

SPANISH WOMEN WITH EARLY-STAGE BREAST CANCER

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Resumen

Aim: Women diagnosed and surgically treated for early-stage breast cancer were studied to determine the influence that sociodemographic variables, type of surgery, amount of social support, and quality of life had on their body image and self-esteem.

Method: Subjects n=54; Measures: Self Esteem Scale (Rosenberg, 1965), Body Image Questionnaire (authors' article) and E.O.R.T.C. (Quality of life) (Aaronson et al, 1988)

Result and conclusions: Analyses of variance showed that married women reported a more positive body image than non-married women, and so did women with a lumpectomy versus those with a mastectomy. These variables did not relate significantly to the patients' self-esteem, which in turn was found to be higher in women aged 43-55 years old when compared to younger women. Correlational analyses revealed a significant negative correlation between the deterioration of quality of life after surgery and both body image and self-esteem.

Palabras clave: Breast cancer, body image, self esteem, quality of life.

Abstract

Objetivo : Analizar la influencia de determinadas variables (sociodemográficas, tipo de cirugía, tratamiento, apoyo social y calidad de vida) en la imagen corporal y la autoestima de mujeres con cáncer de mama.

Método: Sujetos: 54 mujeres diagnosticadas con cáncer de mama (estadio 1). Instrumentos: Escala de Autoestima (Rosenberg, 1965), Cuestionario de Imagen Corporal (autores del artículo) y E.O.R.T.C. (Calidad de vida) (Aaronson et al, 1988)

Resultados y conclusiones: Los resultados del análisis de varianza ponen de manifiesto que las mujeres casadas, frente a las no casadas, y las que habían recibido un tratamiento conservador, frente a las mastectomizadas, tenían una imagen corporal más positiva. Por otra parte, las mujeres de edades intermedias (43-55 años) tenían mayor autoestima que las mujeres más jóvenes. También apareció una correlación negativa entre deterioro de la calidad de vida después de la cirugía y autoestima e imagen corporal.

Keywords: Cáncer de mama, imagen corporal, autoestima, calidad de vida.

INTRODUCTION

In recent years, special attention has been directed in research at the influence that cancer has on body image. Most types of cancer have significant physical repercussions, and the corresponding treatment - surgical intervention, radiotherapy, che-

motherapy - also produces significant bodily changes. These changes, due to both the cancer itself as well as its treatment, influence negatively the image the patient has of his/her body⁽¹⁻³⁾. In many cases, they also produce affective disorders and changes in sexuality and self-esteem^(4,5).

Among the various types of cancer, breast cancer has been singled out for its major effect on body image⁽⁶⁻⁸⁾. According to the

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latest data from the American Cancer Society, more than 180,000 women are diagnosed with breast cancer every year in the U.S., and it is estimated that 1 out of 9 women will have developed the disease before the age of 85. These numbers are similar in most European countries.

In the latest and most predominant perspective, body image is viewed as a construct that refers to what one thinks, feels, perceives and does in relation to one's own body. Body image is also considered a part of the self-concept^(9,10). Although the exact definitions of the term self-concept vary greatly, it is generally understood as the sum of the perceptions or references that the person has of him/herself and it includes judgements on behaviors, abilities or physical appearance⁽¹¹⁾. Self-esteem is another term related to body image. Self-esteem is considered a positive or negative attitude towards one's self, based on the evaluation of one's characteristics, and it includes feelings of satisfaction with one's self⁽¹²⁾.

Keeping in mind the importance that is placed on physical appearance in women in the majority of cultures, it is easy to understand why it is that women have the most problems when it comes to body image. Going a step further, for many women self-esteem is based exclusively on their body image and as a consequence their social functioning and interpersonal relations are affected⁽¹³⁾. It becomes even more complicated when the woman suffers physical changes or disfigurement due to an illness such as cancer. Her perception of her physical appearance when compared to the society's "ideal" might result in a negative impact on her emotional attitude and her quality of life⁽¹⁴⁾. This is the case with breast cancer, a cancer that affects mostly women.

