

ANXIETY, DEPRESSION AND QUALITY OF LIFE OF PATIENTS WITH BREAST OR GYNECOLOGICAL CANCER UNDERGOING CHEMOTHERAPY¹

Patrícia Afonso Regino*
Thaís Cristina Elias**
Caroline Freitas Silveira***
Cristina Wide Pissetti****
Gilberto de Araújo Pereira*****
Sueli Riul da Silva*****

ABSTRACT

Sadness and grief are common reactions among people facing cancer, and these reactions can have an impact on their quality of life. The objective of this study was to determine the existence of correlations between depression and anxiety scores and quality of life domains, during pre- and post-chemotherapy. This was an observational, quantitative, descriptive study, with a longitudinal-prospective design. The 14 women who participated in the study had been diagnosed with breast or gynecological cancer and underwent chemotherapy between December 2012 and April 2013. The WHOQOL-BREF and Hospital Anxiety and Depression Scale were used. The data was collected through the individual responses of the women to the instruments. To correlate the anxiety and depression scores with the quality of life domains, the Pearson correlation coefficient was used. The physical health domain of quality of life had a negative correlation with depression during pre- and post-chemotherapy. There was also a negative correlation between the psychological and environment domains and anxiety and depression during pre- and post-chemotherapy. As for the social relationships domain, there was no correlation. It was concluded that anxiety and depression did not negatively influence the quality of life of the women in the physical health, psychological and environment domains.

Keywords: Anxiety. Depression. Quality of life. Chemotherapy.

INTRODUCTION

Cancer is a stigmatized and devastating disease. Sadness and grief are common reactions people experience when they receive cancer diagnoses. Discovering the existence of the disease has a major impact on patients' lives, such as fear of death, physical and psychic changes, and lifestyle changes, resulting from the whole process of coping with the disease. In addition, treating it requires special attention related to the development and emergence of states of stress, depression, anguish and anxiety^(1,2).

Some cancer patients experience anxiety and depression from the moment they are diagnosed, and which continues during and after treatment. This can increase the severity of the symptoms associated with chemotherapy and, in turn, affect treatment adherence⁽¹⁾. Gynecological cancer sparks additional concerns that can generate an altered sense of femininity and feelings of low self-esteem, with consequent repercussions on quality of life⁽³⁻⁵⁾.

People with cancer require comprehensive care to identify and accompany the numerous and different

repercussions the disease has on them and their family members, at the time of diagnosis and during treatment, rehabilitation, healing, relapses and/or terminality⁽⁶⁾. In light of this, patients often experience feelings of sadness, grief and anxiety, which can be considered "expected and normal reactions" to diagnosis of the disease. These reactions affect the quality of life of patients.

Early detection of psychiatric morbidities and being aware of predisposing factors help adequately manage treatment and improves the quality of life of these patients. It is undeniable that treatment is undertaken to increase the survival of cancer patients. However, the impact of chemotherapy on quality of life requires attention in terms of early prevention and detection of symptoms, which not only increases the chances of healing, but also enhances the stability of the body and mind to better cope with the disease⁽⁷⁾.

The physical and psychological stress associated with cancer diagnoses contributes to the emergence of affective and emotional disorders, such as anxiety and depression, which affect quality of life. The physical state of patients with chronic diseases has a direct

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*Nurse. Master's degree, Federal University of Triângulo Mineiro. Uberaba, MG, Brazil. Email: paty_afonso@yahoo.com.br ORCID ID: <https://orcid.org/0000-0001-7347-7334>.

**Nurse. Master's degree, Federal University of Triângulo Mineiro. Uberaba, MG, Brazil. Email: thaisscelas2@hotmail.com ORCID ID: <https://orcid.org/0000-0001-5253-3229>.

***Nurse. Master's degree, Faculty of Human Talents. Uberaba, MG, Brazil. Email: caroline.freitas@hotmail.com ORCID ID: <https://orcid.org/0000-0002-6167-168X>.

