Guided Relaxation as an Integrative Practice for Women Undergoing Radiation Therapy

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Relaxamento Guiado como Prática Integrativa para Mulheres Submetidas à Radioterapia

Relajación Guiada como Práctica Integradora para Mujeres Sometidas a Radioterapia

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ABSTRACT

Introduction: Breast cancer is one of the leading malignant neoplasms in women. Radiotherapy is among the types of treatment which, although safe, causes several side effects that impair health-related quality of life. **Objective:** To evaluate the effect of integrative and complementary practice of relaxation with guided imagery in improving health-related quality of life in women with breast cancer undergoing radiotherapy**. Method:** Quantitative, quasi-experimental, pre-and post-test study, conducted with 25 women with breast cancer undergoing radiotherapy at an Oncology Center in the South of Minas Gerais, between July 2019 and March 2020. Sociodemographic and clinical data were collected, the Quality-of-Life Questionnaire-Core 30 of the European Organization for Research and Treatment of Cancer (EORTC QLQ-C30) was used to assess quality of life, applied at three stages of the treatment. The relaxation sections were applied three times a week during the entire radiotherapy treatment. **Results:** Most of the patients were aged 41-60 years, with an average level of education, retired, Catholic, white, married and in IIA staging. The scores related to the functional scales showed improvement throughout the treatment. The prevalent symptoms for the symptom scale were insomnia, constipation and fatigue. **Conclusion:** The practice of relaxation was effective in improving the domains of health-related quality of life, being a low-cost practice that can be applied by trained professionals.

Key words: breast neoplasms/radiotherapy; quality of life; relaxation therapy; complementary therapies.

RESUMO

Introdução: O câncer de mama ocupa uma das primeiras posições das neoplasias malignas em mulheres. Entre os tipos de tratamento, está a radioterapia que, apesar de ser um método seguro, traz diversos efeitos colaterais que prejudicam a qualidade de vida relacionada à saúde. **Objetivo:** Avaliar o efeito da prática integrativa e complementar de relaxamento com visualização guiada na melhora da qualidade de vida relacionada à saúde de mulheres com câncer de mama submetidas à radioterapia. **Método:** Pesquisa quantitativa, quase-experimental, do tipo pré e pós-teste, realizada com 25 mulheres com câncer de mama submetidas à radioterapia em um Centro de Oncologia do Sul de Minas Gerais, entre julho de 2019 a março de 2020. Foram coletados dados sobre aspectos sociodemográficos e clínicos, e utilizado o instrumento *Quality of Life Questionnaire-Core 30* da *European Organization for Research and Treatment of Cancer* (EORTC QLQ-C30) para avaliação da qualidade de vida, aplicado em três momentos do tratamento. As seções de relaxamento foram aplicadas três vezes na semana durante todo o tratamento radioterápico. **Resultados:** A maioria das pacientes se encontrava na faixa etária de 41-60 anos, com nível médio de escolaridade, aposentadas, católicas, brancas, casadas e em estadiamento IIA. Os escores relacionados às escalas funcionais apresentaram melhora ao longo do tratamento. Para a escala de sintomas, os prevalentes foram insônia, constipação e fadiga. **Conclusão:** A prática de relaxamento foi eficaz na melhora dos domínios da qualidade de vida relacionada à saúde, sendo uma prática de baixo custo que pode ser aplicada por profissionais treinados.

Palavras-chave: neoplasias da mama/radioterapia; qualidade de vida; terapia de relaxamento; terapias complementares.

