

Psychosocial aspects of cancer in hospitalized adult patients

Thesis of doctoral work

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1. INTRODUCTION

Although cancer morbidity and mortality are not considered incidents of civilization, still in Europe each year around 3.2 million new cancer cases are diagnosed and 1.7 million deaths are recorded due to neoplastic diseases. According to the W.H.O., a 50% growth in cancer incidence is expected by 2020, which is 16 million new cancer patients and 10.3 million cancer deaths worldwide over the next decade.

Cancer development, pathology and prognosis have multifactor origins and aspects. Based on a psycho-oncologic approach and relevant literature, we can assume that psychosocial factors have a particular role in cancer diseases, since they contribute to the continuation or exacerbation of this chronic disease.

Earlier studies concluded that the role of disease-related psychosocial variables and effects in the cancer process and progression is more coinciding, convincing and reliable than the impact of psychosocial factors on cancer diagnosis and development.

However, based on recent empirical data, there are still numerous unexplained or unanswered questions in the relation, interconnection between the cancer process, progression and various psychosocial aspects.

Assessment of distress and quality of life variables in cancer patients has equal importance to revealing the biopsychosocial etiology and cancer risk, since it has been evidenced that quality of life is a significant prognostic factor of cancer progression and mortality, comparable with medical and treatment-related factors. For example, in the past 20 years, the high proportion of unmet, untreated psycho-social needs in cancer patients has not changed, except for significant progress in pain relief, alleviation of adverse reactions to oncologic treatments and the significant development of psycho-oncology, meaning increased awareness of the fact that psychosocial factors influence physiological processes which stimulate carcinogenic growth and invasion.

The basic aim of my dissertation was to explore and examine cancer-related distress and quality of life aspects, with specifics of cancer diagnosis disclosure in Romania.

We started our research on psychosocial aspects of cancer by applying the biopsychosocial research framework. In our clinical study we put emphasis on psychosocial aspects

(e.g. diagnosis, depression, and quality of life), because objective characteristics, such as particularities of tumors, give uncertain indications for understanding how cancer patients cope with the chronic condition.

2. OBJECTIVES

Our study investigated actual biopsychosocial and spiritual states of hospitalized adult cancer patients in Transylvania, Romania, and their well-being (quality of life). The relevancy of our clinical research should be addressed and evaluated starting from the fact that in Romania there are no relevant or scientific data about cancer diagnosis non-disclosure, cancer distress (depression and anxiety) and cancer-related quality of life, based on multivariate statistical analyses. Also, we have no knowledge of psychooncologic studies, such as surveys carried out on large hospitalized samples in Romania.

Key objectives:

- to analyze demographic, medical and psychosocial factors that may explain the non-disclosure of cancer diagnosis to patients

- to measure prevalence of psychosocial distress, especially depression and anxiety symptoms, mental health disorders and low-level quality of life
- to identify explanatory variables and effect-mechanisms, mode of action related to depressive symptomatology and quality of life in cancer patients
- to compare cancer disclosure and non-disclosure, clinical and non-clinical depression and also low and high quality of life in cancer patients in relation to demographic, medical, lifestyle and psychosocial factors.

3. METHODS

Study population

According to the tumor location, our heterogenic, mixed sample includes 420 adult oncology patients, 342 with malignant and 78 with benign tumors. Data collection was performed in four clinical settings, in the most comprehensive and largest oncologic institutions in the Transylvania region of Romania. The study was approved by the Ethical Committee of “Iuliu Hatieganu” Medicine and Pharmacy University from Cluj Napoca, Romania.

