#### **ABSTRACT**

of the dissertation work of Gulden Amerkeshevna Aldabergenova on the topic "Comprehensive assessment of the quality of life and working conditions of internists in a polyclinic", for the academic degree of Doctor of Philosophy (PhD) in the specialty 6D110200- "Public health"

Relevance of the research topic. In the Address of the Head of State "Constructive public dialogue is the basis of stability and prosperity of Kazakhstan" dated 02.09.2019, President K.K. Tokayev identified ensuring the quality and accessibility of medical services as one of the main directions, while maintaining a guaranteed volume of free medical care. In the State Program "Densaulyk" for 2016-2020, the priority remains the development of primary health care (hereinafter PHC), which means the district service, represented by internists and general practitioners.

At the same time, it was noted that the successful development of PHC is hindered by the turnover and outflow of personnel from the above-mentioned specialties. Moreover, district doctors suffer from excessive workloads, which leads to a decrease in productivity in conditions of staff shortage (Dewa C., Williams S. Williams S., 2014). Reduced productivity, in turn, leads to dissatisfaction with oneself, which forms a vicious circle in the psychological health of a doctor (Yang T., 2013).

The authors divide the factors provoking stress on psychological health into two groups — internal individual and external contextual (Zwack J., 2013). Internal individualities include personal characteristics, psychological diathesis (violation of psychological adaptation), a sense of satisfaction and professional honor (pride in the profession) (Ling L., 2014). External contextual factors affecting mental health include working conditions and professional characteristics. The personal characteristics of the doctor are distinguished by high demands on the performance of duties, dedication and donation. While communication with patients is accompanied by internal tension, which can negatively affect the psychological state, unreasonable demands and complaints of patients only increase the hidden depression of doctors (Sun W., 2012).

External factors are caused by the increasing burden on the doctor every year. The ongoing reforms set goals to reduce morbidity and mortality ratings, thereby expanding responsibilities and increasing responsibility for the health of the population. The functional responsibilities of the doctor of the site have been expanded to provide psychological assistance to patients with socially significant diseases, family planning consultations, self-management training under the disease management program.

According to the literature, psychological disorders of medical workers, such as anxiety, depression, burnout, have been well studied. At the same time, the overall quality of life, as an indicator of the steady state of a productive worker, has not been studied enough (Zubets A., 2014). Studies studying the quality of life of doctors in polyclinic conditions are descriptive and overview. Meanwhile, in the current period, the study of the quality of life can be considered as one of the important criteria for the economic development of society. At the same time, in conditions of constantly reforming healthcare, the influence of the external environment, increased stress, both physical and emotional, high susceptibility to professional burnout, a comprehensive study of the quality of life, taking into account the impact of many factors on it, is timely and relevant. In this connection, this study is aimed at assessing the general conditions that determine the quality of life of a general practitioner in a polyclinic.

The purpose of the study: is to conduct a comprehensive assessment of the quality of life and working conditions of internists / general practitioners of the polyclinic and develop a model for their improvement.

# Research objectives

- 1. To conduct a content analysis of theoretical and applied research in the field of quality of life and working conditions of medical workers, foreign and domestic experience.
- 2. To determine the socio-determinant factors and to study the working conditions that affect the quality of life and contribute to the development of emotional burnout syndrome.
- 3. To assess the quality of life and determine the degree of burnout syndrome of internists / general practitioners of the polyclinic.
- 4. To substantiate the influence of the external environment on the quality of life of internists/ general practitioners of the polyclinic by conducting a PEST analysis.
- 5. Develop a model and make recommendations to improve the quality of life and working conditions of internists / general practitioners of the polyclinic.

#### **Research materials:**

According to the state programs "Salamatty Kazakhstan 2011-2015" and "Densaulyk Kazakhstan 2016-2020", as part of the modernization of primary health care, the provision of primary medical care has shifted to the family principle of service. In order to study the quality of life of internists, when determining the sample, it was found that, depending on the staffing of the regions, local doctors and general practitioners conduct district appointments in municipal polyclinics. District therapists and pediatricians of PHC organizations are retrained to provide services in family health centers of polyclinics. Considering that outpatient admission has preserved the precinct principle of work, the identity of

qualification requirements and the amount of work performed (according to the Order of the Minister of Health and Social Development of the Republic of Kazakhstan № 85 dated February 3, 2016 "On approval of the Standard of primary health care in the Republic of Kazakhstan"; Order of the Minister of Health of the Republic of Kazakhstan № KR DSM-90 dated August 24, 2021 "On the approval of the Rules for the provision of primary health care" Appendix 2), the participants of our study were the internists of polyclinics, leading the district reception of patients and general practitioners. This group included doctors with a GP specialty obtained under a bachelor's program, followed by an internship and the qualification of a "General Practitioner", or a specialty of a general practitioner with retraining in the specialty "General Medical Practice".