****Biomedical doctor. PhD, Federal University of Paraíba. João Pessoa, PB, Brazil. Email: cristinawpissetti@gmail.com ORCID ID: <http://orcid.org/0000-0002-5534-8544>.

*****Statistician. PhD, Federal University of Triângulo Mineiro. Uberaba, MG, Brazil. Email: pereira_gilberto@yahoo.com.br ORCID ID: <http://orcid.org/0000-0002-9149-6368>.

*****Nurse. PhD, Federal University of Triângulo Mineiro. Uberaba, MG, Brazil. Email: sueliuldasilva@gmail.com ORCID ID: <https://orcid.org/0000-0001-9050-6037>.

impact on psychological symptoms⁽⁸⁾.

Therefore, the objective of this study was to determine the existence of correlations between anxiety and depression scores and quality of life domains, during pre- and post-chemotherapy.

METHODOLOGY

This is an observational, quantitative, descriptive study, with a longitudinal prospective design. The study was conducted in the Central Chemotherapy Unit of Hospital de Clínicas of the Federal University of Triângulo Mineiro (CQ/HC/UFTM), in the city of Uberaba-MG.

The study involved 14 women, 18 years of age or over, who had been diagnosed with breast or gynecological cancer by the Gynecologic Oncology Service and underwent chemotherapy, between December 2012 and April 2013, at CQ/HC/UFTM. They received at least three chemotherapy cycles and, after understanding the free and informed consent form, agreed to participate in the study.

The necessary information to perform the study was obtained through different data collection instruments. The World Health Organization Quality of Life (WHOQOL-BREF), an instrument proposed by the World Health Organization (Portuguese and abbreviated version), was used to assess quality of life. This generic instrument is comprised of 26 questions: two general ones concerned quality of life and 24 factors which represent each of the 24 facets that make up the physical health, psychological, social relationships and environment domains⁽⁹⁾. After the patients signed the free and informed consent form, the questions from the questionnaire were answered based on the last two weeks of life, with the assurance of confidentiality⁽⁹⁾. The WHOQOL-BREF was administered at two different times: immediately before the first chemotherapy cycle and after the third cycle. The results obtained were characterized in a Likert-type scale, where the higher the score, the better the quality of life⁽¹⁰⁾.

To assess anxiety and depression, the Hospital Anxiety and Depression Scale (HADS) was used, which gauges anxiety in patients with other diseases as well as in individuals not considered sick⁽¹¹⁾. It differs from other instruments since it does not contain somatic items, such as weight loss, anorexia, insomnia, fatigue, pessimism about the future, headaches and dizziness, among others, which prevents other symptoms frequently associated with cancer from

affecting the depression scores⁽¹⁾. To interpret the HADS, a score is assigned ranging from 0 to 21. A score of eight or more in the anxiety and depression subscales is indicative of anxiety or depression disorders⁽¹²⁾.

For the statistical analysis of the data, an electronic spreadsheet was created to store the data, using Excel®, which was later imported to the Statistical Package for the Social Sciences (SPSS), Version 20.0. To correlate the anxiety and depression scores with the quality of life domains, the Pearson correlation coefficient was used. This coefficient was classified in relation to their intensity, as weak ($0 \leq r < 0.3$), moderate ($0.3 \leq r < 0.5$) and strong ($0.5 \leq r \leq 1$). The significance level for all the inferential procedures was 5% ($p \leq 0.05$).

This study was approved by the institution's Ethics Committee for Research involving Human Beings, under Protocol 2304/2012, in compliance with Resolution CNS 196/96, in force during the analysis period of the project, and also consistent with Resolution CNS 466/12.

RESULTS

Fourteen women, with a mean age of 47.5 years and a median of 49 years (ranging from 18 to 76 years) participated in the study. Most of them (56.3%) were in the age group of 41 to 60 years. In relation to the medical diagnosis, five of the women (35.7%) had invasive squamous cell carcinoma of the cervix and five (35.7%) had invasive ductal carcinoma of the breast; the other four patients were diagnosed with ovarian carcinoma, hydatidiform moles, endometrial carcinoma and vulvar neoplasia.