Measurement of psychosocial factors

Quality of life was measured by the Functional Assessment of Cancer Therapy–General (FACT–G 4.0), a multi–dimensional questionnaire (Cronbach alpha=0.70). Presence and severity of depressive symptoms were measured using the nine–item short version of the Beck Depression Inventory (BDI) (Cronbach alpha=0.86). Spielberger's State–Trait Anxiety Inventory (STAI–T) was used to measure level of trait anxiety (Cronbach alpha=0.84). Hopelessness was measured using Beck's Shortened Hopelessness Scale (Cronbach alpha=0.86). Shortened Vital Exhaustion Questionnaire was used to assess levels of fatigue, chronic stress (Cronbach alpha=0.81). Life events were measured by means of a 16–item questionnaire derived from Rahe's Brief Stress and Coping Inventory/Life Events Rating Scale (Cronbach alpha=0.55). Dissatisfaction with family support was measured by the Social and Emotional Loneliness Scale (SELSA) (Cronbach alpha=0.85). Using the Multidimensional Health Locus of Control Scale (MHLCS), we evaluated external locus of control (Cronbach alpha=0.68). The Illness Intrusiveness Rating Scale (IIRS) was used to assess the impact of illness on various domains of functioning (Cronbach alpha=0.89). Coping processes, thoughts and actions that patients use to cope with the stressful situation,

were identified using the Shortened Ways of Coping Questionnaire (WAYS) (Cronbach alpha=0.81). Sense of coherence was measured by Rahe's Brief Stress and Coping Inventory/Sense of Coherence Scale (Cronbach alpha=0.64). Self-efficacy was measured by the Shortened Generalized Self-Efficacy Scale (Cronbach alpha=0.74) and patterns of maladaptive thinking by Shortened Dysfunctional Attitude Scale (Cronbach alpha=0.64). Shortened Type-D Scale was used to measure social, behavior inhibition in cancer patients (Cronbach alpha=0.75).

Statistical analysis

The data were entered into SPSS 15.0 and AMOS 7.0. Chi-square tests have been conducted to compare categorical data. Least square means tests for continuous variables have been calculated (general linear model, with 95% confidence intervals). Furthermore, the following multivariate statistical analyses were carried out: partial correlation, analysis of covariance (ANOVA), hierarchical logistic regression (odd ratios – OR – with 95% confidence intervals), stepwise linear regression and path analysis.

We conducted partial correlation to determine the relationship between continuous variables, direction and strength of the relationship, while controlling for other

variables involved in our study. Analysis of covariance allowed inclusion of supplementary variables (covariates) into the general linear model, eliminating other effects, factors that might determine the dependent variable. Using binary logistic regression analysis, we identified relevant factors (independent variables), which significantly differentiate the two test groups (dependent variables) and we also predicted the odds, probability of cancer diagnosis non-disclosure, clinical depression and low quality of life. Linear regression analysis helped us understand how the typical value of the dependent variable changed when any one of the independent variables were varied, while other involved variables were held fixed. We used stepwise method, because it is recommended for exploratory work and it has the best predictive power. In addition to standard multivariate statistical analyses, path analysis was also performed.

Our multivariate statistical analyses were fully-adjusted, controlling for age, gender, place of residence, education, marital status, subjective economic status, religion, nationality, cancer diagnosis disclosure, reactions to cancer diagnosis, cancer type, site and stage, treatment conditions (surgery, chemotherapy and radiation therapy), and self-rated health.

4. RESULTS

Results show that in our sample 16.9% of cancer patients are not aware of their oncologic diagnosis, 47.5% are clinically depressed, 46.7% experience anxiety disorders and 28.1% report critically low quality of life. 85.4% of those suffering from clinical depression and 90.7% of persons with low quality of life are patients with malignant cancer diseases. 75.9% of cancer patients who report low quality of life are also facing clinically relevant depression symptoms. Moreover, almost two-thirds of cancer patients to whom cancer diagnosis was not disclosed are highly or severely depressed.

1. In our study sample, almost every fifth hospitalized cancer patient was not informed about his/her cancer diagnosis. Furthermore, our results are of considerable potential importance, because they clearly show that patients who are not informed about their cancer diagnosis are significantly more depressed, hopeless and with lower levels of problem-focused coping compared to patients who are informed. Also, patients who were not told about their cancer diagnosis tended to be older, with a mandatory education or less and living in small communities.

