

BODY IMAGE AS A CLINICAL ENTITY AND OVERALL FACTOR OF LATENT SOMATOPSYCHIC ANXIETY IN BREAST CANCER PATIENTS

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Summary

Body image, and the impact of treatment on body image in women with breast cancer, remains an important issue for researchers and clinicians in the interdisciplinary fields of psychosocial oncology and rehabilitation.

The paper presents a comparative analysis of research papers published in relevant research publications - *European Journal of Cancer, Psycho-Oncology, Psychosomatic Medicine, Journal of Chronic Diseases*, etc. – focusing on the issues of body image in women with breast cancer. The sample consisted of 25 research papers.

The clinical entity of body image was analyzed on the basis of connection among dominant variables (*breast cancer, quality of life, psychosocial adjustment, sexuality, body image*) and different categories of complementary variables such as *psycho-emotional determinants, psychosocial determinants, body experience, therapeutic approaches, and scientific evaluation*. Based on the analysis of correlations among dominant and complementary variables which defined quasi-canonical factors, it seemed appropriate to call them an *overall factor of latent somatopsychic anxiety*. This factor might represent one of important components in consideration of the clinical entity of body image in diagnostics and therapy.

The presented results arise from a scientific research project on “*Complementary Supportive Therapies and Development of Life Potentials*”, supported by the Ministry of Science, Education and Sports of the Republic of Croatia.

KEYWORDS: *body image, breast cancer, scientific research, comparative analysis*

SLIKA TIJELA KAO KLINIČKI ENTITET I OPĆI FAKTOR LATENTNE SOMATOPSIHIČKE ANKSIOZNOSTI U BOLESNICA S RAKOM DOJKE

Sažetak

Slika tijela i utjecaj različitih oblika liječenja na doživljaj slike tijela u žena s rakom dojke važan je predmet znanstvenih i kliničkih istraživanja u interdisciplinarnom području psihosocijalne onkologije i rehabilitacije.

U radu je prikazana komparativna analiza znanstvenih radova objavljenih u relevantnim znanstvenim časopisima: *European Journal of Cancer, Psycho-Oncology, Psychosomatic Medicine, Journal of Chronic Diseases*, itd. u kojima su se autori bavili problemskim područjem slike tijela u žena s rakom dojke. Obuhvaćen je uzorak od 25 znanstvenih radova.

Klinički entitet slike tijela razmatran je na osnovi povezanosti između dominantnih varijabli (*rak dojke, kvaliteta života, psihosocijalna adaptacija, seksualnost, slika tijela*) i različitih kategorija komplementarnih varijabla kao što su *psihoemocionalne determinante, psihosocijalne determinante, tjelesno iskustvo, terapijski pristupi i znanstvena evaluacija*.

Prikazani rezultati istraživanja proizašli su iz znanstvenog projekta „*Komplementarne suportivne terapije i razvoj životnih potencijala*” pod potporom Ministarstva znanosti, prosvjete i športa Republike Hrvatske.

KLJUČNE RIJEČI: *slika tijela, rak dojke, znanstvena istraživanja, komparativna analiza*

INTRODUCTION

The diagnosis and treatment of breast cancer may have a profound impact on body image (1-6). In their prospective study, Michael et al. (7) found that "... women who developed breast cancer were more likely to experience reduced physical function, role function, vitality and social function compared with women who remained free of breast carcinoma." Friesen et al. (8) as well as many other authors (9, 10) suggest that body change stress refers to subjective psychological stress that accompanies women's negative and distressing thoughts, emotions, and behaviors resulting from breast cancer and breast surgeries.

Body image, and the impact of treatment on body image in women with breast cancer, remains an important issue for both researchers and clinicians (3). Pruzinsky and Cash (11) wrote: „*Body-image research has grown substantially over the past 50 years...*“, showing the number of citations in psychological and medical databases for each of the past five decades. The variety of contexts exploring body image has broadened considerably. In clinical practice, different evaluation instruments for different problem fields are employed, including: *The Cancer Rehabilitation Evaluation System (CARES)* (12), *Breast Cancer - Specific Quality-Of-Life Questionnaire Module* (13), *Body Image Scale – BIS* (14), *Body Image after Breast Cancer Questionnaire - BIBCQ* (3). But as White (15) emphasised: "Much of the literature on body image and cancer is observational, atheoretical and anecdotal. Though more empirical research has recently emerged, it is often poor quality resulting in inconsistent findings. Interpreting results has been difficult due to use of poorly validation measures. Definitions of body image have often been tautologous (e.g. "positive", "negative", "secure", "insecure"...), and distinction among multiple body image dimension have not been made. Additionally, the term "body image" has been used to refer to related constructs, such as sexuality, self-esteem, stigma, and self-consciousness, and has been defined too broadly to permit meaningful investigation."

