REVISTA DA ESCOLA DE ENFERMAGEM DA USP
JOURNAL OF SCHOOL OF NURSING · UNIVERSITY OF SÃO PAULO

ORIGINAL ARTICLE

DOI: https://doi.org/10.1590/1980-220X-REEUSP-2020-0476

Association between spirituality and quality of life of women with breast cancer undergoing radiotherapy

Associação entre espiritualidade e qualidade de vida de mulheres com câncer de mama em tratamento radioterápico

Asociación entre la espiritualidad y la calidad de vida de las mujeres con cáncer de mama en tratamiento radioterápico

How to cite this article:
Brandão ML, Fritsch TZ, Toebe TRP, Rabin EG. Association between spirituality and quality of life of women with breast cancer undergoing radiotherapy. Rev Esc Enferm USP. 2021;55:e20200476. DOI: https://doi.org/10.1590/1980-220X-REEUSP-2020-0476

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ABSTRACT

Objective: To verify whether there is an association between spirituality/religiosity and quality of life of women with breast cancer undergoing radiotherapy. **Method:** Cross-sectional, quantitative study performed between May and July 2019 in an Oncology Hospital of Porto Alegre state, Brazil. A sociodemographic questionnaire and the instruments EORTC-QLQ-C30 and WHOQOL-SRPB were applied. The data were verified through Shapiro-Wilk test, Pearson correlation coefficient, and Spearman. **Results:** The sample comprised 108 women with a mean age of 56, predominantly white, married, and with incomplete primary education. A positive correlation between "Overall quality of life score" with all facets of spirituality, as well as a negative correlation for the symptoms "Fatigue", "Insomnia", and "Diarrhea" with some aspects of spirituality, such as "Faith", were observed. **Conclusion:** The statistical significance of the correlation has positively associated spirituality/religiosity and quality of life in women with breast cancer undergoing radiotherapy. Understanding spirituality as a preponderant factor in quality of life contributes to positive nursing care interference, with individualized orientation and care to each woman.

DESCRIPTORS

Women; Breast Neoplasms; Radiotherapy; Spirituality; Quality of Life; Oncology Nursing.

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Received: 11/09/2020
Approved: 04/22/2021

INTRODUCTION

Breast cancer is the second most common cancer worldwide (11.6% of the cases), losing only to lung cancer. It is the most common in women, representing 24.2% of the cases of female cancer in the world in 2020, with approximately 2.1 million new cases that year[1]. In Brazil, 66,280 new cases of breast cancer are estimated to occur between 2020 and 2022. Apart from non-Melanoma skin cancer, breast cancer is the most frequent in the South, Southeast, Center-West, and Northeast regions. The estimated breast cancer rate in Rio Grande do Sul is 71.16 new cases for every 100,000 women until the end of 2022; however, for the Southeast Region, the estimates are higher, with 81.06 new cases[2].

Due to its high incidence and higher survival rate, it is increasingly important to understand the various aspects related to breast cancer, including the treatment, which imposes a multidisciplinary approach, considering that surgery and radiotherapy play a fundamental role in locoregional control; chemotherapy, hormone therapy, and biological therapy, in systemic treatment[3].

Radiotherapy consists of treatment performed through ionizing radiation, with the objective of targeting malignant cells, precluding their growth and/or leading to cell death[4]. Its side effects – radiodermatitis, fatigue, sleep, and pain – negatively affect the Health-Related Quality of Life (HRQOL) of patients[5–6].

The term HRQOL is defined in the literature as a synonym of Perceived Health Status and has the purpose of assessing how much a disease or chronic state affect daily quality of life (QOL) of an individual[7]. Oncology patients undergo diverse stressors that tend to affect their quality of life, such as suspicion of an unfavorable diagnosis, the diagnosis itself, fear of treatment, reduced self-esteem, and fear of the disease recurrence and of death[8]. It is thus extremely important for the multidisciplinary team to assess the QOL of patients during treatment so as to develop strategies to minimize discomfort and improve their QOL[9]. These resources include spirituality, defined as how individuals search for a connection with the sacred, which is represented as the search for a meaning for their lives and may provide comfort, faith, peace, and resignification of the moment[10–11]. Understanding spirituality as a therapeutic tool may improve quality of life and promote relief to human suffering. Health professionals searching for broadened care tend to value all aspects of patients and do not reduce them to suffering bodies, improving the patient-professional relationship and helping them face the difficulties of the disease[12–13].