Breast cancer has been of special interest to scientific investigation due to its high incidence, its course, its undefined prognosis, the range of the ages affected, and the importance that the corresponding organ has on body image and self-esteem. As a consequence of these specific characteristics, a great deal of the investigation relevant to cancer and its

consequences has been carried out with subjects suffering from breast cancer⁽¹⁵⁻¹⁸⁾.

A factor that has greatly complicated the impact of breast cancer on body image has been the fact that the treatment of choice up until recently was mastectomy, a mutilating type of surgery of an organ closely associated with feminine body image and sexuality. Studies indicate that this kind of surgery has been devastating for the body image of the patients^(19,20). Currently, surgery still seems to be the preferred treatment, but apart from mastectomy which removes the entire mammary tissue, the options include lumpectomy, also known as conservative surgery. Also, in the case of mastectomy, some women are offered the possibility of breast reconstruction. The option of having a lumpectomy has significantly bettered clinical results related to body image and sexuality⁽²¹⁾ although it doesn't seem to have affected as much psychological adjustment⁽²²⁾.

At the base of the research concerning the psychosocial consequences of breast cancer there is the understanding that cancer and its treatment are powerful stressors that can have negative consequences on body image and self-esteem⁽²³⁾. It's important to note that there exist mediating factors that modify the impact of cancer and its treatment on body image or self-esteem, as is the case with most events that are considered stressors. These factors include age and other sociodemographic characteristics, premorbid functioning, the stage of the illness and the type of treatment, marital relations, social support received, and individual and socio-cultural perceptions^(24,25,10). The existing literature provides an array of studies that have examined all of these factors in various combinations. The most important variables found to be related with body image are the following:

Type of Surgery. Research on body image in breast cancer patients seems to have centered on the differences between mastectomy and lumpectomy. There have been many studies conducted to show that lumpectomy has psychological and social advantages compared to radical mastectomy^(22,26).

It has been found that women that undergo a mastectomy feel less attractive physically and sexually, are more ashamed of their breasts, and enjoy less their sexual relations than before surgery, while on the other hand, women who have undergone a lumpectomy do not suffer significant changes in these areas and they feel healthier than patients with a mastectomy⁽²⁰⁾. Along the same lines, it has been shown that women with a total mastectomy have a significantly worse body image than women with a partial mastectomy⁽²⁷⁾. Also, findings indicate that there is a difference in sexual adjustment between women that have had a mastectomy versus those that have had a lumpectomy, the second having a better adjustment⁽²⁸⁾, as well as a more positive body image⁽²⁹⁾.

In many cases body image alterations have been studied alongside emotional changes in the patients. The combination has given a more global perspective of the issues that emerge after the diagnosis and treatment for breast cancer, but it can also confuse results as there are reasons to believe that body image should be separated from other psychosocial issues. It has been shown, for example, that the psychosocial sequelae, including depression and anxiety are not that different in the long term, between women with a mastectomy and those with a lumpectomy⁽²⁷⁻³⁰⁾. When there are differences between the two groups, it seems that at short term, up to 3 months after surgery, it is women with a lumpectomy that suffer the worse consequences, a finding contrary to what would be expected⁽³¹⁾. These findings imply that body image might change independently of any possible emotional alterations. More recent research explores the changes in body image as a source of traumatic stress and associates them with the changes in attitudes and sexual activities⁽³²⁾. In this view, it is the change in body image that produces important emotional changes, as opposed to being accompanied by them.

Generally, it seems that there are modest advantages to lumpectomy in the areas of psychological and social adjust-

ment, and very important advantages in the issue of body image and sexual adjustment⁽²²⁾. It is important to note though, that these conclusions should always be considered taking into account that there are other factors that influence these relationships such as age, the timing of the assessment and the type of adjunct treatment. Also, it should not be ignored that there also exist contrary findings, indicating no significant differences between the two types of surgery, even in the issue of body image⁽²⁶⁾.

