Psychological Distress of Elderly Cancer Patients: The Role of Social Support and Coping Strategies

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Abstract: Cancer diagnosis and treatment is a stressful event that generates psychological distress. Psychological distress covers a wide continuum of emotions, ranging from feeling of sadness and vulnerability to anxiety and depression, which can adversely affect the cancer treatment and recovery, as well as quality of life and mortality rate. *Aim:* Assess the psychological distress of elderly cancer patients and its associated social support and coping strategies factors. *Method:* A descriptive correlational design was used. The study was carried out in the oncology outpatient clinics at Oncology Center Mansoura University. A purposive sample of 175 elderly cancer patients was included in the study. *Tools:* Five tools were used for data collection; Demographic and health-related data structured interview questionnaire, National Comprehensive Cancer Network Distress Thermometer, Hospital Anxiety and Depression Scale, Multidimensional Scale of Perceived Social Support, and Medical Coping Modes Questionnaire. *Results:* Age of the studied patients ranged from 60 to 87 years old with a mean age of 66.52±6.35. Females constituted 65.1% and illiteracy was prevailing among the studied subjects. The prevalence of psychological distress was 68.6% (cutoff point ≥4 according distress thermometer). Anxiety and depression were common in 85.1 and 81.7% of elderly cancer patients, respectively. Age, social support, avoidance and acceptance-resignation coping style predict 0.36, 0.41, 0.46, and 0.49 respectively of the variability of anxiety. Also, social support and age of the studied patients predict 0.32 and 0.43 of the variability of depression. *Conclusion:* psychological distress, anxiety and depression were prevailing among elderly cancer patients. Thus, it should be considered by the heath care professionals when caring for those patients especially more frail and vulnerable group as elderly population. The availability of considerable level of social support and effective use of coping strategies appear to have a positive effect on the level of psychological distress in the studied elderly cancer patients. *Recommendation:* Assessing the psychological distress through stressful times may help in identifying the psychological needs and allow targeted psychological support.

Keywords: cancer, older adults, psychological status, social support, coping.

INTRODUCTION

Cancer is the second leading cause of death worldwide, and is responsible for an estimated 9.6 million deaths in 2018. About 1 every 6 deaths are due to cancer. Approximately 70% of deaths from cancer occur in developing countries [1]. Aging is a fundamental factor for the development of cancer. Aging promotes various changes in physiological and biological processes which may lead to the developing of cancer [2]. The overall risk accumulation is combined with the tendency for cellular repair mechanisms to be less effective as a person grows older [1].The incidence of cancer rises rapidly with age, about 60% of all malignancies occurs in people aged 65 years or more [3]. In Egypt, total incident of cancer cases in 2050 would increase about 170% relative to 2015, 32.8% of this increase would be due to population growth while aging of population would account for 67.2% of this increase [4].

Cancer diagnosis and management is a stressful event that causes psychological suffering in majority of cancer patients [5]. Psychological distress covers a wide continuum of emotions, ranging from feeling of sadness and vulnerability to anxiety and depression [6]. It is generally defined according the American National Comprehensive Cancer Network (NCCN) as a multi-factorial, unpleasant emotional experience of a psychological, social, and spiritual nature that may interfere with the ability to cope effectively with cancer. It also recommended the use of term of

psychological distress rather than anxiety and depression [7]. These experiences associated with poor health status of cancer patients, higher utilization of medical services and increasing the mortality rate [8]. The International Psychological Association of Oncology considers psychological distress as the sixth vital sign, makes it as a routine in clinical nursing care [9].

Psychological distress occurs at any time during the course of the disease and may change over time. The psychological distress among elderly cancer patients has been related to several factors, the most frequently reported being worry and fear of death [6]. In addition to demographic variables, social support and coping strategies are considered as important factors that related with psychological distress among cancer patients [10, 11].

Social support is one of the most important resources for dealing with psychological distress caused by cancer especially in elderly people as advanced age is usually accompanied by loss of key contacts due to death, retirement, and relocation [12]. Social support is defined as any type of communication, in the forms of physical or psychological assistance, for individual to feel having more self control during stressful times [13]. Social support is important for cancer patients, as it improves the ability to cope with the disease, decreases disease-related stress, increases well-being and health-related quality of life. Whereas, unsupportive behaviors and lack of social support

could contribute to psychological distress and patients become more pessimistic and desperate as they are constantly looking for support from others [14].

