

Effect of a Palliative nursing interventions on Symptoms Intensity among Patients with Advanced Cancer

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Abstract: People with advanced cancer often experience physical symptoms that depend on the specific type of cancer a person has and where it has spread. **Purpose:** To assess the effect of a palliative nursing interventions on symptoms intensity among patients with advanced cancer. **Design:** A quasi-experimental research design was utilized. Setting: The study was carried out at the Oncology Department of Menoufia University Hospital at Menoufia governorate. **Sample:** A purposive sample of one hundred and seven adult patients with advanced cancer was selected. **Instruments:** Two instruments were used. Instrument one: structured interview questionnaire. Instrument two: edmonton symptom assessment system. **Results:** All symptoms intensity related to cancer were reduced on posttest and follow up tests than pretest such as pain 3.81 ± 3.72 , 2.64 ± 2.92 Vs 4.48 ± 4.29 . **Conclusion:** The study concluded that a palliative nursing intervention had a positive effect on reducing symptoms intensity among advanced cancer patients. **Recommendation:** A palliative nursing intervention should form an important component and should be included routinely in the management of patients with advanced cancer besides conventional therapy.

Key words: A palliative nursing interventions, Symptoms intensity, Advanced cancer.

Introduction

Cancer is the second leading cause of death globally and is responsible for an estimated 9.6 million deaths in 2018. Globally, about 1 in 6 deaths is due to cancer. Approximately 70% of deaths from cancer occur in low- and middle-income countries. (**World Health Organization, 2020**).

In Egypt, age-standardized incidence rates per 100,000 were 166.6 cases for both sex, 175.9 (males), and 157 (females). Commonest sites were liver 23.8%, breast 15.4%, and bladder 6.9% both sex, liver 33.6% and bladder 10.7% among men, and breast 32.0% and liver 13.5% among women. By 2050, a 3-fold increase in incident cancer relative to 2013 was

estimated. (**Ibrahim, Khaled, Kamel, Mikhail, 2014**).

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. (**Lewis, Bucher, Heitkemper, Harding, 2017**).

Signs and symptoms caused by cancer will vary depending on what part of the body is affected. Some general

signs and symptoms associated with but not specific to cancer include fatigue, lump or area of thickening that can be felt under the skin, weight changes, including unintended loss or gain, skin changes, such as yellowing, darkening, or redness of the skin, sores that don't heal, or changes to existing moles, changes in bowel or bladder habits, persistent cough or trouble breathing, difficulty swallowing, hoarseness, persistent indigestion or discomfort after eating, persistent unexplained muscle or joint pain, persistent, unexplained fevers. **(World health organization, 2020).**

Cancer and its treatment can cause several discomforts, including pain, fatigue, difficulty breathing, nausea, diarrhea or constipation, weight loss, chemical changes in the body, brain and nervous system problems, unusual immune system reactions to cancer. **(National Cancer Institute, 2015).**

Palliative nursing care involves the assessment, diagnosis, and treatment of human responses to actual or potentially life-limiting illness and necessitates a dynamic, caring relationship with the patient and family to reduce suffering. Therefore, palliative nursing is a subspecialty of nursing practice that continues to evolve as the art and science of nursing. **(Schroeder and Lorenz, 2018).**

Palliative care provides support to patients and families. Many people think that palliative care is just for people who are dying, but it is appropriate at any stage of advanced cancer. Some people live comfortably for months or years after their diagnosis of advanced cancer, and they can be supported by palliative care services. The role of palliative care is to help a patient to achieve a good quality of life for as long as

possible and reduce cancer symptoms. **(Mothoneos, 2016).**

Significance of the Study:

Palliative care is important because it gives patients an option for pain and symptom management and higher quality of life. When a patient is seriously ill, they understand the value of each day.

The role of palliative care at the end of life is to relieve the suffering of patients and their families by the comprehensive assessment and treatment of physical, psychosocial, and spiritual symptoms patients experience. As death approaches, the symptom burden of a patient may worsen and require more aggressive palliation. As comfort measures intensify, so does the support provided to a dying patient's family. **(Rome, Luminais, Bourgeois, and Blais, 2011).**

Purpose of the Study

The Purpose of the current study was to assess effect of a palliative nursing interventions on symptoms intensity among patients with advanced cancer.

Operational definitions:

Palliative nursing interventions:

These are certain educational strategies which help patients with advanced cancer for relieving of symptom intensity.

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 Hypothesis:

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- Patients with advanced cancer who receive a palliative nursing intervention will have less intense symptoms (pain, tiredness, nausea, drowsiness, appetite, and shortness of breath, depression, anxiety and anemia) on posttest than pretest symptoms.

