

## **Exploring well-being and satisfaction with physiotherapy efficacy: an Italian study of cancer patients**

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### **Abstract**

Several studies have shown that rehabilitation can alleviate post-treatment side effects, maintain quality of life, and improve survival. However, information on the experience of physiotherapy care among patients with cancer is scarce. This study aimed to explore well-being, satisfaction and perceptions of efficacy of physiotherapy care among patients diagnosed with cancer. The participants were 100 subjects in rehabilitation therapy after surgery for cancer (mean age = 57.1 years, 87.1% women). Quantitative data were collected using the following tools:

Global satisfaction of Physiotherapy Treatment Scale, Efficacy Treatment Physiotherapy Scale, Psychological Well-being Scale. The results showed that participants, compared to the normative data of the Italian population, had good levels of well-being: significant differences in “Environmental mastery”, “Personal growth” and “Positive relationships with others” emerged. Moreover, subjects showed high levels of satisfaction and perceptions of the efficacy of their physiotherapy care. Correlation analyses indicated that there is a moderate positive correlation between global satisfaction and the dimensions of treatment efficacy. The results are discussed in relation to the need to give attention to well-being and rehabilitation treatment in cancer patients.

Keywords: well-being, satisfaction, physiotherapy efficacy, cancer patients.

## Introduction

Receiving a cancer diagnosis is a highly stressful experience that can have important consequences for many aspects of people's lives. It is a powerful life event that can exert an immense burden both in the diagnostic and treatment phases (Minter, 2001) because the effects continue even after the initial event (fear of recurrence, loss of operation). Depending on the histology and extent of the disease, in addition to surgery, medical treatments for cancer may include chemotherapy, radiation and adjuvant therapy. Although effective, the treatments are often associated with side effects that may affect a patient's function and quality of life (Ghazinouri, Levy, Ben-Porat & Stubblefield, 2005), with a decline in upper body function, sometimes even long after therapy ends. The ‘Health and Well-Being Survey’ conducted by Macmillan Cancer Support in 2008 found that cancer survivors reported poorer health and well-being than the general population; in fact, many life-threatening diseases, such as cancer, affect the person in physical, psychological, social and spiritual ways. As previously reported (Reich, Lesur & Perdrizet-Chevallier, 2008; Ávila, Brandão, Teixeira, Coimbra & Matos, 2015), adapting to a chronic or life-threatening illness may involve changes in the individual in his internal rules and values, in his definition of quality of life, or of his own conception of subjective well-being and the importance given to certain domains of his life. This is particularly evident because serious cancer diagnoses can occur without specific prior symptoms and also because it is now possible for a healthy person to learn the probability of

developing specific cancer types, such as through the genetic testing of BRCA 1/2 (Rania & Migliorini, 2015). In that case, patients have to live in a state of pre-disease (Konrad, 2005), which significantly taxes personal psychological resources. Stress linked to the aforementioned conditions and the experience of cancer can lead to a change in the existential perspective, as demonstrated by an extensive literature, but recent studies have overturned the concept of cancer as an exclusively negative event, taking into account aspects of posttraumatic growth (Wang, Chang, Chen, Chen, & Hsu, 2014; Cavanna, Bizzi & Charpentier-Mora, 2015). These studies refer to the positive changes that can occur in the values of the person, in his approach to life, his projects and his priorities. In this regard, we must remember that the ability to positively address this difficult experience depends on many factors, such as the quality of the care, the type of disease, and the age at which the disease occurs, while some studies show a significant difference in relation to gender (Wang, Liu & Wang, 2014).

Another important element in coping with the cancer experience is the patient's individual well-being before his illness; this event in fact engages the patient's personality resources, which can create a greater or lesser ability to benefit and to appreciate both the emotional support and the technical and organizational support of the structure in which the person is being cared for. The potential for stress attributed to the disease also depends on the assessment of the overall quality of the treatment of the patient, which is to say, the satisfaction expressed (Jacobsen & Wagner, 2012).

