The effect of therapeutic communication based on Peplau’s model on body image and pain among cancer patients undergoing radiotherapy in the Parsian hospital of Shahrekord

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Abstract

Background and aims: Cancer has significant effects on the lives of cancer patients and their families, so effective communication skills are an integral part of the process of caring. This study aims to investigate the effect of Peplau’s Therapeutic communication model on body image and pain among cancer patients.

Methods: The present research is a quasi-experimental study conducted with the attendance of 64 cancer patients undergoing radiotherapy in Shahrekord Parsian Hospital in 2020-2021. First, the research units were selected purposefully and then randomly assigned to intervention and control groups. In the intervention group, Peplau’s nursing model was done in four stages individually. Data collection tools were a demographic survey questionnaire, McGill Pain Questionnaire, and Body Image Questionnaire (MBSRQ). The mean scores before, immediately after, and three months after were compared using SPSS version 24 software.

Results: Before interfering, the results of the study indicated the standard deviation ± mean of body image scores in control and intervention groups were respectively 204.81 ± 2.79, 206 (217-75.187) and these scores were not significantly different from each other (P ≥ 0.568). Whereas these scores immediately and three months after had statistically significant differences from each other (P < 0.01). The results also indicated that the Standard deviation ± mean of pain scores in control and intervention groups were 59.56 ± 0.793 and 58.25 ± 0.627 were not significantly different (P ≥ 0.248). However, these scores immediately and three months after had statistically significant differences from each other (P < 0.01).

Conclusion: The findings of this research showed that implementing Peplau’s theory can improve body image and decrease pain in patients. Due to this program’s effectiveness, low cost, and safety, it is recommended for consideration in the nursing care program.

Keywords: Cancer, Radiotherapy, Peplau nursing model, Body image, Pain

Introduction

Cancer is one of the leading causes of mortality globally. In Iran, cancer is currently the second leading cause of death, resulting in over 70000 deaths each year (1). Despite medical breakthroughs and technological advances in the prevention and treatment of cancer, the prevalence of people diagnosed with cancer has been on an upward trend in all countries (2). In 2023, 1958310 new cancer cases and 609820 cancer deaths are projected to occur in the United States (3). Biological disorders in the body of the affected person cause these deaths. In other words, cancer is clinically caused by the uncontrolled growth of several cells. It may metastasize to other parts of the body (4). There are various cancer treatments, depending on the cancer type and how advanced it is, such as surgery, radiation therapy, chemotherapy, targeted therapy, and precision medicine. Each of these methods has its complications. For example, many chemotherapy drugs cause the production of free radicals, which can justify the mechanism of the toxic effects of these substances on normal cells (5,6). Other treatments, such as radiotherapy, are widely used. In addition to surgery, radiation therapy is used to treat cancer. So, radiotherapy is an essential factor in the treatment of breast, prostate, cervical, head and neck, lung, and brain cancers, as well as sarcoma (7). Radiotherapy is a successful intervention with a therapeutic and palliative role or both, which can be performed in the shortest possible time. Moreover, it is well-tolerated and economically affordable (8). Damages caused by radiotherapy and other cancer treatments can cause the loss of body parts, wounds, the need to do prosthesis adjustment, reduced physical activities, multiple tumors on the neck, eyes, head, and alopecia (loss of hair) (9). Each of these changes puts the

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body image under threat. Therefore, cancer itself and its treatment cause negative effects on the mental image of the body, and in this sense, it threatens a person's mental health (10). In explaining body image, it should be said that it is a mental concept that includes personal perceptions, thoughts, and feelings concerning social factors (11).

Most studies that investigate body image in cancer patients and survivors are exclusively conducted with female participants and focus nearly entirely on the most common cancer entities like breast cancer. Studies with men and less frequent types of cancer are thus rare. Additionally, it is difficult to infer the actual extent to which cancer patients' body image is impaired when compared to the general population, as the number of case-control studies is also very limited (12).

