

Burden of Care among Caregivers for Elderly Cancer Patients

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Abstract

Background: Family caregivers play an essential role, usually unpaid, in caring for patients with cancer. Older patients with cancer are cared for by a family member, who may not be prepared for the challenges. **Aim of study:** Was to assess burden of care among caregivers for elderly cancer patients. **Research design:** A descriptive research design was utilized to conduct this study. **Setting:** This study was conducted at Oncology Out-Patient Clinic in Benha University Hospital for caregivers with cancer patients. **Sample:** Simple random sample were used. The total numbers of study sample were 261 caregivers accompanied by cancer patient were be taken randomly. **Tools of data collection:** Two tools were used **First tool:** A Structured interviewing questionnaire, which covers the following parts **Part I-A:** socio Demographic data of studied caregivers. **B:** socio Demographic data of patients. **Part II:** Knowledge of caregivers regarding cancer. **Part IV:** Practices of caregivers regarding cancer. **Second tool:** The Zarit Caregiver Burden Scale. **Results:** 67.8% of the studied caregivers had average knowledge about cancer. 52.1% of the studied caregivers had satisfactory practices score regarding to care of their cancer patients. 82.8% of the studied caregivers had high burden of care. **Conclusion:** There was a great impact on elderly cancerous patients' relatives. There was statistically significant difference relation between total caregivers burden of care and total practices ($P < 0.05$). That means when caregivers practices increase the burden of care increase. **Recommendations:** Health educational program should be developed and implemented for the caregivers to educate them about the caring early warning signs and symptoms of cancer complications.

Key words: Burden, Caregivers, Cancer, Elderly.

Introduction

Cancer refers to cells that grow out of control and invade other tissues, or cancer causes cells to divide uncontrollably. This can result in tumors, damage to the immune system, and other impairment that can be fatal. There are many causes of cancer, such as smoking, alcohol consumption, excess weight, physical inactivity, poor nutrition. Cancer symptoms and signs depend on the grade of cancer including; fatigue, weight loss, pain, skin changes, unusual bleeding, fever, lumps, or tissue masses. Treatments are constantly improving. Examples of current methods

include chemotherapy, radiation therapy, and surgery. Some people benefit from newer options, such as stem cell transplantation and precision medicine (Belleza, 2021).

Incidence rates of cancer is one in two men and one in three women will be diagnosed with cancer by the age of 85 Worldwide, cancer incidence among adults aged 80 years or older at the regional and global level in 2018 to 2050, an estimated 2.3 million new cancer cases. Were aged 80 years or older worldwide. Globally, breast, lung and colon were the most common cancer sites diagnosed in the oldest females. By 2030, the population aged 60 years

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and over will increase from 1 billion in 2020 to 1.4 billion. By 2050, the world's population of people aged 60 years and older will double 2.1 billion. The number of persons aged 80 years or older is expected to triple between 2020 and 2050 to reach 426 million (**World Health Organization (WHO), 2021; Pilleron& Sarfati, 2021**).

Aging population that continues to grow and the number of older adult living with chronic disease increasing, healthcare is shifting from hospital to community and family. Family members are key to the delivery of long-term care for patients and loved ones. So caregivers can be defined as the person who most often helps the person and is not paid to do. In most cases, the main primary caregiver is a spouse, partner, parent, or an adult child (**American Cancer Society (ACS), 2019**).

Burden of care is caused by factors such as role confusion about caregivers, unrealistic expectations, lack of control, many caregivers become frustrated by a lack of money, resources and skills to effectively plan, manage and organize their loved one's care, unreasonable demands. Caregiver burden is the level of multifaceted strain perceived by the caregiver from caring for a family member and/or loved one over time. Caregiver burden refers to psychological pain, physical health issues, financial and social strains, impaired family relationships, absence of hopelessness and other negative outcomes of care tasks. Research notes that family caregivers experience a significant burden in providing care to patients with specific illness such as mental health illness, Parkinson disease, dementia and terminal cancer disease (**WHO, 2018; Liu et al., 2020**).

The symptoms of caregiver burden are similar to the symptoms of stress and depression. They include; withdrawal from friends, family and other loved ones, loss of

interest in activities previously enjoyed, feeling irritable, hopeless and helpless, changes in appetite, weight or both, changes in sleep patterns, getting sick more often, emotional and physical exhaustion, and irritability (**MacLeod, 2019**).

