

# Implementation Of The Geriatric Approach In Primary Health Care Through The Use Of Distance Education Technologies

**L. S. Polonskaya**

FGBNU "Research Institute of Public Health named after A. N. Semashko", 12 Vorontsovo Pole Street, Moscow, Russia

---

## Abstract

Age-associated syndromes of older persons together provide the functional activity of an elderly person, their objectification is focused on specific methods of examination adopted in geriatrics.

The development of medical and social programs within the framework of the primary health care system that allow successfully coping with these syndromes makes it possible to achieve the ultimate goal of geriatric care – to maintain the highest possible quality of life for an elderly and senile person.

Unfortunately, in our country, in relation to the geriatric contingent of patients, the traditional, general therapeutic approach is maintained, which consists in relieving individual symptoms of pathology by etiopathogenetic or symptomatic effects, in connection with which this article considers the use of distance educational technologies for the elderly, which contribute to the prolongation of their active longevity.

**Keywords:** development, medical and social programs, geriatric syndrome, improvement of geriatric care.

---

## 1. Introduction

Currently, the health care system is facing an increased need for specialized geriatric care, which is due to an increase in life expectancy, a high level of morbidity and disability in patients of older age groups [1, 2]. In addition, in recent years formed a so-called geriatric approach in health care, basic principles of which are: orientation when performing diagnostic and therapeutic measures primarily at improving the quality of life, improvement of human functional state of elderly and senile age; improving the status of human functional state in contrast to conventional systems impact on the etiology and pathogenesis of the disease; the increased importance of non-pharmacological methods of treatment, since it is proved that in elderly and senile age are formed features of pharmacodynamics and pharmacokinetics, enhancing the side effects of drugs and reduce their effectiveness; giving special importance to the principle of individuality in the provision of medical assistance of elderly and senile age with significant clinical manifestations of diseases in geriatrics (effacement, low symptoms, etc.); the importance of knowledge of rules of communication with older people, hold techniques of psychotherapy, the knowledge by the doctors of the

foundations of the psychology of aging; enhancing the role of the social component in the provision of health and social care to the persons of elderly and senile age [3, 4, 5].

In the base of geriatric approach in health care is the impact on the cascade geriatric syndromes that impair functional status of the patient and lead to the development of the specific condition of senile asthenia syndrome, which is characterized by such symptoms as weight loss, when there is a decrease in body mass rate of not less than 4.5 kg/year; gait disturbance; reduced muscle strength and the development of severe sarcopenia; the development of cognitive disorders and decreased motivation, loss remain vital interests; low level of physical activity. About 60 geriatric syndromes lead to the development of senile asthenia syndrome, such as aphasia, amnesia, anorexia, apathy, apraxia, aspiration syndrome, chronic pain syndrome, bradykinesia, age-related androgen deficiency, dehydration, bedsores, delirium, dementia, depression, disorientation in time and space, dysphagia, dyspepsia, dysuria, violence against the elderly, weight loss, hypobulia, hypomobility, hypothermia, urinary incontinence, insomnia, instability and falls, cognitive deficits, contractures, malnourishment (malnutrition) syndrome, obstipation syndrome, orthostatic hypotension, loneliness, paranoid syndrome, gait disorders, hearing and vision disorders, sarcopenia, syncopal syndrome, tremor, traumatic syndrome, dependence on outside help syndrome, loss of the meaning of life, and others[6, 7, 8].

The aim of the study is to scientifically substantiate approaches to the implementation of the geriatric approach in the primary health care system by training doctors in geriatrics using distance educational technologies.

## **2. Materials and methods**

During 2019-2020, we conducted a three-stage study, which consisted in identifying the level of knowledge of internists working in the primary health care system on modern geriatrics, their training on the cycle of thematic improvement on the topic “Geriatrics” (72 hours) using remote technologies, identifying the dynamics of the approach to patients of older age groups, taking into account the knowledge gained.