The odds of not being personally informed about cancer diagnosis was highly increased by malignant cancer diseases (OR=10.56), clinical, severe depression (OR=5.14) and lack of chemotherapy treatment (OR=4.65).

2. Prevalence of clinical depression in our study sample is high. Almost half of hospitalized cancer patients involved in our study are clinically depressed, most likely requiring treatment. Among clinically depressed cancer patients, the proportion of respondents over 65 years, with mandatory or less education, widowed and who were not informed about their cancer diagnosis, was significantly higher compared to patients without clinical depression.

Increasing clinical depression was significantly associated with advanced disease stage; worsening state of health, lack of physical activity, cancer diagnosis non-disclosure and passive-negative reactions to cancer diagnosis. Also, our results show significant negative correlation between clinical depression and quality of life, and strong positive correlation between moderate-to-severe depression, hopelessness and anxiety.

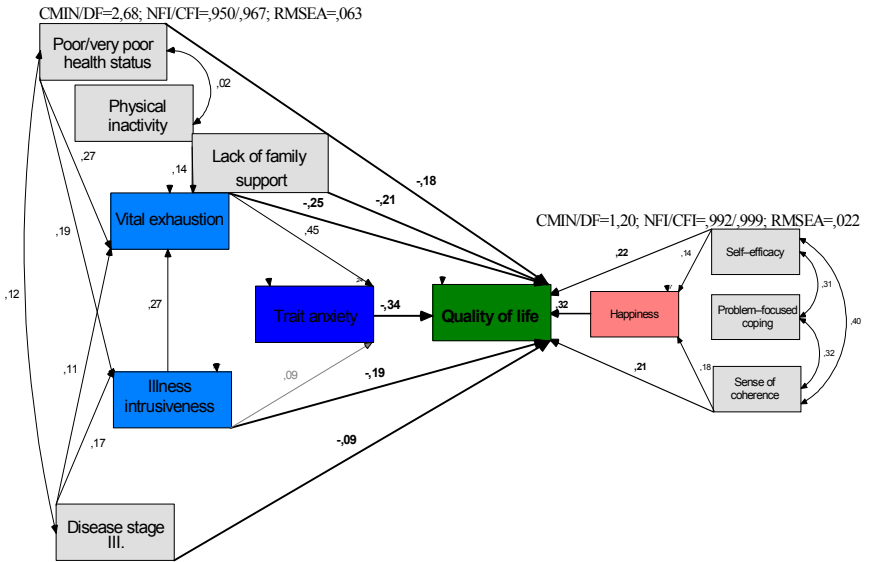
Our data demonstrate the broad negative impact of depressive symptoms requiring treatment on psychosocial functioning and well-being, quality of life, independent of demographic, medical and unhealthy lifestyle determinants. In clinically depressed cancer patients, we found significantly higher hopelessness, higher anxiety, higher vital exhaustion scores, more lack of social support, and higher levels of emotion-focused coping, behavior inhibition, and dysfunctional attitude, more prevalent external locus of control and significantly lower self-efficacy and sense of coherence. Furthermore, the differences of 8–10 and 2–3 points in average score revealed by our data in relation to quality of life and particularly physical and functional well-being are of clinically significant importance.

The odds of clinical depression are fivefold higher for female cancer patients, more than fourfold higher for cancer patients with high levels of emotion-focused coping and hopelessness, threefold higher for cancer patients with low quality of life and high vital exhaustion, dysfunctional attitude and anxiety and almost twofold higher for cancer patients who experience high illness intrusiveness, social-behavior inhibition and low self-efficacy, sense of coherence and also who are negatively assessing their childhood.