Caregiver burden of care can be decreased through; eating well, nourishes the body and mind with fresh fruit and vegetables, Find ways to feed the whole self. It's important to find the right balance that works for self. For many people, moving more can help reduce stress. The moving can create positive changes in the body and brain, help to feel more in control, getting enough sleep and rest are critical for the health. The body needs this time to heal from the busyness of the day and from all that do to care for the person are supporting. The mind needs to recharge, using these skills can help to manage the stress. Some self-care activities require some planning. May want to try to schedule some things that will nourish and refresh self (**Krishnan et al, 2017; Azar et al, 2021**).

Significance of the study:

Cancer is the first or second leading cause of death. Incidence rates for cancer in Egypt is 96.5 males and 97.3 female, is expected to rise to 19 million by 2024 due to the growth and aging. Increased aging of population have made home care for the elderly a major responsibility for families. Caring for a chronically ill has been referred to stressful, placing the caregiver at a heightened risk of burden, incidence of informal caregivers for patient with cancer in Egypt is one in four (25.4%) women are caregivers compared to one in five (18.9%) men. One in three caregivers (31.3%), provided 20 hours per week of care and over half (53.8%) have given care for 24 months (**Centers for Disease Control and prevention, 2021**).

The burden of care is a significant issue for caregivers who caring for elderly cancer patient. The aim of this study help to understand how the burden is effect on

caregivers including physical, psychological, social, and financial. So it is important to provide information for caregivers about how to cope with burden of care among caregivers for elderly people with cancer.

Aim of the study:

The present study aimed to assess burden of care among caregivers for elderly cancer patients.

Research questions:

- 1-What is the caregivers knowledge regarding cancer?
- 2-What is the practice of caregivers to care of elderly cancer patients?
- 3-What is the caregivers burden of care for older adult with cancer?
- 4-Is there a relation between caregiver burden of care and practices regarding caring for older adults with cancer?
- 5-Is there a relation between socio demographic characteristics of caregivers and burden of care?

Subject and method:

Research design:

A descriptive research design was utilized to conduct this study.

Study setting

The study was conducted at Oncology Out-Patient Clinic in Benha University Hospital.

Sampling

Simple random sample were used to choose 35% of all cancer elderly patients diagnosed in last year attending at Oncology Out-Patient Clinic in Benha University Hospital. The total number of study sample were 261 patients out of (750). Caregivers a complied with cancer elderly patient were be taken randomly.

Criteria of sample

- Primary family caregiver.
- Over 18 years old.

- Care for a relative who has been diagnosed with cancer at least three months.

Tools for data collection:

Two tools were used to collect the data:

First tool: A structured interviewing questionnaire: It was developed by the based on reviewing of related literatures, and it was written in simple clear Arabic language. It comprised of four part to assess the following:

Part 1 –A: It was concerned with studied caregivers characteristics. It included 8 items about: Sex, age, level of education, marital status, work, income, relativeness and time of caring.

Socio –B: It was concerned with the studied patient demographic characteristics. It included 7 items about: Sex, age, level of education, marital status, work, income and residence.

Part II: It was developed to assess studied caregivers knowledge regarding cancer which consisted of 8 closed ended questions (multiple choice type).

Scoring system of the studied caregivers knowledge:-

The scoring system for the studied caregivers knowledge was calculated as follows:

- (2) score for correct and complete, while (1) score for correct and incomplete, and (0) for don't know. For each area of knowledge, the score of the questions was summed- up and the total divided by the number of the questions, which converted into a percent score. The total knowledge score were categorized in to 3 levels as following:

Total score of knowledge = 16 points

- Good when the total score was > 75% to 100% (>12-16 points).

- Average when the total score was 50% to less than 75% (8<12 points).

- Poor when the total score was less than 50% (<8 points).

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Part IV: It was developed to assess studied caregivers practices regarding cancer which included 28 items that divided into 2 items about cancer patient follow up, 2 items about give medication, 4 items for caring and manage pain, 4 items for caring during febrile, 4 practices items to manage anorexia, 4 practices items to manage nausea, 4 practices items to manage constipation. And 4 practices items to keep and protect the cancer patients from infection.

