Effect of an Educational Palliative Nursing Interventions on Selected Outcomes among Patients Having Advanced Cancer

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Abstract: Palliative care is an approach to improve the quality of life for patients and their families through the prevention and relief of suffering **Purpose:** to determine the effect of an educational palliative nursing interventions on selected outcomes among patients having advanced cancer. **Design:** A quasi-experimental design was utilized (pre and posttest). Setting: The study was carried out at the oncology department of Menoufia University Hospital at Menoufia governorate. **Sample:** A purposive sample of 107 adults advanced cancer patients were selected for this study. **Instruments:** Three instruments were used. Instrument (1) was a structured interview questionnaire about social characteristics. Instrument (2) was a likert scale for functional assessment of cancer. Instrument (3) was center for epidemiological studies depression scale. **Results:** there was a highly statistically significant decrease in the total mean score of depression symptoms and an improvement in the overall quality of life domains mean score 48.64±11.52 Vs. 54.38±12.79 and 62.14±17.51. Conclusion: Patients who had advanced cancer had improved quality of life and reduced level of depression after they received the educational palliative nursing intervention on posttest and follow up. **Recommendation:** palliative nursing interventions should be included routinely in the management of patients with advanced cancer besides conventional therapy.

Key words: *Palliative nursing interventions, Selected outcomes, Advanced cancer.*

Introduction

Cancer is a group of diseases characterized by uncontrolled and unregulated growth of cells. Although cancer is often considered a disease of aging, with the majority of cases diagnosed in those over age 55 years, it occurs in people of all ages. Although mortality rates from all cancers combined are on the decline, cancer is still the second most common cause of death globally and is responsible for an estimated 9.6 million deaths in 2018. Globally, about1in 6 deaths is due to cancer. Approximately 70% of deaths from cancer occur in low and middle–income countries. **(Lewis, Bucher, Heitkemper, Harding, 2017 and World health organization, 2020)**

Advanced cancer means cancer that can't be controlled with treatment or cured and may be locally advanced or metastatic means spread of cancer from a place of origin to other parts of the body. (American cancer society, 2018). Advanced cancer is a stressful experience that affects all life's domains: physical, mental, financial, spiritual, and marital: People with advanced cancer often experience physical symptoms that depend on the specific type of cancer a person has and where it has spread as the difficulty of breathing, pain, dehydration, fatigue, loss of appetite, weight loss or gain, nausea, vomiting, and constipation. Mental symptoms as depression, fear, and anxiety **(Esper, Yarbro, Wujcki, and Gobel, 2011)**

Palliative care is an approach that allows people with advanced cancer to maintain their quality of life in a way that is meaningful to them. It treats physical, practical, emotional, or spiritual symptoms to help the patient feel in control of the situation and make decisions about treatment and ongoing care. Palliative care involves a range of services offered by medical, nursing, and allied health professionals, as well as volunteers and caregivers. **(Mothoneos, 2016)**

Quality of life (QoL) is a key component of advanced cancer care. Cancer-related pain can markedly reduce QoL, negatively affecting mood, work, relationships, and the ability to walk and sleep. Sleep disturbance can further perturb pain tolerance thresholds, potentially leading to a vicious cycle of pain. **(Moosa, Costa, Ripamontic, Niepel, and Santinie, 2017)**

Palliative care nurses have adjusted their frame of mind from one which revolves around specific tasks such as vital signs, treatments, and interventions, to promote comfort, symptom management, and support. Many nurses involved in palliative care face the challenge of combining the art of caring and the science of medicine into a cohesive model that reflects compassionate, individualized care regardless of the environment. Palliative care nursing demands intense critical thinking, heightened levels of mental functioning, and the ability to utilize complex palliative nursing skills, confronting patients and families who encounter serious end-of-life illness and death.**(Schroeder and Lorenz, 2018)**