Psychologically, body image disorders are directly related to low self-esteem, decreased sexual performance, poor social relationships, and depression. In addition, body image disorder in cancer patients is considered one of the most important complications of the disease, which greatly affects the return of patients to normal life. In this way, body image is affected by emotional, cognitive, behavioral, and social factors. It is known that these side effects can be reduced to a great extent by performing appropriate interventions (13).

In other instances, the issue is pain in different parts of the patient's body, which can be affected by common cancer treatment methods. Many patients face different complications during their treatments. The main cause of pain is tumor pressure on bones, nerves, or other parts of the body. When pressure is applied to the body, patients experience chronic pain (14). Cancer patients experience pain as a frequent symptom, and cancer is perceived as a more painful disease than other medical conditions. 66% of patients with advanced, metastatic, or terminal disease have pain. Besides, 38% of patients with cancer pain report moderate or severe pain.

Pain interferes with daily activities, sleep, temperament, and social interactions. Pain can cause feelings of hopelessness, worry, anxiety, and depression, especially if the pain is chronic. There is also evidence that confirms that negative moods and emotions can lead to pain or increase it (15). Pain is a perceived threat or injury to a person's biological integrity. Physiologically, chronic pain causes long-term and destructive stress associated with neuroendocrine regulation disorders, fatigue, muscle pain, and mental and physical disorders (14,15).

Considering the negative physical and psychological effects and pain of cancer patients, it is necessary to help this group of patients by using care methods so that they can tolerate the effects of the disease and treatment and control and reduce their pain. Peplau's nursing model seems to be considered one of the appropriate models in this field.

Hildegard Peplau proposed this nursing model based on the interaction and participation of nurse and patient. He stated that the interaction between the patient and the nurse has a qualitative effect on the disease results and emphasizes this process is related to the nurses (16). This model has four stages: familiarization, identification, exploitation, and conclusion. The familiarization phase starts when the patient meets the nurse for the first time. In this phase, the nurse should attract the patient's trust (17). In the identification stage, the care required for each patient is determined. Then, in the operation stage, based on the needs of the patients and considering their interests, the nurse performs the necessary professional actions and interventions to achieve the patients' independence and solve their problems. In the last stage, the performed process is evaluated to determine the usefulness of the nurse-patient relationship.

At this stage, the degree of achieving the set goals, the impact of interventions and behavioral and emotional changes, and summarizing and reviewing the communication process are made (17,18). So far, the effects of different nursing models on different psychological variables in different diseases have been investigated. Belay et al investigated the effect of the interpersonal nursing model on the quality of life of breast cancer patients with mental health disorders. They reported that this nursing model caused a significant improvement in anxiety, depression, physical performance, health-related quality of life, and fatigue in cancer patients (19). Cacayan et al have also reported the positive effects of Peplau's nursing model on reducing the anxiety level in covid-19 patients (20). Galvão et al also reported the effects of the interpersonal nursing model on alleviating cancer patients (21). All these studies indicate the positive effects of nursing interventions on psychological variables and the recovery of patients. What makes the present research necessary is that, from the time of diagnosis to the cessation of cancer treatment, patients face various psychological issues such as depression, anxiety, fear of recurrence, and lack of hope. Identifying these interventions to improve the mental health of cancer patients can highlight the benefits of providing psychological support and its consequences in nursing (22). Therefore, the concept of interpersonal relationships provides nurses with a suitable framework for understanding the difficult issues that patients experience and helps nurses understand and learn from responses related to patients' illness and health experiences. The nurse-patient relationship is unique in process and outcome, and a specialized relationship differs from most common social relationships. Peplau's interpersonal relationship theory explains this process (23). The effect of this model on cancer patients undergoing radiotherapy has been studied less despite the many psychological problems they face; therefore, the study was conducted with the aim of the nurse's role in effective communication regarding body image and pain.