As a conclusion, there is indication that body image is influenced by surgery in an independent and possibly different manner that other aspects of the patient, such as her level of depression or anxiety. Thus, a study of body image such as the present that examines it independently from the patient's emotional changes could produce new findings.

Age and Marital Status. There are data that indicate that breast cancer and its treatment have more of an impact on younger women^(29,31,32). It is possible that this phenomenon is related to the life-cycle stage the patient is at^(33,34). For example, Gluhoski, Siekel and Gorey⁽³⁵⁾ point out that breast cancer patients who are single suffer specific stressors: pessimism regarding future relationships, negative body image and impaired sexuality, fear of disclosing illness to partners, pain of rejection by partners, sense of isolation and inadequate support. Although life-stages and the milestones that accompany them, such as marriage or committed long-term relationships, usually correspond to specific age brackets, in many cases it is not so. It could be argued that marital status or the corresponding life-stage the patient is at, and not age itself, is what differentiates the experience of these women in regard to their body image. It is important to note as well that in various other studies of age showed no significant relationship to body image⁽³⁶⁻³⁹⁾.

Social Support. In certain studies, age seemed to interact significantly with the kind of social support received. It has been shown that in younger women, sexual func-

tioning and body image, as well as adjustment to surgery and treatment, depend on a well-functioning marital relationship. For older women, these aspects depend on the existence of an extended emotional support network⁽⁴⁰⁾.

Generally, in most studies centered on social support, it was concluded that it is an important factor for psychosocial adjustment as well as for survival for women with breast cancer^(41,42). Different sources of support have been studied, such as family, partner, friends, and medical professionals, as well as other patients, and they all seemed important in various ways^(43,44).

Quality of Life. Quality of life has been studied extensively in relationship to breast cancer. Certain studies have centered on the effect that the type of surgery chosen for treatment has on one's quality of life⁽⁴⁵⁻⁴⁷⁾. In these studies, it was found that women treated with breast-conserving procedures had a relatively better adjustment after surgery when compared with women that had had a mastectomy. Other authors that have explored the effect that the type of treatment has on quality of life⁽⁴⁸⁻⁵⁰⁾ have found a better quality of life outcome related with chemotherapy versus radiotherapy, and with lower doses versus higher doses of chemotherapy. Quality of life in women with breast cancer has also been studied in relationship to body image. It was found that quality of life concerns rank higher in terms of importance that the question of body image⁽³⁸⁾. In general though, there are only a few studies in which the relationship between quality of life and body image is examined. One of the possible culprits is that in many instances the change in body image is considered an aspect of the quality of life and it is assessed with a subscale within the quality of life instrument.

The aim of the study reported here was to examine any possible relationships between body image in women with early-stage breast cancer on the one hand and sociodemographic variables, social support received, the medical variable of type of surgery, and the quality of life on the other. Further-

more, we wanted to examine the relationship among the concepts of body image and self-esteem.

The sociodemographic variables were chosen based on the existing literature: age, marital status, educational level, employment, living alone, and children. According to previous findings we expected these six variables to be related with the patients' body image. Also, we added to our analysis the variable of the amount of support received, which might interact with other variables and have an effect on body image. As far as medical variables are concerned, the two types of surgery, mastectomy and lumpectomy were compared. The majority of research on the topic concludes that this variable significantly affects body image. Finally, we examined the relationship of body image with quality life, both as a whole and with individual aspects of it, as those are measured by the instrument's subscales.

At a second stage, we analyzed relationship between body image and self-esteem. To do that, besides relating the two variables among them, we examined the effects that the other variables – sociodemographic, surgery, and quality of life – had on self-esteem directly. There was special interest to see if any of these variables affected one dimension of the self and not the other one, examining thus previous suggestions that body image and self-esteem might be two dimensions that are strongly associated but independent and sensitive to different factors.

METHOD

Sample and Procedures

Participants were 54 women who had had non-metastatic breast cancer surgery at the Department of Obstetrics and Gynecology of La Paz Hospital in Madrid, Spain.

