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Original Article

Quality of life and functional status of patients treated for neoplastic disease in mid-northern Poland☆,☆☆,★

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ABSTRACT

Background: Research into the quality of life (QoL) of people with cancer is relevant for the diagnosis of the patient's health. The collected data are used to determine somatic complaints, psychological state and the needs for nursing care.
Aim: The study aimed to assess the overall QoL and functional status in relation to basic activities of daily living of patients diagnosed with cancer in our region.
Methods: Using questionnaires for assessment of QoL and functional status (Barthel Index), we surveyed 500 adult patients (250 women and 250 men) diagnosed with neoplasms of varying etiology and staying at home.
Results: The average QoL (± standard deviation) in the study population was low and amounted to 34.5 (±22.7) on the scale of 0–100. The most intensive symptoms were fatigue (69.9 ± 25.5) and pain (62.7 ± 29.1). The greatest demand for nursing care concerned grooming and bathing.
Conclusions: The QoL and functioning scores of patients with neoplasmic disease were low. The caregivers (usually nurses) should strive to minimize patients' fatigue and pain.

1. Introduction

In developed countries, malignant neoplasms rank second, after cardiovascular diseases, among the major causes of death. Poland is still a country with a medium incidence of malignancies, but the absolute number of new cases is continuously increasing. (See Fig. 1.)

In Poland, malignancies account for 26% of male deaths and 23% of female deaths. Cancer is linked with the great problem of premature death although the frequency of malignancies grows with age. In 2010, the most frequent types of malignancies in males were the following: lung cancer (21.2%), prostate cancer (13.2%), and colorectal cancer (12.4%). In females, the most frequent were: breast cancer (22.4%), colorectal cancer (10.1%), and lung cancer (8.6%) (Opara, 2010).

Major challenges to modern medicine include prevention, early diagnosis, and treatment of cancer, as well as fight for better quality of life (QoL) of the patients (Djärv & Lagergren, 2011). Neoplastic disease has a negative effect on many aspects of human life. It is perceived as a sudden event, appears to be serious and may be life-threatening. It forces the affected people to change their habits and to adapt to the new situation (Majkowicz & Chojnacka-Szawłowska, 1994). Their disability, deteriorating physical fitness and mental function give rise to anxiety, as the patients fear for their lives, which often causes symptoms of depression (Tuchowska, Worach-Kardas, & Marcinkowski, 2013).

Studies of cancer patients in Poland and all over the world indicate that their most intensive symptoms (i.e. those influencing the QoL most strongly) are fatigue and pain (Basiński, 2000; Jagielski, Jagielska, & Krajnik, 2009; Lemieux, Goodwin, Bordeleau, et al., 2011; Siefrabei, Abbasi, Montazeri, et al., 2008). The overall QoL of the patients is low, affected by the difference between the ideal and the reality and depends on the degree of satisfaction of their needs.

Nursing care is a very important element in the process of treatment. It includes not only the physical sphere of life and alleviating somatic symptoms, but should be based on the holistic approach to the patient and his or her family. Working with the patient with neoplastic disease requires a great deal of knowledge, psychological skills in understanding the state of mind, and awareness of the possible ways of motivating the patient. Nowadays in Poland there are a few forms of professional nursing and hospice care, provided in hospital wards, nursing and care centers, and at home. Patients whose condition is steadily deteriorating, requiring medical and nursing supervision, are qualified to take advantage of care available in the above mentioned centers. According to the current regulation of the Polish Minister of Health, a nurse evaluates the condition of a patient using the international Barthel scale and on the

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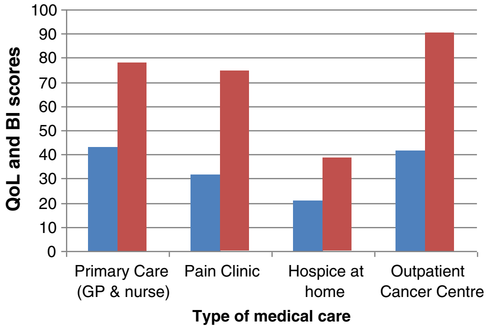

Fig. 1. Mean values of the overall health status/quality of life (QoL) and functional status (Barthel Index, BI) depending on the types of medical care (based on answers from 248 patients).

basis of the obtained results the patient is qualified for long-term care. Such an assessment of the activities of daily living (ADLs) allows the verification of the patient's ability to self-care or its deficit and the necessity of assistance from a nurse (Mirczak, Tobiasz-Adamczyk, Brzyski, et al., 2012; Walden-Gałuszko de & Majkowicz, 1994).

Patients with neoplastic diseases require professional help from the health care system and the involvement of their relatives. It must be stressed that modern medicine and health care should not focus only on elimination of the disease but primarily on factors improving the quality of the patient's life and daily activities throughout treatment.

