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Effect of Educational Guidelines on Caregivers' Burden of Patients with Gynaecological Cancer

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Abstract

Background: Caring for patients with gynecological cancer is often prolonged and can significantly affect the psychological, emotional, functional, and even physical health of caregivers. Therefore, the present study aimed to determine the effect of educational guidelines on caregivers' burden of patients with gynecological cancer. **Design**: This study was carried out using a quasi-experimental design. **Setting**: This study was applied in gynecologic oncology outpatient clinics at the oncology institution Sohag City. **Subject**: A convenient sample of 200 patients with gynecological cancers and their caregivers were enrolled. **Data collection tools: Tool I: I-** A structured interviewing questionnaire: Included 3 parts; part one: Demographic data of patients with gynecological cancer, Part two: Medical data of patients with gynecological cancer, and part three: caregivers demographic data of patients with gynecological cancer, **Tool II:** caregiver's knowledge about gynecological cancer, and Tool **III:** Caregivers' reported practices**, Tool IV:** CUIDAR: Competence for home care, caregiver version, and **Tool IIV:** Zarit burden scale. **Results**: The current study showed that, following educational guidelines Implementation, scores of knowledge, practices, and caregiver burdens significantly improved statistically. Additionally, there was a highly statistically significant positive correlation between the caregiver's total knowledge, practices, and burdens scores. **Conclusion**: Educational guidelines Implementation has a positive effect on improving knowledge and practices. Also, statistically significant reduction of caregiver burdens associated with caring for gynecological cancer. **Recommendations**: Creating caregivers' educational programs in institutions that are systematically ongoing to offer the caregivers the necessary knowledge, practices, and caregiver burdens to assist them feel less burdened.

Keywords: Burden, Caregivers, Educational guidelines, Patients with gynecological cancer

Introduction

The world's second leading cause of death is cancer. Because cancer is a chronic ailment, living with it is a complicated, dynamic, cyclical process that requires a variety of care due to the multifaceted nature of the treatment (**Stenberg et al., 2020**). An estimated 9.6 million people die from cancer each year, making it the second most common cause of death worldwide. A projected 1,806,590 new instances of cancer will be identified worldwide in 2020, while 606,520 older adults will pass away from the disease. Prostate, lung, and colorectal cancers are expected to make up 43% of all male cancer diagnoses by that year. Breast, lung, and colorectal cancers are the three most prevalent types of cancer, and by 2020, they are predicted to account for 50% of all new cancer diagnoses in women **(World Health Organization, 2020)**

Gynecological cancers are among the most common cancers diagnosed in women worldwide. According to recent global cancer statistics, more than 1.39 million women were diagnosed with gynecological cancer in 2020, while 671,920 women have died from this disease (**Sung et al., 2021).** These statistics suggest that gynecological cancers are a serious health problem affecting women globally. The five main types of gynecological cancers are cervical, ovarian, uterine, vulval, and vaginal cancer (**Mattsson et al., 2018**).

These cancers originate in the reproductive organs of women. The symptoms experienced before a diagnosis of gynecological cancer depends on the location of the disease.

Informal caregivers play an important role in a patient's illness trajectory because they provide the patient with physical, emotional, and financial support (**Boa et al., 2018**). Informal caregivers are defined as individuals who provide patients with uncompensated assistance regularly. These caregivers are often well-acquainted with the patient. Thus, informal caregivers are often the parent, spouse, sibling, adult children, and relatives. Research suggests that these caregivers fulfil multiple roles and need to adapt to the needs of the patient (**Given et al., 2021).**

Caregivers are individuals who give unpaid care to friends, relatives, or life partners who are ill, whether they be elderly patients or disabled. According to **Adib-Hajbaghery and Ahmadi (2019),** the burden of core refers to the detrimental effects that caring for individuals with disabilities has on a family caregiver's activities (objective burden) or feelings (subjective burden) pertaining to emotional, physical, social, and financial well-being.

Giving care has a significant impact on public health, which impacts millions of people's quality of life. Family caregivers provide social or medical support to other family members. Help with one or more everyday life activities, such as dressing and bathing, paying bills, shopping, and providing transportation, can be a part of caregiving. Support on an emotional level and assistance in managing a chronic illness or disability may also be part of it. As the recipient's needs grow, the number of caregiving duties may also change, putting the caregiver under more stress (**Weis et al., 2021**).

The American gerontologist, Zarit first defined the burden of care as "the discomfort experienced by the principal caregiver of a family member, including the caregiver's health, psychological and emotional well-being, finances, and social life". Caregiver burden is defined as "emotional, social and financial stress on patients" **(Yaşar & Terzioğlu, 2022).** or "multidimensional biopsychosocial reaction due to imbalances demanded by official care sources in caregivers' time, social roles, physical and emotional well-being, economic resources, and many other roles they fulfill (**Zuo et al., 2020**)." Psychosocial stress emphasized in the definition of caregiver burden shows the possible relationship with the concept of quality of life, which includes both physical and psychosocial components. The studies reported that the quality of life of caregivers was negatively affected during the caregiving of cancer patients **(Rasul & Amen et al., 2022).**

