

Doctoral (PhD) dissertation theses

Correlates associated with the quality of life of malignant breast cancer patients and the effects of multi-disciplinary psychosocial interventions in the healing process

Zsuzsanna Kovács

Supervisors: Dr. Habil. Csaba Szabó

Prof. Dr. Sándor Eckhardt, D.Sc. of the Hungarian Academy of Science (MTA)



UNIVERSITY OF DEBRECEN

Doctoral School of Human Sciences

Debrecen 2014

DEFINITION OF THE TOPIC OF THE DOCTORAL DISSERTATION

Psycho-oncology has made a significant progress over the past three decades. It has been demonstrated that psychological factors, health behaviour and lifestyle are instrumental in the development of oncological diseases and recovery. Both clinical experience and research bear evidence to the fact that mental support and extensive psychosocial care decrease the vulnerability of the patients and help adapt to, and cope with, disease progression. Opportunities offered by psycho-oncology have not been used to the fullest extent yet. Scientific research results and professional evidence have scarcely been adopted by clinical practice. In association with the International Psychosocial Oncology Society (IPOS), WHO has made recommendations and formulated professional requirements as regards the integration of psychosocial areas into oncology in recent years: Cutting-edge oncological care can no longer dispense with the knowledge of related disciplines and integrated psychosocial care. The National Anti-Cancer Program also emphasises the importance of the accessibility of psychic support as a result of which a psycho-oncological protocol has been devised.

As a result of timely diagnosis and oncological treatments an increasing number of tumour patients are diagnosed as chronically ill, which brings quality of life to prominence. While earlier research was concerned with pre-disease life events a premorbid personality is encumbered with, the emphasis has recently been shifted to coping and psychological and behavioural aspects of coping. The patients are under a heavy emotional load with recurrent depression and anxiety resulting in deterioration of the quality of life. In coping with tumour conditions cognitive assessment procedures, viz. disease representations play a prominent role. A health-protective lifestyle, i.e. changing one's lifestyle, decreasing risk factors, the avoidance of detrimental behaviour and effective stress management can actively contribute to recovery.

Conventional interventions accompanying tumour treatment focus primarily on changing one's lifestyle, psychic support and care. Most of the studies published have been examining the effectiveness of a single intervention, and only recently published research materials have been assisting patients with integrated methods.

Hundreds of studies confirm the multifarious beneficial effects of exercise programs tailored to the patient's physical condition and emotional requirements. Nutrition-related risk factors constitute as much as 30% of general cancer risks. Notwithstanding other fields of cancer prevention, nutrition has not acquired the role it deserves either in prevention or in therapy despite the recommendations of relevant domestic and international forums. Psychological and psychotherapeutic programs are widely present in the treatment of cancer patients. The programs aim to provide mental care to the patients, alleviate the burden of the disease, to promote cognitive and emotional processing and coping, as well as to improve the quality of life. According to studies published recently, the most frequently methods applied involve cognitive behaviour therapy, supportive-expressive group therapy and psycho-educational programs. Their efficiency has been demonstrated time and again with significant results achieved in emotion control and the improvement of the quality of life. Despite

promising initial results, their effects of improving survival rates have not been proved in the long run.

The opening up and development of spiritual resources, finding meaning in life and the promotion of growth have complex beneficial effects on patients. They may decrease bodily symptoms, create emotional harmony and help cope.

OBJECTIVES:

Our general objective is the broadening of our psycho-oncological knowledge. We wish to contribute to the high-quality integrated psychosocial care of patients by means of our research results.

Our research falls under three main sections.

The first section is devoted to exploring the psychic state of breast cancer patients and their quality of life. In our cross-section research we examined the mental and emotional condition of our patients with particular regard to the depression and anxiety syndrome characteristic to tumour disease progression as well as the predictive factors of the quality of life. Connections between finding meaning and various psychosocial factors were explored and a psychometric assessment of the Hungarian version of the EORTC QLQ C-30 quality of life questionnaire was conducted.

In the second phase of the research, on the basis of clinical experience and the latest research results we designed and conducted an integrated lifestyle and psychosocial intervention program, groundbreaking by Hungarian standards, tying in with a conventional tumour therapy in a group of patients with breast cancer. In the second part of the study the effects and efficacy of the program were examined.

The third part is a prospective study devoted to analysing the long-term effects (15 months on termination of the program) of the integrated psychosocial intervention program complementing conventional tumour therapy.

