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Quality of life of hospitalized and outpatient oncological patients

Patricia Dobříková , Dana Stachurová , Miriam Slaná ¹ , Brian Littlechild²

Abstract:

The quality of life of sufferers of chronic and serious diseases is a phenomenon which has come to the attention of contemporary medicine, nursing and other supporting professionals working with cancer patients. This research set out to determine whether there is a difference in the self-perception of the quality of life of hospitalized cancer patients and cancer outpatients. This study deals with the comparison of quality of life in 128 outpatient and hospitalized cancer patients in the curative stage of cancer. The QLACS (Quality of Life in Adult Cancer Survivors) "How do I live with the disease?" questionnaire was used in the survey. To ascertain the total value of the quality of life we used scoring with a potential spread of responses from 1 to 7 in the QLACS questionnaire. Using this scale, various items in the questionnaire measured the level of each frequency of problems (1 = never, 7 = always).

The resulting value of quality of life of the patient was higher when the final score was lower. A significance level of 0.005 in the resulting value of quality of life (sig. = 0.000) in the study group of patients confirmed the hypothesis, which assumed that the quality of life of hospitalized cancer patients is significantly lower than the quality of life of cancer outpatients. The quality of life of hospitalized cancer patients is significantly lower than the quality of life of cancer outpatients (sig. = 0.000) since admission to hospital with all the accompanying negative factors for the patient – the separation from family and loved ones, unfamiliar environment, undergoing often difficult and invasive diagnostic or therapeutic procedures, which amongst others, are very stressful for the patient, with a potentially negative impact on the patient's quality of life.

Keywords:

Quality of life, Cancer patient questionnaire QLACS, Outpatient cancer patient Hospitalized cancer patient

Introduction

Cancer can be characterized as cell growth of unregulated autonomous nature. Uncontrolled cell growth in this way leads to an enlargement of affected tissue which compresses the surrounding structures [1]. Malignant tumour growth is invasive, destructive and unconfined. It grows into blood and lymphatic vessels and metastasizes [2]. Worldwide, cancer affects nine million people every year, and 6 million people die due to cancer [3]. A prerequisite for understanding the quality of life of oncological patients is the perception of factors that are involved in human life satisfaction. Sirgy [4], the author of the theory of life satisfaction, indicates that a person has various adjustment mechanisms to restore homeostasis when it undergoes disruption. Through compensation, self-review of personal history, self-perception, choice of objectives, and the implementation of the person's own desired objectives, they create their own assessment of quality of life. Quality of life is a universal phenomenon, which is a difficult area to examine in many institutions in different countries [5]. It is a feeling of overall

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life/wellbeing resulting from a set of objective living conditions and their subjective evaluation by, in this instance, the patient. It is a subjective impact assessment on aspects of the patient's physical, emotional, and social life. Individual components interact and their impact on the quality of life increases exponentially – for example, pain worsens dyspnoea, performance, self-sufficiency, emotional wellbeing [6]. Quality of life was introduced into psychology in the late 1930s by Thorndike and was recognized in medical fields of oncology and traumatology in the early 1970s [7]. Quality of life interests the health professionals because it is a basic human desire to be satisfied and happy, and also because it affects interaction with patients. These terms are often associated with health, but also with social capital, marital status, education and appropriate livelihood [8]. The issue of the quality of life of patients has increasingly become an area of attention within healthcare over the last three decades. Finding out if the patient is experiencing a good quality of life as well as an individual's values and concerns relating to his/her current quality of life, is important for planning interventions and care planning. Quality of life is also important in terms of prognosis. The positive perception of their quality of life by the patient is a prerequisite for better management of the disease. Quality of life of patients is affected by several aspects: physical condition, functional ability, mental health, satisfaction with treatment and social status, society, religious and economic aspects, age, sex, polymorbidity, family situation, preferred values, education, religiosity, and cultural background [9,10]. In connection with our research that deals with the quality of life of cancer patients, we set out to determine whether there is a difference in the perception of the quality of life of hospitalized cancer patients compared to cancer outpatients.

