# Studying the Effect of Training Orem's Self-Care Model on the Self-Care Agency of Patients with Cancer

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## Abstract

**Introduction:** Self-care is the main part of health and the care of chronic diseases, and since nowadays cancer is one of the most important and common chronic diseases, using nursing theories and models has been suggested to promote self-care in these patients. This study has been carried out with the aim of determining the effect of training Orem's self-care model on the self-care agency of patients with cancer.

**Methods:** This quasi-experimental study was performed on 20 patients with cancer at Imam Khomeini Hospital's Hematology Ward.

The self-care assessment checklist of patients with cancer was used to collect data. First, according to the self-care assessment checklist, patient information in 5 main areas (proper diet, strategies to increase body image, strategies to alleviate nausea and vomiting, medication regimen, and caring the mouth sores due to chemotherapy) were scored between 0 and 10 based on a Likert scale. Then, considering the patient's condition, the necessary training was performed using Orem's self-care model. Then, the patients' information was re-evaluated based on the checklist and the results of before and after the intervention were compared.

**Results:** According to the results of the present study, the mean score of self-care agency in each of the 5 areas including diet P = 0.04 and strategies to increase body image (p = 0.000) and strategies to alleviate nausea and vomiting (p = 0.003), considering and adjusting medication regimen p = 0.001, caring the mouth sores p = 0.01 before and after training based on Orem's self-care model, demonstrated a significant difference.

**Conclusion:** Due to the positive effects of training based on Orem's self-care model the use of this model is recommended as an appropriate method along with other treatment measures.

***Keywords:*** *Orem's Self-Care Model; Self-Care; Cancer*

## Introduction

Cancer is one of the most important problems of today's world, as it is the second main cause of mortality in the world after cardiovascular disease [1] and annually, more than 5 million people in the world die because of cancer [2]. In one study, it has been described as a common condition and disability factor [3]. Cancer is one of the most frightening diseases in any culture [4]. Surgery, radiation therapy and chemotherapy are cancer treatments that can result in the deformation of body and appearance. The treatment lasts for weeks or months, and its adverse effects can include nausea, hair loss, fatigue, muscle pain, skin burns, weight changes, and mental health disor-

ders, and deprive the patient of the ability to enjoy different aspects of life. Numerous hospitalizations, in order to treatment, can prevent the continuation of normal life [5]. Training stress coping strategies in the association with increasing patients' awareness of the disease process and treatment, is beneficial for their personal independence. Moreover, paying attention to the meaning and quality of life, not just prolong life and doing the right and timely treatment is effective to alleviate the feeling of physical weakness and the stress of premature death [6,7]. Since people with cancer usually don't have enough information on the nature of their illness, the risk factors, and its adverse effects, this lack of awareness can negatively affect the attitude and performance of these patients. Inability to self-care requires the efforts of caregivers, however, 80% of the care is provided at home, and by family members [8]. Therefore, there are various methods to improve the patients' quality of life, the most effective and widely used of which is the self-care training program [9]. Given the fact that cancer is a chronic disease, a person with cancer must cooperate at all stages of disease control and treatment and be able to do self-care activities. One of the models of self-care models is the conceptual model of Orem, which was founded in 1952 by Dorothea Elizabeth Orem, based on the principles of self-care, and self-care includes individual activities to preserve human life and health [10]. Nurses, using self-care models, e.g. Orem's self-care model, encouraging patients to active participation in the treatment, care, and rehabilitation processes, can move toward improving the quality of life of patients with cancer, despite restrictions caused by disease and its treatment. According to this model, people have the right to participate in the process of recovery and maintaining their health. Recovery is possible through increased awareness, which cannot be achieved except through training [11]. Although this model has been considered in many chronic diseases, given the importance of cancer in today's world, and paying low attention to the use of this model in this chronic disease, so the researcher has examined the effect of training Orem's self-care model on the paid self-care agency of patients with cancer.