In the literature, there are studies investigating anxiety, depression, economic distress, care burden, sleep problems, fatigue levels, and impaired quality of life experienced by cancer caregivers but the number of studies conducted with patients with gynaecologic cancer is limited. There is a significant reciprocal relationship between the emotional distress of cancer patients and their caregivers (**Sanjeevani et al., 2022).** Thus, the management of cancer patients would be compromised if the caregivers' well-being is affected. Even though caregiving has a significant impact on the caregivers' well-being, the needs of the caregivers are often overlooked or considered secondary to those of the patients by healthcare professionals **(Shim & Ng, 2019).**

Nurses are essential in helping caregivers join support groups. A support group can offer problem-solving techniques for challenging circumstances, as well as encouragement and validation. Because others in support groups are aware of what you might be going through. And be an excellent setting for forming deep bonds. Look for social support and try to maintain relationships with loved ones who can provide nonjudgmental emotional support. Schedule a weekly connection activity, even if it's only going for a walk with a friend (**Zauszniewski et al., 2021).**

Significant of the Study

Gynecologic cancer patients and their families face a number of psychological, social, economic, and emotional issues due to the illness's physiology, death-inducing nature, loss of femininity, treatment, and side effects. As a result, health professionals must design a supportive care program for patients and their caregivers (**Kreitler, 2019).**

Cancer incidence rates in Egypt were 166,6 for both sexes, 175,9 for men, and 157.0 for women per 100,000. The liver (23.8%), breast

(15.4%), and bladder (6.9%) were the most frequently reported sites. In Egypt, 58% of informal caregivers for cancer patients were women, 88% looked after a relative, 39% lived with the patient, 50% reported high emotional stress from providing care, and 73% participated in hospital care discussions; however, 43% reported needing assistance in managing both emotional and physical stress. At the end of life, 40% of respondents sought assistance (**Onyeneho & Hesanmi, 2021**).

The psychological, emotional, social, financial, and physical difficulties that come with providing care can all contribute to caregiver burden. In the lives of formal caregivers, this multifaceted process has an impact on the biological, psychological, sociological, ethnic, cultural, and religious facets. Caregivers of cancer patients who were younger, male, unmarried, and had only completed basic school or less experienced a greater caregiver burden. Since caregivers sometimes overlook their own needs to care for the patient, the difficulties of family caregiving in this situation may entail both physical and emotional challenges (**Rezaei et al., 2020**).

Studies in developed countries have established that informal caregivers of patients with cancer are vulnerable to all kinds of psychological (e.g., anxiety, stress, depression) and physical (e.g., burn-out, increased mortality, loss of weight, poor immune functioning, and insomnia) burden **(Butow et al., 2019; Stamataki et al., 2019).** However, there is little information about the challenges facing the informal caregivers of patients with cancer (**Ogunyemi et al., 2021).**

Patients receive emotional support from caregivers, who also attend to their physical needs when necessary. During this time, the caretakers may experience emotional and financial challenges while they enjoy spending time with their loved ones. Studies looking into the caregiver burden of those who care for a cancer patient at home have found that the caregiver is under a lot of stress during this time, and their health suffers considerably (**Wenhao et al., 2021**). Hence, the study was done to determine the effect of educational guidelines on caregivers' burden of patients with gynecological cancer.

Aim of the study:

The study aimed to determine the effect of educational guidelines on caregivers' burden of patients with gynecological cancer through:

1. Assessing caregivers' knowledge about gynecological cancer pre and post-educational guidelines.
2. Assessing caregivers' reported practices pre and post-educational guidelines.

3. Designing, implementing, and evaluating the effect of educational guidelines on improving caregivers' knowledge, and reported practices, and decreasing caregivers' burden.

Hypothesis:

H1: Caregivers' knowledge and reported practices among patients with gynecological cancer will be improved post-educational guidelines implementation than pre-implementation.

H2: The burden of care will be decreased among Caregivers caring for patients with gynecological cancer post-educational guidelines implementation than pre-implementation.

Subjects and Methods

Research Design:

This study was carried out using a quasi-experimental design to achieve the aim of this study.

Setting:

This study was applied in gynecologic oncology outpatient clinics at the oncology institution Sohag City.

Subjects:

There was a convenient sample of 200 patients with gynecological cancers and their caregivers were enrolled within six months.

Data Collection Tools:

Tool I: A structured interviewing questionnaire: It was created by the researchers based on a literature review and written in simple Arabic language which Included 3 parts as follows:

Part one: Demographic data of patients with gynecological cancer such as (age, level of education, and residence of the patient were also obtained)

Part two: Medical data of patients with gynecological cancer: Which includes 20 items; (4) about types of cancer, (4) about duration of disease, (4) about received treatment, (6) about previous disease, (2) knowledge about taken medication.

Part three: Caregiver demographic data of patients with gynecological cancer: It involved questions about sex, age, level of education, occupation, relativeness, and time of caring

Tool II: caregiver's knowledge about gynecological cancer:

Tool II- It was created to evaluate the caregiver's knowledge of cancer disease and consists of 30 items: (3) about meaning, (4) about symptoms, (4) about causes, (3) about high risk, (4) about methods to detect cancer, (4) about types of cancer, (4) about dangers symptoms to seek medical attention, and (4) about information sources. (1) Scoring system: Correct answers received a score of (2), while correct and incomplete answers received a score of (0). The sum of the item scores was divided by the number of items and the total knowledge scores were deemed satisfactory if the score> or equals 60% and considered unsatisfactory if the score < 60%.

