

Religious/Spiritual Coping and Quality-Of-Life of 5-Years Cancer Survivors After Hematopoietic Stem Cell Transplantation

doi: <https://doi.org/10.32635/2176-9745.RBC.2022v68n4.2812>

Coping Religioso/Espiritual e Qualidade de Vida dos Sobreviventes de Câncer Cinco Anos após o Transplante de Células-Tronco Hematopoiéticas

Afrontamiento Religioso/Espiritual y Calidad de Vida de Sobreviventes de Cáncer Cinco Años después del Trasplante de Células Madre Hematopoyéticas

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ABSTRACT

Introduction: Hematopoietic stem cell transplantation is a complex treatment, with healing potential, however, it presents a significant risk of serious complications and consequent impairment in health-related quality-of-life. Given this scenario, it is necessary for the health team to recognize the demands that patients are exposed to, and the coping strategies used, in order to promote interventions that aim to improve health-related quality-of-life, and decrease the discomforts resulting from the diagnosis and treatment. **Objective:** To correlate the use of religious/spiritual coping with quality-of-life after five years of hematopoietic stem cell transplantation. **Method:** Analytical and longitudinal study, with 55 patients in a referral hospital for the procedure in Latin America. Data were collected from 2013 to 2021, with the Functional Assessment of Cancer Therapy – Bone Marrow Transplantation and Religious/Spiritual Coping Scale questionnaires. Correlations between variables by the Spearman's correlation coefficient. **Results:** 30 patients died before completing five years of treatment. Quality-of-life showed better rates in the fifth year (116.1/148). There was greater use of positive religious/spiritual coping (3.15/5.00). A significant negative correlation between quality-of-life scores (-0.624/p<0.00) and negative religious/spiritual coping was found. **Conclusion:** Recognizing the multidimensionality of the quality of life construct, including the spiritual domain, can help the patient to cope with the disease and treatment.

Key words: quality of life; hematopoietic stem cell transplantation; oncology nursing; adaptation, psychological; health personnel.

RESUMO

Introdução: O transplante de células-tronco hematopoiéticas é um tratamento complexo, com potencial de cura, no entanto, apresenta risco significativo de complicações graves e consequente comprometimento na qualidade de vida relacionada à saúde. Diante desse cenário, é necessário que a equipe de saúde reconheça as demandas a que os pacientes estão expostos, e as estratégias de enfrentamento utilizadas, a fim de promover intervenções que objetivem a melhora da qualidade de vida relacionada à saúde e a diminuição dos desconfortos decorrentes do diagnóstico e tratamento. **Objetivo:** Correlacionar o uso do coping religioso/espiritual com a qualidade de vida após cinco anos da realização do transplante de células-tronco hematopoiéticas. **Método:** Estudo analítico e longitudinal, com 55 pacientes em um hospital de referência para o procedimento na América Latina. Coleta de dados de 2013 até 2021, com os questionários *Functional Assessment of Cancer Therapy – Bone Marrow Transplantation* e *Religious/Spiritual Coping Scale*. Correlações entre as variáveis pelo coeficiente de correlação de Spearman. **Resultados:** Trinta pacientes foram a óbito antes de completar cinco anos de tratamento. A qualidade de vida apresentou melhores índices no quinto ano (116,1/148). Houve maior uso do coping religioso/espiritual positivo (3,15/5,00). Observou-se correlação significativa negativa entre os escores de qualidade de vida (-0,624/p<0,00) e coping religioso/espiritual negativo. **Conclusão:** Reconhecer a multidimensionalidade do construto qualidade de vida, incluindo o domínio espiritual, poderá auxiliar o paciente no enfrentamento da doença e do tratamento.

Palavras-chave: qualidade de vida; transplante de células-tronco hematopoiéticas; enfermagem oncológica; adaptação psicológica; pessoal de saúde.