METHODS

Study group

The sample was composed of 221 female patients suffering from malignant breast tumour (C50 - non-metastatic breast carcinoma), who agreed to cooperate and who at the time were actually undergoing a treatment for active cancer. The research has been carried out in Budapest from September 2008 to June 2009, at the Department of Radiodiagnostic Clinic of the National Institute of Oncology. The registration number of the study: b859yuha – oncostudy.

Measures

Measures used for measuring the effects and efficacy of the multi-disciplinary psychosocial intervention program:

1. *The Shortened Beck Depression Inventory* – for measuring the symptoms of depression.
2. *Spielberger's State-Trait Anxiety Inventory (STAI-T)* - for measuring the anxiety
3. *Quality of life questionnaire EORTC QLQ C-30 and BR-23* - for measuring the quality of life.
4. *The Revised Illness Perception Questionnaire (IPQ-R)* - for measuring the illness perception.
5. *Benefit Finding Scale (BF)* - to measure the benefit derived from the diagnosis and treatment of breast cancer.
6. *Posttraumatic Growth Inventory (PGI)* - for measuring posttraumatic growth.

Statistical analysis

In statistical analysis we used SPSS 19.0, MPlus 6.01, and Microsoft Excell 2007. Descriptive analyses assessed the mean and standard deviation of scales used in the study. Chi-square tests detected differences of frequencies among groups, and ANOVA revealed any differences of means. For testing the changes in scores and for providing evidence for the effectiveness of our programme, we run a series of linear regression. We used maximum likelihood estimation robust to non-normality. Intervention is coded in group variable: intervention group, control group. At each variable, regression coefficients of group variable were estimated simultaneously. Significant regression coefficients mean that the two groups differ from each other; if a standardized regression coefficient of group variable is positive, the control group has a higher score, if it is negative, the intervention group has a higher score. Significance level: $p < 0.05$.

We applied confirmatory factor analysis to test the 15-dimensional and 2-dimensional (higher-order model of quality of life, the Physical/Mental Health Model) structure of the EORTC QLQ C-30 questionnaire. Single-item symptom scales were treated as latent factors, and all the factors were allowed to be correlated. Due to the serious deviation from normal distribution, we used the robust weighted least square (WLSMV) estimation method. To evaluate the overall model fit, absolute fit index (chi-square value), and more liberal fit indices such as comparative fit index (CFI), Tucker-Lewis Fit Index or nonnormed fit index (TLI or NNFI), and root mean square error approximation (RMSEA) were calculated. CFI and TLI reflect the total variance accounted for by the model and indicate a fit relative to a null model. Values greater than 0.95 indicate a good fit. RMSEA reflects the variance of residuals. Values smaller than 0.05 signify a good fit.

RESULTS

1. Examination of negative affectivity

Three fourths of the group examined suffer from depressive symptoms, with every one out of 10 patients the symptoms reaching a level where clinical therapy is required. 3% of the group falls under the severely depressed category. As regards anxiety disorders, symptoms were recorded with one third of the patients, with 20% registering severe anxiety symptoms.

2. The analysis of the predictors of quality of life and benefit/meaning finding

Negative affectivity is a dominant predictor of the quality of life. Sociodemographic and medical factors such as age, qualifications, the diagnosis and the time elapsed since the operation have no bearing on the quality of life. Among the disease representations it is the consequences of the disease which have a predictive effect.

The examination of the predictors of benefit finding is a new area of research. With the breast cancer patients enrolled in the cross-section study, benefit finding did not correlate with sociodemographic and other variables under examination. Negative affectivity does not bear upon the experience of benefit finding; on the other hand, a trend-level correlation has been evinced between benefit finding, personal control and representations concerned with the consequences of the disease. However, the explanatory force of the model is inadequate.

3. The examination of the psychometric characteristics of the Hungarian language EORTC QLQ C-30 (quality of life questionnaire)

The questionnaire is one of the most frequently used measuring device translated into numerous languages and with its scale validated in many countries. The reliability of the original 15 dimensional health model and improved 2 dimensional model (physical health factor and mental health factor) is adequate; the internal consistency of the scales is decidedly high and the fit indices are acceptable.

4. The assessment of the efficacy of the multidisciplinary psychosocial interventional program

The effects of the program were explored in six areas: mood indicators, quality of life, disease representations, meaning/benefit finding, post-traumatic growth and health behaviour. In all areas examined a statistically significant positive effect of the intervention program was demonstrated.

4/1 Remarkable improvement was achieved as regards emotion control with a significant drop in depression and anxiety among patients participating in the study.

