

Coping Skills Nursing Program: Its Effect on Anxiety, Caregiving Burden, and Coping Patterns among Family Caregivers of Patients at the End-Stage of Cancer Disease

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Abstract

Background: Family caregivers of patients receiving advanced cancer care or palliative care have been shown to have high levels of anxiety, depression, stress, and burden, and interventions to improve coping skills of caregivers have been shown to be effective in various diseases. **Aim:** This study aimed to assess the effect of coping skills nursing program on anxiety, burden, and coping patterns among family caregivers of patients at the end-stage of cancer disease. **Research design:** a quasi-experimental study design on one group pre/post assessment was utilized on (40) family caregivers at outpatient clinics of Oncology and Nuclear Therapy Department, El-Demerdash Hospital, Ain Shams University. **Tools of data collection:** The data was collected using an interview questionnaire sheets that included four parts as following: 1) A structured interview schedule to assess demographic Characteristics of family caregivers, 2) The COPE Inventory, 3) Caregiver Burden Inventory (Zarit), 4) Hamilton Anxiety Rating Scale. **Results:** : The current study revealed that: there were highly statistically significant differences between problem-focused coping domains, emotion-focused coping domains, caregiving burden, and anxiety pre- and post- coping skills nursing program implementation; also, there were moderate negative correlations between caregiving burdens and problem focused coping and emotion focused coping post- program implementation; a high negative correlation between emotion focused coping and anxiety post-program implementation; a moderate negative correlation between problem focused coping and anxiety post program implementation; and a high positive correlation between caregiving burden and anxiety post- coping skills nursing program implementation among the studied family caregivers.. **Conclusion:** The study concluded that, coping skills nursing intervention program had positive effect on enhancing coping patterns, and reducing psychological burdens and anxiety among family caregivers of patients receiving palliative care. **Recommendation:** Design intervention strategies to enhance the coping and other psychosocial issues of caregivers of patients living with advanced cancer. Psychosocial supportive interventions should be provided throughout the caregiving process as possible.

Keywords: coping skills nursing intervention, caregiving burden, anxiety, coping pattern, family caregiver, end-stage of cancer disease, palliative care, advanced cancer care.

Introduction

Caregivers play an essential role in supporting a loved one through treatment and at the end of life. Throughout the disease trajectory, family caregivers of patients with cancer provide care to them in varied phases starting from diagnosis, treatments, to palliation near the end of life (Ahn, Romo, & Campbell, 2020).

The detrimental effects of cancer extend to the patient's family and friends and may be particularly burdensome for primary caregivers. Family members often assume the caregiving role with little or no preparation and without considering whether they have enough

knowledge, resources, or skills. Consequently, caregiving has a substantial impact on family caregivers' physical and mental well-being and can negatively influence patient and caregiver health outcomes (Christ, Messner, & Behar, 2015).

Caregivers of patients with advanced cancer are especially challenged physically and emotionally. An estimated 10–60% of caregivers experience negative psychological and physical sequelae including stress, strain, grief, and poor physical health (Kenny, King, & Hall, 2014; and Ugalde, Krishnasamy, & Schofield, 2014). Also, caregivers often experience caregiver burden, which is an

important predictor of anxiety and depression that can extend into bereavement (**Guerriere, Husain, Zagorski, Marshall, Seow, Brazil, & Coyte, 2016**).

Each year, an estimated 40 million people need palliative care; 78% of them people live in low- and middle-income countries. Worldwide, only about 14% of people who need palliative care currently receive it. Various diseases qualify for palliative care when they reach advanced stages. Most adults in need of palliative care have chronic diseases such as cardiovascular diseases (38.5%), cancer (34%), chronic respiratory diseases (10.3%), AIDS (5.7%) and diabetes (4.6%). Many other conditions may require palliative care, including kidney failure, chronic liver disease, multiple sclerosis, Parkinson's disease, rheumatoid arthritis, neurological disease, dementia, congenital anomalies, and drug-resistant tuberculosis. (**World Health Organization, 2016**).

Advanced cancer care or Palliative care strives to achieve the best quality of life for the patient for as long as possible by providing health care, symptom management, psychological and spiritual support, and improve the quality of life for terminally ill patients and their families, essentially through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual when there is no reasonable expectation of a cure (**Chi, Demiris, Lewis, Walker, & Langer, 2016; and Alvariza, Häger-Tibell, Holm, Steineck, & Kreicbergs, 2020**).

Burden can increase in caregivers with additional strain if they are elderly or ill, or balancing their time with other responsibilities such as work and family. It is essential to identify which caregivers are most at risk of experiencing high levels of burden in order to direct additional support to those in need. Supporting those caregivers can have benefits such as improved caregiver health outcomes and enhancing their ability to meet care-giving demands, there by potentially allowing for longer patient care in the home setting (**Guerriere, et al., 2016**).