Methods

The present quantitative study is a quasi-experimental intervention with two control and intervention groups.
The study's statistical population included cancer patients undergoing Radiotherapy at Parsian Shahrekord Hospital. A minimum sample size of 27 people was considered. However, considering a confidence factor of 95%, a power of 80%, and an attrition rate of 10%, the required sample size was calculated to be 32 people in each group. Therefore, a total of 64 people were studied (24). In this study, after obtaining permission from the Research deputy and the Ethics Committee of Shahrekord Medical University through receiving the ethics code number IR.SKUMS.REC.1399.275 and attendance of other competent authorities in the radiotherapy department of Parsian Hospital and considering Suitable inclusion criteria including having cancer, not suffering from mental illness, not suffering from other physical diseases, and age over 15 and exclusion criteria including The occurrence of severe physical complications caused by the disease or treatment that the patient is unable to continue to cooperate and unwillingness to continue participating in the study, and obtaining informed consent, information was collected. The data collection tool included a questionnaire to record demographic information, including (gender, age, education degree, marital status, type of residence, economic status, family history of cancer, and medical History of cancer) and body image and pain questionnaires to measure independent variables. In this research, the Body Image Questionnaire (MBSRQ) was used to measure body image. This questionnaire contains 68 questions. It is answered by the individual and is designed to evaluate the individual's attitude about the different dimensions of the body image structure. This questionnaire includes three scales: A) The body-related scale (BSRQ): all questions (except the number of questions presented in two subscales) are scored as follows: score 1 for "completely disagree," 2 for "somewhat disagree," 3 for "I have no opinion," 4 for "somewhat agree" and 5 for "completely agree." B) Body Satisfaction Scale (BASS): questions 60 to 68 (60, 61, 62, 63, 64, 65, 66, 68) with a score of 1 for "I am completely dissatisfied;" 2 for "I am somewhat dissatisfied;" 3 for "I have no opinion;" 4 for "I am somewhat satisfied;" and 5 for "I am completely satisfied" is calculated. c) The scale related to the person's attitude about weight includes questions 20, 56, 57, 58, 59 and 66. This questionnaire is based on the Likert scale, which is scored from 1 to 5, and the analysis of this questionnaire can be used in two ways: 1) Analysis based on questionnaire components and 2) Analysis based on the score obtained. In Iran, the reliability and validity of the questionnaire was conducted by Rajabi et al on 200 women with breast cancer, and an alpha coefficient of 0.7 was obtained, which is acceptable (25). The reliability of this questionnaire in the current study was also measured by Cronbach’s alpha calculation method. This value was equal to 0.86, indicating the questionnaire's acceptable reliability. The McGill Pain Questionnaire (MPQ) was used to measure the severity of pain in the present study. This questionnaire has four dimensions: sensory perception of pain in sets 1 to 10, emotional perception of pain in sets 11 to 15, perception of pain evaluation in set 16, and various pains in sets 16 to 20. The range of painless = zero, the range of mild pain = 1, the range of uncomfortable pain = 2, the range of excruciating pain = 3, the range of terrible pain = 4, and the range of agonizing pain = 5. The total score of the patient's pain is equal to that obtained from all sections in different dimensions of pain. If the respondent does not find any statements corresponding to the description of his pain, that group is given a score of zero. The total scores of that dimension are added together to obtain the score for each dimension. The sum of the scores of each question is calculated to obtain the overall score of the questionnaire. A higher score indicates a higher perception of pain in the respondent and vice versa.

The MPQ was localized by Khosravi et al. It has high validity and reliability. In this way, the questionnaire was translated using the method of cross-cultural adaptation and keeping the original structure of the MPQ. A total of 84 patients were questioned, and after 24 hours, the questionnaire for 30 patients whose conditions they had kept constant was completed again. According to their report, Cronbach's alpha coefficient of the questionnaire was calculated as 0.85, and the reliability coefficient was above 0.8 in all areas (26). The reliability of this questionnaire in the present study was also measured using Cronbach's alpha method. This value was estimated as 0.85, which had acceptable reliability.