The chemotherapy protocols used by the patients were based on platinum derivatives (42.8% of the cases), anthracyclic derivatives (35.7%) and others (methotrexate and taxanes) (21.5%).

Table 1 presents the correlation between anxiety and depression scores and quality of life domains in women with breast or gynecological cancer during pre- and post-chemotherapy.

According to the Pearson correlation coefficient (r), when correlating the physical health domain of the WHOQOL-BREF with the anxiety scores of the patients before the start of chemotherapy, a negative linear relationship of moderate intensity ($r = -0.46$) among the variables was noted. As the women's anxiety scores increased, the quality of life scored dropped, but with no statistical significance ($p = 0.099$).

When comparing the physical health domain with the anxiety scores in post-chemotherapy, there was a non-significant negative linear relationship of very weak intensity among the variables ($r = -0.03$; $p = 0.915$). In the correlation between the physical health domain scores of the WHOQOL-BREF and the patients'

depression scores before starting chemotherapy, the variables were strongly and negatively correlated ($r = -0.70$; $p = 0.006$). There was also a negative linear relationship of strong intensity among the variables, after chemotherapy ($r = -0.53$; $p = 0.050$).

Table 1. Pearson correlation between anxiety and depression scores and quality of life domains in women with breast or gynecological cancer during pre- and post-chemotherapy ($n = 14$). Uberaba (MG), 2013.

Domains	*	Anxiety		Depression	
		Pre-CT	Post-CT	Pre-CT	Post-CT
Physical health	r p -value	-0.46 0.099	-0.03 0.915	-0.70 0.006	-0.53 0.050
Psychological	r p -value	-0.74 0.002	-0.62 0.018	-0.83 0.000	-0.90 0.000
Social relationships	r p -value	-0.23 0.436	-0.52 0.055	-0.34 0.235	-0.47 0.086
Environment	r p -value	-0.81 0.000	-0.62 0.017	-0.74 0.002	-0.80 0.001

Source: Data collected by the author (2013).

* r = Pearson correlation coefficient; p -value = statistical significance

In the analysis of the psychological domain of the WHOQOL-BRED and anxiety scores, before the start of chemotherapy, a negative linear correlation of strong intensity was noted ($r = -0.74$; $p = 0.002$). After chemotherapy, there was also a negative and strong linear relationship ($r = -0.62$), with $p = 0.018$, which shows the influence of anxiety on the psychological domain of quality of life also after treatment.

When observing the Pearson correlation coefficient for the scores of the depression and psychological domain variables, at both pre- and post-chemotherapy ($r = -0.83$ and $r = -0.90$, respectively), the existence of a negative and strong relationship can be noted among the variables analyzed, with $p = 0.000$ at the two interview times (pre- and post-chemotherapy).

In relation to the social relationships domain of the WHOQOL-BREF and its correlation with the anxiety and depression symptoms manifested by the patients, the correlation between the social relationships domain and the anxiety scores before the start of chemotherapy was negative and of weak intensity ($r = -0.23$), without statistical significance ($p = 0.436$). Similar associations were found in relation to the influence of depression scores on the social relationships domain of quality of life. There was a negative linear relationship of moderate intensity ($r = -0.34$), but without statistical significance ($p = 0.235$). The anxiety scores at post-chemotherapy had a linear relationship with an intensity tending toward moderate ($r = -0.52$), which

indicates a slight dependence among the variables, with a p -value of marginal statistical significance ($p = 0.055$). The depression scores continued not to influence the social relationships domain, with data showing a negative and moderately intense linear relationship ($r = -0.47$), although without statistical significance ($p = 0.086$).