The way in which the patients cope with life threatening disease may affect patients' psychological status, which can affect on the treatment course and health outcomes [15]. Coping is the cognitive behavioral strategies used by people to manage the internal and external demands of stressful situations. Generally, cancer patients who use effective coping style compared with those who use ineffective coping style, tend to report lower anxiety and depression level [11].

Demographic characteristics, social support and coping strategies have been proven as important factors that affect the psychological distress of cancer patients in several previous studies [10, 11]. So, it is important for nurses who caring for cancer patients to assess their psychological status and identify the different factors that influencing it for better outcomes. Nevertheless, in Egypt, there are lack of studies that explored these factors and its independent effect on psychological suffering of elderly cancer patients. Therefore, the aim of this study was to identify the prevalence of psychological distress among elderly cancer patients and explore its association with social support and coping strategies.

Aim of the study:

The aim of this study was to assess the psychological distress of elderly cancer patients and its associated social support and coping strategies factors.

Research questions:

What is the prevalence of psychological distress of elderly cancer patients?
What is the association between social support, coping strategies and psychological distress of elderly cancer patients?

SUBJECTS AND METHOD

Design: A descriptive correlational research design was used in this study.
Setting: The study was carried out in the oncology outpatient clinics at Oncology Center Mansoura University.
Subjects: A purposive sample of 175 elderly cancer patients attending the study setting within a period of six months from first of February till end of July, 2019. Participants were selected according certain criteria; aged 60 years and more, newly diagnosed with cancer within three months, able to communicate and agreed to participate in the study.

TOOLS

Tool I: Demographic and health-related data structured interview questionnaire: this tool was developed by the researchers after reviewing of the relevant literature as follow:

- Demographic data as age, gender, social status, educational level, residence, living arrangement, and income.

- Health-related data as presence of other chronic diseases, type of cancer, and cancer diagnosis disclosure.

Tool II: National Comprehensive Cancer Network Distress Thermometer (NCCN-DT) [16]
The DT is a 1-item self-report screening tool for evaluating psychological distress in patients with cancer. It grades distress levels based on a visual analog scale with scores from 0 (indicating no distress) to 10 (indicating extreme distress). According the National Comprehensive Cancer Network, distress with score of ≥4 is clinically significant.

Tool III: Hospital Anxiety and Depression Scale (HADS)
It was developed by Zigmond & Snaith (1983) [17].It is used to measure anxiety and depression among patients with illness. It is an effective tool to assess psychological status in cancer patients [18]. It consists of two parts (HADS-A and HADS-D) that assess the level of anxiety and depression, respectively through 14 statements; 7 statements for each of anxiety and depression. Each item in the questionnaire scored from 0-3 and this means that a person can score between 0-21 for either anxiety and depression. HADS Scores 0-7 could be considered normal, 8-10 could be considered mild, 11-15 could be considered moderate, and 16-21 could be considered sever. This scale was translated into Arabic and tested for its validity and reliability by Abd Elhameed, (2010) [19]. The reliability was assured r=0.861.

Tool IV: Multidimensional Scale of Perceived Social Support (MSPSS)
It was developed by Zimet et al., (1988) [20]. It consists of 12 items, designed to measure perceived social support in three subscales namely, family, friends, and significant others, each one have 4. Each item responses arranged in 7 points Likert scale from very strongly disagree to very strongly agree. Total and subtotal mean score ranged from 1-7. A higher score indicates high social support. Total mean score ranging from 1 to 2.9 could be considered low support, a score of 3 to 5 could be considered moderate support, while a score from 5.1 to 7 could be considered high level of support. This scale was previously translated into Arabic and tested for its reliability (r=0.87) [21].

Tool V: Medical Coping Modes Questionnaire (MCMQ)
It was developed by Feifel et al., (1987) [22] to assess patients' coping responses to their current illness through 19 items arranged in 3 subscales; 8 for confrontation, 7 for avoidance and 4 items for acceptance-resignation. Each item is answered on a four point continuum (e.g., "never" to "all the time", "very little" to "very much"). Subscale scores are obtained by summing the responses; possible rage for confrontation (8-32), for avoidance (7-28) and for acceptance-resignation (4-16). Higher score indicates that patients more frequently use that specific coping style when dealing with illness. Total score range from 19 to76. It is widely used for assessing coping strategies in cancer patients [11, 23].

