JOURNAL
OF EUROPEAN ECONOMY
Vol. 19. № 4 (75). October–December 2020
Publication of West Ukrainian National University

Microeconomics

Ivica GULÁŠOVÁ,
Nadežda PETERKOVÁ JUSTHOVÁ,
Jozef BABEČKA

SOCIAL AND ECONOMIC ASPECT OF TREATMENT OF AN ONCOLOGICAL PATIENT IN SPA INSTITUTIONS

Abstract

The authors hereby discuss the social aspect of treatment of an oncological patient in a spa institution. The aim of this article is to analyse social changes and needs of an oncological patient, creating a burden to both the patient and their family. The disease is an unbalanced bio-psycho-socio-spiritual phenomenon affecting the quality of life. It is the result of interaction of pathologic and compensation processes that lead to the degeneration and damage of cells, tissues and systems of an organism. The way of coping with the disease is also influenced patients' attitudes to the disease, their knowledge about the same and, of course, existing prejudices and distorted views that are still present among the public in relation to oncological diseases.

Gulášová Ivica, PhD, MHA., professor at Department of Nursing, Trnava University, Slovakia. ORCID: https://orcid.org/0000-0001-8592-914X Email: ivica.gulasova4@gmail.com
Peterková Justhová Nadežda, PhD, Health Resort Trenčianske Teplice, Trenčín, Slovakia. Email: nadka.justhova@pobox.sk
Babečka Jozef, PhD, Ružomberok Catholic University in Ružomberok, St. Cyril and Methodius Institution – Partizánske, Slovakia. ORCID: https://orcid.org/0000-0002-1592-0833 Email: jozef.babecka@hotmail.com

A person lives in a certain social environment, has their own family, employment, problems, and interests. Satisfaction of social needs is aimed at moderation of social isolation, effective communication with the patient and provision of social support system. Communication is the exchange of information; it is the basic principle of interpersonal relationships in nursing healthcare. Effective communication is one of the basic and important psychosocial needs and positively influences the quality of relationship between the nurse and the patient. Communication with an oncological patient requires the nurse to have a variety of communication skills that cannot be learned, but are formed through real life situations, constant contact with the patient, knowledge of human psyche, but especially kind and open heart and love of their job.

Oncological disease and the treatment thereof significantly influences physical activity, not only at home but also in employment. The patients find themselves in a new social role; can experience changes in their employment, role of a parent and/or a partner. The temporary incapacity to work has longer duration and can end with the return to the previous job position, change to a less exhausting job or a job with shorter working hours, in partial or complete disability and possibly also in death of the patient. The return to work often means the end of loneliness and increased self-awareness for the patient. Spa treatment is expected to provide restoration of organs or systems affected by the oncological disease after the termination of anti-carcinoma treatment, restore the unsatisfactory functioning of organs or systems induced secondarily by the disease or by the treatment thereof.

Key words:

Oncological disease, needs, holism, social and economic aspect, oncological treatment, spa healthcare.

JEL: I12, I18.

Literature Review and Problem Statement

Spa industry has an important role in the medical tourism and wellness. Due to unique natural and geographical conditions, traditions of spa industry date back to the Roman empire (Kasaganda & Gurnak, 2017). Slovakia is rich in sources of thermal and mineral waters and natural spa resorts are popular among inhabitants of Slovakia and foreign tourists. In addition, natural healing factors have an essential positive impact on health condition and climatotherapy, thalassotherapy and balneotherapy are extremely popular now (Košíkova & Litavcová, 2019). As Kasaganda and Gurnak (2017, p. 28) noted «spas were primarily created for the medical purposes». However, now spa tourism is subject to globalization and depends on requirements of potential clients (Štefko et al, 2020). Thus, on the one hand, spa industry will develop towards modern trends and will become more commercial than before. For instance, after transforming the economy into a free market in the 1990's, Czechoslovakia, and then Slovakia, observed increasingly strong competition in the sector of tourism and wellness. Spa institutions encountered economic and financial troubles and had to be restructured as joint-stock companies, limited liability companies or state-owned companies. Now it is possible to reveal very effective spa companies and spa companies with essential losses. Such spa companies with financial losses should develop new strategies, focused on perspective segments of markets in spa industry and they should improve their operation and financial management (Štefko et al, 2020). However, these factors can be drivers of further commercialization of spa industry in Slovakia and arrival of powerful foreign investors or business groups. Due to the lacking state control on spa industry in Slovakia and «vulgar commercialization» of this industry in the country, additional treatment and rehabilitation in spa institutions can be very expensive for people with low income. Thus, this very important part of the convalescence system may be not accessible for some groups of patients. A possible approach to solving this problem may be expansion of healthcare services offered by health insurance system in Slovakia (Derco, 2020). In addition, the stay and rehabilitation in specialized spa institutions should be available free for oncological patients who need such services and cannot pay for these healthcare services as regular customers.