RESUMEN

Introducción: El trasplante de progenitores hematopoyéticos es un tratamiento complejo, con potencial curativo, sin embargo, presenta un riesgo importante de complicaciones graves y consecuente deterioro de la calidad de vida relacionada con la salud. Ante este escenario, es necesario que el equipo de salud reconozca las demandas a las que se exponen los pacientes y las estrategias de enfrentamiento utilizadas, a fin de promover intervenciones que apunten a mejorar la calidad de vida relacionada con la salud y disminuir los malestares derivados del diagnóstico y tratamiento. **Objetivo:** Correlacionar el uso del afrontamiento religioso/espiritual con la calidad de vida después de cinco años del trasplante de células progenitoras hematopoyéticas. **Método:** Estudio analítico y longitudinal, con 55 pacientes en un hospital de referencia para el procedimiento en América Latina. Recopilación de datos de 2013 a 2021, con los cuestionarios *Functional Assessment of Cancer Therapy – Bone Marrow Transplantation* y *Religious/Spiritual Coping Scale*. Correlaciones entre variables por el coeficiente de correlación de Spearman. **Resultados:** Treinta pacientes fallecieron antes de completar cinco años de tratamiento. La calidad de vida mostró mejores índices en el quinto año (116,1/148). Hubo un mayor uso del afrontamiento religioso/espiritual positivo (3,15/5,00). Hubo una correlación negativa significativa entre las puntuaciones de calidad de vida (-0,624/p<0,00) y el afrontamiento religioso/espiritual negativo. **Conclusión:** Reconocer la multidimensionalidad del construto calidad de vida, incluyendo el dominio espiritual, puede ayudar al paciente a enfrentar la enfermedad y el tratamiento. **Palabras clave:** calidad de vida; trasplante de células madre hematopoyéticas; enfermería oncológica; adaptación psicológica; personal de salud.

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INTRODUCTION

The hematopoietic stem cell transplantation (HSCT) is a thorough and complex treatment with potential to cure patients with hematologic cancer. However, it has a significant risk of severe complications and compromise of the health-related quality-of-life (HRQoL)¹.

Patients with cancer who submitted to a challenging therapy with many negative impacts on HRQoL live unique and complex experiences². The course of the disease is unpredictable with treatment-related complications, compromise of the HRQoL and significant risk of mortality³. This scenario prompts health caregivers to be aware of the issues the patients are exposed to, and the coping strategies utilized and promote interventions to improve the HRQoL and reduction of diagnosis and treatment related problems.

Religiosity/spirituality are alternatives to deal with tough and stressful situations⁴. It can help the patient to cope with emotional and psychological situations inherent to the course of the diagnosis and treatment of cancer and it was addressed in many studies. For many patients, it minimizes suffering, improve the HRQoL^{5,6}, stimulates positive thoughts and neutralizes negative emotions⁷.

Religious/spiritual coping (RSC) is the utilization of religious/spiritual strategies to deal with tough and negative life situations and an important indicator of assessment of the impact of the disease or treatment on HRQoL⁸. Studies^{6,9} showed the benefit and protective function against negative impacts resulting from cancer diagnosis. It can be responsible for positive behaviors (positive RSC, for instance, is to seek religious/spiritual support to deal with a situation lived, individual and life transformation) or damaging (negative RSC, for example, negative perspective of God, expects the transcendental Being will solve the problem without any individual action). This phenomenon needs to be known and considered to assess the results and interventions to improve HRQoL scores¹⁰.

Therefore, the research question is: have the patients submitted to HSCT with positive or negative RSC during the 5-year treatment had better or worse HRQoL scores? The objective of the study was to correlate the utilization of RSC with quality-of-life 5 years after the HSCT.

METHOD

Analytical, observational, cross-sectional study according to Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)¹¹.

The study was developed at the bone marrow transplantation unit of a Latin America-reference public hospital in Curitiba, State of Paraná, Brazil.

The enrollment occurred from September 2013 through November 2015 and 5-year follow-up until January 2021.

The number of patients submitted to HSCT between 2010 and 2012 was the base to extract a non-probabilistic sample of fifty-five adults with hematological cancer submitted to HSCT, plus 50% for potential losses, because of the significant rate of mortality during treatment according to the Brazilian Transplantation Registry¹².

Patients aged 18 years or older diagnosed with hematological cancer and submitted to HSCT were enrolled; patients who were unable to complete the questionnaires were excluded. Patients with loss of follow-up, new transplantation or death were discontinued.

The final sample consisted in 20 patients: after 5 years, 30 patients died and five were discontinued due to loss of follow-up.

Sociodemographic, clinical, HRQoL (physical, emotional, social and functional well-being and additional concerns) and RSC (positive, negative and other aspects) variables were analyzed.

Three instruments were utilized to collect the data. The first for sociodemographic and clinical data was elaborated by the investigators. The questionnaire Functional Assessment of Cancer Therapy Bone Marrow Transplantation (FACT-BMT), version 4.0, developed by FACIT.Org., specific for patients submitted to HSCT translated and validated to Brazil was applied to evaluate HRQoL¹³. The Religious/Spiritual Coping Scale was applied to evaluate the RSC¹⁴.