The objective of this study was to verify whether there is an association between spirituality/religiosity and quality of life of women with breast cancer undergoing radiotherapy at a specialized oncology hospital in Porto Alegre.

METHOD

Type of Study

Cross-sectional, quantitative study.

Population

Women with breast cancer undergoing radiotherapy from May to July 2019 at the Radiotherapy Service of a High Complexity Oncology Center (*Centro de Alta Complexidade em Oncologia* – CACON) located in the city of Porto Alegre, Rio Grande do Sul state, Brazil.

Women included in this study were over 18, had been diagnosed, and were undergoing radiotherapy. Excluded women were functional illiterate, as defined by the Functional Illiteracy Indicator (*Indicador de Analfabetismo Funcional* – Inaf) as "people who are able to read and write simple texts but do not have the necessary ability to satisfy their daily demands and provide for their personal and professional development"; thus, these women would not be able to fill the scales.

Sample

The sample was calculated based on the study "*Spiritual well-being and quality of life in Iranian women with breast cancer undergoing radiation therapy*" (N = 68) and on a mean of 79 patients per month receiving care at the Radiotherapy Service (from January to November 2018) to meet correlations in each domain of quality of life with overall spirituality using a 5% significance and an 80% power. The n that contemplates the correlations is 99 patients. With an estimation of 10% of losses to follow up, the final sample was calculated to be 110 patients. The sample was calculated through software GPower 3.1.

Data Collection

The women have been recruited during radiotherapy from their 10th radiotherapy session by non-probabilistic sample. The collection period was from May to July 2019. After an initial presentation of the proposed study, participants received the Informed Consent Form and a sociodemographic characterization questionnaire, developed for this study, was applied, as was the instrument EORTC-QLQ-C30 version 3.0, developed by the European Organization for Research and Treatment of Cancer (EORTC) in 1986 and validated for Brazilian Portuguese in 2006[14]. This questionnaire has 30 items composed by multiple-item scales and single-item measures which aim at reflecting the multidimensionality of QOL construct. This instrument has five functional scales (physical functioning, cognitive functioning, emotional functioning, social functioning, and role functioning), three symptom scales (fatigue, pain, nausea, and vomiting), one overall health state and QOL scale, six other items to assess symptoms which are commonly reported by cancer patients (dyspnea, lack of appetite-anorexia, insomnia, constipation, and diarrhea) and assessment scale of financial impact of disease and treatment. The scores of the scales and the measures range from zero to 100; a high score represents a high level of response. Thus, a high score in the functional scale represents a healthy functional level, whereas high score in the symptom scale represents worse symptoms and side-effects.

The third instrument to be applied was World Health Organization Quality of life – Spirituality, Religiousness, and Personal beliefs (WHOQOL-SRPB) validated in Brazil in 2011 and composed of 32 questions divided into eight domains: spiritual connection, meaning in life, awe, wholeness and integration, spiritual strength, inner peace, hope and optimism, and faith[15]. Both instruments are self-report.

Data Analysis and Treatment

The data are presented through descriptive statistics (mean, median, standard deviation, frequency, and percentage), according to the nature of the variables (quantitative or qualitative). The normality of the quantitative variables was verified through Shapiro-Wilk test and the correlations between the scales were analyzed through Pearson's correlation coefficient, when normally distributed, and Spearman. The statistical significance was 5% and the analyses were assisted by statistical software SPSS v25.

Ethical Aspects

This research was approved by the Research Ethics Committee of Santa Casa de Misericórdia Hospital under opinion. 3.222.520, in 2019, and abided by Resolution 466/12, by the National Health Council, due to involving human beings.

RESULTS

The study sample was comprised of 108 women with a mean age of 56 years (±12) predominantly white, married, with incomplete primary education and undergoing adjuvant therapy, in radiotherapy.

Two participants were excluded due to not responding to a question in the EORTC-QLQ-C30 questionnaire, which precluded the score calculation as this was a determinant factor for statistical calculation. Table 1 presents the sociodemographic variables.

