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Self-esteem and distress in patients undergoing cancer surgery: a correlational study

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ABSTRACT

Aim: to evaluate, in patients in postoperative cancer surgery, the presence of distress and changes in self-esteem, and their possible relationship to the surgical treatment. **Method:** a cross-sectional study, quantitative, correlational, performed in a hospital located in the state of Minas Gerais. Three instruments of data collection were used: Thermometer Distress, the Rosenberg Self-Esteem Scale and a questionnaire about the participants. **Results:** 100 patients participated with an average age of 59.56 years, with urological cancer (30%), mostly men (54.0%). The presence of distress was identified in 65% of patients whose average score was 5.05. The average self-esteem level was 7.07. The distress and self-esteem variables were significantly correlated. **Conclusion:** the better the level of self-esteem, the lower the distress; variables of age and education had no relationship; there was no significant difference between gender and tumor types.

Descriptors: Neoplasms; Medical Oncology; Stress, Psychological; Self Concept; Postoperative Period.

INTRODUCTION

Cancer is the name given to a set of over 100 kinds of diseases characterized by the uncontrolled growth of cells that have genetic mutations with invasive potential^(1,2). The most common types are lung cancer, followed by female breast cancer^(2,3). This is a worldwide public health problem whose incidence has increased by 20% in the last decade. In 2012, 14.1 million cases were recorded. For Brazil, in 2014, it estimated the appearance of 576,000 new cases, including cases of skin nonmelanoma⁽²⁾.

Cancer treatment can be performed by surgical, radiotherapeutic, chemotherapeutic, and biological techniques, and endocrine or hormone therapy. Among the techniques used, surgery is highlighted as the first mode of treatment and the most used in patients diagnosed with the disease^(4,5). The individual can see surgical procedures as an aggressive act because of uncertainty. Furthermore, fear of changes in your body image and in everyday life can cause changes such as stress and lead to the experience of conflict situations⁽⁵⁾.

Total or partial mastectomy is an example of surgery in which women have symptoms of stress together with changes in self-esteem accompanied by the fear of losing a symbol of their femininity and sexuality⁽⁶⁾. Other complex surgical procedures are related to head and neck cancers, occurs resection of soft tissue, bones of the face and, at certain times, skin, requiring closure with flaps. These can lead to physical complications and cosmetic changes resulting in social problems. Emotions such as fear, anger, resentment, aggression and depression^(4,7) extrapolate the controllability (eustress), making negative stress, i.e. distress (a multifactorial, unplea-

sant, emotional experience that interferes with the ability to deal efficiently with the malignancy, its symptoms, physical changes and treatment)⁽⁸⁾. In addition, this can cause changes in self-esteem, determining factors that guarantee physical and psychological well-being, which positively or negatively influence how the patient faces the disease and its treatment⁽⁹⁾.

The professional nurse, upon learning about the presence of distress and changes in self-esteem, can intervene, along with the interdisciplinary team in patient care, especially in the perioperative period, aiming to reduce the impacts caused by stress through care that seeks technical objectivity and subjectivity in the relationship with the actors involved, respecting the meaning of the actions, reactions and experiences.

From these assumptions it launched the hypothesis that cancer individuals, within 48 hours of mediate postoperative present distress and changes in self-esteem; and there is a relationship when comparing the variables of distress, self-esteem, age and education with surgical treatment.

While there is international research on this subject, studies that evaluate and correlate self-esteem and distress in patients who have undergone cancer surgery are rare, and there is no national publication that justifies this study. Thus, it was evaluated in patients in mediate postoperative of cancer surgery, the presence of distress and changes in self-esteem as well as its possible relationship with the surgical treatment.

METHOD

This is a *part* of a research project entitled "Psychological morbidity and implications

for surgical recovery in oncology: allowance for nursing planning". We conducted a cross-sectional correlational study with a quantitative approach, using, as a methodological reference, quantitative research concepts⁽¹⁰⁾. This was done in a large hospital known as a Unacon (Unit of High Complexity Assistance in Oncology – in Portuguese Unidade de Assistência de Alta Complexidade em Oncologia), offering services of radiotherapy, hematology and oncology surgery, which is located in the state of Minas Gerais.

Initially, the sample size was defined by the statistical test Z, of normal distribution, estimating a proportion referring to the population of interest to a significance level of 5% and a power of statistical test of 80%, resulting in a minimum of 92 patients.

