

THE BURDEN OF CARDIOVASCULAR MODIFIABLE RISK FACTORS IN THE REPUBLIC OF MOLDOVA

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Abstract: The aim of this article is to bring forward and realize the dimension of the cardiovascular risk problem and its impact in the Republic of Moldova. Most cardiovascular disease could be prevented by reducing the four risk factors: smoking, unhealthy diet, physical inactivity, alcohol abuse - that is the group of modifiable behavioural factors. Despite this, there is incomplete statistical evidence and monitoring of the modifiable cardiovascular risk factors in the Republic of Moldova. This situation complicates the decision making process for cardiovascular prevention interventions at all levels, determining a stately reserve to optimize cardiovascular prevention by reducing the modifiable risk factors in the Republic of Moldova.

Cuvinte cheie: maladii cardiovasculare, factori de risc modificabili, prevenție cardiovasculară

Rezumat: Scopul lucrării este de a estima și a realiza dimensiunea impactului și problematica factorilor de risc cardiovascular în Republica Moldova. Cea mai mare parte a maladiilor cardiovasculare ar putea fi prevenite prin reducerea a patru factori de risc: fumat, dietă nesănătoasă, inactivitate fizică, consumul abuziv de alcool – ce reprezintă grupa de factori comportamentali de tip modificabili. În pofida faptului, în Republica Moldova se constată o evidență statistică incompletă cu privire la factorii de risc cardiovascular modificabili, nefiind supuși unei monitorizări ample. Fapt, ce complică efectuarea deciziilor pentru intervenții de prevenție cardiovasculară la toate nivelele și totodată determină o rezervă impunătoare pentru optimizarea prevenției cardiovasculare prin reducerea factorilor de risc modificabili în Republica Moldova.

INTRODUCTION

Cardiovascular diseases are widely regarded as one of the most important public health issues of the 21st Century. This is determined by the presence of the phenomenon worldwide, as measured by the increased damage to the population's health status. According to WHO, of 57 million deaths in 2008, 36 million, representing 63%, were caused by the non-communicable diseases. It was found that the share of the major non-communicable diseases lies in four diseases: cardiovascular diseases (48%), cancer (21%), chronic respiratory disease (11.7%) and diabetes (3.6%).

The main risk factors for cardiovascular disease are smoking, high blood pressure and high blood glucose and cholesterol - factors that are in direct relation to an individual's lifestyle, eating habits and physical activity levels. Other cardiovascular risk factors include: obesity, diabetes, excessive

alcohol consumption and psychosocial stress.(3)

According to the possible intervention, the risk factors for cardiovascular diseases are divided into two main categories: modifiable and non-modifiable. Modifiable risk factors include three types: biological, behavioural and general. So, the first type includes the modifiable factors, such as: high blood pressure, high blood glucose, high blood cholesterol, obesity and overweight. The risk factors related to behaviour are: tobacco use, unhealthy diet, physical inactivity and the harmful use of alcohol. The third type of general modifiable risk factors includes: education, income, living and occupational conditions (table no. 1). In this context, it is important to note that the Action Plan for the Global Strategy for the Prevention and Control of Non-communicable Diseases WHO (2008-2013) considers the modifiable factors as a main target for cardiovascular risk reduction intervention.(10)

Table no. 1. Cardiovascular risk factors classification

MODIFIABLE		NON-MODIFIABLE	
BIOLOGICAL	BEHAVIOURAL	GENERAL	
High blood pressure	Tobacco use	Education level	Age
High blood glucose	Unhealthy diet	Income	Sex
High blood cholesterol	Physical inactivity	Living conditions	Genetics
Overweight/ obesity	Alcohol abuse	Occupational conditions	Ethnicity

The Source: European Society of Cardiology (ESC). Clinical Practice Guidelines. CVD Prevention in clinical practice. European Journal of Cardiovascular Prevention and Rehabilitation, September 2007,14, (supp 2):E11-E40. Available at: <http://www.escardio.org/guidelines-surveys/esc-guidelines/Pages/cvd-prevention.aspx> Accessed April 9, 2012.

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PURPOSE

The purpose of this paper is to estimate the burden of modifiable cardiovascular risk factors in the Republic of Moldova, with a view to emphasize the need to promote better reducing interventions and an ample cardiovascular risk monitoring.

METHODS

To achieve this purpose, I used descriptive research method (synthetic analysis) based on statistical data of the World Health Organization (2010) and of the National Centre for Health Management in Moldova (2010).

RESULTS

Cardiovascular diseases have become of primary importance because of the spread and increase of their negative impact on the working capacity of the population in economically-developed countries and in the Republic of Moldova, as well. For a population of about 3.5 million people, as it is the case of the Republic of Moldova, at present (4), it is alarming that over 400 000 people are suffering from diseases of the circulatory system. In addition, the prevalence of cardiovascular diseases patients increases every year (table no. 2).

