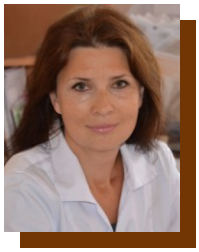
Country report Belarus – February 2017



Report by **Olga Pavlova**, MD, PhD *et al.*

National CVD Prevention Coordinator for Belarus

Head of Scientific Laboratory of Arterial Hypertension, Republican Scientific and Practical Center «Cardiology», Minsk, Belarus

Prepared for the EAPC "Country of the Month" initiative

For more information about the European Association of Preventive Cardiology (EAPC), visit our wepage

Health care l Risk factors l Prevention methods l Prevention activities l Cardiac Rehabilitation l Future

Acknowledgement

The report was prepared by Olga Pavlova with the assistance from:

- **Dr. Alexandr Patseyev**, MD, Deputy Director of Republican Scientific and Practical Center «Cardiology»
- **Dr. Valeriy Stelmashok**, PhD, MD, Head of the Laboratory of Emergency and Interventional Cardiology, Head Interventional Cardiologist the Ministry of Health of the Republic of Belarus

I. Structure of Health care in Belarus

Belarus has established the health care system, features of which are the full coverage of medical care provided by the budget resources, government regulation and planning with the implementation of complex state programs in the field of public health. The health sector is one of the priority sectors for the government of Belarus and the majority of health expenditures in Belarus are covered by the state. Public health is predominantly financed from taxation, more than 77% of total health expenditures are from the state budget and 23% payments at own expense mostly are co-payments for pharmaceuticals covered by outpatients. Funding of population-based cardiovascular disease (CVD) prevention measures and cardiac rehabilitation is based on budget allocations. Over the past years, Belarus has prioritised financing and development of high-tech and specialised medical care for CVD and this has in turn contributed to improved outcomes for related acute events such as aute myocardial infarction (AMI) and reduced CVD mortality. Essential medicines for effective prevention and control of CVD are widely available.

In 2016 the government of the Republic of Belarus has accepted the National State program «Health of the Nation and the demographic security of the Republic of Belarus» (2016-2020). This programmes includes 7 sub-programs, among them «Prevention and control of non-communicable diseases». Objectives of this subprogram are:

- reducing risk factors for non-communicable diseases (NCD), including CVD, by creating a unified prevention environment

- prevention of NCD throughout the life cycle through universal and accessible coverage of primary health care
- reducing premature mortality and disability population stabilisation occurring due to NCD
- provision of health monitoring through the establishment of a single information space.

The health care system of Belarus is organised according to the 6 regions with a special region-status for the city of Minsk. Within each region different levels are defined including primary care (district polyclinics, ambulatories), secondary levels of care (specialist in- and outpatient care) and highly specialised hospitals. There also two types of hospital facilities, which are organised into district hospitals and regional hospitals. In Belarus there are 7 cardiologists per 100.000 inhabitants. Access to core CVD and diabetes services is ensured through the system of policlinics in urban areas and general practitioners (GPs) in rural areas, which are free at the point of service. Belarus has an extensive system of ambulance emergency care, comprising 24 stations, 29 substations, 117 departments and 90 emergency care posts. The system has seen considerable investment and upgrading during the past decade and many sub/stations have ambulances with high-tech, sophisticated equipment and are staffed with specialised, physician-led teams.

II. Risk factor statistics

CVD Mortality

As in many other CIS (Commonwealth of Independent States) countries, Belarus has seen a trend towards reduction of mortality caused by CVD in the last decade. Nevertheless, CVD rate in Belarus remains much higher than the mean European rate. In 2015 CVD mortality rate (age standardised) was 505.1 per 100.000 inhabitants.

Table 1. Standardised mortality rate from CVD in Belarus in 2015 (per 100.000)

Age groups	15-24	25-34	35-44	45-54	55-64	65-74	Older 75
CVD mortality rate	0.6	2.8	10.9	35.0	79.5	136.5	239.6

The life expectancy - particularly of men - in Belarus remains rather low compared to other European countries, but during past decade it has seen a positive trend:

Groups	2005	2010	2015
Men, years	62.9	64.6	68.6
Women, years	75.1	76.5	78.9

PCI resources

In Belarus there are in total 22 percutaneous coronary intervention (PCI) centers (9 in Minsk, 11 in regional and 2 in district centers). The number of PCI centres is 2.2 per 1 million inhabitants. In 2015 a number of 6.928 PCI-procedures were performed (733 procedures per 1 million inhabitants), which was a significant increase in comparison with 2010, when 1754 PCIs were performed.

