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DETERMINANTS OF HEALTH POLICIES IN THE FIELD OF CARDIOVASCULAR POLICIES

Abstract:

The theme of public health is one with a very strong impact on the entire population. The problems in this sector affect every patient or potential patient, which is why public attention is very high on this topic. The interest in addressing this issue arises from the need for the balanced health status of the population, and health policies can support this goal. Public Health Policies refer to three aspects, based on the health system performance concept developed by the World Health Organization: population health status, citizens' satisfaction with the performance of the health system and the extent to which the system provides financial protection. Thus, the field of study of health policies is a general interest, and health policies in the field of cardiovascular medicine also taking into account that cardiovascular disease is the leading cause of death worldwide, according to statistics. This article aims to address the importance of health policies from the perspective of their determinants, given the influence of the population's illnesses on the development of health policies.

Keywords:

health, health policies, cardiovascular medicine, development

JEL Classification: H51, H75, I10

1. Introduction

In the modern age, the health of a community has become more vulnerable and dependent on the health of other communities, thanks to the opening of borders and fast transport opportunities to any corner of the world. The transport of people and goods, as well as intensified migration, pose a risk that can only be partially controlled by health authorities, despite the effectiveness of national policies adopted in the field. Thus, the development and health problems of less developed societies can also indirectly affect developed societies. These types of problems have generated joint regional cooperation strategies between countries with the support of global organizations such as the World Health Organization or regional bodies, such as the EU's fora, with the objective of finding solutions for improving global or community health issues, and standard of living.

Concerning health policy, this is a set of priorities and directions of development in the field of health, which aim to strengthen the health of the population, achieve adequate living standards and create the optimal conditions for maximum realization of the health potential of each person throughout their lives. Of course, these targets are valid for all countries in general, and each country, depending on its degree of development, will implement them. Globally, cardiovascular disease is the leading cause of death. Approximately 17.5 million people died of cardiovascular disease in 2005, accounting for 30% of total global deaths. Of these deaths, 7.6 million were caused by myocardial infarction and 5.7 million due to stroke and 4.2 million due to hypertension and other cardiac conditions. Approximately 80% of these deaths occurred in low and middle-income countries. The World Health Organization (2008) has warned that by 2025 approximately 20 million people will die of these conditions. (WHO, 2008, pp. 36-47).

1. Literature Review

The main risk factors for cardiovascular disease have been identified in a study by D'Agostino et al. (2008) in Massachusetts, three generations of people, a study that began in 1948 and was completed in 2007. The study identified the following risk factors and used them to calculate over 10 years the absolute risk of general cardiovascular diseases specific to women and men, respectively: age, diabetes mellitus, total cholesterol, systolic blood pressure, and smoking. Also, a global study, conducted by Yusuf et al. (2004) and led by McMaster University of Canada identified the same risk factors for myocardial infarction, adding stress, lack of daily fruit and vegetable intake and lack of daily exercise to more than 37,000 patients in 55 different countries and cultural backgrounds different. Studying the factors that lead to cardiovascular disease, authors Groah et al. (2011), Lieberman et al. (2011), Middleton et al. (2008) concluded that the key factors in cardiovascular risk for the poor are the same as in the case of the population with good physical condition, although, in the case of people with poor physical condition, almost all of these risk factors are amplified, including inactivity physical, unbalanced diet, lack of regular medical consultation. Therefore, cardiovascular disease has been identified as a priority area for improving health in most European countries. According to Schwamm et al. (2006), both in Europe and in the USA, modernization in hospital units has always begun with cardiology departments, as evidence of decision-makers' awareness of the importance of this area to the health of the population.

Anderson (1972, 1989) and Roemer (1985, 1993) studied the determinants of health policies, noting a total of 39 factors that influenced the development and implementation of health policies,

among the most important being a lifestyle, implicitly, the degree of development of the state in which people live. These factors also have the effect of causing other diseases, which also determine the need for health policies to be developed and implemented. Given that health policies aim to maintain the balanced health status of the population, they will be influenced directly by the factors that lead to the occurrence of certain diseases and, on the other hand, by the incidence of diseases. Thus, many studies describe the factors that determine the need to implement policies in the field of cardiovascular medicine. Specialist literature presents a variety of studies on health policy determinants, including Omran (1971), Reddy (2002), Gupta et al. (2011).