Table 2 presents the sample data for Instrument EORTC QLQ C30, with scores ranging from 0 to 100. A high functional level can be observed among women with breast cancer undergoing radiotherapy, with an emphasis on "Emotional Functioning", of the Functional Scale, with the smallest score. In the Symptom Scale, a low level is observed for symptomatology and side-effects, with an emphasis on "Financial difficulties".

Table 3 presents the data which were collected through the instrument WHOQOL-SRPB, in which the score for each facet may range from 0 to 20. High means can be observed among the spirituality facets. The variable Total Spirituality is a mean of all the facets of spirituality; the universal mean of spirituality/religiosity of 17.76 was observed.

Table 4 shows that all facets of spirituality/religiosity are positively correlated with the Overall health state and QOL Scale of the patients. The higher the spirituality/religiosity, the better the women classified their health state and their QOL in the previous week.

Table 1 – Samples' demographic variables – Porto Alegre, RS, Brazil, 2019.

Variables		n (%)
Color	White	89 (82.4)
	Brown	13 (12)
	Black	6 (5.6)
Marital status	Single	27 (25)
	Domestic partnership	3 (2.8)
	Married	51 (47.2)
	Divorced	8 (7.4)
	Widow	19 (17.6)
Living[§]	Alone	16 (14.8)
	With family	91 (84.3)
Education	Incomplete primary	42 (38.9)
	Complete primary	16 (14.8)
	Complete secondary	36 (33.3)
	High	14 (13)
Income[§]	Up to 1 minimum wage	19 (17.8)
	From 1 to 3 minimum wages	59 (55.1)
	Up to 5 minimum wages	19 (17.8)
	More than 5 minimum wages	10 (9.3)
Retired	Yes	37 (34.3)
	No	71 (65.7)
Reason for retirement	Age	12 (32.4)
	Time of service	12 (32.4)
	Age + time of service	5 (13.5)
	Disability	5 (13.5)
	Do not know/remember	3 (8.1)

[§]Calculations for N = 107 participants.
Note: (N = 108).

Table 2 – Quality of life instrument EORTC QLQ C30 – Porto Alegre, RS, Brazil, 2019.

EORTC QLQ C30	Mean	SD
Overall health state and QOL scale	78.8581	18.56142
Functional scales:		
Physical functioning	80.9874	18.74178
Role functioning	81.4812	25.61109
Emotional functioning	71.6047	25.75060
Cognitive functioning	78.2406	27.38664
Social functioning	83.0244	24.95920
Symptom scales and items:		
Fatigue	25.4105	26.87768
Nausea and vomiting	4.3213	12.76256
Pain	24.6919	28.22887
Dyspnea	12.0369	24.73483
Insomnia	28.7033	35.72698
Appetite loss	11.1110	25.37384
Constipation	20.9875	30.77197
Diarrhea	7.0984	19.89075
Financial difficulties	32.4070	36.01658

Note: (N = 108).

Table 3 – Instrument to assess spirituality and religiosity WHOQOL-SRPB – Porto Alegre, RS, Brazil 2019.

WHOQOL-SRPB Facets	Mean	SD	Minimum	Maximum
Spiritual connection	18.24	1.88	12	20
Meaning in life	18.02	2.12	10	20
Awe	17.98	1.93	12	20
Wholeness and integration	17.03	2.29	9	20
Spiritual strength	18.24	1.91	12	20
Inner peace	16.38	3.54	4	20
Hope and optimism	17.53	2.95	4	20
Faith	18.57	2.09	9	20
Total spirituality	**17.76**	1.84	11.6	20

Note: (N = 108).

Table 4 – Correlation between "Overall quality of life score" and the "Facets of spirituality" – Porto Alegre, RS, Brazil, 2019.

Facets of spirituality	Overall health state and QOL scale	
	p-value	R
Spiritual connection	0.004	0.276
Meaning in life	0.001	0.302
Awe	0.011	0.245
Wholeness and integration	0.001	0.329
Spiritual strength	0.005	0.269
Inner peace	0	0.364
Hope and optimism	0.004	0.274
Faith	0.005	0.268
Total spirituality	0	0.372

Spearman correlation test.
Note: (N = 108).

