

The Unmet Needs of the Family Caregivers of Patients with Cancer Visiting a Referral Hospital in Iran

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ABSTRACT

Objective: The complex process of taking care of patients with cancer can affect various aspects of the needs and health of their family caregivers. The present study aims to determine the unmet needs of the family caregivers of patients with cancer and to compare it according to background variables.

Methods: The present descriptive study recruited 200 family caregivers of patients with cancer visiting a referral hospital in Iran. Sampling was carried out through the convenience method. Data were collected using Shin's comprehensive needs assessment tool in seven domains (health and psychological problems, family/social support, healthcare staff, information, religious/spiritual support, hospital facilities/services, and practical support). **Results:** The mean (\pm standard deviation) of the total scores of the unmet needs of the family caregivers

was 81.73 (\pm 16.82), with a possible range of 0–123. A significant percentage of the family caregivers of patients with cancer had unmet needs in all of the seven domains with different severities. The mean scores were higher in the information, healthcare staff (physicians and nurses), and health and psychological problems domains as compared to the other domains. **Conclusions:** The results showed that the majority of the family caregivers of patients with cancer have many unmet needs, which should be addressed by professional care providers through the development of holistic care programs targeting family caregivers by focusing on information needs and a proper communication process.

Key words: Cancer, family caregivers, unmet needs

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Introduction

According to the available reports, cancer is the third leading cause of mortality in Iran. The incidence of cancer is 134 and 121/10,000 women and men, respectively, in various parts of Iran.^[1,2] In general, the burden of cancer in developing countries has an ascending trend that results from factors such as population growth, increased older adult populations, and lifestyles that are conducive to cancer, such as those characterized by smoking, low physical activity, and poor nutrition.^[3,4]

The treatment and care of patients with cancer is a complex, lengthy, and expensive process imposed on health systems.^[5] Today, demographic changes in patients with cancer, their prolonged survival rates and requests to continue treatment at home, changes in the patterns of health service provision, and the development of outpatient care have made caring for cancer patients a community-based practice; in other words, patients with cancer are one of the main groups of patients who receive informal care.^[6]

Informal caregivers are made up of different groups of people in different cultures. In Iran, informal care is often provided by family members at home, who are also known as family caregivers.^[6,7] Family caregivers are members of the patients' family who help the patients carry out their daily tasks, such as eating and moving around, and provide them with psychological, emotional, and social support, as well as communicate with the healthcare system regarding changes in their conditions and medications.^[8] According to the results reported in previous studies, family caregivers are responsible for providing 50%–55% of the care needed by patients with cancer at home.^[5] Recent surveys estimate that 43.5 million adults in the U.S. have provided unpaid care to an adult or child, and approximately 2.8 million people are caring for someone whose main problem or illness is cancer.^[9,10]

One of the challenges faced by the family caregivers of patients with cancer is balancing their caregiving role and their own needs.^[5] The complex process of caring for patients with cancer can lead to an imbalance and stress in the life of the family caregiver, and consequently affect his or her physical, mental, and social health. The persistence of this state over a long period can reduce the caregiver's quality of life and adversely affect his or her professional life too.^[8,11,12] According to the results of previous studies, the family caregivers of patients with cancer have extensive unmet needs, including the need for information and healthcare services, as well as emotional, psychological, medical, and financial needs.^[13–15] In a study of 251 caregivers of patients with breast cancer in Iran, the caregivers' main needs were concerned with the lack of information about breast cancer and the importance of caring for oneself, as well as for the patient.^[7]

The Institute of Medicine, the National Research Council, and the World Health Organization recommend that patients and their caregivers should be treated as one care unit.^[16] Since the majority of studies on the unmet needs of family caregivers have been conducted in other countries and cultures, the present study seeks to investigate the unmet needs of the family caregivers of patients with cancer in Iran. The results may provide guidelines for healthcare planners, managers, and nurses.