Cancer affects the quality of life of family caregivers in many ways but takes its greatest

toll on their psychological well-being (**Northouse, Katapodi, Schafenacker, & Weiss, 2012**). Family caregivers are expected to provide an average of 115 hours of care each week complex care in the home with little preparation or support (**Reinhard, Feinberg, Houser, Choula, & Evans, 2019**).

Caregiving demands increase as the disease progresses, and caregivers experience substantial burden that affects their physical, social, and emotional health. Caregivers struggle with difficulties related to sleep, health, immune function, and financial well-being, placing them at increased risk for depression, anxiety, and mortality. In fact, approximately 10–52% of caregivers experience anxiety and/or depression. Anxiety, depression, and the overall stress of care giving lead to chronic physical health problems, emphasizing the need to support caregivers (**Jacobs, Shaffer, Nipp, Fishbein, MacDonald, El-Jawahri, & Greer, 2017**).

As the patient nears the end of life, Caregivers who reported more distress and more caregiving demands had more negative changes in their health behaviors. Although this is an area for psychiatric nursing interventions have been designed to help caregivers of seriously ill patients to maintain their own health for enhancing coping patterns, toward psychological burdens and anxiety.

Significance of the study

Caregivers rated Cancer as the most burdensome condition, followed by surgery and wounds, and a health problem requiring higher-hour caregiving (**National Alliance for Caregiving, 2015**).

The incidence of cancer is alarmingly increasing worldwide. Cancer spread in the world, affecting 197.9 per 100,000 people in 2018 (**World Cancer Research Fund, 2018**). The cumulative risk of incidence indicates that 1 in 8 men and 1 in 10 women will develop the disease in a lifetime (**Bray, Ferlay, Soerjomataram, Siegel, Torre, & Jemal, 2018**). In 2016, an estimated 41 million deaths occurred due to noncommunicable diseases (NCDs), 9.0 million deaths; 22% of them caused by cancer (**WHO, 2018**). Lebanon ranked 48th globally, and Egypt ranked third among the Arab countries, and the incidence of cancer was 152 per 100,000 people, after

Jordan, which ranked second with 155 per 100,000 people. Lung cancer ranks first with 1,824,701 infected globally, then breast cancer with 1,671,149 infected globally, followed by colon, prostate, and stomach cancer (Bray, et al., 2018).

Aim of the Study:

This study aimed to assess the effect of coping skills nursing program on anxiety, caregiving burden, and coping patterns among family caregivers of patients at the end-stage of cancer disease

This aim was achieved through:

1. Assessing coping patterns among family caregivers of patients at the end-stage of cancer disease.
2. Assessing caregiving burdens among family caregivers of patients at the end-stage of cancer disease.
3. Assessing levels of anxiety among family caregivers of patients at the end-stage of cancer disease.
4. Developing, implementing, and evaluating the effect of coping skills nursing program on anxiety, caregiving burden, and coping patterns among family caregivers of patients at the end-stage of cancer disease.

Research hypothesis:

Coping skills nursing program has a positive effect on enhancing coping pattern and reducing caregiving burden and anxiety of family caregivers of patients at the end-stage of cancer disease.

Subject and Methods

Research design:

A quasi-experimental study design on one group pre/post assessment was utilized to achieve the aim of the study.

Study setting

The study was carried out at outpatient clinics of Oncology and Nuclear Therapy Department, El-Demerdash Hospital affiliated to Ain Shams University Hospitals.

Subjects:

Purposive Sampling technique was used. The subjects for the study were 40 family caregivers of patients at the end-stage of cancer disease who met inclusion criteria during their follow-up visits to the previously mentioned setting.

Inclusion criteria:

- Adult caregivers.
- Family caregivers who live with patients at the end-stage of cancer disease.
- Assume the primary responsibility for providing care for their patients during their follow-up visits to the outpatient clinics.
- Not responsible for caregiving of other patient in the family .
- Free from any psychiatric disorders or handicaps.

Tools of data collection

The data was collected using a structured interview questionnaire sheets that included four parts as following:

1. **A structured interview schedule to assess characteristics of family caregivers**, which include age, gender, marital status, residence, qualification, employment status, relation to patient, and hours of care per day/week.
2. **The COPE Inventory**. It was developed by Carver, Scheier, & Weintraub, (1989). The COPE is a Multidimensional inventory comprised of 15 scales with 4 items each, for a total of 60 items that assess a variety of coping strategies. Using the dispositional response format, participants indicated how frequently they used each coping strategy on a four-point scale including (1 = I usually don't do this at all, 2=I usually do this a little bit, 3=I usually do this a medium amount, and 4 =I usually do this a lot). The 15 subscales of the COPE Inventory are listed as following:

Developed to assess	Scale	Items numbers
Problem-focused	Active coping	5, 25, 47, 58
	Planning	19, 32, 39, 56
	Suppression of Competing Activities	15, 33, 42, 55
	Restraint-coping	10, 22, 41, 49
	Instrumental Social Support	4, 14, 30, 45
Emotion-focused	Positive reinterpretation	1, 29, 38, 59
	Acceptance	13, 21, 44, 54
	Denial	6, 27, 40, 57
	Turning to Religion	7, 18, 48, 60
	Emotional social support	11, 23, 34, 52
Less useful	Focus on & venting emotions	3, 17, 28, 46
	Behavioral disengagement	9, 24, 37, 51
	Mental disengagement	2, 16, 31, 43
Recently developed	Humor	8, 20, 36, 50
	Substance use	12, 26, 35, 53

Problem-focused and **Emotion-focused** dimensions were selected in this study.

Scoring:

Scoring	Less frequently	frequently
Each scale	4-10	10.1-16
Each domain	20-50	50.1-80

In the current study, internal consistency was tested: Positive Reinterpretation and Growth =.65, Use of Instrumental Social Support = .73, Active Coping =.76, Denial =.74, Religious Coping =.94, Restraint = .56, Use of Emotional Social Support =.81, Acceptance =.77, Suppression of Competing Activities = .47, and Planning = .83.

3. Caregiver Burden Inventory (Zarit). It has been originally designed by **Zarit, Orr, & Zarit, (1985)**. It was designed to assess the psychological burdens experienced by caregivers of patients with a high degree of dependence, it measures the caregiver's health, psychological well-being, social life, finances, and the relationship between the caregiver and patient. It comprises 22 questions graded according to the presence or intensity of an affirmative response, in

which 0=never, 1= rarely, 2= sometimes, 3= quite frequently, and 4= nearly always.

Scoring:

The score ranged from 0 to 88 points, and interpreted as following:

- Mild burden when the score is ≤ 46 ,
- Moderate burden exists between 47 and 55 points,
- High burden if ≥ 56 .

In this study, reliability (Pearson's $r=0.82$) and, the Cronbach's "coefficient of the ZBI was .84

4. Hamilton Anxiety Rating Scale (HAM-A). It has been originally designed by **Hamilton (1959)**, to assess the severity of symptoms of anxiety. The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic

anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). HAM-A remains widely used as an outcome measure in clinical trials, the reported levels of interpreter reliability for the scale appear to be acceptable.

Scoring:

Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0–56. **Matza, Morlock, Sexton, Malley, & Feltner, (2010)**, proposed the following cutoffs for interpreting HAM-A scores:

- ≤ 7 indicates no/minimal anxiety
- 8:14 indicates mild severity,
- 15–23 indicates mild to moderate severity
- ≥ 24 indicates moderate to severe anxiety.

In this study, reliability (Pearson's $r=0.79$) and, the Cronbach's "coefficient of the HAM-A was .81

Operational Design

The operational design for this study included preparatory phase, pilot study, fieldwork, and ethical considerations.

Preparatory phase:

It included reviewing past, current, local, and international related literature, and theoretical knowledge of various aspects of coping pattern, psychological burden and anxiety among family caregivers caring patients receiving cancer care and palliative care and the role of psychiatric/mental health nurse by using books, articles, internet, periodicals, and journals.

The selected tools were translated into Arabic language by language expert. The items were back translated into English by a bilingual expert. The back-translated items were similar in meaning to the original English items.

Tool validity and reliability:

It was ascertained by experts from Psychiatric/Mental Health Nursing, Community Health Nursing, and Medical/Surgical Nursing, their opinions were elicited as regards to the tool format layout, and

knowledge accuracy and relevance between translated and original copies, Internal consistency (Cronbach alpha) and Pearson correlation coefficient (r) were tested for each tool.

Pilot study:

The pilot study was conducted on a ratio of 10 % of the study sample size "4 family caregivers of patients at the end-stage of cancer disease", to evaluate the feasibility, applicability, and clarity of the research tools and to estimate the time needed for data collection. There was no modification needed based on the results of the pilot.

Field Work

The study lasted about 7 months from the beginning of January 2018 to the end of July 2018. At the beginning the researchers attended the out-patient clinic for about three weeks from 9.00 am to 12.00 pm for three days/week to collect data and assess the needs (pre-test) of 40 family caregivers.

The researchers obtained oral approval from the family caregivers after explaining the aim, purpose and nature of the study and ensure confidentiality of data. the researchers interviewed the family caregivers individually. The questionnaire took about (20-30) minutes.

Based on the assessment findings the coping skills nursing intervention program was developed by the researchers during the period from the beginning of February to the end of March 2018. The coping skills nursing intervention program then was revised by two Psychiatric/Mental Health Nursing professors, before its application on the family caregivers to assure the family caregiver's safety, during the period from the beginning to the end of April 2018.

