

Effect of empowerment program on the quality of life of the elderly cancer patients' caregiver: A quasi-experimental study

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Abstract

Cancer patients and their family face challenges in their quality of life (QoL). Families have an important role in health care programs for their patients. This study evaluates the family-centered trainings on the QoL of the family caregivers of elderly cancer patients. This quasi-experimental study was conducted in 30 caregivers of elderly cancer patients who randomly divided into control and experiment groups (n=15 per group). Data was collected using a demographic and the Caregiver Quality of Life Index-Cancer (CQOLC) scale. The intervention was carried out as an individual education in two one-hour sessions. Six weeks after the intervention, the quality of life (QoL) was remeasured in the groups. ANCOVA and Bonferroni tests showed a statistically significant difference in the mean score of the QOL between the experiment (60.53±15.99) and the control groups (68.07±18.49) in the post-test (P <0.001). The family-centered intervention is beneficial in enhancing the QoL of caregivers of the elderly cancer patients. Consequently, providing educational programs can be an effective method and essential for improving the clients' QoL.

Keywords: Cancer; Caregiver; Elder; Empowerment program; Family; Quality of life

1. Introduction

Ageing is predicted to be one of the most significant social and welfare concerns facing developing countries in the future because about 60% of the world's elderly people live in these nations (1). As Iranian have an average life expectancy of 67 years and it is anticipated that the country's elderly population will increase more than 25 million by 2050, Iran will likely rank among the oldest developing nations in the next decades, and its aging rate will be distinct from that of fertility decline (2). Besides, there are significant social, economic, and health issues associated with the rise in the aging population (3). Cancer is one of the chronic diseases whose risk rises dramatically with age (4). Additionally, nearly 60% of cancer diagnoses occur in patients over the age of 70, and cancer is the leading cause of death for persons between the ages of 65 and 75 (5).

Cancer limits the elderly patients and their families' QoL (6). Family or informal caregivers are considered the backbone of the long-term care and support system and provide free physical, practical, and emotional care voluntarily (7). The average time of caring for a cancer patient is estimated to be 8.8 hours per day (8). However, it should be recognized that caring for the ill, crippled, and dependent elderly at home presents numerous difficulties for the family (6). Evidence shows that the distress affects the caregivers' physical, mental, social, spiritual health problems such as fatigue, anorexia, anxiety and depression (8, 9), which leads to a decline in the QoL (10).

While the support of family caregivers undoubtedly has mutual benefit for the elderly and their caregivers (6). Families play a crucial role in assisting chronic patients follow prescribed treatments, nutritional advice, medical procedures,

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and critical choices during the latter stages of life (2). Family empowerment improves patients' knowledge, attitudes, and practices, speeds up their recovery, and lowers disease complications (11). Therefore, health care programs should consider the impact of the family's role in patient education. Family-centered education is one of the fundamental duties of nurses for supporting the caregivers and patients (2).

Iranian families have strong familial bonds and frequently tend to care for their patients, despite the inadequate facilities (12). Improving the QoL of the caregivers of elderly cancer patients may directly impact on the patients' condition and still there is a paucity in this regard, thus, this study was conducted to enhance the QoL of the caregivers.

Objectives

Evaluating the effectiveness of family-centered training on the caregivers of elderly cancer patients.

2. Material and methods

The purpose of this quasi-experimental (pre-test-post-test design) study was to ascertain the impact of family-centered training on the QoL of caregivers of elderly cancer patients. Thirty eligible caregivers who interested in taking part in the trial were randomly assigned into the experiment (n = 15) and control (n = 15) groups. The sample size was calculated based on Shahsavari et al. (13) study, and 95% confidence, 80% power and 30% attrition with following formula (14). Ten samples were estimated for each group:

$$N=2C \times ((\sqrt{SD_1^2+SD_2^2}/(\text{Mean}_1-\text{Mean}_2))^2$$

$$N= 2 \times 8.74 \times ((\sqrt{11.25^2 + 12.43^2})/(64.76-44.75))^2 \times 1.3=14.30$$

Two questionnaires were used for data gathering: 1. A demographic questionnaire, including gender, education level, marital status, employment status, relationship with the patient, and age. 2. The Caregiver Quality of Life Index-Cancer (CQOLC) scale, which is a 5-point Likert scale with 35 items. Scores ranges 0 to 140. A higher score indicates a higher quality of life. The scale consists of four domains as burden, disruptiveness, positive adaptation, financial concerns (15). The validity and reliability of Persian version of the CQOLC was confirmed in a previous study (16).