The purpose of this study was to determine the unmet needs of family caregivers of patients with cancer at Imam Reza Teaching Hospital in Tabriz in Iran. The specific aims were as follows:

1. To determine the extent of unmet needs
2. To compare unmet needs according to background variables.

Methods

Design and samples

This descriptive study recruited 200 family caregivers of patients with cancer visiting the outpatient and inpatient oncology wards of Imam Reza Teaching Hospital in Tabriz. A pilot study was conducted on 30 eligible family caregivers to determine the sample size. Taking into account unmet need scores with a mean = 96 and standard deviation = 16.82 obtained for the pilot study, precision (2.5% mean) = 2.44 and $\alpha = 5\%$, the sample size was calculated as 182.58 using

the sample size formula $n = f \frac{Z^2 \cdot \frac{a}{2} \cdot SD^2}{d^2}$, and 200 people were ultimately recruited to take into account a potential withdrawal of 10%.^[17]

Participating patients were asked to identify the principal family caregiver, defined as a family member or friend who would be most responsible for ongoing caregiver duties. The study inclusion criteria consisted of the ability to communicate, a minimum age of 18, living with or having a close relationship with the patient, the passage of at least 3 months since the caregiver learned about the patient's definitive diagnosis of cancer, and no disabling chronic physical or mental diseases. The study exclusion criteria consisted of unwillingness to participate, being a member of a treatment team, and membership in support associations for patients with cancer. Inclusion criteria for patients with cancer were detection and treatment of the disease for more than 3 months.

Demographic characteristics

Based on the results of previous studies, the demographic form with structured questions used in this study inquired about the family caregivers' gender (male or female), age,

marital status (single, married, or other), lodging (city or village), educational status (illiterate, primary school, secondary school, high school, or university), job status (unemployed, self-employed, employed, laborer, homemaker, or retired), relationship with the patient (spouse, father, mother, brother, sister, daughter, son, or other), cohabitation with the patient (yes or no), duration of awareness of the patient's illness, insurance status (yes or no), harm to job (defined as the effect of caregiving on their job flow such as reduced work quality, absence from work, reprimands at work, and getting fired, with yes/no responses), and family income (defined as low income where income < expenses, moderate income where income = expenses, and high income where income > expenses). All the data were self-reported. Information on the patient's diagnosis, type of treatment, and duration/frequency of hospitalization was also gathered from the patient's medical records and reported by the participating family caregiver and the patient with cancer.

Data collection tool

The data collection tool used included a demographic part and the Shin's Comprehensive Needs Assessment Tool (CNAT). This 41-item questionnaire measures the needs of the family caregivers of patients with cancer in seven domains (health and psychological problems with six items, family/social support with five items, healthcare staff with eight items, information with eight items, spiritual and religious support with two items, hospital facilities/services with six items, and practical support with six items) and scores their responses based on a four-point Likert scale (no need = 0, low need = 1, moderate need = 2 and high need = 3). The scores can range from 0 to 123, with higher scores indicating more unmet needs.

The health and psychological problems domain deals with health problems, concerns about the patient, and anger, depression, irritability, isolation, and generalized anxiety. The family/social support domain deals with concerns in family and interpersonal relationships, relaxation and personal life after the patient's cancer diagnosis, and receiving support from a family with the caregiving process. The healthcare staff (physicians and nurses) domain deals with receiving clear and honest explanations and respect from the physicians, involvement in the treatment decision-making process, the physicians paying attention to the patient's discomfort and empathizing with him or her, and the nurses paying attention to the patient and explaining any necessary procedures. The information domain deals with the current status of the patient's illness, his or her prognosis, knowledge about providing care at home, financial support, and the management of caregiving stress.