Tool III: Caregivers' reported practices:

Using 30 questions that were split into 4 categories of gynecological cancer patient follow-up, it focused on caregivers' reported practices linked to daily living assistance of patients with gynecological cancer. Five items concerning administering medication, three about pain management, three about fever management, three about anorexia, three about nausea, three about constipation, and three about infection management.

System of points for the actions of caregivers: There are two response levels for each step: completed and unfinished. For each of these, the scores were 1, 0. When the score was greater than or equal to 60%, the total reported procedures were deemed adequate; when it was less than 60%, they were deemed inadequate.

Tool IV: CUIDAR: Competence for home care, caregiver version.

According to theoretical definitions, it is the ability, aptitude, and readiness of the person to carry out the task of providing care at home. CUIDAR, which stands for Knowledge, Uniqueness (personal conditions), Instrumental, Enjoyment (well-being), Anticipation, and Social Relation and Interaction, is the Spanish abbreviation for its six components. 20 items are scored on a Likert-type scale, where 0 means never, 1 means a few times, 2 means frequently, and 3 means practically always or always. It can be categorized as low, medium, or high, with higher scores denoting a better level of proficiency. (Carrillo et al., 2016) It has psychometric qualities for use in Spanish.

Tool IIV: The Zarit Caregiver Burden Scale:

The ZCBS, which was created by Zarit et al. in 1980, consists of 22 items that assess how caregiving affects the caregiver's life. Each item is scored on a 5-point Likert-type scale: never (0), rarely (1), occasionally (2), rather regularly (3), and almost always (4). Zero is the lowest possible score on the scale, and 88 is the highest. The higher the score, the greater the caregiver load. In their analysis of the scale's Turkish validity and reliability, Inci found that its Cronbach alpha coefficient was 0.90, its internal consistency ranged from 0.87 to 0.94, and its test-retest reliability was 0.71 **(İnci & Erdem, 2008).**

Scoring system:

The aggregate of the item scores, which varied from 0 to 88 were displayed as follows: mild burden was 0-29, moderate load was 29-<58, and high burden was 58-88.

Validity and reliability of tools:

Five obstetric and gynecological nursing specialists evaluated the instruments for comprehensiveness, applicability, clarity, relevance, and comprehension in order to conduct content validity. Minimal changes were made when needed. Using the Cronbach's alpha test, reliability was assessed; it was 0.953 for knowledge, 0.922 for practices and management, and 0.90 for burden of care.

Pilot Study:

Twenty caregivers, or 10% of the sample as a whole, participated in a pilot study to make sure the questions were clear, the instruments were applicable, and the time required to complete them was adequate. No ambiguous statements or questions were present, and no changes were made. Pilot subjects were included in the study.

Ethical Considerations:
This study was approved by the Sohag University Faculty of Nursing's Ethical Scientific Research Committee. After being informed of the study's goals and advantages, caregivers of cancer patients verbally consented to take part. In accordance with ethics, values, cultures, and beliefs, participants were granted the freedom to leave the study at any moment, and confidentiality and anonymity were upheld.

Field work:
The purpose of the study was explained, and each caregiver for gynecological cancer patients was interviewed after giving their informed consent to take part. The researchers established the educational instructions in a clear, Arabic language after studying relevant literature and making revisions and modifications based on expert feedback. A pilot study was conducted to see whether the questions were straightforward and unambiguous. The data was gathered for three hours every day, two days a week, from the beginning of July to the end of December 2024.

Construction of the guidelines:
Four phases make up the current study: assessment, planning, **Implementation**, and evaluation.

Assessment stage: Using the prior interview forms, a pre-assessment was completed. This stage sought to collect information from those who cared for patients with gynecological cancer.

Planning stage:
As a consequence of the pre-guidelines assessment, literature study, researcher experience, and the perspectives of nursing and medical experts, the educational guidelines were developed.

The general objective of the educational guidelines was to reduce the caregivers' burden of care and enhance their reported practices and knowledge.

Guidelines contents: The guidelines' content was developed to meet the needs of caregivers and to match their level of interest and comprehension. These included:

Knowledge about cancer disease

- Meaning.
- Symptoms and indicators.
- The causes.
- High risk.
- The diagnosis.
- Cancer types
- Information source
- For risky symptoms to consult a physician

Practices regarding caregivers' self-care and health

- Consuming a healthy, balanced diet.
- Engaging in daily activities.
- Techniques for relaxation.
- Make self-care a priority. Follow up frequently.
- Organizing caregiving time can help lessen the burden of caregiving.
- Methods for sharing care with those who are assisted.
- How to locate helpful community resources, such as financial, social, and medical ones.

Implementation stage:

- Three theoretical and four practical sessions, each lasting thirty minutes, were used to discuss the educational recommendations with caregivers. The researchers have one-on-one meetings with each caregiver.
- In addition to caregivers completing the study materials, the first session included an explanation of the guidelines and their purpose. In the first session, interviews with patients with gynecological cancer were conducted to gather demographic information and evaluate medical history.
- Printed materials and handouts with the educational guidelines were distributed to caregivers. It used colorful drawings and diagrams to draw in and direct caretakers.
- A synopsis of the previous session's topics was given at the start of each one.