FACT- BMT consists in 50 questions divided in domains with different scores for each domain: physical well-being (0-28), social and family (0-28), functional (0-28), emotional (0-24), additional concerns (0-40), TOI – Treatment Outcome Index (sum of the domains physical, functional and additional concerns scores) (0-96), FACT-G (sum of the domains physical, social and family, emotional and functional well-being scores (0-108) and FACT-BMT – quality of life in general (QoL) (total scores of all the domains) (0-148)¹⁵.

The religious/spiritual coping scale was applied only five years after the transplant. To achieve the objectives of the study, the original expression “Right now, think of what the great stressful situation you ever experienced in the last three years would be” was replaced by “Right now, think in the transplant process you went through five years ago and respond to the questions reflecting about this situation”, as guided by the author herself. It has 5-points Likert-scale 87 items divided in two dimensions: positive RSC (eight factors) and negative RSC (four factors). The mean-based classification was applied to interpret the utilization scores of RSC: negligible or not at all (1 to 1.5);

low utilization (1.51 to 2.5); average utilization (2.51 to 3.5); high utilization (3.51 to 4.5); great utilization of RSC (4.51 to 5.00)¹⁴.

Data were collected in three stages from September 2013 to January 2021 during individual encounters: pre-HSCT (prior to conditioning), pancytopenia (between days 2 and 17 post-HSCT – complex period with the patient hospitalized under the toxic effects of the conditioning regimen) and 5-year post-HSCT.

Descriptive statistics was applied with results expressed in simple and absolute frequency (%), as mean and standard-deviation and later analyzed as guided by the creators of the instruments^{14,15}.

The Spearman's non-parametric correlation was calculated to measure the strength and direction of the existing correlation among the QoL and domains (physical, social/family, functional, emotional well-being and additional concerns, TOI and FACT-G) with RSC. This coefficient was utilized because of the non-normality of the data. The software Statistica version 7.0A was utilized for statistical analysis.

The Institutional Review Board of “*Universidade Federal do Paraná*” approved the study in compliance with Resolution 466/2012¹⁶, report number 2,853,160 (CAAE (submission for ethical review) 19714013.9.0000.0102). The authors approved the utilization of the instruments. To ensure the anonymity of the participants, each one enrolled after signing the Informed Consent Form was assigned a sequential order number (1, 2, 3, 4, ...).

RESULTS

Of the 55 participants, 30 died, 20 (37%) in the first-year post HSCT; 14 patients (26%) relapsed. In the last stage, 5-year post HSCT, 20 patients (37%) were still in the study. The mean age was 36 years old, leukemia was the most prevalent cause in 36 patients (65%) and allogeneic HSCT was the predominant modality for 39 patients (71%).

Lower scores during pancytopenia, except for the domain emotional well-being were found for QoL – domains physical, social/family, emotional, functional, additional concerns – TOI and FACT-G of the questionnaire FACT-BMT applied in pre-HSCT, during pancytopenia and 5-year post HSCT for all types of transplant. Better scores for all the domains above baseline values were detected 5-year post-HSCT (Table 1).

The response of 20 participants 5-year post-HSCT presented mean positive utilization of RSC of 3.15/5.00 as shown in Table 2. This result indicates the practice of RSC: positive position with God, transformation of itself/ or its life and personal pursue of spiritual growth.

The result of negative RSC was 1.77/5.00, corresponding to low utilization of negative RSC by the participants. Total RSC (sum of the positive and negative values) reached a score of 3.19/5.00, classified as average utilization. Factor P4 (positive position in face of God) was the most utilized. Factor N2 (negative position in face of God) had the highest mean, 2.73, average utilization (Table 2).

The analysis of the correlation between positive RSC, negative RSC, total RSC and HRQoL and domains of the instrument FACT-BMT revealed significant correlation among negative RSC and domains HRQoL (116.1/ $p < 0.00$), physical well-being (24.3/ $p < 0.01$), functional well-being (20.2/ $p < 0.00$), additional concerns (30.4/ $p < 0.01$), TOI (74.9/ $p < 0.00$) and FACT-G (85.7/ $p < 0.01$). This result suggests that the utilization of negative RSC (1.77) leads to significantly lower scores of HRQoL and its domains in the fifth year. Significant positive correlation was found between total RSC and social well-being (21.1/ $p < 0.04$), indicating that the utilization of total RSC leads to better social well-being in the fifth year (Table 3).