The spiritual and religious support domain is concerned with the use of religious beliefs and practices and their effects on coping with the disease. The hospital facilities/services domain is concerned with counseling and guidance about the necessary tests and treatments, the available hospital facilities, dedicated spaces for the caregivers, and home-visit nursing services. Finally, the practical support domain deals with transportation, economic burden, help with housekeeping, and assisted care.^[16]

The CNAT has good validity with a reported coefficient of reliability of $\alpha = 0.96$ for the entire scale and 0.79–0.95 for the subscales.^[16] Some researchers have used the CNAT to determine the unmet needs of the family caregivers of patients with cancer.^[12] In the present study, the questionnaire was first translated by a professional translator to Persian and then translated back to English by another professional translator. The translators and researchers evaluated all versions of the questionnaire, and the final Persian version of the questionnaire was developed and approved by consensus after good matches were found for all the items. For content and face validity, the Persian version was distributed to ten professors at Tabriz Faculty of Nursing and Midwifery, and their suggestions were implemented. The reliability of the questionnaire was assessed using the Cronbach's alpha coefficient in a pilot study with 30 samples ($\alpha = 0.88$).

Data collection

Sampling was carried out over 4 months from January to April 2017 using the convenience method. For data collection, the researcher first visited the family caregivers of patients with cancer in the outpatient and inpatient oncology wards of Imam Reza Teaching Hospital during different work shifts and then completed the questionnaire after interviewing them (response rate = 100%). The time required to complete each questionnaire was 25 min.

Statistical analysis

Data were analyzed in SPSS-13 (SPSS Inc., Chicago, IL, USA) using descriptive statistics, the independent *t*-test, and ANOVA. In all of the statistical analyses, $\alpha = 5\%$ was considered the level of statistical significance.

Ethical considerations

Permission to conduct the research was obtained from the ethics committee of Tabriz University of Medical Sciences (Code: IR. TBZMED. REC.1395.1033). Before signing consent forms, the family caregivers who were willing to participate in the study were first briefed on the study's objectives and ensured of their right to withdraw from it at any time.

Results

The mean age (\pm standard deviation) of the patients with cancer was 50.46 (\pm 18.13), more than half of them were male, the majority were married, the majority had poor educational status, half had leukemia, the mean duration of the disease was 18 months, and the mean number of hospitalization was 4. Table 1 presents the other demographic details of the patients.

In relation to the demographic characteristics of the family caregivers of the patients with cancer, the results showed a mean age (\pm standard deviation) of 41.17 (\pm 12.31). A total of 54.5% of the caregivers were female,

80% were married, and 30.5% were the patient's spouse. A total of 45.0% of the caregivers were homemakers,

Variables	Patients with cancer, n (%)	Family caregiver needs scores (mean \pm SD)	Statistical indicators
Gender			
Female	89 (44.5)	80.69 \pm 17.70	$P=0.436$
Male	111 (55.5)	82.56 \pm 16.12	$t^{\ddagger}=-0.781$ df=198
Marital status			
Single	24 (12.0)	82.41 \pm 18.44	$P=0.959$
Married	163 (81.5)	81.57 \pm 17.04	$F^{\ddagger}=0.042$ df=2
Other relation	13 (6.5)	82.53 \pm 10.97	
Education status			
Illiterate	47 (23.5)	85.10 \pm 15.20	$P=0.012$
Primary school	59 (29.5)	84.25 \pm 15.09	$F=3.291$ df=4
Secondary school	28 (14.0)	72.03 \pm 19.22	
High school	45 (22.5)	81.06 \pm 16.50	
University	21 (10.5)	81.47 \pm 18.69	
Job status			
Unemployed	51 (25.5)	82.29 \pm 17.79	$P=0.823$
Self-employed	28 (14.0)	80.50 \pm 17.58	$F=0.436$ df=5
Employed	6 (3.0)	82.00 \pm 9.57	
Laborer	6 (3.0)	90.50 \pm 8.84	
Homemaker	76 (38.0)	82.57 \pm 15.56	
Retired	33 (16.5)	81.73 \pm 16.82	
Diagnosis			
Blood cancer	100 (50.0)	81.57 \pm 16.00	$P=0.805$
Gastrointestinal cancer	39 (19.5)	82.46 \pm 18.69	$F=0.328$ df=3
Breast cancer	25 (12.5)	84.00 \pm 17.62	
Other cancer	36 (18.0)	79.83 \pm 16.89	
Type of treatment			
Chemotherapy	116 (58.0)	80.89 \pm 16.60	$P=0.319$
Surgery	3 (1.5)	95.00 \pm 17.32	$F=1.150$ df=2
Mix treatment	81 (40.5)	82.44 \pm 17.10	
Service location			
Inpatient	102 (51.0)	82.95 \pm 17.70	$P=0.298$
Outpatient	98 (49.0)	82.56 \pm 16.12	$t=1.043$ df=198
Insurance			
Yes	198 (99.0)	81.50 \pm 16.70	$P=0.054$
No	2 (1.0)	104.50 \pm 19.09	$t=-1.936$ df=198

