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# Evaluation of body image in cancer patients and its association with clinical variables

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## Abstract:

**BACKGROUND:** Cancer and its treatments have been shown to have a negative psychological effect on many cancer patients. One of these effects is often described as body image disturbance. Due to the limited number of studies in this area, this study was performed to assess body image in cancer patients and its association with clinical variables.

**MATERIALS AND METHODS:** This was a descriptive and correlational research that was designed in Sayyed-Al-Shohda Hospital affiliated to Isfahan University of Medical Sciences, Iran in 2013. Two hundred and ten adult patients who had been suffering from cancer were selected and completed the personal/demographic/illness questionnaire and the multi-dimensional body-self relations questionnaire that contained 64-items with appearance orientation, appearance evaluation, fitness evaluation, fitness orientation, health evaluation, health orientation, illness orientation, body areas satisfaction, self-classified weight and overweight preoccupation sub-scales. Data were analyzed by ANOVA and Pearson correlation with a significance level of  $P < 0.05$ .

**RESULTS:** The mean (standard deviation) scores of body image in cancer patients was 184.40 (43.68) indicating that 58.3% of them had negative body image. In addition, most of patients had negative health evaluation (60.2%), negative appearance evaluation (63%), negative illness orientation (61%), and negative fitness orientation (56%). Furthermore, there were no significant correlations between type of cancer ( $P = 0.5$ ,  $f = 0.3$ ), kind of treatment ( $P = 0.8$ ,  $f = 5.2$ ) and duration of illness with body image ( $P = 0.6$ ,  $r = -0.2$ ).

**CONCLUSION:** In this study most of the cancer patients had body image disturbances. Also, body image in this group wasn't associated with the type of cancer, kind of treatment and duration of illness. Totally, these results underscore the importance of assessing and treating body image disturbance in cancer patients.

## Keywords:

Body image, cancer, health, nursing

## Introduction

One of the factors having a great impact on the individual's identity formation is her/his body image. A person's body image is a product of his/her social and psychological experiences and is shaped by the person's impression and sense of his/her physical appearance.<sup>[1]</sup>

Body image would be exposed to the threat when any probable, or real, change in the

function or appearance of the body happens. In other words, there are many factors that leads to person's body image disturbance, some of these include burning, face scars, decreased physical function such as kidney failure and paralysis, or change in the body structure like ileostomy and colostomy. In response to body image change, individuals should develop self-protective or coping strategies.<sup>[2]</sup>

In spite of enormous achievements in diagnosis and treatment of cancer, it is still associated with pain, limitation, disordered

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body, and even death.<sup>[3]</sup> The influence of cancer or cancer treatments may involve loss of a body parts, scarring, having to adjust to a prosthesis, decreased physical activities, tumor affecting the neck, eye, head, hair loss, chemotherapy, and radiotherapy. Each and every one of these changes would expose body image to the threat.<sup>[4]</sup> Even, in some cases severe disease such as fatigue, sleeplessness, and respiratory disorders may happen, too. The results, then, would be nothing but stress, anxiety, and sorrow for both the patients and their families.<sup>[1]</sup> Hence, in order to support cancer patients, nurses need to identify different physio-psycho-social needs of patients using a holistic approach.<sup>[5]</sup>

Psychological, body image disturbance has a direct relationship with low self-confidence, sexual functioning, weak social relationships, and depression.<sup>[6,7]</sup> In addition, body image disturbance, in patients with cancer, is known as one of the most important physical, mental, and social changes<sup>[8]</sup> which greatly effect on the patients' come back to their normal lives.<sup>[9]</sup> That is to say that emotional, cognitive, behavioral, and social factor also have high impacts on shaping the body image.

Therefore, to understand the relationships between the body image and variables related to disease and demographic information, different research studies were conducted. Their results were controversial. For example, a study (2009), identified that patients with prostate cancer who had received hormone treatment showed more disturbances in their body image than those who received no hormone treatment.<sup>[10]</sup> In another study by Conboy Croff, it was mentioned that patients with breast cancer who underwent mastectomy surgery suffered from body image disturbance, too, and showed more tendency toward radiotherapy so as to better their body images. Also, surgical procedure and age, in the study of Chen *et al.*, were found to be important factors related to body image concerns.<sup>[11]</sup>

However, Gupta *et al.* in their study found no meaningful relationship between clinical variables such as the type of treatment and duration of illness with the body image in women with breast cancer.<sup>[12]</sup>

To conclude, one of the main rules of nurses is helping patients to achieve their high health level. Therefore, caring for the patients' mental problems are as important as their physical problems. Body image disturbance is one of the main mental problems in this regard. Since limited studies focusing on the body image of cancer patients have been conducted and because the results concerning the relationships between the body image and clinical variables in patients with cancer are very different and, at times, opposite, this research was carried

out with the aim of studying the body image in cancer patients and its association with clinical variables.