The construct of satisfaction for the care received in the case of an organic disease has been addressed from different points of view and has recently stimulated a lively debate about the evaluation of hospital care, often through patient satisfaction, as care is related to the operator-patient relationship (Charalambous & Beadsmoore, 2008). The measure of satisfaction has also been one of the criteria for assessing the overall quality of care, although it has not been the only one (Gross, 2012), so there is still debate on the weight given to satisfaction within the theory quality, as claimed by Donabedian (1980). A certain line of the debate in this area has taken, as a valid concept of quality, to exclusively using the outcomes of care; Mant (2001) considers simplistic input in competition with the care process and its outcomes, while other authors (Schoenfelder, 2012; Farley et al.,

2014) note that the variables related to satisfaction require additional evidence, which seems to rarely be investigated in patient satisfaction in relation to the quality of the structure of an organization (Gross, 2012). There is no doubt that patient satisfaction during the process of care increases his compliance to adhere to actively and fully benefit from the care (Yunus, Nasir, Nor Afiah, Sherina & Faizah, 2004); however, we must take into account the individual variables, such as psychological well-being, that impact satisfaction with a treatment. Several studies (Baile & Aaron, 2005; Rodriguez, Bayliss, Alexander, Jeffreys, Olsen, Pollak, et al., 2011) highlight the importance of information in increasing satisfaction, but more recent studies (Del Piccolo, 2007) in oncology have noted the importance of communication as a tool for emotional and informational support, used with awareness and sensitivity to the fact that patients are seeking information, while not being too broad or direct.

The variables that compose the construct of patient satisfaction with health care are numerous: the relationship with the operator, the outcomes of care, and the quality of rehabilitation treatment, which is essential in many types of cancer.

Previous reports (Ewertz & Jensen, 2011; Lin & Pan, 2012) show that survivors of cancer must cope with the consequences of their medical treatment and that rehabilitation, in particular, is crucial because it is part of the cancer treatment but also because it is the last stage of the treatment process before the patient returns to normality (Alfano, Ganz, Rowland & Hahn, 2012; Korstjens, Mesters, van der Peet, Gijsen & van den Borne, 2006).

The quality of the relationship with the physiotherapist is intertwined with the satisfaction construct and is particularly important because it constitutes the basis of the patient's adherence to the rehabilitation program and then, in a sense, the therapeutic success (WHO, 2003); in other words, it is the regaining of functional autonomy. It should also be noted that physical rehabilitation involves contact with the body and the establishment of a special form of intimacy with the physiotherapist, and this attention to the individual dimension and patient's subjective experience is of great importance.

Although there are different questionnaires in the literature evaluating the satisfaction of care received by patients (Monnin & Perneger, 2002; Charalambous, & Beadsmoore, 2008; Odebiyi, Aiyejusunle, Ojo, & Tella, 2009; Brédart, Sultan, & Regnault, 2010; French, Keogan, Gilsenan, Waldron,

O'Connell, 2010) there are no reports of instruments that investigate, as part of a physical rehabilitation path, in addition to the quality of functional recovery, the patient's perceptions of the professional competence aspects of the physiotherapist, the care organization, the quality of information provided, his sensitivity or his ability to understand the difficulty, and often the embarrassment, that the recovery path involves.

Within this theoretical framework, the present study aims to investigate the following:

- satisfaction of cancer patients with physiotherapy treatment as part of their rehabilitation;
- the perception of efficacy of physiotherapy treatment from the point of view of the patients in the dimensions of the technical competence and the emotional closeness of the physical therapist and the organizational aspects of the service;
- psychological well-being perceived by cancer patients facing rehabilitation physiotherapy;
- differences in well-being perceived among the group of cancer patients and the normative population;
- gender differences with respect to the well-being and perception of effectiveness of physiotherapy treatment; and
- correlations between psychological well-being, satisfaction of physiotherapy treatment and perception of efficacy of physiotherapy treatment.

## Materials and methods

The study was conducted in a public hospital in a city in northwestern Italy. A non-randomized group of patients with intact cognitive faculties, referred to Rehabilitation Oncology after surgery for physiotherapy treatment, participated. Patients were excluded if they did not have the mental or physical capacity to participate in the research, had problems with language comprehension or were under 18 years of age.