METHOD

1. Official permission was issued from the responsible authorities of Faculty of Nursing, Mansoura University.

2. Permission to conduct the study was obtained from the director of the Oncology Center Mansoura University after being informed about the purpose of the study and the time of data collection.

3. The study tool I (Demographic and health-related data structured interview questionnaire) was developed by the researchers after reviewing the literatures.

4. The study tool V (Medical Coping Modes Questionnaire) was translated into Arabic language by the researchers. Back translation was used by an expert to ensure the validity of the tool translation.

5. Reliability of tool V (Medical Coping Modes Questionnaire) was tested by determining the stability of the tool's score over repeated use. It was assured by means of r coefficient (r=0.89).

6. The Arabic version of the study tools was used.

7. The study tools were tested for content validity by experts in the related fields of the study and the required modifications were done accordingly.

8. A pilot study was applied on 10% of cancer elderly patients at the oncology outpatient clinics at Oncology Center Mansoura University before starting the data collection to ascertain the clarity and applicability of the study tools and necessary modifications were done. These patients were not included in the study sample.

9. According the schedule of the study setting, the researchers visited the clinic three days/week.

10. Each study subject was interviewed individually by the researcher to collect the necessary data using the study tools in the oncology outpatient clinics.

11. The researchers started the interview by introducing themselves to the study participants and giving them an idea about the purpose of the current study. Time taken for each interview ranged from 25 to 30 minutes.

Ethical considerations:

Ethical approval was obtained from Mansoura University, Faculty of Nursing Ethic Committee. Verbal consent was obtained from the study participants after explanation of the nature of the study. The participants were informed that their participation is voluntary and they can withdraw from the study at any time. Confidentiality and anonymity of the collected data were assured.

Statistical analysis:

Data was analyzed using SPSS (Statistical Package for Social Sciences) version 16. Qualitative variables were presented as number and percent. A descriptive statistics were done in the form of frequencies, mean, standard deviation, median, minimum, and maximum. The independent sample t test was used to evaluate the differences between the groups and one way ANOVA test for more than two groups' comparison. Pearson's correlation coefficient (r) was used to evaluate the association between the different study variables. The multivariate regression analysis (stepwise) was used to determine the association between demographic characteristics, social support, coping strategies and psychological status of elderly cancer patients. In this model, the psychological status was considered as a dependent variable, while the other variables were considered as independent variables. The level of significance was set as $p \leq 0.05$. Graphs were done for data visualization using Microsoft Excel.

RESULTS

Table 1 shows, this study included 175 elderly patients with cancer. Age of the studied patients ranged from 60 to 87 years old with a mean age of 66.52 ± 6.35. Females constituted 65.1% and illiteracy/ read and write was prevailing among 85.2% of the studied subjects. Most of the subjects (70.9%) reported that their income was not enough and the majority of them were live in rural areas (76.0%). Breast cancer was prevailing among the studied elderly patients (40.0%).

The level of anxiety and depression increased significantly with increasing age (P=0.014 and 0.016 respectively). Females had more psychological distress (P=0.011), anxiety (P=0.005) and depression (P=0.012) compared with males. There is no statistical significant relation was found between marital status and psychological status, anxiety and depression (P>0.05). Patients with high level of education had significant effect on psychological distress and anxiety but not for depression (P=0.094). Unsatisfactory income and living alone were associated with higher level of psychological distress, anxiety and depression (P≤0.05). Moreover, patients who know their diagnosis (cancer diagnosis disclosure) had poor psychological status. Whereas, social status, residence and type of cancer did not affect significantly on the psychological status of elderly cancer patients (P>0.05).

Figure 1 summarizes psychological distress of the studied elderly cancer patients according to Distress Thermometer (DT). The prevalence of psychological distress was 68.6% (cutoff point ≥4 according distress thermometer).The total mean score was 4.04 ± 1.46. More than one third (34.9%) of the studied patients reported a distress score of 4 point.

Figure 2 shows the prevalence of anxiety and depression among the studied elderly patients; the prevalence of anxiety was 85.1% with more than half of the studied elderly (53.1%) had moderate level of anxiety. While, the prevalence of depression was 81.7% with 40.6% of the studied patients had moderate level of depression.