A statistical significance in the correlation between the facets of spirituality with the Overall health state and QOL scale is observed. In addition to the data presented in Table 4, correlations of the functional scales of the quality of life instrument with some individual facets of spirituality were observed. Role performance is correlated with the facet "spiritual strength" (p = 0.038 r = 0.200), whereas the emotional functioning is correlated to diverse facets, such as "inner peace" (p = 0.004 r = 0.272), "wholeness and integration" (p = 0.013 r = 0.238) and "hope and optimism" (p = 0.017 r = 0.0229), as well as the mean of all facets of spirituality (p = 0.014 r = 0.237). Social functioning is associated to "hope and optimism" (p = 0,016 e r = 0,232).

In the symptom scales, fatigue was related to the facet "meaning in life" (p = 0.018 r = –0.227) and "faith" (p = 0.022 r = –0.220), i.e., the higher the faith and meaning in life, the lower the fatigue. The symptom insomnia was correlated with the facets "faith" (p = 0.012 r = –0.242), "meaning in life" (p = 0,024 r = –0,217), and "inner peace" (p = 0.048 r = –0.191), showing that women with more faith and inner peace, as well as those who found more meaning in life, suffered less with insomnia. The symptom diarrhea presented a correlation with the facet "faith" (p = 0.027 r = –0.213).

No significant correlations were observed for the scales "Physical functioning", "Cognitive functioning", "pain", "dyspnea", "appetite loss", "constipation", and "financial difficulties" with any of the facets of spirituality.

DISCUSSION

The mean age of the interviewed women was 56 years; most were married (47.2%) and had complete primary school (53.7%), data which are corroborated by studies conducted in Brazil and Thailand, in which the mean age of women undergoing breast cancer treatment was approximately 51.95 and 52.7 years, respectively; most of them were married (64.3% and 68.8%) and had complete primary education (47.8% and 56.2%)[16–17].

The study participants had a mean score of approximately 78.85 (SD = 18.56) in the "Overall health status and QOL scale". A study conducted with Iranian women showed a different result, with a mean total quality of life of 41.42[18]. The high score may be attributed to the fact that this research was performed at a High Complexity Oncology Care Center, which offers high quality health services, with periodic nursing consultations with the objective following the treatment and well-being of these women, which may directly influence QOL[19–20]. In addition, changes in the lives of women with cancer throughout the treatment influence their adaptation to this new phase and this has a major importance in changing QOL and refining new life standards and values[21].

A mean of 17.76 (0-20) for "Total spirituality" was identified; this is considered high as it represents over 88% of the total score. This data is corroborated by a study that, although using a different scale to assess quality of life, has found a mean of 40.46 (0 to 48), representing over 84% of the total score[22]. In a different study conducted with Iranian women, lower spirituality, with a mean of 28.41 (0 to 48), representing 59% of the maximum score, was observed[18]. Both of the aforementioned studies used the FACIT spWB scale, the first performed with Jordanian women and the second with Iranian women. This divergence in the spirituality score may be due to a cultural difference between these countries.

A positive association was found between QOL and spirituality, r (108) = 0.372, p = 0.000. Other studies, although using different scales, have found an important correlation: r(148) = 0.67, p = 0.000[20]; r(68) = 0.555, p < 0.001[18]; and r(145) = 0.471, p < 0.001[23]. The power of the correlation force of this study is smaller when compared to the others. This is believed to be due to the fact that interviewed women had a lower education level, which may have led to their incomprehension of the questions to be answered by reason of complexity.

In the study with Jordanian women, the four domains of quality of life of the instrument used by them (FACIT) presented a significant correlation with total spirituality, with functional well-being having the highest positive correlation (r = 0.63 and p < 0.01) with total spirituality, whereas the

smallest positive correlation with this score was observed to be with the physical domain score ($r = 0.41$, $p < 0.01$)[22]. A different study, conducted in San Francisco, USA, with women who had survived breast cancer, pointed out that functional well-being was statistically correlated with spirituality (Adj $R^2 = 0.58$, $F = 17.57$, $p < 0.001$)[24]. In this study, although the overall health status and QOL scale presented a correlation with all the facets of spirituality, only the emotional functioning presented a significant correlation with total spirituality ($r = 0.237$, $p = 0.014$).