The main databases for the performance of this dissertation work were the results of a sociological survey of internists/general practitioners providing outpatient care within the guaranteed volume of free medical care in primary health care organizations (city polyclinics).

### **Research methods:**

- 1) Content analysis of theoretical and applied research in the field of quality of life and working conditions in medical organizations was carried out according to foreign and domestic literature (in-depth analysis of 162 sources). Pubmed, Medline, Dissercat, Ciberleninka databases were used, as well as materials of scientific and practical conferences in the field of public health and psychology. The following keywords were used quality of life, job satisfaction, medical workers, emotional burnout, workloads. The basis of the analysis was the definition of the concept of QOL to highlight the characteristics inherent in the medical profession, namely PHC specialists.
- 2) The method of continuous timekeeping is used to calculate the quantitative characteristics of factors affecting the components of the quality of life. The timing is due to the new working conditions of doctors in PHC organizations, due to the introduction of electronic document management, as well as increased workload. The method of direct time measurements is used to measure the duration of costs for each element of work or a break in work during a doctor's working appointment. Also, continuous timekeeping made it possible to evaluate the organization of the workplace, to study the structure of a separate operation and the conditions for its implementation in a differentiated way.
- 3) The sociological method. To conduct a sociological survey, the following were selected: An original questionnaire designed to determine the presence and level of socio-economic factors affecting the quality of life and the development of emotional burnout; an international SF-36 questionnaire to determine the quality of life; a Boyko questionnaire to determine the degree of emotional burnout

Syndrome. The questionnaires were used in the language of international communication. The original questionnaire was reviewed and approved for use in the study at a meeting of the Local Ethics Committee of Astana Medical University (Protocol No. 5 dated January 17, 2019).

Criteria for inclusion of respondents in the study:

- specialists working in urban municipal polyclinics according to the staffing table of at least 1.0 of the rate of a general practitioner/general practitioner of the polyclinic.

Criteria for excluding respondents from the study:

- doctors who do not have a certificate in the specialty "Therapy", "General medical practice";
  - internists/ general practitioners working part-time as specialized specialists.

In total, 300 questionnaires were distributed. When processing questionnaires with missed questions, incorrectly filled out, we excluded them from the study. The rating of the effective response was 64% (out of a total of 300 respondents). The results of 203 questionnaires were recognized as valid and used as a database of the study. The survey was conducted in person in Astana polyclinics  $\mathbb{N}_2$  1, 4, 5, 11, after holding a mini-presentation on the tasks of the project. In Aktobe (polyclinics  $\mathbb{N}_2$  1, 3) Kokshetau (polyclinics  $\mathbb{N}_2$  1, 2) Pavlodar (polyclinics  $\mathbb{N}_2$  1, 4), Shymkent (polyclinics  $\mathbb{N}_2$  8, 10) questionnaires were distributed with an accompanying memo on the filling technique, as well as contact numbers of researchers for possible clarification of questions.

4) PEST analysis was carried out to identify the conditions for the appearance of environmental factors affecting the quality of life and the occurrence of emotional burnout syndrome in internists/general practitioners. This analysis allows us to establish macrofactors that are the background for practical activities and determine the cultural and ideological values of society. Matrices have been compiled for each domain of PEST analysis to demonstrate the positive and negative impact of the macro environment on the quality of life of doctors.

The object of research: internists/ general practitioners of urban polyclinics in Astana, Kokshetau, Aktobe, Pavlodar, Shymkent.

Subject of research: quality of life, work conditions and satisfaction, burnout syndrome of internists/general practitioners.

# Scientific novelty of the study:

- socio-determinant factors have been identified, working conditions have been studied that affect the quality of life of internists / general practitioners of the polyclinic (health status, job satisfaction, financial situation, transport to work, the presence of a break for rest and meals, stress, workload);

- the level of emotional burnout of primary care physicians (internists/ general practitioners of polyclinics) was determined and the quality of life was assessed;
- the influence of the external environment (macroenvironment) on the quality of life of internists/general practitioners is substantiated by conducting a PEST analysis (political, social, economic and technological environment);
- a model was developed and practical recommendations were given on organizational and preventive measures to improve the quality of life and improve the working conditions of internists/general practitioners at the city polyclinic level.