Table 1: Variation in psychological distress, anxiety and depression by demographic and disease-related characteristics of studied patients (N=175)

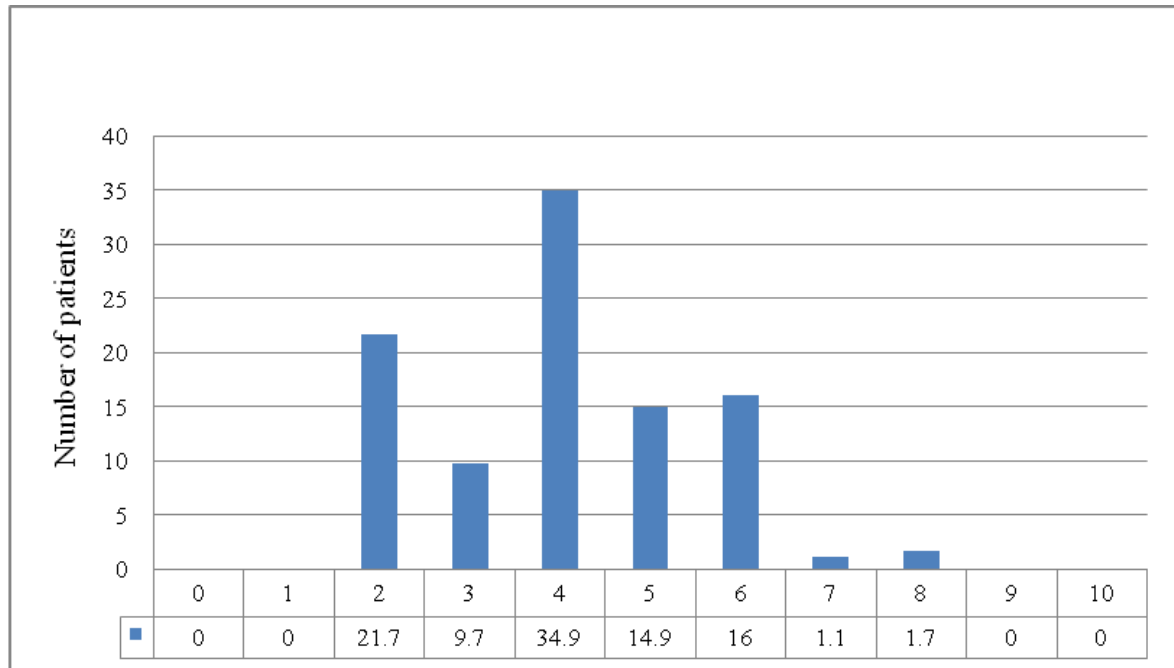| Factors	N (%)	Psychological distress		Anxiety		Depression	
		Mean ±SD	*P*	*Mean ±SD*	*p*	*Mean ±SD*	*p*
Age (years)							
60-	151 (86.3)	4.01±1.4	0.241[a]	11.02±3.1	0.014*[a]	10.34±2.7	0.016*[a]
75-	16 (9.1)	3.88±1.5		11.44±2.5		10.81±2.4	
85+	8 (4.6)	4.87±0.9		14.25±2.7		13.25±3.3	
Sex							
Male	61 (34.9.)	3.74±1.3	0.011*[b]	9.88±3.3	0.005*[b]	9.47±2.5	0.012*[b]
Female	114 (65.1)	4.17±1.4		11.52±2.9		10.77±2.8	
Social status							
Married	113 (64.6)	3.89±1.5	0.071[b]	10.88±3.3	0.064[b]	10.28±2.7	0.136[b]
Widow	62 (35.4)	4.31±1.2		11.79±2.5		10.95±2.8	
Education							
Illiterate/read, write	149 (85.2)	4.16±1.4	0.002*[a]	11.46±2.9	0.024*[a]	10.69±2.6	0.094[a]
Primary	6 (3.4)	4.67±1.3		11.33±4.4		11.00±4.9	
Secondary	17 (9.7)	3.12±1.4		9.41±3.1		9.18±3.11	
University	3 (1.7)	2.33±0.2		8.33±1.1		8.33±1.15	
Income							
Enough	51 (29.1)	3.61±1.6	0.012*[b]	10.25±3.4	0.009*[b]	9.37±3.30	0.001*[b]
Not enough	124 (70.9)	4.22±1.3		11.59±2.8		10.99±2.4	
Residence							
Rural	133 (76.0)	4.14±1.4	0.062[b]	10.43±3.1	0.141[b]	10.71±2.7	0.058[b]
Urban	42 (24.0)	3.66±1.2		10.64±2.8		9.18±2.95	
Living condition							
Alone	20 (11.4)	5.80±1.7	0.000*[b]	13.35±3.15	0.001*[b]	12.30±2.9	0.003*[b]
With family	155 (88.6)	3.81±1.2		10.93±2.98		10.29±2.7	
Comorbidities							
Yes	128 (73.1)	4.09±1.3	0.640[b]	11.73±3.1	0.083[b]	11.12±2.1	0.001*[b]
No	47 (26.9)	4.01±1.5		10.97±3.7		10.16±3.1	
Cancer type							
Breast	70 (40.0)	4.15±1.9	0.097[a]	10.81±3.4	0.199[a]	10.67±3.4	0.154[a]
GIT	32 (18.3)	4.00±1.4		11.37±2.9		10.13±2.2	
Gynecology	27 (15.4)	4.05±1.1		12.05±2.1		11.55±1.7	
Lung	16 (9.1)	5.09±1.3		12.55±2.8		12.00±3.6	
Brain	11 (6.3)	3.91±1.2		9.50±2.6		11.00±3.2	
Other	19 (10.9)	3.83±1.7		10.66±2.9		10.12±3.2	
Diagnosis disclosure							
Yes	134 (76.6)	4.52±1.1	0.000*[b]	11.72±2.5	0.000*[b]	10.79±2.5	0.018*[b]
No	41 (23.4)	2.96±1.2		9.54±4.1		9.61±3.5	