The patients were recruited for a larger study designed as a program of psychosocial intervention in women with early-stage breast cancer⁽⁵¹⁾. Patients were approa-

ched after surgery and asked if they would voluntarily participate in a psychosocial support program. Women that agreed to take part were screened for meeting the criteria of the study and those accepted were evaluated. The evaluation took place 10 to 15 days after surgery and a week before they went to collect the results of the biopsy.

The medical criteria used for inclusion in the present study were the following: a) be diagnosed with breast cancer for the first time, b) not have nodal metastases, c) have less than four infected lymph nodes, in other words a diagnosis of T1, d) receive a treatment of chemotherapy with CMF and/or radiation therapy and/or hormonal therapy. (Patients that received other kinds of chemotherapy were excluded because the frequency of the administration cycles and/or the serious side effects impeded their participation in the program), e) have no psychiatric history, and f) range in age from 25 to 70 years old.

The subjects that participated in this study ranged in age from 28 to 68 years old. Based on the existing literature, we wanted to examine how body image changes in younger versus older women and so, for analysis purposes, they were divided into three age groups: 1 = 28-42 years old (N= 8, 14,8% of the sample), 2= 43-55 years old (N = 34, 63%), and 3= 56-68 years old (N=12, 22,2%). Most of the women were married (N= 43, 79,6%) and women that were not married -single, divorced, or widowed- were placed in the same group (N= 11, 20,4%). The first group in the analysis is referred to as 1, and the second one as 2. Most of the women had children (N=46, 85,2%) and most did not live alone (N=48, 88,9%). Fort-one of the subjects had completed elementary school, 4 had completed high-school, and 9 had university degrees. Half of them (N = 27) were currently employed outside the home while the other half (n = 27) were not. Twenty-seven of the patients had been treated with a lumpectomy and twenty-seven with a mastectomy.

Measures

– *Sociodemographic data.* Age, marital status, employment status, educational level, living arrangements and presence of children were evaluated through an initial interview.

– *Perceived social support* was measured through the following question: "How well supported do you feel by the people around you?" The possible answers were 1: not at all, 2: somewhat, 3: enough, 4: a lot. This variable measures the subjective perception of the amount of support the patient received due to her illness.

– *Type of surgery.* Medical information about the type of surgery came from the patients medical records. The patients were separated into two groups, one including the women that had a lumpectomy with or without axillary irradiation, and the other including the women that had a mastectomy, again with or without axillary irradiation.

– *Self-esteem.* The scale chosen to measure self-esteem was Rosenberg's Self-Esteem Scale (SES). This scale consists of 10 items and it is the most widely used instrument to measure self-esteem despite certain negative criticism. For each item there are four possible answers (not at all, somewhat, sufficiently, a lot) and it has high internal consistency at .82 and reliability at .88.

– *Body Image.* One of the most complicated issues in body image research has been how to assess it. As it has been noted before (52,39), there are conceptual as well as methodological difficulties, because body image is not a distinct dimension of the self but it coincides partly with sexuality, as well as with the wider concept of self-image. Also, physical attractiveness, femininity/masculinity, and confidence in one's self can all be important for the concepts of both body image and self-esteem.

It has been concluded that a questionnaire that evaluates body image should contain items on dissatisfaction with appearance, loss of femininity or masculinity, avoidance to look at self naked, feeling less

attractive/sexually attractive, dissatisfaction with scar or prosthesis, adverse effects of treatment/loss of body integrity, self-consciousness about appearance⁽⁵²⁾. The authors' Body Image Questionnaire used in the present study follows these suggestions and includes items on all of these aspects. It was created by the investigation team of the main study⁽⁵¹⁾ and it consists of 12 items. The internal consistency coefficient was at .84.