Materials and methods

The research was conducted with cancer outpatients and cancer patients who were hospitalized at the oncology centre of the same institutions. The research was conducted in two hospitals in eastern Slovakia: Faculty Hospital in Prešov (Radiotherapy Department, Department of Clinical Oncology, Department of outpatient chemotherapy) and in the East Slovakia Cancer Institute in Košice. After approval by the ethics committees of individual clinical departments, the research proceeded by the direct administration of questionnaires and through interactions with patients. The research sample consisted of a total of 128 cancer patients. There were 67 hospitalized patients and 61 outpatients. We had the following criteria for the inclusion of possible research participants: patients without cognitive disorder; where there was his/her active agreement to participate in the research; the patient had been undergoing oncological treatment for at least 3 months; and that the patient was in the curative stage of the disease. The largest group in the survey sample consisted of patients aged 60–69 years (32.81%, $n = 42$). The second largest group was that of patients aged 50–59 years (20.31%, $n = 26$). In terms of age the least represented group of patients were those aged 30–39 years (2.32%, $n = 3$). The average age of patients participating in the study was 56 years. Representation of men and women in the survey sample was uniform. Males comprised 51.78% ($n = 65$) and women 49.22% ($n = 63$). The QLACS (Quality of Life in Adult Cancer Survivors) “How do I live with the disease?” questionnaire was used in the survey. The QLACS concept is based on monitoring the quality of life that reflects physical, psychological and social aspects, and of patient satisfaction with their own lives and their sense of coping with the disease [11]. The questionnaire has been used since 2005, and its advantage lies in the pursuit of understanding the quality of life of patients with a long-standing presence of oncological disease and in patients with metastatic relapse after several years of treatment. It was developed in the USA and tested with patients with a disease duration from 2 months to 18 years, and was also used with patients with breast cancer, bladder cancer, head and neck cancer, gynecological cancer,

prostate tumour, and colon cancer. QLACS has a high correlation with the SF36 questionnaire and the FACT- 6 – Functional Assessment of Cancer Therapy [12]. QLACS is an instrument with established internal consistency (Cronbach's alpha 0.72) [12, 13]. The questionnaire consists of 47 closed items. It contains seven generic domains focusing on the positive and negative feelings, cognitive problems, sexual problems, physical pain, fatigue, social issues and five specific domains associated directly with cancer – including the change in image of his/her own body after oncological treatment, financial problems in connection with cancer disease, distress caused by cancer, the impact of the disease on the family, as well as the possible contribution of the development of the disease on the patient's personality [12]. Respondents were asked to indicate their responses on the 7-point Likert scale (1 = never; 7 = always). Administration of the questionnaire was carried out after personal invitations to each patient asking him/her to cooperate. Each patient was individually trained in working with the scale items in the questionnaire. Collection of questionnaires was carried out in agreement with patients each day in the administration of the questionnaire, most often taking between 30 and 40 min, allowing the immediate return of almost all returned questionnaires. Of the 131 questionnaires distributed, 128 were returned. This excellent return rate (97.7%) occurred because we administered questionnaires face to face with each patient; our goal was also to develop a sense of trust with the respondents through personal contact and conversation. We carried out a statistical background check using a test of reliability. Based on its outcome, which represents Cronbach's alpha 0.69, we can conclude that the various items of the questionnaire are consistent and the reliability of the questionnaire is sufficient.

Statistical analysis

Collected data was entered as text using Microsoft Word, and data were evaluated through tables with percentage and numerical representation of the individual answers, and also using Microsoft Excel, where individual responses were processed through the coding system. Where the number of the group of respondents exceeds 50 ($n = 128$), it is possible to use the normality Kolmogorov–Smirnov test. After testing normality, where the final value of significance was greater than 0.05, statistical evaluation of the research results was obtained through a statistical programme SPSS using a parameter Student's *t*-test.

Results

According to the QLACS, resulting quality of life is higher when the final score is lower because in the questionnaire we measured the frequency of the problems (1 = never, = 7 always).

Significant differences between outpatients and inpatients were recorded in the responses to the questionnaire items (Table 1). Patients identified the perception of sufficient energy to carry out the planned activities (sig. = 0.045); difficulty in performing activities that require concentration (sig. = 0.030), feeling tired (sig. = 0.026), feelings of hopelessness, depression (sig. = 0.000), pain when carrying out planned activities (sig. = 0.012), avoiding forming new relationships (sig. = 0.000), negative impact of pain on mood (sig. = 0.000), mood changes (sig. = 0.002), feeling pain (sig. = 0.000), anxiety, agitation (sig. = 0.000), pain as an obstacle to social activities (sig. = 0.004), perception of one's body as unattractive because of the disease or its treatment (sig. = 0.000), fear of the threat of death due to disease (sig. = 0.000), sense of being perceived differently by others due to changes in appearance due to illness or its treatment

(sig. = 0.007). In all of the above items, we found there were significantly more pronounced difficulties encountered by hospitalized patients. In terms of individual domains, there was a significant difference in domains relating to negative feelings (sig. = 0.004), sensation of pain (sig. = 0.003) and in the domain of perception of one's own body (sig. = 0.006).