1.1. Aim

This study was aimed to assess the QoL and the functional status of patients treated for neoplastic diseases. We wanted to answer the following questions.

1. What is the QoL of patients treated for neoplastic disease and what factors affect QoL scores most significantly?
2. What is the functional status of the patients in their everyday activities?

2. Material and methods

2.1. Participants

After approval from the Independent Committee for Scientific Research at the Medical University of Gdańsk, the survey was performed from June 2008 until December 2009 in a study population composed of 500 inhabitants of small towns (up to 40 000 inhabitants) and villages of the Pomerania Province (mid-northern Poland). The verification of patients was performed on the basis of documentation from community nurses and nurses from hospices at home. They were adults diagnosed with neoplastic disease of varying etiology. The patients were interviewed using 3 questionnaires (see the next section), always at the patients' homes, after informed consent was obtained.

2.2. Questionnaires

In order to obtain demographic data and information on the clinical status, an original survey questionnaire was adapted to the Polish conditions. All the patients were surveyed by one interviewer (the first author, S.J.), usually with assistance of a community nurse. The results were first recorded on paper and next stored in an Excel database. The first part of the questionnaire contained data concerning age, gender, place of residence, education, marital status, and professional status. Clinical data were collected from patient's documentation and concerned medical diagnosis, type of neoplasm, locations of metastases, and the duration of the disease from the moment of diagnosis. The first version of the questionnaire (filled for 250 patients) did not include the question about the type of care provided by physicians and nurses: primary care (GP and nurse), pain clinic, hospice at home or outpatient cancer center. After a preliminary analysis of the results we have concluded that we should increase the number of surveyed patients to 500 and add the question about the type of care, to distinguish, e.g., who prescribes the analgesics and decides about analgesic treatment.

The QoL of patients with neoplastic disease was evaluated on the basis of a QLQ-C30 v. 3.0 questionnaire prepared by the European Organization for Research and Treatment of Cancer (EORTC). This tool was adapted to Polish conditions by Walden-Gałuszko in 1993–1994. Research conducted by Majkowicz indicates that EORTC QLQ-C30 is an accurate and reliable tool for assessment of cancer patients' QoL in the Polish population. Results of the study are presented as the overall health status/QoL scores on 5 functional scales: physical, cognitive, social, emotional, and role functioning. The questionnaire is used for the assessment of aggravation of basic symptoms of the disease, i.e. fatigue, pain, nausea and vomiting, sleep disorders, dyspnoea, appetite loss, constipation, diarrhoea, and financial difficulties. The initial results were used to calculate the mean raw scores for individual patients and next transformed to a scale of 0–100. In relation to the functional status, higher scores indicate better functioning, whereas higher symptom scores reflect an aggravation of symptoms (Jagielski et al., 2009; Stępień, Wrońska, Wiraszka, et al., 2012; Zatoński, 2012).

Patients' ability to exercise self-care when performing ADLs was evaluated based on the commonly used Barthel Index questionnaire. It allows the verification of the degree of self-service when performing 10 activities, i.e. feeding, transfers from bed to chair and back or sitting down, toilet use, grooming, bathing, mobility on level surfaces, walking up and down stairs, dressing, presence or absence of bowel and bladder incontinence. This questionnaire is a tool recommended by the Polish Ministry of Health for the qualification of patients for nursing and care centers. The scores were verified according to the recommendations of the National Health Fund, Warsaw, Poland. Scores of up to 40 show that the patient is completely dependent on the help of others in all ADLs, scores of 45–80 indicate that the patient needs partial help in ADLs, whereas scores of 85–100 reflect that the patient is independent, i.e. does not need the help of other people (Aaronson, Ahmedzai, & Bergman, 1993).

2.3. Statistical analysis

Statistical analysis was conducted with the use of STATISTICA 9.0 software (StatSoft Inc.). Relationships between variables were investigated using a matrix of correlations and Pearson's r correlation coefficient for quantitative data, whereas for qualitative ordinal and nominal data, analysis of variance (ANOVA) was performed.

We calculated the arithmetic mean (S), standard deviation (SD), median value (M), the first quartile (Q_1), the third quartile (Q_3). Values $p < 0.05$ were considered significant, and $p < 0.001$ highly significant. Reliability of the Barthel Index was assessed using Cronbach's alpha (coefficient of internal consistency) (Aaronson et al., 1993).

3. Results

3.1. Demographic characteristics

The study population consisted of 500 patients, including 250 females and 250 males. Their mean age was 60.5 years (range 25–90 years) ± 13.0 (SD) for the whole population, while 58.7 ± 13.8 years for females and 62.4 ± 11.9 years for males. A majority of the patients (69%) lived in towns and were married (71.2%), so they generally had easier access to professional caregivers than those living in villages and without spouses. Usually the patients had basic vocational education (36.5%) and pension was their major source of income (47.4%) (Table 1).