

THE IMPACT OF PHYSICAL ACTIVITY ON THE WOMEN SELF-ESTEEM DIAGNOSED WITH BREAST CANCER

O impacto da atividade física na autoestima de mulheres diagnosticadas com câncer de mama

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Abstract: Objective: Evaluate women's self-esteem, diagnosed with breast cancer before and after the insertion of a systematized physical activity program. **Method:** This is a quasi-experimental, quantitative and analytical epidemiological study, developed in the laboratory of the State University of Montes Claros - UNIMONTES. The sample consisted of 34 mastectomized women, living in Montes Claros-MG and region. A questionnaire about sociodemographic and clinical data was used to collect data before and after the intervention of the physical activity program, and the Rosenberg Scale was used to assess self-esteem. To calculate the scores from the self-esteem scale, it was used the Statistical Package for Social Science (SPSS) software version 20.0, and an analysis was carried out on the student-t test for independent samples. **Results:** correlating the average of the results found in the pre and post-tests of the two groups (IG and GC), it is possible to see a positive result, statistically speaking ($p = 0.496$ and $p = 0.016$) on the self-esteem group who participated in the intervention, with significant differences since the pre-test. **Conclusion:** the participation in a program of systematic physical activities has the capacity to improve the women's self-esteem diagnosed with breast cancer.

Keywords: Breast cancer; Physical activity; Self-esteem.

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Resumo: Objetivo: avaliar a autoestima de mulheres diagnosticadas com câncer de mama antes e após a inserção de um programa de atividades físicas sistematizadas. **Metodologia:** trata-se de um estudo epidemiológico quase experimental, quantitativo e analítico, desenvolvido no laboratório do exercício da Universidade Estadual de Montes Claros - UNIMONTES. A amostra foi composta por 34 mulheres mastectomizadas, residentes no município de Montes Claros-MG e região. Para a coleta de dados realizada antes e após a intervenção do programa de atividade física, utilizou-se um questionário abordando dados sociodemográficos e clínicos, e, para a avaliação da autoestima, foi aplicada a Escala de Rosenberg. Para o cálculo dos escores da escala da Autoestima foi utilizado o programa de software Statistical Package for Social Science (SPSS) versão 20.0, e realizada uma análise pautada no teste t de student para amostras independentes. **Resultados:** relacionando-se a média dos resultados encontrados no pré e pós-testes dos dois grupos (GI e GC), torna-se possível visualizar um resultado estatisticamente positivo ($p=0,496$ e $p=0,016$) para os resultados da autoestima do grupo que participou da intervenção, verificando-se diferenças significativas desde o pré-teste. **Conclusão:** a participação em um programa de atividades físicas sistematizadas possui a capacidade de melhorar a autoestima de mulheres diagnosticadas com câncer de mama.

Palavras-chave: Câncer de mama; Atividade física; Autoestima.

INTRODUCTION

Taking as a guiding principle the document World cancer report 2014 of the International Agency for Research on Cancer (IARC), prepared by the World Health Organization (WHO), cancer is recognized as a public health problem, especially in developing countries, being expected that over the following decades, the involvement of the population in relation to the disease represents 80% of the more than 20 million new cases predicted for 2025.¹

In Brazil, in the years 2016 to 2017, 600 thousand new cases of cancer are estimated. With the exception of non-melanoma skin cancer, which corresponds to 180 thousand new cases, there will be approximately 420 thousand new cases of cancer. The morbidity profile observed is very similar to Latin America and the Caribbean, being that in women breast cancer is the most common, with 58 thousand cases, already in man the prostate cancer represents the largest number of cases corresponding to 61 thousand.¹

Breast cancer is multifactorial, involving biological, endocrinological factors, reproduction, behavior and life styles. In relation to risk factors, it is highlighted the aging, family history of breast cancer, reproductive history, high density of breast tissue, in addition to excess weight, consumption of alcohol and tobacco, sedentary lifestyle and exposure to ionizing radiation¹

Breast cancer is experienced by patients and their families in an agonizing way, permeated by feelings of distress and anxiety.² Despite of advances in the fields of diagnosis and cancer therapy, there is still much to be added in the care to women with breast cancer, overall, in relation to

support these women, with appreciation and respect to their expectations.³

In western society, culturally, breast cancer is represented by a disease that leads to death, so threatening, causing embarrassment to women.⁴ It is therefore highlighted, that the breast carries the symbolism of the female being, not restricted its figure only to biological aspects, it is a source of pride for women and admiration for the men, setting up their meanings in the affective and psychological fields. However, the thought of being with breast cancer is permeated by an intense stigma, because in addition to the association with the end of life, can lead to the loss of such valued part in her body.⁵