The analysis of the environment domain of quality of life in relation to the influence on the anxiety scores, before the start of chemotherapy, revealed a negative linear relationship of strong intensity ($r = -0.81$) that was statistically significant ($p = 0.000$). It was the same case after chemotherapy, with the presence of a negative linear relationship of strong intensity ($r = -0.62$) with statistical significance ($p = 0.017$). Regarding the influence of the depression scores on the environment domain of quality of life, a negative linear correlation of strong intensity was noted before and after the start of chemotherapy ($r = -0.74$ and $r = -0.80$, respectively), which was statistically significant ($p = 0.002$ and $p = 0.001$, respectively).

DISCUSSION

According to the results of this study, anxiety, at pre- and post-chemotherapy, do not significantly influence the quality of life of women with breast or gynecological cancer in relation to pain and discomfort, energy and fatigue, sleep and rest,

mobility, activities of daily living, dependence on medicinal substances and work capacity (physical health domain of the WHOQOL-BREF). With respect to depression, there was a statistically significant influence on quality of life at pre- and post-chemotherapy, in relation to the physical health domain. Therefore, as the depression score increases, the quality of life score decreases, in an inversely proportional ratio. The analysis of this data showed that the women had a level of anxiety that did not influence their quality of life, before and after starting chemotherapy, and that symptoms of depression had an effect on quality of life, even before the start of chemotherapy, related to the physical health domain of the WHOQOL-BREF.

An assessment of anxiety and depression in cancer patients should always be considered since these psychiatric disorders affect treatment adherence, quality of life and can influence the progression of cancer⁽¹³⁾.

In relation to the physical health domain of the WHOQOL-BREF, the data analyzed indicated that the presence of anxiety and depression symptoms among women with breast or gynecological cancer, before after the start of chemotherapy, had a significant influence on reducing their quality of life for factors related to positive feelings, ways of thinking and learning, self-esteem, bodily image, negative feelings, and spirituality.

Although using other measurement instruments, a study conducted with women with breast cancer in a city in the state of Mato Grosso concluded that physiotherapy and psychology groups, used for rehabilitation of women in breast cancer treatment, helped improve quality of life⁽¹⁴⁾.

In the analysis of the social relationships domain of the WHOQOL-BREF, even though there was an inversely proportional relationship between the anxiety and depression variables, this relationship did not significantly influence the quality of life of the women with breast or gynecological cancer, before and after chemotherapy. Anxiety and depression symptoms did not interfere with the quality of life of the women interviewed, in terms of their personal relationships, social support and sexual activity.

A study conducted in Turkey sought to evaluate anxiety and depression levels among women after breast cancer treatment, by measuring these levels, assessing how they coped with the disease and examining their quality of life. Depression was found in 19% of the patients and some degree of anxiety in

98.5%. It was also noted that anxiety and depression levels were higher, the lower the social support received by the patients⁽¹⁵⁾. It can be inferred that, for psychological interventions, it is necessary to consider the psychosocial context of the patients, as well as focus on improving social support, reducing feelings of isolation and better understanding their feelings and emotions.

In two other studies conducted on the topic of quality of life – one with women receiving breast cancer treatment⁽¹⁶⁾ and the other with women in cervix cancer treatment⁽¹⁷⁾ – changes were also detected in the women's quality of life, related to aspects of the social relationships domain.

In relation to the environment domain, the increase in the anxiety and depression scores led to a decrease in the quality of life of women with breast or gynecological cancer, in terms of aspects such as physical safety, home environment, financial resources, health care, information, recreation and leisure, physical environment and transport.

A study conducted in Campinas-SP assessed 85 women diagnosed with breast cancer, before surgery, and 64 responded to the same questionnaire six weeks after the surgery was performed. The worst quality of life scores were significantly associated with anxiety and depression. Anxiety had a significant relationship with depression. The authors also found a significant improvement in the quality of life, anxiety and depression scores after surgery was performed compared to the pre-operative period. Despite the significant improvement in anxiety and depression rates after surgery, these symptoms frequently remained high among the women (25% anxious and 14% depressed). Therefore, quality of life tends to improve in the first weeks following surgery in women with breast cancer, who should be constantly assessed during chemotherapy to monitor the evolution of these symptoms⁽¹⁾.