Evaluation stage:
The impact of educational guidelines on caregivers' burden of patients with gynecological cancer was assessed using the same data collection tools after completion of the guidelines.

Statistical analysis:

The collected data were examined before being entered into a computer, and the Statistical Package for Social Science (SPSS) version 20 was used to conduct statistical analysis. The data was displayed in tables using the t-test, Chi-square, number, percentage distribution, mean, and standard deviation. Inconsequential was defined as P-Value > 0.05, significant as P-Value 0.05, and very significant as P-Value 0.001.

Results:

Table (1): Shows that; 44% of the studied patients were ≥60 years old with Mean ± SD 56.44±10.99. 80% of them were living in rural areas, 48 % of them were Basic education and 48% did not work.

Table (2) demonstrates that 73% of the patients in the study had the disease for less than three years, 63% had ovarian cancer, 82% had chemotherapy and surgery for cancer, 58% had prior illnesses, and 60% knew about the medication they were taking.

Table (3) portrays that 58% of the caregivers in the study were between the ages of 30 and 40 (mean ± SD 37.88±5.45), 60% were female, 38% had a secondary education, 37% were unemployed, 57% were a daughter, 90% lived in the same residence as the patient, and 55% cared for the patient two to three times a day.

Figure (1): Illustrates that the main source of knowledge among caregivers caring for patients with gynecological cancer **was doctors (80%).**

Table (4): This table showed that there were improvements in **caregivers'** knowledge mean scores regarding scoring from 12.11±2.24 to 27.33±1.11 with a statistically significant difference detected between **caregivers'** knowledge mean scores post-educational guidelines than pre-educational guidelines at P value < 0.001

Figure (2): Shows that the total knowledge level of the studied caregivers has improved post educational guidelines **about** gynecological cancer and shows also, that 14% of them had a satisfactory level of knowledge of pre-educational guidelines that improved to 88% post-educational guidelines.

Table (5): Illustrates that there is a highly statistically significant difference between caregivers' practice **caring for** patients with gynecological cancer pre and post-educational guidelines with a p-value <0.001.

Figure (3): Shows that 28% of the studied caregivers had adequate practice pre-educational guidelines that improved post-educational guidelines among (86%) of the studied caregivers.

Following the intervention, pre and post-educational guidelines levels of competence for care and knowledge, uniqueness, instrumental, enjoyment, and anticipatory aspects show statistically significant changes and gains (**Table 6).**

Following the intervention, there were statistically significant differences in the amount of carer overload between the pre and post-educational recommendations; the level of carer overload indicated by the post-educational guidelines was lower than that of the pre-educational criteria. Notably, 95% of participants reported not having overload after following educational guidelines, compared to 79% who did so before (**Table 7).**

Figure (4): shows that the total care burden was high for 75% of the caregivers in the study before educational guidelines were implemented and that it dropped to 38% post-educational guidelines.

For caregivers of patients with gynecological cancer, **Table (8)** illustrates a statistically significant correlation between total knowledge, total practices, and total burden of care before and after educational guidelines.

Table (1): Patient distribution regarding demographic data (n=200).

Demographic data	No	%
Age		
<30	4	2
30–39	16	8
40–49	40	20
50–59	52	26
≥60	88	44
Mean ± SD 56.44±10.99		
Residence		
Rural	160	80
Urban	40	20
Educational		
Illiterate	46	23
Basic education	96	48
Secondary education	44	22
University education	14	7
Working		
Not work	96	48
Employee	80	40
Farmer	24	12

Table (2): Medical history of patients with gynecological cancer (n=200).

Medical history	No	%
Duration of cancer disease		
<3years	146	73.0
3<5years	54	27.0
Type of Cancer		
Cervical	34	17
Ovarian	126	63
Endometrial	30	15
Vulvar	10	5
received treatment **for cancer**		
Chemotherapy	16	8
Surgery	20	10
Both	164	82
Have any previous diseases		
Yes	84	42
No	116	58
knowledge about taking medication		
Yes	120	60
No	80	40

Results not mutually exclusive

Table (3): caregivers demographic data of patients with gynecological cancer (n=200).

Demographic characteristics	No.	%
Age		
20<30	28	14.0
30<40	116	58.0
40<50	32	16.0
≥50	24	12.0
Mean ± SD 37.88±5.45		
Gender		
Male	80	40.0
Female	120	60.0
Level of education		
Illiterate	32	16
Basic education	60	30
Secondary education	76	38
University education	32	16
Occupation		
Not work	74	37.0
Government employee	50	25.0
Private Job	39	18.0
Farmer	40	20.0
Relativeness		
Son	26	13
Daughter	114	57
Husband\wife	54	27
Friends	6	3
Living in the same place		
Yes	180	90
No	20	10
Time of caring		
1<2	58	29
2<3	110	55
≥3	32	16