4/2 Significant improvement came about in a number of areas of quality of life. The patients examined find their overall quality of life markedly better and the symptoms associated with the disease (exhaustion, pain, diarrhea, vomiting, insomnia, lack of appetite, lightheadedness, chest distention, edema, impaired motoric spectrum, etc.) less burdensome, and experience an evident improvement in their symptoms. Bodily self-esteem and judgment of the body image has improved. Future perspectives have changed for the better – the patients envisage a better, fuller and securer future.

4/3 As for disease representation, three areas have seen significant improvement: cognitions regarding the course and curability of the disease and constructs of personal control.

4/4 The significant effect of the program was also manifest in the benefit finding questionnaire. In processing the trauma the patients greatly capitalized on coping with the disease.

4/5 In the post traumatic questionnaire a significant improvement was measured on the subscales “Respect for life”, “New opportunities”, “Spiritual change”, and “Relating to others”, and a trend-level change was observed on the “Personal strength” subscale.

4/6 Patients enrolled in the experimental group demonstrated a distinct adherence to the instructions with significant improvement made in health behaviour. Exercise, relaxation, and a health-conscious diet became regular, exercises involving imagination and positive suggestion became part of their lifestyle.

5. The longitudinal efficacy study of the psychosocial intervention program (15 months following termination)

The effects of the intervention proved to be long lasting. In all areas examined the beneficial changes achieved by the end of the program persisted, if moderately diminished. Post-traumatic growth was significant even in the long-run (including exploring new possibilities, connection with the transcendent dimension and relation to others) and so were constructs of personal control so far as the perception of the disease is concerned.

CONCLUSIONS AND NEW FINDINGS

1. the prevalence of clinical and subclinical level depression and anxiety was assessed
2. the most important predictors of life quality were identified including negative affectivity and disease representations
3. the reliability of the Hungarian version of the EORTC QLQ C-30 quality of life questionnaire and the improved two-dimensional model's fit indices were determined.
4. an integrated psychosocial intervention program was developed, groundbreaking by Hungarian standards

5. an effect study of the program was performed – in all areas examined (including emotion control, quality of life, disease representations, benefit finding, posttraumatic growth and health behaviour) the intervention proved efficient
6. a prospective examination of the long-term effects (15 months following termination of the program) was conducted – the results indicate that the beneficial changes persisted in the long run

In our analysis we identified the prominent role of negative affectivity in the tumour patients' quality of life. The timely diagnosis of a destitute and depressed emotional state and the alleviation of emotional distress are of key importance not only in relieving the burden of suffering itself, but also in influencing the symptoms and the patients' quality of life. The treatment is also prominently important in coping with unfavourable endocrine and immune effects (the dysregulation of the HHA axis, decreased immune modulation, impaired apoptosis), which indirectly contributes to the containment of the progression of the tumour disease.

Further to emotion control it is also necessary to transform beliefs and cognitive schemes relating to the disease. The modification of cognitive schemes and re-interpretation of beliefs in relation to the disease and future may bring adaptive behaviour forms to the forefront and promote coping.

Based on the results of the examination the view that patients can actively contribute to the improvement of their health condition appears to be well-founded. All this further corroborates the outdatedness of the biomedical treatment model. Change of lifestyle is all-important in which professional guidance conforming to the patients' impaired emotional and bodily condition is required. We wish to stress the importance of the accessibility of psychosocial assistance and individual or group psychotherapy in all phases of disease progression. The introduction of a bio-psycho-social and spiritual treatment model is arguably justified: complementing psychic and social support the spiritual dimension may mobilise resources that can exert a beneficial effect in numerous areas.

Our study and related similar research also have an important message for health policy: psychosocial interventions are largely cost-effective – a marked improvement may be achieved in mental health and quality of life in return for a small investment. Today, psycho-oncological professional services are underrepresented in oncological treatment with most patients barred from access to such treatment. Cutting edge oncology, on the other hand, can no longer dispense with the knowledge of social sciences and integrated psychosocial care.