Coping skills nursing intervention program was implemented on twenty sessions, i.e., two sessions per week for each subgroup. The researchers coordinated the meeting time with each subgroup according to their free and available time each week. Each session took about 45:60 minutes.

The initial '1st' session: The researchers explained the aim of the study, meeting time which was twice/week. This session aimed to

establish therapeutic relationship with the family caregivers, explaining the objectives and discuss the concept of palliative care in end stage cancer disease.

2nd & 3rd sessions: they dealt with providing an overview about cancer care, palliative care, and symptom management.

4th, 9th sessions: for training the family care givers for enhancement physical coping strategies aims to address the physical symptoms of stress through the following:

- Practice good sleep hygiene.
- Practice regular breaks.
- Regularly practice self-soothing techniques.
- Exercise regularly.
- Maintain a healthy diet.
- Limit consumption of mood-altering substances

10th, 18th sessions: for enhancement behavioral and mental coping patterns family caregivers caring patients receiving cancer care and palliative care through:

- o Changing the style of thinking.
- o Behavior change.
- o Change lifestyle.
- o Relaxation techniques.
- o Deep breathing exercise.
- o Muscle relaxation.
- o Mental relaxation.
- o Problem solving skills.
- **19th & 20th sessions:** for to evaluate the effect and the results the program implementation and posttest of data collection.

At the beginning of every session feedback about the previous session was done. Sessions were supplemented with written materials (e.g., handouts), provided to the participants before the sessions, which highlighted the major points discussed in the sessions and detailed home practice assignments.

Ethical considerations:

Oral informed consent was obtained from each caregiver prior to filling in the interviewing questionnaire, after clarification of the study aim and assuring him/her that the gathered information will be used for scientific research purpose only and will be treated strictly confidentially. The study subjects were also informed about being free to withdraw from the study at any time without giving any reason.

Statistical analysis:

The collected data were tabulated and statistically analyzed using the statistical package for social science (SPSS), version 20. The statistical analysis included: Percentages (%), mean, standard deviation (SD) was used for quantitative continuous variables. Paired sample t. test (t) was used to identify the significance in groups before and after the implementation of coping skills nursing intervention program. significant level values were considered as follows: Not Significant (NS) $p > 0.05$ - Significant (S) $p \leq 0.05$ - Highly Significant (HS) $p \leq 0.00$.

Person's correlation coefficient (r) test was used to assess the degree of association between two sets of variables.

Results

Table (1) represents the characteristics of the subjects under study. It reveals that 70% of family caregivers were females, 55% of them were in the age group (26≥40) years with a mean age of 35 ± 1.5 and 65% of them were married. Also, 57.5% of family caregivers' residence in urban, and 35% of them finished secondary school. Regarding employment status, 50% of the studied caregivers had a part time working. This table also clarified that, regarding their relation to the patients 70% of the family caregivers were spouses, and 52.5% of them spent 10-14 hours of care per day.

Table (2): shows highly statistically significant differences between problem-focused coping domains (active coping, planning, suppression of competing activities, restraint-coping, and instrumental social support) pre- and post-coping skills nursing program implementation among the studied

family caregivers of patients at the end-stage of cancer disease in which $t=10.80, 39.31, 17.23, 10.94,$ and 30.14 at $p=.000$ respectively. Also, there was a highly significant difference between total problem-focused coping scores pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $t=31.076$ at $p=.000$.

Figure (1): reveals that there was an enhancement in the studied family caregivers` of problem focused coping patterns post- coping skills nursing intervention program implementation, as 72.5% of them reported frequent use of problem focused coping patterns post-program implementation, whereas 30% of them reported frequent use of problem focused coping patterns pre- program implementation.

Table (3): shows highly statistically significant differences between emotion-focused coping domains (positive reinterpretation, acceptance, denial, and emotional social support) pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $t=10.17, 9.67, 13.94,$ and 21.15 at $p=.000$ respectively. Also, there was a highly significant difference between total emotion-focused coping scores pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $t=38.051$ at $p=.000$.

Figure (2): represents that, there was an enhancement in the studied family caregivers` of emotion focused coping patterns post- psychiatric nursing intervention program, as 62.5% of them reported frequent use of emotion focused coping patterns post- program implementation, noted that 27.5% of them reported frequent use of emotion focused coping patterns pre- program implementation.

Figure (3): illustrate that there was an improvement in the levels of caregiving burden of the studied family caregivers post- program

implementation as 47.5% of them reported moderate caregiving burden and 30% of them experienced mild caregiving burdens, whereas 67.5% of them reported high level of caregiving burdens pre-program implementation.

Figure (4): illustrate that there was an improvement in the levels of anxiety of studied family caregivers post-program implementation as 60% of them reported mild levels of anxiety and 20% of them reported moderate levels of anxiety, whereas 62.5% of them reported sever level of anxiety pre-program implementation.

Table (4): revealed that, there were highly statistically significant differences between caregiving burden and anxiety pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $t=23.50$ and 18.49 at $p=0.001,$ and 0.000 respectively.