Demographic, pain, and body image questionnaires were distributed among both groups and collected at a certain period. Then, the communication program was conducted according to the protocol in the case group. In the first stage, therapeutic communication (acquaintance) was held individually with the patient and his family in the hospital and at home in person and remotely through the phone during three sessions of 20 to 30 minutes, depending on the location and needs of the patient. In the second stage (identification), during seven sessions of 30 to 40 minutes for each patient, the patients were encouraged to express their feelings, and the patients' physical-psychological problems were collected through questions and answers. In order to get a better evaluation of mental and physical problems, in cases where there was ambiguity or the need for psychological support, the help of a psychologist was taken, and the most appropriate way to help the patient was determined. In the third stage (operation), the care program was conducted according to each patient's problems, using educational pamphlets, video clips, WhatsApp, and relevant questions and answers during seven sessions of 30-40 minutes based on the needs of each patient. In the fourth (final) stage, three sessions of 20 to 30 minutes were conducted, and all the training given was evaluated, and ambiguous points were resolved. Immediately after completing the training sessions, the questionnaires were given to the subjects again, and after enough time (48 hours) to complete them, they were collected. The final data collection was...
done three months after the intervention. In both test and control groups, evaluation and measurement were done using the listed questionnaire. Finally, after collecting the data of the two groups immediately after the intervention and three months after the intervention, it was analyzed using SPSS 24 software. Demographic characteristics were measured using Fisher’s exact test, and body image and pain were measured using an independent t-test.

**Results**

Finally, 64 patients aged 32 to 67 years with an average of 47.97 ± 8.93 years. The average age of patients in the control group was 47.59 ± 8.21 years; in the intervention, it was 48.34 ± 9.70 years. The Independent t-test showed no difference in age between the two groups (P ≥ 0.740).

In addition, other demographic characteristics such as marital status (P ≥ 0.509), education degree (P ≥ 0.580), gender (P ≥ 0.219), residence status (P ≥ 0.301), Family history of cancer (P ≥ 1.00), economic status (P ≥ 0.749) and History of systemic disease (P ≥ 0.105) of the two study groups were homogeneous. The statistical tests of chi-square and independent samples t-test showed no significant difference between the two groups (P > 0.05) (Table 1).

The results show no significant difference between the test and control groups’ average body image scores before the intervention (P ≥ 0.568). That is, the two groups were homogeneous (Table 2). However, this difference was significant in the measurement immediately after the intervention and the three-month follow-up, based on the independent t-test (P < 0.001).

The results show that there is no significant difference between the average pain scores of the test and control groups before the intervention (P ≥ 0.248) meaning the two groups were homogeneous (Table 3). However, this difference was significant in the measurement immediately after the intervention and the three-month follow-up, based on the independent t-test (P < 0.001).

Table 1. Distribution of demographic characteristics of patients in test and control group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>control group No. (%)</th>
<th>Intervention group No. (%)</th>
<th>P value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>28 (5.87)</td>
<td>25 (78.12)</td>
<td>0.509</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>4 (12.5)</td>
<td>7 (21.87)</td>
<td></td>
</tr>
<tr>
<td>Degree</td>
<td>Under Diploma</td>
<td>8 (25)</td>
<td>8 (25)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diploma</td>
<td>7 (21.87)</td>
<td>8 (25)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Associate Degree</td>
<td>11 (34.37)</td>
<td>6 (18.75)</td>
<td>0.580</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s degree</td>
<td>5 (15.62)</td>
<td>7 (21.87)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Master’s Degree and above</td>
<td>1 (3.12)</td>
<td>3 (9.37)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>18 (56.25)</td>
<td>22 (68.75)</td>
<td>0.219</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14 (43.75)</td>
<td>10 (31.25)</td>
<td></td>
</tr>
<tr>
<td>Type of residence</td>
<td>Urban</td>
<td>22 (68.75)</td>
<td>19 (59.17)</td>
<td>0.301</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>10 (31.25)</td>
<td>13 (40.62)</td>
<td></td>
</tr>
<tr>
<td>Family history of cancer</td>
<td>Yes</td>
<td>15 (46.87)</td>
<td>16 (50)</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>17 (53.12)</td>
<td>16 (50)</td>
<td></td>
</tr>
<tr>
<td>Economic status</td>
<td>Excellent</td>
<td>6 (18.75)</td>
<td>7 (21.87)</td>
<td>0.749</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>8 (25)</td>
<td>11 (34.37)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>13 (40.62)</td>
<td>11 (34.37)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>5 (15.62)</td>
<td>3 (9.37)</td>
<td></td>
</tr>
<tr>
<td>History of systemic disease</td>
<td>Yes</td>
<td>18 (56.25)</td>
<td>12 (37.5)</td>
<td>0.105</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>14 (43.75)</td>
<td>20 (62.5)</td>
<td></td>
</tr>
</tbody>
</table>