[a] Anova test - [b] t-test - * Significant at p≤0.05

Figure (1): Prevalence of psychological distress of the studied elderly cancer patients by Distress Thermometer (DT)
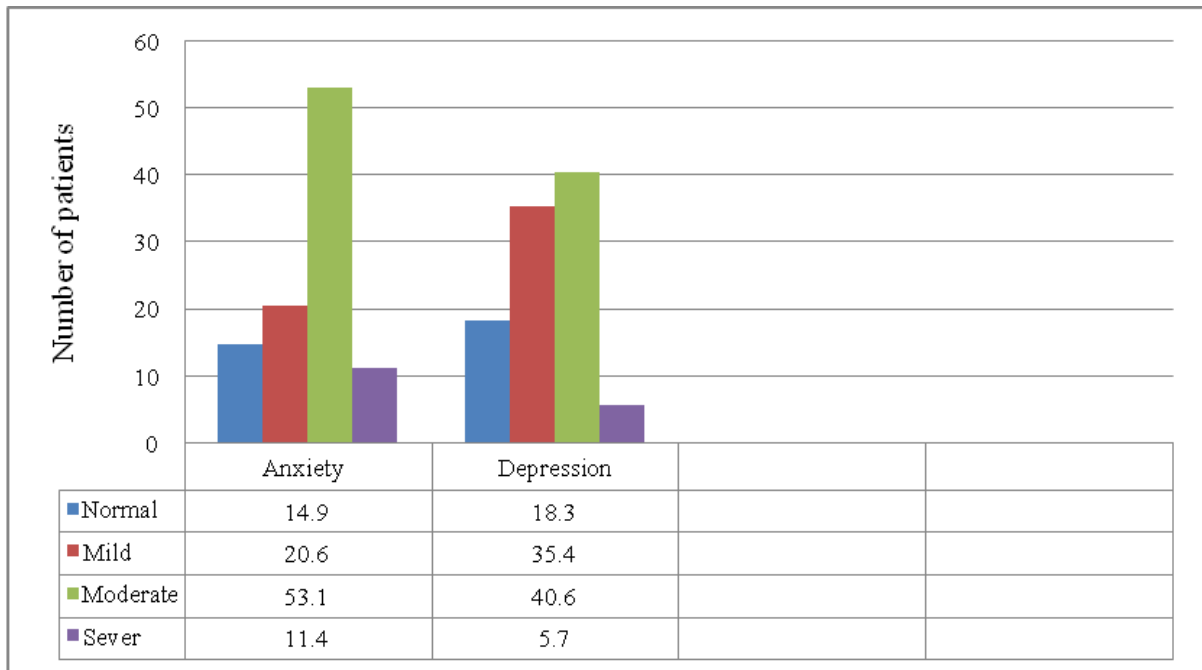
	Anxiety	Depression
■ Normal	14.9	18.3
■ Mild	20.6	35.4
■ Moderate	53.1	40.6
■ Sever	11.4	5.7

Figure (2): Prevalence of anxiety and depression of the studied elderly cancer patients

Table 2 reveals the mean score of confrontation, avoidance and acceptance-resignation as different coping strategies towards cancer were 18.75±3.98, 17.39±5.65 and 9.49±3.53 respectively. Also, the mean score of family, friends and significant others support were 4.53±1.35, 4.29±1.32 and 4.12±1.28 with a higher support from family. After categorization of the total score of social support, 13.1% of the studied patients had low social support, 65.2% had moderate support and 21.7% had high social support with a mean of 4.31±1.27. (Data not presented in table).