Before starting the experiment, the objective of study was explained to the caregivers and the oral and formal consent was achieved if they were willing to participate in the study. They could withdraw from the study at any time. The participants completed the questionnaires prior to the intervention. A graduate nurse led two training sessions for caregivers of experiment group.

The intervention of this study consisted of 2 training sessions with an interval of two weeks. Each session lasted 3 hours with a break of 30-45 minutes. The trainings were held face-to-face and individually along with question and answer, offering a booklet, and demonstration. The content of the training program was organized in two parts. The first part included the skills of correct communication, barriers to communication, warning signs of anger, situations that cause and escalate it, and how to control anger, as well as relaxation exercises such as deep breathing was demonstrated. The second part of the educational content focused on patient care at home such as diet, medication orders, hygiene principles, and physical activities.

The control group asked to complete the questionnaires. The control group only received routine care instruction. The post-test was done after six weeks from the final session of intervention for both groups. SPSS version 23 was used for data analysis.

3. Results

Thirty caregivers of elderly cancer patients participated in the study. The average age of the caregivers in the control and experiment groups was 38.2 and 42.2 years, respectively. Majority of the participants were female, married, and had an academic education level Table 1.

Table 1 Demographic profile of caregivers of elderly cancer patients (N=30)

Variable		Control	Experiment
Gender n (%)	Male	6 (40)	2 (13.3)
	Female	9 (60)	13 (86.4)
Marital Status n (%)	Single	8 (53.4)	5 (33.3)
	Married	7 (46.6)	10 (66.7)
Education level n (%)	illiterate	2 (13.3)	2 (13.3)
	Under diploma	4 (26.7)	5 (33.3)
	Diploma	2 (13.3)	5 (33.3)
	Higher education	7 (46.6)	3 (20)
Job n (%)	Employee	7 (46.7)	6 (40)
	Housewife	4 (26.7)	6 (40)
	Unemployed	4 (26.7)	3 (20)
Relationship with patient n (%)	Child	12 (80)	6 (40)
	Spouse	2 (13.3)	7 (46.7)
	Sibling	1 (6.7)	2 (13.3)
Age (year)	Mean (SD)	38.20 (14.32)	42.27 (14.79)

Besides, the t-test showed no statistically significant difference in the overall QoL score and any of its dimensions before and after the intervention (Table 2).

Table 2 Mean and standard deviation of QoL score and its dimensions in intervention and control group before and after the intervention

Variable		Mean (SD)		t-score	95% CI difference	P-value
		Experiment	Control			
CQOLC	Before	71.73(20.53)	69.20(18.91)	-0.35	-17.29, 12.23	0.728
	After	60.53(15.99)	68.07(18.49)	1.19	-5.39, 20.46	0.243
Burden	Before	33.60(9.58)	32.86(10.84)	0.19	-6.92, 8.38	0.846
	After	27.26(6.43)	31.26(9.92)	-1.31	-10.25, 2.25	0.201
Disruptiveness	Before	16.06(8.42)	14.73(8.01)	0.44	-4.81, 7.48	0.660
	After	13.33(5.74)	14.33(7.58)	-0.40	-6.03, 4.03	0.687
Positive adaptation	Before	19.80(5.22)	19.00(3.74)	0.48	-2.59, 4.19	0.634
	After	23.26(3.43)	19.20(2.75)	3.57	1.73, 6.39	0.001
Financial concerns	Before	8.26(3.36)	6.33(3.01)	1.65	-0.45, 4.32	0.109
	After	7.20(3.00)	6.86(2.97)	0.30	-1.90, 2.56	0.762

However, ANCOVA statistical test with Bonferroni post hoc test after controlling the pre-test scores showed a statistically significant difference in the mean QoL scores between the intervention group and the control group ($P < 0.001$). In addition, this difference was significant in all aspects of QoL, except for the financial concern (Table 3).

