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## The effect of palliative care education by peers on pain management in cancer patients

### El efecto de la educación en el cuidado paliativo por parejas en el manejo del dolor en pacientes con cáncer

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#### Abstract

The number of cancer patients is on the rise. Palliative care has an important role in improving the quality of life of these patients. Regarding the role of peers, this study aimed to evaluate the effect of peer care education by peers on pain management in cancer patients. In this clinical trial, 64 patients with cancer were selected as available, divided into control and intervention groups. The control group received usual educations and the intervention group received education package with pain management content by interested, educated and qualified peers in terms of education. The research instrument was pain management questionnaires that were filled before and 3 and 6 weeks after the intervention. Data were analyzed by SPSS software at the significant level of 0.05. The findings showed that the two groups were not significantly different in terms of age, sex, type of cancer, type of treatment, family history, occupation and education and were homogenous. The findings showed that pain management (from 11.78 to 22.59) was significantly different in the intervention group before and three and six weeks after the intervention ( $P < 0.001$ ). The effect of intervention of palliative care education by peers has increased the level of pain management among cancer patients. The findings of this study showed that palliative care education by peers affects the level of pain management in cancer patients. Getting help from interested and educated peers in pain management education for cancer patients is recommended.

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### **Resumen**

El número de pacientes con cáncer está en aumento. Los cuidados paliativos tienen un papel importante en la mejora de la calidad de vida de estos pacientes. Con respecto al papel de los pares, este estudio tuvo como objetivo evaluar el efecto de la educación de cuidado de pares por parte de los pares en el manejo del dolor en pacientes con cáncer. En este ensayo clínico, 64 pacientes con cáncer fueron seleccionados como disponibles, divididos en grupos de control e intervención. El grupo de control recibió educación habitual y el grupo de intervención recibió un paquete educativo con contenido de manejo del dolor por parte de pares interesados, educados y calificados en términos de educación. El instrumento de investigación consistió en cuestionarios de manejo del dolor que se completaron antes y 3 y 6 semanas después de la intervención. Los datos fueron analizados por el software SPSS en el nivel significativo de 0.05. Los resultados mostraron que los dos grupos no eran significativamente diferentes en términos de edad, sexo, tipo de cáncer, tipo de tratamiento, antecedentes familiares, ocupación y educación, y eran homogéneos. Los resultados mostraron que el manejo del dolor (de 11.78 a 22.59) fue significativamente diferente en el grupo de intervención antes y tres y seis semanas después de la intervención ( $P < 0.001$ ). El efecto de la intervención de educación en cuidados paliativos por parte de los compañeros ha aumentado el nivel de manejo del dolor entre los pacientes con cáncer. Los hallazgos de este estudio mostraron que la educación en cuidados paliativos por parte de los compañeros afecta el nivel de manejo del dolor en pacientes con cáncer. Se recomienda obtener ayuda de colegas interesados y educados en educación sobre el manejo del dolor para pacientes con cáncer.

**Palabras clave:** cáncer, cuidados paliativos, manejo del dolor, educación de pares

### **Introduction**

Cancer is one of the most important causes of death in the world. According to the latest World Health Organization (WHO) report in 2018, nearly 18.1 million people worldwide have experienced cancer (Ferlay et al, 2018,). This disease has been recognized as a growing problem in the Middle East (Daher, 2011). It is the third cause of death in Iran after heart disease and traffic accidents. According to the latest statistics, the annual incidence of cancer in Iran is about 107 per 100,000 people (more than 80,000 considering a population of 75 million in Iran; Mansori et al, 2018). The World Health Organization (WHO) predicts that the incidence of cancer in Iran will rise to 85653 in total population in 2020 and the death toll from cancer will rise to 62897 (World Health Organization, 2011).

Cancer is often associated with pain, and pain is experienced in approximately 50-70% of patients (Wiese et al., 2010). Pain occurs in cancer patients following a primary tumor, tumor metastasis, radiation therapy, chemotherapy or surgery (Modesto et al, 2011). Pain is a stressful

event that can affect a patient's lifestyle, satisfaction, and comfort and cause suffering, loss of control, fatigue and impairment of quality of life, sexual activity, personal relationships, meaning of life, individual performance, sleep and daily activities (Sun et al., 2007; Paice y Ferrell, 2011). It is therefore essential to identify and alleviate cancer pain in its early stages (World Health Organization, 2010).