The research protocol was approved by the ethics committee of the hospital where the survey was conducted. The research was also conducted according to

the ethical standards required by the Italian Association of Psychology. All participants in this study were informed during a short individual meeting about the scope and the purpose of the study. They were also assured that the collected data would be used only for the purpose of the research and that data would be anonymous. Furthermore, patients were informed that they could stop their participation at any time and that their decision to withdraw would not compromise the standard of the received care. In addition, the researchers obtained informed consent from the patients.

The physiotherapist who proposed the research was not directly involved in the delivery of rehabilitation treatment. The protocol was compiled within the hospital in the presence of a researcher who remained available to the patients for any guidance on the meaning of the items. Each participant individually completed the protocol questionnaire in a dedicated room. This process took about forty minutes on average.

The protocol includes the following instruments:

*Anamnestic sheet:* A sheet that included the socio-demographic data of the patient and information about the patient's disease, the duration of treatment and the evaluation of the end treatment by the physiotherapist. This information was compiled by the physiotherapist who followed the patient during treatment and was associated with the protocol completed by the patient.

*Global Satisfaction of Physiotherapy Treatment Scale:* One item using a Likert scale from 0 to 10, in which the patient had to express his degree of satisfaction, was built ad hoc by the researcher. Usually, these measures are used to represent a global construct and obtain the subjective perception of multidimensional concepts. The measure of a single item requires the subject to consider all aspects of the phenomenon (Youngblut & Casper, 1993; Suchman et al., 1993).

*Efficacy Treatment Physiotherapy Scale:* It consists of 29 items using Likert scales from 0 (*strongly disagree*) to 5 (*completely agree*) that investigate the patient's perceptions of the efficacy of the physiotherapeutic treatment. This scale was built ad hoc by the researcher because there are no specific scales in the literature that measure the subjective experience of the patient about the relationship with the therapist during treatment (Rania, Migliorini, Zunino, Bianchetti, Vidili & Cavanna, 2015). The areas investigated are related to the perception of emotional

attention (e.g., "The physiotherapist understands the patient's sense of shame when touched by a stranger"), technical competence in the profession (e.g., "The physiotherapist asks the patient what he feels when he maneuvers his body") and organizational structure (e.g., "Hours of session are compatible with the schedule of the patient").

*Psychological Well-being Scale (PWB)* (Ryff & Keyes, 1995; Italian version of Ruini, Ottolini, Rafanelli, Ryff & Fava, 2003): It consists of 84 items that can be answered according to a six-point scale, from "strongly agree" to "strongly disagree". The scale was composed of six dimensions of psychological well-being: self-acceptance (e.g., "In general, I feel confident and positive about myself."), positive relations with others (e.g., "People would describe me as a giving person, willing to share my time with others"), autonomy (e.g., "I have confidence in my opinions, even if they are contrary to the general consensus."), environmental mastery (e.g., "In general, I feel I am in charge of the situation in which I live."), purpose in life (e.g., "Some people wander aimlessly through life, but I am not one of them") and personal growth (e.g., "For me, life has been a continuous process of learning, changing, and growth").

All data were stored in a computerized database and analyzed with the help of the Statistical Package for the Social Sciences (SPSS ver. 13.0, 2008). The data regarding outliers, coding errors and missing value points for the individual questionnaire items and all key variables were checked regarding the normal and bivariate assumption of the distribution. Means, standard deviations, independent sample t-tests, and Pearson correlations were used to guide the analysis of the data. The characteristics of the participants and the scale results were first analyzed descriptively. In particular, we examined measures of central tendency (means and standard deviations) and the distribution of the variables to present a general picture of the situation. We then conducted a t-test to examine the differences between the group of participants and the Italian normative population with respect to the Psychological Well-being Scale. We also conducted independent t-tests to identify gender differences in the perception of well-being and perception of the efficacy of the physiotherapy treatment. Bivariate correlation (Pearson's  $r$ ) coefficients were then calculated across all study variables to examine the bivariate relationship between each variable in the study.

## Results

### Characteristics of participants

One hundred subjects in rehabilitation therapy after surgery for cancer voluntarily participated. The mean age was 57.10 years (*range* 29-84), 87.1% were women and 73.3% were married. The highest level of education reported was as follows: 9.9% had attended a primary school, 19.8% had a secondary school degree, 53.5% had graduated from high school and 16.8% had graduated from college.