Main CVD risk factors

Belarus conducts regular screening for different CVD risk factors (alcohol and tobacco use per capita, etc.). The national survey MICS4, conducted by the National Statistical Committee of the Republic of Belarus in 2012, included specific questions on the use of tobacco and alcohol for the population. The Republic of Belarus has made two Global Surveys of tobacco use by young people aged 13-15 (in 2004 and 2015). The National Statistical Committee of the Republic of Belarus studies the rates of tobacco use, physical activity and adiposity among adults during selective survey of household's living standards.

Table 2. Prevalence of CVD risk factors in Belarus in 2014, (%)

CVD risk factors	Smoking	Insufficient physical activity	Adiposity	Diabetes mellitus
Men	48.0	73.2	18.5	8.8
Women	8.9	75.3	28.4	10.0
Total	25.1	74.4	24.3	9.5

From October 2016 to the present time the epidemiological national survey provided by WHO is going to determine the prevalence of the key behavioural and biological risk factors (tobacco and alcohol use, physical inactivity, unhealthy diet, overweight and obesity, high level of blood pressure, abnormal blood glucose and lipids) for non-communicable diseases (NCDs) in the adult population (18 to 69 years), using the WHO STEP-wise approach to non-communicable diseases surveillance (STEPS).

References:

1. Public health care in the Republic of Belarus: official statistics collection for 2015 - RSML, 2016. - 281 p.
2. Health of the Republic of Belarus population: a statistical digest - The National Statistics Committee of Belarus, 2014. - 218 p.
3. WHO Diabetes Country Profiles 2016, http://www.who.int/diabetes/country-profiles/en

III. Main actors and Prevention methods

Who delivers?

Belarus has shown political commitment for CVD prevention activities at population and individual level.

Belarus was one of the first countries in the European Region to ratify the WHO Framework Convention on Tobacco Control. The country has adopted a number of regulations concerning tobacco and alcohol, including taxation, bans on advertising, and age limits at the point of sale. The population based interventions are grouped around the main areas: tobacco control, harmful use of alcohol, diet and physical activity.

In Belarus the new National State program «Health of the Nation and the demographic security of the Republic of Belarus» is currently being developed for the years 2016 - 2020, including «Prevention and control of noncommunicable diseases» through intersectoral cooperation. It involves different ministries:

- the Ministry of Health
- the Ministry of Education
- the Ministry of Trade
- the Ministry of Emergency Situations
- the Ministry of Finance
- the Ministry of Internal Affairs
- the Ministry of Agriculture and Food
- the Ministry of Sports and Tourism
- Belarusian State Food Industry Concern
- National Belteleradiocompany
- National Academy of Sciences of Belarus
- civil societies

The population and individual interventions for CVD prevention are going to be synchronised with the European Health 2020 strategies, and will be linked to work of international organisations as the United Nations Organization (UNO) in the country through the World Health Organization (WHO) and the UN Development Assistance Framework (UNDAF).

In Belarus there is a dispensary system of monitoring to aim for wide population coverage of prevention and early detection of CVD. For example, the screening for hypertension is mandated as part of the routine physical examination of all physicians regardless of the reasons for a clinic visit. People undergo medical examinations in policlinics by place of residence or in health organisations to which they are attached. The implementation of dispensary system of monitoring is carried out by district primary care physicians or general practitioners and (or) other medical specialists on the profile of the disease together with assistant doctor and nurses. Clinical examination includes detection of biological (blood pressure, obesity, and blood glucose) and behaviour (smoking, alcohol consumption) CV risk factors and SCORE risk assessment according the Decree of the Ministry of Health of the Republic of Belarus №96 in August 12, 2016. After the medical examination a doctor determines the group of follow-up, further of which depends on the monitoring plan. One of the main activities of dispensary system is

the promotion of healthy lifestyles and educating citizens to take own responsibility for their health. Cardiologists, physicians of prevention and rehabilitation departments in policlinics, clinics and high-specialised centers are also involved in CVD prevention. They conduct educational and methodical work with primary care physicians as well.

Guidance

The national and European guidelines are used and actively promoted among primary care physicians and included in education. The full text of the national guidelines is posted on the website of Republican Scientific and Practical Center «Cardiology». Moreover, the main aspects of prevention, diagnosis and treatment are included in national CVD protocols of the Ministry of Health.