Methods of pain alleviation are very diverse (Dy et al., 2008). Pain control is performed in both pharmacological and non-pharmacological ways (Golianu et al., 2007). Despite the availability of painkillers and guidelines developed for effective pain relief, cancer pains have remained still untreated (Koller et al., 2012). Drugs that are weaker are less likely to control pain and stronger drugs have side effects such as drowsiness, nausea and constipation (Gutgsell et al., 2013).

Palliative care is one of the important components of cancer treatment. Palliative care is an approach that improves the quality of life for patients and families when confronted with life-threatening diseases (World Health Organization, 2011). The main purpose of this type of care is to pay attention to the needs of patients in physical, psychological and social dimensions (Farbicka y Nowicki, 2012).

Palliative care is an approach that deals with early detection and complete evaluation, and treatment of pain and other physical, psychological and spiritual problems (Medical Services Commission, 2011). Patients want their pain to be effectively controlled and to have control over their lives (Gutgsell et al., 2013). One of the most common barriers to pain control is inadequate pain assessment and inadequate awareness of pain management (Oldenmenger et al., 2011). Lack of awareness and misconceptions about the self-management of the pain and the difficulties that may arise in implementing this procedure make the effects of this method not be seen in cancer patients (Shojae y Mousavi, 2000). Therefore, one of the most important palliative care approaches for patients with cancer is education (Bakitas et al., 2009).

One of the types of patient education that has emerged as a flexible educational model is peer-based education (Secomb, 2008). This type of education has a great effect on facilitating and promoting health and creating an environment for learning (Webel et al., 2010). In this approach, adequate education and information on disease, control and care by informed and involved individuals in the disease as a peer group is provided and, given the similar characteristics of the members, a simple and secure learning environment is created and individuals share their own

experiences about the disease that they are jointly suffering from (Keller et al., 2011; Price y Knibbs, 2009). Peer education is a form of exchange of information, attitude and behavior by those who are not professionally educated but have shared experiences (Cartagena et al, 2006). In this case, people will more easily accept information from their peers and share their secrets with them (Van Rompay et al., 2008).

The positive effect of this educational approach has been confirmed in some studies. Dehqan showed a positive effect of peer-based education on depression in MS patients (Dehghani et al., 2013). Taleghani (2012) and Varaei (2013) have also shown the positive effects of this approach on the quality of life of patients with cancer and anxiety and self-efficacy, respectively, in surgical candidates.

According to what was said, pain management of cancer patients is of particular importance and can play an important role in improving the quality of care for these patients. At present, this is not very much considered in the care of patients, and some of the methods used in this area, although effective, can have some side effects. As the role of nursing in palliative care is high and education is the most important component of palliative care. And given the lack of organized groups in Iran (Taleghani et al., 2008), the cultural, economic difference, and level of patient awareness and the increasing number of patients and the limitation of the time for physicians to educate and get patients affected by those who have experienced the disease; the researcher aimed to discuss problems and solutions of pain by forming peer groups that have experienced the problem and investigate the effect of palliative care education by peers on pain management in cancer patients.

### **Materials and methodology**

After obtaining permission from the Ethics Committee of Gonabad University of Medical Sciences (IR.GMU.REC.1395.126) and registering in the Iranian Clinical Trial Registration Center (IRCT20170723035250N1), library studies and the search for new sources to determine educational content began. For sampling according to inclusion criteria, 64 patients with cancer who referred to Imam Ali (AS) hospital in Bojnourd in 2017 were included in the study through available sampling method and were randomly divided into control and intervention groups: Inclusion criteria include: age of 18 to 55 years old, confirmation of cancer diagnosis according to specialist's opinion, being able to speak and understand Persian, not having stage 3 and 4 of cancer,

passing one year since the diagnosis of cancer. Exclusion criteria included: patient's unwillingness to continue research, patient's death, absence in the peer-based group discussion more than one session. Sample size was determined using the results of similar research (Bennett et al., 2009).