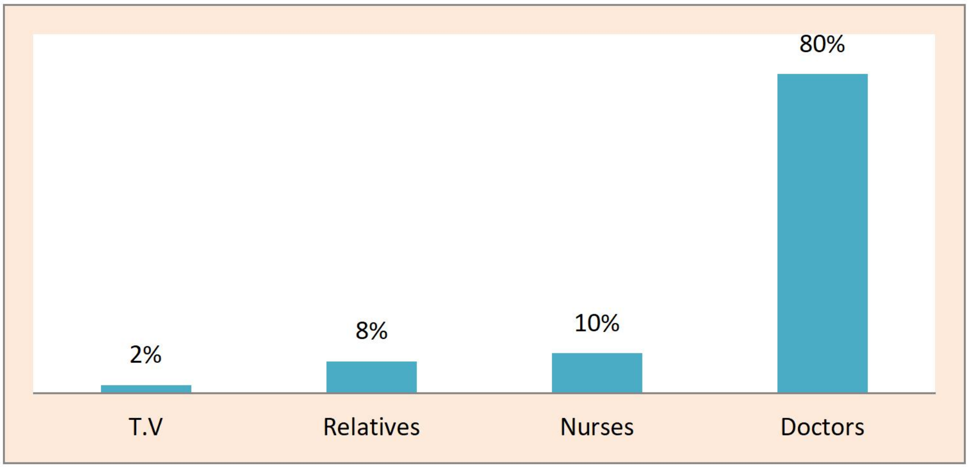

Figure (1): Source of knowledge among caregivers caring for patients with gynecological cancer (n=200).

Table (4): Mean scores of caregivers' knowledge of caring for patients with gynecological cancer pre and post-educational guidelines (n=200)

Nurse's knowledge	Pre educational guidelines	Post educational guidelines	P-value	T
Knowledge Mean Score	12.11±2.24	27.33±1.11	<0.001**	-84.21

*- independent t-test ** Significant difference at p. value<0.01*

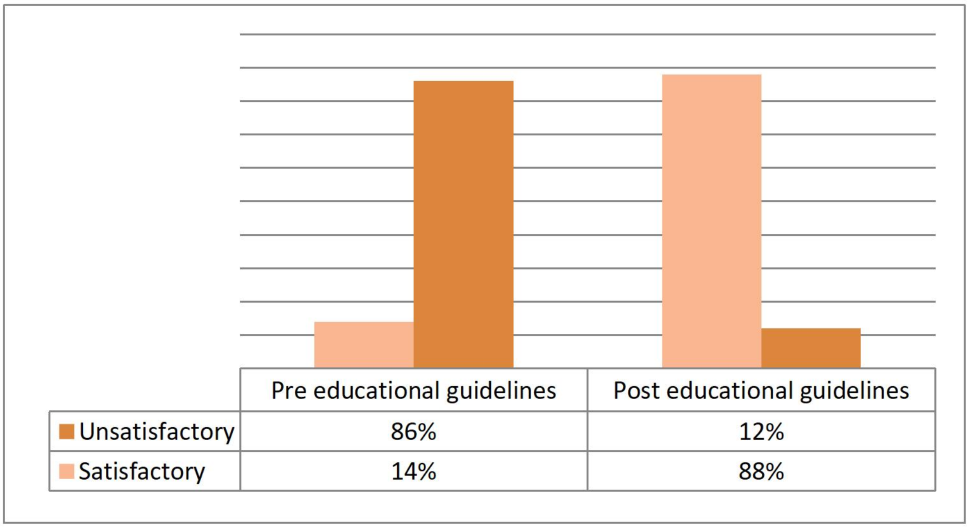

Figure (2): total knowledge levels of caregivers caring for patients with gynecological cancer pre and post-educational guidelines (n=200).

Table (5): Mean scores of caregivers' practices caring for patients with gynecological cancer pre and post-educational guidelines (n=200)

Nurse's practice	Pre	post	T	P. value
Total practice score	9.77±2.99	22.44±3.45	67.32	<0.001**

*Independent t-test ** Significant difference at p. value <0.01.*

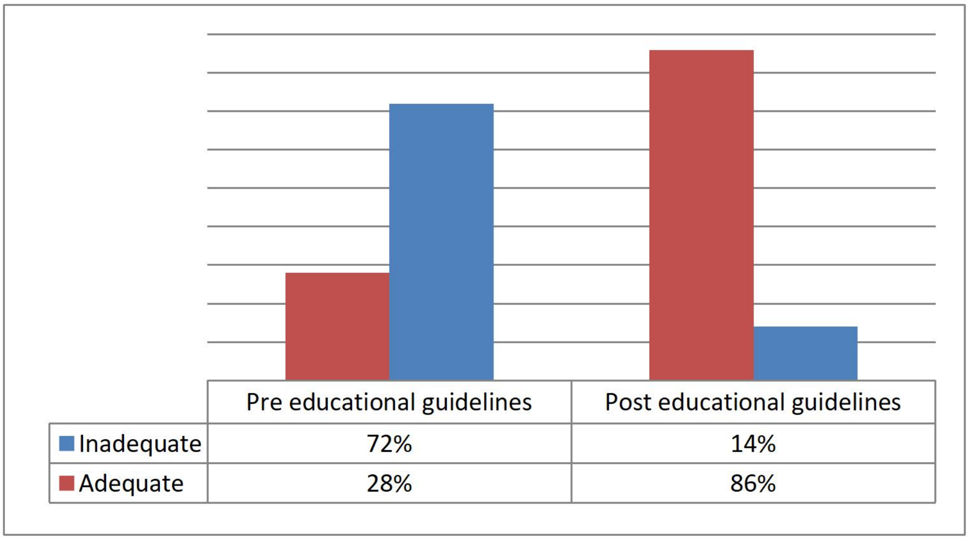

Figure (3): Total practice levels of caregivers caring for patients with gynecological cancer pre and post-educational guidelines (n=200).