RESUMEN

Introducción: El cáncer de mama ocupa una de las primeras posiciones de las neoplasias malignas en la mujer. Entre los tipos de tratamiento se encuentra la radioterapia que, aunque de ser un método seguro, tiene varios efectos secundarios que perjudican la calidad de vida relacionada con la salud. **Objetivo:** Evaluar el efecto de la práctica integradora y complementaria de la relajación con visualización guiada en la mejora de la calidad de vida relacionada con la salud de mujeres con cáncer de mama sometidas a radioterapia. **Método:** Cuantitativo, cuasiexperimental, tipo pre y posprueba, realizado con 25 mujeres con cáncer de mama sometidas a radioterapia en un Centro de Oncología del Sur de Minas Gerais, entre julio de 2019 y marzo de 2020. Datos sobre aspectos sociodemográficos y clínicos se recogieron y se utilizó el instrumento *Quality of Life Questionnaire-Core 30* de la Organización Europea para la Investigación y el Tratamiento del Cáncer (EORTC QLQ-C30) para evaluar la calidad de vida, aplicado en tres etapas del tratamiento. Las secciones de relajación se aplicaron tres veces por semana durante todo el tratamiento de radioterapia. **Resultados:** La mayoría de los pacientes tenían entre 41 y 60 años, con nivel educativo medio, jubilados, católicos, blancos, casados y en estadificación IIA. Las puntuaciones relacionadas con las escalas funcionales mostraron mejoría a lo largo del tratamiento. Los síntomas prevalentes para la escala de síntomas fueron insomnio, estreñimiento y fatiga. **Conclusión:** La práctica de la relajación resultó efectiva para mejorar los dominios de la calidad de vida relacionada con la salud, siendo una práctica de bajo costo que puede ser aplicada por profesionales capacitados.

Palabras clave: neoplasias de la mama/radioterapia; calidad de vida; terapia por relajación; terapias complementarias.

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INTRODUCTION

Breast cancer is the most commonly diagnosed in women, second only to non-melanoma skin cancer. 2.1 million new cases were diagnosed in 2018, it is the leading cause of mortality by cancer worldwide with 627 thousand deaths in this same year[1].

For each year of the triennium 2020-2022, 625 thousand new cases of cancer are anticipated in Brazil, non-melanoma skin cancer is the most incident followed by prostate for men and breast for women. Breast cancer has an estimated risk of 61.61 new cases for each 100 thousand women[2].

Factors as cancer staging, age, clinical conditions, risk factors, histopathology, biology, molecular and genetics determine the type of treatment of choice[3,4]. Radical or conserving mastectomy, chemotherapy, hormone therapy, biologic therapy and radiotherapy are among the breast cancer treatments[5,6].

Earlier, radical mastectomy was the surgical treatment for breast cancer; however, clinical trials outcomes indicated there were similar survival results of conserving surgery related to radiotherapy[7,8].

The recommendations of postoperative radiotherapy to reduce risks of locoregional recurrence increased due to the growth of indications for conserving surgeries[9].

Teletherapy is the most common among the types of radiotherapy where the source of radiation is distant from the patient in addition to brachytherapy where appliers are placed in the area to be irradiated[10,11], little utilized for breast cancer due to its poor esthetic outcome[12].

Notwithstanding the technological advances, radiotherapy still causes immediate adverse side effects, the most frequent are radiodermatitis, skin darkening, pruritus, desquamation, local pain, axillar discomfort and fatigue[13,14]. Thoracic-irradiation late complications include heart problems, lung lesions, endocrine system issues and restriction of the arm movement at the surgery area[15,16].

The evaluation of the health-related quality of life (HRQoL) for patients in oncologic treatment is important because from its side effects it is possible to design strategies to minimize the damages caused in the domains of quality-of-life[17].

HRQoL is meant to quantify the consequences of the illness and its treatment according to the perception the individual has about its ability to live a useful life and develop its activities[18].

Because of oncologic therapies known increase of symptomatology and diminishing of HRQoL, integrative and complementary health practices (ICHP) appear to support the traditional therapy, reducing side effects, improving HRQoL and the adherence. Women are the great users of ICHP nationally and internationally[19].

Due to its wide utilization for patients with cancer in oncologic therapies, ICHP are standing out to reduce symptoms of pain, fatigue, anxiety, depressions, nausea and vomits, improved self-care and HRQoL[20-23].

The ICHP investigated in this study was guided-imagery relaxation, a body-mind practice focused to the interactions among the brain, mind, body and behavior and how emotional, mental and behavioral factors impact health[24].

Ordinance 702[25], dated March 21, 2018, included new ICHP in the National Policy of Integrative and Complementary Health Practices (NPICHP) as aromatherapy, apitherapy, bioenergetics, family constellation, chromotherapy, geo-therapy, hypnotherapy, hands imposition, anthroposophical/anthroposophy applied to health, ozone therapy, floral therapy and crenotherapy. Imagery guided relaxation is still not offered by the National Health System (SUS).

Nevertheless, the skilled nurse who is close to the patient almost all the time should endeavor to know low-cost techniques that need few technological resources but are able to bring benefits to this fragilized population.

ICHP covers imagery guide relaxation which is being widely utilized as a nursing strategy due to its efficacy to control and reduce cancer and treatment related symptoms.

