in the V wealth quintile, and in the 15-34 age group.
- The website of the Ministry of Health is relatively more popular among women, in the group with higher education, in the V wealth quintile of well-being, and in the group of 15-34-year-old people.

The description of health program views is provided in Figure 228. It was built on “Can you remember the last time you watched a health program on TV?”

**Figure 228. “Can you remember the last time you watched a health program on TV?”**





- One-third of the respondents had watched a health TV program the day before, half had watched it in the last two days, two-thirds had watched it in the last three days, and about 80% had watched it in the last 6 days.

## Financial status of households

Self-reported household wealth scores are provided in Figure 229.

**Figure 229. Which of the following situations best describes your family's economic situation?**



Self-assessments of household wealth according to type of residence are provided in Table 48.

**Table 48. Which of the following situations best describes your family's financial situation?**

Financial situation	Yerevan	Urban	Rural	RA
Financial resources aren't enough for food	15.3%	15.4%	15.4%	15.4%
The financial resources are enough to buy food, but not clothes	22.3%	26.3%	28.3%	25.7%
The financial resources are enough for food and clothes, but not for things like a refrigerator or a washing machine	36.4%	34.3%	33.4%	34.7%
We can buy things like a washing machine or a refrigerator	19.0%	16.6%	16.1%	17.2%
We can afford whatever we want	3.8%	3.6%	3.2%	3.5%
NA	3.1%	3.8%	3.6%	3.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Statistical testing of the data in the table ( $\chi^2$  test) showed that the distribution of wealth categories in the residential types doesn't statistically significantly differ (Sig. = 0.243).

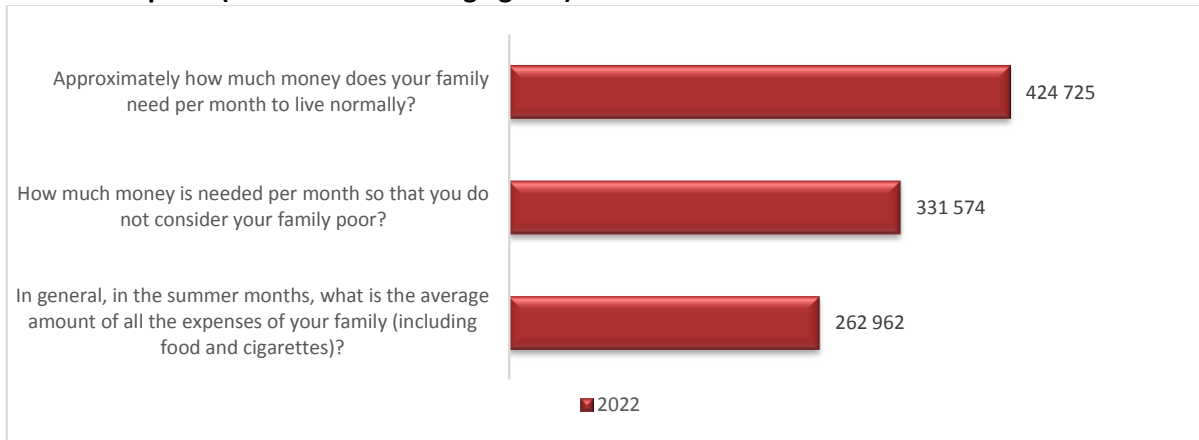
Respondent's views regarding the amount of money their families need to "live normally" and "not to be considered poor" were studied. Average family expenses during the summer months were also studied. The following questions were applied:

- “Approximately how much money does your family need per month to live normally?”
- “How much money is needed per month so that you don't consider your family poor?”
- “In general, what is the average amount of all your household expenses during the summer months, including food, tobacco, alcohol, utility bills, small household goods, health care, clothing, tuition fees, debt repayment, loan interest payments, etc.? Don't mention the big one-time expenses like weddings, big purchases, etc.”

To normalize the obtained results, they were recalculated for a family of 4 people, which was conventionally considered the “standard” family size for Armenia.

The obtained data are presented in Figure 230.

**Figure 230. The average monthly expenses necessary for the household to live normally and not be considered poor. (5% fractional average given)**



The same data were calculated for types of residence. The results are provided in Figure 231.

**Figure 231. Average monthly expenses necessary for the household to live normally and not be considered poor according to residence. A 5% segment average is given because the distributions of these indicators are right-skewed sharply**