## Methodology

This quasi-experimental study was performed on 20 patients with cancer at Imam Khomeini Hospital's Hematology Ward. The study lasted for 4 months from December 22, 2018, to April 31, 2019. This sample size was selected according to the results of previous studies, so that, taking into account the 80% ability and 95% confidence level, and the fact that using self-care method in the study group will improve the self-care status of at least 70% of patients; the sample size was 20 people [12]. The criteria for participation in this study are 18 to 55 years of age; undergoing at least one course of chemotherapy, no specific mental disorders such as Major Depressive Disorder (MDD), no chronic diseases other than cancer, and no visually and hearing impairment.

Moreover, while explaining the goals and research methods to the patients, written consent was obtained from they to participate in the study and they had the right to leave the study at any stage of the research. They were also ensured that their information would be kept confidential and the results would be available to them if they so wished. The questionnaire of self-care activities of patients with cancer was used to prepare this checklist.

Accordingly, in the first part of the checklist, a complete history of patients, including demographic characteristics (age by year, gender, marital status, occupation, place of residence), diagnosis of the disease, experience the adversary effects of cancer and chemotherapy, including nausea, hair loss, fatigue, muscle pain, skin burns, weight changes, and mental health disorders were recorded. The second part of the checklist has analyzed the main areas of self-care in patients with cancer that are: 1- proper diet, 2- strategies to increase body image, 3- strategies to alleviate nausea and vomiting, 4- medication regimen, 5- caring the mouth sores due to chemotherapy and the amount of patient information in each area of self-care was measured accordingly. In each of the areas, patients' information was scored between 0 and 10 based on the Likert scale. Then, considering the patient's condition and using reliable nursing resources and Orem's self-care theory, we provided the necessary training in each area. In this way, our training is individually and based on the patient's condition at three levels: wholly compensatory system, partly compensatory system, and supportive-educational system in the inpatients, and through the educational, counseling, face-to-face, and individual training sessions based on the calculated needs of the patients in the experimental group, in the chemotherapy ward of the selected hospital, in which, during 5 sessions, each patient was explained about the studied self-care factors examined in this research; and every day, one of the self-care factors (proper diet, strategies to increase body image,

strategies to alleviate nausea and vomiting, medication regimen, and caring the mouth sores due to chemotherapy) was explained according to reputable nursing sources in the morning and based on which the necessary training was provided; then, based on the checklist, the patients' information in each area was re-evaluated and scored 0 to 10. Each area included a key question about how well the patient followed self-care. Cronbach's alpha was also used to evaluate data reliability, which was 0.94, confirming reliability. Then, data were analyzed using SPSS/21 software and paired-t statistical test. A P-value < 0.05 was considered statistically significant.

## Results

75% and 15% of the participants in the study were male and female, respectively. The majority (95%) were married, and the mean age was + 20/15 - 42.64 years. In addition, most subjects (40%) were illiterate. 60% of them were living in the city. In terms of employment, 30 percent of respondents were employees, and 25 percent were retired. The research result also found that 60 percent of patients with cancer had a positive family background.

In terms of cancer adverse effects, 80% of patients have experienced mouth sores due to chemotherapy. The research results suggested that the mean score of self-care agency in each of the 5 areas including diet P = 0.04 and strategies to increase body image (p = 0.000) and strategies to alleviate nausea and vomiting (p = 0.003), considering and adjusting medication regimen p = 0.001, caring the mouth sores p = 0.01 before and after training based on Orem's self-care model, demonstrated a significant difference (Table 1).

| Self-care area | Mean score before training (Standard deviation, mean) | Mean score after training (Standard deviation, mean) | Paired t-test |
|---|---|---|---|
| Proper diet | 3.7 | 7.45 | P = 0.04, t = -6.37 |
| Strategies to increase body image | 3.2 | 7 | P = 0.000, t = -6.67 |
| Strategies to alleviate nausea and vomiting | 3.55 | 7.15 | P = 0.003, t = -7.71 |
| Medication regimen | 3.85 | 6.60 | P = 0.001, t = -5.60 |
| Caring the mouth sores | 2.95 | 7.50 | P = 0.01, t = -8.27 |

***Table 1:*** *Comparison of the mean score of self-care agency before and after training.*

## Discussion

Self-care plays a special role in the care of chronic diseases such as cancer and managing these diseases will be successful when the patient can play an active role in self-care activities [13]. The research results showed that the mean score of self-care agency in the field of diet before and after training shows a statistically significant difference, so that Orem's self-care training has increased patients' self-care agency. P < 0.05. Moreover, the results showed that a proper diet and strategies to increase body image are appropriate to alleviate adverse effects of cancer and chemotherapy. In the performed study by Oshvandi., *et al.* (2013), with the aim of studying the effect of training Orem's self-care on self-care agency in patients with cardioverter-defibrillator (ICD), the results showed that the score before the intervention was appropriate in the field of motivating, which is consistent with the results of present study; however, the type of disease involved in the two studies was different [14].