### **Practical significance:**

The results of the study will strengthen effective doctor-patient interaction in the polyclinic, increase the social status of internists/general practitioners.

The obtained PEST analysis data can be used to analyze the impact of the external environment on the quality of life and working conditions of internists/general practitioners of polyclinics, which will allow developing strategies for the development and competitiveness of primary care specialists.

The proposed model and practical recommendations on organizational and preventive measures will improve working conditions and improve the quality of life of internists/ general practitioners.

## Theoretical significance of the study:

A comprehensive multifactorial assessment of the quality of life and working conditions of internists/ general practitioners at the polyclinic level developed during the study can be used in educational programs and practical activities of medical and medical educational institutions of the Republic of Kazakhstan.

The results of the research work can be used in the further study of issues of quality of life and emotional burnout among doctors at all levels of medical care.

### The main provisions submitted for protection:

- 1. According to a comprehensive study of socio-determinant factors and working conditions of internists/ general practitioners, it was revealed that the following affect the quality of life: stress (98%), workloads (96.1%), unsatisfactory working conditions (87%), eating disorders (82.8%), low indicators of physical and mental health (45.7 and 42.4%).
- 2. The quality of life of internists/general practitioners of the polyclinic and job satisfaction had a direct strong correlation with the economic component (salary level), workload and sense of legal security.
- 3. Depending on the age of the specialist, the phases of the burnout syndrome varied with the predominance of the resistance phase in middle-aged doctors, and the exhaustion phase in older doctors. Internists/general practitioners of young age

(up to 30 years) all phases of emotional burnout had a direct strong dependence on the influence of external factors, which contributed to its rapid development.

4. The political component of the external environment of internists / general practitioners contributes to the appearance of work overload and does not create a legal framework, which leads to constant stress and conflict situations with patients. The external environment of primary care doctors does not contribute to maintaining a high quality of life, one of the main points is the lack of economic incentives.

## Approbation of the dissertation

The main materials of the work were presented in the form of reports:

- at the XXII International Scientific Conference "Health of the Nation- XXI Century" (Montenegro, Podgorica, 2018 April 29-May 5);
- at the International Scientific and Practical Conference "Modern innovative approaches in the modernization of medical education, science and practice" (Semey, 2018 November 1-2);
- at the XXIII International Scientific Conference "Health of the Nation-XXI Century" (Baku, 2019 April 29-May 5);
- at the International Interuniversity Scientific and Practical Conference "Innovations in the field of medical science and education" (Cholpon-Ata, 2019 October 17-19).

## Personal contribution of the dissertation:

The author of the dissertation research independently collected material, developed a questionnaire, collected primary data and their statistical processing, wrote a dissertation and scientific articles. She directly participated in conducting trainings on the prevention of burnout syndrome for polyclinic doctors.

# Implementation into practice

The results of the dissertation work have been put into practice in the following organizations:

- 1. City polyclinic № 11 of the Akimat of Astana (the act of implementation on the "Model of improving the quality of life and improving the working conditions of internists/ general practitioners" dated 01/25/2021)
- 2. City polyclinic № 14 of the Akimat of Astana (the act of implementation on the "Model of improving the quality of life and improving the working conditions of internists/ general practitioners" dated 18.01.2021).

### Publications on the topic of the dissertation

13 scientific papers have been published on the topic of the dissertation, including: 1 article in a publication indexed in Scopus information databases; 4 publications in periodicals of Kazakhstan recommended by the Committee for Supervision and Certification in the Field of Education and Science of the Ministry

of Education and Science of the Republic of Kazakhstan; 8 publications in the materials of international and republican conferences (Montenegro, Podgorica, 2018; Kazakhstan, Almaty, Semey 2018; Azerbaijan, Baku, 2019; Kazakhstan, Astana, 2019; Czech Republic, Prague 2020; Kazakhstan, Semey 2020). 2 copyright certificates have been received, there are 7 acts of implementation.