Based on Fisher’s exact test.

Table 2. Mean and Standard deviation of body image score of patients in control and intervention groups during the study

<table>
<thead>
<tr>
<th>Phase</th>
<th>Group</th>
<th>Control group Mean ± SD</th>
<th>Intervention group Mean ± SD</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Before intervention</td>
<td>Immediately after the intervention</td>
<td></td>
</tr>
<tr>
<td>Body image</td>
<td></td>
<td>204.81 ± 2.79</td>
<td>206.21 ± 3.71</td>
<td>0.568</td>
</tr>
<tr>
<td></td>
<td></td>
<td>204.78 ± 2.47</td>
<td>267.09 ± 2.22</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Three months after the intervention</td>
<td>202.81 ± 2.70</td>
<td>266.25 ± 2.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intragroup P value</td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changes during the study</td>
<td></td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Based on the independent t-test.
Table 3. Mean and Standard deviation of pain score of patients in two control and intervention groups during the study

<table>
<thead>
<tr>
<th>Phase</th>
<th>Control group</th>
<th>Intervention group</th>
<th>P value*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean ± SD</td>
<td>Mean ± SD</td>
<td></td>
</tr>
<tr>
<td>Before intervention</td>
<td>59.56 ± 0.793</td>
<td>58.25 ± 0.627</td>
<td>0.248</td>
</tr>
<tr>
<td>Immediately after the intervention</td>
<td>61.59 ± 1.25</td>
<td>42.81 ± 0.441</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Pain</td>
<td>60.50 ± 0.573</td>
<td>41.06 ± 0.411</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Intragroup p-value</td>
<td>0.086</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Changes during the study</td>
<td>-0.937 ± 0.777</td>
<td>17.21 ± 0.745</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*Based on the independent t-test.

Discussion
This research was conducted to investigate the effect of Peplau’s Therapeutic communication model on body image and pain among cancer patients. Nursing theories are a suitable tool to improve the quality of care. Peplau’s theory acts as a communication model to provide patients’ problems in the role of an educator after identifying patients individually (27). One of the common psychological problems of cancer patients is the changes in body image, which was discussed in the Hosseinzadeh et al study to investigate the effect of interventions in improving self-esteem and body image in cancer patients. They reported that educational and counseling interventions can effectively promote and improve these complications (28). Interventions play a positive role in improving the image score in cancer patients. Hsu et al, in research titled The Effectiveness of Informational and Emotional Counseling on the Psychological Impact of Women with Breast Cancer Undergoing Surgery (29). A similar study by Izadi and colleagues (2013) showed the effect of group cognitive-behavioral intervention in improving body image and increasing self-confidence in women with breast cancer after mastectomy surgery (30). Acquainting and preparing nurses is one of the challenges of the clinical environment, where nurses play an important role as nurse educators (31). Ghafari et al investigated the role of communication between patients and nurses in the body image of 275 breast cancer patients in the oncology departments of two hospitals in Tabriz. The study’s results showed how communication skills between patients and nurses improve body image (32). The complications of chemotherapy and treatment of cancer patients raise the need for informational and emotional counseling (33). The results of research by Pinto and Andrade in 2017 showed that the image of a person’s body is a mental representation of his physical and appearance characteristics. In other words, cultural, social, individual, and biological factors affect this image and our self-confidence. Self-concept is formed through interaction with others. Therefore, negative self-image affects how these women face their self-image (34).