In the study of Edelman., *et al.* (2007), the average awareness of patients after the intervention was significantly higher than before the intervention [15]. It seems that in order to improve self-care in patients, the level of awareness of these patients should be improved. In the study by Mousavi., *et al.* (2009) entitled "awareness of the self-care training requirements of patients with cancer during chemotherapy and radiotherapy", the researcher examined the awareness level of these patients; the research results showed that 62% of

patients' awareness on chemotherapy-related care tips and 54% on radiotherapy care tips was low, which indicates the high necessity of training the patients [16]. The most important goal of training the patients is to create correct and lasting behaviors [17]. The self-care activities, and understandable training content based on the patient's needs and beliefs, favorable environmental conditions, can improve the quality of life in these patients [18].

Given the importance of training programs to improve self-care behaviors, it seems that one of the most important reasons for poor self-care behaviors of the subjects is their poor knowledge and awareness about self-care methods and illiteracy. In our study, a large number of subjects were illiterate. However, in Iranian hospitals, there is no systematic and planned training, and at most, just give a few brochures and manuals, which illiterate people can't use. On the other hand, many patients come from remote areas and villages to health centers. Therefore, patient training should be based on complete needs assessment, and on their abilities, as well as their condition. Perhaps one of the reasons for the positive effect of our study results on all areas is that we, based on our Orem's self-care model, first gained a thorough assessment of the patient's condition, and then provided individual training according to the patient's condition. These findings are consistent with the results of a study conducted by Vossoughi., *et al*. in Ardabil. In their study, they examined the self-care agency of patients with diabetes and described illiteracy and lack of awareness of patients as one of the barriers to the use of self-care activities [19]. In another study conducted by Taheriyan., *et al*. 2005 [20], the lack of awareness of patients is a factor in delaying their visit to the hospital, which can be a reason for increasing the awareness of patients to self-care; and in most studies, the high costs of treatment, limited access to special care centers for patients with cancer, and the lack of proper training programs to their needs have been considered as barriers to self-care. The results of most performed studies show that patients with cancer, who have less self-care ability, are more likely to experience adverse effects. Moreover, the research results showed that the mean score of self-care ability in terms of strategies to alleviate nausea and vomiting, medication regimen, and caring the mouth sores before and after training, showed a statistically significant difference so that the use of Orem's self-care theory has increased the self-care ability of these patients $P < 0.05$.

Although the results of the present study indicate the effect of Orem's self-care model on patients with cancer, this study also has limitations, which must be taken into account in generalizing the results. One of the limitations of the study was the period of the intervention. Since successful self-care requires a longer period of time to make a more accurate judgment, it is recommended to investigate the effect of such interventions over a period of at least 6 months. On the other hand, another limitation is the limited number of data, which is suggested to be studied in a wider range of patients in future studies. Another limitation of this study is that most patients participating in this study required a supportive-educational nursing system. Therefore, it is suggested that the effect of Orem's self-care model on patients with cancer, who require wholly and partly compensatory nursing systems be examined in future studies.

## Conclusion

Since a great part of daily care for patients with cancer is provided by the individual or one of his/her family members, teaching self-care skills to patients with cancer is highly important. Considering the positive effects of self-care education based on Orem's model, using this model is suggested as a suitable method besides other therapeutic measures. Officials and involved using the research findings can also plan the proper use of nursing patterns to control cancer and its symptoms, or during treatment and chemotherapy, so that in addition to reduce patients' treatment costs, relieve the disease symptoms and control it; and to this end, using the Orem's self-care model is very beneficial.

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