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Ageing Population: Implications for Dementia Policy in Ukraine

Prerequisites for the different policy responses from top national managers, politicians and civic organizations around the world to the spread of dementia are analyzed in the article. Highlighted common factors which could be key for launching national dementia strategy in Ukraine in the view of ageing population. A certain research design has been developed, consisting of three stages and using a number of methods. It is proved that attracting attention to dementia as a medical and social problem at the level of an individual country depends directly on the will and desire of top managers. Governments and politicians, who are aware of the impact of dementia on the quality of life of people, their families and society, establish ambitious strategies.

Key words: decision-making, dementia policy, policy analysis, burden of disease, life expectancy,

Statement of the Problem: Global efforts aimed at improving the health of the elderly are to ensure that the increase in life expectancy is not accompanied by an increase in morbidity. The process of aging should be accompanied by the preservation of both physical and mental efficiency for as long a period of time as possible, as well as the availability of services for older people in different needs. Aging of population is relevant for every country of the world, however only part of

them consider dementia as one of the major problems determined by this demographic process. Dementia itself has a macroeconomic effect, which is a serious challenge for both health and social systems. Lack of awareness and stigma lead to limited access to treatment and receiving timely assistance in hospitals, putting a psychological pressure on the families. Hence these progressive countries pose dementia as a national problem to deal with and their experience could be useful for those ones (including Ukraine), which want to create a supportive environment for maintaining the well-being of all age groups.

The purpose of research is to analyse why the spread of dementia causes a different response from top national managers, politicians and civic organizations around the world and to find out which factors could be key for launching national dementia strategy in Ukraine.

Analysis of research. The scientists from the developed countries mainly focuse on the analysis of some components of the complex problem of the impact of aging population, in particular on the problem that is conditionded of the spread of dementia. This is not enough in the Ukrainian scientific field for the analysis of public policy. Reforming the health care system and increasing public concern about the effects of accelerated aging promped us to deeper analysis and recommendations for policy-makers.

Paper main body. Every person in any country in the world should have an opportunity to live their life as long as possible in good health and that is what we all endeavour to achieve. WHO defines "healthy longevity" as the process of developing and maintaining the functional ability that enables wellbeing in older age [1]. This means that the process of aging should be accompanied by the preservation of both physical and mental efficiency for as long a period of time as possible, as well as the availability of services for older people in different needs. The creation of such a supportive environment is a confirmation of the country's commitment to the Sustainable Development Goals, where the basic aspects and approaches to the formation of national policies are set out, and it is reflected in the development of

national plans and strategies. Accordingly, countries must fulfil their commitments and take coordinated actions for establishing national policies. These will be innovative evidence-based policies for maintaining the well-being of all age groups and are implemented in all sectors.

Global efforts aimed at improving the health of the elderly are to ensure that the increase in life expectancy is not accompanied by an increase in morbidity. As the world experience shows, health systems of low and middle economic development countries (hereinafter - LMDC) are more effective in the counteraction of infectious diseases. Therefore, the dominance in the overall structure of chronic non-communicable diseases and high mortality from them is a serious challenge for the health system.

Dementia remains one of the major problems determined by the aging of the population, both in developed and developing countries. This disease causes disability of elderly people and is a major cause of dependence on caregivers. The progression of dementia is associated with the strengthening of this dependence and the increasing of resources because of additional care and needs [2], as well as having psychological pressure on the families.

Being one of those few disorders of health, dementia itself has a macroeconomic effect [3]. An estimated dementia costs amounted to $ 604 billion worldwide in 2010. The main part of these costs (84%) equally consists of unofficial unpaid family-provided assistance and direct social assistance costs provided by specialist institutions [4]. Although the cost of direct medical care is only 16% of global spending, this can be a serious challenge for the health system of LMDC.

The situation is aggravated also by the fact that health care systems are over-bloated, under-supplied and under-financed, and along with low motivational level of staff and limited professional training knowledge of mental health results in delivering poor services for the elderly, especially those with dementia [5]. Lack of awareness and stigma also lead to limited access to treatment and receiving timely

assistance in hospitals. So many carers do not complain about problems, although their relatives may have significant cognitive impairment.