One of the stressful factors for cancer patients is physical changes and reduced communication and self-confidence. The study by Richard et al shows that supportive interventions and appearance changes can work effectively (35), and the study on relaxation skills and sedation by Harorani et al also shows positive results (36). Ghorbani et al concluded supportive nursing care through strengthening interpersonal relationships, increasing positive thoughts, and identifying strengths and abilities in reducing negative emotions, and the results detected that the relationship is effective, which is in line with the current study (37). It seems that nurses can use this theory by following a suitable pattern and performing different stages of Peplau communication, including familiarization, identification, exploitation, and dissolution. In a study to determine the effect of communication therapy based on Peplau’s theory on the anxiety and depression of patients who volunteered for coronary artery bypass surgery, Zare et al concluded that the average anxiety scores in the test group decreased after communication therapy. A statistically significant difference was observed between the two test and control groups in terms of the average level of anxiety; the results are consistent with the present study (38). Based on the current study, the same results were obtained in Manzari et.al’s study on anxiety and pain in burn patients before and after the implementation of Peplau’s nursing theory, which shows a statistically significant difference in the test group before and after the implementation of the communication therapy program. It shows the effect of Peplau’s intervention on reducing anxiety and pain in patients, which is consistent with this study (39). Nurses play a predominant role in the patient’s educational process. Patient education could support cancer patients to support the patient’s self-efficacy and self-care skills for chronic pain (40). Mistiaen et al showed that interpersonal communication between patient and nurse can reduce pain in patients to a great extent in research aimed at investigating the effect of patient-medical staff communication on pain (41). Kim-Soon et al reported the intervention can cause effective communication between patients and treatment staff, in research aimed at investigating the role of interpersonal communication between oncology department patients and treatment staff and its role in palliative care, which can mobilize the best skills and human abilities to deal with the complications of the disease. The results of this study indicated reducing stressful situations and maintaining the independence and dignity of the people under care can improve their resilience against the disease and relieve the complications of the disease, such as pain (42). One of the challenges of using communication tools is their ability to be used in
different stages and degrees of cancer. In research, Canivet et al reported that a training program based on general communication skills is useful for Optimal management of cancer pain and can include a number of strategies (43). However, the results of the research by Bahrami et al on the pain of cancer patients after surgery showed that nursing pain management programs, including counseling, training, and pain assessment, were not statistically significant. Therefore, they needed to be consistent with the results of the present study. In general, nursing pain management may have a clinical effect on the pain intensity of cancer patients after surgery. However, these results were not statistically significant, possibly due to the limited sample size and the program's implementation in a short period. It is recommended that the effects of such a program on pain intensity be investigated with a larger sample and over a longer period (44).

Conclusion
The results showed that using Peplau’s theory, the patient's body image improved immediately and three months after, and the patient's pain decreased. Considering the effectiveness of intervention programs based on communication therapy on body image and pain intensity, this intervention should be performed for all patients referring to hospitals due to its low cost and greater effectiveness. It is also suggested that nurses and supervisors help clients learn ways to achieve the maximum level of health and maintain it and reduce side effects and physical and mental problems.

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Project administration: Ali Hassanpour Dehkordi.
Software: Shekoufeh Naderi Samani.
Supervision: Shahriar Salehi Tali.
Validation: Shekoufeh Naderi Samani, Shahriar Salehi Tali.
Visualization: Shekoufeh Naderi Samani, Shahriar Salehi Tali.
Writing–original draft: Shekoufeh Naderi Samani.
Writing–review & editing: Shekoufeh Naderi Samani, Ali Hassanpour Dehkordi, Shahriar Salehi Tali.

Competing Interests
None to report.

Ethical Approval
This article presents the results of nursing master's thesis entitled the effect of Therapeutic communication based on Peplau’s model on body image and pain among cancer patients undergoing Radiotherapy in the Persian hospital of Shahrekord approved by Shahrekord University of Medical Science with ethics code number IR.SKUMS.REC.1399.275.

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