[§]Independent samples t-test, [†]One-way ANOVA. SD: Standard deviation

Variables	Caregiver, n (%)	Mean \pm SD	Statistical indicators
Gender			
Female	109 (54.5)	82.59 \pm 17.56	$P=0.430$
Male	91 (45.5)	80.70 \pm 15.93	$t^{\ddagger}=0.791$ df=198
Marital status			
Single	34 (17.0)	79.08 \pm 16.49	$P=0.118$
Married	166 (83.0)	82.46 \pm 16.77	$t=-1.070$ df=197
Lodging			
City	153 (76.5)	79.85 \pm 17.50	$P=0.004$
Village	47 (23.5)	87.85 \pm 12.74	$t=-2.901$ df=198
Education status			
Illiterate	28 (14.0)	84.00 \pm 20.40	$P=0.019$
Primary school	39 (19.5)	87.94 \pm 14.17	$F^{\ddagger}=3.028$ df=4
Secondary school	32 (16.0)	83.40 \pm 15.76	
High school	65 (32.5)	79.41 \pm 15.13	
University	36 (18.0)	75.94 \pm 17.84	
Job status			
Unemployed	7 (3.5)	88.42 \pm 10.89	$P=0.236$
Self-employed	52 (26.0)	81.55 \pm 18.13	$F=1.373$ df=5
Employed	15 (7.5)	73.46 \pm 18.19	
Laborer	3 (1.5)	81.66 \pm 5.85	
Homemaker	90 (45.0)	83.68 \pm 17.43	
Retired	33 (16.5)	79.03 \pm 12.72	
Relationship with the patient			
Spouse	61 (30.5)	83.01 \pm 17.26	$P=0.185$
Father	12 (6.0)	86.00 \pm 13.28	$F=1.48$ df=6
Mother	20 (10.0)	89.00 \pm 18.19	
Brother	13 (6.5)	76.61 \pm 16.23	
Sister	17 (8.5)	75.64 \pm 15.57	
Daughter	37 (18.5)	80.18 \pm 18.08	
Son	40 (20.0)	80.55 \pm 15.12	
Co-habitation with the patient			
Yes	134 (67.0)	82.26 \pm 17.28	$P=0.551$
No	66 (33.0)	80.66 \pm 15.93	$t=0.597$ df=198
Awareness of the disease			
3 months	27 (13.5)	81.11 \pm 16.51	$P=0.438$
3-6 months	37 (18.5)	85.75 \pm 15.48	$F=0.909$ df=3
6-12 months	46 (23.0)	80.04 \pm 19.11	
> 1 year	90 (45.0)	81.13 \pm 16.22	
Harm to the job			
Yes	54 (27.0)	84.51 \pm 13.20	$P=0.155$
No	146 (73.0)	80.70 \pm 17.91	$t=1.426$ df=198
Insurance			
Yes	191 (95.5)	81.47 \pm 16.82	$P=0.308$
No	9 (4.5)	87.33 \pm 16.80	$t=-1.021$ df=198
Family income status			
Low	90 (45.0)	83.82 \pm 15.16	$P=0.043$
Moderate	103 (51.5)	80.83 \pm 17.68	$F=3.192$ df=2
High	7 (3.5)	68.14 \pm 19.21	

[§]Independent samples t-test, [†]One-way ANOVA. SD: Standard deviation

32.5% had a high school education, and 95.5% had medical insurance. Table 2 presents the other demographic details of the caregivers.