Methods:

Research design:

Quasi-experimental research (pre-posttest) design was used to achieve the aim of this study.

Research Setting:

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

Sample:

A purposive sample of 107 adult patients was selected for this study. Patients meeting the inclusion criteria were chosen

Inclusion criteria

- Patients must be conscious, cooperative and range between 18-65 years.
- Patients must have a confirmed diagnosis of advanced cancer (locally advanced or metastatic) at the third and fourth stage of cancer.

Sample size calculation: The estimated confidence level is 95% and power 80% based on this formula:

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

z is the z score

ε is the margin of error

N is population size

ĥ is the population proportion

Instruments:

Two instruments were used by the researcher for collecting the necessary data, these instruments were:

Instrument one : structured interview questionnaire

It was constructed by the researchers after reviewing the related literature to assess the socio-demographic and medical data, it consisted of two parts.

- **Part (1):** Socio-demographic data: such as age, gender, marital status, level of education, occupation, income, smoking status, place of residence, and family members.
- **Part (2):** Medical data: It was comprised of questions such as clinical diagnosis, disease duration, number of metastasized organs, type of advanced cancer, present treatment, and causes of hospital admission.

Instrument two: Edmonton symptom assessment system

It was developed by (Bruera, Ueh, Miller, Selms, Macmillan, 1991), and revised by (Watanabe, et al., 2011). This tool was designed to assess pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, well-being, and shortness of breath. One blank scale was used to assess an "other problem" as needed.

Validity and reliability of the study instrument:

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

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nurses (3), and clinical oncology (1 expert) to ascertain relevance and completeness then modifications were done accordingly.

Reliability: Test-retest method was 0.86 for the second instrument (Carvajal, et al., 2013).

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

Ethical Consideration:

Approval of the Faculty of Nursing Ethical and Research Committee was obtained. A formal written consent was obtained from participants regarding their acceptance to share in the study.

After explaining of the purpose of the study for every participant and assuring that confidentiality and privacy was maintained. Patients were informed that they had the right to withdraw from the study at any time without affecting their care.

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 for data collection. Then, this letter was provided to the head of the clinical oncology department.

- Data collection was extended over a period of six months from September 2019 to the end of February 2020. It was collected in the morning from 9 AM to 11:30 am. The researcher made an initiative session with each patient individually 30 minutes approximately to inform patients about the purpose and the importance of the study. Then, data was collected about social characteristics, clinical data were collected, symptom intensity was assessed using 2nd instrument

- Palliative nursing intervention was prepared based on patient's needs identified in the assessment phase. Each patient received two sessions. First one was about measures to decrease pain, fatigue, nausea and second one was about measures to decrease anorexia, dyspnea, anemia.

The booklet was prepared using written instructions and illustrative pictures and provided to patients for more clarification. Patients and their caregivers received verbal instruction about methods to decrease symptom intensity. Each session lasted between 30 -45 minutes.

- Evaluation was done two times by using instrument (2) Posttest was conducted after one week, and follow up test was conducted after four weeks.

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

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statistics like ANOVA was used. If $P > .05$, no statistical significant difference is found. If $P \leq .05$, a statistical significant difference is found. A highly statistical significant difference is found if $P \leq .01$.

Results

Table 1 showed the social characteristics of the studied group. The mean age of patients in the studied group 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 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 the medical data of the studied group. Regarding clinical diagnosis of patients, about 32.7%, 22.4%, 17.8%, 10.3%, 9.3%, 3.7%, and 3.7% had cancers in GIT, genitourinary, reticuloendothelial system, breast, CNS, skin, and lung respectively. 41.1% of patients were diagnosed in less than one year compared to 25.2% who were diagnosed for more than 3 years. The majority of patients 94.4% had metastasized tumors in which 52.3% had metastasis to only one organ and 42.1% had metastasis to multiple organs. About 71% of the studied

patients were receiving chemotherapy. Additionally, 33.6%, 23.4%, and 36.4% are admitted to the hospital for treatment, had severe symptoms and combined symptoms and treatment respectively.

Table 3: illustrated symptoms intensity for the studied group at pre- and post-intervention. there was a highly statistically significant decrease in the mean of all physical and psychological symptoms as pain, tiredness, nausea, drowsiness, appetite, and shortness of breath, depression, anxiety and anemia of the studied patients at posttest and follow up than pretest P value < 0.001 .