Gulášová (2008) claims that the oncological disease has a massive and unexpected negative impact on the life of not only the patient themselves but also their family. The entire social environment of the patient is influenced by their fight against the disease. Together with the patients, family and relatives experience hopes for cure as well as disappointments (Gulášová, 2008). Patients in spa institutions need to feel the support of their family and friends. The nurse needs to enable their active participation in this process (Gulášová, 2008).

Social insurance and its individual forms include groups of illnesses for which balneology can be used to facilitate regaining healthy condition or as

a preventive measure. Social insurance and the individual forms thereof represent the economic basis for incorporating spa treatment into the overall treatment of an oncological patient. Balneology programmes form the socially defined space for chronically ill persons, which is also true for oncological patients. Chronical illness or oncological disease additionally requires social measures during its long-term treatment. Oncological disease affects the social status of the respective person and leads to additional expenditure for this patient, his family and society.

Under certain conditions, the disturbance of homeostasis of social functions also results in the disorder of psychical and physiological functions of the ill person. (Zvonár, 2004). Social and economic aspects play important role for oncological patients. Zvonár (2004) claims that the topic of social aspects should be given special emphasis when prescribing and implementing spa treatment. During spa treatment of oncological diseases, the content of occupational therapy must also have a social and economic aspect, helps a patient to recover, improve his quality of life, etc. Oncological patients with limited physiological functions due to their illness require the medical worker to take a social approach during balneotherapy within the spa treatment. He claims that the relationship of a patient and the performer of specialized medical programmes must comply with current knowledge. That is why we must create a relationship that removes any doubts and creates positive attitude not only to medical workers, but also to one's own disease. He stresses that the effectiveness of a treatment depends not only on the use of modern technology and methodology of current balneology and occupational therapy, but also on the positive effect of the medical worker as well as the positive attitude of the patient to the therapeutic process as such. (Zvonár, 2004). This includes the patient not only adhering to the advice and recommendations of the doctor, but also actively approaching the disease, therapy programme and generally to their medical and health condition. **These social and economic aspects of treatment of oncological patients in spa institutions often determine the complex results of the whole treatment process.**

Over the course of the oncological disease, the social situation of a person frequently changes. All social roles, needs, social environment and often employment change, with the complete loss of employment being quite frequent. Siracká (2012) claims that the disease often has a very negative financial impact on the patient and their family due to increased expenses related to the illness, limited return to job position and various obstacles in access to financial services, loans and insurance. For many people this is a threat to their social status, social or family prestige. According to Siracká (2012), many oncological patients consider the return to work as the proof of successful result of treatment and survival. Oncological disease exceeds the personality of the patient and influences his whole family and surroundings. Thus, economic certainty, partnership and family relationships are frequently changed. Partners, parents, family of oncological patients often fail to perform everyday care of their relative, are subject to pressure, fail to manage their emotions and pain, therefore the relationships

often end in divorce, separation of partners or family. Family environment, especially the dynamics of family relationships show its importance.

In the critical period of time, the patient may experience feelings of loneliness, they close up on themselves and isolate from the closest surroundings. Apart from other types of therapy, such as medicaments and psychotherapy, we successfully apply art therapy, which is the treatment through art (Babečka, 2018). **By distorting social and interpersonal relationships, we come to social isolation.** The patient loses certain life securities, continuously becomes **socially dependent and, above all, needs help.** Self-esteem and self-awareness are important for both psychical and physical health of a person (Křivohlavý, 2002).

Spa treatment cannot consist of only specialized treatment, but must also include duly qualified psychical and social help both for the patient and for their family. Due to long-term and frequently complicated treatment, new social problems arise that belong to the complex of nursing and medical care. **Medical staff should help patients, their family and relatives contact organizations and associations that are able to provide specialized and professional help** (Křivohlavý, 2002). Social aspects also include schedule measures with distribution of load, rest, cultural events, activities, regular catering and nutrition, climatic therapy and regular sleep. They are a necessary condition for the inducement of regularity in biorhythm, according to Haring and Mašan (2008). Oncological patients who are more able can undergo more demanding and longer tours to wider surroundings. Spa environments offer various natural beauties of deep forests, fragrant meadows, amazing mountainous and rocky sceneries. Patients may visit valleys with clear mountain streams, walk through mountain ranges and ascend the hills with beautiful panoramic views (Šípoš & Ondrejkovič, 1989).