The significance level of 0.005 in the resulting value of quality of life (sig. = 0.000) in the study group of patients confirmed the hypothesis, where we assumed that the quality of life of hospitalized cancer patients is significantly lower than the quality of life of cancer outpatients (Chart 1).

The items in the questionnaire ascertaining individual problems range in the frequency (where 1 = never to 7 = always) and represent the resulting value of quality of life, with the overall resulting scores being discussed in relation to the problems referred to above. The score of 7, implying the answer "always", indicates the acknowledgement of a problem by the respondent and at the same time this indicates the decline in quality of life [12].

Tab. no. 1. Comparison of individual domains of quality of life (n = 128)

	hospitalized patient		outpatients		together	
	m	sd	m	sd	m	sd
negative feelings	4.46	1.67	3.43	1.68	3.94	1.67
positive feelings	2.55	1.20	2.71	1.15	2.63	1.17
cognitive problems	3.09	1.73	2.74	1.17	2.91	1.44
pain	3.55	1.38	2.63	1.75	3.09	1.56
interest in sexual life	5.11	1.33	4.97	1.34	5.04	1.33
the perception of energy / fatigue	4.31	1.44	3.87	1.45	4.09	1.44
sexual function	2.1	1.0	2.18	1.03	2.09	1.06
social problems	3.19	1.47	2.37	1.75	2.78	1.61
financial problems	3.38	1.20	3.14	1.32	3.26	1.26
benefits of illness	5.20	1.55	5.35	1.65	5.27	1.6
family distress	3.01	1.41	3.11	1.47	3.06	1.44
perception of own body	4.33	1.69	3.6	1.75	3.96	1.72
distress threat of recurrence	4.62	1.40	4.08	1.36	4.35	1.38

M = average, SD = standard deviation

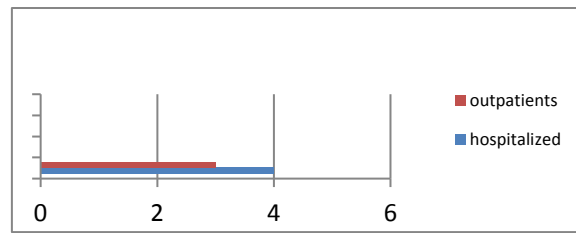


Chart 1: Comparison of the quality of life of hospitalized and outpatient treatment patients (higher scores confirms the decline in the quality of life, n = 128)

Discussion

We discovered that the quality of life of hospitalized cancer patients is significantly lower than the quality of life of cancer outpatients (sig. = 0.000) since admission to hospital with all the accompanying stress factors for the patient, e.g. the separation from family and loved ones, an unfamiliar environment, the need for undergoing often difficult and invasive Diagnostic or therapeutic procedures, are very stressful for the patient and have a potentially negative impact on the patient's quality of life. Due to the fact that in our study we observed significant differences in quality of life of outpatient treatment and hospital patients, in the next section we present an analysis of these items by comparing the results with other authors who have focused on individual items in other studies.

Fear, unrest and anxiety in connection with cancer were reported by a significant percentage of inpatients (sig. = 0.000). In the overall group of respondents, 52.95% stated that they have feelings of fear, unrest and anxiety (always, often). Feelings of depression were also reported more frequently by hospitalized patients (sig. = 0.000). Depression affects the quality of life of an individual, as well as the nursing care for a depressed individual [14]. In the overall group of respondents, 46 (86%) said that they feel depressed (always, often). The average value for experiencing depression was 4.64 in the group of hospitalized patients, and 3.61 among outpatients. Fear among outpatients was 3.25 and among inpatients 4.85. Barinková [15] conducted a research with 80 patients with cancer of the female reproductive organs using the QLACS questionnaire and recorded the following values: depression ($M = 3.0$), feelings of sadness ($M = 2.66$), fearfulness ($M = 3.1$). In comparing with our results, our respondents reported stronger feelings of fear and depression. Studies dealing with the monitoring of depression in cancer patients show the incidence in the range of 10–50%, while 25% of incidence of depression is attributed to the initial phase of the disease and a 75% incidence within the subsequent treatment period [16]. Holland and Alici [17] found a 20–40% incidence of depression in cancer patients. Doebbeling et al. [18] in their study of 184 patients using the Distress Thermometer (MDT), found that 13% of patients experienced depression. In the research of Ježorská et al. [19], it was found that in a sample of 100 cancer inpatients, where psychosocial factors related to cancer through use of Beck's depression scale were monitored, respondents reported the factor of anxiety.