According to epidemiological studies, it is expected that the number of patients with dementia will be doubled every 20 years, with most of these people live in the LMDC. And just in these countries dementia is underestimated, insufficiently disclosed and unstable, where other basically non-social priorities are determined. An increasing needs for social and medical assistance to an increasing number of patients with dementia is a reason for a serious concern to the leadership of all countries to make comprehensive analysis of the situation [6]. Therefore, given the seriousness of the situation, within this study, we made the first step to analyse why the spread of dementia causes a different response from national managers, politicians and civic organizations around the world.

In this analysis we disclose the factors that can be a prerequisite for policy and decision-making process on preventing dementia, and we explore why countries use or do not use opportunities to develop services for people with dementia and to support their caregivers.

A certain research design has been developed, consisting of three stages and using a number of methods. At the first stage, a survey of literature was conducted in order to evaluate and systematize studies that consider countries' approaches to overcoming dementia. The search for literature was conducted in English by means of Google Scholar program. Using the enable / exclude criterion helped form the basis for analysis.

The tasks of the second stage were to find the relationship between dementia prevalence and both economic development of the countries and life expectancy of the population. For this, the World Bank database was used (ranking of countries by the level of economic development), as well as the World Expectancy database (Alzheimer's/Dementia death rate and life expectancy). The combination of these databases was used for a comparative analysis of the countries.

The third phase was aimed at discussing the measures that each country could use to find the best response to the spread of the dementia epidemic. By presenting facts about the epidemiology and burden of the disease, we launched the discussion around the mechanisms that each country can use to build effective and sustainable policies, assessing its own resources and limitations.

Features of dementia policy planning

The small progress made in preventing dementia requires comprehensive thinking on the successes and failures, in view of the large investments made by governments of developed countries, the commercial sector and charitable organizations in overcoming the disease in recent decades. Dementia has become a topic of international political interest and therefore it attracts more and more attention. Since policy makers and managers have different goals and work in a variety of national contexts, there is a significant difference in the way potential benefits of new national strategies are considered and which evidences is considered credible, sufficient and convincing to be taken into account.

All countries seek to strengthen the effectiveness of health systems, especially those with limited resources, so policy makers need to understand how it works and which ways are the best to start with to achieve results. Scientists are called upon to help determine the cause-and-effect relationship of dementia to develop a set of management measures, which will help both health and social systems managers to make the right decisions. This will also contribute to improving the quality of management decisions [7], which should be well-balanced, well-grounded and consistent with the goals set, and be accompanied by accessible information on the implications of alternative ways to achieve them.

Dementia is a prototype of a series of chronic progressive disorders that affect aging of the brain, including neurodegenerative disorders, such as Parkinson's disease. These disorders have much in common in terms of their socio-economic impact and specific problems for determining the cost of medical interventions. Understanding their socio-economic impact is key to determining the value of

programs for diagnosis, treatment and prevention, as well as for decisions concerning investment in research and development of new technologies.

The consideration of the dementia issues has almost reached the level of HIV epidemic consideration, hence the strengthening of epidemiological research may increase the evidence base for predicting the prevalence and development of the disease. Although it is important and necessary to use information from dementia studies to generate evidence-based policy, excessive interpretation of results or careless analysis of key factors may overestimate the findings that can effect policy planning in not the best way [8]. According to scientists, for countries with low economic development and limited resources, excessive attention to the dementia epidemic can lead to misleading policy planning and can have unforeseen negative consequences for the health system [9].

The first epidemiological dementia studies in Western Europe were launched in the 1980s and had a significant impact on politics 10 years later. These studies are still valid having an impact on policy development nowadays and continue to assess the scale and "distribution" of dementia within Europe being used at both the national and local levels [10]**.** Such studies reinforce governments' arguments for improving the quality of life of the elderly with dementia and their families or caregivers.

More and more countries are focusing on the rights in the context of dementia, and at least ten developed countries have already formulated national plans for the prevention and treatment of this disease. The assumption that only developed countries contribute to health plans are controversial, as some developing countries are also working to achieve this goal (for example, Nigeria and India). Of course, a lack of financial resources can be a serious barrier to neglecting the issue of dementia, so developed countries, with greater opportunity and tendency to introduce and implement the new services in the medical and social sphere, are more progressive.