Scoring system of the studied caregivers practices:-

Each item has 2 levels of answer done and not done. These were respectively scored 1 and 0. Practices score for each items was classified into the following: Satisfactory when the total score of practices was >60% (>17 point). And unsatisfactory when the total score of practices was <60% (<17 point).

Second tool: - The Zarit Caregiver Burden Scale (Zarit et al., 1980). Which included, 22 items rating scale measure burden in health; (8) about physical burden (7) about psychological burden, (7) about social burden.

Scoring system: Score for each items was given as follows: 2 if always, 1 if sometimes, and 0 if never, the total burden score was classified into the following: total Burden score= 44 score.

- High burden when the total burden score was >75% to 100% (>33points).

- Moderate burden when the total burden score was 50 to less than75% (22-<33points).

- Low burden when the total score was less than 50% (<22points).

Tools validity:

The tools were reviewed for comprehensiveness, appropriateness and legibility by five experts of Faculties Nursing Staff from the Community Specialties. The experts ascertained the face and content validity of the tools.

Reliability:

The reliability was done by Cronbach, s Alpha coefficient test which revealed that each of the two parts consisted of relatively homogenous items as indicated by the moderate to high reliability of each tool. The internal consistency of knowledge was 0.722, practices was 0.888 and burden of care was 0.764.

Ethical consideration:

All ethical issues were assured, oral consent has been obtained from each caregivers before conducting the interview and given them a brief orientation to the purpose of the study. They were also reassured that all information gathered would be treated confidentially and used only for the purpose of the study. The caregivers had right to withdraw from the study at any time without giving any reasons.

Pilot Study

The pilot study was carried out on 10% (20) of caregivers. The pilot study was aimed to assess the tool clarity, applicability and time needed to fill each sheet, completing the sheet consumed about 30-45 minutes. Modifications not done, so the pilot study sample included to the total sample of the study.

Fieldwork

The actual field work was carried out over a period of 6 months from the beginning of May 2021 to the end of October 2021. The investigator visited oncology clinic at the Benha University Hospital from 9 am to 2 pm, two days per week (Sunday and Tuesday) to collect data from caregivers with distributed booklet about burden of care among caregivers for elderly cancer patients to improve their awareness according needs. The average time needed for tools was around 30- 45/minutes and average numbers of interviewing was between 4-6 caregivers\day depending on their responses to the interviewers. Illustrated booklet guideline was distributed to caregivers about burden of care among elderly cancer

patients; included meaning, causes, symptoms and measure to prevent this burden.

Statistical analysis

All data collected were organized, tabulated and analyzed by using the Statistical Package for Social Science (SPSS) version 20, which was used frequencies and percentages for qualitative descriptive data, and X² was used for relation tests, and mean and standard deviation was used for quantitative data, spearman correlation test (r) was used for correlation analysis and degree of significance was identified.

Associations between items were considered as the following: (P value).

Highly statistically significant	P<0.001
Statistically Significant	P <0.05
Not significant	P >0.05

Results:

Table (1): Shows that; 39.8% of the studied caregivers aged from 30-40 years old with Mean \pm SD 41.05 \pm 10.06, and 64.8% of them were female. 26.8% of them were read and write. While 26.8% of them had university education. 46.0% of them didn't work. 93.9% of them their income not enough. Also, 37.2%, 38.7% of them were daughter of the patient and 2times of caring respectively.

Table (2): Shows that; 52.1% of the studied patient 75<85 years old with Mean \pm SD 70.05 \pm 6.13. 70.1% of them were living in rural area. 57.5 % of patients were male. 50.2% of them were widowed, and 60.2 % of them were not read and write and 39.5% not work. Also, 93.1 % of them their income not enough.

Figure (1): Illustrates that; 67.8 of the studied caregivers had average knowledge about cancer, and 5.4% of them had poor knowledge. While, 26.8% of them had good knowledge regarding cancer.

Figure (2): Reveals that; 52.1% of the studied caregivers had satisfactory practices score

regarding to care of their cancer patients. While 47.9% had unsatisfactory practices score.

Figure (3): Illustrates that; 82.8% of the studied caregivers had high burden of care, only 3.0 % of them had low burden of care. While, 14.2% had moderate burden of care.

Table (3): reveals that; there were a highly statistically significant relation between total knowledge of the studied caregivers and age, education, work and residence (p<0.001). One other hand there were no statistically significant relation between total knowledge score of the caregivers gender, and income.