The greatest number of the patients were in physiotherapy treatment for myofascial retraction post-mastectomy with lymph node dissection (37.6%), followed by functional limitation given by scar or myofascial retraction (27.7%), lymphedema after surgery (21.8%), winging from post-surgical long thoracic nerve injury (6.9%), nerve damage (3%), and other (3%).

The evaluation at the end of treatment by the physiotherapist was "good recovery" in 53.5% of cases, "discreet recovery" for 24.8%, and the remaining 21.8% received evaluations of "excellent recovery".

### Global Satisfaction of Physiotherapy Treatment Scale

A total of 84.2% of the patients indicated a global evaluation of the physiotherapy treatment as highly satisfying, giving values between 9 and 10. The average value of patient satisfaction in relation to physiotherapy treatment received was 9.29 ( $SD=0.90$ ; *range* 6-10).

### Efficacy Treatment Physiotherapy Scale

The mean values obtained in the three dimensions of the perception of the effectiveness of physiotherapeutic treatment is greater than the theoretical average: 4.71 with regard to the emotional attention, 4.57 regarding the organizational aspects and 4.44 with regard to the professional competence of the perceived physiotherapist (see Tab. 1).

Tab. 1 *Descriptive Statistical and Psychometric Properties of Efficacy Treatment Physiotherapy Scale*

	<i>Emotional attention</i>	<i>Organizational aspects</i>	<i>Professional competence</i>
Mean	4.71	4.57	4.44
S. D.	.37	.42	.68
Minimum	3.13	3.43	.29
Maximum	5	5	5
$\alpha$	.81	.60	.92

### Psychological Well-being Scale (PWB)

From the data related to psychological well-being (see Tab. 2), the dimension of relations with others received the highest average score (69.01), followed by personal growth (65.58), autonomy (64.17), purpose in life (62.72), environmental mastery (62.46), and self-acceptance (61.04).

Tab. 2 *Descriptive Statistical and Psychometric Properties of Psychological Well-being Scale dimensions (PWB)*

	<i>Autonomy</i>	<i>Environmental mastery</i>	<i>Personal growth</i>	<i>Positive relationships with others</i>	<i>Purpose in life</i>	<i>Self-acceptance</i>
Mean	64.17	62.46	65.58	69.01	62.72	61.04
S. D.	10.01	11.19	9.34	10.03	10.20	12.98
Minimum	25	33	30	48	36	21
Maximum	84	84	82	84	83	83
$\alpha$	.78	.85	.76	.80	.78	.87
Mean normative Italian sample	62.35	58.70	62.29	62.89	61.68	59.49

Comparing these data with those obtained in the Italian validation scale (Ruini, Ottolini, Rafanelli, Ryff & Fava, 2003) in the age group of 30-59, which corresponds to the mean age of our subjects, there are differences in some dimensions of the PWB (see Tab. 2): notably, the study participants achieved higher average scores in all dimensions of scale. Significant differences emerged in environmental mastery  $t(93) 3.26, p < .001$ , personal growth  $t(98) 3.51, p < .001$  and positive relationships with others  $t(65) 4.96, p < .001$ .

#### Gender differences and correlations between scales

Specific analyses on gender differences did not show statistically significant differences for either the Psychological Well-being Scale or the Efficacy Treatment Physiotherapy Scale.

A next level of analysis was the correlations between the constructs considered in the study. The highest correlations that emerged were related to the internal dimensions of the two scales used. Table 3 shows the internal correlations of the Psychological Well-being Scale.

Tab. 3 *Correlations between dimensions of Psychological Well-being Scale (PWB)*

PWB dimensions	<i>Self-acceptance</i>	<i>Autonomy</i>	<i>Environmental mastery</i>	<i>Personal growth</i>	<i>Positive relationships with others</i>	<i>Purpose in life</i>
Self-acceptance	1					
Autonomy	.582**	1				
Environmental mastery	.715**	.498**	1			
Personal growth	.631**	.614**	.640**	1		
Positive relationships with others	.476**	.357**	.508**	.442**	1	
Purpose in life	.821**	.543**	.784**	.733**	.559**	1

\*\* . Correlation is significant at the  $p < .01$  level (2-tailed)

There were also internal correlations among the dimensions of the Efficacy Treatment Physiotherapy scale: the perception of emotional attention was significantly and positively related to professional competence ( $r=.67, p=.01$ ) and organizational aspects ( $r=.41, p=.01$ ), while the professional competence was positively correlated with the organizational aspects ( $r=.31, p=.01$ ).