The **main objective of the research** is to determine changes in social aspects of life of oncological patients that originate as a consequence of spa treatment. The **work hypothesis** is that oncological disease represents a major handicap in saturation of some social needs (aspects) of patients' lives. **Research methods** used include anonymous questionnaire structured with closed and semi-open questions aimed at the physical aspect of patients' lives. The questionnaire was assessed through basic statistical methods such as first-grade analysis. Evaluation of questionnaire – testing through χ^2 – Chí-square test of good conformity and parametric test – Student *t*-test. **Research implementation.** The research has been implemented after having obtained approval for its implementation from the Ethical Committee. We asked spa institutions Kúpele a.s. Trenčianske Teplice, Kúpele a.s. Lúčky and Kúpele a.s. Nimnica to participate in our questionnaire.

Research Methodology

As an introduction, we made a short speech in which we informed the respondent of the procedure and objective of our research in detail. During a subsequent interview, we obtained informed consent of respondents for the use of data in research purposes while adhering to all anonymity criteria. Afterwards, the questionnaire was answered by our respondents. After this activity, a short informal discussion followed, dedicated to feedback of the respondents, their possible questions regarding the research or regarding the issue of oncological disease. The set of questionnaires was at first administered to a small sample of respondents who were not affected by this issue and, therefore, their opinion was unbiased. This was done in order to test the comprehensibility and explicitness of the questionnaire – the so-called pilot questionnaire. The aim of this piloting stage was to identify weak spots that could negatively influence the obtained data. Subsequently, after making the necessary adjustments, we administered the questionnaire to 300 respondents at various stages and with different forms of oncological disease. Both men and women of various age groups were included in the sample.

Characteristics of examined sample of respondents. The research sample was formed by patients with oncological disease who were in the stage of remission, together 300 patients. Research was performed only with those patients who underwent spa treatment. Research was performed over the period of 4 months –from January to December 2018.

Analysis and Interpretation of Research Results

Table 1

Respondents according to gender

	men	women
Respondent gender	134	166
Percentage representation	44,67%	55,33%

In order to determine whether the sample is representative, **Jargue-Bera test** has been used. Normality test has been performed through MATLABE.

>> x = [134 166] x = 134 166 >> H = JBTEST(x) H = 0H = Hypothesis that gender has normal distribution of probability cannot be refused with the probability of 95%. This sample can thus be considered representative in terms of gender. We also used T-student test that required the selection of a «healthy sample» of respondents for comparison. This test has been done in Excel. The «healthy sample» consisted of 35 respondents. At first F-test for the equality of dispersion was implemented and then a two-choice T-test. Using the **F-Test**, we discovered a slight difference in dispersion. Using the **T-test**, we discovered a significant difference between genders among oncological patients. **Chí-square test** has been used to compare groups between each other through an R-statistic programme. We found out that both groups of male and female oncological patients have only a slight difference.

In the next stage, we divided the respondents according to their age into three groups. The following chart shows the overview of the age of respondents.

Table 2

Respondents according to age

	up to 45 years	46-60 years	61 and older
Age of respondents	10	168	122
Percentage representation	3,33%	56,00%	40,67%

Jargue – Bera test = Normality test

>> x=[10 168 122] x = 10 168 122 >> H = JBTEST(x) H = 0

Hypothesis that the age of oncological patients has a normal distribution of probability cannot be refused with the probability of 95%. This sample can thus be considered representative in terms of age. Using the **F-Test**, we discovered significant difference in dispersion. Using the **T-Test**, we found out that there is a slight difference in age among oncological patients. Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to age.

Table 3

Respondents according to marital status

	single	married	divorced	widow/widower	other
Marital status	2	194	45	59	0
Percentage representation	0,67%	64,67%	15,00%	19,67%	0,00%

Jargue-Bera test = Normality test

>> x=[2 194 45 59 0] x = 2 194 45 59 0 >> H = JBTEST(x) H = 0

Hypothesis that marital status of oncological patients has a normal distribution of probability cannot be refused with the probability of 95%. This sample can thus be considered representative in terms of marital status. Using the **F-Test**, we discovered significant difference in dispersion. Using the **T-Test**, we found out that there is a slight difference in marital status for oncological patients. Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to marital status.