Table (3): Reveals that; there were a highly statistically significant relation between total score of burden of care and their relativeness, education and work (P<0.001). While there were no statistically significant relation between total knowledge score of the studied sample and their income and residence (P>0.05).

Table (4): Shows that; there were statistically significant difference between total caregivers burden of care and total practices (P<0.05). That means when caregivers practices increase the burden of care increase.

Table (5): Reveals that; there were a high statistically significant correlation between total knowledge and total practices scores of the studied sample regarding burden of care (P<0.001).

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Table (1): Frequency distribution of studied caregivers regarding demographic characteristics (n=261).

SocioDemographic characteristics	No.	%
Age		
20<30 years	32	12.3
30<40 years	104	39.8
40<50 years	33	12.6
≥50 years	92	35.3
Mean ± SD 41.05±10.06		
Gender		
Male	92	35.2
Female	169	64.8
Level of education		
Not read and write	63	24.1
Read and write	70	26.8
Secondary education	58	22.3
University education	70	26.8
Work		
Not work	120	46.0
Government employee	59	22.6
Private Job	58	22.2
Farmer	24	9.2
Income		
Enough	12	4.6
Not enough	245	93.9
Enough and saving	4	1.5
Relativeness		
Son	84	32.2
Daughter	97	37.2
Husband\wife	72	27.5
Friends	8	3.1
Living in same place		
Yes	250	95.8
No	11	4.2
Time of caring day		
1	86	33.6
2	101	38.7
3+	74	27.7

Table (2): Frequency distribution of studied patient regarding demographic characteristics (n=261).

Demographic characteristics	No	%
Age		
60<75 years	121	46.4
75<85 years	136	52.1
≥85 years	4	1.5
Mean ± SD 70.05±6.13		
Residence		
Rural	183	70.1
Urban	78	29.9
Gender		
Male	150	57.5
Female	111	42.5
Marital status		
Single	26	10.0
Married	104	39.8
Widowed	131	50.2
Educational		
Not read and write	157	60.2
Read and write	77	29.5
Secondary education	11	4.2
University education	16	6.1
Working		
Not work	103	39.5
Employee	24	9.1
Farmer	60	23.0
Craft worker	74	28.4
Income		
Enough	18	6.9
Not enough	243	93.1

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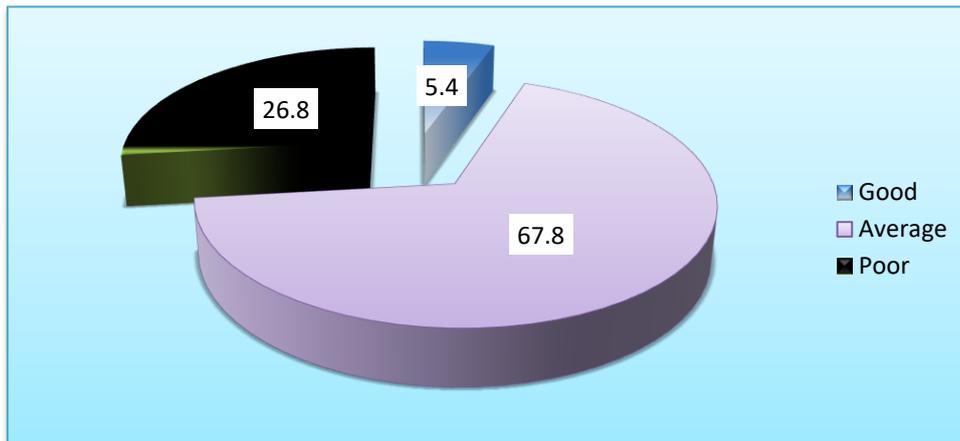


Figure (1): Percentage distribution of studied caregivers regarding their total knowledge level (n=261).