THE AUTHOR'S PUBLICATIONS AND LECTURES IN THE TOPIC OF THE TREATISE

Publications related to the dissertation

Zsuzsanna Kovacs: *A study assessing the efficiency of treating emotional distress in women with malignant breast tumour*, New Medicine 17:(3) pp. 91-96. (2013)

Zsuzsanna Kovács, Adrien Pigniczkiné Rigó, Mária Hoyer, Zsolt Petke, Emőke Fülöp, Nóra Garamvölgyi, Imre András Török: *The prevalence of depression and anxiety in patients with malignant breast tumour*, New Medicine 15:(2) pp. 61-66. (2011)

Kovács Zsuzsa, Rigó Adrien, Sebestyén Árpád, Kökönyei Gyöngyi, Szabó Csaba: *A súlyos betegség transzformatív ereje – előnytalálás és poszttraumás növekedés emlődaganatos betegeknél*, Alkalmazott pszichológia, In press

Kovács Zsuzsa, Rigó Adrien, Szabó Éva, Sebestyén Árpád, Fülöp Emőke, Szabó Csaba: *Az életminőség vizsgálata egy új oldalról – a betegségrepresentációk befolyásoló szerepe emlődaganatos betegeknél*, Magyar Onkológia, In press

Kovács Zsuzsanna, Szabó Csaba: *Onkopszichológia a XXI. század elején – új kihívások előtt*, Pszichoterápia 23:(2) pp. 88-95. (2014)

Kovács Zsuzsanna, Szabó Csaba, Fülöp Emőke: *A terápia segít – emlőrákos betegek pszichoszociális támogatása, a depresszió és szorongás csökkentése*, Psychiatria Hungarica 28:(4) pp. 454-463. (2013)

Kovács Zsuzsanna, Rigó Adrien, Kökönyei Gyöngyi, Szabó Éva, Kovács Dorottya, Sebestyén Árpád, Balogh Béla, Prezenszki Zsuzsanna, Nagy Melánia: *A hagyományos daganatkezelést kiegészítő komplex életmód és pszichoszociális intervenciók program – igen biztató eredménnyel*, Magyar Onkológia 56:(4) pp. 247-257. (2012)

Avramucz Csaba, Kovács Zsuzsa: *Az életmód és a lelki tényezők szerepe a daganatos megbetegedések kialakulásában, a megelőzés lehetőségei és az egyén felelőssége*, Szervusz: a Magyar Szervátültetettek Szövetségének Lapja 9:(2) pp. 17-20. (2009)

Conferences:

Kovács Zsuzsanna, Pigniczkiné Rigó Adrien, Szabó Éva, Gödény Mária, Bidlek Mária: *Az életminőséggel összefüggő tényezők, elsősorban a depresszió és szorongás vizsgálata malignus emlődaganatos betegeknél*, Magyar Onkológia 55:(1S) pp. 41. (2011)

Kovács Zsuzsanna, Pigniczkiné Rigó Adrien: *A depresszió, a szorongás és az életminőséget befolyásoló egyéb tényezők vizsgálata malignus emlődaganatos betegeknél*, Psychiatria Hungarica 25:(Suppl) pp. 78. (2010) Psychiatria Hungarica 25:(Suppl) p. 78. (2010)

Kovács Zsuzsanna: *Az életminőséget befolyásoló tényezők vizsgálata malignus emlődaganatos betegeknél* In: Vargha András (szerk.) Egyén és kultúra. A pszichológia válasza napjaink társadalmi kihívásaira: A Magyar Pszichológiai Társaság XIX. Országos Tudományos Nagygyűlésének Kivonatkötet. pp. 194. (2010)

Előadások:

Pigniczkiné Rigó Adrien, Kovács Zsuzsanna, Farkas Ilona: *Ahol az elmélet és gyakorlat összeér: a "Védvonal" - program tapasztalatai a pszichoneuroimmunológia szemszögéből*, Magyar Onkológusok Társasága, XXVI. Kongresszus, (2005)

Kovács Zsuzsanna: *Imaginációs technikák rákbetegek kezelésében* XI. Budapesti Pszichológiai Napok, (2007)

Kovács Zsuzsanna: *Imagináció az öngyógyításban*, XII. Budapesti Pszichológiai Napok, (2008)

Kovács Zsuzsanna: *A betegség mint lehetőség*, Kapu 2 - Pszichológiai Konferencia a Transzperszonalitás Témájában, (2008)

Kovács Zsuzsanna: *A mammográfus mint gyógyító személyiség* XV. Szent Ágota Mammológus nap – Onkológiai Konferencia, (2009)

Kovács Zsuzsanna, Pigniczkiné Rigó Adrien: *A depresszió, a szorongás és az életminőséget befolyásoló egyéb tényezők vizsgálata malignus emlődaganatos betegeknél*, A Magyar Pszichiátriai Társaság XVI. Vándorgyűlése, (2011)

Kovács Zsuzsanna: *A lelki tényezők szerepe a daganatos megbetegedések kialakulásában, és megelőzésében*, Kékgolyó Napok - Országos Onkológiai Szakdolgozói Továbbképző Konferencia és Kiállítás, (2011)