Table 4

Respondents according to permanent residence

	village	small town	town with more than 300,000 residents
Long-life permanent residence of respondents	115	126	59
Percentage representation	38,33%	42,00%	19,67%

Jargue – Bera test = Normality test

>> x=[115 126 59] x = 115 126 59 >> H = JBTEST(x) H = 0

Hypothesis that long-term residence of oncological patients has a normal distribution of probability cannot be refused with the probability of 95%. This sample can thus be considered representative in terms of long-term residence. Using the **F-Test**, we discovered only slight difference in dispersion. Using the **T-Test**, we found out that there is a slight difference in permanent residence among oncological patients. Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to permanent residence.

Table 5

Education of respondents

	Non-medical worker – university education	Non-medical worker – secondary education	Medical worker – university education	Medical worker – secondary education
Group of patients	86	129	42	43
Percentage representation	28,67%	43,00%	14,00%	14,33%

Jargue – Bera test = Normality test

>> x=[86 129 42 43] x = 86 129 42 43 >> H = JBTEST(x) H = 0

Hypothesis that degree of education of oncological patients has a normal distribution of probability cannot be refused with the probability of 95%. This sample can thus be considered representative in terms of degree of education. Using the **F-Test**, we discovered only slight difference in dispersion. Using the **T-Test**, we found out that there is a significant difference in education of oncological patients. Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to education.

Table 6

Respondents according to employment status

	Employed	Student	Entrepreneur	Unemployed	Retired
Current occupation	112	5	47	14	122
Percentage representation	37,33%	1,67%	15,67%	4,67%	40,67%

Jargue – Bera test = Normality test

>> x= [112 5 47 14 122] x = 112 5 47 14 122 >>H = JBTEST(x) H = 0

Hypothesis that type of employment of oncological patients has a normal distribution of probability cannot be refused with the probability of 95%. This sample can thus be considered representative in terms of employment. Using the

F-Test, we discovered significant difference in dispersion. Using the **T-Test**, we found out that there is a slight difference in current employment status for oncological patients. Using the **Chí-square test**, it was discovered that groups of oncological patients are different when it comes to employment.

Table 7

Respondents according to their occupation

	Director or Superior manager	Specialist	Sales or technical support	Administrative	Services	Attendant or other trade	Other
Category of employment	20	124	31	36	58	31	0
Percentage representation	6,67%	41,33%	10,33%	12,00%	19,33%	10,33%	0,00%

Using the **F-Test**, we discovered significantly different dispersion. Using the **T-Test**, we found out that there is a significant difference among oncological patients. Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to type of employment.

Table 8

Respondents according to the length of oncological disease

	2-4 years	5-8 years	more than 9 years
Length of oncological disease	122	72	106
Percentage representation	40,67%	24,00%	35,33%

Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to length of disease.

Table 9

Respondents according to incapacity for work

	Yes	No
Incapable for work due to the illness	127	173
Percentage representation	42,33%	57,67%

Using the **Chí-square test**, it was discovered that groups of oncological patients are the same when it comes to the period of incapacity for work.

Table 10

Respondents according to return to work life

	Yes	No
Return to work life	178	122
Percentage representation	59,33%	40,67%

Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to the return to work life.

Table 11

Respondents' assessment of sufficiency of information about oncological disease

	Yes	No	I don't know
Sufficiency of information about oncological disease	176	31	93
Percentage representation	58,67%	10,33%	31,00%

Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to being informed about the dis-

ease. In the next question, we followed this one and we wanted to know which source of information about the disease they find to be most suitable.

Table 12

Respondents' choice of most suitable source of information

	leaflets, brochures, media	information from other patients	personal consultation with the doctor
Most suitable source of information about oncological disease	15	26	259
Percentage representation	5,00%	8,67%	86,33%

Using the **Chí-square test**, it was discovered that groups of oncological patients are significantly different when it comes to the source of information about the disease.

Social Component

Table 13

Respondents according to disease's influence on current job performance

	Yes	No	Does not apply
Do you think your oncological disease negatively influences your job performance?	90	88	122
Percentage representation	30,00%	29,33%	40,67%

Using the **F-Test**, we discovered only little difference in dispersion**.** Using the **T-Test**, we found out that there is a significant difference in negative impact on job performance among oncological patients. Using the **Chí-square test**, it was discovered that the answers of oncological patients were only slightly different.