Participants were captured by a consecutive sampling process, i.e. as they were admitted to the surgical inpatient units and met the established criteria. Consecutive sampling is important when including an entire population (with seasonal variations or temporal changes relevant to the research question) that is available for a period of time⁽¹⁰⁾.

The criteria adopted for the selection of oncologic patients were those admitted from December 2014 to July 2015 for cancer surgery, and were postoperative for more than 24 hours and less than 72 hours. This included patients older than 18 years undergoing surgery for malignancy and with preserved cognitive capacity, verified by applying the Mini Mental State Examination, which is an important cognitive impairment screening tool for clinical use and research validated for the Brazilian population⁽¹¹⁾. It excluded patients undergoing diagnostic and reconstructive oncological surgery and were sick, and who were forwarded to the intensive care unit.

A total of 100 participants took part in

the study: patients in postoperative of oncological surgery of head and neck, gynecology, mastology, gastrointestinal, urologic, thoracic and pelvic.

Three instruments were used for data collection: a form developed by the authors of the research with the aim to investigate sociodemographic data, economic data (age, marital status, origin, education, employment status, monthly family income) and clinical data (diagnostic knowledge, type surgery performed and comorbidities); the Thermometer Distress (TD); and the Rosenberg Self-Esteem Scale.

Translated and validated for Portuguese in 2009⁽¹²⁾, the TD comes from a scale that aims to identify the levels of distress and their possible causes in the period related to the previous week, including the assessment day^(12,13). It allows the patient to check the distress level from zero (no distress) to 10 (extreme distress), and consists of 35 items aimed at the recognition of possible causes, even if they are not related to diagnosis or treatment. The determination of distress is effected whenever the score indicated in TD by the patient is greater than or equal to four^(6,8,12).

Instrument for measuring the levels of self-esteem of oncological surgical patients, the Rosenberg Self-Esteem Scale⁽¹⁴⁾ is self-administered, composed of 10 questions, with the answer options: "strongly agree", "agree", "disagree" and "fully disagree". It is divided into two groups that indicate satisfactory and unsatisfactory self-esteem, each group consisting of five questions. The alternatives are scored from zero to three; therefore, the final score range may vary from zero (better self-esteem) to 30 (worst esteem)^(9,14).

Data were processed and analyzed using the Statistical Package for Social Sciences (SPSS) version 21.0 for Windows.

We used the double entry technique for data validation. The results for the explanatory variables (sociodemographic, economic and clinical characteristics) were analyzed using descriptive statistics, measures of position and variability for continuous variables, and simple frequency for categorical variables. The Kolmogorov-Smirnov, Shapiro-Wilk and D'Agostino-Pearson tests were used to verify the normality of the variables of distress, self-esteem, age and education.

To verify possible relationship between distress, self-esteem, age and education, we used the Spearman correlation coefficient, called by the Greek letter ρ (rho). The strength of the correlations obtained were analyzed according to a categorization that classifies values below 0.30 (even if statistically significant) as weak magnitude and no utility in clinical practice; between 0.30 and 0.50 of moderate magnitude, and above 0.50 as strong magnitude. To assess whether there was a difference between men and women for distress and self-esteem variables, we used the Mann-Whitney-Wilcoxon test. The analysis of the participants' distribution regarding the site of the tumor/surgery in relation to self-esteem and distress was made from an analysis of variance ANOVA One-Way. The margin of error used for the decision of the statistical tests was 5.0%, i.e., p -value <0.05 .

The study was approved by the Ethics Committee of the Federal University of São João del Rei and the Ethics Committee in Research of the hospital used as the study scenario (Opinion N°. 660,597/2014). It should be noted that the data were collected after the Informed Consent Form was signed.

RESULTS

A total of 100 patients participated in the postoperative period of surgical oncology. The average age was 59.56 years (standard deviation of 13.57), ranging between 27 and 86 years; of these, 54% were male. Most of the population was married or lived in consensual union (56%), followed by singles (17%), widowed (17%) and separated/divorced (10%). Regarding origins, 89% of respondents lived in urban areas and 11% in rural areas. As for religion, 98% said they practice some kind of religion.

The average educational level of the participants was 5.79 years (standard deviation = 4.32), ranging from zero to 17 years old. Regarding employment status, 46% of patients were retired, 25% active, 10% received retirement income and kept informal work, 10% were homemakers, 6% received sick leave and 3% were unemployed. The average monthly family income of the patients was R\$1,182 with a minimum income of zero real (Brazilian money) and a maximum of R\$12,000.