The objective of this study was to evaluate the effect of ICHP of imagery guided relaxation to improve HRQoL of women with breast cancer in radiotherapy.

METHOD

Quantitative, quasi-experimental study with pre and post-test evaluation with collection of data at a radiotherapy service of an oncology center in the south of Minas Gerais between July 2019 and March 2020 by convenience sampling. Women aged or older than 18 years diagnosed with breast cancer initiating radiotherapy treatment were enrolled.

Patients failing to present clinical and cognitive conditions to respond to questionnaires and participate of the relaxation were excluded. The following questions were applied to evaluate the cognitive status of the potential participants: full name, day of the week, whether they were currently undergoing another type of integrative and complementary therapy or in concomitant chemotherapy treatment with radiotherapy because of potential exacerbation of side effects.

No attendance of relaxation sessions (minimum of eight sessions pending on the number of radiotherapy applications), the participant quit the study and treatment-related complications were defined as discontinuation conditions. Initially, 19 participants did not meet the

inclusion and exclusion criteria, 12 for concomitant radiotherapy and chemotherapy, three for non-clinical and cognitive conditions and four refused to participate. Therefore, 30 participants were selected, one of them was unable to attend all the sessions due to transportation problems, one for concentration problems during relaxation and one, for radiodermatitis, discontinuing the radiotherapy.

Firstly, the patients who were initiating weekly radiotherapy treatment were approached and briefed about the study goals, the sample was formed by non-probabilistic consecutive technique. Those who accepted to participate signed the Informed Consent Form.

Next, they were conducted to a secluded room and invited to seat in a comfortable chair with foot-support to respond to the sociodemographic, clinic-therapeutic questionnaire and to the instrument evaluating Health-Related Quality of Life – the European Organization for Research and Treatment of Cancer (EORTC) Quality-of Life Questionnaire-Core 30 (QLQ-C30) validated for the Brazilian population[26] for patients with cancer.

The questions addressed the last week of radiotherapy scored by Likert-type scale. According to EORTC, the scales and items are scored from 0 to 100 where zero is worst functioning and 100, the best in the functioning scales and health global status/quality-of-life (HRHGS/QoL); for symptoms scales and financial impact, the opposite occurs, as close to zero, less symptoms and to 100, more symptoms[27].

After responding to the questionnaire and feeling comfortable, the relaxation session initiated guided by a 15-minutes CD produced by the support network for patients with cancer of Florianópolis-SC (State of Santa Catarina); the patients were oriented to close the eyes and initiate the relaxation through profound respiratory movements, figuring agreeable scenes of the nature as birds singing and sound of the ocean. Next, the patient was guided to mentalize the image of her cancer and white blood cells, fighting them and seeing their bodies strong and healthy again. In addition, the patient was invited to visualize scenes associated with the activities that she thought she was unable to do because of the disease, creating expectation and trust that now she was able to do. In the end, the patient should thank for giving this time to herself and opened the eyes slowly to insert herself back into the environment.

The instrument EORTC QLQ-C30 was applied in three moments of the radiotherapy treatment: in T1 (baseline) when the treatment was initiating until the fourth session, T2 (middle) and T3 (final). The sessions occurred three times a week along the course of the radiotherapy treatment.

The software Statistical Package for Social Science version 24.0 (SPSS for Windows) was utilized to analyze the data. Means and standard deviations were calculated for descriptive analysis. The Wilcoxon test was adopted to describe the behavior of the paired variables to show significant differences ($p<0.05$).

The Institutional Review Board of "*Universidade Federal de Alfenas*"(CEP/Unifal-MG) approved the study, report number 3.334.033.

RESULTS

27 women with breast cancer in radiotherapy treatment joined the study according to the inclusion criteria.

Most of them were in the age-range of 41-60 years (44%), married (63%), retired/housewife (37%) with the following professional activities: teacher, truck driver, financial assistant, house-maid and cleaning staff. Intermediate education level (63%), White (56%) and natural from Minas Gerais South cities (96%).

77% had two children or more and 56% breastfed for more than six months.

96% submitted to surgical procedures, 30%, node removal, 33%, quadrantectomy and 33%, total mastectomy. 81% underwent from 18 to 20 sessions of radiotherapy and 19%, from 20 to 30 sessions. Of these, 30% had not undergo chemotherapy prior to radiotherapy.