The scores obtained for the unmet needs of the family caregivers could range from 0 to 123, and the mean (\pm standard deviation) of the total score was 81.73 (\pm 16.82). The domains of the questionnaire included information, healthcare staff, health and psychological problems, practical support, family/social support, spiritual and religious support, and hospital facilities/services [Table 3]. Table 4 presents the items with the greatest mean scores and thus demonstrates the more severe unmet needs of the family caregivers of patients with cancer.

The results of the *t*-test and ANOVA showed a significant relationship between the mean scores of the family caregivers' unmet needs and demographic variables including lodging, education, and family income ($P < 0.05$). That is, caregivers from rural areas with poor education and low income had more unmet needs [Table 2]. The results of statistical analysis also showed a significant relationship between the mean scores of the family caregivers' unmet needs and the educational status of patients with cancer ($P < 0.05$), as the family caregivers of patients with low educational status had more unmet needs [Table 1]. In addition, Tables 5-15 presents more detailed scores of family caregivers' unmet needs related to their characteristics.

Discussion

The process of the treatment and care of patients with cancer affects the needs of their family caregivers in several domains. The results of this study show that the family caregivers of patients with cancer have high levels of unmet needs, such that the total mean score was 81.73 out of 123. A significant percentage of the family caregivers had unmet needs in all of the seven domains with different severities [Table 3]. The mean scores were highest in the domains of information, healthcare staff (physicians and nurses), and health and psychological problems. In other words, these domains dealt with the three most important unmet needs of the family caregivers.

As already noted, the need for information about cancer and the process of care was the first and most-prioritized unmet need of the family caregivers. Other studies have also reported the need for information as the most important need of the informal caregivers of patients with cancer. In a study conducted by Sajadian *et al.*, getting information about breast cancer, self-care, and patient care was the main need of the caregivers.^[7] In a study by Cui *et al.* of 649 family caregivers in Shanghai hospitals in China, the most prominent unmet needs included the need for knowledge about the disease and its treatment and support from the healthcare staff.^[14]

The results of another study conducted on 188 informal caregivers of patients with cancer showed that healthcare services, information, and emotional and psychological support are the most prominent areas of caregivers' unmet needs, in that order.^[13] In a study by Kim and Yi on family caregivers, the total mean score of unmet needs was 61.3, and the most important areas of needs were concerned with healthcare staff and information, in that order.^[12] In a study by Kim *et al.* on three groups of family caregivers who were either 2 months, 2 years, or 5 years into their patient's cancer diagnosis, the main needs of the caregivers included psychological, social, medical, and financial needs, in that order.^[15] The differences observed in the family caregivers' need priorities were anticipated and can be attributed to the differences in research setting and context, as well as methodology. In other words, people from different countries may have different needs.

Overall, the results of the present study and the cited studies show that the first and foremost needs of the family caregivers of patients with cancer include comprehensive information about cancer and the process of its treatment and care. Given the essential role of family caregivers in the process of the treatment and care of patients with cancer, the care team (physicians and nurses) should provide family caregivers with extensive information about cancer, its treatment and care, and the medical and support facilities available to them by designing and implementing comprehensive and standard educational programs.

Table 3: Scores of family caregivers needs ($n=200$)

Domain	No need, <i>n</i> (%)	Low need, <i>n</i> (%)	Moderate need, <i>n</i> (%)	High need, <i>n</i> (%)	Mean \pm SD	95% CI
Health and psychological problems	14 (7.0)	32 (16.0)	70 (35.0)	84 (42.0)	2.12 \pm 0.92	1.99-2.24
Family and social support	12 (6.0)	38 (19.0)	70 (35.0)	80 (40.0)	2.09 \pm 0.90	1.96-2.21
Health care staffs (physicians and nurses)	2 (1.0)	39 (19.5)	76 (38.0)	83 (41.5)	2.20 \pm 0.78	2.09-2.31
Information	0	23 (11.5)	88 (44.0)	89 (44.5)	2.33 \pm 0.67	2.24-2.42
Religious/spiritual support	13 (6.5)	53 (26.5)	71 (35.5)	63 (31.5)	1.92 \pm 0.91	1.80-2.05
Hospital facilities and services	24 (12.0)	77 (38.5)	64 (32.0)	35 (17.5)	1.55 \pm 0.91	1.41-1.68
Practical support	14 (7.0)	43 (21.5)	49 (24.5)	94 (47.0)	2.11 \pm 0.97	1.97-2.24