In a study conducted in Malaysia, a negative correlation between the symptom stress and spirituality was observed ($r = –0.337$, $p < 0.01$)[23]. In this study, stress was not assessed; however, for other domains and side-effects, such as fatigue, insomnia, and diarrhea, a negative correlation was found with some facets of spirituality. Fatigue was negatively correlated with the facets "meaning in life" ($r = –0.227$ $p = 0.018$) and "faith" ($r = –0.220$ $p = 0.022$); insomnia, with "meaning in life" ($r = –0.217$ $p = 0.024$), "inner peace" ($r = –0.191$ $p = 0.048$), "faith" ($r = –0.242$ $p = 0.012$) and "total spirituality" ($r = –0.219$ $p = 0.023$); diarrhea, with "faith" ($r = –0.213$ $p = 0.027$). These findings show that spirituality is negatively correlated with physical symptoms, i.e., the higher the score for these facets of spirituality, the lower the fatigue, insomnia, and diarrhea presented by the participants. On the other hand, a study conducted in Texas, USA, with women who had survived breast cancer has pointed out that although spirituality was an important factor on the values and attitudes of a person in relation to life, no relation was found between spirituality and reported physical health[25].

Given the various physical, psychical, and spiritual modifications of women with breast cancer, health professionals working directly with care to oncology patients tend to improve care when considering spiritual aspects as a humanized approach to care. Also, this provides a better professional understanding of the fighting strategies used by patients, improving thus bond, respect, integrity, and motivation during treatment. To this end, it is important that spirituality be present in professional education so as to subsidize knowledge and offer new care perspectives[10].

One of the limitations of this study is believed to be its comparison of results with studies that use different instruments to investigate the association of spirituality with quality of life of women with breast cancer undergoing radiotherapy. New studies at radiotherapy services using the same assessment instruments must thus be developed to promote a better comparison of the association between spirituality and quality of life of women undergoing breast cancer treatment.

CONCLUSION

Considering this study's findings, a positive association between spirituality/religiosity, and quality of life of women with breast cancer undergoing radiotherapy may be concluded to exist. Spirituality is a crucial factor in quality of life in oncological diseases, increasing the capacity of fighting these diseases, as well as the resilience of patients and caregivers. For this reason, there is a need for health professionals to further study the domains of spirituality/religiosity so as to think of interventions that value, support and encourage women to achieve a better quality of life.

RESUMO

Objetivo: Verificar se há associação entre a espiritualidade/religiosidade e a qualidade de vida de mulheres com câncer de mama em tratamento radioterápico. **Método:** Estudo transversal de caráter quantitativo, realizado no período de maio a julho de 2019, em um Hospital Oncológico de Porto Alegre. Aplicou-se um questionário sociodemográfico e os instrumentos EORTC-QLQ-C30 e WHOQOL-SRPB. Os dados foram verificados pelo teste Shapiro-Wilk, coeficiente de correlação de Pearson e Spearman. **Resultados:** A amostra foi de 108 mulheres, com idade média de 56 anos, predominantemente brancas, casadas, com ensino fundamental incompleto. Observou-se correlação positiva entre o "Escore de qualidade de vida global" com todas as facetas da espiritualidade, bem como uma correlação negativa para os sintomas "Fadiga", "Insônia" e "Diarreia" com algumas facetas da espiritualidade, como "Fé". **Conclusão:** A significância estatística na correlação associou positivamente a espiritualidade/religiosidade e a qualidade de vida nas mulheres com câncer de mama em tratamento radioterápico. Entender a espiritualidade como fator preponderante na qualidade de vida contribui para a interferência positiva da assistência de enfermagem, com orientações e cuidados individualizados a cada mulher.

DESCRITORES

Mulheres; Neoplasias da Mama; Radioterapia; Espiritualidade; Qualidade de Vida; Enfermagem Oncológica.