Table 3 Marginal Mean and 95% confidence interval of QoL scores in intervention and control groups after controlling the pre-test score

Variable	Marginal Mean (95% CI)		F-score	95% CI difference	P-value
	Experiment	Control			
CQOLC	59.48(56.42, 62.55)	69.11(66.04, 72.18)	20.70	5.28(13.97)	<0.001
Burden	27.00(24.89, 29.11)	31.53(29.42, 33.64)	9.68	-7.51, -1.43	0.004
Disruptiveness	12.81(11.69, 13.93)	14.85(13.73, 15.97)	6.97	-3.62, -0.45	0.014
Positive adaptation	23.05(22.01, 24.08)	19.41(18.34, 20.44)	25.95	2.17, 5.09	<0.001
Financial concerns	6.46(5.51, 7.41)	7.60(6.56, 8.55)	2.91	-2.52, 0.23	0.099

4. Discussion

The findings demonstrated that the average QoL score fell into the moderate category. To confirm the decline in the QoL scores of caregivers, Sajadi et al. concluded in their study that hemodialysis, as a chronic problem, causes a decrease in the QoL scores of caregivers (17). Khanjeri et al. also reported the mean QoL score of the caregivers was less than 50% (16).

The majority of caregivers were women, which is consistent with the findings of the study by Kaur (11), Sharma (18), which were attributed to cultural factors that women are typically responsible for caring the other family members who are disabled, sick, child, or elder, as part of their domestic chores.

The findings show that family-centered education has been successful in enhancing the QoL for those who care for elderly cancer patients. This type of education has probably been effective in improving their QoL by assisting family members in solving the problems of caring for their elderly patients. Family empowerment improves knowledge, attitude, and practice (19). The Jafari et al. study also suggested that such education promotes self-efficacy (20) and Rostami et al. also concluded that family-centered care training improves the QoL of hemophilia children (21). Moreover, Masoodi et al. concluded that family-centered education has been successful in raising the level of knowledge among chronic patient caregivers (22). In other words, family-centered education makes these people more capable caregivers. To confirm the necessity of implementing the family-centered empowerment model, Jafari et al. (20) and Mousavi et al. (23) concluded that the family-centered empowerment model's application had a beneficial impact on raising the QoL of chronic patients. Khanjari (16) and Akbari Shakar et al. (24) referred to coping skills training setting up a centralized unit for training and support of caregivers as factors affecting their QoL. Besides, A previous study reported that the family-centered intervention has had a positive effect on the elderly's medication management as well as the QoL elderly patients (2), enhancing the process of caring (25). Besides, such studies confirmed the effect of education-based interventions on non-elderly people such as the improvement of laboratory indicators of patients with myocardial infarction and an improvement in medication adherence in patients undergoing hemodialysis (26).

One of the possible limitations of study receiving additional information regarding the interventions, which might influence the results.

5. Conclusion

Family-centered trainings are beneficial in raising the QoL of elderly cancer patients' caregivers. Therefore, educational services should be included as a responsibility of healthcare providers to enhance the QoL of caregivers and improve nursing activities.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interests.

Statement of ethical approval

This paper has been extracted from a Master thesis in Medical-Surgical Nursing, which was approved by the Zabol University of Medical Sciences, Iran with a code of ethics IR.ZBMU.REC.1400.008.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

Authors' contributions

A.W conducted the program, collected the data and wrote the manuscript; M.R and H.NS supervised and edited the original manuscript; A.A analyzed the data; M.R and A.A revised the first draft and performed professional editing.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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