The estimated prevalence of dementia varies between countries, as well as between urban and rural areas. It is established that the influence of diagnostic

criteria on the estimation of prevalence is significant especially in developing countries [8], which leads to the distortion of the real situation. The use of approaches relevant and suitable to evaluate, for example, cardiovascular diseases and cancer, is not useful for the diagnosis of dementia; therefore, there is a need for a standardized dementia definition and diagnostic criteria improvement [11].

The influence of economic development on dementia counteraction

The financial burden generated by dementia is enormous. The annual cost is approximately 10 000 euros worth of social and medical services per one elderly with dementia [12]. There was a rise of 35% in costs of dealing with dementia issue worldwide in 2015 compared to 2010 [13]. Taking into account all these facts we noticed a certain imbalance: 58% -60% of people with dementia live in the countries with low and lower-middle-income economies, while 86% [13] of all costs remain concentrated in high-income countries. The lack of information for comparison in dynamics in low and middle income countries and geographical variations may indicate potential risk factors for the population or a systematic difference in the clinical application of diagnosis of dementia [14].

One of the indicators available for analysis and comparison between countries is the mortality indicator from Alzheimer's/dementia, calculated for 100,000 of population. According to WHO data, the world ranking of 183 countries has been built on this indicator [15]. We assign this rating conventionally to three levels: low level (corresponds to 183-162 positions with an index of 0.4-5.38 respectively); average level (corresponds to 161-21positions); and a high level (corresponds to the top 20 positions with a score of 35.22 - 65.7). We took 40 countries (20 with low and 20 with high levels of indicators) and divided them into four groups, according to their level of economic development based on the World Bank classification (Fig. 1).

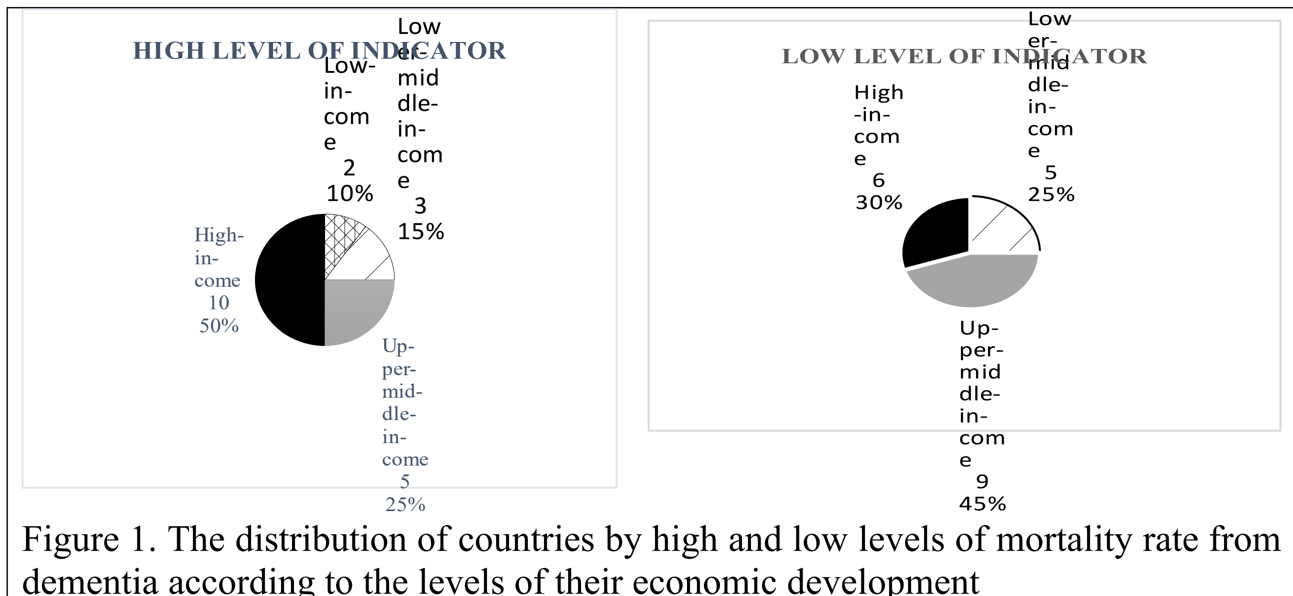

Figure 1. The distribution of countries by high and low levels of mortality rate from dementia according to the levels of their economic development