Thus, in many cases the woman's emotional is little cared, even by the health professionals, which focus on the physical and biological aspects, since they are more noticeable. However, the body and mind are synergistic, not divided, they are just one. Taking as a starting point that statement, there is a greater disintegration for women with cancer and the members of her family, which can lead to major changes in her life style.⁶

In relation to the emotional care of women with breast cancer, her self-esteem is greatly affected, being defined as the absence of positive affection that the individual has about herself, and it is important, especially in her relationship with the people and boosting her performance before the objectives pursued.⁷

When this self-esteem is affected by any negative event, as for example, breast cancer, the result may be an increase in the levels of anxiety with the demand for solutions to remedy the situation. In several situations, such solutions, are inadequate and may result in damage to health, such as the consumption of alcoholic beverages.⁸⁻⁹

Taking care of patients with cancer is not

restricted to mere prescription of such care, it is also to follow their trajectory and to their families, which involves since the procedures for diagnosis, treatment, remission, rehabilitation, recurrence and palliative care, thus from the time of diagnosis up to terminality, being searched for strategies that result in positive impacts for the cancer patient, in all possible aspects.¹⁰

In this sense, it is noteworthy that it is in evidence by the scientific community, the practice of physical activity as a means of prevention of oncological diseases and rehabilitation of individuals during and after treatment.¹¹ It is reported especially the function of the practice of physical activity as minimizer of degenerative processes of cancer, in addition to its positive role in the behavioral changes in life style, reducing the risks of recurrence and the improvement of psychosocial aspects.¹²

Moreover, this study aims at evaluating women's self-esteem, diagnosed with breast cancer before and after the insertion of a systematized physical activity program.

METHOD

This is a quasi-experimental, quantitative and analytical epidemiological study, developed in the laboratory of the State University of Montes Claros - UNIMONTES. The population of the study consisted of women diagnosed with breast cancer, participants of the extension project *Vida* of UNIMONTES (Resolution 245/2008). The data were collected before (pre-test) and after (post-test) the intervention of a program of systematized physical activities.

Sample

The sample was composed of 34

mastectomized women submitted to breast oncologic surgery for at least six months, residents in the city of Montes Claros, MG and region. All agreed to participate in the study by reading, understanding and signing the Informed Consent Form Among the participants, 24 composed the intervention group (IG) and 10 women took part in the control group (CG). As exclusion criteria: women who did not have the release of the oncologist in charge, as well as frequency of less than 80%, for the program of physical activity.

Variables

In this study, the dependent variable was allocated to women's self-esteem participating in the study, and the independent, physical activity provided to the group.

Instruments

A questionnaire about sociodemographic and clinical data was used to collect data before and after the intervention of the physical activity program, and the Rosenberg Scale was used to assess self-esteem. The original instrument, English version, was developed by Rosenberg in 1965, and his version was translated and validated to Portuguese in 2001.⁹The application was by a psychologist and supervised by the research coordinator. The scale of Rosenberg is composed of 10 questions with the following answers: I fully agree, agree, disagree and strongly disagree. For each response, it was given a grade of importance that varies from 1 to 4, being that in statements 1, 3, 4, 7 and 10 this value decreases and the others is the reverse. For the classification of self-esteem, all the items that totaled a unique value for the scale were summed. According to the result, the self-esteem can be classified as satisfactory or high (score greater than 31 points), medium (score between 21 and 30 points) and poor or low (scores lower than 20 points). In this perspective, the higher the sum,

the higher the levels of self-esteem.

Procedures

The program of physical activities had a duration of 16 weeks (30 meetings), held twice a week with a duration of 60 minutes each session. All participants underwent two physical assessments, one before the start and another assessment sixteen months after the start of the program. The lessons were designed containing 10 minutes of stretching, 40 minutes of aerobic activities and 10 minutes of exercises designed to calm down again, taught by a physical education professional and supervised by the study coordinator. This study was performed in accordance with the precepts established by resolution 466/12, with the approval of the Committee on Ethics in Research of UNIMONTES number. 2.024.271.

Statistical treatment

For the calculation of the self-esteem score scores the software program Statistical Package for Social Science was used (SPSS) version 20.0, and an analysis was performed based on the Student's t-test for independent samples, with the aim of assessing the quantitative variables, being verified if the results obtained were statistically significant ($p < 0.05$) before and after the intervention of the two groups (IG and CG), as well as the difference among the means.