Even though in other spheres, other studies have shown that cancer and its treatment affect patients in some way or another, causing deficits in functions performed and in functional capacity, as well as the presence of more symptoms, thereby undermining quality of life^(18,19).

In this context, a relevant argument can be made that the complexity of chemotherapy and the consequences resulting from the related adverse events make it necessary to train health professionals working in this area, in order to offer quality cancer care practices⁽²⁰⁾.

The limitation of this study was the small number of participants, due to the short data collection period. Nevertheless, it was possible to perform a statistical analysis that identified a correlation between anxiety, depression, and quality of life – a result which may serve as a reference in future studies.

CONCLUSION

Based on the data obtained in this study, it can be concluded that as the anxiety and depression scores of the women with breast or gynecological cancer increased, a decrease in their quality of life was noted

in the psychological and environment domains, when assessed before the start of chemotherapy, and a decrease in quality of life related to the physical, psychological and environment domains, when assessed after the third chemotherapy cycle. Only the social relationships domain of quality of life was not significantly affected by symptoms of anxiety and depression at the two periods examined.

These findings can help nurses in their care practices to watch out for psychoemotional changes in cancer patients and propose support and care that promotes quality of life.

ANSIEDADE, DEPRESSÃO E QUALIDADE DE VIDA DE PACIENTES COM CâNCER MAMÁRIO E GINECOLÓGICO SOB QUIMIOTERAPIA

RESUMO

Tristeza e pesar são reações comuns entre pessoas que enfrentam o câncer, e estas reações podem influenciar sua qualidade de vida. Este estudo teve por objetivo verificar a existência de correlações entre os escores de ansiedade e depressão e domínios de qualidade de vida, nos momentos pré e pós-quimioterapia. Tratou-se de estudo observacional quantitativo, descritivo e de delineamento longitudinal-prospectivo. Participaram do estudo 14 mulheres, diagnosticadas com câncer de mama ou ginecológico, submetidas à quimioterapia, entre dezembro/2012 e abril/2013. Foram utilizados o WHOQOL-bref e Escala Hospitalar de Ansiedade e Depressão. A coleta de dados deu-se a partir da resposta individual das mulheres aos instrumentos. Para correlacionar os escores de ansiedade e depressão com os domínios de qualidade de vida, utilizou-se o coeficiente de correlação linear de Pearson. O domínio físico da qualidade de vida correlacionou-se negativamente com depressão, nos momentos pré e pós-quimioterapia. Houve também correlação negativa entre domínio psicológico e ambiental com ansiedade e depressão nos momentos pré e pós-quimioterapia. Em relação ao domínio social, não houve correlação. Concluiu-se que ansiedade e depressão influenciaram negativamente a qualidade de vida das mulheres estudadas nos domínios físico, psicológico e ambiental.

Palavras-chave: Ansiedade. Depressão. Qualidade de vida. Quimioterapia. Enfermagem.

ANSIEDAD, DEPRESIÓN Y CALIDAD DE VIDA DE PACIENTES CON CÁNCER MAMARIO Y GINECOLÓGICO EN QUIMIOTERAPIA

RESUMEN

Tristeza y pesar son reacciones comunes entre personas que enfrentan el cáncer, y estas reacciones pueden afectar su calidad de vida. Este estudio tuvo el objetivo de verificar la existencia de correlaciones entre las puntuaciones de ansiedad y depresión y dominios de calidad de vida, en los momentos pre y post quimioterapia. Se trató de un estudio observacional cuantitativo, descriptivo y de delineamiento longitudinal-prospectivo. Participaron del estudio 14 mujeres, diagnosticadas con cáncer de mama o ginecológico, sometidas a quimioterapia, entre diciembre/2012 y abril/2013. Fueron utilizados el WHOQOL-bref y Escala Hospitalaria de Ansiedad y Depresión. La recolección de datos ocurrió a partir de la respuesta individual de las mujeres a los instrumentos. Para correlacionar las puntuaciones de ansiedad y depresión con los dominios de calidad de vida, se utilizó el coeficiente de correlación lineal de Pearson. El dominio físico de la calidad de vida se correlacionó negativamente con depresión, en los momentos pre y post quimioterapia. Hubo también correlación negativa entre dominio psicológico y ambiental con ansiedad y depresión en los momentos pre y post quimioterapia. Con relación al dominio social, no hubo correlación. Se concluyó que ansiedad y depresión influyen negativamente la calidad de vida de las mujeres estudiadas en los dominios físico, psicológico y ambiental.

