

# QUALITY OF LIFE IN BREAST CANCER: THE BENEFITS OF PET OWNERSHIP AND PARTICIPATION IN LEISURE ACTIVITIES

Qualidade de vida em câncer de mama: os benefícios da posse de animais de estimação e participação em atividades de lazer

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## ABSTRACT

**Objective:** To evaluate the benefits in the perception of quality of life (QoL) of women with breast cancer related with pet ownership and experiencing leisure activities. **Method:** Cross-sectional study comparing QoL among patients, by applying the WHOQOL-Bref questionnaire. The participants were 272 women diagnosed with breast cancer. **Results:** The pet owners (n=162) had better average of QoL in perceptions of global QoL (72.45 vs. 67.16; p=0.01), and in environmental (67.52 vs. 64.23; p=0.04) and psychological domains (70.29 vs. 66.44; p=0.03) when compared to non-pet owners. Moreover, the patients who reported having leisure activities (n= 214) had better average in perceptions of global QoL (72.43 vs. 62.50; p<0.001), and physical health domain (63.28 vs. 50.92; p<0.001), environmental (68.22 vs. 58.67; p<0.001), psychological (71.01 vs. 60.34; p<0.001) and social relationships (74.73 vs. 65.09; p<0.001) when compared to those who do not have leisure activities. **Conclusion:** Women with breast cancer who are owners of pets and patients who perform leisure activities had better levels of QoL.

**KEYWORDS:** Quality of life; breast neoplasms; pets; leisure activities; neoplasms.

## RESUMO

**Objetivo:** Avaliar os benefícios na percepção de qualidade de vida (QV) de mulheres portadoras de câncer de mama relacionado à posse de animais de estimação e da vivência de atividade de lazer. **Métodos:** Estudo transversal comparando a QV entre as pacientes, mediante a aplicação do Questionário WHOQOL-Bref. Participaram da pesquisa 272 mulheres diagnosticadas com câncer de mama. **Resultados:** As pacientes tutoras de animais de estimação (n=162) obtiveram melhores médias de QV na percepção de QV global (72,45 vs. 67,16; p=0,01) e nos domínios meio ambiente (67,52 vs. 64,23; p=0,04) e psicológico (70,29 vs. 66,44; p=0,03) quando comparadas as não tutoras de animais de estimação (n=110). Ainda, aquelas que afirmaram realizar atividade de lazer (n=214) obtiveram melhores médias de QV na percepção de QV global (72,43 vs. 62,50; p<0,001) e nos domínios físico (63,28 vs. 50,92; p<0,001), meio ambiente (68,22 vs. 58,67; p<0,001), psicológico (71,01 vs. 60,34; p<0,001) e relações sociais (74,73 vs. 65,09; p<0,001) quando comparadas aquelas que não realizavam tal atividade (n=58). **Conclusão:** Pacientes com câncer de mama tutoras de animais de estimação e pacientes que realizam atividades de lazer tem melhores níveis de QV.

**PALAVRAS-CHAVE:** Qualidade de vida; neoplasias da mama; animais de estimação; atividades de lazer; neoplasias.

Study carried out at Instituto do Câncer do Hospital Pompéia – Caxias do Sul (RS), Brazil.

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## INTRODUCTION

Breast cancer diagnosis is related with consequences for most people who experience it, because of treatments and interventions they have undergone, and these factors can affect the quality of life (QoL) of patients<sup>1</sup>. Thus, the QoL is established as an important result in the evaluation of a cancer patient. For the World Health Organization, the term QoL is defined as an individual's perception of his or her life position, in the context of culture, value system in which they live, regarding their goals, expectations, standards and concerns<sup>2</sup>. So, it is understood that several specific factors may change the QoL of a cancer patient, in addition to the tumor itself, such as the patient's ability to cope with the illness and the presence or absence of a supportive environment during the period<sup>3,4</sup>.

Based on this background, and on the many factors that can cover QoL, it is believed that the QoL of patients with breast cancer can benefit from pet ownership, as well as those benefits are reported in several populations<sup>5-7</sup>. Similarly, other authors reported that the experience of leisure activities has a positive impact on the QoL of different populations and, therefore, it is believed that these benefits can also be extended to this population of women with breast cancer<sup>8-10</sup>.

