

**CDSSES 2020****IV International Scientific Conference "Competitiveness and the development of socio-economic systems" dedicated to the memory of Alexander Tatarkin****INDUSTRIAL METROPOLIS VS RURAL AREA: THE PATIENTS WITH CANCER LOCUS OF CONTROL**

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**Abstract**

The dynamic rhythm of life in a modern megalopolis and the socio-cultural context of the countryside determine differences in the lifestyle, culture, worldview of townspeople and rural residents. The low rhythm of life, a fusion of work and everyday life, continuity of traditions and value systems are characteristic of rural residents. It acts as a psychological resource for coping with difficult life situations, including the situation of cancer. The article aims to study the features of subjective control of patients with cancer in the industrial metropolis and rural areas. The study involved 80 women with breast cancer living in the city of Chelyabinsk and rural settlements of the Chelyabinsk region, who are hospitalized at the Chelyabinsk Regional Clinical Center for Oncology and Nuclear Medicine. According to the data obtained, the inhabitants of rural areas interpret significant life events occurring with them as a result of their activities, and not of the prevailing circumstances. They tend to take responsibility for their achievements and failures, and for the events of their family life. The revealed differences in the peculiarities of subjective control in patients with cancer living in an industrial metropolis and rural areas serve as the basis for the development of a system of psychological support for patients with malignant neoplasms.

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## 1. Introduction

Cancer is a disease that poses a threat to human life and health. The problem of survival and effectiveness of treatment for cancer is an urgent and socially significant task of modern science and practice. Today, medicine focused on increasing the survival rate of patients with malignant neoplasms, on increasing their life expectancy, and on maintaining the quality of life of this category of patients (Matrenitsky, 2018); (Spring et al., 2015). The development of malignant neoplasms depends on many factors, including the ecological state of the environment. Oncological diseases are an indicator of the ecological disadvantage of the territory (Kiku et al., 2017); (Radkevich et al., 2018); (Ratcliff et al., 2020). In the Southern Urals of the Russian Federation, with specific environmental problems over the past decades, an unfavorable situation has developed for the spread of oncological diseases. According to sociological studies, the urban population is more likely to suffer from cancer than the rural population. Carcinogenic and technogenic environmental factors in an industrial metropolis, urbanization processes, an increasing pace of life, and information load affect on the growth of morbidity among its residents (Anbari et al., 2020); (Bray et al., 2018); (Bettencourt et al., 2007); (Pisareva et al., 2010).

## 2. Problem Statement

Among oncological diseases in terms of prevalence among other malignant neoplasms in women, breast cancer is distinguished by the strength and intensity of the traumatic effect (Claessens et al., 2020); (Tsiring et al., 2019). The psychological trauma of this disease is due, on the one hand, to the fear of illness, the perception of the disease as life-threatening, on the other, to the fear of losing femininity, unwillingness to undergo a mutilating operation associated with causing a cosmetic defect. Besides, this disease can be perceived as a factor that disrupts the socio-psychological adaptation of a person and affects his social relationship. Internality in the perception of the disease and in explaining what is happening can help preserve the health of women and play a positive role in the course of cancer (Lambert-Obry et al., 2018); (Müller et al., 2018); (Tsiring & Evstafeeva, 2020); (Zaridze, 2005).

The concept of internality uses to denote the degree of a person's confidence that he controls the results of events in his life, is the cause of his success, and is also personally responsible for the failures that have occurred (Kulpa et al., 2016). The externality is the opposite characteristic of the individual in direction and content. People with an external way of explaining what is happening to believe that events depend on the action of external forces, such as luck, chance, other people, they also see the cause of their achievements and troubles outside.

Internality and externality are two extreme points of the same continuum and speak about the peculiarities of such personal property as a locus of control, which consists of attributing internal (internality) or external (externality) reasons by a person to his successes or failures. The locus of control characteristic of a person is universal concerning the various situations that an individual has to face.

Locus of control is an important factor in the healing process. Thus, several works emphasize that the internal locus of control plays a positive role in the course of cancer, and is also a prerequisite for high rates of recovery (Ghislain et al., 2016); (Iskandarsyah et al., 2014); (Rautalin et al., 2018). Iskandarsyah

et al. (2014) found that women with breast cancer had a higher level of external locus of control and lower rates of internal control compared to healthy women.

### 3. Research Questions

Studies of the internal prerequisites for morbidity and survival of patients with oncology are of particular relevance. The study is devoted to identifying the peculiarities of explaining the reasons for what is happening to them by women with breast cancer, studying the locus of control in them. As a systemic factor determining the locus of control, the authors consider the patient's place of residence: an industrial metropolis and rural areas.