#### **Conclusions:**

- 1. When assessing working conditions, primary care physicians indicated: workloads (96.1%), lack of a workplace outside the reception of patients (87%), transport problems (67%). According to the timekeeping data, it was found that the processing of doctors amounted to 1.7- 15.8% of the working time. The determining factors affecting the quality of life of internists/ general practitioners were stress (98%), disturbed diet (82.8%). The indicators of general, physical and psychological health of the studied contingent were 71; 45.7 and 42.4%, respectively.
- 2. It was found that the amount of wages influenced labor satisfaction as one of the main indicators of working conditions. The correlation coefficient was 0.87, which indicates a direct strong relationship between these characteristics. 26.1% of respondents also noted low legal literacy, while 13.9% have a low level of feeling of legal security. Economic dependence on local budgets and lack of legal protection ensure the low social status of internists/general practitioners.
- 3. Diagnostics of the presence and severity of emotional burnout showed the dependence of the phases on the age of the specialist: the predominance of the resistance phase in middle-aged doctors and the exhaustion phase in older doctors. Internists/general practitioners of young age (up to 30 years) all phases of burnout had a direct strong dependence on the influence of external factors, which contributed to the rapid development of emotional burnout syndrome, while the exhaustion phase is more pronounced in young doctors than the initial phase of tension. The resistance phase prevailed among middle-aged and older doctors. This result suggests that the greatest outflow occurs from the specialty of the therapist (general practitioners) to the profile and narrow ones at the turn of 29-30 years. Doctors who have remained in the specialty after 30 years, there is an adaptation with a chronic equal balancing of the phases of tension and exhaustion.
- 4. As a result of the PEST analysis, it was determined that the external environment of internists/general practitioners did not contribute to improving the quality of life. 8 regulatory legal acts regulating the activities of primary level specialists have been studied. It is established that the existing regulatory documents that create a political environment for internists/general practitioners define tasks and workload without taking into account the real time of their implementation. Also, the economic environment of internists/general practitioners

does not contribute to the development of real mechanisms to improve their well-being. The ratio of the salaries of the above-mentioned specialists and the average salary in the country was consistently 0.74:1, which is on average 25% lower than the income of the average citizen.

5. The developed model for improving the quality of life and practical recommendations are aimed at eliminating or reducing the degree of influence of negative factors that determine the quality of life. The model assumes close coordinated interaction between such sectors of the healthcare system as the Ministry, the local executive body (Health Department) and the primary care organization itself (polyclinic), which will consistently lead to an improvement in the quality of life and working conditions of primary care physicians (internists/general practitioners).

#### **Practical recommendations**

The proposed model is aimed at improving the quality of life of internists / general practitioners, by improving the organizational, legal, managerial and preventive work in the primary health care setting. This model can be implemented subject to the following practical recommendations:

- 1. For the Ministry of Health:
- reduce the workload by reducing the established number of attached population by 1 site (1500 people instead of the current 1700 people), taking into account the specific weight of the population structure the balance of children, adults and the elderly;
- create a legal regulation of doctor-patient relations with a clear description of the rights and obligations of both parties and liability in case of their violation;
- to support the strategy of introducing per capita piece-rate payment for internists / general practitioners, taking into account the weighted coefficients of the child, adult and elderly population, to increase the amount of the existing per capita standard.
  - 2. For the Health Department:
- strengthen the work in the media to cover ongoing reforms in healthcare;
- provide social support measures by creating stores for medical workers with goods at reduced prices to balance the level of wages, co-payment of utility bills.
- take measures to improve the image and prestige of the internists / general practitioners specialty (videos on social networks, publications in the media),
  - 3. For the management of polyclinics:
- control the distribution of the workload by adjusting the staffing table;
- improve working conditions (provision of individual workplaces, means of communication, organizational equipment, office; uninterrupted operation of the Internet);

- increase the motivation of internists / general practitioners through financial incentives;
- engage on a regular basis a full-time psychologist to conduct trainings, talks, round tables on the prevention of burnout syndrome; psychological support in the work of internists / general practitioners.
- to include in the duties of a polyclinic lawyer the clarification and updating of all available basic regulatory documents, thereby increasing the legal literacy of primary care physicians.
- organize places for recreation for the employees of the clinic, on a regular basis to carry out activities to maintain a favorable psychological climate in the team (field trips, team building).

# Scope and structure of the dissertation

The dissertation is presented on 120 pages of computer text, consists of an introduction, 5 sections, conclusions, conclusions, practical recommendations, a list of used literary sources and appendices. The list of references includes 162 titles, of which 63 (39%) sources are in Russian and 99 (61%) in English. The dissertation work contains 20 figures, 24 tables and 5 appendices.