Significance of the Study

Cancer in the developing world is characterized by far more advanced stages at diagnosis, fewer allocated resources for prevention, treatment, and higher incidence than in countries with more developed health systems. In Egypt, it is already and will become an important health problem not only in terms of rank order but also in terms of incidence and mortality. Palliative care for patients suffering from progressive, life-threatening cancer is a major health care issue, as the patients face death, preservation of human dignity and relief of suffering become priorities that guide comfort care, using the best medical, psychological, social, and spiritual interventions in ways that respect terminally ill patients' values, desires, and needs. Early palliative care access can reduce depression and improve the quality of life for advanced cancer patients. **(ElShamy, 2015)**.For this reason, this study to assess the effect of an educational palliative nursing interventions on selected outcomes among patients having advanced cancer**.**

Purpose of the Study

The purpose of this study was to determine the effect of an educational

palliative nursing intervention on selected outcomes among patients having advanced cancer

Operational definitions:

Palliative nursing interventions:

These are certain educational strategies which help patients with advanced cancer to have better quality of life and relieving of depression.

Selected outcomes:

Mean assessment of patient's depression score and overall quality of life domains.

Advanced cancer:

Advanced cancer is considered the third and fourth stage of cancer. These stages mean that the cancer is locally or has spread to other organs or parts of the body. It may also be called metastatic.

Research hypotheses

- Patients with advanced cancer who receive the educational nursing intervention will have higher quality of life on posttest than pretest.

- Patients with advanced cancer who receive the educational nursing intervention will have lower scores of depression on posttest than pretest.

Methods:

Research design:

Quasi-experimental research (pre- post-test) design was used to achieve the purpose of this study.

Research Setting:

The study was conducted in the Oncology Department in Menoufia University Hospital.

Sample:

A purposive sample of 107 adult patients was selected for this study.

Patients meeting the inclusion criteria were chosen and were included.

Inclusion criteria

- Patients who are Conscious and range between 18-65 years.

- Patient with a confirmed diagnosis of advanced cancer (locally advanced or metastatic) at the third and the fourth stage of cancer.

Sample size calculation:

- The estimated confidence level is 95% and power 80% based on this formula

$$n = \frac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2}$$

z is the z score
ε is the margin of error
N is population size
p̂ is the population proportion

Instruments:

Three instruments were used by the researchers to collect the necessary data; these instruments were:

Instrument (1): structured interview questionnaire

It was constructed by the researchers to assess patient's social characteristics such as age, gender, marital status, level of education, occupation, income, smoking status, residence, and the number of family members.

Instrument (2): Functional Assessment of Cancer Therapy-General (FACT-G) version4:

It was developed by David (1993) and revised by Kimberly (2003). It was used to assess health-related quality of life in patients with advanced cancer. It consisted of 27 items. They were divided into four QOL domains: physical well-being (7 items),

social/family well-being (7 items), emotional well-being (6 items), and functional well-being (7 items).

Scoring system of the scale:

Each item was assessed by using a 5-point a likert scale ranging from 0 (not at all), 1 (a little bit), 2 (somewhat), 3 (quite a bit), and 4 (very much). There were some leading items that were reverse-scored. Total Score of the FACT-G scale is performed through a simple sum of item scores. Each subscale is scored, and a total score for the FACT-G is obtained by adding each of the subscale scores.

Instrument (3): Center for Epidemiological Studies Depression scale (CES-D)

It was created by Radloff (1977) and revised by Eaton et. al., (2004). The (CES-D) consisted of 20 questions used to assess various symptoms of depression as they have occurred in the past week.

Scoring system:

In scoring the CES-D, a value of 0, 1, 2, and 3 was assigned to a response depending upon whether the item is worded positively or negatively. For items 1, 2, 3, 5, 6, 7,9, 10, 11,13, 14, 15,17, 18, 19, and 20 the scoring is: rarely or none of the time (less than one day)=0, some or a little of the time (1-2days)=1, occasionally or a moderate amount of time (3 – 4days)=2, most or all of the time (5-7days)=3. Items 4, 8, 12,16 are reverse scored as follows: most or all of the time (5-7days)=0, occasionally or a moderate amount of time(3 – 4days)=1, some or a little of the time(1-2days)=2, rarely or none of the time (lessthan1day)= 3. Possible range of scores was from 0to60, with the higher scores indicating the presence of more symptoms of depression.

