Dementia as an Actual Object of Statistical Research

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Abstract—**The article discusses the features of dementia as an actual object of statistical research from various theoretical positions. The authors pay special attention to the fact that the results of the dementia spread in a modern rapidly aging society have such negative socio-psychological and other consequences that they cannot remain out of statistical science and practice sight. At the same time, the conclusion was drawn that the statistics of dementia currently lags behind the requirements of the time and does not allow a complete and comprehensive picture of such a massive disease of the twenty-first century. According to the authors, the indicators used in practice are not linked to each other yet, which does not permit a comprehensive statistical description of dementia yet. In this regard, the author's suggestions formulated in the article on structuring the system of indicators for statistics of dementia. They should take into account not only the extent, frequency and prevalence, but also the damage to society from such a serious disease, are of great practical importance.**

Keywords—*aging populations; dementia; scorecard; statistical research.*

I. INTRODUCTION

Modern society is steadily and rapidly aging. And this circumstance, apparently, is an unconditional and global trend, which is currently in one way or another applies to all countries. There are more and more elderly people, which leaves its imprint on socio-economic development, the need for transformation and improvement of social security of older members of society. [1].

In this context, Russia is no exception. It is trying to find its own and not always simple ways of solving the issue of population aging [2]. Of course, they do not always meet the expectations of ordinary citizens, for example, as the recent increase in the retirement age, but it is aimed at the possible stabilization of the situation and the preservation of some social guarantees.

II. LITERATURE REVIEW

The work of foreign and domestic scientists: Marie-Elise Lafay-Manyan, Jude Poirier, Pierre Etienne, Jennifer Tremblay-Mercier, Joan Frenet, Pedro Rosa- Neto, John C.S. Breitner, Tsvetkov A.V., Geht A.B., Pavlov N.A., Gudkova A.A., Belousov D.Yu., Afanasyeva E.V., Belousov Yu.B., Repyev A.P., Strizhitskaya O.Yu., Montero and Lopez Lena M., Dyadyuk T.V., Anay ool T.S.O. and others is devoted to the consideration of dementia as a category of mental disorder, the study of the main diagnostic methods and the identification of the disease process in the early stages.

The gender distribution of the dementia prevalence is addressed in the works of such scientists as: Sidenkova A.P., Serdyuk O.V., Prokopenko S.V., Mozheiko E.Yu., Koryagina T.D., Bezdenezhny A.F., Shvetsova I.N. and etc.

The problems devoted to the organization of medical and rehabilitation care for elderly and old age patients and their families are: Gaja A.K., Yurchenko A.I., Boriskina O.S., Strukova E.Yu. and etc.

It is worth noting that today there is no systematic approach in assessing the results of the dementia spread among the population on the socio-economic development of territories.

III. RESEARCH METHODOLOGY

The research problem proceeds from the contradiction between the steady increase in the number and proportion of older people in society, the increase in their self-awareness, on the one hand, and the low social status of older people, insufficient public attention to ensuring their full and socially significant functioning. Measures are needed to help older people, compensating for the decline in their vital resources, and the correction of ideology and public consciousness in the direction of the independent value and significance of older age recognition.

The research methodology is based on the dialectical method of cognition, an integrated approach, a systematic analysis of indicators characterizing the concept of "dementia", the sources of their formation based on the principles of integrity and consistency. In addition, it was used general scientific theoretical methods related to the problems of social processes in society, scientific laws on the aging of society and the development of dementia.

IV. RESULTS

Unfortunately, in addition to human wisdom and life experience, old age also brings diseases that accompany elderly people. One of such diseases, causing a serious blow to the consciousness and personality of each individual person, is dementia [3]. It today rises to a wide range of ethical, economic, and other problems [4, 5].

In this regard, for purely objective reasons, dementia has long been considered in the literature not as a simple, common or ordinary mental illness, but as a special phenomenon. It seriously damages the individual, family, work collectives and society as a whole. In particular, among its meaningful interpretations, as a social phenomenon, there are:

• Dementia is an urgent problem of our time, closely related to older people [6];

• Dementia is a problem of the twenty-first century [7];

• Dementia is a slowly emerging mental disaster that destroys a person [8];

• Dementia is a favorable environment for the development of depression in the elderly [9].

Thus, dementia seems to be a problem in a fairly wide social range, starting with a personal level of emotional catastrophe that plunges a person into a depressed state, and ending with the scale of modernity and the entire current century, that is, as a kind of the disease era that accompanies a cohort of elderly people.

If we turn to the definition of dementia as a disease, its content does not cause serious discrepancies and usually boils down to the fact that: "dementia is a progressive decrease in cognitive abilities, an ailment that is commonly believed to be inseparable from such a concept as old age. Dementia leads to the fact that people lose their practical skills, lose their ability to perform daily actions, memory and thinking are worsening"[10].

Moreover, in a certain sense, behind the scenes are some features of the actual occurrence and development of dementia, as well as its consequences for others, especially for the closest relatives of sick people. After all, a person's loss of practical skills in performing daily and vital actions compels relatives and friends to take these functions in full upon themselves, which is not always consistent with employment at the place of work and available time resources [11]. Separately, it should be said that the deterioration of memory and thinking, which greatly affects the advanced stages of dementia, forces relatives of patients to look for options that do not leave them without constant attention and accompaniment (nurses, specialized boarding houses, etc.). Moreover, this side of the problem is already associated not only with physical and moral difficulties, but also with significant financial costs [12].