DISCUSSION

Patients submitted to HSCT live social isolation and possibility of severe complications related to feelings of anxiety, fear and anguish and coping strategies as religion and spirituality may bring positive influences to deal with the disease¹⁷. These are cognitive-behavioral efforts which help to meet internal and external demands to minimize the negative effects as much as possible¹⁸.

The assessment of the HRQoL of patients submitted to HSCT and the correlation with the utilization of RSC may help to understand the impact in the course of the disease and treatment mainly because of the challenging nature of the therapeutic. It is necessary to promote actions of care and coping to achieve low negative impact on all dimensions of the construct HRQoL due to the high risk of mortality. Similarly, evaluate the HRQoL and the multidimensional aspects is relevant to best understand if the perception of the disease by cancer survivors impact their health. These individuals report high level of unmet social and spiritual needs possibly with damaging effects in the course of the treatment¹⁹.

The negative aspects that usually occur in the initial stages of HSCT match the acute effects of chemotherapies utilized during the conditioning regimen immediately before the transplant added to the effects of early treatments after analyzing the general HRQoL data, which is relevant because new populations are being exposed to HSCT and survival expectancy lengthens as it is a potentially curative therapy²⁰.

Table 1. FACT-BMT HRQoL scores of patients submitted to autologous and allogeneic transplantation (n=55). Curitiba, PR, Brazil, 2013-2021

Scores Domains FACT-BMT	Pre-HSCT n= 55		Pancytopenia n= 50		Post-HSCT 5-year n= 20	
	Mean (SD) n (%)		Mean (SD) n (%)		Mean (SD) n (%)	
	Aut (n=16)	Allo (n=39)	Aut (n=16)	Allo (n=34)	Aut (n=3)	Allo (n=17)
Quality-of-life in general (0-148)	107.7 (18.3)	108.6 (22.2)	91.4 (16.4)	90.3 (14.6)	124.1 (20.0)	114.7 (23.2)
Total (SD)	108.4 (21)		90.7 (15)		116.1 (22.5)	
Physical well-being (0-28)	21 (5.9)	22.3 (6)	16.4 (4.9)	14.5 (6.3)	26.3 (1.5)	23.9 (6.2)
Total (SD)	21.9 (5.9)		15.1 (5.9)		24.3 (5.8)	
Social and family well-being (0-28)	20.8 (6.9)	21.1 (4.4)	17 (6.5)	18.6 (4.3)	23.1 (5)	20.7 (4)
Total (SD)	21 (5.2)		18.1 (5.1)		21.1 (4.1)	
Emotional well-being (0-24)	19.4 (4)	17.7 (4.4)	20.1 (2.9)	19.5 (3.7)	20 (2.6)	20.1 (5.1)
Total (SD)	18.2 (4.3)		19.7 (3.4)		20.1 (4.8)	
Functional well-being (0-28)	18.9 (6)	19.5 (5.3)	15.1 (5.1)	14.6 (4.1)	23 (5.5)	19.7 (6)
Total (SD)	19.3 (5.4)		14.7 (4.4)		20.2 (5.9)	
Additional concerns (0-40)	27.5 (4.1)	27.9 (6.8)	22.6 (4.6)	23 (4.2)	31.6 (6.8)	30.1 (6.1)
Total (SD)	27.7 (6.1)		22.8 (4.3)		30.4 (6)	
TOI (0-96)	67.4 (13.5)	69.7 (15.9)	54.2 (13.1)	52.1 (11.9)	81 (13)	73.8 (16.6)
Total (SD)	69.1 (15.1)		52.8 (12.20)		74.9 (16)	
FACT-G (0-108)	80.2 (15.4)	80.7 (16.5)	68.8 (12.7)	67.3 (11.8)	92.4 (14.5)	84.5 (18.4)
Total (SD)	80.6 (16.1)		67.8 (12)		85.7 (17.7)	

Captions: FACT-BMT = Functional Assessment of Cancer Therapy-Bone Marrow Transplantation; HSCT = hematopoietic stem cell transplantation; n = number of participants; Aut = autologous; Alo = allogeneic; TOI = treatment outcome index (physical/functional well-being/additional concerns); FACT-G= general evaluation (physical/social/functional and family well-being); SD = standard deviation.