The researcher first completed the demographic questionnaire and then the knowledge and attitude questionnaires. In the peer group selection, 4 cancer patients with characteristics such as good social interactions, better adaptation to the disease, and better pain control with physician approval, having a history of at least one year of disease, ability to manage sessions, having a higher education than diploma, being interested in group leadership, were selected by researcher studies with the help of a psychologist and a physician to train patients in the experimental group. Then, 4 2-hour educational sessions were held by the researcher and psychologist for the peer group in order to prepare them to train the experimental group patients, in which the peer group patients shared their experiences regarding strategies used to reduce pain that the researcher corrected or supplemented all of the above based on scientific books. In this way, the peer group was prepared and approved by the physician in order to train.

After completion of the peer group education sessions, the patients in the experimental group were divided into 8-person groups and each of the 4 patients in the peer group was assigned to one group for education. The way of implementing the educational program was the same for all groups, then three sessions of education were held in the experimental group in collaboration with the patients in the peer group. Content of education sessions included: Cancer education, Cancer pain, Pharmacological treatments for cancer-related pain, and Non-pharmacological pain relief techniques. The researcher also participated in all sessions as an observer and responded to patients' questions if needed. It should be noted that following the completion of the intervention, an educational booklet was given to those in the control group, due to the ethics.

### **Research instruments**

Data collection instruments included demographic questionnaire, pain management questionnaires.

### **Demographic questionnaire**

This form includes information such as age, sex, education, marital status, type of diagnosis, stage of disease completed through information in the records or interview with the patients.

### Pain management questionnaire

It is a researcher-made questionnaire that is implemented as self-assessment, consisting of 11 items that describe patients' views on how to use pain management techniques as always (4) to never (0). To evaluate the content validity of the instrument, the subject of pain and cancer was given to several faculty members of Gonabad University of Medical Sciences who were expert in the research, and following the applying of their corrective views, its content validity was confirmed.

### Reliability of pain management questionnaire

The questionnaire consists of 11 questions; its reliability was determined using SPSS software. Value of Cronbach's alpha (0.933) was desirable.

### Findings

Independent t-test showed no significant difference between the two groups in terms of age, sex, education, type of cancer, type of treatment (Table 1). Therefore, the subjects were homogeneous in this respect.

**Table 1**  
Demographic characteristics of cancer patients in the intervention and control groups

Group Characteristics		Intervention	Control	P -value
Age (year)	18-30	11	12	0.66
	31-42	10	10	
	43-54	10	7	
	55-66	1	3	
Gender	Female	(46.9)15	(40.6)13	0.614
	Male	(53.1)17	(59.4)19	
Education level	Illiterate	(3.12)1	(6.25)2	0.871
	Elementary	(15.62)5	(12.5)4	
	Middle school	(25)8	(21.87)7	
	Diploma	(37.5)12	(46.87)15	
Type of treatment	University	(18.75)6	(12.5)4	0.749
	Surgery	(53.12)17	(50%)16	
	Chemotherapy	(37.5)12	(34.37)11	
Type of cancer	Radiotherapy	(9.37)3	(12.5)4	0.998
	Others	0	(3.12)1	
	Bladder	(12.5)4	(9.4)3	
	Prostate	(9.4)3	(12.5)4	
	Colon	(25)8	(21.9)7	
	Breast	(18.8)6	(15.6)5	

Lung	(3.1)1	(3.1)1
Ovary and uterus	(9.4)3	(12.5)4
Blood	(9.4)3	(9.4)3
Others	(12.5)4	(15.6)5

**Table 2**  
 Frequency distribution of mean and standard deviation of pain management in control and intervention groups

<b>Pain management</b>	<b>Control</b>	<b>Intervention</b>	<b>P -value</b>
Before intervention (mean±standard deviation)	9.10±29.37	10.85±11.78	0.580
Three weeks after intervention (mean±standard deviation)	9.12±19.56	14.86±21.12	.007
Six weeks after intervention (mean±standard deviation)	8.11±64.46	14.30±22.59	0.0001≤

The mean pain management of patients from pain management in intervention and control groups were similar before education in terms of mean but they have a significant difference in terms of significance.