RESULTS AND DISCUSSION

Of the 34 patients studied, 14 (41.2%) were

in the age range from 48 to 60 years and 20 (58.8%) were more than 60 years old, corroborating the data of INCA (2016), which scores the highest prevalence of breast cancer in women over 50 years old. All participants underwent mastectomy, which have been reported in the literature as one of the most serious emotional consequences (along with the diagnosis), by presenting a representative scope in the women's intimate and female aspects.¹³

As for the marital status, more than half of the sample, 61.8% (21) was married, 26.4% (09) widow or divorced and 11.8% (04) characterized by single women. Regarding educational level, 35.3% (12) had incomplete elementary school, 29.4% (10) complete high school, 20.6% (07) higher degree/graduate, 8.8% (03) complete elementary school and 5.9% (02) incomplete high school. Regarding the number of children, 41.2% (14) had between 3 to 4 children, 32.3% (11) 1 to 2 children, 17.7% (06) 05 or more and 8.8% (03) had no children. Of the total number of interviewees, 100% (34) had some religion, being 79.4% (27) catholic, 17.7% (06) Evangelical and 2.9% (01) spiritualist (Table 1). The discovery of breast cancer tends to favor the sense of uncertainty about the prognosis and insecurity about the future. In parallel, there are the hope and faith, based on the spirituality which directs and assists in coping with the disease. The socio-cultural tradition, expressed in religious practices, constitutes a fundamental aspect for the self-esteem and to body image and, even, so that individuals are able to make decisions that provide them with well-being.¹⁴⁻¹⁵

Table 1 - Sociodemographic characteristics of patients included in the study Montes Claros - MG, 2017

Variables	n	%
Age		
48 to 60 years	14	41.2
Over 60 years	20	58.8

Continuação da tabela 2.

Variables	n	%
Marital Status		
Single	4	11.8
Married	21	61.8
Widow/Divorced	9	26.4
Educational Level		
Incomplete Elementary School	12	35.3
Complete Elementary School	3	8.8
Incomplete High School	2	5.9
Complete High School	10	29.4
Higher Degree/ Graduate Degree	7	20.6
Number of children		
None	3	8.8
1 to 2	11	32.3
3 to 4	14	41.2
5 or more	6	17.7
Religion		
Yes	34	100.0
Religion		
Evangelic	6	17.7
Catholic	27	79.4
Spiritist	1	2.9

Source: Own author

Regarding the patients' occupation, as it can be seen in table 2, it was possible to verify that 38.2% (13) of the patients are housewives, followed by 23.5% (08) retired, 5.9% (02) merchants and 5.9% (02) teachers. It is highlighted that the patients worked as general services auxiliary, embroidery worker, pastry worker, cook, maid, maid and crafts woman, events producer, general services and office financial sector represented 2.9% (01) in each work category.

Table 2 - Type of occupation of the study patients Montes Claros - MG, 2017

Occupation	n	%
Retired	8	23.5
General Services Auxiliary	1	2.9
Embroidery worker	1	2.9
Merchant	2	5.9

Continuação da table 2.

Occupation	n	%
Pastry maker	1	2.9
Cook	1	2.9
Maid	1	2.9
Maid and Crafts woman	1	2.9
Housewife	13	38.2
Events Producer	1	2.9
Teacher	2	5.9
General Services	1	2.9
Office Financial Sector	1	2.9

Source: Own author

In a general way, as shown in table 3, it can be seen that the scores of the control group (GC - comprising 10 patients), maintained a pattern, which was not observed in the group of the intervention, where it is possible to verify changes, occurred in self-esteem pre compared with the post-test. In the control group (CG), the self-esteem remained classified as medium and satisfactory or high, with values that were repeated at post-test. Whereas in the intervention group (IG) the means were classified in unsatisfactory and low, medium, and satisfactory or higher, and migrated 100% for the status of medium and unsatisfactory/high at post-test.

Table 3 - total score of the self-esteem in the intervention and control group.