Quality control

The Ministry of Health sets up permanent study committees on CVD monitoring issues where data of CVD mortality are monitored on a monthly basis from all regions of the Republic.

References:

1. www.minzdrav.gov.by/ru/static/acts/normativnye/postanovlenia_ministerstva/ob-utverzhdenii-instruktsii-o-porjadke-provedenija-dispanserizatsii_i_2050.html (Russian) / http://www.minzdrav.gov.by/en (English)
2. www.cardio.by/fsoj (Russian only)
3. www.cardio.by/natsionalnie-rekomendatsii (Russian) / http://www.cardio.by/english (English)

IV. Main Prevention activities

Campaigns

Belarus shows positive changes in terms of reduction of CVD mortality due to the State program «Cardiology» (2011–2015), approved by the Resolution of the Council of Ministries of the Republic of Belarus in 2011. The main tasks were prevention and early diagnosis of CVDs, implementation of new medical technologies for patients with acute coronary syndrome (ACS), arrhythmias and stroke in clinical practice and the improvement of the CVD health care system. Thanks to the preventive work of health and education organisations, for the first time over the past 20 years, stabilisation of overall CVD morbidity was registered, the awareness of children and adolescents on the principles of a healthy lifestyle increased to 45-50%, and the awareness of young people and adults about the risks of CVD development has grown to 90%.

In 2011 the Project «Acute Coronary Syndrome» started and promoted a development of health care system in patients with acute coronary syndrome, allowing in recent years a reduction in mortality caused by acute myocardial infarction (AMI) in Belarus. Standardised AMI mortality rate decreased from 14.3 in 2010 to 10.8 in 2014 per 100.000 inhabitants.

From 2015 until now the project «Road Map» has been developed to offer patients with ACS maximum inter-regional accessibility to coronary intervention at all care levels (primary, emergency, hospital).

Projects

Every year at least 2-3 nationwide medical actions are organised by the Republican Scientific and Practical Center «Cardiology» with the participation of 150 to 350 thousand Belarusian inhabitants. Those events were usually held at supermarkets, shops, pharmacies and the buildings of the district administrations. During those events, lectures were organised; publications and flyers were distributed in factories, organisations and educational institutions. Activities included also consultation by telephone on CVD risk factors and promoting healthy lifestyles in policlinics as well as in specialised centres. In 2016 a national medical and educational event «Healthy Heart - a successful future» and an educational campaign «Day of knowledge about heart failure» were held.

The project "Healthy City" is implemented with the active cooperation of regional and local executive committees, hygiene and epidemiology centers, the Belarusian Red Cross Society and the local population. The project "Healthy City» was promoted in all regions of the country, with the most active: Gorki, Senno. In 2016 Gorki joined the European network of WHO European Regional Office «Healthy Cities».

In Belarus a series of books for children «True Friends and heart stories» were published, promoting healthy lifestyles and educating children to take own responsibility for their health.

Annually up to 1.500 cardiologists give information on national and regional TV; more than 3.900 of their conversations are at national, regional and municipal radio. 1.400

articles are published in national, regional and district periodicals and more than 100 informational and educational materials (memos, flyers, booklets) are devoted to CVD prevention (total edition more than 850 000 copies).

Education

Today a large number of lectures, seminars and training courses are carried out by specialists and cardiologists among physicians related to cardiovascular prevention. In Belarusian Academy of Postgraduate Education there is learning with IT-telemedicine training modules and tests for physicians available. In medical universities the student website successfully operates a system of computer testing with the work of the student forum and feedback to the teachers; also the presentations and educational materials are posted. The electronic library catalogue is providing full-text access to authorised users to a large content of educational and methodical literature.

References:

1. www.minzdrav.gov.by/ru/static/activities/gosudarstvennye_programmy/Kardio_Characteristic (Russian) / http://www.minzdrav.gov.by/en (English)
2. www.medvestnik.by/ru/zozh/view/itogi-dnja-znanij-o-serdechnoj-nedostatochnosti-belorusam-vysshij-ball-15865-2016
3. www.belmapo.by/zdoroviy-obraz-zhizny-novosty.html (Russian only)
4. www.lenadm-mogilev.gov.by/newsregion/9289-gorki-vstupili-v-evropejskuyu-set-zdorovye-goroda
5. www.belmapo.by/fakultetyi.html (Russian only)
6. www.bsmu.by/page/3/24

V. Cardiac Rehabilitation (CR)

For whom

In Belarus cardiac rehabilitation is widely used since 1983, in patients with chronic ischemic heart disease and myocardial infarction by the original national programs. It should be emphasised that among the Republics of the former Soviet Union priority to create programs of early physical exercise on the cycle ergometer for post AMI patients belongs to the Belarusian Research Institute of Cardiology (now Republican Scientific and Practical Center «Cardiology»). Reduction of mortality from AMI since 1986 by more than 48%, decrease in length of temporary disability and high rate of return to work were also due to introducing new technologies of cardiac rehabilitation in such patients.