SD: Standard deviation, CI: Confidence interval

Table 4: The highest mean scores of unmet needs in family caregivers of patients with cancer in terms of items in the questionnaire

Item	Mean±SD Maximum score=3	95% CI
I needed help with my economic burden caused by cancer (e.g., treatment costs, loss of income)	2.69±0.67	2.59-2.78
I needed information about financial support for medical expenses, either from government and/or private organizations	2.66±0.70	2.57-2.75
I needed help with my concerns about the patient	2.62±0.73	2.52-2.72
I wished my nurses to promptly attend to the patient's discomfort and pain	2.61±0.64	2.52-2.70
I wished to be able to see doctor in a quick and easy way when in need	2.52±0.76	2.41-2.62
I needed help with feelings of vague anxiety	2.47±0.85	2.36-2.58
I needed information about the current status of the patient's illness and its future course	2.46±0.78	2.35-2.56
I needed information about caregiving-related stress management	2.38±0.83	2.26-2.50

SD: Standard deviation, CI: Confidence interval

Table 5: Scores of family caregivers' unmet needs related to gender

Domain	Gender	Mean±SD	Statistical indicators†
Health and psychological problems	Female	2.31±0.86	<i>P</i> =0.001
	Male	1.89±0.93	<i>t</i> =3.302 <i>df</i> =198
Family and social support	Female	2.14±0.88	<i>P</i> =0.335
	Male	2.02±0.94	<i>t</i> =0.967 <i>df</i> =198
Health care staffs (physicians and nurses)	Female	2.18±0.85	<i>P</i> =0.745
	Male	2.21±0.69	<i>t</i> =-0.326 <i>df</i> =198
Information	Female	2.32±0.71	<i>P</i> =0.839
	Male	2.34±0.61	<i>t</i> =-0.204 <i>df</i> =198
Religious/spiritual support	Female	2.11±0.92	<i>P</i> =0.001
	Male	1.68±0.85	<i>t</i> =3.461 <i>df</i> =198
Hospital facilities and services	Female	1.52±0.94	<i>P</i> =0.649
	Male	1.58±0.88	<i>t</i> =-0.456 <i>df</i> =198
Practical support	Female	2.02±0.95	<i>P</i> =0.167
	Male	2.21±0.99	<i>t</i> =-1.388 <i>df</i> =198

The results of the *t*-test and the ANOVA showed a significant relationship between gender and health and psychological problems and religious/spiritual support domains (*P*<0.05). †Independent samples *t*-test. SD: Standard deviation

The second most important need of the family caregivers of patients with cancer is in the domain of healthcare staff (physicians and nurses). This domain evaluates the process of communication between formal care providers and family caregivers. The results obtained are indicative of poor communication because a significant percentage of the family caregivers had unmet needs in this domain. It is, therefore, necessary to strengthen and

Table 6: Scores of family caregivers' unmet needs related to marital status

Domain	Marital status	Mean±SD	Statistical indicators†
Health and psychological problems	Single	1.64±0.94	<i>P</i> =0.001
	Married	2.21±0.88	<i>t</i> =-3.368 <i>df</i> =198
Family and social support	Single	2.05±0.08	<i>P</i> =0.827
	Married	2.09±0.92	<i>t</i> =-0.219 <i>df</i> =198
Healthcare staffs (physicians and nurses)	Single	2.26±0.75	<i>P</i> =0.598
	Married	2.18±0.79	<i>t</i> =0.528 <i>df</i> =198
Information	Single	2.52±0.61	<i>P</i> =0.058
	Married	2.28±0.67	<i>t</i> =1.908 <i>df</i> =198
Religious/spiritual support	Single	1.79±0.97	<i>P</i> =0.38
	Married	1.94±0.90	<i>t</i> =-0.88 <i>df</i> =198
Hospital facilities and services	Single	1.55±0.85	<i>P</i> =0.951
	Married	1.54±0.93	<i>t</i> =0.061 <i>df</i> =198
Practical support	Single	1.97±1.02	<i>P</i> =0.346
	Married	2.14±0.96	<i>t</i> =-0.945 <i>df</i> =198