Thompson (16) wrote about this as follows: "Body image is multifaceted construct consisting of a variety of measured dimensions. Research in the area has mushroomed in recent years, a phenomenon paralleled by an explosion in the assessments developed to measure some aspects of the construct. Unfortunately, these developments have not always been guided by a

clear-cut attention to measurement issues. Assessments errors specific to the field of body image and also germane to basic psychological measurements strategies have characterized much of the work in the area".

Psycho-oncology and body-image as clinical entity in rehabilitation

In the last quarter of the 20th century, psycho-oncology became a subspecialty of oncology with its own body of knowledge contributing to cancer care. Within this interdisciplinary field, and within the field of complex treatment and rehabilitation, authors in different disciplines try to consider the clinical entity of body image of women with breast cancer from many different aspects, focusing on a variety of theoretical models and various factors of psycho-emotional, psychosocial and existential experience of these patients during their complex treatment and rehabilitation, and also on their mechanisms of coping with the disease.

AIM

The study of contemporary theoretical models and assessment methods in the field of body image experience in women with breast cancer, was aimed at providing a comparative analysis of scientific papers published in relevant scientific journals from 1987 to 2007, including: *European Journal of Cancer*; *European Journal of Oncology Nursing*, *Health Psychology*, *Journal of Psychosomatic Research*, *Patient Education and Counseling*, *Psycho-Oncology*, *The Breast*, *Social Science & Medicine*, *European Journal of Cancer*, *Psychosomatic Medicine*, *Journal of Chronic Diseases*, *Annals of Oncology* and *The Breast Journal*.

HYPOTHESIS

In accordance with the above objective, a research hypothesis was developed showing the relationship between the theoretical starting points and evaluation methods that authors in different disciplines used to define the clinical entity of body image at the same time trying to explain different types of existential anxiety, coping mechanisms and self-evaluation in women with breast cancer.

MATERIALS AND METHODS

Samples, variables and methods

The research study was conducted on a sample of 25 scientific publications from the above listed journals. The publications were further classified into two samples to meet the following criteria: Scientific paper sample A defining the clinical entities of “breast cancer” and “body image” as research variables, and scientific paper sample B using terms of “breast cancer” and “body image” as keywords in the description of research procedures.

For our research purposes, the following variables were used: a) *the number of literature citations per scientific paper*, b) *the frequency of occurrence of keywords* and c) *the total number of keywords used by the authors to describe the essence of their research*.

Comparative analysis of the correlation between *dominant* and *complementary variables* was performed using a canonical covariance-based method (*one of the methods of applied multivariate statistical analysis*) (17). For each quantitative variable, basic statistical parameters and correlations between the variables were computed, and normality of frequency distributions tested by the Kolmogorov-Smirnov test (*the Kolmogorov–Smirnov statistic quantifies a distance between the empirical distribution function of the sample and the cumulative distribution function of the reference distribution, or between the empirical distribution functions of two samples*).

This research study was part of a scientific research project on “*Complementary Supportive Therapies and Development of Life Potentials*”, supported by the Ministry of Science, Education and Sports of the Republic of Croatia.

RESULTS AND DISCUSSION

As regards the *frequency of occurrence of keywords* in scientific paper samples A and B, the following *dominant variables* were selected 1) in sample A: *breast cancer, quality of life, breast conserving surgery, psychosocial adaptation, satisfaction*, 2) in sample B: *breast cancer and body-image, sexuality, quality of life, ethnicity*. Other keywords were defined as *complementary variables* and classified into the following five categories: *psychoemotional de-*

terminants, psychosocial determinants, body experience, therapeutic approaches, scientific evaluation. Analysis of the occurrence of these complementary variables classified into five categories showed

Table 1.

VARIABLES FROM THE SET OF DOMINANT VARIABLES AND THE SET OF COMPLEMENTARY VARIABLES IN THE CATEGORY OF PSYCHOEMOTIONAL DETERMINANTS DEFINING QUASI-CANONICAL CORRELATION FACTORS 1 AND 2

Dominant variables		Complementary variables (Category – Psychoemotional determinants)	
Quasi-canonical factor 1			
<i>Breast conserving surgery</i>	.61	VAR02 - Decision making	.57
Satisfaction	.85	VAR06 - Psychology	.58
		VAR11 - Body image	.32
Quasi-canonical factor 2			
<i>Breast cancer</i>	.71	VAR02 - Decision making	.31
<i>Quality of life</i>	.50	VAR03 - Cosmetic outcome	-.38
		VAR08 - Self-help	.30
		VAR11 - Body image	-.33

Table 2.

VARIABLES FROM THE SET OF DOMINANT VARIABLES AND THE SET OF COMPLEMENTARY VARIABLES IN THE CATEGORY OF PSYCHOSOCIAL DETERMINANTS DEFINING THE QUASI-CANONICAL CORRELATION FACTOR 1

Dominant variables		Complementary variables (Category - Psychosocial determinants)	
<i>Breast cancer</i>	.48	VAR13 - Ethnicity	.29
<i>Quality of life</i>	.39	VAR14 – Fellow-patients	-.33
		VAR15 – Psychosocial group intervention	.29
		VAR17 – Sexual function	-.33
		VAR18 – Social support	-.33

Table 3.