Validity and reliability of the study instruments:

Validity: The study instruments were tested for content validity by a jury of 11 experts, in the field of medical surgical nursing (7 experts), oncology nurses (3), and clinical oncology (1 expert) to ascertain relevance and completeness then modifications were done accordingly.

Reliability: Test-retest method was used to assess the reliability of instruments. Reliability of the second instrument was 0.90 and the third instrument was 0.85.

Pilot study:

A pilot study was conducted on 10 % (11 subjects) of patients to test the feasibility, clarity, and applicability of the study instruments then necessary modifications were carried out. These patients were excluded from the sample.

Ethical Consideration:

A formal written consent for acceptance to share in the study was obtained from the patients after explaining the purpose of the study and methods of data collection for every patient and assuring that confidentiality and privacy of their data would be maintained. They were assured that they have the right to withdraw from the study at any time.

Procedure:

- An official permission to carry out the study was obtained from the directors of the selected setting after submitting an official letter from the Dean of the faculty of nursing at Menoufia University explaining the purpose of the study and methods of data collection to obtain the acceptance of data collection. Then, this letter was provided to the head of the clinical oncology department.

- Data collection extended over a period of six months starting from September 2019 to the end of February 2020.

- Patients were contacted in the clinical oncology department of Menoufia University Hospital in the morning from 9 AM to 11:30 AM. The researcher made initiative session with each patient individually (30minutes approximately) to be informed about the purpose and methods of data collection., Data was collected about social characteristics, quality of life and depression,

- Educational palliative nursing intervention will be developed. Each patient will receive two sessions. First session will be about measures to decrease depression and anxiety; Second session will be about measures to improve physical well-being, social/family well-being, emotional well-being, and functional well-being.

- Patients and their caregivers received Verbal instructions about measures to reduce psychological distress and improve quality of life. These instructions were supplemented by written material such as illustrative booklets. Each session lasted for 30 -45 minutes. Group discussions and patients feedbacks were enhanced

- Posttest was done using 2nd and 3rd instruments immediately after giving palliative interventions

- Follow up was conducted after four weeks using 2nd and 3rd instruments

Statistical Analysis

The data collected were tabulated and analyzed by SPSS (statistical package for the social science software) version 20 on IBM compatible computer. Mean and standard deviation (X+SD) for quantitative data or number and percentage (No and %) for qualitative data. Analytic statistics like ANOVA was used. If P>.05, no statistical significant difference is found. If P ≤.05, a statistical significant difference is found. A highly statistical significant difference is found if P≤.01.

Results

Table 1: Showed the social characteristics of the studied group. The mean age of the studied group patients was 53.21±10.49 years old. About 55.1 % and 90.7% of the studied group were females and married respectively. Regarding educational level, about one-third of the patients were illiterate. About half of the patients were housewives while only 3.7% of them were employees. The majority of patients 88.8% came from rural areas. About 58.9% and 75.7% of patients had insufficient income and were nonsmokers respectively. The mean number of family members in the studied group was 5.94±1.86 individuals.

Table 2: Revealed that the baseline means of physical well-being score of the studied patients was 11.86±5.0 pre-intervention, 13.19±5.19 immediate after giving an educational palliative nursing interventions post-test, and 15.35±6.31 after four weeks as a follow up .A highly statistically significant difference was found(P < 0.001). Means of social/family well-being scores were 14.82±4.96, 16.10±5.36, and 17.11±6.11 at pre-test, post-test, `follow up 13.67±5.42. Also, there was a statistically significant improvement in the total quality of life scores of patients (P<0.001) at pre-test, post-test, and follow up 48.64±11.52, 54.38±12.79, and 62.14±17.51 respectively.

Figure 1: Showed that the baseline means total scores of depression symptoms of the studied patients were 37.86±14.96 pre-test, 35.71±14.39 immediate after giving palliative interventions post-test and reduced to 32.92±13.98 after four weeks follow up with a highly statistically significant difference P<0.001.

Table 3: Pointed out that the total quality of life scores of patients was negatively correlated with depression scale score either at pre-test, post-test, and follow up as P-value < 0. 001.