Figure (1): showed that the baseline mean of total physical symptom burden scores of the studied group were 33.19 ± 10.41 , which decreased at posttest after giving an educational palliative intervention to 28.52 ± 9.33 , and decreased more at follow up to 22.55 ± 11.26 . Also, the baseline mean of total emotional symptom burden scores of the studied group were 12.0 ± 5.64 , 10.52 ± 4.82 , and 8.71 ± 4.77 at pretest, posttest, and follow up respectively. In addition to there was a decrease in total mean symptom distress scores of patients at pretest, posttest, and follow up 53.13 ± 15.06 , 46.12 ± 13.79 , and 36.96 ± 17.23 respectively. There was a highly statistically significant difference among the studied group regarding total physical, emotional symptom burden scores, and total symptom distress scores at pretest, posttest, and follow up.

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

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Socio-demographic characteristics	studied Group (n=107)	
	No.	%
Age (years):		
Mean±SD	53.21±10.49	
Range	27.0- 65.0	
Gender:		
Male	48	44.9
Female	59	55.1
Marital status:		
Married	97	90.7
Widow	10	9.3
Education level:		
Illiterate	37	34.5
Primary	22	20.6
Secondary	29	27.1
University	19	17.8
Occupation:		
Housewife	53	49.5
Employee	4	3.7
Not working (males)	34	31.8
Retired	16	15.0
Residence:		
Rural	95	88.8
Urban	12	11.2
Income:		
Sufficient	44	41.1
Not sufficient	63	58.9
Cigarette Smoking:		
Yes	18	16.8
No	81	75.7
Ex-smoker	8	7.5
Family members:		
Mean±SD	5.94±1.86	
Range	3.0- 10.0	

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Table (2): Distribution of patients of the studied group according to their medical data

Medical data	Studied Group (n=107)	
	No.	%
Clinical diagnosis:		
GIT cancer	35	32.7
Genitourinary cancer	24	22.4
Reticulo-endothelial system tumor	19	17.8
Breast cancer	11	10.3
CNS cancer	10	9.3
Bronchogenic carcinoma	4	3.7
Skin cancer	4	3.7
Disease duration:		
Less than 1 year	44	41.1
1 – 2 year	23	21.5
2 – 3 year	13	12.1
More than 3 year	27	25.2
Type of advanced cancer:		
Localized	6	5.6
Metastasized	101	94.4
Number of metastasized organs:		
One organ	56	52.3
Multiple organs	45	42.1
No spread	6	5.6
Present treatment:		
Chemotherapy	76	71.0
Radiation	3	2.8
Medication & chemotherapy	13	12.2
Chemotherapy & radiation	8	7.5
No treatment	7	6.5
Causes of hospital admission:		
Completion of treatment	36	33.6
Severe symptoms	25	23.5
Combined symptoms and treatment	39	36.4
Under diagnosis	7	6.5

Table (3): Symptoms intensity for the studied group at pretest, posttest and follow up

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(ESAS-r)	Pretest	Posttest	Follow up	Repeated measures ANOVA	P value	Post hoc test
	Mean ± SD Range	Mean ± SD Range	Mean ± SD Range			
Pain	4.48±4.29 0.0–10.0	3.81±3.72 0.0–10.0	2.64±2.92 0.0–9.0	78.45	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Tiredness	7.80±2.67 2.0–10.0	6.71±2.23 2.0–9.0	5.66±2.31 2.0–9.0	97.80	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Nausea	5.78±3.49 0.0–10.0	4.83±3.09 0.0–10.0	3.98±3.29 0.0–10.0	85.61	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Drowsiness	5.71±3.89 0.0–10.0	4.88±3.35 0.0–9.0	4.20±3.04 0.0–9.0	94.30	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Appetite	7.12±3.75 0.0–10.0	6.18±3.27 0.0–9.0	4.47±3.17 0.0–10.0	104.0	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Shortness of breath	2.28±3.51 0.0–9.0	2.08±3.16 0.0–8.0	1.57±2.48 0.0–7.0	24.44	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Depression	6.0±3.20 0.0–10.0	5.37±2.76 0.0–9.0	4.36±2.50 0.0–9.0	58.15	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Anxiety	6.0±2.89 1.0–10.0	5.14±2.53 1.0–9.0	4.35±2.61 1.0–9.0	58.15	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001
Other Symptoms (anemia)	0.87±1.61 0.0–5.0	0.78±1.44 0.0–5.0	0.61±1.22 0.0–5.0	118.49	< 0.001 HS	P1=< 0.001 P2=< 0.001 P3=< 0.001

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P1= comparison between pretest and posttest