Clinical data indicate that 92% were aware of the diagnosis of cancer. Of these, 41% were diagnosed between four to 12 months before the date of surgery, 33% between one and three months, 11% for more than 12 months, and 7% found out about the diagnosis less than a month before surgery. More details about the results related to the characterization of the participants and regarding the site of the malignancy/surgery can be seen in **Table 1**.

Table 1 - Characterization of the participants regarding the site of malignancy/surgery. Minas Gerais, 2015.

Site of cancer/surgery	Absolute frequency (n=100)	Relative frequency (%)
Gynecologic cancer	12	12
Cancer of head and neck	15	15
Gastrointestinal cancer	21	21
Urological cancer	30	30
Breast cancer	16	16
Skin cancer	1	1
Lymphoma	3	3
Lung cancer	2	2

Source: Own elaboration, 2015.

As for the realization of treatment for the disease, 22% had undergone some other type of treatment, such as radiotherapy or chemotherapy. On the presence of comorbidities, 57% of patients had some type of chronic disease such as hypertension (SAH) and diabetes mellitus (DM), and 36% were undergoing treatment for hypertension, 9%

had some kind of heart disease, 8% had SAH and DM, and 4% were diabetic.

The results by TD indicated an average value of 5.05 for the presence of distress (standard deviation of 3.43) and 65% of patients had a score equal to, or greater than, four. The main problems experienced by patients, according to the TD in the period referring to the previous week including the day of the interview, were practical problems (64%), family (27%), emotional (92%), involvement spiritual/religious (15%), physical (98%), and other problems (5%).

For the Rosenberg Self-Esteem Scale, the average score was found to be 7.07 (standard deviation of 5.03), the minimum score was zero and the maximum was 27 points. Most patients (57%) showed high levels of self-esteem relative to the average.

The Spearman correlation coefficient showed that there is a positive relationship between the scales of self-esteem and distress ($\rho = 0.389$; $p \leq 0.00$), i.e., the higher the score on the self-esteem scale, the greater the TD score. This result implies that the worse the

Table 2 - Distribution of Spearman Rô correlation coefficient values regarding age, education, Thermometer Distress and Self-Steem Rosenberg Scale. Minas Gerais, 2015.

		Age	Education	Distress Thermometer - Total score	Rosenberg Self-Esteem Scale - Total score
Age	correlation coefficient	1,000	-,360**	,048	,131
	Sig. * (2 edges)		,000	,639	,195
	(n=100)	100	100	100	100
Education	correlation coefficient	-,360**	1,000	,004	-,105
	Sig. * (2 edges)	,000	—	,971	,298
	(n=100)	100	100	100	100
Distress Thermometer Score	correlation coefficient	,048	,004	1,000	,389**
	Sig. * (2 edges)	,639	,971	—	,000
	(n=100)	100	100	100	100
Rosenberg Self-Steem Scale Score	correlation coefficient	,131	-,105	,389**	1,000
	Sig. * (2 edges)	,195	,298	,000	—
	(n=100)	100	100	100	100

*Sig. - Significant

**The correlation is significant at the 0.01 level (2 edges).

Source: Own elaboration, 2015.

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self-esteem, the higher the level of distress. There was no statistically significant relationship between the variables of age and education with distress ($p \leq 0.634$; $p \leq 0.971$) and self-esteem ($p \leq 0.195$; $p \leq 0.298$), as shown in **Table 2**.

The levels of self-esteem and distress when compared with gender presented no significant difference ($p \leq 0.90$; $p \leq 0.19$). The same occurred when the Mann-Whitney-Wilcoxon test was used to statistically compare the difference between men and women surveyed for the distress and self-esteem variables.

Additionally, in order to verify the correlation between the average levels of distress and self-esteem shown by patients in relation to the site of malignancy/surgery, it is noteworthy that participants with lung cancer had a higher average level of distress ($\pm 8, 50$; standard deviation of 0.71) and the worst level of self-esteem (± 13.00 ; standard deviation of 2.82), as seen in **Table 3**.

From analysis of variance One-Way (ANOVA), it was concluded that there was no difference from the site of the malignancy/surgery in relation to distress ($p \leq 0.70$) and self-esteem ($p \leq 0.18$).

DISCUSSION

The study participants mostly composed of men, converging with the data found in the literature^(2,15). According to the National Cancer Institute (INCA), there was an estimated of 395,000 new cases of cancer for the biennium 2014/2015, the majority (204,000) for men and 190,000 for women⁽²⁾.