Table 2: Descriptive statistics of the different domains of coping strategies and social support of studied patients (N=175)

	Possible score (min-max)	Mean ±SD	Median (min-max)
Coping strategies:			
Confrontation	(8-32)	18.75±3.98	20 (10-26)
Avoidance	(7-28)	17.39±5.65	20 (9-26)
Acceptance-resignation	(4-16)	9.49±3.53	10 (4-16)
Total coping	(19-76)	45.62±6.47	47 (35-61)
Social support:			
Family support	(1-7)	4.53±1.35	5 (2-7)
Friends support	(1-7)	4.29±1.32	4 (1-7)
Significant others	(1-7)	4.12±1.28	4 (2-7)
Total social support	(1-7)	4.31±1.27	4.33 (1.67-7)

Table 3 reveals that there was a significant moderate positive correlation between anxiety and age and acceptance-resignation coping style. As, the level of anxiety increases with increasing age or use of acceptance-resignation coping style. However, a significant moderate negative correlation was found between anxiety and educational level, income, avoidance coping style and social support. This means, patients with high level of education, satisfactory income, use of avoidance coping style, and had high level of social support had lower level of anxiety. Also, the table shows a significant weak positive correlation between anxiety and number of co morbidities, indicating that patients with more chronic diseases had higher level of anxiety. Moreover, there was a significant positive correlation between depression and age, co morbidities and acceptance-resignation coping style. While, a significant negative correlation was found between depression and educational level, income, avoidance coping style and social support. Psychological distress was correlated negatively with education, income, avoidance coping style and social support, and correlated positively with acceptance-resignation coping style.

Table 3: Correlation coefficient (r) between the different study variables

	Psychological distress	Anxiety	Depression
Age	.093	.308**	.257**
Marital status	.135	.140	.113
Education	-.255**	-.226**	-.179*
Income	-.188*	-.198**	-.260**
Co morbidities	.028	.183*	.164*
Coping strategies Confrontation Avoidance Acceptance-resignation	-.146 -.184* .228**	-.132 -.320** .416**	-.112 -.164* .221**
Social support	-.559**	-.357**	-.280**

** Significant at p≤0.001, * Significant at p≤0.01

Table 4 represents that patients' age, social support, avoidance and acceptance-resignation coping style predict 0.36, 0.41, 0.46, and 0.49 respectively of the variability of anxiety. Also, social support and age of the studied patients predict 0.32 and 0.43 of the variability of depression.

Table 4: Multivariate regression analysis for variables influencing anxiety and depression in studied elderly cancer patients

	R^2/ Adjusted R^2	Un standardized Coefficients			Standardized Coefficients	P value
		B	SE	95% CI	β	
Anxiety: Age Social support Avoidance coping Acceptance-resignation coping	.367/.360 .417/.407 .464/.448 .498/.480	.140 -.752 -.110 .350	.030 .196 .053 .104	.082-.198 -1.139--.365 -.213--.006 .145-.554	.288 -.309 -.200 .399	.000* .000* .039* .001*
Depression: Social support Age	.324/.316 .437/.420	-.843 .064	.190 .027	-1.217--.469 .010-.117	-.378 .142	.000* .020*

R^2= coefficient of determination, B= coefficient of regression, CI= Confidence Interval, * Significant at p≤0.05

DISCUSSION

Cancer diagnosis and management is a stressful event that causes psychological distress mainly in the form of anxiety and depression, which can adversely affect the cancer treatment and recovery, as well as quality of life and mortality rate [8]. As a result, assessing the prevalence and identifying the associated variables of psychological distress is becoming the focus of this study.