Pain is also a common problem of cancer patients and is one of the most important attributes in management of care. Pain creates a dimension of experience which influences the life of a patient greatly. At the same time, it has a significant influence on different life dimensions leading to a wide range of negative emotional reactions and expressions which can make the pain worse [20]. Feelings of pain were reported more frequently by inpatients (sig. = 0.000). A frequent sensation of pain was reported by 14.84% ($n = 19$) of respondents in our study group. No pain was reported by 14.8% ($n = 19$) of respondents. Research by Gulášová et al. [21] reported a high pain perception in 35.4% of cancer patients. Partial pain perception was

indicated by 21.9% of the patients. No pain was reported by 40% of patients. Toplanská and Běrešová [22] performed a research with cancer inpatients, who reported significantly limiting pain. In a group of 50 cancer patients, this restriction indicated 50% of them, while only 10% of patients in the research group knew what pain medications were used and in what doses, and 12% did not distinguish between the treatment of the underlying disease and pain treatment. The average intensity of pain in these patients was at level 2, i.e. discomfort that would be dampened by non-opioid analgesic. Among the patients in our study, inpatients reported pain to a greater extent than outpatients. The pain significantly restricted the patients in performing daily activities (sig. = 0.011). The negative impact of pain on mood was reported more frequently amongst inpatients (sig. = 0.000).

The negative impact of pain on social activities was reported more frequently by inpatients in our study group (sig. = 0.004). The issue of fatigue as a frequent problem for cancer patients was also a key factor in the quality of life of patients in the study group. In the total study group in our research, frequent and significant fatigue was often reported; experienced by 28.90% of patients. A frequent sensation of fatigue was reported by 24.21% of patients. Occasional sensation of significant fatigue was reported by 35.93% of patients. Only 7.03% of patients in our study rarely felt tired. A comparison of responses from outpatient treatment and inpatients showed a significant difference, with inpatients reporting fatigue more frequently (sig. = 0.026). Research by Barinková [15], performed with 80 patients with cancer of the reproductive organs, carried out utilizing the QLACS questionnaire, found a significantly more pronounced rate of fatigue ($p = 0.002$) and weakness ($p = 0.039$) in the set of patients with malignancy, compared to patients with a benign disease. In research by Gulášová et al. [21], disabling fatigue was indicated by 20.8% of cancer patients, with significant fatigue reported by 27% of patients. Partial fatigue was reported by 29% of patients, whilst 22% of the patients did not feel fatigue. When comparing these values, we can conclude that the patients in our study felt fatigue to a significant degree. Outpatients felt they had more energy to carry out daily activities than that reported by our inpatients (sig. = 0.045). In the research of Barinková [15], utilizing the QLACS questionnaire in patients with cancer of the reproductive organs the patients with a benign disease reported feelings of greater energy than patients with malignancy ($p = 0.0036$).

In our research, cancer inpatients reported more significant difficulties in carrying out activities that require concentration than outpatients (sig. = 0.003). The perception of one's body as unattractive due to illness or its treatment in our study was found to be much stronger amongst inpatients (sig. = 0.000). We surmise that the difference between the responses of outpatients compared to inpatients result from a more distorted body image due to the more pronounced intensity of experiences during hospitalization. This is connected to intense or invasive treatment, which includes surgical procedures, invasive examinations, and invasive inputs and so on. The study of Shoma et al. [23] compared the experiences of 100 cancer patients who either underwent conservative therapy for breast cancer or radical surgical treatment. The study made use of scales for measuring body image (BITS, IES, SDS, BSS), and found a significantly poorer perception of their bodies in patients who underwent surgical treatment ($p < 0.05$). We found differences between inpatients' and outpatients' sense of other people's response to them based on the visible changes to their bodies caused by the cancer (sig. = 0.007). Inpatients perceived human behaviour changes to a stronger degree than outpatients. This sense of the views of others may also be due to more pronounced responses from inpatients about the negative impacts of the disease and treatment on their own perception of their body.