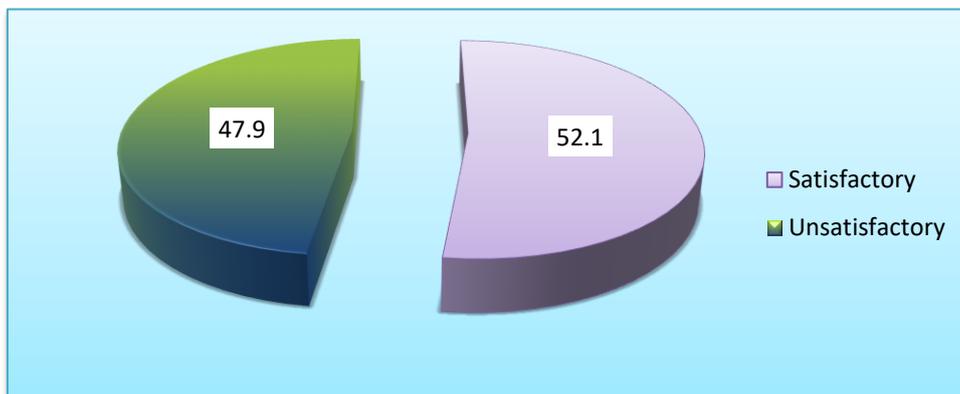


Figure (2): Percentage distribution of studied caregivers regarding their total practices level about care of their cancer patients (n=261).

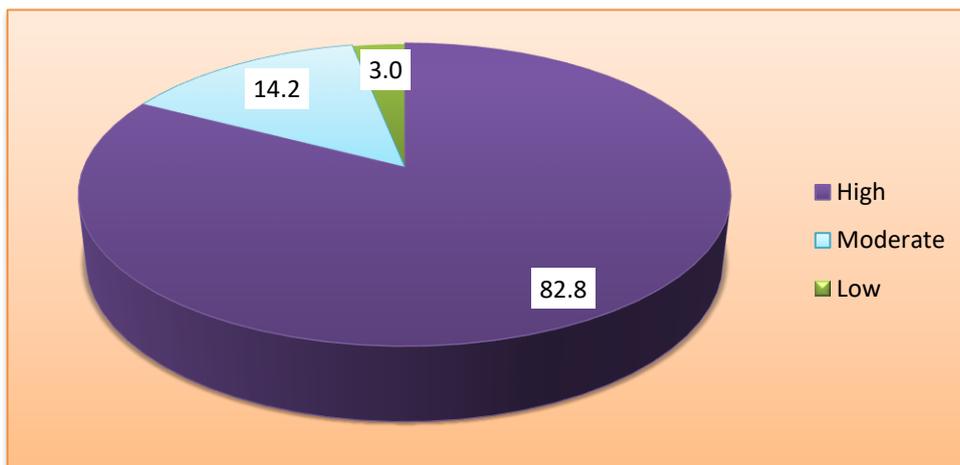


Figure (3): percentage distribution of studied caregivers regarding total burden of care level for elderly cancer patients (n=261).

Table (3): Relation between studied caregivers demographic characteristics and total knowledge score about caring of their elderly cancer patients (n=261).

Demographic characteristic of studied caregivers	Poor (n=70).		Average (n=177).		Good (n=14).		Chi-square	
	No	%	No	%	No	%	X ²	p-value
Age								
20<30	7	10.0	25	14.1	0	0.0	33.364	.000**
30<40	19	27.1	85	48.0	0	0.0		
40<50	12	17.1	15	8.5	6	42.9		
≥50	32	45.7	52	29.4	8	57.1		
Gender								
Male	20	28.6	69	39.0	3	21.4	3.62	0.164
Female	50	71.4	108	61.0	11	78.6		
Education								
Not read and write	51	72.9	12	6.8	0	0.0	142.404	.000**
Read and write	19	27.1	48	27.1	3	21.4		
Secondary education	0	0.0	54	30.5	4	28.6		
University education	0	0.0	63	35.6	7	50.0		
Work								
Does not work	47	67.1	69	39.0	4	28.6	39.64	.000**
Government employee	0	0.0	52	29.4	7	50.0		
Private job	16	22.9	42	23.7	0	0.0		
Farmer	7	10.0	14	7.9	3	21.4		
Income								
Enough	4	5.7	8	4.5	0	0.0	2.799	0.592
Not enough	66	94.3	165	93.2	14	100.0		
Enough and saving	0	0.0	4	2.3	0	0.0		
Relativeness								
Son	16	22.9	62	35.0	6	42.9	20.992	.002*
Daughter	18	25.7	75	42.4	4	28.6		
Husband\wife	32	45.7	36	20.3	4	28.6		
Friends	4	5.7	4	2.3	0	0.0		
Residence								
Rural	70	100.0	169	95.5	11	78.6	13.397	.001**
Urban	0	0.0	8	4.5	3	21.4		

**Highly significant P<0.001

*Significant p<0.05

Insignificant p>0.05

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Table (4): Statistically relation between total caregivers demographic characteristics and their practices (n=261).