Palabras clave: Ansiedad. Depresión. Calidad de vida. Quimioterapia. Enfermería.

REFERENCES

1. Avelar AMA, Derchain SFM, Camargo CPP, Lourenço LSD, Sarian LOZ, Yoshida A. Qualidade de vida, ansiedade e depressão em mulheres com câncer de mama após a cirurgia. *Rev. Ciênc. Méd., Campinas*. 2006; 15(1):11-20. Disponível em: <http://pesquisa.bvs.br/brasil/resource/pt/lil-515928>.
2. Nikbakhtsh N, Moudi S, Abbasian S, Khafri S. Prevalence of depression and anxiety among cancer patients. *Caspian J Intern Med*. 2014;5(3):167-170. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4143739/>.
3. Fiorelli S, Rossi I, Souza M, Nuevo M, Dávila W, De Vitta A. Qualidade de vida em grupos de mulheres acometidas de câncer de mama. *Ciênc. Saúde Colet*. 2013;18(3):779-788. Disponível em: <http://www.redalyc.org/articulo.oa?id=63025680021>.
4. Lôbo SA, Fernandes AFC, de Almeida PC, de Lima Carvalho CMC, Sawada, NO. Quality of life in women with breast cancer undergoing chemotherapy. *Acta Paul. Enferm*. 2014;27(6):554-559. doi:

<http://dx.doi.org/10.1590/1982-0194201400090>.

5. Silva ECS, da Silva JM, Silva LF, Batista RF, Sampaio S, Carneiro PFP. Câncer de mama e qualidade de vida durante o tratamento radioterápico. Caderno de Graduação-Ciências Biológicas e da Saúde-FACIPE. 2014;1(3):85-93. Disponível em:

<https://periodicos.set.edu.br/index.php/facipesaude/article/view/1719>.

6. Menezes RR, Kameo SY, dos Santos Valença T, Mocó GAA, de Jesus JM. Qualidade de vida relacionada à saúde e espiritualidade em pessoas com câncer. Rev. Bras. Cancerol. 2018;64(1):9-17. Disponível em: http://www.inca.gov.br/rbc/n_64/v01/pdf/01-qualidade-de-vida-relacionada-a-saude-e-espiritualidade-em-pessoas-com-cancer.pdf.

7. Bushatsky M, Silva RA, Lima MTC, Barros MBSC, Neto JEBV, de Moraes Ramos YT. Quality of life in women with breast cancer in chemotherapeutic treatment. Ciênc. cuid. saúde. 2017; 16(3). doi: <http://dx.doi.org/10.4025/ciencucidsaude.v16i3.36094>.

8. Tomazoni EI, Benvegnú DM. Symptoms of anxiety and depression, and quality of life of patients with crohn's disease. Arq. Gastroenterol. 2018;55(2):148-153. doi: dx.doi.org/10.1590/S0004-2803.201800000-26.

9. UFRGS: UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL. Faculdade de Medicina de Porto Alegre. Hospital de Clínicas de Porto Alegre, Psiquiatria: [Versão em português dos instrumentos de avaliação de qualidade de vida (WHOQOL) 1998]. Porto Alegre: UFRGS, 2010 [acesso em 16 out 2017]. Disponível em: <https://www.ufrgs.br/qualidep/>.

10. Pereira RJ, Cotta RMM, Franceschini SDCC, Ribeiro RDCL, Sampaio RF, Priore SE, Cecon PR. Contribution of the physical, social, psychological and environmental domains to overall quality of life of the elderly. Rev. Psiquiatr. Rio Gd. Sul. 2006; 28(1):27-38. doi: <http://dx.doi.org/10.1590/S0101-81082006000100005>.