Table (6): Levels of competence among caregivers caring for patients with gynecological cancer pre and post-educational guidelines (n=200)

Variable of competence for care		pre educational guidelines		Post-educational guidelines		P –value
Competence for care	Low	16	8	4	2	0.000*
	Medium	116	58	24	12	
	High	68	34	172	86	
Knowledge	Low	114	57	2	1	0.002 *
	Medium	46	23	48	24	
	High	40	20	150	75	
Uniqueness	Low	12	6	4	2	0.025 *
	Medium	70	35	36	18	
	High	118	59	160	80	
Instrumental	Low	8	4	0	0.0	0.001 *
	Medium	18	9	8	4	
	High	174	87	192	96	
Enjoyment	Low	16	8	18	9	0.000 *
	Medium	36	18	48	24	
	High	148	74	134	67	
Anticipation	Low	12	6	2	1	0.000 *
	Medium	36	18	14	7	
	High	152	76	184	92	
Relation And interaction	Low	16	8	2	1	0.861
	Medium	44	22	10	5	
	High	140	70	188	94	

*indicates the dimensions with statistically significant differences < 0.05

Table (7): Overload levels for caring among caregivers caring for patients with gynecological cancer pre and post-educational guidelines (n=200)

Dimensions		Pre educational guidelines		Post educational guidelines		
		No	%	No	%	P
Overload	No overload	158	79	190	95	0.001*
	Slight	20	10	10	5	
	Severe overload	22	11	0	0.0	

*indicates dimensions with statistically significant differences < 0.05

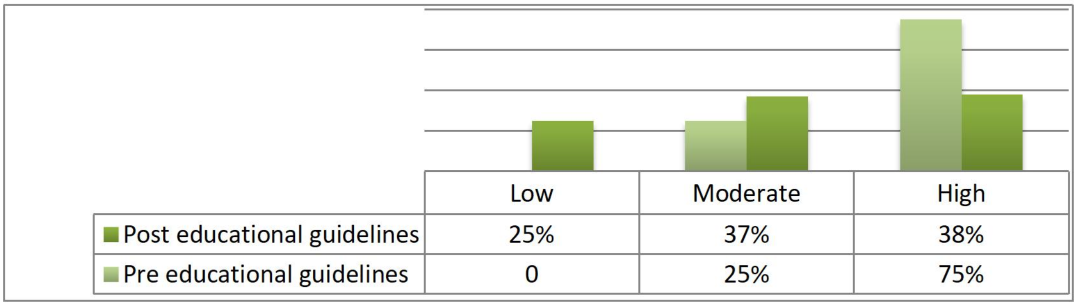

Figure (4): total burden level among caregivers caring for patients with gynecological cancer pre and post-educational guidelines (n=200)

Table (8): Correlation matrix between total knowledge, total practices, and total burden of care among caregivers caring for patients with gynecological cancer pre and post-educational guidelines (n=200)

Items	Pre- educational guidelines				Post-educational guidelines		
	Total knowledge		Total practices	Total burden of care	Total knowledge	Total practices	Total burden of care
Total knowledge	r	1	.142	-.633	1	.076	.513
	p-value		.056	.001**		.257	.001**
Total practices	r	.143	1	.317	.076	1	.745
	p-value	.057		.001**	.257		.024*
Total burden	r	-.632	.322	1	.513	.739	1
	p-value	.001**	.001**		.001**	.024*	

***Highly significant P<0.001*

Discussion:

Cancer is ranked as the third leading cause of mortality globally, and its patient population is growing. While the application of the most recent technology has contributed to improved prognoses, more work is still required. This causes suffering not only for the patient but also for the caregivers and family members. Cancer patients and their caregivers must receive training on how to manage their symptoms and cope with the illness (**WHO, 2021).**

A person's emotional, social, and financial well-being are adversely affected when they are a relative of a cancer patient. Family ties are strong and customs are upheld in many nations. Family members thus experience both joy and sorrow. Throughout the therapy process, this social trait is maintained in the inpatient care. First-degree relatives typically serve as caregivers during this process. Sometimes they help with the patient's care and offer emotional support. Poor hospital environment can lead to a number of issues, yet this gives the caregiver emotional satisfaction (Gok Metin et al., 2019). One definition of caregiver load is a negative response to how caregiving affects the caregiver's social, professional, and personal roles **(Swartz & Collins, 2019).**

In the current study, the demographic data of the cancer patients under examination showed that, with a mean ± SD of 56.44±10.99, less than half of the patients were ≥60 years old. **Ramasubbu et al. (2020**) found that 40% of their patients were older than 60. Their study focused on "Quality of life and the factors affecting it in adult cancer patients undergoing cancer chemotherapy in a tertiary care hospital."

These findings are comparable to those of **IJsbrandy et al. (2019**), who investigated "Implementing physical activity programs for patients with cancer in current practice: patients experienced barriers and facilitators in the Netherlands." They found that 41.2% of the patients in their study were living in rural areas, had a university degree, and had sufficient income.