To understand the seriousness of a disease, sometimes it is not enough just to turn to its content. No less important value are the statistics reflecting the extent of spread and the various consequences of a particular ailment. In this regard, dementia is not an exception; the pace of development within the contingent of elderly people is disturbing.

If you turn to information that is freely available, you can meet the following unpleasant quantitative assessments of dementia. It is unofficially called the 21st century plague:

▪ Every three seconds on Earth, someone is diagnosed with dementia, and each year this disease costs the world community more than $ 600 billion [13];

▪ According to experts' forecasts, by 2030, the number of people with dementia on our planet will increase by 26 million people or more than 1.5 times compared to 2017 (then there were 49 million people) [13];

▪ Scientists today predict a doubling of the contingent of people with dementia every 20 years, and by 2050 it is expected that their number will exceed the line of 100 million people and care will require costs that are beyond the budget of many developed countries, even the richest [14];

▪ According to the World Health Organization, now more than 50 million people are diagnosed with dementia worldwide (an average annual increase of about 8 million) and it is one of the main causes of disability among older people [15].

No less disturbing picture is observed in modern Russia, where according to official estimates published in 2017, the number of patients with dementia is in the region of 1.7 million people. At the same time, a clarification is given that the Ministry of Health of the Russian Federation does not have more recent data, since records are currently being carried out by region and only by mid-2019, it is planned to publish the latest updated results [14].

True, in this case there is a twofold alarm. On the one hand, judging by the scale of the disease, dementia really masters the vast expanses of our country. On the other hand, the lack of accurate, reliable and adequate statistical information about the actual number of dementia patients in the Russian Federation casts doubt on the success of any measures aimed at combating such a serious mental illness.

In other words, the statistics of dementia is clearly not at the proper level of development, noticeably lags behind the requirements of the time and objectively forces to consolidate the efforts of a number of sciences representatives (doctors, economists, lawyers, statisticians, etc.) so that Russian society is fully armed in its opposition with the so-called plague of the 21st century [16].

In order to successfully counteract dementia, at least from the point of view of minimizing individual and social losses, it is necessary to have a proper quantitative understanding of the disease main parameters in question: the extent, rate of spread, consequences, etc. The solution to this problem is hardly possible without statistics, and even more specifically without

a system of indicators that allows revealing all the key facets of the study object. In our opinion, individual indicators or even their groups will not allow penetrating deeply into the essence of the problem, since it is the systematic approach that provides the opportunity to link together individual puzzles of being that reveal the whole picture.

In this regard, it is extremely important to propose a conceptual and logically consistent model of indicators system for statistics of dementia. It would orient researchers on benchmarks for assessing various manifestations of the mental illness in question in a steadily aging society.

If we turn to the sources of statistical information on dementia already mentioned above, we can tell a few of the most popular indicators that are widely used in practice. These include:

- The number of elderly people diagnosed with dementia (read the number of people with dementia) [15];

- Annual (average annual) increase in the number of people with dementia [15];

- The growth rate of the people number with dementia [13];

- The frequency of dementia diagnosis per unit time [13];

- A period of doubling the number of people with dementia [14];

- Total annual damage from the incidence of dementia [13] and others.

If we take into account all the above features of the dementia statistics main indicators, then for a comprehensive study of such a complex social phenomenon, in our opinion, it is advisable to involve four groups of indicators that can be identified as follows:

1) Indicators of the number and structure of people with dementia;

2) Indicators of the frequency and prevalence of the of dementia incidence;

3) Indicators of the dementia incidence dynamics;

4) Indicators of damage from the incidence of dementia.

The first group of indicators is necessary in order to have an idea of the size and segments of the structure of the contingent of people with dementia. From a logical point of view, the indicators of this group form a launching pad for the study of the mental illness in question. They not only reflect the absolute extent and characteristics of the patients with dementia composition, but also serve as the basis for calculating indicators for subsequent directions.

The second group of indicators allows you to significantly expand the scope of applied statistical analysis dementia incidence. Its purpose is to move from the absolute dimensions of the contingent to its relative parameters, that is, the frequency of occurrence in time and the prevalence of a specific mental illness, both in the demographic environment and in the territory. This approach allows comparisons and comparisons that are not possible based on absolute indicators.

The third group of indicators objectively begs for a system statistics of dementia indicators, because this mental illness undergoes certain changes in time (moreover, from the standpoint of both absolute and relative parameters). To understand the ongoing shifts, one wants to or does not want to, but requires dynamics characteristics that can display the speed and directions of dynamic transformations. Without them, it is difficult to understand the place of dementia in modern society.

The fourth and final group of indicators logically completes the system as a whole, as it determines the outcome of the dementia spread among the population. The emphasis is on the interpretation of dementia as a serious mental illness that has extremely negative consequences. In this regard, the conversation is deliberately conducted exclusively on indicators of damage from dementia.

V. CONCLUSIONS

In aggregate, all aspects of the applied analysis included in the design of the indicators system for statistics of dementia proposed above, in our opinion, provide a comprehensive idea of the extent, speed of spread and consequences of such a serious psychological disease that not only affects certain organs of the person, but destroys it personality. It is this fact that determines the relevance of a comprehensive statistical study of dementia, without which it is hardly possible to develop and successfully implement measures aimed at preventing and counteracting a mental illness that has truly turned into a plague of the twenty-first century.

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