### Discussion

The results above showed that there was a statistically significant difference in mean pain management between the two groups after the intervention. For example, in a study by Bennett et al, entitled “How Patient-Based Educational Interventions Affect Cancer Pain Management”, this review study found that education improves patients’ knowledge and attitude about pain management and that it can improve the cancer pain management. The results of this research are similar to those of the mentioned study. The purpose of this study was “to determine the effect of peer education on quality of life of patients after breast resection surgery in women who referred to cancer clinics affiliated to Shiraz University of Medical Sciences”. They concluded that peer education improves the quality of life of patients after breast resection surgery, which is consistent with the present study.

On the other hand, the results of this study are in line with those of Dehghani et al., (2013). The results of this study are consistent with the conceptualization and validation research in 2012. 2013 is in line. Likewise, in a study by Tammall et al., (2010), “Primary Palliative Care in Patients with Metastatic Lung Cancer,” they examined the effects of primary palliative care on newly diagnosed patients at the Massachusetts Hospital. In this study, patients with lung cancer were

randomly selected and studied. The study was performed in two groups: the first group received palliative care and in addition they received standard cancer care while the second group received only standard cancer care. Changes in quality of life were monitored over the next 12 weeks. Anxiety and depression were also assessed. They found that the first group had a better quality of life than the second group. In addition, those in palliative care showed less anxiety and depression than the second group. On the other hand, the first group received less invasive treatment and the mean survival was higher in the first group compared to the second group.

A study by Ghadiri et al., (2016) aimed to “determine the effect of peer-centered education on the anxiety of family caregivers of patients undergoing coronary artery bypass graft surgery.” The study was a clinical trial in Chamran hospital, Isfahan, Iran, in 2015. In this study, after selecting and preparing the peer group, 50 family caregivers of patients undergoing coronary artery bypass grafting were selected and randomly divided into control and experimental groups. Anxiety of family caregivers was measured before and after the intervention by a standard Spielberger questionnaire. In the experimental group, the subjects were trained in a maximum of 6 individuals in two one-hour sessions, two consecutive days before surgery by the peer group. After the intervention, the difference between the anxiety score in the two groups was significant ( $P < 0.001$ ) and the anxiety level was decreased in the experimental group. But there was no significant difference in anxiety score in control group patients ( $P = 0.28$ ). Peer-based education program was effective in reducing anxiety of family caregivers of patients undergoing coronary artery bypass graft surgery.

Similarly, a study by Roston et al., (2012) entitled “Self-Control Pain, Increases Patients' Awareness of Pain Management” was a clinical trial in Norway on cancer patients. In the intervention and control groups, before intervention, 40.8% of the intervention group used pain relief alone and 42.9% of the control group used oral and anal pain relief at least in both groups. Control and intervention with 12.2% and 14.3%, respectively, besides oral and injectable analgesics by non-prescription methods Weiyi used. 3 weeks after the intervention in the intervention group the use of non-pharmacological methods along with oral and injectable analgesics reached 20.4% and in the 6 weeks after the intervention it reached 22.4%. Along with other methods, there was no change.



## Conclusion

There are many pharmacological and non-pharmacological methods to relieve pain in cancer patients that are not used for various reasons mentioned in the research (lack of sufficient knowledge and awareness), through education of patients by peers, pain palliative care education was performed in this study, patients' knowledge of pain management was increased, and patients took action to relieve their pain using the educations they got, which improved the pain outcomes among cancer patients.

Since peer-based palliative care education is one of the low-cost techniques, the training of nurses, nursing students, patients, and peer groups can improve the quality of care for patients with cancer pain. Therefore, it is suggested that educational managers and planners consider the use of peer-based palliative care education in developing the education program of nurses and caregivers for cancer patients and train nurses working in the clinic to do this so that nurses, in turn, strive for patients and peer groups to improve the quality of care for cancer patients.

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