Psychological distress is a multi-factorial, unpleasant emotional experience of a psychological, social, and spiritual nature that can interfere with the ability to cope effectively with cancer. First, to overcome the problems of variation in the results among different studies, the researchers compared the psychological distress among studies that using the same assessment tool. The prevalence of psychological distress in the present study of elderly cancer patients was 68.6% (a score ≥4). The result appears similar with Taghizadeh et al., (2018) [24] in Iran who stated that, 67.7% of cancer patients had psychological distress as scored 4 or more according distress thermometer. Similarly, Carapezza et al., (2017) [25] in Italy reported that 70% of studied elderly with cancer showed a significant distress. Also, Steinberg et al., (2009) [26] in Canada reported that 51% of the studied patients who their mean age was 63 years were identified as distressed. While Hong et al., (2015) [8] in china revealed that 43.8% of older adults suffered from cancer exhibited psychological distress to some degree and Wang et al., (2017) [27] in Taiwan reported that 33.2% were significantly distressed. The disparity in the prevalence of psychological distress might be due to the variation in the sample size and characteristics and different type of cancer and associated symptoms.

Moreover, the prevalence of anxiety and depression in this study was 85.1% and 81.7% respectively. This percentage was higher than another study in Egypt by Aly et al., (2017) [28] who showed the prevalence of anxiety and depression was 49.6% and 46.8% respectively among cancer patients. Also, Dutt and Soujanya, (2019) [29] in India concluded that more than half on patients with carcinoma were reported higher level of anxiety and depression. Meanwhile, Hong and Tian, (2014) [30] in China revealed that, depression was the main psychological problems in cancer patients as its prevalence was markedly higher than anxiety (66.7% vs. 6.4%). This difference might be due to the use of different assessment tools, or characteristics of the studied sample. As, there were newly diagnosed with cancer within three months. According Ng et al., (2015) [31] patients with cancer are known having high level of psychological suffering at the beginning of the diagnosis related to the fear and uncertainty toward the illness and its management. But, this likely may differ depending on the cancer type and its prognosis.

According Wada et al., (2015) [32], the psychological responses to cancer vary by age of the participants. This is in agreement of the results in the present study as the level of anxiety and depression increased with increasing age with statistically significant difference. Also, age is considered as an important factor that associated with the psychological status of elderly cancer patients according the multivariate regression analysis. As age predict 0.36 and 0.43 of the variability of anxiety and depression respectively. This might attributed to the fact that people with advanced age

usually become frail, more sensitive and apprehensive from death which consequently affect on their psychological status. This result is in accordance with Hong and Tian (2014) [30] in China who reported that patients who aged 60 years and more had significantly higher level of anxiety and depression than patients below 60 years of age. Also, the same study revealed that age was an independent factor that affect the variability of anxiety and depression (Beta=0.44 and 0.071 respectively) after the multivariate linear regression was used. Additionally, Tsaras et al., (2018) [33] in Greece stated that, elderly patients were more likely to experience anxiety and depression symptoms than younger patients. Also, Nikbakhsh et al., (2014) [34] in Iran and Engelhard et al., (2015) [35] in Germany supported this finding. In contrast, Gao et al., (2010) [36] in USA, Mertz et al., (2012) [6] in Denmark revealed a significant inverse relation between cancer patients' age and psychological distress; higher age was associated with lower distress. On the other hand, Steinberg et al., (2009) [26] in Canada found no significant association between age and DT scores.

Elderly women with cancer were more likely to experience psychological suffering symptoms compared with men in the present study. This could be justified by the fact that women are more sensitive and apprehensive to stressful situation than men. Also, women often use emotional strategy of coping, whereas men do not easily externalize their emotions. Moreover, a study done in Korea by Kim et al., (2017) [5] found that females were significantly vulnerable to psychological distress than males. Linden et al., (2012) [37] in Canada and Hinz et al., (2019) [38] in Germany supported this result. Meanwhile, Hong and Tian (2014) [30] reported that females were more depressed but less anxious than males. On the contrary, Hong et al., (2015) [8] in china revealed no gender differences with respect to psychological distress among cancer patients.

The present study revealed, psychological distress and anxiety scores were significantly different between the studied patients with different level of educational backgrounds. Also, the present study found a significant negative correlation between educational background and all of anxiety, depression and psychological distress; Elderly patients with higher education level were scored lowest. This finding was similar with previously published studies [5, 8, 24, 30]. Our finding reinforcing and supporting the assumptions that education can be a protective factor against the occurrence of psychological suffering among cancer patients (Tsaras et al., 2018) [33], and attributed to the fact that those with higher educational background can have better knowledge concerning their illness and be fully aware with the treatment plan. While, less educated patients have poor knowledge and poor coping strategies for managing their illness, further contributing to stress.