## Materials and Methods

This cross-sectional research is a part of a bigger study whose results regarding the other dimensions are published in another article.<sup>[13]</sup> This study was conducted in Seyyed-Al-Shohada Hospital affiliated to Isfahan University of Medical Sciences and Imam Reza Clinic in 2013, during 4 months from June to August. This center is a referral hospital to which all the cancer patients through Isfahan and neighboring cities refer. Similar to other research studies,<sup>[12]</sup> and using  $n = \frac{(z_1 + z_2)^2 (1 - r^2)}{r^2} + 2$  formula, sample was measured 210. ( $Z = 1.96$ ,  $Z_2 = 84\%$ ,  $r = 0.2$ ).

The study was approved by Research Committee of Nursing and Midwifery Faculty of Isfahan University of Medical Sciences. The researcher chose eligible participants through convenience sampling. Inclusion criteria were, having 18 to 65 years of age, being aware of their disease, not being in the final stage of life-based on the physician's diagnosis, being physically able to participate in the research, being able to read and write in Persian, having been aware of their disease at least for 2 months (to have reached to internal stability), having no disability (amputation, deformity, paralysis), having no clinical disease affecting their body image including diabetes, kidney disease, thyroid, and Cushing's syndrome. The eligible participants, then, signed the consent form.

To collect the data, a demographic and disease questionnaire consist of 9 questions (age, gender, education, marital status, occupation, type of cancer, kind of treatment, and duration of the illness) was used. To assess the body image, body image multi-dimensional questioner was applied. This questioner consisted of 64 questions in 10 dimensions including appearance orientation, fitness orientation, health orientation, illness orientation, as well as appearance evaluation, fitness evaluation, health evaluation, overweight preoccupation, body area satisfaction, and Self-Classified Weight. These factors are the sub-scales of the individual orientation about appearance, health, and fitness. Evaluation sub-scales, also, assess the individual's feeling about the physical attraction, health, and fitness.

The questions were designed based on the 5 point Likert's scale with responses ranging from 1 to 5 (I'm totally agreed = 1, I'm totally disagreed = 5). Mean scores were calculated in general and also, separately for each of body image dimensions. The lowest score was 64 and the highest score, indicating body image satisfaction,

was 320. Any scores higher than 188 were considered as a positive body image; whereas, lower scores indicated negative body images. Regarding appearance orientation, fitness orientation, health orientation, illness orientation, as well as appearance evaluation, fitness evaluation and health evaluation Lower score indicates a more negative body image in that dimension. This questioner was a validated questionnaire.<sup>[14,15]</sup> Its reliability had also been confirmed by Conboy Croff *et al.* in 2005, in the USA (Cronbach' alpha 96%). Once data being collected, they were analyzed using SPSS version 11.5 (SPSS Inc., Chicago, IL). Descriptive statistics (relative and absolute frequency, mean, standard deviation) and inferential statistics (independent *t*-test, variance and Pearson correlation coefficient) were used for data analysis.  $P < 0.05$  was considered as significant.

### Results

These results showed that 135 participants were female, and 183 of them were married. Two hundred persons had no university education, 140 persons were unemployed, and 107 persons had low incomes. A total of 118 patients received chemotherapy and 76, 59, and 35 persons were affected by breast, digestive and blood cancer, respectively. Other demographic information are illustrated in Table 1.

The total mean scores (standard deviation) of body image in cancer patients, in this study, was 184.40 (43.68). Comparison of body image dimension scores is shown in Table 2. The findings indicate that there is no significant correlations between type of cancer ( $P = 0.5, f = 0.3$ ), kind of treatment ( $P = 0.8, f = 5.2$ ) and duration of illness with body image ( $P = 0.6, r = -0.2$ ).