– *Quality of Life*. It was measured using the E.O.R.T.C. (European Organization for Research and Treatment of Cancer) Questionnaire by Aaronson⁽⁵³⁾. In this study we used the Spanish adapted version by Toledo, Barreto and Ferrero⁽⁵⁴⁾ with some modifications. This questionnaire consists of 54 items, of which 1 to 9 are dichotomous, items 10 to 37 have Likert type answers of four points, while items 52, 53 and 54 answered on a scale of seven points. This questionnaire is made out of the following subscales:

– *Functional Status*: This subscale refers to the level of loss of independence in everyday activities and self-care. A higher score on this subscale indicates functional impairment.

– *Physical Symptoms*: This subscale measures the physical symptoms that the woman suffers as a consequence of her illness and the treatment she is receiving. A high score in this subscale indicates graver physical symptoms.

– *Psychological Distress*: It refers to the level of psychological distress of the patient in the week before filling out the questionnaire.

– *Family and Social Problems*: This subscale measures the repercussions her illness and treatment have had on the patient's social life in the last week. It includes an item that refers to the possible impact her illness has had on her financial situation in the last week. The higher the score on this scale, the worse the problems the subject had to face.

– *Sexual Problems*: It refers to sexual desire, and frequency and satisfaction with sexual relations. A high score indicates a higher level of satisfaction.

– *Satisfaction with Medical Care*: This subscale measures the patient's level of confidence and satisfaction with the medical care she received.

– *Subjective Perception of Physical State*: This subscale is a subjective score of the perception that patient has of her physical state.

– *Subjective Perception of Quality of Life*: This subscale is a score of the woman's perception of her quality of life.

– *Subjective Perception of Psychological State*: This subscale reflects the subject's perception of her psychological state.

Along with the instrument's subscales we also constructed two more variables to be used in analysis, that reflect more global aspects of quality of life and those are:

– *Global Deterioration of Quality of Life*: It is the sum of the following subscales: Functional Status, Physical Symptoms, Psychological Distress, Family and Social Problems, Sexual Problems, Satisfaction with Medical Care. Having included the reversal of subscale scores where needed, a high score on this subscale indicates a greater global impairment of quality of life.

– *Global Perception of Quality of Life*: It is the sum of the variables: Subjective Perception of Psychological State, Subjective Perception of Physical State, and Subjective Perception of Quality of Life.

RESULTS

Body Image, Sociodemographic and Medical Variables, and Social Support

To study the influence of the sociodemographic variables, the type of surgery, and the social support received on body image, a series of two-way analyses of variance (ANOVA) were conducted. In examining Age and Marital Status in relation to Body Image, it was found that Marital Status had a main effect $F(1,47) = 6,052, p < .05$, while neither age $F < 1$, nor the two-way interaction, $F < 1$, showed a main effect (Table 1). The effect of the marital status shows that married subjects

Table 1. Means and Standard Deviations for Body Image

		Body Image		
		Mean	Standard Deviation	F
Marital Status	1(not married)	31,70	6,15	6,052*
	2 (married)	38,53	6,94	
Age	1 (28-42)	37,00	7,45	0,781
	2 (43-55)	37,71	7,59	
	3 (56-68)	36,00	6,57	
Social Support	enough	36,78	7,68	0,980
	a lot	37,34	7,27	
Type of Surgery	lumpectomy	40,74	4,65	10,831*
	mastectomy	33,62	7,77	
Employment	yes	37,19	6,79	0,015
	no	37,30	7,82	
Educational Level	elementary	38,15	7,12	1,449
	high-school	30,75	9,29	
	university	36,11	6,09	
Has Children	yes	37,78	7,38	0,03
	no	33,71	5,65	
Lives Alone	yes	32,20	5,63	0,771
	no	37,77	7,26	

* $p < 0,05$

had a more positive body image than subjects that were single, divorced or widowed. As for age, the results show that the women in all three age groups had a comparable perception of their body image, without significant differences because of their age.

The influence of Age on Body Image was also examined in combination with the amount of Support received. The results did not reach significance level for either variable or their interaction. In other words, neither the patient's age nor the amount of support she perceived to have received had an effect on her body image. The impact of the variables Employment, Educational Level, Children and Lives Alone were examined using analysis of variance, but no significant effects were found for any of these variables in relationship with body image.