According to Kesteloot et al. (2006), the decrease in cardiovascular mortality in European countries and North American countries followed two phases: the first phase took place between 1970 and 1990 and was due to measures based on the control of population risk factors, initiated measures changes in smoking policies, substitution of vegetable fat for animal fats, and promotion of physical activity. The second phase took place in the 1990s and is attributed to better management of policies on risk factors for acute cardiovascular disease, as well as to the long-term use of medication and specialized evidence-based procedures. One of the conclusions of the article was that funding and good management of health policies, and especially cardiovascular, public health resource resources, as well as capacity building of the public health system, is a key issue in reducing the mortality rate. (Kesteloot et al., 2006, pp. 107-113).

2. Health Policies in the Field of Cardiovascular Medicine

Health policies in the field of cardiovascular medicine have evolved around the 1950s when, after the war, a variety of structures and organizations were created to rebuild the destroyed economies and set up the basic services needed by people. In all developing regions, infant mortality from cardiovascular causes in the 1950s exceeded 125 per 1,000 live births and rates in Africa and Asia exceeded 180. Life expectancy ranged from the age of thirty-five in the poorest countries less developed until the age of fifty-one in Latin America. (Greenberg et al., 2005, pp. 5-35). Thus, measures have been taken to reduce mortality and support the health of the population. In this respect, medical care, as well as certain general rules, ie the beginning of health policies in this area, have been an integral part of the effort to reduce infant mortality during that period.

A first step was represented by the United Nations (UN) and the philanthropic foundations at the time, who have invested in health programs aimed at addressing childhood cardiovascular disease, and are associated with significant decreases in infant mortality and increases in life expectancy, even in less developed countries. (Filmer and Pritchett, 1997, pp. 1-46). According to Chamie (2004), however, some of these gains concerning the outline of cardiovascular health policy-makers that led to a reduction in mortality rates occurred before major global health care began. (Chamie, 2004, pp. 1-6). Currently, with the exception of the least developed countries, especially in sub-Saharan Africa, the projections for the effects of health policies in this area show that, by 2050, the infant mortality rate due to these diseases in developing countries will be reduced, reaching roughly equal to that of industrialized countries, and thus the life expectancy in developing countries will be only ten years apart from industrialized countries. Thus, we can say that these policies are essential, given that developing countries now face an increased number of cardiovascular diseases, in place of infectious conditions that have affected and reduced the population. (Chamie, 2004, pp. 1-6).