Table 14

Respondents according to disease's influence on ways of spending free time

	Yes	No	I don't know
Do you think that your oncological disease negatively influences your way of spending free time in a spa institution?	0	280	20
Percentage representation	0,00%	93,33%	6,67%

Using the **F-Test**, we discovered significantly different dispersion. Using the **T-Test**, we found out that there is a slight difference between oncological patients in terms of negative impact of disease on the way of spending free time. Using the **Chí-square test**, significantly different groups of answers have been discovered among oncological patients.

Table 15

Respondents according to disease's financial burden

	Yes	No	I don't know
Do you consider your oncological disease as a significant financial burden?	285	0	15
Percentage representation	95,00%	0,00%	5,00%

Using the **F-Test**, we discovered significantly different dispersion. Using the **T-Test**, we found out that there is a slight difference between oncological patients in terms of financial burden. Using the **Chí-square test**, significantly different groups of answers have been discovered among oncological patients.

Table 16

Respondents according to disease's influence on loss of friends, relatives, acquaintances

	Yes	No	I don't know
Do you think that your oncological disease caused loss of your friends?	80	200	20
Percentage representation	26,67%	66,67%	6,67%

Using the **F-Test**, we discovered significantly different dispersion. Using the **T-Test**, we found out that there is a slight difference in the fact that the disease caused the loss of friends, acquaintances and relatives among oncological patients. Using the **Chí-square test**, significantly different groups of answers have been discovered among oncological patients.

Table 17

Respondents according to disease's influence on making of new friendships and relationships

	Yes	No	I don't know
Do you think your oncological disease represents a serious obstacle in making new relationships in spa environment?	0	259	41
Percentage representation	0,00%	86,33%	13,67%

Using the **F-Test**, we discovered significantly different dispersion. Using the **T-Test**, we found out that there is a slight difference in the fact that the disease forms an obstacle in making new relationships among oncological patients. Using the **Chí-square test**, significantly different groups of answers have been discovered among oncological patients.

Conclusions

The aim of a nurse's job is to help the patient to adapt to the changed environment as soon and as much as possible and become independent in satisfying their needs. An important prerequisite of a patient-nurse cooperation is the acceptance of their subjective experience during the satisfaction of their needs, what requires holistic approach from the nurse to the patient. Family also plays an important role, in the treatment of an oncological patient. Taking care of patients' outlook positively influences interpersonal relationships. Satisfaction of social needs is aimed at moderation of social isolation, effective communication with the patient and provision of social contacts with supporting persons.

References

Babečka, J. (2018). Possibilities of community nursing and social care for people with mental disability. *Proceedings of XXXV scientific conference with international attendance «Education in nursing from the point of view of effective communication with patients and development of multidisciplinary cooperation in taking care of senior citizens with social workers»*. Partizánske, p.209-216.

Derco, J., Romaniuk, P., & Cehlár, M. (2020). Economic Impact of the Health Insurance System on Slovak Medical Spas and Mineral Spring Spas. *Sustainability*, *12*(8), 3384. https://doi.org/10.3390/su12083384

Gulášová, I. (2008). *Physical, psychical, social and religious aspects of oncological diseases*. Osveta.

Haring, J., & Mašan, J. (2009). *Introduction to balneology and rehabilitation care* (1st ed.). St. Cyril and Methodius University in Trnava.

Kasagranda, A., & Gurňák, D. (2017). Spa and wellness tourism in Slovakia (a geographical analysis). *Czech Journal of Tourism*, *6*(1), 27–53. https://doi.org/10.1515/cjot-2017-0001

Košíková, M., & Litavcová, E. (2019). Health tourism in Slovak medical spas. *Conference proceedings «The 13th International Days of Statistics and Economics»*, pp. 794-803.

Křivohlavý, J. (2002). *Psychology of diseases* (1st ed.). Grada.

Šípoš, J., & Ondrejkovič, I. (1989). *Trenčianske Teplice* (1st ed.). Obzor.

Siracká, E. (2012, February 6). New era in the care of an oncological patient [in Slovak]. *Slovenský pacient*. https://www.slovenskypacient.sk/nova-era-v-starostlivosti-o-onkologickeho-pacienta/

Štefko, R., Jenčová, S. & Vašaničová, P. (2020). The Slovak spa industry and spa companies: Financial and economic situation. *Journal of Tourism and Services*, *20*(11), 28-43. https://doi.org/10.29036/jots.v11i20.137

Zvonár, J. (2005). *Thermotherapy, hydrotherapy, balneotherapy and climatotherapy* (1st ed.). Osveta.

Received: June 5, 2020.
1st edit: June 23, 2020.
Accepted: October 21, 2020.