This comparison of countries is rather relative, because it takes into account only economic development, without taking into account the social level. Citizens from different countries have different access to the medical and social services they need and use, and there are significant lifestyle differences that can be easily noticed. However, such a division gives us a reason to assert that the spread of dementia does not depend only on the country's economic development. Visual facts, which are presented in Fig.1, prompt us to conduct a further, deeper, analysis to understand why:

- only half of the countries with high death rates from dementia are represented by high-income countries, whereas almost half of the countries with economies above the average level refer to the countries with the lowest rates;
- high rates are observed in all four groups of countries, but low rates are absent in poor countries;
- the lowest indicator (0.4) as well as the highest one (65.7) are recorded in highly developed countries.

The effect of increasing life expectancy on the dementia prevalence

All key determinants affecting health, including socioeconomic, biological, environmental ones and quality of health services, are accumulated in the average life

expectancy indicator [16]. Life expectancy in the world has been increasing leading to the rise in dementia prevalence. After 65 years of age, dementia rates tend to double every five years in developed countries, and every seven years in developing countries [17]. Increasing longevity of life is a major milestone of public health, and people could be more pleased living their healthy life, rather than becoming a burden to public health for many years, becoming dependent on outsourced care and suffering from the manifestations of the disease, the development of which can be largely prevented or delayed. But even with prevention programs in place, the aging population is likely to increase the number of people who die from dementia and with severe cognitive impairment [18].

A simple mortality indicator or integrated life expectancy indicator, calculated on the basis of available mortality data, can often say more about the level and direction of society development than complex macroeconomic indicators. The research on the cause of death can provide valuable information about life expectancy and knowledge of what actually causes death can be valuable in the care of dementia patients, especially at the terminal stage [19].

Policy planning at the present stage is mostly based on data of dementia prevalence, hence the increase in the life expectancy of the population requires a constant review of governmental approaches to this policy. This process will be accompanied by many problems associated with stigma and lack of resources for adequate care for people with dementia, but the first step towards overcoming dementia is to have this problem recognized as such by the government.

In our opinion, an increase in life expectancy, and hence an increase in the number of patients with dementia, could be an additional argument for the government to start a discussion on this issue. However, the data depicted in Fig. 2 and in Fig. 3 require conducting an additional comprehensive analysis for our hypothesis. In the first group of countries with the lowest dementia death rates (Fig. 2), a quarter of countries have a high level of life expectancy (76.5 years or more) with high economic development. We assume that this situation can be explained by

two options: it may be either a result of a high level of prevention programs, or a low level of diagnosis of dementia.