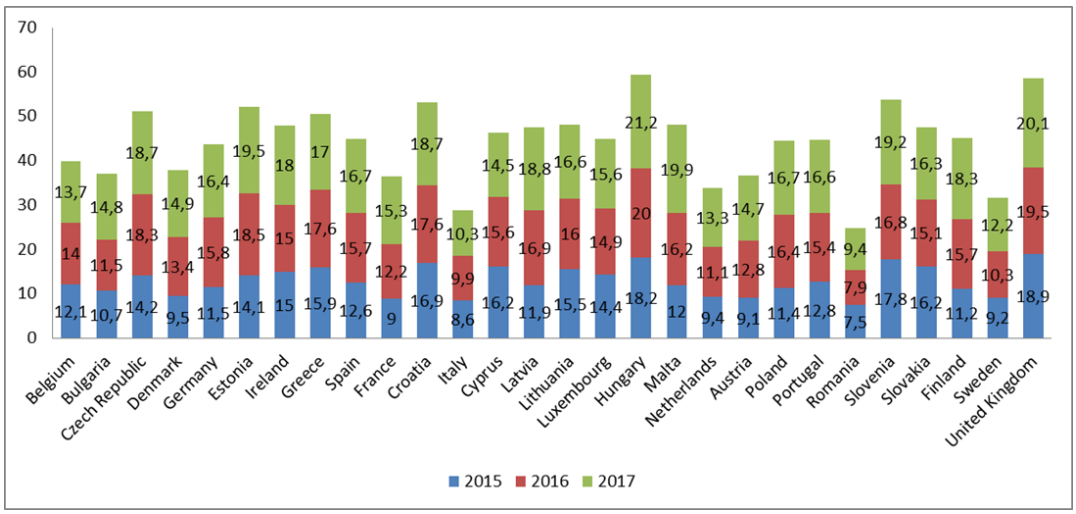
3. Determinants of Health Policies

Lioyd-Jones et al. (2006) differentiate the determinants that play an important role in the development of cardiovascular diseases, namely non-modifiable factors and factors that can be changed in turn by other factors. Thus, non-modifiable factors are those risk factors that a person can not change, such as age, gender, ethnicity, and heredity. The incidence of cardiovascular disease increases with the aging of the population; ethnicity and heredity play an important role in the development of cardiovascular diseases so that people with a family history are at greater risk for developing these conditions. Modifying risk factors are those that a person can change, including cholesterol levels in the blood being modified with a diet rich in saturated fats, obesity, physical inactivity, high blood pressure, nicotine, and alcohol consumption. Obesity is associated with a higher incidence of mortality due to cardiovascular disease and physical inactivity, which also increases the risk of developing cardiovascular disease. On the other hand, at the individual level, several issues determine the implementation of health policies. (Lioyd-Jones et al., 2006, pp. 791-798).

- *Obesity*

Song et al. (2016) have shown that obesity is very often linked to premature mortality because it leads to an increased risk of diabetes, stroke and other cardiovascular system problems. According to Cawley (2011), risk factors for obesity and the cardiovascular system are extremely widespread among urban adults in particular, which requires urgent policies to prevent the growth of chronic illness. Farwell et al. (2017) demonstrated that the incidence of cardiovascular disease and its risk factors are two to three times higher in the urban area compared to rural study subjects. The study also shows that among industry employees, 27% of them were overweight and 41% face obesity. The stated reason was the sedentary lifestyle with very low physical activity. Thus, the study positively associates the body mass index with the occurrence of cardiovascular disease, which is why the authors support the importance of policies in this field.

Figure 1 – Evolution of Adult Obesity Rate in the European Union



Sources – author, based on data available at https://ec.europa.eu/health/sites/health/files/state/docs/2018_healthatglance_rep_en.pdf

Regarding the obesity rate, this is increasing, however, according to statistics, Romania is in the last place in the United States. The highest rate of obesity among adults is seen in Hungary (18.2% in 2015, 20% in 2016 and 21.2% in 2017), followed by the UK (18.9% in 2015, 19, 5% in 2016 and 20.1% in 2017). Romania is ranked last, with an average annual growth rate of about 2% and an obesity rate of 7.5% in 2015, 7.9% in 2016 and 9.4% in 2017.