The types of cancer with the most incidents in the Brazilian population, with the exception of non-melanoma skin cancer, are prostate tumors (69,000), female breast cancer (57,000), colorectal (33,000), lung (27,000) and stomach (20,000) cancers⁽²⁾. These numbers converge to this research because the most frequent cancer in the studied population was urological, whose anatomical sites that are included in this group are malignant bladder tumors, prostate and kidney. These locations correspond to more than half of cases of cancer in men. Currently, with appropriate measures for early detection and prevention, it is possible to diagnose these tumors in their early stages, achieving in most cases a cure with a suitable treatment⁽¹⁶⁾.

Table 3 - Distribution of average levels of distress and self-esteem presented by patients in relation to the site of the malignant neoplasia / surgery. Minas Gerais, 2015.

Site of cancer/surgery	Distress			Self-Steem		
	Absolute Frequency (n=100)	Average	Standard Deviation	Absolute Frequency (n=100)	Average	Standard Deviation
Gynecologic cancer	12	6		12	9,58	7,68
Cancer of head and neck	15	4,47		15	6,53	4,34
Gastrointestinal cancer	21	4,9		21	7,52	3,86
Urological cancer	30	5,1		30	6,93	4,55
Breast cancer	16	4,38		16	5,13	4,81
Skin cancer	1	8		1	19,1	1,41
Lymphoma	3	5		3	6,33	6,65
Lung cancer	2	8,5		2	13	2,82

Source: Own elaboration, 2015.

The data found in this study with respect to the average age of respondents, education, family monthly income, marital and employment status, corroborate with the literature. Similar findings were described in a study conducted in the city of Hannover, Niedersachsen State capital (Germany) with 80 individuals, whose objective was to evaluate the frequency of distress in patients undergoing teletherapy. The average age was 59.8; the majority of participants were married; and 46.3% of patients were retired⁽¹⁷⁾. Yet another research conducted in the city of Campinas/SP, evaluated the quality of life of 80 patients with cancer in anticancer treatment. Most were men, married, with low educational level and salary income⁽¹⁸⁾.

With regard to religion, 98% of patients said they practice some kind of religion. Religious beliefs, manifested through rituals, prayers and meditations, compose everyday mechanisms that bolster individuals at the time of disease^(9,19). The higher the gravity of the disease the more intense the religious connection being influenced by the beliefs and values of the patient. The search for religion then becomes one of the ways people found to reduce the impact of facing the malignancy, as it facilitates the acceptance of the disease and the restrictions imposed by it⁽⁹⁾. Religious practice is usually the main coping strategy most used by people with cancer. Belief in a higher power, positive thinking and optimism are great influences on the increase of adaptive responses to difficult and complex circumstances due to illness⁽¹⁾.

Regarding the completion of treatment for malignancy, 22% of respondents said they had undergone radiotherapy or chemotherapy. Treatment can be understood as a threat, since, it can ward off the individual from society, by frequent hospitalizations, often leading

to the abandonment by relatives and friends. Patients may adopt a fatalistic attitude or become suggestible for curing. It is a disease that can lead to negative feelings, hindering the development of the fighting that facilitate and can collaborate more realistic and positive way with the patient^(6,13).

The most prevalent comorbidity in the study group was hypertension (36%). This fact is relevant since the disease is closely related to one of the subjects of this study: distress. Stressed patients may have decompensation of blood pressure levels⁽⁶⁾, compromising the clinical outcome in the perioperative period.

It is noteworthy that the age and education of patients revealed no significant statistical relationships on levels of self-esteem and distress. In the recent study, sociodemographic variables such as age, gender and education, were not related to distress or self-esteem^(6,17).

Regarding the results related to the correlation between the variable site of malignancy/surgery, the distress ($p \leq 0.70$) and self-esteem ($p \leq 0.18$), there was no statistical difference. However, it should be noted that in this study, patients with lung cancer had a higher average level of distress (± 8.50 ; standard deviation of 0.71) as well as the worst levels of self-esteem (± 13.00 ; standard deviation 2.82). Similar results were described in a survey conducted in the Distrito Federal, which examined the relationship of the average distress level to the type of diagnosis. Patients diagnosed with malignant tumors of the lung showed a higher average level of distress⁽²⁰⁾.

The positive relationship ($\rho = 0.389$; $p \leq 0.00$) between self-esteem and distress variables showed no statistical significance; that is, the worse the self-esteem, the higher the level of distress. There were no previous studies related to the correlation between

self-esteem and distress in cancer patients, but it is believed that patients with better self-esteem levels are more suited to coping with symptoms of distress.