In 2008, most of the deaths of the population of the Republic of Moldova were caused by diseases of the circulatory system - 55.95% of deaths, followed by malignant tumors - 13.21% deaths. Most deaths of the working age people in Moldova have been caused by diseases of the circulatory system, which in 2009 recorded the value of 136.2 and in 2010 – 147.5 deaths per 100,000 population, registering an increase in comparison with the previous years.

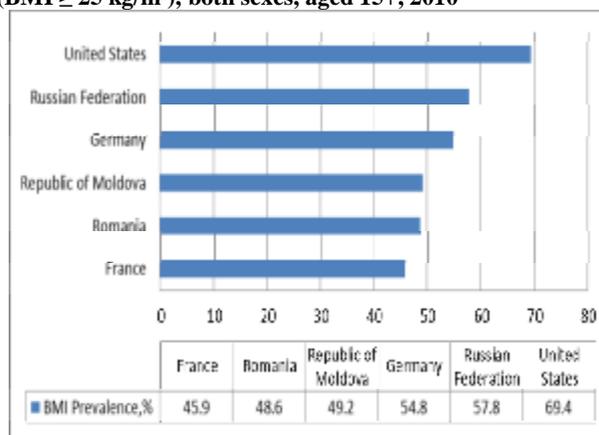
Cardiovascular diseases rank second in the general morbidity structure of the adult population, being the first for the population aged 60+ years. Regarding the dynamics of cardiovascular diseases of the population of the Republic of Moldova, there is a tendency of these conditions to occur in the young population. The rate of primary disability increased from 299.0 (in 2003) to 372.7 (in 2010) per 100,000 inhabitants in the Republic of Moldova.

According to the findings mentioned above, the monitoring of cardiovascular risk factors could provide a plus of confidence to improve cardiovascular health. Within this context, the situation in Republic of Moldova is sufficiently alarming. According to the WHO statistics, only statistical data on three factors are offered on all cardiovascular modifiable risk factors for the Republic of Moldova, representing 37.5% of the total. For these three modifiable factors of cardiovascular risk (two are behavioural and the other is biological) processed by WHO (tobacco use, alcohol abuse, overweight and obesity), the situation compared to other world countries does not seem to be encouraging at all.

1. Overweight and obesity: Obesity is a high prevalence phenomenon in high-income countries and in low-income countries, as well. According to WHO, 42% of world population is obese or suffers from excess weight. The study “Analysis of the health of the population of Republic of Moldova in terms of statistical indicators for the period 2005-2009” estimates that the share of the obese people aged 15+ years old is increasing from 0.39% (in 2005) to 0.45 % (in 2009) in the Republic of Moldova. This study also concluded that statistical evidence is incomplete, overweight and obesity not having been subject to extensive monitoring in the Republic of Moldova.(4)

Compared with other countries, the Republic of Moldova does not hold the first place in the world regarding the overweight and obesity (figure no. 1), but given the trend of increasing the proportion of overweight and obesity people, it is clear that the problem is sufficiently stringent in the Republic of Moldova.

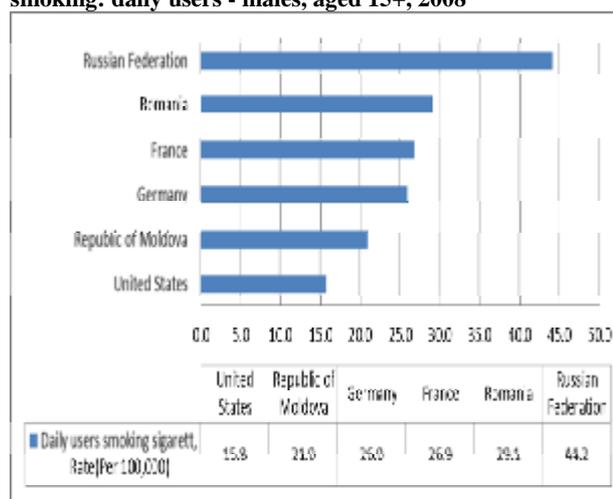
Figure no. 1. Overweight and obesity prevalence on age (BMI ≥ 25 kg/m²), both sexes, aged 15+, 2010



Source: Global status report on non-communicable diseases 2010 http://www.who.int/nmh/publications/ncd_report2010/en/ download 03/05/2012

2. Tobacco use: It is well known that active smoking increases the risk for heart disease and cerebrovascular disease in 100% cases.(5) In most of the developed countries, between 1981 and 1991, tobacco use has declined considerably. However, in the countries with low and medium income, the number of smokers increase by about 3.4%, being even dramatic for some of them. According to WHO (8), in Moldova, for tobacco use prevalence compared with other countries, a situation that is actual for most developing countries with low economic income is estimated (figure no. 2).