On the other hand, when the variable Lives Alone was examined in interaction with the amount of Support received, although there was no significant effect, a

significant tendency was observed related to body image, $F(1, 49) = 3,953$, $p < .08$.

The women that did not live alone scored higher on the body image scale than the women that did live alone. Finally, the impact of Type of Surgery on the patient's Body Image was examined. The analysis of variance showed a significant main effect, $F(1,49) = 10,831$, $p < .05$, with the women that had a lumpectomy showing a more positive body image than the women that had suffered a mastectomy.

Body Image and Quality of Life

Correlational analyses were conducted to examine the association of quality of life with body image (Table 3). Significant correlations were found for the variable of Global Impairment of Quality of Life, $r = -.287$, $p < .05$, and the subscales of Physical Symptoms, $r = .332$, $p < .05$, and Psycholo-

Table 2. Means and Standard Deviations for Self-Esteem

		<i>Self-Esteem</i>		
		Mean	Standard Deviation	F
Marital Status	1(not married)	31,80	4,96	0,823
	2 (married)	33,19	3,72	
Age	1 (28-42)	28,88	4,88	5,516*
	2 (43-55)	34,00	3,28	
	3 (56-68)	32,55	3,53	
Social Support	enough	32,44	4,03	0,216
	a lot	33,02	3,99	
Type of Surgery	lumpectomy	33,15	4,60	0,06
	mastectomy	32,69	3,26	
Employment	yes	32,23	4,13	0,782
	no	33,59	3,75	
Educational Level	elementary	33,15	3,50	0,188
	high-school	32,75	3,50	
	university	32,00	6,04	
Has Children	yes	33,02	3,70	0,123
	no	32,29	5,77	
Lives Alone	yes	32,40	6,47	0,014
	no	32,98	3,72	

* $p < 0,05$

gical Distress, $r = -.349$, $p < .05$. The more impaired was the patient's quality of life, or the greater her physical or psychological malaise, the worse her body image and vice versa. Also, there was a significant tendency observed from the relationship between Body Image and the subscale for Functional Status, $r = -.264$, $p < .08$, indicating that to a greater functional impairment corresponded a more negative body image.

In addition, Body Image was significantly correlated with two of the subjective subscales: Subjective Perception of Quality of Life, $r = .373$, $p < .05$, and Subjective Perception of Physical State, $r = .291$, $p < .05$. It also correlated significantly with the variable of Global Perception of Quality of Life, $r = .299$, $p < .05$.

The more positively a woman perceived her quality of life or her physical state, the more positively she also viewed her body image and the other way around.

Body Image and Self-Esteem

Body image was also examined in relation to self-esteem. First of all, Body Image was significantly correlated with Self-Esteem, $r = .321$, $p < .05$. We were interested in exploring whether the factors influencing body-image were the same as the ones influencing self-esteem. To that end, a series of two-way ANOVAs were conducted, following the same method as before.

It was shown that Age had a significant main effect in relation to Self-Esteem, $F(2,47) = 5.516$, $p < .01$ (Table 2). More specifically, Tukey's HSD procedure revealed that there was a significant difference in self-esteem between the middle age group and the youngest age group. The women aged 43 to 55 had significantly higher self-esteem than the women aged 28-42, but not significantly higher than the women aged 56-68. At the same time there was no significant effect of Marital Status in relation to Self Esteem, neither was there a significant

Table 3. Correlations between Quality of Life subscales and Body Image and Self-Esteem

	Body Image	Self-Esteem
Functional Status	-,264	-,218
Physical Symptoms	-,332*	-,197
Psychological Distress	-,349*	-,246
Family and Social Problems	-,186	-,110
Sexual Problems	,176	-,133
Satisfaction with Medical Care	-,206	-,113
Global Deterioration of Quality of Life	-,287*	-,296*
Subjective Perception of Quality of Life	,373**	,289
Subjective Perception of Psychological State	,201	,297*
Subjective Perception of Physical State	,291*	-,012
Global Perception of Quality of Life	,299*	,343*
* $p < 0,05$ (two-tailed)		
** $p < 0,01$ (two-tailed)		

effect of the interaction of the variables Age and Marital Status.