Demographic characteristic	Unsatisfactory (n=125)		Satisfactory (n=136).		Chi-square	
	No	%	No	%	X ²	p-value
Age						
20<30	18	14.4	14	10.3	5.426	0.143
30<40	41	32.8	63	46.3		
40<50	16	12.8	17	12.5		
≥50	50	40.0	42	30.9		
Gender						
Male	52	41.6	40	29.4	4.239	.039*
Female	73	58.4	96	70.6		
Education						
Not read and write	55	44.0	8	5.9	117.846	.000**
Read and write	48	38.4	22	16.2		
Secondary education	22	17.6	36	26.5		
University education	0	0.0	70	51.5		
Work						
Not work	70	56.0	50	36.8	72.596	.000**
Government employee	0	0.0	59	43.4		
Private job	41	32.8	17	12.5		
Farmer	14	11.2	10	7.4		
Income						
Enough	4	3.2	8	5.9	4.915	0.086
Not enough	121	96.8	124	91.2		
Enough and saving	0	0.0	4	2.9		
Relativeness						
Son	45	36.0	39	28.7	19.669	0.000**
Daughter	30	24.0	67	49.3		
Husband\wife	46	36.8	26	19.1		
Friends	4	3.2	4	2.9		
Residence						
Rural	125	100.0	125	91.9	10.555	.001**
Urban	0	0.0	11	8.1		

**Highly significant P<0.001

*Significant p<0.05

Insignificant p>0. 05

Table (3): Statistically relation between total burden of care and caregiver demographic characteristics (n=261).

Demographic characteristic of studied caregivers	Low (n=8).		Moderate (n=37)		High (n=216)		Chi-square	
	No	%	No	%	No	%	X ²	p—value
Age								
20<30 years	0	0.0	4	10.8	28	13.0	19.79	0.003*
30<40 years	0	0.0	11	29.7	93	43.1		
40<50 years	0	0.0	4	10.8	29	13.4		
≥50 years	8	100.0	18	48.6	66	30.6		
Gender								
Male	0	0.0	8	21.6	84	38.9	8.619	.013*
Female	8	100.0	29	78.4	132	61.1		
Education								
Not read and write	0	0.0	11	29.7	52	24.1	25.212	.000**
read and write	8	100.0	8	21.6	54	25.0		
Secondary education	0	0.0	11	29.7	47	21.8		
University education	0	0.0	7	18.9	63	29.2		
Work								
not work	8	100.0	26	70.3	86	39.8	23.434	.001**
Government employee	0	0.0	4	10.8	55	25.5		
Private job	0	0.0	3	8.1	55	25.5		
Farmer	0	0.0	4	10.8	20	9.3		
Income								
Enough	0	0.0	0	0.0	12	5.6	3.551	0.47
Not enough	8	100.0	37	100.0	200	92.6		
Enough and saving	0	0.0	0	0.0	4	1.9		
Relativeness								
Son	0	0.0	4	10.8	80	37.0	39.214	0.000
Daughter	0	0.0	15	40.5	82	38.0		
Husband\wife	8	100.0	14	37.8	50	23.1		
Friend	0	0.0	4	10.8	4	1.9		
Residence								
Rural	8	100.0	37	100.0	205	94.9	2.393	0.302
Urban	0	0.0	0	0.0	11	5.1		

****Highly significant P<0.001 *Significant p<0. 05 Insignificant p>0.05**

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Table (4): Statistically relation between total studied caregivers burden of care and their practices (n=261).

Burden of care	Unsatisfactory (n=125)			Satisfactory (n=136)		Chi-square	
	No		%	No	%	X ²	p-value
Low (n=8).	8		6.4	0	0.0	9.544	.008*
Moderate(n=37)	15		12.0	22	16.2		
High (n=216)	102		81.6	114	83.8		

*Significant p<0. 05

Table (5): Correlation between total knowledge, Total practices and Total burden of care among studied caregivers for elderly people with cancer (261).