Table (5): shows moderate negative correlations between caregiving burdens and problem focused coping and emotion focused coping post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $r= -.629,$ and $-.510$ at $p<0.001$.

Table (6): shows a high negative correlation between emotion focused coping and anxiety post- coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $r= -.854$ at $p<0.001$. also, there was a moderate negative correlation between problem focused coping and anxiety post- coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $r= -.613$ at $p<0.001$.

Table (7): shows a high positive correlation between caregiving burden and anxiety post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease in which $r= -.775$ at $p=0.001$.

Table 1: Distribution of the studied family caregivers of patients at the end-stage of cancer disease according to their characteristics (n=40).

Items	No	%
Gender		
▪ Male	12	30
▪ Female	28	70
Age		
▪ 20 ≥25	8	20
▪ 26≥40	22	55
▪ ≤41	10	25
Mean ± SD		35.73±1.54
Marital status		
▪ Single	4	10
▪ Married	26	65
▪ Divorced	6	15
▪ Separated	4	10
Residence		
▪ Urban	23	57.5
▪ Rural	17	42.5
Qualification		
▪ Illiteracy	12	30
▪ Primary	10	25
▪ Secondary	14	35
▪ Graduate	4	10
Employment status		
▪ Working full time	13	32.5
▪ Working part time	20	50
▪ Not working	7	17.5
Relation to patient		
▪ Spouse	28	70
▪ Parent	7	17.5
▪ Sibling	3	7.5
▪ Other	2	5
Hours of care per day/week		
▪ Less than 5 hours	1	2.5
▪ 5-9 hours	10	25
▪ 10-14 hours	21	52.5
▪ More than 15 hours	8	20

Table (2): Comparison between mean scores of problem-focused coping domains pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease (n=40).

Scale		Pre		Post		t test	P value
		Mean	SD	Mean	SD		
Problem-focused	Active coping	9.74	2.61	12.02	1.45	10.80	.000
	Planning	6.09	1.98	13.23	5.11	39.31	.000
	Suppression of Competing Activities	4.99	0.68	12.13	2.47	17.23	.000
	Restraint-coping	11.67	3.45	13.65	2.77	10.94	.000
	Instrumental Social Support	10.78	4.59	14.34	0.09	30.14	.000
	Total	43.27	13.31	65.37	11.89	31.076	.000

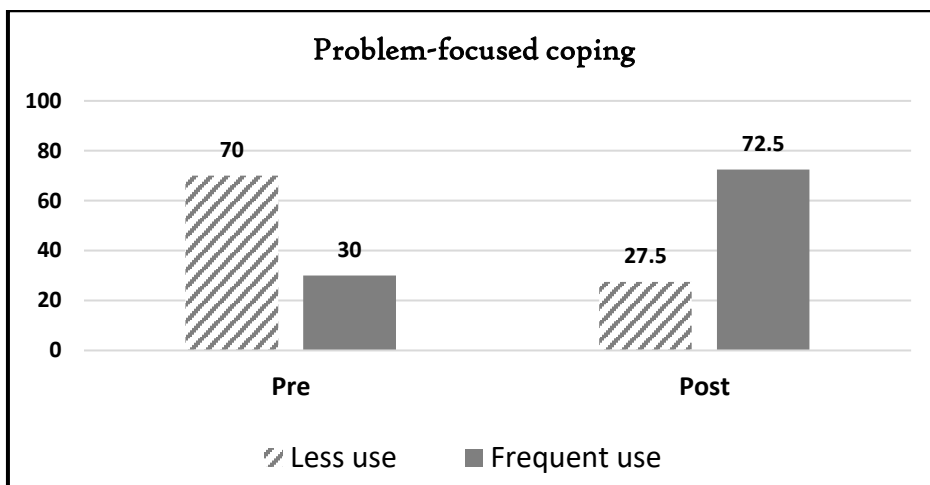


Figure (1): Frequency Distribution of the studied family caregivers of patients at the end-stage of cancer disease according to their problem-focused coping pre- and post- coping skills nursing program implementation (n=40).

Table (3): Comparison between mean scores of emotion-focused coping domains pre- and post- coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease (n=40).