For the variables Employment, Educational Level, Children, Lives Alone, amount of Support received, and Type of Surgery, the analyses of variance yielded no significant effect in relation to Self-Esteem.

When the relationship between self-esteem and quality of life was examined (Table 3) it was found that Self-Esteem correlated negatively with Global Deterioration of Quality of Life, $r = .296$, $p < .05$. The greater the deterioration of the quality of life, the lower the woman's self-esteem was, and vice versa. Also, Self-Esteem correlated significantly with the Subjective Deterioration of Quality of Life, $r = .289$, $p < .05$ and the Subjective Perception of Psychological State, $r = .297$, $p < .05$, as well as with the Global Perception of Quality of Life, $r = .343$, $p < .05$. When the patient subjectively perceived positively her quality of life and her psychological state, she also had high self-esteem and the other way around.

DISCUSSION

The goal of this study was to explore body image in women treated for breast cancer, in relation to certain sociodemographic variables, the type of surgery received, the amount of social support they felt they had, and to their quality of life. Also, we wanted to examine any possible relationships among the concepts of body image and self-esteem.

As far as the sociodemographic factors are concerned, we found that marital status was related significantly with body image, with married women having a more positive body image than women that were single, divorced or widowed. At the same time no significant relationship was found between the age of the patient and her body image. The way in which the women perceived their body image was independent of their age. This result is in accordance with previous studies where there was no effect found for age⁽³⁶⁻³⁹⁾ but it is contradictory with other studies where they did find a relationship between the age of the patient with breast cancer and her body image^(31,22).

It is possible, as it was mentioned in the introduction, that the effects attributed to age by other authors, are more likely due to marital status, a hypothesis supported by Glyhoski et al⁽³⁵⁾ and possibly by our own results. It could be supported that women in the middle age group (43-55 years old) have a higher probability of being married rather than single, as could be the case with the younger age group (28-42 years old). Also, the patients in the middle age group have a higher probability of being married rather than divorced or widowed than the older age group (56-68 years old). Thus, if the patients in the middle age group are found to have a better body image, it is not clear if this is an effect of age, marital status, or an interaction of both. In the present analysis, the interaction of the two variables was examined and it resulted not significant, whereas marital status did have a significant effect on body image.

On the other hand, it is important to note that, whereas age did not have a significant effect on body image, it did have an effect on self-esteem. As in much previous research the dimensions of body image and self-esteem are not always well distinguished, it is also possible that the discrepancy between the present results and those of other studies is due to a different definition of the variables.

Finally, following a suggestion made by Ghizzani et al⁽⁴⁰⁾ who found that in older women the repercussions of breast cancer and its treatment on body image depends on the amount of support they received, the effect of the interaction between age and amount of support was examined. There was no significant effect found for either of the variables or their interaction. The body image of patients did not depend on their age or the amount of support they received due to their illness. Body image was also found to be independent of educational level, of whether the woman is employed outside the home, and of whether she lives alone or has children.

The second important finding of our analysis was that the type of surgery received affects the body image of women with

breast cancer. It was found that women that undergo a lumpectomy have a more positive body image than those that have undergone a mastectomy. This result goes along with the findings of several other studies^(20, 27-29) that have also shown the importance of opting for a less mutilating type of surgery, since it contributes to a better adjustment of the patient in terms of her body image.

A third finding was the correlation between the global impairment of the quality of life of the patient with breast cancer and her body image. More specifically, it seems that the most significant aspects of the quality of life in that respect were the physical symptoms she has and her level of psychological distress, as well as the subjective perception the woman has of her quality of life and her physical condition. The woman that feels a great physical or psychological malaise, also has a negative body image. The same happens when the woman perceives an impairment in her quality of life or her physical condition.