Self-esteem	Group		Total n(%)
	Control n (%)	Intervention n(%)	
Self-esteem pre-test			
Unsatisfactory or low		2(100.0)	2 (100.0)
Medium	7(33.3)	14(66.7)	21(100.0)
Satisfactory or high	3(27.3)	8(72.7)	11(100.0)
Post-test self-esteem			
Medium	7(38.9)	11(61.1)	18(100.0)
Satisfactory or high	3(18.8)	13(81.3)	16(100.0)

Source: Own author

Over time, self-esteem has been quite studied, and determined by the assessments that we make in relation to our body, which makes it important to study the relations existing among the perceptions we have of our bodies and how they are influenced and determined by sociocultural factors.¹⁵

It should be emphasized that the change process of perception of herself as woman and low

self-esteem, is begun when a woman receives the news of cancer because this disease carries stigma and not just when women go through mastectomies.¹⁶ Some women pass through the experience of being prejudiced with her own image and her body, which can create barriers in the postoperative period when it comes to existence based on the mutilation of a symbol of femininity, sexuality and motherhood of them.¹⁷

The reduction of self-esteem may give rise to difficulties in cancer treatment, and this is a disease that brings stigmata which affects negatively in the psychological field, permeated by negative feelings, such as fear, anxiety, anguish and emotional overload, accompanying the discovery and diagnosis.¹⁸

After breast cancer, women go through changes in their body image as well as in their self-esteem, the disease strikes the body-mind and spirit. The care to these women should consider increasing the quality of life in all its aspects, so the assistance should promote changes in psychosocial sphere, in addition to the re-adaptation to life style experienced by a woman.¹⁹

The results presented above (Table 3) showed that, the fact of women studied (in GI) are inserted in the same context, and have the possibility

of exchanging experiences inherent to the process that permeates the diagnosis of breast cancer, was positive for the coping strategies. As demonstrated in research in the area, it was also reported by the authors encouragement, confidence, hope and improvement in general of the participant group of interventions aimed at supporting patients. In this sense, the possibility of giving encouragement and strength to other women who are experiencing the same situation of disease is recognized by women as a way of overcoming every step of the cycle of the disease.²⁰

Correlating the average of the results found in the pre and post-tests of the two groups (IG and GC), it is possible to see a positive result, statistically speaking ($p 0.496$ and $p 0.016$) on the self-esteem group who participated in the intervention, with significant differences since the pre-test.

Table 4 - Results of t test for the self-esteem

Variable	Group	n	Mean	Standard deviation	P
Pre self-esteem	Intervention	24	27.3	5.2	0.496
	Control	10	25.9	6.2	
Post self-esteem	Intervention	24	31.1	4.2	0.016
	Control	10	26.2	6.9	

Source: Own author

In a study carried out in 2007, it was noticed that a program of physical activity significantly improved the well being and depression of women diagnosed with breast cancer, in all its scales. In the control group used, it is also noticed a significant improvement, in the comparison between the pre and post-test, with the difference that the results of the experimental group are more pronounced. However when assessing the effects of a physical activity program in the self-esteem of women

diagnosed with breast cancer, no statistically significant differences were found regarding this, which has not occurred in this study, since this association was confirmed statistically.²¹

The positive impact of the practice of physical activity in perception and self-esteem are scientifically recognized, and can be used as a strategy for promotion of physical self-value, among other relevant self-perceptions, as the image of the individual regarding her body, which reflects

positively on the self-esteem. In this context, the physical self-value provides mental well being, being considered as synergist in exercise programs. The effects experienced by all age groups are more intense for those individuals who initially had low levels of self-esteem, as occurred in the present study.²²

The literature describes that are varied the methods of exercises that cause positive impacts in self-perceptions, however, there are more compelling evidences for the practice of exercises to support aerobic and resistance training, because they point better results in a short period of time.^{12,22} These results corroborate the data presented in this study, which highlight the type of program offered for intervention, which was based on aerobic activities and it was used a model of classes that appreciated encouragement and motivation for practice.

However, several studies evidenced the practice of physical exercises, in response to their physiological and psychological benefits for the individuals with breast cancer.²²⁻²⁵ Results which stimulate the continuity of the intervention in favor the practioners' health.

From this perspective, it is recommended that the applicability and development of programs of physical activities that are pleasant, and aim to keep the motivation of participants, carried out gradually and regularly. The support of a multidisciplinary team in health and care in planning and evaluation by the physical education professional, become essential items for the implementation of activities aimed at the physical, emotional and psychosocial well being, being aware of the needs of care and adaptation relating women survivors to breast cancer.⁶

CONCLUSION

According to the results, the participation in a program of systematic physical activities has the capacity to improve the women's self-esteem diagnosed with breast cancer.

Living with the group has provided the researchers with an immersion to the various types of coping with the disease, and the significance that the meetings can represent emotionally in the lives of these people. In this context, we can consider that physical activity was manifested as a key element in the restoration of social relations, because the development of group activities has strengthened the bonds of friendship, the fighting spirit, fellowship and mutual aid. The present study is directed to confirming the results of other studies about the importance of physical activity for women diagnosed with breast cancer, being supported by a relevant factor in the relentless pursuit of emotional stability, as well as a better general well being in their lives.

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