11. Marcolino JÁM, Mathias LAST, Piccinini Filho L, Guaratini AA, Suzuki FM, Alli LAC. Hospital anxiety and depression scale: a study on the validation of the criteria and reliability on preoperative patients. Rev. Bras. Anestesiol. 2007; 57(1):52-62. doi: <http://dx.doi.org/10.1590/S0034-70942007000100006>.

12. Snaith RP. The Hospital Anxiety and Depression Scale. Health Qual Life Outcomes. 2003 Aug 1; 1:29. doi: <http://dx.doi.org/10.1186/1477-7525-1-29>.

13. Ferreira AS, Bicalho BP, Neves LFG, Menezes MT, Silva TA, Faier

TA, Machado RM. Prevalência de ansiedade e depressão em pacientes oncológicos e identificação de variáveis predisponentes. Rev. Bras. Cancerol. 2016; 62(4), 321-328. Disponível em: http://www.inca.gov.br/rbc/n_62/v04/pdf/04-artigo-prevalencia-de-ansiedade-e-depressao-em-pacientes-oncologicos-e-identificacao-de-variaveis-predisponentes.pdf.

14. Cezar K, Nascimento APC. Qualidade de vida de pacientes pós-mastectomizadas em reabilitação oncológica. UNOPARCient. Ciênc. Biol. Saúde. 2014;16(1):29-32.

doi: <http://dx.doi.org/10.17921/2447-8938.2014v16n1p%25p>.

15. Karakoyun-Celik O, Gorken I, Sahin S, Orcin E, Alanyali H, Kinay M. Depression and anxiety levels in woman under follow-up for breast cancer: relationship to coping with cancer and quality of life. Med. Oncol. 2010;27(1):108-13. doi: <http://dx.doi.org/10.1007/s12032-009-9181-4>.

16. Garcia SN, Galdino C, Castro GC, Jacowski M, Guimarães PRB, Kalinke LP. Quality of life domains affected in women with breast cancer. Rev. Gaúch. Enferm. 2015;36(2):89-96. doi: <http://dx.doi.org/10.1590/1983-1447.2015.02.45718>.

17. Lofrano AD, Coura, CPDM, Silva MJSD. Avaliação da qualidade de vida de mulheres com carcinoma do colo do útero em quimioterapia paliativa. Rev. Bras. Cancerol. 2016;62(3): 203-213. Disponível em: http://www.inca.gov.br/rbc/n_62/v03/pdf/03-artigo-avaliacao-da-qualidade-de-vida-de-mulheres-com-carcinoma-do-colo-do-utero-em-quimioterapia-paliativa.pdf.

18. Nicolussi AC, Okino Sawada N, Coelho Cardozo FM, Andrade V, de Paula JM. Health-related quality of life of cancer patients undergoing chemotherapy. Rev. Rene. 2014; 15(1):132-40. doi: <http://dx.doi.org/10.15253/rev%20rene.v15i1.3099>.

19. Freire MEM, Costa SFGD, Lima RAGD, Sawada NO. Health-related quality of life of patients with cancer in palliative care. Texto Contexto Enferm, 2018; 27(2):e5420016. doi: <http://dx.doi.org/10.1590/0104-070720180005420016>.

20. Oliveira Gozzo T, de Souza SG, Moysés AMB, de Carvalho RADO, de Araújo Ferreira S M. Knowledge of a nursing team about chemotherapy adverse effects. Ciênc. cuid. saúde. 2015; 14(2):1058-1066. doi: <http://dx.doi.org/10.4025/ciencucidsaude.v14i2.25040>.

Corresponding author: Sueli Riul da Silva. Rua Donaldo Silvestre Cicci, 665. Uberaba/MG. Brasil. CEP 38082-166. E-mail: sueliriuldasilva@gmail.com

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