At the same time there was no relationship found between sexual problems –as an aspect of quality of life– and the patient's body image as was the case has been in previous research^(22,28,39). We might have failed to find a relationship between body image and sexuality because of the time chosen to evaluate these two variables. The assessment was done 10 to 15 days after surgery when –probably – most patients had not gone back to their normal sexual life or hadn't even had yet any sexual contact. Consequently, the questionnaire items addressing this facet of their quality of life were irrelevant and as such incapable of detecting any possible sexual problems.

The other part of this study focused on the analysis of the relationship between body image and self-esteem. Self-image is understood here as the cognitive component of one's self-concept, that is to say one's beliefs on one's self. Self esteem is considered to be the affective component, the self-evaluations of who one is. Although body image is but a part of one's self-image, it is the dimension most often examined in the

majority of the research studies. In this case, the subjects were women diagnosed with and treated for breast cancer and the physical aspect was the crucial component of self-image, the one that would most probably be affected by this condition. So, it is body image that is considered here as the cognitive part of self-concept, while self-esteem represents the emotional component.

As expected, the two dimensions were found to correlate significantly. When one dimension was affected, the same happened with the other. Yet, more specifically, the analysis of variance showed that the factors influencing the woman's body image, were different from the factors influencing her self-esteem. Body image was related to marital status and type of surgery. Self-esteem did not depend on these two factors, but it was influenced by the patient's age. These results might indicate that body image is more susceptible to situational or transitory factors than self-esteem which seems like a more stable part of the self, although it appears to develop with age. This conclusion follows the theoretical suggestions of various other authors, such as Anderson⁽⁵⁵⁾.

Examining the relationship of body image and self-esteem with the quality of life, we found that they both correlated negatively with the global impairment of the quality of life. In other words, when there was impairment in the quality of life, both body image and self-esteem were negative. Nevertheless, in relationship to specific aspects of quality of life, body image correlated negatively with the Physical Symptoms subscale and the Psychological Distress subscale, whereas self-esteem only correlated to subscales of the quality of life instrument that measure subjective perceptions. So, body image is related to the presence of physical symptoms and psychological distress, being more negative when those are higher, whereas it is not clear which aspect specifically is related to changes in self-esteem. This difference could also be used to support the claim made earlier that body image seems to be more sensitive to varying conditions than self-esteem.

The results also showed that body image was correlated to the patient's subjective perception of her physical condition, while self-esteem was correlated to the patient's subjective perception of her psychological state. This finding confirms the understanding of body image as a cognitive construct that reflects one's corporal-physical reality, and as a consequence, to a more positive perception of one's body corresponds a better body image. On the other hand, self-esteem is confirmed as an emotional construct that represents the psychological-emotional evaluation of the previous perception, and it changes in relation to the perception of one's psychological state. Higher self-esteem corresponds to a positive perception of one's psychological condition. These findings agree with the theoretical model that considers self-image as a cognitive component and self-esteem as an emotional component of the self-concept⁽⁹⁾.

One of the limitations in the research aimed to examine body image is that there is no integrative theoretical model that includes all the variety and richness of the concepts related to body image, self-esteem or self-concept. This lack of theoretical continuity impedes the comparison and coordination of the various investigative projects, and it requires the definition of the concepts used by each individual author.

The data in the present study have confirmed the importance of various factors, such as marital status, type of surgery, and quality of life, in relation to body image in women with breast cancer. It was shown that married women accept more and view their bodies better than the women who are not married. It was confirmed once more that women that have a lumpectomy instead of a mastectomy have a more positive body image. The possible impairment of the quality of life associated with the diagnosis and treatment of breast cancer also resulted significant in relation to body image. The more the patient's quality of life is affected, the worse her body image and the other way around. Finally, based on our fin-

dings, it was shown that body image and self-esteem, being two dimensions of one's self-concept, depend on different factors and are differently affected in the woman that has breast cancer. This finding suggests that these two dimensions of the self are highly related, but at times independent from each other.

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