VARIABLES FROM THE SET OF DOMINANT VARIABLES AND THE SET OF COMPLEMENTARY VARIABLES IN THE CATEGORY OF BODY EXPERIENCE DEFINING THE QUASI-CANONICAL CORRELATION FACTOR 1

Dominant variables		Complementary variables (Category – Body experience)	
<i>Breast cancer</i>	.52	VAR22 - Functioning	.39
<i>Quality of life</i>	.53	VAR26 - Lymphedema	-.48
<i>Breast conserving surgery</i>	.49	VAR29 - Health	.59

the most frequent use of keywords related to the following problem fields: *pain, sexuality, disability, psychosocial sequelae, complication, breast reconstruction, surgical intervention, medical treatment choice, quality of life...*

The results presented in Tables 1 to 3 show that dominant variables (problem fields) including *breast cancer, body image, sexuality, ethnicity and quality of life* were differently related to controlled complementary variables in the category of *psychoemotional determinants, psychosocial determinants, therapeutic approaches and scientific evaluation*. Tables 4, 5 and 6 show *dominant variables and complementary variables* in the category of *therapeutic approaches and scientific evaluation* used to define factors of the quasi-canonical correlation. These quasi-canonical factors are defined based on correlations of dominant variables (*chemotherapy, mastectomy and oncology*) to complementary variables (*chemotherapy, mastectomy and oncology*) in the category of therapeutic approaches, and correlations of one dominant variable i.e. *the quality of life* to complementary variables (*follow-up study and psychological measurement*) in the category of scientific evaluation.

Table 4.

VARIABLES FROM THE SET OF DOMINANT VARIABLES AND THE SET OF COMPLEMENTARY VARIABLES IN THE CATEGORY OF PSYCHOEMOTIONAL-PSYCHOSOCIAL DETERMINANTS DEFINING THE QUASI-CANONICAL CORRELATION FACTOR 1

Dominant variables		Complementary variables (Category – Psychoemotional and psychosocial determinants)	
Sexuality	.38	VAR05 – Fear of recurrence	-.32
Ethnicity	.67	VAR06 - Coping	.27
		VAR07 - Efficiency	.27
		VAR09 – Difficulties with partner understanding	.57

Table 5.

VARIABLES FROM THE SET OF DOMINANT VARIABLES AND THE SET OF COMPLEMENTARY VARIABLES IN THE CATEGORY OF THERAPEUTIC APPROACHES DEFINING THE QUASI-CANONICAL FACTOR 1

Dominant variables		Complementary variables (Category – Body experience)	
Sexuality	.67	VAR10 - Chemotherapy	.60
Ethnicity	.42	VAR11 - Lumpectomy	-.27
		VAR12 - Mastectomy	.23
		VAR13 - Oncology	.58

Table 6.

VARIABLES FROM THE SET OF DOMINANT VARIABLES AND THE SET OF COMPLEMENTARY VARIABLES IN THE CATEGORY OF SCIENTIFIC EVALUATION

Dominant variables		Complementary variables (Category - Scientific evaluation)	
Quality of life	-.76	VAR16 – Follow-up study	.50
		VAR18 – Psychological measurement	.50

Based on the study of correlations between the dominant and complementary variables to define quasi-canonical factors, the *general factor of latent somato-psychic anxiety* was also defined. This factor might be one of important components in the analysis of the clinical entity of body image for diagnostic and treatment purposes (18, 19). In light of the psychoanalytic approach, this factor by its content somehow corresponds to the concept of body cathexis. In psychoanalysis, cathexis is defined as the process of investment of mental or emotional energy in a person, object, or idea. Freud (1856-1939) often represented frustration in libidinal desires as a blockage of energies that have, or would eventually build up and require release in alternative ways. This release could occur, for example, by way of regression and the “re-cathecting” of former positions, that is, fixation at the oral phase or anal phase and the enjoyment of former sexual objects (“object-cathexes”), including autoeroticism. In other words, as specified by Prstačić, Sabol (4): “...the physical existence is actually an encounter of the objective and the imaginary body, and each experience on the surface of one’s physical Me is a reflection of endless phases of life, manifested in various forms of existential anxiety...”

For collaborators from different disciplines in the field of psychosocial oncology, conceiving and implementing such complex and multidimensional approaches to define and analyze the clinical entity of body image could be a challenge for further clinical and research studies.

CONCLUSION

As part of the research protocol, the quasi-canonical analysis of the source data of dominant and complementary variables produced several factors of quasi-canonical correlations labeled as the *general factor of somato-psychic existential anxiety*.

ety, explaining the clinical entity of body image on the basis of the relationship between dominant variables and different categories of complementary variables including *psychoemotional determinants, psychosocial determinants, body experience, therapeutic approaches, and scientific evaluation.*

The obtained results could be used to develop further research on the clinical entity of body image in the field of psychosocial oncology and other related disciplines involved in education, treatment and rehabilitation of cancer patients.

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