Items	Total knowledge		Total practices	Total burden of care
knowledge	r	1	.817	.432
	p-value		.000**	.049*
	N	261	261	261
practices	r	.817	1	.766
	p-value	.000**		.019*
	N	261	261	261
burden of care	R	.432	.766	1
	p-value	.049*	.019*	
	N	261	261	261

**Highly significant P<0.001

*Significant p<0. 05

Insignificant p>0. 05

Discussion

Burden of care are often psychological problems; most commonly anxiety, depression, irritability feeling tired and run down, difficulty sleeping, overreacting to minor problems, new or worsening health problems, trouble concentrating feeling, smoking, or eating more (WHO, 2018).

Regarding age, the current studied presented that slightly less than two fifths of studied caregivers aged from 30-40 years old with

mean ± SD 41.05 and less than two thirds of them

Also, current studied described that less than two fifths of studied caregivers were daughter of the patient. This finding was in the same line with Given, (2019), who studied "Family caregiving for cancer patients: the state of the literature and a direction for research to link the informal and formal care systems to improve quality and outcomes, College of Nursing, Michigan State University, East Lansing, MI" and

found that, more than one third (35%) of their studied caregivers were daughter of the patient.

According to socio demographic characteristics of studied patients, the current studied showed that, more than half of the studied patient aged 75<85 years old with Mean \pm SD 70.05 \pm 6.13, also less than three quarters of them were living in rural area and less than three fifths of them were male. These findings agreed with **Franchini et al., (2020)**, who studied "Caregivers in home palliative care: gender, psychological aspects, and patient's functional status as main predictors for their quality of life" and found that, more than two thirds (68%) of their studied patient 75<85 years old and less than three fifths (58%) of them were male. While the finding of current studied in disagreed with **Rezaei et al., (2020)**, who found that more than half (52%) of studied worker were living in urban area and less than half of them were female.

Regarding age: the current study revealed that, slightly less than two fifths of studied caregivers aged from 30-40 years old with mean \pm SD 41.05 and less than two thirds of them were female. These findings were in the same line with **Rezaei et al., (2020)**, who study "Burden of Care in Caregivers of Iranian patients with chronic disorders; a systematic review and meta-analysis, Iran" and found that two fifths(40%) of their studied caregivers aged from 30-40 years old and more than two thirds(68%) of them were female.

According to studied caregivers total knowledge score, the current studied revealed that, more than two thirds of the studied caregivers had average total knowledge about cancer and more one quarter of them had good total knowledge

regarding cancer, while few of them had poor total knowledge. These findings were in the same line with **Rezende et al., (2020)**, and found that, more than two thirds (68%) of their studied caregivers had average total knowledge about cancer and more than one quarters (26%) of them had good total knowledge regarding cancer, while few of them (6%) had poor total knowledge. This might be due to experience and knowledge of care givers

According to studied caregivers total practices score about care of cancer patients, the current studied showed that, more than half of the studied caregivers had satisfactory practices score regarding to care of their cancer patients. While less than half of them unsatisfactory practices score. These findings disagreed with **Williams et al., (2020)**, who studied "Capacity to provide geriatric specialty care for older adults in community oncology practices, Canada" and found that, more than three quarters(76%) of their studied caregivers had satisfactory practices score regarding to care of their cancer patients. While less than one quarter (24%) of them had unsatisfactory practices score. This might be due to good knowledge lead to good practices.

Concerning on studied caregivers regarding total burden of care level for elderly cancer patients, the current study illustrated that majority of the studied caregivers had high burden of care, few of them had low burden of care. While less than one fifth had moderate burden of care. These findings in the same opinion with **Kehoe et al., (2019)**, and found that most (89%) of the studied caregivers had high burden of care, few (6%) of them had low burden of care. While less than one fifth (18%) had moderate burden of care. This might be due

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to high level on dependency of patient on caregivers.

According to relation between total burden of care and caregiver socio demographic characteristics, the current studied revealed that; there wer highly statistically significant relation between total score of burden of care these findings were in same line with **Onyeneho, & Ilesanmi, (2021)**, who studied "Burden of Care and Perceived Psycho-Social Outcomes among Family Caregivers of Patients Living with Cancer, Pakistan", and found that, were a highly statistically significant relation between total score of burden of care and their relativeness, education and work. While there were no statistically significant relation between total