According to the Pesquisa Nacional de Saúde 2013 (National Health Research 2013), the population of dogs in Brazilian households was estimated in 52.2 million, comprising an average, 1.8 dogs per household with this animal. One has to consider that 44.3% of Brazilian households have at least one dog, equivalent to 28.9 million households with this animal<sup>11</sup>. Currently, it is known that owning a dog has become a global phenomenon, so, according to the American Pet Products Association – National Pet Owners Survey, in the United States of America (USA), there are about 54.4 million households that have a dog as a pet, corresponding to 77.8 million pet owners<sup>12</sup>.

Regarding pet ownership, it is known that during the last decade it has become widely acceptable that pets and care therapy animals may have positive effects on humans<sup>13</sup>. Thus, it is clear that many psychological benefits may arise directly from the companionship that dogs provide to people, since they are affectionate, demonstrate loyalty and the ability to relieve social isolation<sup>5</sup>.

Regarding leisure activities, studies have shown that such activities help the process of adaptation to new circumstances<sup>14,15</sup>. Thus, it is believed that leisure contributes with the discovery of personal skills, building meaningful relationships, as well as helping to understand life after a traumatic experience<sup>14</sup>. Still, researchers argue that involvement in leisure activities assisted in increasing life satisfaction<sup>15</sup>.

Therefore, considering the lack of articles about the impact of pets and leisure activities on the QoL of Brazilian women with breast cancer, this study aims to evaluate the benefits in perception of QoL among women with breast cancer related to pet ownership and leisure activity experience.

## METHODS

This study was conducted in Instituto do Câncer do Hospital Pompéia (INCAN), located in the city of Caxias do Sul, state of Rio Grande do Sul, Brazil. This is a cross-sectional study, including 272 women with breast cancer, who attended cancer treatment in the institution. This study was approved by the Research Ethics Committee under CAEE number 23407713.1.0000.5331 and an informed consent was obtained from all individual participants included in the study. All study participants completed a self-administrated QoL questionnaire and a questionnaire developed separately.

The QoL was measured using a WHOQOL-Bref questionnaire, validated in Brazil<sup>16</sup>. In this questionnaire, the perception of QoL is measured according to four domains (physical health, environmental, psychological and social relationships) and according to global health perceptions. The results were expressed by scores obtained in each domain of QoL, recorded on a scale of 0-100; higher scores in each domain indicated better QoL.

Epidemiological data were collected from a questionnaire containing variables like age, marital status, schooling, lifestyle, pet ownership and the performance of leisure activities. To ensure greater consistency to the responses, participants were guided as to the merits of the responses of the specific variable, in this case, about pet ownership and the performance of leisure activities. Thus, those participants who had a domestic pet under their responsibility were the only ones considered to be pet owners. As for the performance of leisure activities, Kleiber & Nimrod (2009) defined the term as pleasant activities during the free individual time<sup>17</sup>; Pressman et al. (2009) exemplified them as activities in which individuals get involved voluntarily when they are free from work or other responsibilities, and may include sports, hobbies, social activities or setting with nature<sup>18</sup>.

## Statistical Analysis

Data analysis was performed using the software Statistical Package for Social Sciences (SPSS) 22.0. The normality of the distribution of variables was tested graphically and confirmed by the Shapiro-Wilk test. For the analysis of the variables, the Student t-test was used and a value of  $\alpha=0.05$  was adopted.

## RESULTS

The mean age of patients at the time of the interview was 58.5( $\pm 11.6$ ) years. About marital status, 56% were married, and regarding schooling, 47% had not completed elementary level. In relation to clinical staging, 67% were in stage I or II. In relation to surgical treatment, 50% were submitted to partial or total mastectomy without breast reconstruction. Concerning the family history of cancer (kinship of 1st or 2nd degree), it was present in 72% of the cases. In addition, 75% claimed to be non-smokers, and 80% claimed not to be alcoholic. Comorbidities were present in

66% of patients, and most of them presented with hypertension (32% of the cases).