Establishing new relationships is avoided by inpatients (sig. = 0.000). Avoiding social contact (e.g. support groups for patients who have been diagnosed and are being treated for the disease) was reported more frequently by inpatients (sig. = 0.000). This finding may relate to the concepts discussed previously in this article concerning the burden of oncological treatment and the changes in appearance and perception of one's body with a consequent impact on the

mental state of inpatients, which has a negative impact on interest in social activities. The research by Benková [24] of 100 cancer inpatients found that 10% of them experienced that they have limited participation in social life because of the disease. Oncological disease is still seen as off-putting to others and this fact causes some patients to avoid social contact. Patients feel insecure in their communication with other people, which, jointly with some additional stress factors, such as disturbed body image due to hair loss after chemotherapy, weight loss, frequent nausea and weakened immune system, negatively impacts their social activity [25]. Inpatients also reported being significantly concerned about the possible fatal outcome of the disease (sig. = 0.000). In their research, Kondapalli et al. [26] used the QLACS questionnaire in 59 young cancer patients in the age range of 16–39 years. They found a link between the type of cancer and the resulting quality of life. In the study group of patients it was found that there was a lower quality of life when the patient had the diagnosis of lymphoma compared with the diagnosis of leukaemia, although the result was not statistically significant ($p = 0.19$). Other types of tumour in this study were shown to have significant impact on quality of life. Kondapalli et al. [26] found a lower quality of life in patients with other types of tumours compared to leukaemia ($p = 0.007$). Vallance et al. [27] found a relationship between physical activity and quality of life in cancer patients with breast cancer. The study group of 377 patients used a pedometer for 12 weeks and increased their physical activity from 30 min a week to 70 min. The increase in physical activity was observed to produce a significant difference in improving both the quality of life (sig. = .003) and a simultaneous decrease of feelings of fatigue ($p = 0.052$). The impact of cancer on quality of life is topical among medical, nursing and support professionals. Comparing the impact of different types of malignant tumour on quality of life, the study of Ostacoli et al. [28] investigated the quality of life of 56 cancer patients undergoing chemotherapy with a diagnosis of sarcoma, and a control group of 56 cancer patients undergoing chemotherapy for other types of malignant tumour. The comparison with the first group was not found to be significant. In their study, Tanyi et al. [29] included 91 cancer patients, and the results showed a decrease in the quality of life during radiotherapy in the domains of physical well-being, social and family harmony and feelings of fatigue. Quality of life is a multidimensional phenomenon with many influencing factors. Physical and mental impacts when examining the quality of life for patients are still under investigation by the medical and nursing fields. It can be argued that one important element of the concept of quality of life is to satisfy the spiritual needs of the individual. Research by Hajnová and Bužgová [30] was carried out on 93 cancer inpatients, where it was observed that there was a significant difference in the quality of life in patients with more unmet spiritual needs compared to patients who were satisfied with the meeting of these needs ($p < 0.001$). These findings are confirmed by the current discourse within the expert community that point to the need to take into account the spiritual needs of the patient as an important part of holistic care [10, 31]. A key element in improving quality of life is the recognition that a comprehensive care regarding psychosocial factors is difficult. Health professionals and other support staff should aim to integrate strategies to help the patient in all existing treatment plans and associated care [32]. This means that a bio-psycho-social-spiritual approach is essential for oncological patients and their families.

Conclusion

Quality of life of cancer patients is a multidimensional issue. Detailed analysis of the different perspectives of the various helping professions remains a subject of research for these professions, not only now but also in the future. The indications from our research (as well as taking into account the findings from other relevant research), point to the need for multidisciplinary cooperation in meeting the holistic needs of cancer patients.

Conflict of interests

The authors declare no conflict of interest regarding this paper.

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Ethical approval

We were given a statement of ethical approval in May 2015 by two ethics commissions in two hospitals: FNsP Prešov – 15th May 2015, Ethical approval no. 49/EK/2015 and VOÚ Košice – 12th May 2015, Ethical approval no. EK/2/05/2015.

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