Table (1): Distribution of studied patients according to their social characteristics

Socialcharacteristics	Studied Group (n=107)	
	No.	**%**
Age (years): Mean ± SD Range	53.21±10.49 27.0- 65.0	
Gender: Male Female	48 59	44.9 55.1
Marital status: Married Widow	97 10	90.7 9.3
Education level: Illiterate Primary Secondary University	37 22 29 19	34.5 20.6 27.1 17.8
Occupation: Housewife Employee Not working (males) Stop working due to Cancer Retired	53 4 4 30 16	49.5 3.7 3.7 28.0 15.0
Residence: Rural Urban	95 12	88.8 11.2
Income: Sufficient Not sufficient	44 63	41.1 58.9
Cigarette Smoking: Yes No Ex-smoker	18 81 8	16.8 75.7 7.5
No. of family members: Mean ± SD	5.94±1.86	

Table (2): Health-related quality of life at pre-test, post-test and follow up

(FACT-G) version 4	Pre-test Mean ± SD Range	Post-test Mean ± SD Range	Follow up Mean ± SD Range	Repeated measures ANOVA	P value	Post hoc test
Physical well-being (0 - 28)	11.86±5.0 6.0 – 22.0	13.19±5.19 4.0 – 22.0	15.35±6.31 3.0 – 25.0	101.06	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Social/family well-being (0 - 28)	14.82±4.96 8.0 – 22.0	16.10±5.36 8.0 – 23.0	17.11±6.11 8.0 – 24.0	66.44	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Emotional well-being(0 - 24)	12.05±3.94 7.0 – 19.0	13.83±3.63 8.0 – 21.0	16.0±4.10 8.0 – 21.0	103.50	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Functional well-being(0 - 28)	9.89±4.64 0.0 – 20.0	11.25±4.72 3.0 – 20.0	13.67±5.42 4.0 – 24.0	99.70	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Total score of (FACT-G) (0 - 108)	48.64±11.52 29.0 – 74.0	54.38±12.79 32.0 – 80.0	62.14±17.51 33.0 – 90.0	126.40	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001

P1=comparison between pre-test and post-test

P2=comparison between pre-test and follow up

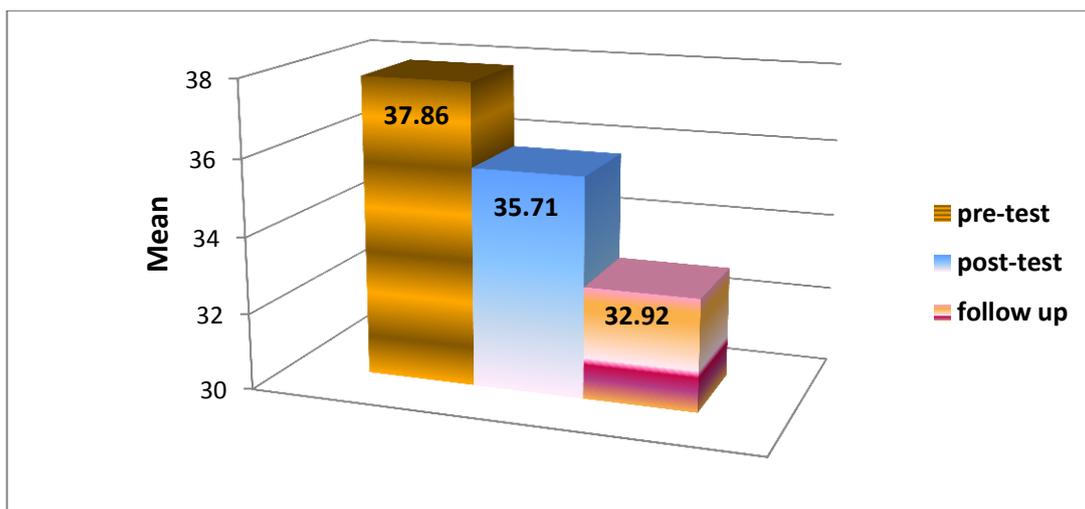P3=comparison between post-test and follow up