The results of the *t*-test and the ANOVA showed a significant relationship between marital status and health and psychological problems domain (*P*<0.05). †Independent samples *t*-test. SD: Standard deviation

Table 7: Scores of family caregivers' unmet needs related to lodging

Domain	Lodging	Mean±SD	Statistical indicators†
Health and psychological problems	City	2.07±0.97	<i>P</i> =0.251
	Village	2.25±0.73	<i>t</i> =-1.151 <i>df</i> =198
Family and social support	City	2.00±0.93	<i>P</i> =0.019
	Village	2.36±0.76	<i>t</i> =-2.37 <i>df</i> =198
Health care staffs (physicians and nurses)	City	2.24±0.78	<i>P</i> =0.115
	Village	2.04±0.77	<i>t</i> =1.582 <i>df</i> =198
Information	City	2.30±0.69	<i>P</i> =0.389
	Village	2.40±0.61	<i>t</i> =-0.864 <i>df</i> =198
Religious/spiritual support	City	1.88±0.92	<i>P</i> =0.387
	Village	2.02±0.89	<i>t</i> =-0.867 <i>df</i> =198
Hospital facilities and services	City	1.46±0.93	<i>P</i> =0.016
	Village	1.82±0.78	<i>t</i> =-2.419 <i>df</i> =198
Practical support	City	1.90±0.99	<i>P</i> =0.000
	Village	2.78±0.50	<i>t</i> =-5.815 <i>df</i> =198

The results of the *t*-test and the ANOVA showed a significant relationship between lodging and family and social support, hospital facilities and services and practical support domains (*P*<0.05). †Independent samples *t*-test. SD: Standard deviation

improve the process of communication between these two groups. To achieve good treatment outcomes in patients with cancer, the process of communication between the physicians, nurses, and family caregivers should be transparent, straightforward and timely, and characterized by mutual trust, respect, and empathy. Moreover, participation in decision-making and cooperation in the

Table 8: Scores of family caregivers' unmet needs related to co-habitation with the patient

Domain	Co-habitation with the patient	Mean±SD	Statistical indicators [†]
Health and psychological problems	Yes	2.06±0.93	$P=0.249$
	No	2.22±0.89	$t=-1.156$ df=198
Family and social support	Yes	2.14±0.84	$P=0.19$
	No	1.96±1.02	$t=1.316$ df=198
Healthcare staffs (physicians and nurses)	Yes	2.18±0.77	$P=0.731$
	No	2.22±0.79	$t=-0.345$ df=198
Information	Yes	2.38±0.64	$P=0.130$
	No	2.22±0.71	$t=1.519$ df=198
Religious/spiritual support	Yes	1.96±0.93	$P=0.349$
	No	1.83±0.86	$t=0.939$ df=198
Hospital facilities and services	Yes	1.55±0.89	$P=0.832$
	No	1.53±0.96	$t=0.213$ df=198
Practical support	Yes	2.15±0.97	$P=0.391$
	No	2.03±0.97	$t=0.859$ df=198

The results of the *t*-test and the ANOVA showed no significant relationship between life with patient and all domains. [†]Independent samples *t*-test. SD: Standard deviation

Table 9: Scores of family caregivers' unmet needs related to harm to job

Domain	Harm to job	Mean±SD	Statistical indicators [†]
Health and psychological problems	Yes	2.00±0.95	$P=0.264$
	No	2.16±0.90	$t=-1.120$ df=198
Family and social support	Yes	2.20±0.80	$P=0.283$
	No	2.04±0.94	$t=1.076$ df=198
Healthcare staffs (physicians and nurses)	Yes	2.22±0.69	$P=0.808$
	No	2.19±0.81	$t=0.244$ df=198
Information	Yes	2.50±0.54	$P=0.03$
	No	2.26±0.70	$t=2.192$ df=198
Religious/spiritual support	Yes	1.87±0.84	$P=0.642$
	No	1.93±0.94	$t=-0.465$ df=198
Hospital facilities and services	Yes	1.57±0.86	$P=0.822$
	No	1.54±0.94	$t=0.225$ df=198
Practical support	Yes	2.48±0.88	$P=0.001$
	No	1.97±0.97	$t=3.302$ df=198