3. We have found negative trend in quality of life to be significantly related to low education, widowhood, small-town residence, absence of religious practice, malignant cancer, advanced disease stage, helpless-control lacking reactions to cancer diagnosis, poor/very poor health status, physical inactivity, and severe depression. Positive trend in quality of life was significantly associated with high education, married family status, regular religious practice in church, benign tumor, initial stage of disease, hopeful reactions to cancer diagnosis – faith in God, determination of healing and denial of disease, very good health, weekly/daily physical activity and the absence of depression. Not only statistically, but also clinically significant differences in quality of life scores (average score differences of 8–10 points) were found related to education, practice of religion, health status and depression. Also, depression, anxiety, vital exhaustion, hopelessness and illness intrusiveness were significantly and negatively correlated with quality of life, while sense of coherence was positively correlated with it.

Our empirical model based on path analysis showed that quality of life in patients with malignant tumors is defined, on the one hand, by a negative pathway related to anxiety, vital exhaustion and illness intrusiveness and, on the other hand, by

a positive pathway involving happiness, self-efficacy, and sense of coherence / meaning of life. Results of path analysis are presented below:



In addition, regression analyses carried out according to gender, tumor type, site and stage of disease revealed that anxiety and vital exhaustion are common explanatory, predictive factors of low, worsening quality of life in hospitalized cancer patients.

Likelihood (odds) of low quality of life in cancer patients was significantly increased 4.82-fold by severe

depression, 4.22-fold by malignant tumor, 3.60-fold by helpless-control lacking reactions to cancer diagnosis, 3.41-fold by small-town residence, 3.39-fold by low levels of problem-focused coping, 3.25-fold by vital exhaustion, and 2.29-fold by illness intrusiveness.

5. CONCLUSIONS, NEW STATEMENTS

In our psychooncologic study, the investigated psychosocial variables were found to have independent effect on cancer diagnosis disclosure, cancer-related distress and well-being, quality of life, and to be significant prognostic factors for cancer diagnosis non-disclosure, clinical depression and low quality of life, even after having been adjusted according to all demographic, medical and lifestyle factors included in the analysis.

This is the first extensive interdisciplinary research in Romania focusing on psychosocial aspects of hospitalized adult cancer patients that includes data from a multi-center questionnaire screening, survey and multivariate data analysis. Many of the results are of international interest.

1. Based on questionnaire screening, I published new and also reference data on the prevalence of cancer diagnosis non-disclosure, cancer distress and low quality of life in the Transylvania region of Romania.
2. I determined the mean scores for the hospitalized adult cancer patients on the psychiatric screening questionnaires (BDI and STAI-T) and on quality of life scale (FACT-G 4.0) used in the present study.
3. In accordance with some recent international studies, I have demonstrated the relevant and widespread negative effects of cancer diagnosis non-disclosure, of clinical depression and of low quality of life on psychosocial functioning and vulnerability of hospitalized cancer patients. Our data, based on multivariate statistical analyses, demonstrate that their prevalence, on the one hand, significantly increases hopelessness, illness intrusiveness, anxiety, vital exhaustion, depression, emotion-focused coping, lack of family support, behavior inhibition and external locus of control and, on the other hand, decreases problem-focused coping, physical-, emotional-, social/familial- and functional well-being, sense of coherence and self-efficacy in cancer patients.
4. I identified and summarized the demographic, medical and psychosocial characteristics of those groups of cancer patients

that have significantly increased odds for cancer diagnosis non-disclosure, cancer distress and worsening of quality of life. Here, one of the most important findings is that cancer diagnosis non-disclosure, clinically significant depression and seriously decreased quality of life are more prevalent among persons with malignant tumors and among older, undereducated, widowed and socio-economically deprived cancer patients.

Based on our psychooncologic research, I propose the routine use of self-administered questionnaires in oncology settings and services for better identification of psychosocial problems, needs.