The Cronbach Alpha coefficient for T1 α=0.815, T2 α=0.816 and T3 α=0.888 was calculated for the psychometric characteristics of the instrument QLQ-C30, revealing reliability of the instrument in three timepoints.

Mean and standard deviation of the scales of QLQ-C30 are shown for the three timepoints in Table 1.

The initial scores of the functional scale were satisfactory based in the descriptive analysis of the questionnaire EORTC QLQ-C30 as shown in Table 1. In the consecutive evaluations in T2 and T3, the HGS/QoL and the five functional scales were satisfactory but with increase of the score's means, possibly indicating that these domains improved during the radiotherapy treatment.

In comparison with the initial scales of signs and symptoms, the most frequent symptomatologies were insomnia, constipation, fatigue and pain which remained unchanged or improved during the radiotherapy treatment. Fatigue, pain and constipation diminished consecutively. Nevertheless, the score related to insomnia was higher against the initial score in T2 but in T3 returned to the initial, similar to what happened with the score loss of appetite .

Table 1. Mean and standard deviation of the scales of the instrument QLQ-C30 in the three times of evaluation, T1 (baseline) T2 (middle) and T3 (final), Alfenas, MG, 2019-2020

Scales	T1	T2	T3
	Mean (SD)	Mean (SD)	Mean (SD)
Global health status	76 (24)	81 (19)	87 (14)
Physical functioning	77 (22)	81 (19)	83 (19)
Role functioning	77 (30)	78 (25)	87 (24)
Cognitive functioning	78 (24)	81 (22)	84 (20)
Social functioning	86 (17)	84 (22)	85 (24)
Emotional functioning	77 (26)	77 (21)	83 (23)
Scale of symptoms			
Fatigue	21 (21)	19 (17)	18 (19)
Nausea and vomit	7 (18)	6 (11)	3 (10)
Pain	17 (25)	13 (22)	13 (16)
Dyspnea	11 (23)	10(22)	11 (18)
Insomnia	33 (43)	36 (43)	33 (43)
Loss of appetite	16 (28)	18 (30)	9 (22)
Constipation	22 (33)	21 (31)	21 (31)
Diarrhea	2 (9)	2 (9)	0 (0)
Financial difficulties	14 (27)	4 (11)	6 (16)

Caption: SD = Standard deviation.

There was no important deterioration in any scale at the end of the radiotherapy treatment, all the functional scales and HGS/QoL continued satisfactory.

To compare the evaluations in 3 timepoints of the HRQoL domains, Table 2 shows the Wilcoxon test of the scales of QLQ-C30 in T1(baseline), T2 (middle) and T3 (final) as demonstrated in Tables 2, 3 and 4.

The initial and the intermediate evaluation of the radiotherapy treatment were compared (T1 x T2) in Table 2. No statistically significant differences were detected in these timepoints.

From T2 to T3, statistically significant differences were found for the scales of role performance (p=0.0119) and emotional function (p=0.0115), indicating that the intervention contributed to improve these domains as shown in Table 3.

Statistically significant differences were found from T1 to T3 in HGS/QoL (p=0.0062) in the scales of physical function (p=0.0360), role functioning (p=0.0450), emotional functioning (p=0.0166), insomnia (p<0.0001) and financial difficulties (p=0.0467).

Table 2. Wilcoxon test of the instrument QLQ-C30, in timepoints (T1 × T2), Alfenas, MG, 2019-2020

Variables	z	p
HGS/QoL x HGS/QoL	1.064	0.1437
PF X PF	1.549	0.0607
RF X RF	0.207	0.4181
CF X CF	1.255	0.1046
SF X SF	0.420	0.3372
EF X EF	0.402	0.3437
FAT x FAT	0.544	0.2931
NAV x NAV	0.314	0.3766
PAIN x PAIN	1.067	0.1430
DYS x DYS	0.269	0.3937
INS x INS	0.629	0.2647
LOA x LOA	0.350	0.3631
CON x CON	0.255	0.3994
DIA x DIA	0.000	0.5000
FDI X FDI	2.201	0.0139

Captions: HGS/QoL = Health Global Status/Quality of Life; PF = Physical Functioning; RF = Role functioning; CF= Cognitive functioning; SF = Social Functioning; EF = Emotional Functioning; FAT = fatigue; NAV = Nausea/vomit; PAIN = Pain; DYS = Dyspnea; INS = Insomnia; LOA = Loss of appetite; CON = Constipation; DIA = Diarrhea; FDI = Financial difficulties.