According to the current study, the condition has been present in fewer than three-quarters of the patients for less than three years. About two-thirds of the patients in the study had ovarian cancer, and most of them underwent chemotherapy and surgery to treat their illness. Additionally, half of the patients had prior medical conditions.

Results are consistent with those of **Zou et al., (2020**) who observed that surgery and chemotherapy were the most prevalent forms of interventions, and ovarian cancer was the most common gynaecological cancer. As with **Rasul & Amen , (2022),** the treatment received were surgery, chemotherapy, and radiation; these findings were also observed in the current study. However, the authors failed to report the patients' dependence on their caregivers.

These findings are consistent with those of **Yesilbalkan et al. (2017),** who investigated "Cancer Pain: knowledge and Experiences from the Perspective of the Patients and their family caregivers, Turkey," which revealed that the majority of their patients received chemotherapy and that three-quarters of their patients had cancer that had been present for three years. In contrast, **Burns et al. (2018**) reported that 33% of patients underwent radiotherapy in their study of "family caregiver knowledge of treatment intent in a longitudinal study of patients with advanced cancer, Australia." This may be because, following surgery, chemotherapy is the initial line of treatment for cancer and produces positive outcomes.

The current study found that three-fifths of the caregivers were female and that over half of them were between the ages of 30 and 40, with a mean ± SD of 37.88±5.45. Over one-third did not have jobs and were in secondary school. Additionally, over half of the caregivers in the study were daughters. Furthermore, the majority of them shared the patient's residence, and over half of the caregivers in the study provided care for the patients two or three times a day.

This is consistent with research by **Ogunyemi et al., (2021), Akpan-Idiok & Anarado, (2019), Boostaneh et al., (2021), Gabriel et al., (2019), Jite et al., (2021), Sun et al (2023),** who in their different studies showed that women are primarily responsible for caring for patients with gynecological cancers. The mean age of the participants in our study was 40.4 years, which was greater than the 35.9 years and 39.71 years reported by **Akpan-Idiok & Anarado (2019) and Akpan-Idiok, (2021)** respectively. This suggests that most people who provide care for cancer patients are in their fourth or fifth decade of life. In addition, our study confirms the findings of **Gabriel et al ., (2019)** that most caregivers are between the ages of 41 and 50. Meanwhile, studies by **Ogunyemi et al ., (2021) and Jite et al ., (2021**) also indicated that this age group is prevalent.

Our results were different from those of **Ogunyemi et al et al., (2021), Yasar & Terzioglu, (2022),** and others that indicated parents and relatives as the primary carers, respectively. While parents and other relatives often serve as primary caregivers, our study contributes new insights by identifying sisters as potential primary caregivers in specific cultural or familial contexts.

These findings were corroborated by **Wenhao et al. (2021**), who investigated "Subjective burdens among informal caregivers of patients: a cross-sectional study in rural Shandong, China" and discovered that over half of informal caregivers were unemployed women. Additional similar criteria supported by **Ogunyemi et al ., (2021**) including staying in the same home, providing care for six months and below, the desire to assist the patient, and not having any underlying chronic medical conditions, were also in agreement with the results of our study and **Zou et al ., et al., (2020**).

The current study revealed that the main source of knowledge among caregivers caring for patients with gynecological cancer was doctors. It confirmed that caregivers acquire their knowledge from the right source.

The current study revealed that there were improvements in **caregivers'** knowledge mean scores with a statistically significant difference detected between **caregivers'** knowledge mean scores post-educational guidelines than pre-educational guidelines. From the researcher's point of view, this reflected the positive effects of educational guidelines.

These findings are consistent with those of **De Lamaza et al. (2020**), who investigated "the impact of a structured educational program for family caregivers of children with cancer on parental knowledge of the disease and clinical outcomes." They found that structured education for caregivers improved the clinical outcome of their sample and raised all levels of knowledge. Additionally, these findings are consistent with those of **Belongacem et al. (2019**), who found a strong statistically significant correlation between the total knowledge of their caregivers before and after the program (p<0.001) in their study, "A caregivers educational program improves quality of life and burden for cancer patients and their caregivers: A randomized clinical trial." This could be because of the impact of rules that improve caregivers' knowledge.

According to the current study, caregivers' total level of knowledge has increased since receiving instruction regarding gynecological cancer. The results align with previous research conducted by **Beaver et al. (2019) and Young et al. (2023)** on caregivers of patients with endometrial cancer and cancer undergoing surgery, which successfully raises knowledge levels about the disease through information support and telephone follow-up. According to **El-Amin et al. (2021**), who investigated "Knowledge, Attitudes, and Practices of Caregivers of Caregivers of Patients with Cancer in Sudan," 7% of the family caregivers in the study had good knowledge about cancer before the educational guidelines intervention, and 30% of them did so after the intervention. From the researcher's point of view, these differences might be due to the effect of guidelines and reinforcement that enhance caregivers' knowledge.