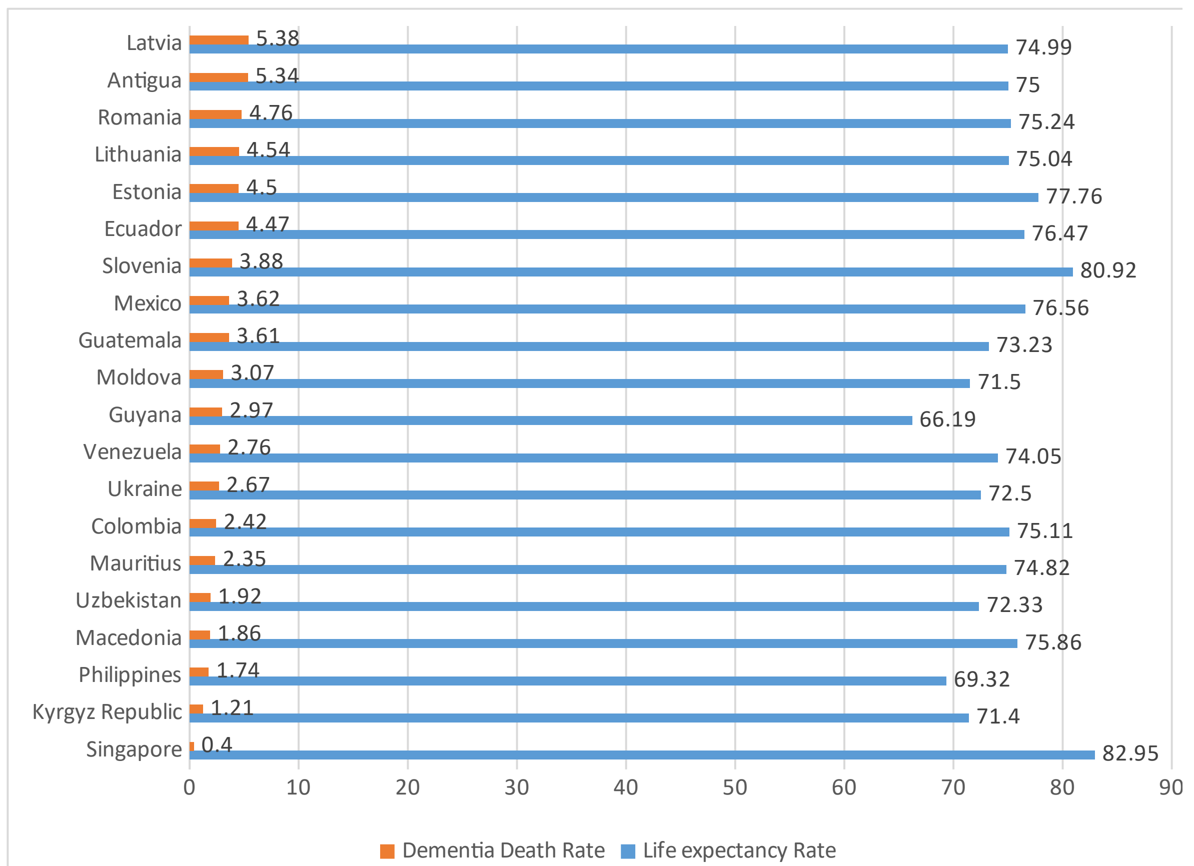

Figure 2. The group of the countries with the lowest dementia death rates and their life expectancy rates, calculated for 100,000 of population

There is also an ambiguous situation in the countries with the highest levels of mortality from dementia. Within this group of countries (Fig. 3), only a third of countries are leaders in terms of life expectancy (78.5 years and higher). At the same time, 10 out of 20 countries are representatives of the Middle East and North Africa group and they are distinguished by low life expectancy indicators - from 63.8 to 76.05 years (with the exception of Bahrain).