DISCUSSION

It is essential to know the sociodemographic and clinic-therapeutic profile when an intervention is planned and

Table 3. Wilcoxon test of QLQ-C30 in T2 x T3, Alfenas, MG, 2019-2020

Variables	z	p
HGS/QoL x HGS/QoL	1.642	0.0502
PF X PF	1.363	0.0865
RF X RF	2.260	0.0119*
CF X CF	1.121	0.1311
SF X SF	0.269	0.3937
EF X EF	2.274	0.0115*
FAT x FAT	0.560	0.2847
NAV x NAV	0.944	0.1726
PAIN x PAIN	0.722	0.2352
DYS x DYS	0.269	0.3937
INS x INS	0.629	0.2647
LOA x LOA	1.478	0.0697
CON x CON	0.000	0.5000
DIA x DIA	0.000	0.0899
FDI X FDI	1.342	0.0899

Captions: HGS/QoL = Health Global Status/Quality of Life; PF = Physical Functioning; RF = Role functioning; CF= Cognitive functioning; SF = Social Functioning; EF = Emotional Functioning; FAT = fatigue; NAV = Nausea/vomit; PAIN = Pain; DYS = y Dyspnea; INS = Insomnia; LOA = Loss of appetite; CON = Constipation; DIA = Diarrhea; FDI = Financial difficulties. (*) p<0.05.

Table 4. Wilcoxon test of QLQ-C30 between (T1×T3), Alfenas, 2019-2020

Variables	z	p
HGS/QoL x HGS/QoL	2.499	0.0062*
PF X PF	1.799	0.0360*
RF X RF	1.695	0.0450*
CF X CF	1.645	0.0500
SF X SF	0.000	0.5000
EF X EF	2.130	0.0166*
FAT x FAT	1.088	0.1384
NAV x NAV	0.809	0.2092
PAIN x PAIN	0.282	0.3888
DYS x DYS	0.000	0.5000
INS x INS	0.917	0.1795
LOA x LOA	1.244	0.1068
CON x CON	0.051	0.4797
DIA x DIA	1.342	0.0899
FDI X FDI	1.677	0.0467*

Captions: HGS/QoL = Health Global Status/Quality of Life; PF = Physical functioning; RF = Role functioning; CF = Cognitive Functioning; SF = Social Functioning; EF = Emotional Functioning; FAT = Fatigue; NAV = Nausea/vomits; PAIN = Pain; DYS = Dyspnea; INS = Insomnia; LOA = Loss of appetite; CON = Constipation; DIA = Diarrhea; FDI = Financial difficulties.
(*) p<0,05.

investigate its effects over HRQoL. The age-range with highest frequency was 41-60 years old. Breast cancer incidence tends to increase with age, specially above 50 years as other studies have already corroborated[9]. But the incidence has increased for younger women recently. Women younger than 35 years have incidence from 4% to 5% in Brazil, earlier it was only 2%. This has also been noticed in other developing countries, possibly explained by lifestyle changes, more common nowadays with less children, late pregnancy and inappropriate feeding[9].

Most of the women in oncologic treatment are married[28,29] as other studies concluded.

The occupation of the participants of the study are consistent with the education level, a substantial portion of them completed high school and were cognizant of the pathological process and treatment-related side effects. It is known that low-education can impede the access to quality information[30] and that the knowledge about breast cancer and its risk factors increase as education advances[31].

Most of the women claim they are white. Despite being a cancer common for all ethnicities, it occurs more frequently in white women, a well-established reality[9,11]. The majority declared they were catholic, consistent with the affirmation that the religion of women with cancer in oncologic therapies is Catholicism as found in the literature[32,33]. Spirituality and religiosity stand out as contributors of the process of health recovery and coping with the disease, bringing a new meaning to the experience of sickening[34].

Great part of the women had until two children, 22% were childless. Nulliparity is an important factor associated with the development of breast cancer[6]. Breastfeeding at least for six months is a known and recommended protective factor of breast cancer, the participants claimed they breastfed for more than six months – a relatively high period[9,6].

Further to the radiotherapy treatment, 70% of the participants had undergone early chemotherapy. Most of them were at initial cancer stages – 0, I A, II A and II B – which can lead to better prognosis, an important ally to improve survivorship. Early detection and screening of vulnerable populations are essential for improved care and positive impacts on HRQoL[35].