At the first stage of the study, we conducted a survey of 24 doctors-district therapists who worked in the KDC GBUZ City Hospital named after A. K. Eramishantseva of the Department of Health Care of Moscow by means of a specially created questionnaire, which included information on knowledge in the field of concepts specific to the geriatric approach – senile asthenia syndrome, specialized geriatric examination, detection and prevention of certain geriatric syndromes – falling syndrome, urinary incontinence, polypragmasia, obstipation syndrome, cognitive deficits, as well as information on the application of this information in everyday practice. The purpose of this stage is to identify the need for training doctors in geriatrics.

The second stage consisted in carrying out thematic improvement of the interviewed doctors on the topic “Geriatrics “(72 hours) with the use of remote educational technologies at the Department of Therapy, Geriatrics and Anti-Aging Medicine of the PI of Higher Education” Reaviz”. Within the framework

of the thematic improvement, the following main issues were considered: modern concept of geriatric care to the population, issues of organization of geriatric care, senile asthenia syndrome as the basis of the concept of geriatric care, rules for examining a geriatric patient using the innovative computer program "Specialized geriatric Examination", the main geriatric syndromes-falls, malnutrition, anxiety and depression in older age groups, cognitive deficits, incontinence syndrome, stool disorders, rules and approaches to drug therapy in older age groups, differentiated management of patients depending on the type of aging. At the end of this stage of the study, the dynamics of the knowledge of general practitioners in the field of modern geriatrics was studied.

At the third stage, 176 patients aged 67 to 84 years (average age  $69.5 \pm 2.5$  years) were interviewed, some of whom-89 patients were observed by trained doctors who implemented modern principles of geriatric care, and some-87 patients who received traditional measures that did not include geriatric approaches, for satisfaction with care and quality of life according to the SF-36 questionnaire. The obtained results were processed statistically using the t-Student test, the difference in indicators was considered significant at  $p < 0.05$ .

### 3. Results and discussion

When studying the level of knowledge and practical application of the modern geriatric approach, we found that the greatest level of knowledge and the volume of activities took place in such geriatric syndromes as stool disorders in the elderly and senile age – 22 doctors answered this question positively (91.7%), cognitive deficit-18 doctors (75.0%), incontinence – 12 doctors (50.0%), anxiety – depressive syndrome-10 specialists (41.7%). However, the level of knowledge and its practical application in relation to other geriatric syndromes was insufficient. In particular, the problems of eating disorders in the elderly and senile age were well known to only 3 of the surveyed doctors (12.5%), the fall syndrome – 1 doctor (4.2%), the senile asthenia syndrome – 2 doctors (8.3%). At the same time, none of the interviewed doctors used in practice a specialized geriatric examination, which, through a set of questionnaires and scales, allows identifying the leading syndromes for a particular patient that reduce the level of functionality and quality of life of a geriatric patient. The presented results allow us to conclude that the level of knowledge of primary health care doctors in the field of modern geriatrics is insufficient, which requires their training on this issue.

After the training, there was a positive trend in the level of knowledge of specialists in the field of geriatrics: all the interviewed doctors began to conduct a specialized geriatric examination in order to identify the syndrome of senile asthenia, cognitive disorders, other and leading geriatric syndromes, 23 specialists (95.8%) began to diagnose and conduct medical and rehabilitation measures for falls syndrome, malnutrition syndrome, anxiety-depressive syndrome, 22 specialists (91.7%)-for incontinence syndrome. The knowledge gained during the thematic improvement with the use of distance educational technologies on the topic "Geriatrics" made it possible to implement in the practical conditions of primary health care a

modern approach to the management of elderly and senile patients, depending on the type of aging, which consisted of the following.

1). Ideal aging, which is characterized by a high degree of preservation of the functional reserves of the body until the last days of life. In relation to this contingent of elderly and senile people, it is important to organize adequate dynamic monitoring and carry out geroprophylaxis measures based on non-drug and behavioral methods.

2). Preserved aging, in which there is a gradually fading, but still preserved state of motor and labor activity. In this type of aging, it is important to ensure timely detection of exacerbation/decompensation of existing pathology, as well as new diseases; implementation of geroprophylaxis measures.