RESUMEN

Objetivo: Verificar si hay asociación entre la espiritualidad/religiosidad y la calidad de vida en mujeres con cáncer de mama en tratamiento radioterápico. **Método:** Estudio transversal, cuantitativo, conducido de mayo a julio de 2019 en un Hospital Oncológico de la ciudad de Porto Alegre, en Brasil. Se aplicaron un cuestionario sociodemográfico y los instrumentos EORTC-QLQ-C30 y WHOQOL-SRPB. Los datos se verificaron por medio de la prueba de Shapiro-Wilk, el coeficiente de correlación de Pearson y Spearman. **Resultados:** La muestra tenía 108 mujeres con edad media de 56 años, predominantemente blancas, casadas y con educación primaria incompleta. Se observó una correlación positiva entre la "Puntuación de calidad de vida global" con las facetas de la espiritualidad, así como una correlación negativa para para los síntomas "Fatiga", "Insomnio" y "Diarrea" con algunas facetas de la espiritualidad, como la "Fe". **Conclusión:** La significancia estadística en la correlación asoció positivamente la espiritualidad/religiosidad a la calidad de vida de las mujeres con cáncer de mama en tratamiento radioterápico. Comprender la espiritualidad como un factor preponderante en la calidad de vida contribuye a una interferencia positiva de la asistencia de enfermería, con orientaciones y cuidados individualizados a cada mujer.

DESCRIPTORES

Mujeres; Neoplasias de la Mama; Radioterapia; Espiriatualidad; Calidad de Vida; Enfermería Oncológica.