Through EORCT QLQ-C30, the HRQoL evaluation was satisfactory with high scores of mean and standard deviation for physical functioning, role functioning, cognitive, social and emotional functioning in the beginning of the treatment. The scores increased in the course of the treatment and although satisfactory, improved in time, with better means in the end than in the initial of the treatment. Functioning is better when scores are higher and close to 100[36].

The EORTC QLQ-C30 evaluation of the symptoms scale revealed that insomnia, constipation, fatigue and pain had the higher scores, similar to a study investigating HRQoL and related factors for Iranian women diagnosed with breast cancer utilizing the same instrument[37]. Insomnia (22.73±14.89) and fatigue (19.81±14.42) were the most prevalent.

Nausea and vomits, dyspnea, loss of appetite, diarrhea and financial difficulties had low scores for the women investigated in the present study.

The impact of radiotherapy treatment in women with breast cancer was investigated too in a study where psychological, financial and sexual aspects were evaluated with the instruments EORTC QLQ-C30 and QLQ-BR23; for the scales of symptoms, the highest scores were for insomnia (29.99), fatigue (26.57%) and pain (23.05)[38]. It corroborates the results of the present study: worst scores for these symptoms, including constipation.

The changes of chemotherapy treatment times were compared, demonstrating the effect of imagery-guided relaxation. Significant differences were found in T2 *vs* T3 for role functioning (p=0.0119) and emotional functioning (p=0.0115); between T1 *vs* T3, physical functioning (p=0.0360), role functioning (p=0.0450) and emotional functioning (p=0.0166) were significant. For the scale of symptoms, highly significant differences were found for insomnia (p=0.0001) and financial difficulty (p=0.0467), indicating that relaxation had positive influence on these symptoms in the course of the treatment.

A study whose objective was to evaluate the quality of life of patients with breast cancer and detect post-treatment changes concluded that the general symptoms and physical functioning worsened significantly, because of chemotherapy, hormone therapies and radiotherapy, usually after surgical treatment[29].

A randomized trial on the effect of imagery-guided relaxation in reducing anxiety and depression of patients with breast cancer utilized the Hospital Anxiety and Depression Scale *(*HADS) applied before, during and after brachytherapy and the instrument QL CA AFex for quality of life; the sample consisted of 66 patients, 32 in control and 34 in intervention. A 10-minutes relaxation session was applied to control group who received a CD to continue at home. The intervention had a statistically significant reduction of anxiety (p=0.008), depression (p=0.03) and body discomfort (p=0.04) and better QoL compared with control group[39].

The study was non-randomized because of the limited number of women with breast cancer of the study sample, which is a limitation. Another difficulty was the time the participants had to attend the sessions due to transportation difficulties. To overcome these issues, the collection period could be extended which would allow the randomization with more women investigated.

CONCLUSION

Relaxation with imagery guided techniques was effective in improving HRQoL.

The mean of scores of HGS/QoL improved throughout the radiotherapy treatment, an indication that these women believed their health and HRQoL were better in the last week of radiotherapy. Functioning-related scores were satisfactory but improved and reached better levels in the end of the treatment. Only the means of scores of social functioning which involves family relations and social activities oscillated but were satisfactory.

For symptoms, insomnia was prevalent followed by constipation and fatigue, the median of insomnia had the worst score and returned to the initial score in the end of the treatment. The symptoms of constipation and fatigue were less intense if compared with the first evaluation. T1 and T3 of radiotherapy treatment were more significant for the scales of HGS/QoL, physical functioning, role functioning, insomnia and financial difficulties.

Within the current scenario, with the increase of the chronic-degenerative diseases, mainly cancer, it is mandatory that the nurse turns its look for patients in oncologic treatment to reduce the side effects and improvement of HRQoL. The use of imagery guided relaxation techniques was effective and beneficial due to its low cost, few technological resources, can be applied by skilled professionals and supporting the entire therapeutic course.

Few studies addressing women in radiotherapy treatment were found which strengthen the necessity of more studies because the radiotherapy treatment has side effects that tend to cause harm to the HRQoL.

CONTRIBUTIONS

All the authors contributed substantially for the study conception/design, collection, analysis and/or interpretation of the data, wording and/or critical review and approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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