### 4. Purpose of the Study

The study aims to identify the peculiarities of subjective control in patients with cancer living in industrial metropolis and rural areas.

### 5. Research Methods

The research methods are the “Subjective control questionnaire” (J. Rotter), a questionnaire for collecting data on social indicators, and methods of mathematical data processing (Mann – Whitney U-test). The study involved 80 women with breast cancer living in the city of Chelyabinsk and rural settlements of the Chelyabinsk region of the RF, who are inpatient treatment at the Chelyabinsk Regional Clinical Center for Oncology and Nuclear Medicine.

### 6. Findings

Diagnosis of the locus of control among women with breast cancer living in the metropolis and rural areas carried out to achieve the goal of the study. The research results presented in table 1.

**Table 1.** Locus of control in women with breast cancer living in metropolis and rural areas

<b>Indicator of the level of subjective control</b>	<b>Patients with breast cancer, residential in the metropolis (middle rank)</b>	<b>Patients with breast cancer, residential in rural areas (mean rank)</b>	<b>Significance level ( p)</b>
General internality	38.33	50.14	0.029
Internality of achievements	40.20	47.70	0.099
Internality of failure	39.79	49.61	0.042
Internality in family relationships	37.98	52.48	0.014

Internality of industrial relations	41.63	41.16	0.937
Internality of interpersonal relations	43.23	38,80	0.452
Internality about health and disease	41.87	42.35	0.935

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According to the obtained data, residents of rural areas have a higher indicator on the scale of general internality than patients living in a megalopolis ( $p = 0.029$ ). A high level of general internality corresponds to a high level of subjective control over any significant situations. Thus, women living in the village believe that a higher number of significant events in their lives are the result of their actions, and are also convinced that they can manage their own lives and recognize their responsibility for it. Patients from the metropolis showed a low indicator of general internality, which means that these women do not note the connection between their actions and the events of life that are significant for them. They do not consider themselves able to control their development and believe that most of the events that occur are the result of chance, luck, bad luck, or other people's actions.

Women with breast cancer living in the countryside have a high level of internality in the area of failure than women from the metropolis ( $p = 0.042$ ). Localization of control in a situation of failure presupposes a person's confidence that he is responsible for the troubles occurring, taking into account the level of his competence, purposefulness in achieving results, analyzing his behavior and methods of action. Women from rural areas tend to take responsibility for the event, the problem, and the subsequent solution. Megalopolis women tend to ascribe blame in a situation of failure to other people, external circumstances, or bad luck, ignoring their own mistakes.

Internality in family relationships occurs significantly more often in female patients living in a village than in female residents of a metropolis ( $p = 0.014$ ) and suggests a feeling and recognition of responsibility for events taking place in the family. For example, women with breast cancer living in rural areas tend to consider themselves responsible for the events of family life, and for women living in a metropolis, the responsible person is a partner.

The obtained differences at the level of the statistical trend on the scale "Internality in the field of achievement" ( $p = 0.099$ ) tell us that patients living in rural areas believe that they have achieved success in their lives due to their efforts, persistence, development of the abilities necessary to achieve the goal. While women living in a metropolis tend to see the reason for their achievements and successes in external factors and circumstances: luck, good fortune, help from other people, and more.

The study found significant differences in terms of general internality, internality in family relationships, in the area of failures and achievements. Women living in rural areas interpret significant life events that happen to them as the result of their activities, and not the prevailing circumstances. They tend to take responsibility for their achievements and failures, for the events of their family life.

## 7. Conclusion

The pace, conditions, and way of life in a metropolis have an impact on a modern woman and, together with personal characteristics, can determine the characteristics of recovery in a situation of cancer. In this study, it was found that women living in a metropolis tend to see other people's events, fate, and circumstances responsible for the events in their lives. At this stage of the study, it is difficult to say unequivocally whether internality or externality will play a positive role in the recovery of patients with breast cancer. The influence of the locus of control on survival can be revealed using a longitudinal study, in connection with which this study will be continued in the next two years. It will help to detect the specificity of the locus of control at the initial and subsequent stages of treatment, compare these data with information on the dynamics of the course of the disease and patient survival. The differences identified at this stage in the locus of control in women with breast cancer living in an industrial metropolis and rural areas will serve as the basis for building relationships with patients in providing psychological assistance. They will also form the basis for the further empirical study of psychological factors of survival and disease course in patients with malignant neoplasms.

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