Regarding relation between total studied caregivers' burden of care and their practices, presented studied showed that; there were statistically significant difference between total caregivers' burden of care and total practices. This finding agreed with **James et al., (2021)**, who studied" Socio-demographic, health and functional status correlates of caregiver burden among care recipients age 60 years and older in Jamaica" and found that, there were statistically significant difference between total caregivers' burden of care and total practices. That means when caregivers practices increase the burden of care increase

Regards correlation matrix between total knowledge, total practices and total burden of care among studied caregivers for elderly patients with cancer, the current studied revealed that; there were a high statistically significant correlation between total knowledge and total practices scores of the studied caregivers regarding burden of care. These findings agreed with **Morishita-**

Kawahara et al., (2021), who studied "Association between Family Caregivers' Satisfaction with Care for Terminal Cancer Patients and Quality of Life of the Bereaved Family, Tokoy" and found that, there were a high statistically significant correlation between total knowledge and total practices scores of the studied sample regarding burden of care. This might be due to knowledge play an important role in changing behavior which lead to changing of practices, the increase in total knowledge was associated with an increase in the practices score and burden of care decrease..

Conclusion

More than two thirds of the studied caregivers had average knowledge about cancer. While more than one quarter of them had good knowledge regarding cancer. More than half of the studied caregivers had satisfactory practices score regarding to care of their cancer patients. While less than half of the studied caregivers had unsatisfactory practices score. Most of the studied caregivers had high burden of care, and the minoring had low burden of care. There were statistically significant difference between total caregivers burden of care and total practices ($P < 0.05$). That means when caregivers practices increase the burden of care increase.

Recommendations

1- Health educational program should be developed and implemented for the caregiver to educate them about the caring early warning signs and symptoms of cancer complications.

2- Booklets, posters, and other mass media should be available and distributed in all health care centers to improve caregivers knowledge and practices and relieve or reduce the burden of caregivers.

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عبء الرعاية بين مقدمي الرعاية للمرضى المسنين المصابين بالسرطان

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السرطان هو مصدر قلق للناس من جميع الأعمار ، لكن المرض منتشر بشكل خاص عند كبار السن. تم العثور على أكثر من ثلث الأسباب الجديدة للسرطان لدى الرجال والنساء الذين تتراوح أعمارهم بين 75 عامًا وأكثر. الورم هو نمو بعض الكتل السرطانية. تسمى الكتل غير السرطانية بالحميدة. وتسمى الكتل السرطانية الخبيثة. ويعرف عبء مقدم الرعاية على أنه الضغط أو الحمل الذي يتحمله الشخص الذي يعتني بمريض بمرض مزمن أو معاق أو أحد أفراد الأسرة المسنين. يرتبط عبء مقدم الرعاية برعاية برفاهية كل من الفرد ومقدم الرعاية ؛ لذلك ، من المهم فهم السمات المرتبطة بعبء مقدم الرعاية. ولقد تم اختيار عينة الدراسة من العدد الإجمالي لمقدمي الرعاية للمرضى المسنين المصابين بالسرطان والذين حضروا إلى العيادة الخارجية للأورام خلال العام الماضي والذين بلغ عددهم 750 وكان العدد الإجمالي للعينة المختارة 261. وكشفت النتائج ان توجد علاقة ذات دلالة إحصائية عالية بين المعرفة الكلية لمقدمي الرعاية الذين تمت دراستهم والعمر والتعليم والعمل والإقامة. من ناحية أخرى ، لم تكن هناك علاقة ذات دلالة إحصائية بين مجموع درجات المعرفة لجنس مقدمي الرعاية والدخل. وتوجد فروق ذات دلالة إحصائية بين إجمالي عبء الرعاية لمقدمي الرعاية والممارسات الكلية. هذا يعني أنه عندما تزيد ممارسات مقدمي الرعاية من عبء الرعاية يزداد. توجد علاقة ارتباطية عالية ذات دلالة إحصائية بين مجموع درجات المعرفة الكلية والممارسات الكلية للعينة المدروسة فيما يتعلق بعبء الرعاية. كما أوصت الدراسة علي تطوير وتنفيذ برنامج تثقيف صحي للطلاب لتثقيفهم حول رعاية علامات الإنذار المبكر وأعراض مضاعفات السرطان. وتوفير الكتيبات والملصقات ووسائل الإعلام الأخرى وتوزيعها في جميع مراكز الرعاية الصحية لتحسين معرفة وممارسات مقدمي الرعاية لمنع او تخفيف عبء مقدمي الرعاية.