Scale		Pre		Post		t test	P value
		Mean	SD	Mean	SD		
Emotion-focused	Positive reinterpretation	7.66	3.07	14.67	1.23	10.17	.000
	Acceptance	5.13	1.01	13.81	2.23	9.67	.000
	Denial	11.39	3.87	4.99	0.69	13.94	.000
	Turning to Religion	11.98	5.69	10.33	4.98	8.32	.078
	Emotional social support	8.67	3.76	13.91	1.58	21.15	.000
Total		44.83	17.4	57.71	10.71	38.051	.000

Statistically significant at p<0.05

Highly statistically significant at p<0.001

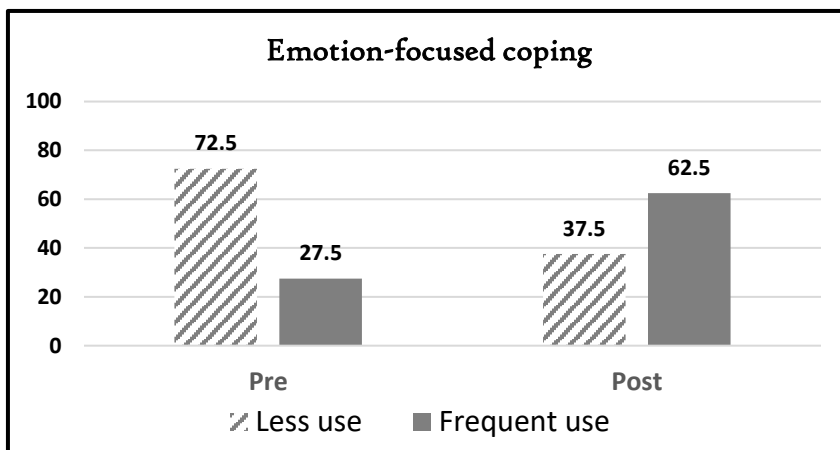


Figure (2): Frequency Distribution of the studied family caregivers of patients at the end-stage of cancer disease according to their emotion-focused coping pre- and post- coping skills nursing program implementation (n=40).

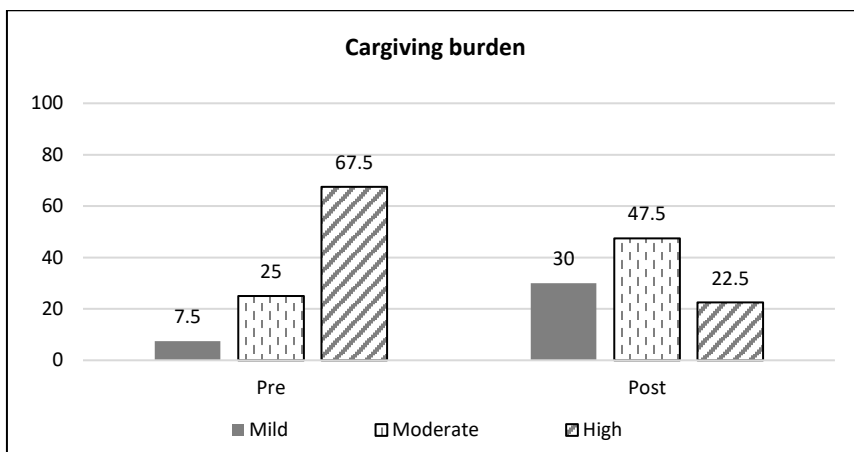


Figure (3): Frequency Distribution of the studied family caregivers of patients at the end-stage of cancer disease according to their level of caregiving burden pre- and post- coping skills nursing program implementation (n=40).

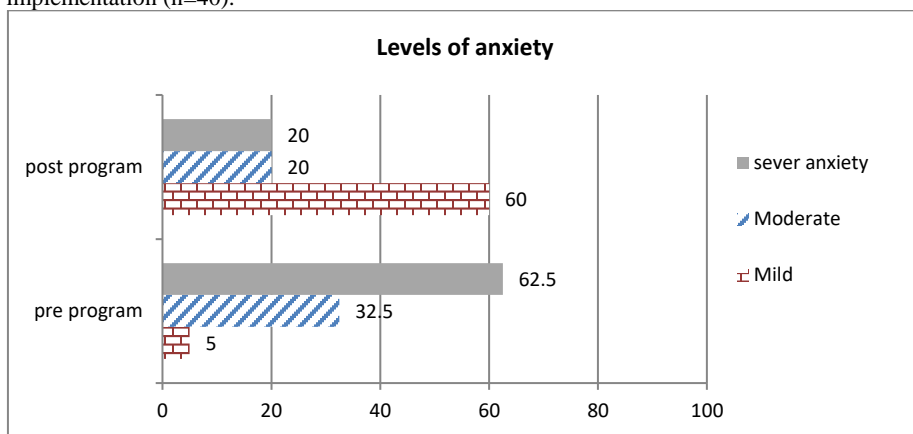


Figure (4): Frequency Distribution of the studied family caregivers of patients at the end-stage of cancer disease according to their level of anxiety pre- and post- coping skills nursing program implementation (n=40).

Table (4): Comparison between mean scores of caregiving burden and anxiety pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease (n=40).

Variables	Pre- program		Post- program		t test	P-value
	Mean	SD	Mean	SD		
Caregiving burden	58.74	11.21	46.29	9.76	23.50	0.001
Anxiety	24.67	6.78	12.98	4.53	18.49	0.000

Statistically significant at $p < 0.05$

Highly statistically significant at $p < 0.001$

Table (5): Correlation between caregiving burdens and problem focused coping and emotion focused coping pre- and post- coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease (n=40).