There was also a moderate positive correlation between the Global of Physiotherapy Treatment Satisfaction Scale and the three dimensions of the Physiotherapy Treatment Efficacy Scale: emotional attention ( $r=.54, p=.01$ ), professional competence ( $r=.24, p=.05$ ), and organizational aspects ( $r=.39, p=.01$ ).

## Discussion

This study is the first of its kind in Italy and is aimed at exploring the perceptions of well-being, efficacy of, and satisfaction with a physiotherapy treatment in a group of cancer patients in rehabilitation, focusing attention on the physical therapist, who is a particularly neglected figure in the literature.

In our study there was a greater proportion of female patients (87.1%), due to the high incidence of breast cancer (Quincey, Williamson & Winstanley, 2016), which leads to more women receiving rehabilitation treatment (Quincey et al., 2016).

The results of this study indicate that the majority of the patients were satisfied with the treatment received and that the level of satisfaction was particularly high. Several studies (Charalambous & Beadsmoore, 2008; Gross, 2012; Schoenfelder, 2012; Farley et al., 2014; Rodriguez, et al., 2011; Del Piccolo, 2007) have highlighted the complexity of the construct of satisfaction in relation to health care, and our participants, who were asked to express themselves about their perceptions of the efficacy of a physical rehabilitation course after surgery, assessed as particularly important both organizational aspects of the structure and aspects of emotional attention as well as the professional competence of the operator.

These three variables, whose average values obtained were higher than the theoretical mean, seem to capture all aspects of satisfaction. In particular, in the case of physical rehabilitation, the operator's sensitivity during the rehabilitation process seems particularly important because direct contact is required with the body of the patient, which is normally done only in family or intimate relationships. In this regard, the emotional attention dimension, which is particularly appreciated by the participants, includes within it items that assess both the physiotherapist's ability to understand the patient's discomfort or embarrassment performing certain movements required by the rehabilitation protocol, and the therapist's ability to understand the physical effort and the commitment that the rehabilitation path requires. As mentioned in the introduction, the satisfaction of a care treatment also depends greatly on individual variables such as psychological well-being and the individual's positive functioning. The three dimensions of the psychological well-being scale in which patients gave the highest scores were positive relationships with others, autonomy and personal growth.

As previously reported (Stanton, Bower & Low, 2006; Sumalla, Ochoa & Blanco, 2009), the aspect of personal growth can be a very significant dimension after the experience of cancer, but we must also bear in mind that rehabilitation physiotherapy occurs at the end of the care pathway, when the patient has committed most of his physical and mental resources to coping with the disease. This experience may have put the patient's needs in front of the affection and the care of his environment, but may also have solicited his capacity for psychological autonomy.

The Psychological Well-being Scale results underline, furthermore, that our participants achieved higher average scores in all dimensions of the scale than the Italian normative group. In particular, significant differences emerged in environmental mastery, personal growth and positive relationships with others. We hypothesize that the highest score in all dimensions and significant differences that emerged between the two groups depend both on individual aspects of patients' well-being, already present before the illness, and the quality of care received, with respect to which patients claim a high satisfaction.

In addition, there were no statistically significant gender differences for either the Psychological Well-being Scale or the Efficacy Treatment Physiotherapy Scale. However, some studies show that it is mainly women under 65 years of age who can transform the oncological disease into a personal (Wang et al., 2014) and spiritual growth opportunity (McFarland, Pudrovska, Schieman, Ellison & Bierman, 2013; Saita, De Luca, & Acquati 2015). The results also demonstrate a moderate positive correlation between the global score on the Physiotherapy Treatment Satisfaction Scale and the three dimensions of the Physiotherapy Treatment Efficacy Scale. These data seem to highlight how satisfaction with the care received is closely connected to the perception that the patient has of the physiotherapist and his emotional attention, professional competence and organizational aspects.