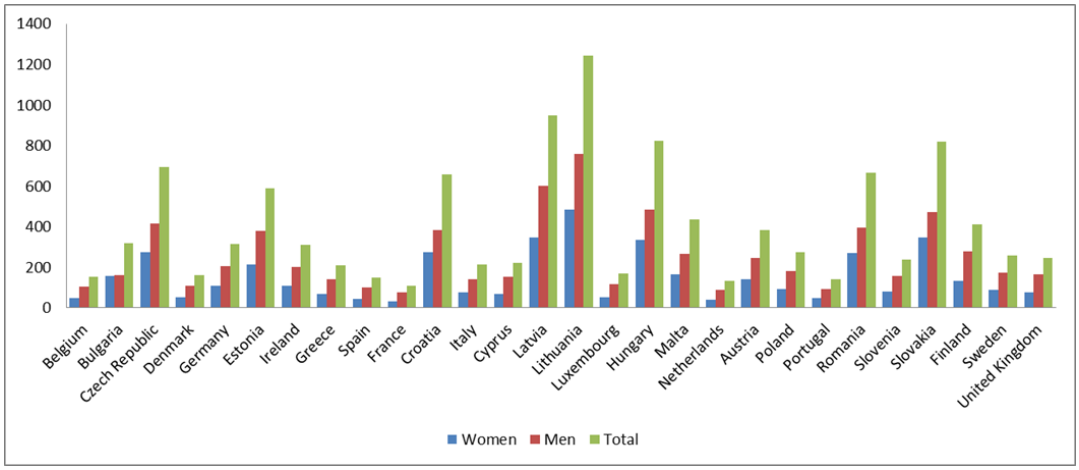
- *Inactivity*

Siegel et al. (2009) support the importance of health policies, given that physical inactivity increases the risk of high blood pressure and sedentary women are at up to 55% higher risk of developing high blood pressure compared to women of the same age who practice physical activity. Approximately one-quarter of all global ischemic heart disease is based on physical inactivity. (Siegel et al., 2009, pp. 1115-1121). According to Weir et al. (2006) worldwide, more than 60% of adults do not do enough physical activity, beneficial to health. Physical inactivity is more common among women, elderly adults and people with disabilities. (Weir et al., 2006, pp. 771-780). Goyal and Yusuf (2006) showed that the prevalence of physical activity in leisure time was substantially lower among Asians compared to the rest of the world, which is why, the authors support, the implementation of health policies in certain areas, it is necessary to take into account of these issues. Thus, cardiovascular policies need to be adapted to the level of development of the state and the population (Goyal and Yusuf, 2006, pp. 235-244). Appearance supported by Rengma et al. (2015), who considers that physical inactivity, now recognized as a major degrading factor of health, is the result of a progressive change in lifestyle towards a more sedentary model, mainly developing countries. The study focused on unhealthy diets and physical inactivity, which led to obesity. Excess fat in the body is the main cause of approximately 60% of people suffering from diabetes and cardiovascular disease in India. (Rengma et al., 2015, pp. 199-208).

- *Hypertension*

Gemmell et al. (2006) have built a model to estimate the possibility of reducing the risk of acute myocardial infarction and stroke in England. The authors assessed the effect of several interventions on the incidence of such conditions over a period of one year using the following variables: population size, incidence, proportion of the population with each risk factor, causes of mortality; the results showed that 73,522 serious cardiovascular diseases could be prevented in England each year, and lowering all people's cholesterol would prevent 59,680 new serious cases; decreasing the percentage of the population with high systolic blood pressure would prevent 18,105 new cases of illness. (Gemmell et al., 2006, pp. 339-343). Thus, in England, the National Health Service prioritized a program for coronary heart disease, with the government allocating funds for a national program in which cardiovascular screening (as well as screening for diabetes and stroke) was made available to all through the NHS (National Health Service), a program that has become a plan to address cardiovascular disease and set standards that should be available across the country. Data on this type of illness in the UK for the period 2006-2007 shows a reduced national rate of 3.6% (2008). (National Health Service, 2011, pp. 11 – 55). Dragland (2003) demonstrated that high blood pressure in people under 50 years of age is associated with cardiovascular risk. Hypertension is a major global cardiovascular risk factor due to longevity and the prevalence of factors contributing to this, such as obesity. (Dragland et al., 2003, pp. 1286-1290). Dauchet et al. (2007) estimate that a 5 mmHg decrease in systolic blood pressure results in a 14% reduction in stroke mortality rates such as stroke and a 9% reduction in mortality rates from causes such as coronary heart disease. It is also estimated that a 10% decrease in cholesterol would result in a 15% decrease in mortality due to coronary artery disease. (Dauchet et al., 2007, pp. 1650-1656).