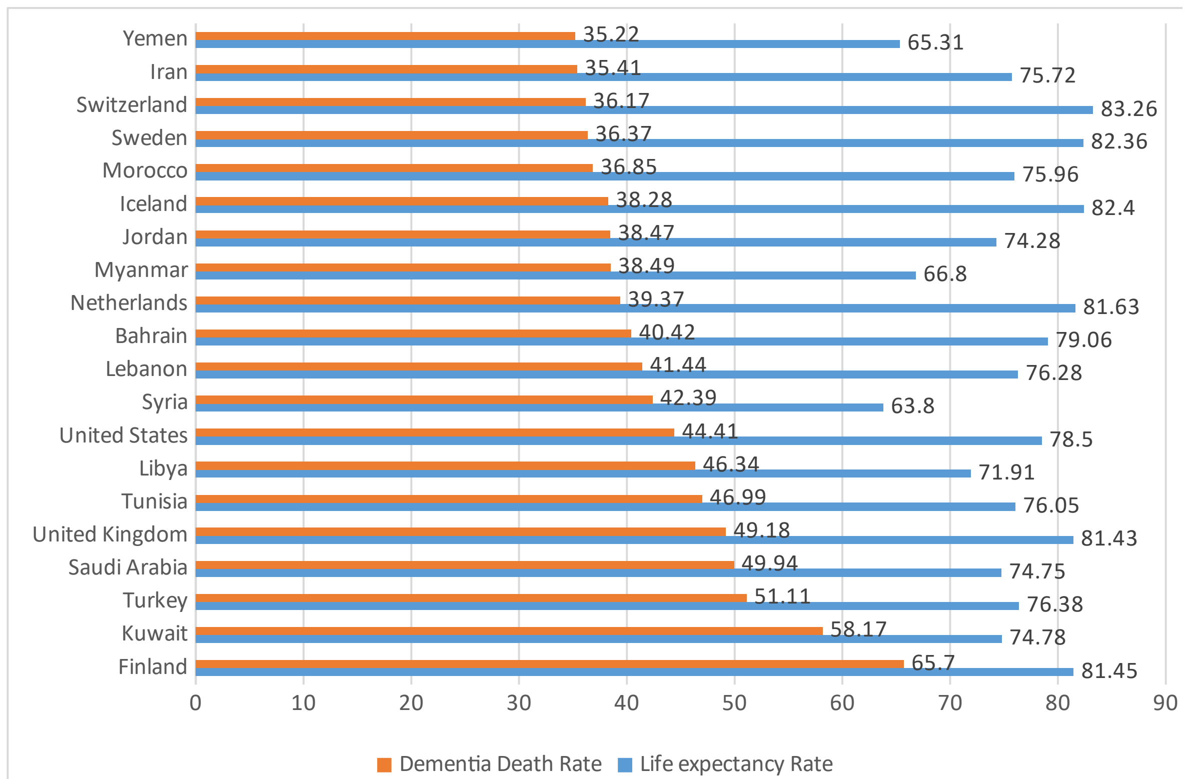

Figure 3. The group of the countries with the highest dementia death rates and their life expectancy rates, calculated for 100,000 of population

Dementia is probably a clinically quiet disorder that begins in middle age (about 40-60 years), and the terminal stage is actively manifested by symptoms of dementia much later. This hypothesis suggests age frames for using opportunities to reduce the risk factors for developing dementia [20]. Screening for all elderly people is not recommended, but people with the highest risk of dementia can be identified. High prevalence of cardiovascular disease also plays an important role in increasing the risk of dementia and this can partly explain the deviation of rates in different countries [21].

It has been established over the last decade that dementia is being diagnosed rarely up to 65 years of age, but after 65 years the incidence increases exponentially with a steeper curve after 80 years of age. The low social and economic levels in the early stages of living affect not only physical growth of a person but also their mental development, increasing the risk of chronic diseases and the emergence of Alzheimer's disease. Healthier and more favorable social and economic conditions in

childhood and adolescence lead to a better ability of the brain to cope with increasing physiological changes with age and reduce the risk of arising dementia in the younger age [17]. Significant historical events, such as the First World War and the Second World War, civil wars, famine and complicated infectious diseases, were also likely to have a profound impact on living conditions, life expectancy, growth and development, physical and mental health in different generations [10].

The prevention of chronic mental disorders and the improvement of the quality of life of people with such disorders are partly included in the national strategic plans for the maintaining of public health. But the development and implementation of coherent plans that balance the prospects for many different stakeholders in counteraction of dementia is a challenge. Given the multidimensional nature of this disease, state policy planning is currently limited to three areas [22]: (1) to invest enormous amounts into research that may eventually delay or prevent the development of dementia; (2) to develop plans for delivering health and care services; or (3) the combination of these two options.

Conclusion. The first step to developing dementia policy is to attract attention to dementia as a medical and social problem at the level of each individual country. We found no correlation between prevalence of dementia, mortality from dementia, longevity of life or level of economic development and dementia policy. So we assume the development of dementia policy depends directly on the will and desire of political managers.

Although it is important and necessary to use information from dementia studies to generate evidence-based policy, excessive interpretation of results or careless analysis of key factors may overestimate the findings that can effect policy planning in not the best way, for countries with low economic development and limited resources, excessive attention to the dementia epidemic can lead to misleading policy planning and can have unforeseen negative consequences for the health system.

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