Figure no. 2. Age-standardized prevalence estimates for smoking: daily users - males, aged 15+, 2008



Source: Global status report on non-communicable diseases 2010 http://www.who.int/nmh/publications/ncd_report2010/en/ download 03/05/2012

Table no. 2. Incidence and Prevalence of Cardiovascular Diseases in the Republic of Moldova per 10.000, between 2003 and 2010 (6)

	2003	2004	2005	2006	2007	2008	2009	2010
Incidence	142,6	184,3	242,9	212,5	197,2	169,2	167,8	154,1
Prevalence		779,5	921,4	986,7	1100,9	1161,1	1233,4	1249,2

3.

Alcohol abuse: World Health Organization (WHO) estimates that alcohol causes 1.8 million deaths (3.2% of the total). Alcohol is one of the leading risk factors for chronic disease impact in the developing countries and occupies the third place in the developed countries. Mortality due to any cause is remarkably increased in alcohol consumers. According to WHO, in the Republic of Moldova, for adult per capita consumption of pure alcohol, an impressive abuse is estimated, holding one of the top positions in the world.(8)

DISCUSSIONS

As World Health Organization estimates most cardiovascular disease could be prevented by reducing the four risk factors: smoking, unhealthy diet, physical inactivity, alcohol abuse - representing the group of modifiable behavioural factors. All level of interventions are important for cardiovascular health promotion, reducing high blood pressure, obesity, smoking and cholesterol will decrease by more than half the incidence of cardiovascular disease.(9,10) Therefore, determining the level of blood pressure, glucose and blood cholesterol, tobacco use and sedentary lifestyle must be an integral part of any medical examination. However, there is incomplete statistical evidence and monitoring of the modifiable cardiovascular risk factors in the Republic of Moldova. This situation complicates the decision making process for cardiovascular prevention interventions at all levels, determining a stately reserve to optimize cardiovascular prevention by reducing the modifiable risk factors.

CONCLUSIONS

1. Cardiovascular health represents an important public health issue in the Republic of Moldova.
2. Complete statistical evidence and ample monitoring of the modifiable cardiovascular risk factors will help improving cardiovascular prevention in the Republic of Moldova.
3. Cardiovascular disease can be prevented essentially by making appropriate and oportune cardiovascular prevention at all interventions levels, thus following the main directions of cardiovascular health promotion worldwide.

REFERENCES

1. Allender S, et al. European cardiovascular disease statistics. British Heart Promotion Research Group, Department of Public Health, University of Oxford. Edition; 2008. p. 1-113.
2. American Heart Association. International Cardiovascular Disease Statistics. Available at <http://www.americanheart.org/downloadable/heart/1236204012112INTL.pdf>.
3. European Society of Cardiology (ESC). Clinical Practice Guidelines. CVD Prevention in clinical practice. European Journal of Cardiovascular Prevention and Rehabilitation, September 2007,14, (supp 2):E11-E40. Available at: <http://www.escardio.org/guidelines-surveys/esc-guidelines/Pages/cvd-prevention.aspx> Accessed April 9, 2012.
4. Politicile de combatere a obezității. Monitor Politici de

sănătate. Institutul de sănătate și asistență Socială. Buletin electronic. 2011;1.

5. Lloyd-Jones D, Adams R, Carnethon M, et al. Heart disease and stroke statistics—2009 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*. 2009;119:e21-e181.
6. Raportul anual al Centrului National de Management și Sanătate, Anuarul statistic al sistemului de sănătate din Moldova anul 2010. <http://www.ms.md/public/info/analiza/statistics/20100/erfff/> (citat 21 aprilie, 2012)
7. Tintiuc D și alții. Sănătate Publică și Management. Chișinău; 2007. p. 762-771.
8. World Health Organization (WHO). Global status report on noncommunicable diseases 2010. World Health Organization (2011). Available at:http://www.who.int/nmh/publications/ncd_report2010/en/ downloaded 03/05/2012 p.1-31.
9. World Health Organization (WHO). Global Atlas on cardiovascular disease prevention and control. World Health Organization (2011). Available at:http://whqlibdoc.who.int/publications/2011/9789241564373_eng.pdf downloaded 03/20/2012
10. World Health Organization (WHO). 2008-2013 Action Plan for the Global Strategy for the Prevention and Control of the Non-communicable diseases. Geneva, WHO 2008. Available at: <http://www.who.int/nmh/publications/9789241597418/en/> downloaded 03/20/2012