Figure 2 – Number of deceased people due to blood pressure disorders in 2017



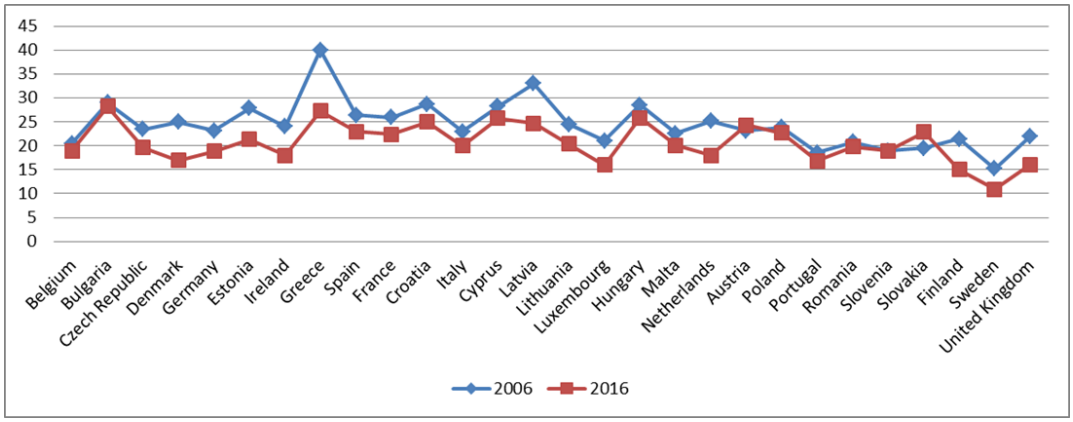
Sources – author, based on data available at https://ec.europa.eu/health/sites/health/files/state/docs/2018_healthatglance_rep_en.pdf

The analysis shows that the number of men who died due to hypertension is higher than the number of women in all EU Member States. Statistics show that Romania is ranked 6th in terms of mortality caused by hypertension; the first place in Lithuania, followed by Latvia, Slovakia, and Hungary; in 2017, the lowest mortality rate due to the effects of high blood pressure is found in France.

- *Smoking*

According to Mokdad (2004), smoking is strongly associated with an increased risk of coronary heart disease in women with type 2 diabetes. Furthermore, smoking cessation seems to substantially reduce this risk. (Mokdad et al., 2001, pp. 1238-1245). Studies such as those drafted by Alberg et al. (2003), Bloomer et al. (2008), Akl et al. (2010) show that smoking affects the occurrence of cardiovascular disease, which is why various police officers are required.

Figure 3 – Changes in daily smoking rates among adults



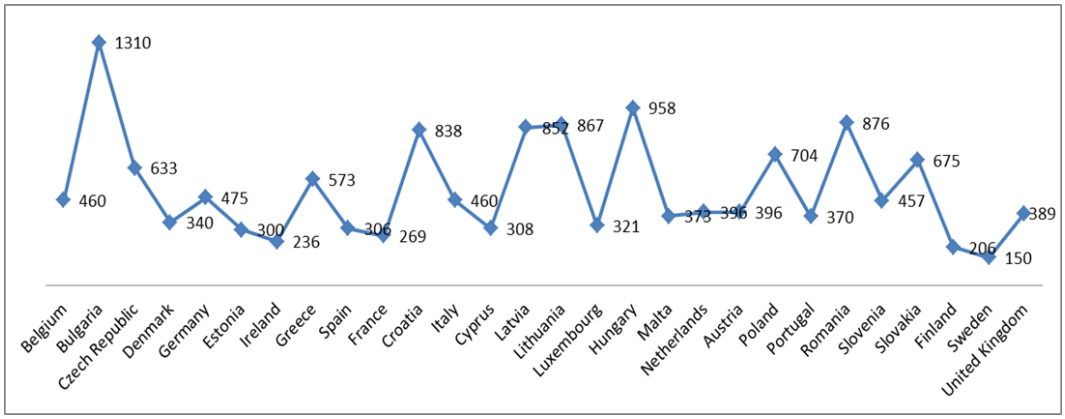
Sources – author, based on data available at https://ec.europa.eu/health/sites/health/files/state/docs/2018_healthatglance_rep_en.pdf

Statistics show that smoking has dropped considerably from 2006 to 2016; Romania is among the last places in the rankings achieved, regarding the smoking rate, respectively 20.8% in 2006 and 19.8% in 2016, this fact signifying that the Romanian population does not smoke very much. For 2006, statistics show that Greece ranks first (40.0%), followed by Latvia (33.0%) and Bulgaria (29.0%); in 2016, Bulgaria ranks first (28.2%), followed by Greece (27.3%) and Hungary (25.8%).