Similar results with worst means at the initial stages of HSCT were found in a prospective cohort study with 41 patients admitted for autologous and allogeneic HSCT in order to monitor the changes of the physical function through continuous evaluations and identify the effect of physical function on quality-of-life during the acute post-transplantation period. The authors concluded that quality-of-life pre-transplant was predictive of physical compromise in the acute post-transplantation period²¹.

The evaluation of the other domains in the present study showed higher compromise, worst evaluation during pancytopenia with better indexes upon completion of 5-year treatment. Lower means occurred when the patient is hospitalized under the effects of conditioning regimens and expecting the transplantation is successful.

A review study³ found that patients with hematologic cancer have a burden of symptoms and anguish comparable or greater than patients with solid metastatic tumors. When submitted to HSCT, regardless if autologous or allogeneic, the patients live a dramatic drop of quality-of-life associated with increase of symptoms as nausea, vomits, mucositis, fatigue, diarrhea, psychological anguish, including anxiety and depression and post-traumatic stress symptoms³.

The findings of this study can be utilized by the health team, particularly nurses to provide guidance pre and post HSCT since the data indicate positive evaluation of the treatment, reclaiming of post-HSCT HRQoL which can be a source of comfort and hope for the patients submitted to this therapy. Despite the significant compromise of the HRQoL and domains in the initial stages of the treatment,

Table 2. Descriptive analysis of the variables of the RSC scale of patients submitted to HSCT obtained at the fifth year (n=20). Curitiba, PR, Brazil, 2013-2021

Variable (reference value)	n	Mean	Standard deviation
Positive RSC	20	3.15	0.76
Negative RSC	20	1.77	0.45
Ratio Negative RSC/ Positive RSC	20	0.60	0.22
Total RSC	20	3.19	0.39
P1: Transformation of itself/its life	20	3.45	0.98
P2: Seek spiritual help	20	2.72	0.87
P3: Offer someone help	20	3.00	0.70
P4: Positive position in face of God	20	3.61	0.62
P5: Search for spiritual growth	20	3.26	0.93
P6: Search for clergy support	20	2.90	1.00
P7: Search for spiritual knowledge	20	2.39	1.04
P8: Disengagement from God/religion/spirituality	20	3.30	1.02
N1: Negative reappraisal of God	20	1.48	0.64
N2: Negative position in face of God	20	2.73	0.77
N3: Negative revaluation of the meaning	20	1.84	0.86
N4: Dissatisfaction with the clergy	20	1.30	0.50

Captions: RSC = religious/spiritual coping; n = number of participants; p = positive factor; N = negative factor.

Table 3. Spearman's correlation between RSC and domains of FACT-BMT of the patients submitted to HSCT obtained in the last stage of the study (n=20). Curitiba, PR, Brazil, 2013-2021

FACT-BMT Domains	Positive RSC n=20		Negative RSC n=20		Total RSC n=20	
	Spearman	p value	Spearman	p value	Spearman	p value
General HRQoL	0.021	0.93	-0.624	0.00	0.339	0.14
Physical well-being	-0.140	0.55	-0.558	0.01	0.168	0.47
Social well-being	0.272	0.24	-0.413	0.07	0.452	0.04
Emotional well-being	0.144	0.54	-0.306	0.18	0.248	0.29
Functional well-being	0.047	0.84	-0.640	0.00	0.420	0.06
Additional concerns	-0.172	0.46	-0.543	0.01	0.101	0.67
TOI	-0.009	0.97	-0.686	0.00	0.350	0.13
FACT-G	0.065	0.78	-0.550	0.01	0.354	0.12

Captions: FACT-BMT = Functional Assessment of Cancer Therapy-Bone Marrow Transplantation; RSC = religious spiritual coping; n = number of participants; Spearman = correlation; HRQoL = health related quality-of-life; TOI = treatment outcome index (physical well-being/functional well-being/additional concerns); FACT-G = general evaluation (physical well-being/social/family well-being/emotional well-being/functional well-being); p value = $p < 0.05$.

it can be rehabilitated along the time and may even work as a stimuli for the guidelines offered by the health team. Additionally, the identification of the most compromised domains can form the base of the therapeutic plan during the treatment.

