

## REVIEW

As part of her defense procedure for the degree of Doctor of Philosophy (PhD) in Public Health, the dissertation of Dr. Indira Karibayeva titled "Clinical and Epidemiological Aspects of Anxiety and Depression Prevalence in Breast Cancer Patients" was reviewed by a foreign scientific consultant, Professor Nor Zuraida Zainal, Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.

Undoubtedly, Dr. Karibayeva's dissertation is relevant and covers an important topic in public health.

Research work shows the relevance of the topic, the literature review covers the Kazakh and global experience in organizing medical care for patients with breast cancer. This study studied anxiety and depression symptoms among breast cancer patients in Almaty, and methodological substantiation of psychological care improvement was presented.

A brief summary of the main findings presented in the dissertation: systematic review and meta-analysis revealed that the prevalence of anxiety and depression symptoms among advanced breast cancer patients is 30% and 38% respectively. Breast cancer patients in Almaty experience an even higher prevalence of anxiety and depression symptoms at 81% and 77%. Additional psycho-social correction allowed mitigation in the patient's emotional state, and the prevalence of anxiety and depression symptoms decreased to 67% and 49%. The current system of providing psycho-social support to patients needs to be improved in terms of the interaction between a psychologist and a GP/therapist in order to diagnose and provide timely and permanent psychological assistance to patients with breast cancer. Based on the research, a methodological rationale was developed, which includes the following practical proposals:

- Algorithm for assessing the emotional state of patients
- Referral system for patients with breast cancer to assess the emotional state
- A program to strengthen preventive measures to reduce the prevalence of anxiety and depression among patients with breast cancer
- A program to ensure the continuity and continuity of the provision of medical, psychological and medical and social assistance to patients with breast cancer, regardless of the appeal.

On the topic of the dissertation research, 8 scientific papers were published: 4 abstracts in conference proceedings, including foreign conferences, 1 article in a journal recommended by the Committee for Quality Assurance in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan RK, 3 articles in foreign journals, of which one article in a journal Archives of the Balkan Medical Union (CiteScore 0.8, highest percentile 33% General Medicine), two articles in the Asian Pacific Journal of Cancer Prevention (CiteScore 3.1, highest percentile 57% Public Health, Environmental and Occupational Health).

The dissertation work of Dr. Karibayeva is independent scientific and practical research and is recommended for the official defense at the Dissertation Council for the degree of Doctor of Philosophy (PhD) in Public Health.

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