6. LIST OF PUBLICATIONS IN THE TOPIC OF THE THESIS

International papers

Dégi LCs. (2009) Non–disclosure of cancer diagnosis: An examination of personal, medical and psychosocial factors. *Supportive Care in Cancer*, 17(8): 1101–1107. IF 2.422

Kállay É, Dégi LCs, Vincze A. (2007) Dysfunctional attitudes, depression and quality of life in a sample of Romanian Hungarian cancer patients. *Journal of Cognitive and Behavioral Psychotherapies*, 7(1): 95–106. IF 0.577

Dégi LCs, Kállay É, Vincze A. (2007) Differences in illness–related distress in ethnically different cancer patients: Romanians, Romanian Hungarians and Hungarians. *Cognition, Brain, Behavior*, 11(1): 143–158.

Hungarian publications

Dégi LCs, Balog P. (2009) Medical, psychological and social aspects of cancer diagnosis disclosure and non–disclosure. *Journal of Mental Health and Psychosomatic*, 10(1): 1–19.

Dégi LCs. (2007) Adult health status, health promoting and risk behavior associated with cancer disease development in a

Hungarian study sample. *Transylvanian Journal of Psychology*, 8(4): 251–269.

Dégi LCs. (2006) Effectiveness analyses of psychooncologic interventions related to cancer patients' quality of life and survival outcomes. *Psychiatria Hungarica*, 21(2): 138–146.

Dégi LCs. (2006) The effectiveness of psychooncologic interventions in oncological rehabilitation of head-and-neck cancer patients. *Transylvanian Journal of Psychology*, 7(1): 60–70.

Dégi LCs. (2005) Oncogenesis and prognosis in psycho-neuro-immunological system. *Transylvanian Journal of Psychology*, 6(2): 183–192.

Balog P, Dégi LCs. (2005) Family support decreasing psychosocial vulnerability in women with cancer. *Journal of Mental Health and Psychosomatic*, 6(1): 17–34.

Dégi LCs. (2003) Effective intervention methods in psycho-oncology. *Transylvanian Journal of Psychology*, 4(3): 315–327.

Dégi LCs. (2001) The role of the sanatogenetic personality factors in coping with the cancer diagnosis. *Transylvanian Journal of Psychology*, 2(4): 79–93.

Romanian publications

Dégi LCs. (2004) Intervention model in psycho–oncology. Support group for nurses. Journal of the Romanian Cancer Society, 5–7.

Dégi LCs. (2002) Support group for nurses in the Oncology Institute from Cluj–Napoca. Annales Universitatis Apulensis, Social Work Series, 2: 109–119.

Book chapters

Dégi LCs. Psychosocial risk factors in cancer diseases. In: Kopp M (ed.), Health, well–being in Hungary 2008. Semmelweis Press, Budapest, 2008: 557–568.

Dégi LCs. Psychooncologic narratives. In: Ungvári–Zrínyi I (ed.), Memory and communication. Narratives of individual, social and community development. Scientia Press, Cluj Napoca, 2007: 239–252.

Citable abstracts

Dégi LCs. (2008) Cancer diagnosis disclosure in Romania: medical, psychological and social aspects. Psychiatria Hungarica, 23(S): 34.

Other publications

Dégi LCs. (2009) A review of drug prevention system development in Romania and its impact on youth drug consumption trends, 1995–2005. *Drug and Alcohol Review*, 28(4): 419–425. IF 1.926

Dégi LCs, Vincze A, Roth M. (2008) Psychosocial factors of drug use and risk of substance consumption among undergraduate students in Cluj Napoca. *Transylvanian Journal of Psychology*, 9(3): 211–235.

Dégi LCs, Szabó B. (2006) Psychosocial aspects of health behavior in middle-aged population. *Transylvanian Journal of Psychology*, 7(3): 191–205.

Dégi LCs. (2004) Faces of HIV: support group for children and parents. *Matrix–Journal of the Hungarian Association for Group Psychotherapy*, 7–8: 6–11.

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