P2= comparison between pretest and follow up

P3= comparison between posttest and follow up

HS: highly significant

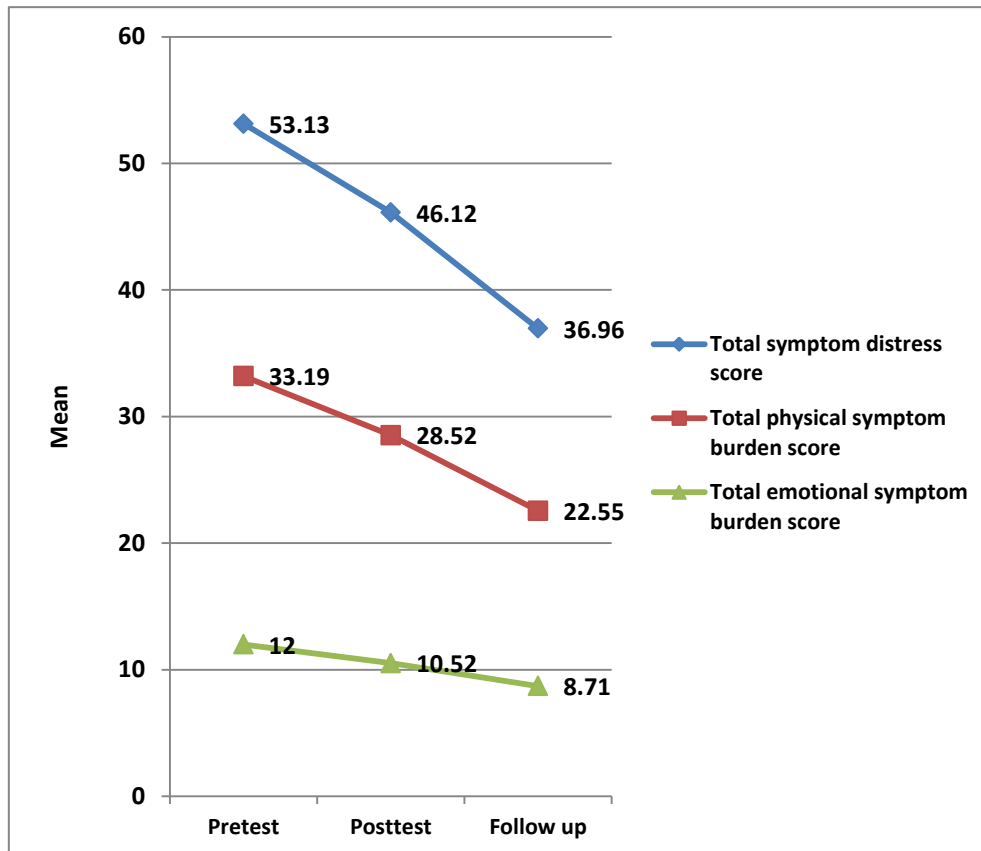


Figure (1): Mean value of total physical, emotional, and total symptom distress score of the studied group at pretest, posttest, and follow up

Discussion:

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 (Elshamy, 2015).

Palliative care that provides psychosocial support and controls symptoms is the main treatment option for patients with terminal cancer (kim et al., 2016). So the

purpose of the current study was to assess the effects of palliative care on symptom intensity among patients with advanced cancer.

Regarding symptoms intensity at pre, posttest, and follow up.

The study findings showed a decrease in the total intensity of symptoms at posttest and follow up tests. The results of this study were in the same line with Brera and Yennurajalingam, (2012) who

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reported Early palliative care access can improve symptom control and patient quality of life and reduce the cost of care. Similarly, Koesel, Tocchi, Burke, Yap, Harrison (2019) reported that The integration of the American Society of Clinical Oncology (ASCO) and oncology palliative care guidelines into an interprofessional outpatient palliative care setting demonstrated a significant decrease in pain, anxiety, and fatigue in patients with advanced cancer over time. A comprehensive, interprofessional palliative care approach is recommended to improve symptom distress and quality of life in this vulnerable patient population. Reduction of the intensity of symptoms was attributed to increasing the awareness of patients about the measures to decrease symptoms intensity, for this reason, Rhondali et al. (2012) found that good palliative care entails that nurses are attentive to and have knowledge of the patients' symptoms. Systematic registration of symptom data facilitates the detection of symptoms that might otherwise have been overlooked. Early screening and treatment may reduce the risk of major, problematic symptoms over a lengthy period, and therefore give the improved quality of life.

Conclusion:

The study concluded that a palliative nursing intervention had a positive effect on reducing symptoms intensity among advanced cancer patients.

Recommendation:

Palliative nursing intervention should form an important component and should be included

routinely in the management of patients with advanced cancer besides conventional therapy.

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