REFERENCES

1. World Health Organization. WHO report on cancer: setting priorities, investing wisely and providing care for all [Internet]. Geneva: WHO; 2020 [cited 2020 Oct 16]. Available from: https://apps.who.int/iris/handle/10665/330745
2. Instituto Nacional de Câncer José Alencar Gomes da Silva. Estimativa 2020: incidência de câncer no Brasil [Internet]. Rio de Janeiro: INCA; 2019 [cited 2020 out. 16]. Available from: https://www.inca.gov.br/publicacoes/livros/estimativa-2020-incidencia-de-cancer-no-brasil
3. Brasil. Ministério da Saúde. Portaria conjunta n. 19, de 3 de julho de 2018. Aprova as Diretrizes Diagnósticas e Terapêuticas do Carcinoma de Mama [Internet]. Brasília; 2018 [cited 2020 out. 21]. Available from: https://www.cosemsrn.org.br/wp-content/uploads/2018/07/portconj19.pdf
4. Segreto HRC, Held KD, Michael BD, Segreto RA. Radiobiologia: da bancada à clínica. São Paulo: Scortecci; 2016.
5. Santos DE, Rett MT, Mendonça ACR, Bezerra TS, Santana JM, Silva Júnior WM. Efeito da radioterapia na função pulmonar e na fadiga de mulheres em tratamento para o câncer de mama. Fisioter Pesq. 2013;20(1):50-5. https://doi.org/10.1590/S1809-29502013000100009
6. Leite FMC, Ferreira FM, Cruz MSA, Lima EFA, Primo CC. Diagnóstico de enfermagem relacionados aos efeitos adversos da radioterapia. Rev Min Enferm. 2013;17(4):946-51.
7. Noronha DD, Martins AMEBL, Dias DS, Silveira MF, Paula AMB, Haikal DSA. Factors in adult health-related quality of life: a population-based study. Ciênc Saúde Coletiva. 2016;21(2):463-74. https://doi.org/10.1590/1413-81232015212.01102015
8. Gomes MCA, Contim VR, Silva BS, Barros PP, Rodrigues BSSL. Qualidade de vida de pacientes oncológicos. Braz J Surg Clin Res. 2019;28(2):61-65.
9. Paula JM, Sawada NO. Health-related quality of life of cancer patients undergoing radiotherapy. Rev Rene. 2015;16(1):106-13.
10. Silva SMG, Higa EFR, Otani MAP, Rodrigues MR, Lemes MA. A influência da espiritualidade no cuidado oncológico [Internet]. [cited 2020 out. 16]. Available from: https://proceedings.ciaiq.org/index.php/CIAIQ2019/article/view/2052/1988
11. Damiano RF, Costa LA, Viana MTSA, Moreira-Almeida A, Lucchetti ALG, Lucchetti G. Brazilian scientific articles on "Spirituality, Religion and Health". Arch Clin Psychiatry. 2016;43(1):11-6. http://dx.doi.org/10.1590/0101-60830000000073
12. Freitas EO, Vieira MMS, Tsunemi MH, Pessini L, Guerra GM. A influência da espiritualidade na qualidade de vida do paciente oncológico: reflexão bioética. Nursing (São Paulo). 2016;17(222):1266-70.
13. Soratto MT, Silva DM, Zugno PI, Daniel R. Espiritualidade e resiliência em pacientes oncológicos. Saúde Pesq. 2016;9(1):53-63. https://doi.org/10.17765/2176-9206.2016v9n1p53-63
14. Brabo EP, Paschoal ME, Biasoli I, Nogueira FE, Gomes MC, Gomes IP, et al. Brazilian version of the QLQ-LC13 lung cancer module of the European Organization for Research and Treatment of Cancer: preliminary reliability and validity report. Qual Life Res. 2006;15(9):1519-24. http://dx.doi.org/10.1007/s11136-006-0009-9
15. Panzini RG, Maganha C, Rocha NS, Bandeira DR, Fleck MP. Brazilian validation of the Quality of Life Instrument/spirituality, religion and personal beliefs. Rev Saúde Pública. 2011;45(1):153-65. https://doi.org/10.1590/S0034-89102011000100018
16. Castro EKK, Lawrenz P, Romeiro F, Lima NB, Hass SA. Percepção da doença e enfrentamento em mulheres com câncer de mama. Psicol Teor Pesq. 2016;32(3):e32324. https://doi.org/10.1590/0102-3772e32324.
17. Phenwan T, Peerawong T, Tulathamkij K. The meaning of spirituality and spiritual well being among thai breast cancer patients: a qualitative study. Indian J Palliat Care. 2019;25(1):119-23. http://dx.doi.org/10.4103/IJPC.IJPC_101_18
18. Jafari N, Farajzadegan Z, Zamani A, Bahrami F, Emani H, Loghmani A. Spiritual well-being and quality of life in Iranian women with breast cancer undergoing radiation therapy. Supportive Care Cancer. 2012;21(5):1219-25. https://dx.doi.org/10.1007/s00520-012-1650-1
19. Allemani C, Matsuda T, Di Carlo V, Harewood R, Matz M, Nikšić M, et al. Global surveillance of trends in cancer survival 2000-14 (CONCORD-3): analysis of individual records for 37 513 025 patients diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. Lancet. 2018;391(10125):1023-75. https://doi.org/10.1016/S0140-6736(17)33326-3
20. The Lancet Oncology Commission. Planejamento do controle do câncer na América Latina e no Caribe. Lancet Oncol [Internet]. 2013 [cited 2020 out. 20];14:391-436. Available from: http://cdn.jbs.elsevierhealth.com/pb/assets/raw/Lancet/stories/commissions/planning-cancer-control-latin-america-and-caribbean/tlo-commission-series-portuguese.pdf
21. Rohani C, Abedi HA, Sundberg K, Langius-Eklöf A. Sense of coherence as a mediator of health-related quality of life dimensions in patients with breast cancer: a longitudinal study with prospective design. Health Qual Life Outcomes. 2015;13:195. https://doi.org/10.1186/s12955-015-0392-4
22. Al-Natour A, Al Momani SM, Qandil AMA. The relationship between spirituality and quality of life of Jordanian women diagnosed with breast cancer. J Relig Health. 2017;56(6):2096-108. https://doi.org/10.1007/s10943-017-0370-8
23. Sharif SP, Ong FS. Education moderates the relationship between spirituality with quality of life and stress among Malay Muslim women with breast cancer. J Relig Health. 2019;58(4):1060-71. http://dx.doi.org/10.1007/s10943-018-0587-1
24. Levine EG, Yoo G, Aviv C. Predictors of quality of life among ethnically diverse breast cancer survivors. Appl Res Qual Life. 2017;12(1):1-16. https://doi.org/10.1007/s11482-016-9447-x
25. Goyal NG, Ip, EH, Salsman JM, Avis NE. Spirituality and physical health status: a longitudinal examination of reciprocal effects in breast cancer survivors. Support Care Cancer. 2019;27(6):2229-35. http://dx.doi.org/10.1007/s00520-018-4494-5