**Table 1: The mean and SDs (age and duration of illness)**

Variables	Mean±SD
Age (year)	48.2±13.02
Duration of illness	25.64±21.24

SDs = Standard deviations

**Table 2: Relative frequency and mean scores of negative body image in different dimensions**

Variables	Absolute frequency	Relative frequency (%)	Mean±SD	The lowest/the highest
Health evaluation	127	60.2%	19.3±4.4	6-30
Fitness evaluation	115	58.5%	10.6±5.1	3-15
Appearance evaluation	133	63%	15.3±5.2	7-35
Appearance orientation	97	46.4%	38.4±10.5	12-60
Health orientation	107	52.2%	21.9±8.5	8-40
Illness orientation	128	61%	8.7±2.4	5-25
Fitness orientation	112	53.3%	33.3±9.2	13-65
Overweight preoccupation	105	50%	12.4±1.1	4-20
Body area satisfaction	117	55.7%	21.8±1.2	9-45
Self-Classified Weight	128	61%	2.7±0.4	2-10
Overall body image	123	58.3%	184.4±43.68	64-320

SD = Standard deviation

### Discussion

58.3% of the cancer patients, in this study, had a negative body image. In Fingeret *et al.* study, also, 77% patients with oral cavity cancer had appearance-related concerns.<sup>[16]</sup> It is possible that cancer patients' body image would be threatened by some factors like the fear of dependence on other people, losing distinguished people, physical and mental weakness, ambiguous illness future, and unbearable pain.

That is to say that there is a sort of consistency between the findings of different studies, having focused on the body image of patients with chronic illnesses, and this present study. Rezayi *et al.* found out that negative body image in hemodialysis patients was more than ones with kidney transplantation. He believed that hemodialysis patients had to change their social relations, and even their sexual functioning. Such changes, therefore, caused that they hated themselves, had a negative body image, and consequently, did not enjoy their lives.<sup>[17]</sup>

This present study showed that approximately half of the cancer patients had a negative evaluation about the health dimensions of body Image; appearance evaluation showed the highest disturbances. In other words, 63% of the cancer patients suffered from not being attractive. Such a feeling may have been caused due to having had no control over their body and fear of appearance changes. Because of the fact that no meaningful relationship was found between the type of cancer and body image; hence, all types of cancer can change the body image. Therefore, psychological considerations should not only be focused on those types of cancer which cause a loss of body part. Of course, some types of cancer can have more effects on the body image than the others.

The majority of the participants showed a negative orientation, especially about the fitness and illness orientation, so it is likely that these patients associate many of their disabilities and problems with their illness.

In addition, knowledge level of the patients about their illness and its treatment has a great impact on their perception. Body image has always been important for the individuals; however, when affected with cancer, people will be more sensitive about their body image, so much so that their body image may destructively change.<sup>[18]</sup> In this regard, Fobair *et al.* mentioned that 50% of women during the 1+ month of their cancer diagnosis showed the signs of body image disturbance.<sup>[18]</sup> In fact, being affected by cancer leads to body image changes.

In this present study, no meaningful relation was found between the clinical variables, such as type of treatment, and body image. Although no study has been found, so far, focusing on the body image and the type of treatment, there is a sort of consistency between the findings of this research and those having studied about the special gender-related cancers.

Harrington and Badger in their study showed that chemotherapy, radiotherapy, and hormone therapy had no effect on the patient's body image.<sup>[8]</sup> However, in another study by Przezdziecki *et al.*, body image was significantly related to breast cancer.<sup>[19]</sup> These findings are very different due to different methods being used. For example, in this research data was collected using a standard questionnaire which had not been designed for special type of cancer or specific kind of treatment, and had evaluated the body image in cancer patients, generally. However, Przezdziecki *et al.* made use of body image scale questioner, consisting of 10-items. This questioner was a part of the multi-dimensional questioner in the present study.<sup>[19]</sup>

Moreover, patients having any sort of disability (like amputation, deformity, and paralysis) and loss of a part of the body were excluded from the study. That would be another reason for having come to a different conclusion. No relation was observed between the duration of illness and the body image was another finding of this study.

This finding was inconsistent with the finding of the Chen's, Harrington's, and Badger's studies.<sup>[8]</sup> Lack of such relation can indicate that body image can be threatened at any time or by any treatment; therefore, the concept of body image should be noticed at any time during the illness.

Just like any other study, this research had some limitations. Designing the study as a cross-sectional study made us unable to distinguish the causes. Moreover, it was not possible to compare the body image of patients before and after their illness. Psychologically, the variables were not taken into consideration. In some studies as Gehrman *et al.*<sup>[6]</sup> and Peeters's,<sup>[10]</sup> it is

proven that body image and psychological variables are related. It is, therefore, recommended that further study be conducted with the purpose of assessing the effect of psychological variables on the body image in cancer patients.

## Conclusion

What being concluded from this study is that many cancer patients experienced the body image disturbances. Therefore, it is to the health team and nurses that take the concept of body image more serious and make use of some interventions to minimize the possible side effects.

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## Conflicts of interest

There are no conflicts of interest.

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