The incidence of distress reported by patients (65%) is similar to other studies in which their levels scored higher than, or equal to, four^(13,17,20). The requirements of a treatment for cancer involving hospitalization, excessive tests, surgeries, complex antineoplastic schemes, complicated names of medications and side effects, can bring feelings such as fear, anxiety, helplessness and pain to the patient^(2,5). Thus, the distress can be identified as a result of these changes and is influenced by how the patient will react to treatment, as found in this study.

Regarding the list of problems, consisting of 35 items, it was revealed that physical and emotional problems were those most listed by patients - 98% and 92%, respectively. Further distress levels of the interviewees, related to emotional and physical factors, were expected, since the experience of the disease (especially malignant neoplasia and accompanying symptoms), decreased the quality of life, caused possible disfigurement, and raised the possibility of death, together with social and financial issues. These factors can cause anxiety and distress that result in physical and emotional exhaustion, causing major impact on the daily life of the person^(6,17).

Studies show that quality of life is affected by symptoms of distress^(6,20). A longitudinal, prospective survey conducted with 200 patients, which evaluated the prevalence of distress and quality of life throughout the antineoplastic treatment, showed that the sick with high levels of distress presented a worse quality of life⁽²⁰⁾. This shows the importance of assessments in cancer patients throughout all aspects of treatment, which are not only

restricted to reviews and questions about the physical signs and symptoms, but which also cover psychosocial aspects⁽¹⁵⁾. As regards self-esteem, most participants (57%) showed high levels of self-esteem. This finding is in agreement with what was found in other studies^(6,9).

From these results we realized the need for the involvement and commitment of health professionals, the continuous and dynamic process of caring for the person with malignant neoplasia - especially by the nurse, because this is the professional who has the most contact with the patient. For this reason, a link can be established for assertive dialogue in the evaluation of distress, which provides support and guidance in adopting the best way to go forward in developing effective interventions^(4,13).

In a theoretical reflection on the importance of non-pharmacological interventions aimed at nursing procedures for patients with cancer, it was discussed and emphasized the music therapy as a relevant resource in nursing⁽⁵⁾. Also, the inclusion of continuing education programs in health services with training in the use of complementary therapies becomes imperative in order to increase the interest of professional teams who work in this area, especially in oncology sectors.

One of the goals to be achieved in providing assistance to cancer patients is to provide the best level of comfort and quality of life possible, which may contribute to increased self-esteem, both to those in a curative treatment phase and those who are in palliative care. Thus, knowing the impact of disease and treatment in the life of each one is vitally important for the planning of actions that aim to adequately meet their needs, thereby reducing the stress for the patient and their family^(5,13).

Despite being in accordance with the criteria stipulated in the methodology, one of the limitations of the study population is that it consisted only of adult cancer patients in the postoperative period admitted to a hospital, and this prevents the generalization of the results. Nevertheless, this limitation does not invalidate the study and responds satisfactorily to the propositions of the research. The results stimulate the continuity of this type of research/evaluation with a larger group of patients for a possible confirmation of the preliminary results.

CONCLUSION

Most study participants who underwent cancer surgery showed distress with 24 and 72 hours of the postoperative period. The main problems experienced by the participants in the period of the previous week, including the day of the interview, were physical, emotional and practical, despite high levels of self-esteem.

It was found that the greater the level of self-esteem of the respondents, the lower the level of distress. Furthermore, and sociodemographic age and education variables were not associated with self-esteem levels and distress presented for the sick., and tThere was no significant difference between gender and types of malignant neoplasia, and the correlation between the variable site of malignancy/ surgery, the distress and self-esteem.

To understand the implications of distress and changes in self-esteem, this study can act as a support to nursing practices in planning a focused assistance, not only to physical symptoms, but also the emotional symptoms of patients as well as providing ways to reduce the impact upon the quality of

life of people with cancer who are hospitalized for surgical treatment.

Therefore, more studies are needed on this issue so health professionals can gain a more comprehensive look beyond the nature of the results, and, in the course of the treatment process, implement services on the practice of monitoring and assistance, including distress and self-esteem. This look allows lived experiences, and problems that may or may not be present in a veiled form in everyday health care, to be understood.

However, it is expected that the results can assist in the organization of a data record of distress and the evaluation of self-esteem in health services for cancer patients. The main objective is to determine targets for intervention, for the most efficient and comprehensive care. To detect distress and changes in self-esteem, nurses can plan a service that enables their reduction and thus, improve the quality of life of that person.

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