- *Pollution*

Pollution increases the risk of cardiovascular disease and can lead to inflammation, and thus blockage of arteries and changes in the nervous system, which may play a role in irregular heartbeats, according to Sharma et al. (2009). Exposure to air pollution contributes to the development of cardiovascular disease also supports and Bhatnagar (2004), who stated that epidemiological studies conducted over the past ten years have shown a considerably increased risk for cardiovascular disease, including cardiac deaths and vascular accidents brain, related to short and long-term exposure to daily pollution concentrations. (Bhatnagar, 2004, pp. 479-485).

Figure 4 – Mortality rate per 1 000 000 population in the European Union, in 2016



Sources – author, based on data available at https://ec.europa.eu/health/sites/health/files/state/docs/2018_healthatglance_rep_en.pdf

Pollution is a detrimental factor to health, which is why statistics show worrying data on the mortality rate for this cause. Thus, for the year 2016, Bulgaria ranks first in terms of mortality rate per 1 000 000 people (1310), followed by Hungary (958). Romania ranks 3rd in the rankings, respectively in 2016 it faced a mortality rate of 876 to 1,000,000 people; Romania is followed by Lithuania (867) and Latvia (852). The lowest mortality rate is found in Sweden (150) and Finland (206).

- *Stress*

Stress is a natural reaction to the body and is necessary for survival and motivation to act. Long-term stress can affect the immune system and may develop serious conditions. Short-term tension includes headaches or migraine, feeling shoulder, nausea or dizziness, difficulty concentrating on simple tasks, feeling irritable and humiliating. (Plutzky, 2001, pp. 10K - 15K).

People in the whole occupational sphere face stress in their lives in one way or another. Stress is usually mental stress exerted by fatigue or excessive work. It is also caused by worrying about

work or past, present or future events. Chronic stress can lead to cardiovascular disease; in people with coronary heart disease, stress is as dangerous to the heart as physical effort. (Akinboboye et al., 2005, pp. 418-427). Depression, social isolation and lack of quality social support are just as risky for heart and health as abnormal levels of blood fats, smoking, and high blood pressure. Stress plays an important role in the development and progression of cardiovascular disease, as well as Grundy (2007). In Australia, a group of experts concluded that there is a strong and consistent link between stress, depression, social isolation and lack of quality social support and heart disease. These factors are risky for heart health. (Dragland et al., 2003, pp. 1286-1290). Studies also show that other conditions can influence the development of cardiovascular disease, so health policies need to target other aspects of the conditions that can lead to or aggravate the cardiovascular disease. Changing lifestyle should be an important part of cardiovascular therapy.

4. Conclusions

The determinants of health policies are represented by (1) biological factors - eg age, gender, genetics; (2) personal behavior and lifestyle - for example, diet, smoking, alcohol, exercise, risk-taking; (3) psychosocial environment - for example, family structure, community networks, culture, social exclusion; (4) Physical environment - for example, air, water, housing, transport, noise, waste disposal; (5) socio-economics - for example, employment, education. To have a balanced health status globally, it is necessary to address these factors, which have a direct influence on health.

In the context of globalization, it is difficult to separate national or community actions from those of world politics, given that global health problems have repercussions on each country's internal health policy and vice versa. Each state can contribute to world health by sharing its values, experience, and competence, as well as taking concrete measures to improve health. The action can support efforts to ensure coherence between internal and external health policies for the achievement of global health goals, to consider health as an important element in combating poverty by addressing health issues of external development cooperation with low-income countries, to respond to health threats from third countries and to encourage the implementation of international health agreements such as the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) and the International Health Regulations (IHR) . The EU contribution to global health requires interaction between several policy areas such as health, development cooperation, external action, research, and trade.

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