In the last 10 years new original science-based programs were created for:

- rehabilitation of patients after PCI
- coronary bypass surgery
- surgery of acquired heart defects
- after surgical micro bypass of intracranial branches of the internal carotid artery
- after heart transplantation and others.

Cardiac rehabilitation is carried out without age limits and costs covered by State in the following groups of patients (in the absence of contra-indications):

a) Patients after AMI,
b) Patients after revascularization with PCI,
c) Patient post-surgical revascularisation (CABG),
d) Patients after cardiac surgery for valve disease, congenital or acquired,
e) Patients after heart transplantation.

In 2016, 53.3% of patients after AMI underwent cardiac rehabilitation in cardiology or cardiac surgery departments of hospitals, among them 84.1% were patients in working age.

By whom and how

Complex cardiac rehabilitation should include the following elements:

1. Assessment of the clinical status of the patient;
2. Optimisation of pharmacological treatment;
3. Physical rehabilitation - controlled stepwise increase in physical activity, adopted to the individual abilities of the person;
4. Psycho-social rehabilitation, with the purpose to teach the patient to help himself in stressful situations, emotional disorders, such as anxiety and / or depression;
5. Control of CVD risk factors and lifestyle change;
6. Training of patients and their relatives;
7. Monitoring and analysis effects of cardiac rehabilitation.

In Belarus there are several stages of cardiac rehabilitation:

1. a hospital stage in cardiology or cardiac surgery departments

2. a specialised hospital stage in the departments of rehabilitation in regionals hospitals or the Republican clinical hospital of medical rehabilitation, where it is possible to carry out CR under the medical supervision, taking into account the functional state of the cardiovascular system
3. an ambulatory-policlinic stage.

Audit and costs

Monitoring and control of cardiac rehabilitation is regularily performed by authorised specialised cardiologists as part of the comprehensive audits of cardiac health care on regional and republican levels.

References:

1. http://www.cardio.by/statyasudjaeva_page (Russian)
2. Sudzhaeva S., Sudzhaeva O. Rehabilitation after myocardial revascularization, 2009.-128p.

VI. The Future

Needs

The main strategic needs for prevention and rehabilitation are a widening of profile interventions to reduce the burden of CVD at population and individual levels:

- monitoring, analysis and control of the prevalence of main CV risk factors: tobacco, alcohol, nutrition, high blood pressure and physical activity in population;
- changing attitudes through greater engagement of population in their own care;
- strengthen primary health care and develop alternative model based on family medicine for a greater role in primary and secondary prevention of CVD, especially early detection of risk factors;
- better coordination of the patients flow between levels of health care.

Possibilities

The best possibility for improving CVD prevention and outcomes in Belarus lies in scaling up population interventions to reduce the prevalence of smoking, alcohol consumption and other major CV risk factors (hypertension and hyperlipidemia) and to promote healthier lifestyles.

The greatest opportunities also include:

1) involvement of all structures of society in the primary prevention of CVD,
2) promotion of modern technology for healthy lifestyles education,
3) carrying out active work in an accessible form and to reduce marketing of unhealthy foods and beverages for children in kindergartens and schools,
4) introduction of legislative acts to reduce salt and sugar intake for population,
5) creating favourable conditions for the motivation of employees to lead healthy lifestyles,
6) changing the profile of CVD interventions towards a higher degree of participation and involvement of patients.

Obstacles

The key obstacles for implementing more effective CVD prevention and rehabilitation are stereotypical approach to preventive measures for CVDs as the measures that do not require investments; the inertia of potential organisations-partners in the aspect of inter-sectoral cooperation; insufficient motivation and responsibility of population for their own health.

Plans

The obtained reliable and qualitative data on the prevalence of major CVD risks at population level of the STEPS survey will make it possible to justifiably plan the relevant policy and to develop efficient prevention and control measures in Belarus. In the future it will be necessary to implement the main objectives of the National State program «Prevention and control of non-communicable diseases» and to create an effective system of monitoring and of quality assessment.