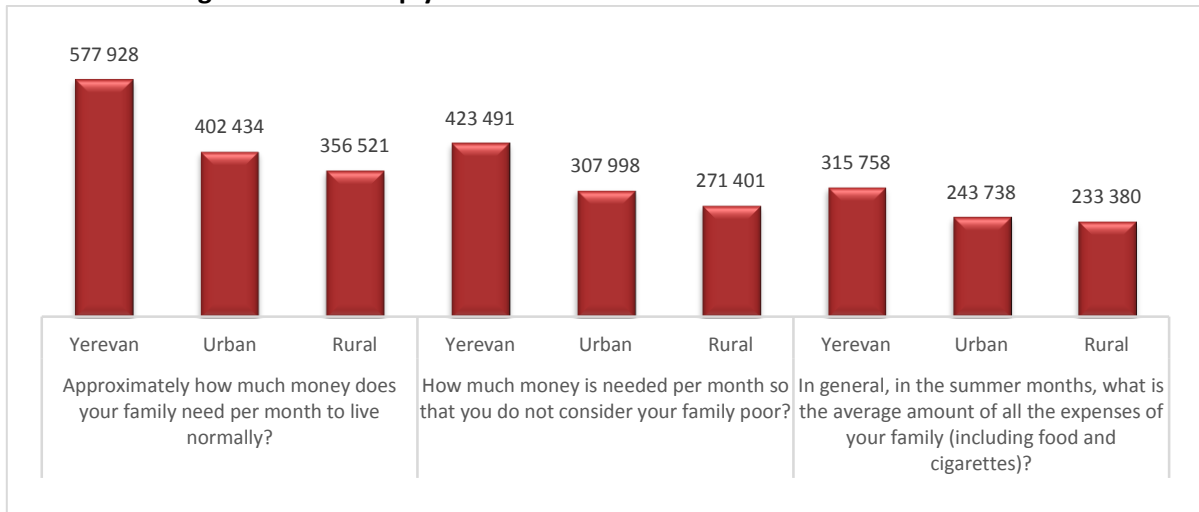


Figure 232 shows the number of respondents included in the family benefit system by wealth quintiles and type of residence.

**Figure 232. Is your family included in the family benefits system?**

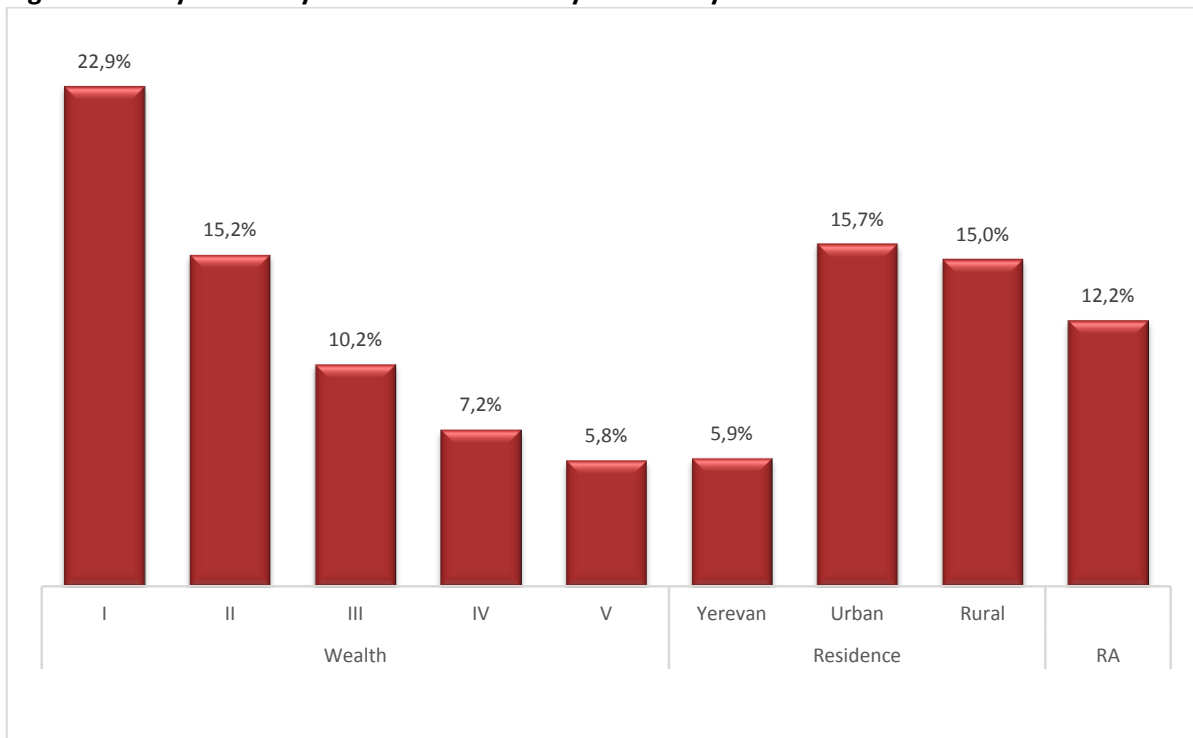


Table 49 shows the inclusion of respondents in the family benefit system according to wealth and residence.

**Table 49. Inclusion of respondents in the family benefit system according to wealth and residence**

Is your family included in the family benefit system? "Yes" answers	Residence			Total
	Yerevan	Urban	Rural	
I	11.1%	24.1%	26.6%	22.9%
II	13.2%	16.4%	15.4%	15.2%
III	4.0%	12.9%	15.5%	10.2%
IV	3.4%	10.3%	8.1%	7.2%
V	2.3%	14.4%	4.9%	5.8%
<b>Total</b>	<b>5.4%</b>	<b>15.8%</b>	<b>15.4%</b>	<b>12.2%</b>