Variable	Problem focused coping		Emotion focused coping	
	Pre	Post	Pre	Post
	r test	r test	r test	r test
Caregiving burdens	Pre	-.145	.127	
	Post		-.629**	-.510**

*Statistically significant at $p < 0.05$

**Highly statistically significant at $p < 0.001$

Table (6): Correlation between anxiety and problem focused coping and emotion focused coping pre- and post- coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease (n=40).

Variable		Problem focused coping		Emotion focused coping	
		Pre	Post	Pre	Post
		r test	r test	r test	r test
Anxiety	Pre	-.221		-.037	
	Post		-.613**		-.854**

*Statistically significant at $p < 0.05$

**Highly statistically significant at $p < 0.001$

Table (7): Correlation between caregiving burden and anxiety pre- and post- psychiatric nursing intervention program among the studied family caregivers (n=40).

Variable		Caregiving burden			
		Pre		Post	
		r test	P value	r test	P value
Anxiety	Pre	0.649	0.539		
	Post			.775	0.000

Statistically significant at $p < 0.05$

Highly statistically significant at $p < 0.001$

Discussion

Family caregivers play a crucial role with patient in advanced cancer care and palliative care, representing their principal source of support. However, they often have their own lives put into upheaval and neglect their health and needs to focus on supporting their relative with cancer during palliative care.

So, the current study was conducted to assess the effect of coping skills nursing program on anxiety, burden, and coping patterns among family caregivers of patients at the end-stage of cancer disease.

Data analysis confirmed the research hypothesis of the current study as coping skills nursing program had a positive effect on enhancing coping pattern and reducing psychological burden and anxiety of family caregivers caring for patients receiving advanced cancer care and palliative care, as significant change was apparent post intervention.

The result of the present study showed highly statistically significant differences between problem-focused coping domains as well as emotional focused coping pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease, as about three quarters of them reported frequent use of problem focused coping patterns and less than

two third of them reported frequent use of emotional focused coping patterns post-program implementation, whereas less than one third of them reported frequent use of problem focused coping patterns and about one quarter of them reported frequent use of emotional focused coping patterns pre-program implementation.

This can be contributed to the session training activities and contents as well as homework assignment favorably affect how the caregivers perceived the burden of caregiving and grief associated with terminal illness.

These results are agreed with **Merckaert, Libert, Lieutenant, Moucheux, Farvacques, Slachmuylder, Razavi, (2013)**, who conduct a study entitled "Desire for formal psychological support among caregivers of patients with cancer: prevalence and implications for screening their needs" and stated that, it is well recommended to provide family caregivers with the resources, information and support needed to maintain good health, and to sustain their caregiving role

Also, **Kim, Shaffer, Carver, & Cannady, (2016)**, who conducted a study entitled "Quality of life of family caregivers 8 years after a relative's cancer diagnosis: follow-up of the National Quality of Life Survey for Caregivers" mentioned that the deterioration of

the patient's conditions negatively affects the caregiver's adjustment.

Regarding the effect of coping skills nursing program implementation on the caregiving burdens, data analysis revealed that there was highly statistically significant difference between caregiving burden pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease, as there was an improvement in the levels of caregiving burden of the studied family caregivers post-program implementation as less than half of them reported moderate caregiving burden and about one third of them experienced mild caregiving burdens, whereas more than two thirds of them reported high level of caregiving burdens pre-program implementation.

As the presence of a family member with a condition that requires palliative care creates changes in the daily work and routines of the family members who assumes the caregiving. Roles in the family are also changing. When a patient needs palliative care, it is a major cause of stress for the family members who are caring for them. Depending on the condition of their patients, family carers may be negatively affected physically, psychologically, and socially. Also, the family caregivers caring for patients receiving cancer care and palliative care perceived burdens as physical health problems including exhaustion and sleep disturbances. At the social level, family caregivers are prone to financial problems, isolation, and occupation-related problems in the phase of caregiving. Psychological problems as anxiety, depression and signs of posttraumatic stress disorder or emotional problems including helplessness, uncertainty, and hopelessness are also perceived.

This result is the same line with **Veloso, & Tripodoro, (2016)**, who conduct a study entitled "Caregiver's burden in palliative care patients: a problem to tackle. Current opinion in supportive and palliative care" and mentioned that the burden (distress) from patient symptoms and caregiver tasks also was significantly improved by the intervention. This study showed that teaching the COPE method is a way of improving caregiver wellbeing and

enhancing existing palliative care. In a practical sense, this means that caregivers were better able to tolerate patient symptoms such as pain and constipation, or tasks such as providing personal care, even when palliative care did not eliminate symptoms or remove the need for care.