Financial stress was negatively correlated with the level of psychological distress, anxiety and depression in the current study. Distress was higher among patients with low socioeconomic status/ or unsatisfactory income. This might be due to the majority of the studied patients reported unsatisfactory income. Additionally, the high cost of cancer treatment and the poor health insurance coverage in Egypt which in turn leading to financial burden and psychological

distress. This extended to other studies in Egypt by Sherif et al., (2014) [39], in china by Hong et al., (2015) [8], in Australia by Tang et al., (2015) [40], and in Ethiopia by Berihun et al., (2017) [41] which revealed financial stress was strongly correlated with distress among cancer patients.

Cancer diagnosis disclosure is difficult situation to be handled, which may cause long-term distress and anxiety [42]. This was in accordance with the finding of the present study; elderly cancer patients who aware of their diagnosis had high level of psychological distress, anxiety and depression with a statistical significant differences compared with those who do not know their cancer diagnosis. Similarly, Montazeri et al., (2009) [43] in Iran reported that patients who did not know their cancer diagnosis had a better physical, social and emotional quality of life. However, Yang et al., (2019) [44] in China and Zheng et al., (2019) [45] in USA revealed no association between cancer diagnosis disclosure and psychological status of cancer patients.

Social support is one of the most important resources for dealing with cancer-related stress. The current study revealed that social support was significantly and negatively associated with psychological distress, anxiety and depression .This means that, the level of psychological distress was lower among those with higher level of social support. Also, multivariate linear regression showed that, social support was an important factor that affect the level of anxiety and depression among elderly cancer patients; as social support predict 0.41 and 0.32 of the variability of anxiety and depression respectively. This could be attributed to social support, particularly from the family, affects the coping with the illness, and patients seem to be more hopeful with better social support. This was in the same line with Rizalar et al., (2014) [46] in Turkey, Ng et al., (2015) [31] in Malaysia, Yoo et al., (2017) [14] in korea, and Yang et al., (2019) [44] in china. This association in the present study was confirmed by the significant relation between living condition and psychological distress, anxiety and depression; as elders who living alone had lower level of social support and in turn had higher level of distress.

The differences in the psychological status among cancer patients were also due to their different way of coping [11]. In the present study, according the multivariate regression analysis, coping strategies was considered an important factor when dealing with the psychological status of cancer patients. The strongest independent variables of psychological status (anxiety) of elderly cancer patients was acceptance-resignation (R^2=.498) which means that the coping strategy (acceptance-resignation) contribute with 49% in the determination of anxiety among those patients. Acceptance-resignation coping was positively associated with anxiety among cancer patients (B=0.350, P≤0.001).Generally, in the present study; acceptance-resignation was considered ineffective coping as patients who used this coping style usually tend to have higher level of anxiety. This is in agreement with Yang et al., (2019) [44] in china who revealed a positive correlation between acceptance-resignation coping style and level of anxiety in colorectal cancer patients. Also, He et al., (2019) [23] stated that resigned acceptance was moderately and positively

correlated with negative mood among cancer patients including elderly patients. Moreover, this study revealed that avoidance coping style was considered a factor that influence anxiety among elderly cancer patients as the regression model reveal a negative association between avoidance coping and the level of anxiety. Indicating that patients who used avoidance coping style have lower level of anxiety (B=-0.110, P≤0.05). This might be related to patients who used avoidance coping might release themselves from anxiety by distracting their attention from the disease. This was extended to Yang et al., (2019). On the other hand, confrontation coping style was not associated with psychological status of cancer patients. As, people in general tend to use their emotion frequently in dealing with the disease rather than fighting against the disease.

CONCLUSION

In conclusion, this study shows, psychological distress, anxiety and depression were prevailing among elderly cancer patients. Thus, it should be considered by the heath care professionals when caring for those patients especially more frail and vulnerable group as elderly population. These psychological suffering were common among whom with advanced age, elderly cancer women, with low educational background, with unsatisfactory income, who living alone and who know their diagnosis (diagnosis disclosure). The availability of considerable level of social support and effective use of coping strategies appear to have a positive effect on the level of psychological distress in the studied elderly cancer patients.

RECOMMENDATIONS

[1]   Assessing the psychological distress through stressful times may help in identifying the psychological needs and allow targeted psychological support.

[2]   Educational programs and family support group that focus on enhancing the social support are seem to be important for improving the psychological status of cancer patients and indirectly benefit to their families.

ACKNOWLEDGEMENT

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