A very statistically significant difference between the practices of caregivers for patients with gynecological cancer before and after educational guidelines was found in the current study, with a p-value. **Eliana's (2019**) study, "Carer Burden: The Burden of Caring for Lung Cancer Patients According to the Cancer Stage and Patient Quality of Life, Brazil," found that almost half of the caregivers in the study had satisfactory practice scores regarding the care of their cancer patients before the intervention, and that number rose to more than three-quarters of them after the intervention. From the perspective of the researchers, these discrepancies may result from the effectiveness of guidelines that enhance caregivers' practices and achieve the current study's goal.

The majority of caregivers' practices improved after receiving educational guidelines, according to the current study. **Odom & Wahnefried (2021**) found that two-thirds of the caregivers in their study were dissatisfied with follow-up with their cancer patient before the educational guidelines intervention; this number dropped to less than two-fifths of them after the intervention. Their study examined the self-care practices of family caregivers of people with poor prognosis cancer: differences by varying levels of caregiver well-being and preparedness.

The present study found that following the intervention, levels of competence for care and knowledge, uniqueness, instrumentality, enjoyment, and anticipation aspects showed statistically significant changes and improvements compared to pre- and post-educational standards. **Petricone & Lebel et al. (2019)** conducted a scoping review that highlights the significance of giving caregivers basic knowledge about common treatments so they can feel secure and confident and make the right decisions. The findings in the wellbeing dimension, which asks about fundamental aspects of daily life and personal satisfaction with perceived quality of life, are consistent with other research that demonstrates how follow-up interventions affect the family caregiver's empowerment, trust, and self-management skills **(Sun et al., 2019).**

According to the relation and interaction component, main and secondary support networks are elements that promote enhancing the labor of caring for individuals with cancer undergoing surgery, which is in contrast to other studies carried out in the local environment. This circumstance might be connected because many of these caregivers take on the duty when a patient has just diagnosed with cancer. The goal of the intervention should be to maintain these networks, which may be weakened or broken in later stages when the side effects of adjuvant treatments appear, along with dependence and increased care demands, because this is the stage of the process when the majority of the family is **gathered (Sánchez & Carrillo, 2019).**

After the intervention, the current study found that the level of carer overload before and after educational guidelines changed statistically significantly. In terms of the significance of a plan documented through a nursing educational intervention to lessen the burden posed by taking up the patient's care at home, the study aligns with other research carried out in the local context by **Melo et al. (2018)** and internationally by **Mosher et al. (2019**). Integrating workshops, follow-up outside of the hospital, and tailored education is essential.

According to the current study, three-quarters of the caregivers under study had a high overall burden of care prior to educational guidelines, which dropped to slightly over one-third afterward. According to **Onyeneho & Hesanmi's (2021)** study, "Burden of care and perceived psycho-social outcomes among family caregivers of patients living with cancer," three-quarters of the caregivers in their study had a high total burden of care prior to intervention, but this number dropped to five percent after the intervention. This could be a result of the study's findings, which indicate that caregivers endure varying degrees of load, from light to severe. The study did find that the majority of caregivers experienced a mild level of burden, though. This is easily explained by the fact that, despite the burden, most people are reluctant to voice their opinions as a result of their relationship with the care receiver.

According to the researchers, the causes of the earlier findings could be anything from physical, psychological, and social health issues to general health consequences. The caregiver's psychological health is greatly impacted by the time of entry into and length of the caregiving position. These results were in line with those of **Oboh & Adaonfo's (2019**) study on the burden of informal caregivers for cancer at the University College Hospital in Ibadan, Nigeria. It was discovered that there is a significant amount of stress among those who care for individuals with cancer. The results showed that 43.3 percent of caregivers experience psychological stress. Results that showed 43.4% of the study population had a physical burden.

As a result, our study found that caregiver burden was quite high. Other Studies also reported a high level of burden (**Mirsoleymani et al., 2019; Shim & Ng, 2019; Sanjeevani et al., 2022**). Given that many patients in our study struggled with financial difficulties, which frequently had adverse effects on the physical and mental health of the caregivers, thus the high burden of care might be attributed to both time and financial constraints.

The present study found a statistically significant relationship between the entire burden of care, total knowledge, and total practices of caregivers for patients with gynecological cancer before and after instructional guidelines. The findings were corroborated by **El-Amin et al. (2021)**, who investigated the knowledge, attitudes, and practices of caregivers of cancer patients in Sudan. They discovered that the total knowledge, total practices, and total burden scores of the caregivers for older adult cancer patients they evaluated had a strong statistically significant link (P<0.000). This could be because the strain placed on caregivers of cancer patients may differ depending on the stage of the disease and other patient-related circumstances.

Conclusion:

Based on the current study findings the current study concluded that educational guidelines Implementation has a positive effect on improving knowledge and practices. Also, statistically significant reduction of caregiver burdens associated with caring for patients with gynecological cancer. There was a high statistically significant correlation between total knowledge, total practices, and total burden scores of the studied caregivers caring for patients with gynecological cancer (P<0.001).

Recommendations:

Based on the findings of this study, therefore recommend the following suggestion:

- Creating caregivers' educational programs in institutions that are systematically ongoing to offer the caregivers the necessary knowledge, practices, and caregiver burdens caring for patients with gynecological cancer to assist them feel less burdened.
- Producing handbooks, pamphlets, and brochures to update details about gynecological cancer.
- To generalize the results, the study should be repeated on other samples and in various settings.

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