Kovács Zsuzsa: *A gyógyulás kulcsa – az életmód és a lelki tényezők szerepe a gyógyulásban*, Életminőség szimpózium - Kiegészítő módszerek a daganatos betegek életminőségének javításában a kutatások és a tapasztalatok fényében, Nemzeti Erőforrás Minisztérium, Budapest, (2011)

Kovács Zsuzsa: *Kísérleti pszichoonkológiai rehabilitációs program tapasztalatai és eredményei*, Magyar Pszichoonkológiai Társaság X. Konferencia, (2011)

Kovács Zsuzsa: *Kísérleti rehabilitációs program daganatos betegek számára – igen biztató eredményekkel*, Magyar Epidemiológiai Társaság VI. Nemzetközi Kongresszusa, (2011)

Kovács Zsuzsa: *A rákgyógyítás új útjain – az életmód, a táplálkozás és a lelki tényezők szerepe a gyógyulásban*, Életminőség szimpózium - Kiegészítő módszerek a daganatos betegek életminőségének javításában – lehetőségek, kutatások, Prof. Dr. Kopp Mária emlékére, Nemzeti Erőforrás Minisztérium, Budapest, (2012)

Kovács Zsuzsa, Rigó Adrien: *Kísérleti rehabilitációs program daganatos betegek számára – igen biztató eredményekkel*, Testi és lelki rehabilitáció – OOI és a ORFMMT Pszichológiai szekciója, (2012)

Kovács Zsuzsa, Rigó Adrien, Kökönyei Gyöngyi, Szabó Éva: *A hangulati zavarok csökkentése és a személyiségfejlesztés lehetőségei daganatos betegeknél*, Magyar Pszichiátriai Társaság XVIII. Vándorgyűlése, Győr, (2013)

Kovács Zsuzsa: *A rákgyógyítás új útjain – egy a hagyományos daganatterápiát kiegészítő komplex életmód és pszichoszociális intervenciós program eredményeinek bemutatása*, -„Egy nap az EGÉSZségért” - Életminőség Szimpózium Prof. Dr. Ember István emlékére, Nemzeti Erőforrás Minisztérium, Budapest, (2013)

Kovács Zsuzsa: *Megelőzés mindenek előtt! A rákgyógyítás új útjain*, Életminőség Szimpózium „A rák világnapja” alkalmából, Nemzeti Erőforrás Minisztérium, Budapest, (2014)

Other publications and conferences:

Emőke Fülöp, Ágnes Devecsery, Katalin Hausz, Zsuzsanna Kovács, Márta Csabai: *Relationship between empathy and burnout among psychiatric residents*, New Medicine 15:(4) pp. 143-147. (2011)

Zsolt Petke, Judit Mészáros, István Vingender, Zsolt Demetrovics, Judit Farkas, Zsuzsanna Kovács, Zsuzsa Menczel, Anna Havasi, Péter Simor, József Rácz: *Early dropout after one month of buprenorphine /naloxone maintenance therapy*, New Medicine 15:(2) pp. 72-75. (2011)

Petke Zsolt, Csorba József, Mészáros Judit, Vingender István, Farkas Judit, Demetrovics Zsolt, Balázs Hedvig, Hoffmann Katalin, Kovács Zsuzsanna, Menczel Zsuzsa, Pataki Zoltán, Simor Péter, Havasi Anna, Melles Katalin, Márványkövi Ferenc, Rácz József: *Kezelésben maradásra ható tényezők vizsgálata metadon- és buprenorphine/naloxone terápiában részesülő opiátfüggőknél*, Addiktológia - Addictologia Hungarica 10:(1) pp. 5-31. (2011)

Petke Z, Csorba J, Mészáros J, Vingender I, Farkas J, Demetrovics Z, Kovács Z, Menczel Z, Pataki Z, Simor P, Havasi A, Melles K, Marvanykövi F, Racz J: *Psychosocial changes in six months of buprenorphine/ naloxone substitution treatment*, Neuropsychopharmacologia Hungarica 14:(1) pp. 7-17. (2012)

Török Imre András, Garamvölgyi Nóra, Kovács Zsuzsanna, Mohácsi Magdolna, Márkus Lilla: *A temperamentum és a korai szülői bánásmód szerepe a szorongásos betegségekkel összefüggő pszichiátriai vulnerabilitásban*, XI. Magatartástudományi napok, Gödöllő, (2011)