It was observed that women who claimed to be pet owners (n=162) obtained better average of QoL in perceptions of global QoL (p=0.01) and in the environmental (p=0.04) and psychological (p=0.03) domains when compared to non-pet owners. Table 1 presents the results obtained in the QoL domains of the patients evaluated, comparing the pet owners and the non-pet owners.

Next, it was observed that women who reported performing leisure activities (n=214) obtained better averages of QoL in perceptions of global QoL (p<0.001) and in the physical health

(p<0.001), environmental (p<0.001), psychological (p<0.001), and social relationships (p<0.001) when compared to those who claimed to not perform leisure activities. Table 2 presents the results obtained in the QoL domains of patients evaluated, according the WHOQOL-Bref questionnaire, then compared to patients in the performance of leisure activities.

## DISCUSSION

This study shows that pet ownership and the practice of leisure activities have a positive impact on the QoL of patients with breast cancer in several domains. Specifically, it was observed that

**Table 1.** Quality of life according to pet ownership (n=272).

WHOQOL-Bref	Pet ownership	N	Average	Standard deviation	Mean Difference	95% Confidence Interval of the Difference		P-value
						Lower	Upper	
Global*	Yes	162	72.45	16.49	5.30	1.07	9.51	0.01
	No	110	67.16	18.54				
Physical health	Yes	162	61.82	18.39	2.89	-1.48	7.26	0.19
	No	110	58.93	17.32				
Environment*	Yes	162	67.52	13.02	3.28	0.10	6.46	0.04
	No	110	64.23	13.14				
Psychological*	Yes	162	70.29	14.78	3.85	0.27	7.45	0.03
	No	110	66.44	14.78				
Social relationships	Yes	162	73.92	15.66	3.09	-1.34	7.51	0.17
	No	110	70.83	19.67				

\*Significant value in Student t-test. Highest average in QoL indicates better quality of life.

**Table 2.** Quality of life according to practice of leisure activities (n=272).

WHOQOL-Bref	Leisure activities	N	Average	Standard deviation	Mean Difference	95% Confidence Interval of the Difference		P-value
						Lower	Upper	
Global*	Yes	214	72.43	16.05	9.93	4.96	14.90	<0.001
	No	58	62.50	20.41				
Physical health*	Yes	214	63.28	16.17	12.36	6.45	18.27	<0.001
	No	58	50.92	20.96				
Environment*	Yes	214	68.22	12.14	9.55	5.89	13.21	<0.001
	No	58	58.67	14.07				
Psychological*	Yes	214	71.01	13.17	10.66	5.70	15.63	<0.001
	No	58	60.34	17.70				
Social relationships*	Yes	214	74.73	16.62	9.64	4.69	14.60	<0.001
	No	58	65.09	18.37				

\*Significant value in Student t-test. Highest average in QoL indicates better quality of life.

those patients who were pet owners had better average in perceptions of global QoL and in the environmental and psychological domains. Moreover, the practice of leisure activities proved to be beneficial in all QoL domains.

The improvement in the QoL of patients who own pets is in agreement with several studies that affirm that owning a pet results in benefits to the owner<sup>5-7</sup>. In this context, a study showed that pet owners reported less depression when compared to those without pets<sup>6</sup>. Also, a study with adult patients with chronic schizophrenia concluded that the group that participated in animal-assisted therapy showed more social contact, fewer disease symptoms and better QoL than the control group<sup>7</sup>.

Still, the results of this research show that leisure activities improve the QoL of these patients. Some other authors support these findings, arguing that leisure activities can improve the physical function, promote social interactions and improve health and psychological well-being in adults<sup>18-20</sup>.

Pets are believed to enhance the feelings of autonomy and self-esteem in their owners<sup>5</sup>. Thus, knowing that the global perceptions of QoL takes into account the judgment each person makes about their QoL by evaluating the facets regarding global QoL and general health perceptions<sup>16</sup>, we concluded that living with pets improves the perceptions that these individuals have about their own QoL. We understand that the improvement of the pet owner's self-esteem generated by the pet leads to better health perceptions, in the same way that Orlandi et al. (2007) believe that dog-assisted therapy results in effects on the perceptions of symptoms of cancer patients. The study found that pets have the ability to distract the patient when it comes to some symptoms related to this disease, which improves the health perceptions<sup>21</sup>. This thesis is also supported by Friedmann & Son (2009), who claim that the pet's company reduces the suffering to change the owner's perception, by making the situations seem less stressful<sup>22</sup>.