3). Independent aging, when there is a significant decrease in the degree of functioning of the body, restriction of the functional activity of an elderly person, but at the same time he is able to take care of himself and maintain independence from outside help. In this case, it is necessary to conduct a comprehensive geriatric examination with the identification of geriatric syndromes, the development of medical and social rehabilitation programs.

4). Aging with the formation of asthenia is characterized by the lability of the state of health and social activity; such people have a significant number of chronic diseases that occur with frequent exacerbations and decompensations. At this stage of aging, a significant dependence on outside help is formed, and there is a high need for medical and social rehabilitation measures. In this type of aging, it is necessary to ensure the identification of geriatric syndromes, as well as their timely relief.

5). Aging with the formation of partial dependence on outside help, in which there is a low health potential, a significant part of the life of an elderly person passes in an environment of dependence on outside help, only a small area of activities and activities that a person is able to perform independently remains. In this case, the role of social services in maintaining normal life activity increases, it is also important to ensure the identification of geriatric syndromes, to ensure the rehabilitation of an elderly person, taking into account his functional status.

6). Aging with the formation of complete and permanent dependence-there is a complete permanent dependence on outside help, an elderly person is completely bedridden, there is the development of severe disabling diseases, for example, dementia. When caring for such people, social and nursing care activities that are aimed at maintaining decent living conditions come to the fore.

Table 1 Dynamics of quality of life indicators in elderly and senile patients with the introduction of the geriatric approach

The reading on the scale SF-36	Control group		Main group	
	Before	After	Before	After
General health	59,2 $\pm$ 3,1	72,8 $\pm$ 2,0*	58,8 $\pm$ 0,9	80,0 $\pm$ 2,0*
Role-based functioning	68,3 $\pm$ 5,4	72,5 $\pm$ 6,1	71,5 $\pm$ 5,0	74,7 $\pm$ 6,2

Pain	54,6 $\pm$ 2,1	75,2 $\pm$ 2,9*	59,3 $\pm$ 2,4	72,8 $\pm$ 3,4*
Physical functioning	66,1 $\pm$ 3,3	69,2 $\pm$ 2,1	69,1 $\pm$ 4,6	86,3 $\pm$ 2,0*,**
Viability	50,3 $\pm$ 2,1	70,8 $\pm$ 1,0*	52,2 $\pm$ 2,6	76,4 $\pm$ 2,5*
Psychological health	51,3 $\pm$ 2,3	64,1 $\pm$ 3,9*	52,4 $\pm$ 2,4	82,3 $\pm$ 1,2*,**
Role-based emotional functioning	52,0 $\pm$ 2,2	56,8 $\pm$ 2,3	55,5 $\pm$ 0,7	74,2 $\pm$ 2,9*,**
Social functioning	59,8 $\pm$ 3,4	79,9 $\pm$ 0,8*	58,5 $\pm$ 2,9	82,4 $\pm$ 4,0*

\* p<0.05 compared to the level before the introduction of the geriatric approach

\*\* p<0.05 compared between groups after the introduction of the geriatric approach

The implementation of the described approach contributed to a significant positive dynamics of the levels of functionality and quality of life. Results of the study of the dynamics of QoL indicators (SF-36 scale) in elderly and senile patients of the therapeutic profile, who were treated in the polyclinic, are presented in Table 1.

#### 4. Conclusions

1. Currently, the level of knowledge of doctors about the modern geriatric approach in the primary health care system and its practical application is at an insufficient level.
2. Short-term thematic improvement on the topic of "Geriatrics" with the use of distance educational technologies contributes to improving the level of knowledge of doctors in this field of practical health care.
3. The introduction of the geriatric approach in the primary health care system through modern educational technologies contributes to a statistically significant increase in the level of functionality and quality of life of patients of older age groups.