Religiosity/spirituality fulfills many functions, including the search for meaning, control, anxiety reduction and transformation of the moment lived⁸. It is a strategy which has been the focus of many studies that attempt to understand how and with what strategies

the patient copes with diagnosis and treatment^{22,23}. Participants who were religious (91%) and practiced (76%) predominated in this study, respectively. According to a research whose objective was to understand the Brazilian religious scenario and investigate the feasibility of conducting a national research, nearly 84% of the world population has some religious affiliation and possibly 87% in 2060. In Brazil, more than 90% of the population affirm they are religious²⁴. A study⁴ with patients with cancer suggests that the search for a meaning in life, peace

and understanding of the universe through faith help individuals to be aware of the sickening process and the natural course of the disease itself, making the experience of the diagnosis, treatment and follow-up more optimistic and positive.

A study with patients with cancer whose objective was to evaluate the HRQoL and its correlation with religious/spiritual experiences concluded that as low the frequency of religious/spiritual experiences is, worse is the impact on HRQoL²⁵. Stimulate the utilization of coping strategies as religiosity/spirituality, among others can contribute to low compromise of the HRQoL. These strategies can be utilized in a positive or in a damaging way, therefore, the evaluation of the modality is important.

The study's patients who submitted to HSCT utilized positive RSC in average but without significant correlation with HRQoL. This coping strategy brings positive/benefits effects to the individual with transformation of itself and/its life, pursue of spiritual help, offer the other help, positive position in face of God, and personal growth efforts⁸. The authors of a systematic review²⁶ emphasized the significant positive association among religiosity/spirituality and physical activity on physical health unlike the current study.

The authors of another systematic review²⁷ suggested that religiosity/spirituality has a significant protective effect on the risk of mortality with relevant clinical effects involving some mechanisms as: more adherence to healthy behaviors, physical exercises, care with the own body, balanced diet, control of smoking and alcoholism, several social factors, protection against social isolation, robust support, strong family bonds, feeling of belonging and involvement of biological-physical mechanisms with modulating effects on the physiologic system which induces relaxation.

Negative RSC (1.77) was barely utilized as the study concluded, however, when associated with HRQoL rates, significant and opposite correlation was found which indicates negative/damaging consequences to the individual with negative compromise of HRQoL and domains. The most utilized negative RSC was to wait passively that the transcendental Being would control the situation and take responsibility to solve the problem. A study which analyzed the utilization of RSC has also concluded that when the coping strategy is negative, anxiety and depression rise, HRQoL worsens, mortality and suicidal ideation increase²⁸.

The sample size does not grant the generalization of the results, which is a limitation. Few participants can be related to the low number of available beds for patients with hematological cancer eligible for HSCT and the prolonged period of hospitalization up to discharge. An

additional limiting factor is the scarce number of studies evaluating the HRQoL and RSC with the same population investigated. Therefore, multicenter studies with similar methodological designs are recommended.

The possibility of the evaluation of the spiritual dimension to detect the compromise is an important contribution. The incorporation of religious/spiritual dimension into nursing practice is a coping strategy to be evaluated because it can impact the evaluation of the HRQoL of the patients with cancer submitted to a complex treatment.

CONCLUSION

The HRQoL of patients submitted to HSCT changed significantly with great negative compromise during pancytopenia, however, the rehabilitation and even better results than pre-HSCT levels occurred five years later. RSC was utilized by the patients who submitted to HSCT with great utilization of positive RSC.

The correlation among RSC and HRQoL of adult patients with hematologic cancer 5-year post-HSCT indicated that it was possible to infer that there was significant association between negative RSC and HRQoL and its domains. These results demonstrate that when the patients utilizes negative RSC, negative and damaging repercussions will occur on HRQoL. The correlation was not confirmed for positive RSC, HRQoL and domains.

This study is relevant for nurses because it encourages the utilization of a holistic care encompassing multidimensional aspects of the patient's life: physical, emotional social and particularly, the spiritual. It is necessary to incorporate the evaluation of religious/spiritual coping mechanisms because it can impact the scores of evaluation of HRQoL and its domains.

Multicenter, longitudinal, cross-sectional studies with interventions targeted to the improvement of HRQoL of patients with cancer should be conducted. Data from a large population group can produce generalizable results. Studies with interventions which incorporate spiritual dimension and other domains of HRQoL will support evidence-based practices.

CONTRIBUTIONS

All the authors contributed substantially to the study design, acquisition, analysis and interpretation of the data, wording and critical review. They approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

FUNDING SOURCES

Coordination of Improvement of Higher Education Personnel (Capes) – Brasil number 88881.311846/2018-0. *Fundação Araucária*, Note 15/2017.

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Recebido em 29/6/2022

Aprovado em 9/8/2022