The present study is not without limitations. First, the data were gathered in a single hospital with a limited number of patients; therefore, the results are not applicable to the experiences of other patients treated in different hospitals. It will be beneficial for future studies to focus on a larger group of patients treated in different institutions. The second limitation is the particular rehabilitative therapy

for our patients and the disease that was studied, cancer. It will be beneficial for future studies to focus on a larger group of patients treated in different diseases or rehabilitative therapies to confirm whether the efficacy and treatment satisfaction show the same results. Third, the present study included mostly female patients. It would be interesting to increase the male representation to understand whether the findings remain significant regardless of gender. Fourth, we cannot exclude that social desirability may have influenced the responses because we did not include control scales of social desirability in the research protocol. Moreover, it should be underlined that caution should be exercised when making direct comparisons with other studies that have complex differences in the design, methodology, size and types of populations, context of the research and other factors. The strength of the present study is to have explored the perception of efficacy and satisfaction with physiotherapy treatment in a group of cancer patients in rehabilitation considering the crucial role of the physiotherapist, who has been a relatively unexplored variable in the literature, and his establishment of a relationship with the patient.

## Conclusions

Studies in the field of psycho-oncology have focused primarily on side effects and the negative long-term results for people who have contracted cancer; however, as we have already noted, the focus has also shifted in the late decade to the positive changes in relationships and in the lives of the people who have been diagnosed with this disease (Manne, Ostroff, Winkel, Goldstein, Fox & Grana, 2004). The international research, in fact, shows that positive changes or posttraumatic growth are common among patients with cancer or serious diseases (Molsab, Vingerhoetsb, Coeberghac, & van de Poll-Franse, 2009). In particular, the recent work of Kucukkaya (2010) focused on the exploration of the positive changes in women with diagnoses of breast cancer by asking them to write about positive changes in their lives since their cancer diagnoses.

A thematic analysis conducted by the author revealed some themes and sub themes in line with the results of our study: changes in self-perceptions (increased self-awareness and acceptance of old and renewed personalities, increased appreciation of personal worth), empowerment (improvement in personality, insight concerning how to avoid stress and conflict, becoming more assertive,

tolerance, changes in lifestyle, changes in perception of cancer and medical issues), greater appreciation of life (positive changes in world view, changes in life priorities and goals, renewed recognition of life as a second chance), and changes in interpersonal relations (better relationships with loved ones, an increased sense of connection with others, an increased sensitivity towards others' feelings, greater willingness to help sick people). These results are in agreement with studies that have shown that people who have had various traumatic experiences tended to adapt in response to the sources of stress. Indeed events that are painful and difficult to overcome can lead the individual to experience an increase in personal growth (Mystakidou, Tsilika, Parpa, Kyriakopoulos, Malamos & Damigos, 2008). These results are quite similar to those of our work, in which the participants were found to have a personal development level, defined in the literature as "posttraumatic growth", "stress-related growth" or "benefits finding", significantly higher than the healthy reference population.

Furthermore, the appreciation of organizational aspects of the structure, emotional attention and technical competence of the physiotherapist, are in fact all closely related. Patients highlight a model of care that is well balanced among their relationship with the therapist, the therapist's technical competence and organizational aspects.

As noted, patients seem to naturally adhere to the biopsychosocial model of care (Engel, 1977), which integrates the psychological aspects with competence aspects. It must be said that the search area we faced is very special, rehabilitation is an important area in the course of care for cancer patients, often neglected in the literature, and that can significantly alleviate post-treatment side effects and maintain, increase and maximize patients' quality of life. Rehabilitation services delivered by allied health professionals are vital in promoting well-being and independence throughout cancer treatment (Macmillan Cancer Support, 2011). Healthcare professionals acknowledge the importance of 'after care' following cancer surgery to reduce potential physical and psychological complications. However, we must recognize that many times, after the intensive treatment is completed, patients' needs are not always addressed, and they frequently express the request for timely access to support (Lawrance and Stammers, 2008).

Generally, more attention should be directed toward how cancer survivors cope with the consequences of their illnesses while regaining their health.

#### Conflict of interest statement

This is to confirm that there were not any financial or personal relationships with other people or organizations that could inappropriately influence the work.

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