#### References

- [1] Bashmakov O. A., Aliev A. K., Karimova D. Yu. Sociological aspects of technologization of human resources management in the Russian healthcare system in the context of modernization Social aspects of public health. Electronic journal <http://vestnik.mednet.ru/content/view/1001/30/lang,ru/> No. 4 2018 (62).
- [2] Il'nitsky A N, Proschaev K I, Matejovska-Kubeshova X, Korshun E I 2019 Age-related viability in gerontology and geriatrics (review) Scientific results of biomedical research T5 No. 4 P 101-116
- [3] Uiba V. V., Stasevich N. Yu., Olenov A. S., Aliev A. K. Managers of medical organizations as a subject of health system management Social aspects of public health. Electronic journal <http://vestnik.mednet.ru/content/view/937/30/lang,ru/> No. 6 2017 (58).
- [4] Bekki J M, Smith M L, Bernstein B L, Harrison C 2013 Effects of an online personal resilience training program for women in stem doctoral programs Journal of Women and Minorities in Science and Engineering vol 19 pp 17–35

- [5] Cenat J M, Derivois D, Hebert M, Eid P, Mouchenik Y 2015 Psychometric properties of the Haitian Creole version of the Resilience Scale with a sample of adult survivors of the 2010 earthquake Comprehensive Psychiatry 63 pp 96-104
- [6] Rockwood K. Frailty defined by deficit accumulation and geriatric medicine defined by frailty // Clin. Geriatr. Med.- 2011; 27 (1):7-26.
- [7] 4. Yao X. Inflammation and immune system alterations in frailty // Clin. Geriatr. Med.- 2011; 27 (1): 79-87.
- [8] 5. Fedarko N. The biology of aging and frailty // Clin. Geriatr. Med.- 2011; 27 (1): 27–37.

#### **About the authors:**

Mustafaev Imanali Mustafaevich- researcher at FSSBI “N.A. Semashko National Research Institute of Public Health”; Address: 105064, 12-1 Vorontsovo Pole str., Moscow, Russian Federation, phone: +7 985 543 26 66, [iman.mustafaev@mail.ru](mailto:iman.mustafaev@mail.ru) ORCID: <https://orcid.org/0000-0003-2348-3634>

Arseenkova Olga Yurievna -candidate of medical Sciences, Researcher of FSSBI “N.A. Semashko National Research Institute of Public Health”; Address: 105064, 12-1 Vorontsovo Pole str., Moscow, Russian Federation, phone: +7 (495) 917-82-81, e-mail: [omasik@gmail.com](mailto:omasik@gmail.com) ORCID: <https://orcid.org/0000-0002-1440-5240>

Polonskaya Lusine Surenovna- candidate of medical Sciences, Researcher of FSSBI “N.A. Semashko National Research Institute of Public Health”; Address: 105064, 12-1 Vorontsovo Pole str., Moscow, Russian Federation, phone: +7 (495) 917-82-81, e-mail: [pollusine@mail.ru](mailto:pollusine@mail.ru) ORCID: <https://orcid.org/0000-0002-4332-5521>

Halastov Igor Nikolaevich - Doctor of Medical Sciences, Professor of the Department of Public Health of the Frequent Institution of Higher Education “Reaviz”, Address: 127006, Krasnobogatyrskaya str., 2, p. 2, Moscow, Russia, phone: +7 925 891 77 66, e-mail: [inh62@mail.ru](mailto:inh62@mail.ru) ORCID: <https://orcid.org/0000-0002-0230-2948>

Saidov Saidovich - Doctor of Medical Sciences, Professor, Vice-rector for Medical and Educational Work at Reaviz”, Address: 127006, Krasnobogatyrskaya str., 2, p. 2, Moscow, Russia, phone: +7 926 700 40 50, e-mail: [trif-natalya@yandex.ru](mailto:trif-natalya@yandex.ru) ORCID: <https://orcid.org/0000-0002-5109-3214>

Latynin Evgeniy Olegovich- Deputy Director for development of Federal state unitary enterprise vniizhg Rospotrebnadzor. Address: 1, K. 1, Warehouse highway, Moscow, 125438. Phone: +7 (499) 153-27-37; e-mail: [jeikka@yandex.ru](mailto:jeikka@yandex.ru) ORCID: <https://orcid.org/0000-0002-6822-5210>