The results of the current study revealed that there was highly statistically significant difference between anxiety pre- and post-coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease, as there was an improvement in the levels of anxiety of studied family caregivers post-program implementation as less than two thirds of them reported mild levels of anxiety and one fifth of them reported moderate levels of anxiety, whereas about two thirds of them reported sever level of anxiety pre-program implementation.

This result congruent with **Grov, Moum, & Fossa (2005)**, in study entitled "Anxiety, depression, and quality of life in caregivers of patients with cancer in late palliative phase" who mentioned that high level of anxiety in palliative care could be related to concerns about the future, coping with the situation, fear of loss and being alone, sole responsibility for children, or unfamiliar tasks at home. Anxiety is considered as an indicator of the current caregiver burden. However, anxiety could also be viewed as stress-factor influencing the palliative care reactions to the challenges of caregiving.

This is also in line with **Fujinami, Sun, Zachariah, Uman, Grant, & Ferrell, (2015); Halkett, Lobb, Shaw, Sinclair, Miller, Hovey, & Nowak, (2017); and Areia, Fonseca, Major, & Relvas, (2019)**, who reported moderate or severe distress varying from 55 to 90% of family caregivers at different time points during the patients' incurable cancer diseases, demonstrating that the five most distressing problems in family caregivers were sadness, sorrows, anxiety, exhaustion, and sleep disturbances.

This result congruent with **Oechsle, Ullrich, Marx, Benze, Heine, Dickel, & Bergelt, (2019)**, who evaluated mental burden, including distress, depressive and anxiety

symptoms in family caregivers of patients with advanced cancer, and mentioned that clinically relevant distress was observed in almost all family caregivers.

Results of the current study show that, there was a moderate negative correlation between problem focused coping and anxiety post- coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease.

This result is contradicted with **Li, R., Cooper, C., Bradley, J., Shulman, A., & Livingston, G. (2012)**, who conducted a study entitled "Coping strategies and psychological morbidity in family carers of people with dementia: a systematic review and meta-analysis" and stated that solution-focused coping is not cross-sectionally associated with carer mental health, as carers who reported using more solution-focused coping strategies relative to other forms of coping at baseline, tended to show more symptoms of anxiety and depression at 12 months follow-up.

Also, this result is contradicted with **Perez-Ordóñez, Frías-Osuna, Romero-Rodríguez, & del-Pino-Casado, (2016)**, in the study entitled "Coping strategies and anxiety in caregivers of palliative cancer patients" and mentioned that problem-focused coping was not related to anxiety in caregivers of palliative cancer patients.

This could be due to the effect of the coping skills program implementation, as the caregivers acquired the skills needed to prioritize the patient's need as well as their needs, seeking familial support when needed, providing health care, symptom management, and spiritual support for the patient. All this coping skills affect the level of anxiety by feeling of personal fulfillment and satisfaction from helping to relieve another's suffering, regardless the fact that problem focused coping may be more related to positive outcomes of caregiving than negative ones.

Also, there was a high negative correlation between emotion focused coping and anxiety post- coping skills nursing program implementation, and a moderate negative correlation between problem focused coping

and anxiety post- coping skills nursing program implementation among the studied family caregivers of patients at the end-stage of cancer disease.

The decrease in anxiety that accompanies the use of emotion focused coping post program implementation could be because they gain awareness regarding the positive aspects of caregiving and enjoyed taking care of loved ones. Also, emotion focused coping tends to be more effective in low control situations such as caring for a patient with advanced cancer, so they tend to use acceptance, turning to religion, and to make memories with their loved ones. Avoiding or denying problems does not appear to ease the caregiving situation or provide emotional well-being in caregivers, as the results suggest.

This result is agreed with **Perez-Ordóñez, et al., (2016)**, who stated that anxiety is related to emotion-focused coping and dysfunctional coping in caregivers of palliative cancer patients.

Also, the negative correlation between emotion-focused coping and anxiety are similar to those of other studies about caregivers of elderly people with dementia by **Li, et al., (2012)**, or those with non-palliative cancer by **Goldzweig, Merims, Ganon, Peretz, & Baider, (2012)**.

Conclusion

Conclusion from the present study results, it can be concluded that, coping skills nursing program had positive effect in enhancing coping patterns, decreasing caregiving burden and anxiety among family caregivers caring patients receiving cancer care and palliative care.

Recommendation

The present study recommended that:

- Design intervention strategies to enhance the coping and other psychosocial issues of caregivers of patients living with cancer.
- Supportive interventions should be provided throughout the caregiving process.
- The chronic nature of a cancer diagnosis suggests that the potential for caregiver

burden is present for long periods of time. Therefore, an assessment of the effectiveness and preventative elements of interventions implemented at different stages of the cancer is warranted.

- More studies need to examine caregivers' self-care behaviors and the physical health outcomes that follow, as caregivers often place patients' needs above their own

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