Figure (1): Mean value of depression scale score of studied group at pre-test, post-test and follow up

Table (3): Correlations between quality of life and depression scale score at pre-test, post-test and follow up

Depression scale score	Quality of life (n=107)		
	Pre-test	Post-test	Follow up
Pre-test (CES-D) score	r= -0.61		
Test of sig.	Spearman`s rho		
P value	<0.001 HS		
Post-test (CES-D) score		r= -0.53	
Test of sig.		Spearman`s rho	
P value		<0.001 HS	
Follow up (CES-D) score			r= -0.48
Test of sig.			Spearman`s rho
P value			<0.001 HS

Discussion

Palliative interventions that provide psychosocial support and control symptoms are the main treatment option for patients with terminal cancer (kim et al., 2016). So the purpose of the current study is to determine the effect of an educational palliative nursing intervention on patients' outcomes among advanced cancer.

Regarding the quality of life of the studied group at pre-test, post-test and follow up.

There was an improvement in the quality of life on post-test and follow up as compared to pre-test among patients with advanced cancer.

The findings of this study supported the stated hypotheses and revealed that there was an improvement in the total quality of life this result may be due to increasing the knowledge and awareness of participants about quality of life and methods of improving it (physical, social, emotional, or functional. This result supports the idea that there are strong relationships between preventing or relieving the symptoms of the disease, its treatment and improving the quality of advanced cancer patient's life.

This was in agreement with Maltoni et al., (2016) who stated that the systematic review of a small number of trials indicated that early palliative care interventions may have more beneficial effects on quality of life and symptoms intensity among patients with advanced cancer than among those given usual standard cancer care alone.

Additionally, Zhuang, Ma, Wang and Zhang, (2018) showed that early palliative care improves life quality, mood, and pulmonary function of non-small cell lung cancer NSCLC patients, indicating that early palliative care could be used as a

clinically meaningful and feasible care model for patients with metastatic NSCLC.

Regarding depression scores there was a reduction in depression score post the educational palliative nursing interventions as compared to pre-test among advanced cancer patients. The findings of this study indicated that the baseline mean total scores of depression symptoms of studied patients was reduced immediately after providing educational palliative nursing interventions at post-test and follow up. From the researcher point of view this may be due to improving the quality of life of the participants by helping them to deal with their physical, social, emotional, or functional problems resulted in more coping with their condition, and lead to decreased depression and anxiety. Additionally, this result supports the idea that there was a negative relation between depression and quality of life.

This came in accordance with Prescott et al., (2017) who reported that patients with advanced cancer who also have depressive symptoms benefit the most from early palliative care. Also Rosenstein, (2011) reported that the pharmacotherapy of depression in patients with advanced cancer should be guided by a palliative care approach focused on symptom reduction, irrespective of whether the patient meets diagnostic criteria for major depression. Earlier and more intensive supportive care for patients with cancer reduces symptom burden and may prolong life for patients with advanced disease.

Regarding Correlation between quality of life (QOL) scores and depression scale score, the results of this study revealed that the total quality of life scores of patients were negatively correlated with depression scale score either at pre-intervention, post-intervention 1 or post-intervention 2. This result came in accordance with Guet.al, (2017) who found that depression is prevalent in patients with lung cancer and associated with poor health related quality of life.

Also Grotmol et.al, (2017) found that depression severity was the strongest single predictor of poorer quality of life in this sample of patients with advanced cancer, after accounting for a wide range of clinically relevant variables. The findings of the current study emphasize the importance of managing depression to achieve the best possible quality of life for these patients.

Conclusion:

Patients who had advanced cancer had improved quality of life and reduced level of depression after they received the educational palliative nursing intervention on posttest and follow up.

Recommendations:

Based on the findings of the present study the following recommendations are derived and suggested:

A. Recommendations for patients:

- An educational Palliative nursing interventions should form an important component and should be included routinely in the management of patients with advanced cancer besides conventional therapy
- A colored illustrated booklet about palliative nursing interventions should be available and distributed for all advanced cancer patients.

B. Recommendation for further researches:

- Replication of the study using a larger probability sample from

different geographical areas to help for the generalization of the results.

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