Breast cancer affects the QoL and health perception of patients<sup>2</sup>. Thus, the results of this research shows that the practice of leisure activities can be beneficial for perceptions, measured in global QoL, compared to those patients who do not perform this type of activity. These results are in accordance with some authors who believe that greater participation in leisure activities is associated with good perception of QoL and improvements in the health context and general perceptions<sup>10,20</sup>. This can be explained by the belief that the leisure activities can assist social support and thus mediate the process of stressful perceptions, as well as help the adaptation to possible restrictions caused by conditions or chronic diseases<sup>23,24</sup>.

It is known that among the facets measured by the environmental domain, there are matters regarding physical safety, security and home environment<sup>16</sup>. In this study, it was observed that patients who were pet owners, as well as those participating in leisure activities, had better average of QoL.

In this context, pet ownership can contribute with a sense of security and protection, which is one of the main reasons why people adopt a dog<sup>25</sup>; so, since this fact is restricted to pet owners, we believe that the improvement of this domain is owed to these factors resulting from the ownership of dogs. In addition, the environment in which the person is inserted can determine their independence and autonomy. Since it can lead to dependence on other people to perform certain activities that the person could perform alone, if he were in a safe environment<sup>19,26</sup>. Therefore, in a study by Pereira et al. (2006), the environmental domain was the one that mostly contributed with the increasing QoL of the individuals<sup>19</sup>. It is believed that the fact of living in a safe environment, for these patients, may be crucial to improve the opportunities of leisure and, consequently, increase the compliance in this type of activity.

Some authors support the thesis that pet ownership generates psychological benefits to people<sup>5,27</sup>. Accordingly, it was shown that patients who were pet owners obtained better results in the psychological domain of QoL. Therefore, pet ownership is believed to be responsible for psychological benefits in the QoL of this group of patients.

Furthermore, the psychological domain had a positive impact when comparing participating and not participating in leisure activities – the group of people who participated has benefits in QoL. This result is in accordance with that of Argimon et al. (2004), which claims that the performance in cognitive skills is proportionally better when there is involvement in leisure activities. This leads to positive perceptions of life, and, consequently, favors the QoL<sup>9</sup>. In this context, and considering that the population of this study is composed of women with breast cancer, we support Ponde and Santana's (2000) thesis, according to which the participation in leisure activities can help to maintain the mental health of women in adverse conditions<sup>8</sup> – breast cancer, in this case.

It is a known fact that the social relations domain measures facets regarding personal relations, social support and sexual activity<sup>16</sup>, emphasizing interpersonal associations, but not considering other sources of social support, such as pets. Therefore, it is believed that this fact influenced the significance of the domain when evaluating the QoL of pet owners and non-pet owners. On the other hand, when related to leisure activities, it is believed that these activities can mediate the relationship between health and social relations<sup>10</sup>, since cancer usually results in the social isolation of the patient<sup>28</sup>, and therefore sources of social support are necessary to encourage the links of that specific group. Thus, we agree with Santos et al. (2014), who claim that the social activities experienced in leisure allows individuals to have greater social connections, with positive influence on the perceptions of QoL<sup>20</sup>.

The physical health domain includes facets about pain and discomfort, mobility, energy and fatigue, sleep and rest,

activities of daily living, medication dependency and work ability<sup>16</sup>. Thus, considering the limitations caused by cancer, it can establish the relation found in this study. Leisure activities showed significant impact on QoL for patients who reported having leisure time in their daily lives. However, this domain was not significant in the same evaluation for pet owners. So, for the leisure activities, this fact is in accordance with other studies that claim that these moments are associated with physical improvement to health and well-being<sup>18,29</sup>.

## CONCLUSIONS

We emphasized that this is the first article about the impact of pets on the QoL of this specific population. Based on the results

of this study, we conclude that patients with breast cancer who are pet owners and patients performing leisure activities have better QoL. Thus, emphasizing the importance of greater attention to programs that encourage leisure activities and specially the recognition of the benefits of pets to this group of patients, health professional must stimulate this condition because of the positive impacts on QoL.

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