The results of the *t*-test and the ANOVA showed a significant relationship between harm to job and information and practical support domains ($P<0.05$). [†]Independent samples *t*-test. SD: Standard deviation

process of treatment and care should be facilitated for family caregivers.

This study also assessed the five other domains of the needs of the family caregivers of patients with cancer, including health and psychological problems, family/social support, practical support, spiritual and religious support, and hospital facilities/services. The results showed that a

Table 10: Scores of family caregivers' unmet needs related to insurance

Domain	Insurance	Mean±SD	Statistical indicators [†]
Health and psychological problems	Yes	2.13±0.91	$P=0.443$
	No	1.88±1.05	$t=0.769$ df=198
Family and social support	Yes	2.09±0.91	$P=0.762$
	No	2.00±0.86	$t=0.303$ df=198
Healthcare staffs (physicians and nurses)	Yes	2.17±0.78	$P=0.067$
	No	2.66±0.70	$t=-1.841$ df=198
Information	Yes	2.32±0.67	$P=0.603$
	No	2.44±0.72	$t=-0.521$ df=198
Religious/spiritual support	Yes	1.93±0.90	$P=0.397$
	No	1.66±1.22	$t=0.849$ df=198
Hospital facilities and services	Yes	1.52±0.92	$P=0.132$
	No	2.00±0.70	$t=-1.511$ df=198
Practical support	Yes	2.12±0.98	$P=0.719$
	No	2.00±0.86	$t=0.36$ df=198

The results of the *t*-test and the ANOVA showed no significant relationship between insurance and all domains. [†]Independent samples *t*-test. SD: Standard deviation

significant percentage of the family caregivers have unmet needs with different severities in these five domains too and require support.

The analysis of the family caregivers' unmet needs in terms of the main items showed the highest mean scores in two of the 41 items, which were related to the pressures incurred by the process of cancer treatment and care [Table 4]. Although the costs of hospitalization and outpatient treatment for cancer patients are covered by insurance companies in Iran, the patients and their family caregivers are still faced with great financial burden due to expensive medications, diagnostic and medical services, and the high indirect costs imposed, as well as potential unemployment following the patient's process of treatment and care, which should be further considered by the authorities. The study of Hashemi *et al.* confirms the financial unmet needs of family caregivers.^[18] In a study by Kim and Yi, the mean scores of two items were higher than the rest, including easy and rapid access to doctors whenever necessary and information about the patient's current and future state.^[12]

As for the relationship between the mean scores of unmet needs and the examined demographic variables, the statistical tests showed that caregivers from rural areas with lower education and income, essentially a lower social status, have more unmet needs.^[15,19-22] In addition, in terms of patient characteristics, results showed that family caregivers of those patients with cancer who had a low educational status have more unmet needs [Table 1].

Cultural values, beliefs, family systems, policies, available resources, and economic concerns also affect the needs of

Table 11: Scores of family caregivers' unmet needs related to education status

Domain	Education status	Mean±SD	Statistical indicators [†]
Health and psychological problems	Illiterate	2.50±0.63	<i>P</i> =0.005
	Primary school	2.41±0.63	<i>F</i> =3.867
	Secondary school	2.12±0.94	<i>df</i> =4
	High school	1.93±1.04	
	University	1.83±0.97	
Family and social support	Illiterate	2.21±0.83	<i>P</i> =0.002
	Primary school	2.38±0.74	<i>F</i> =4.352
	Secondary school	2.28±0.85	<i>df</i> =4
	High school	2.03±0.76	
Health care staffs (physicians and nurses)	Illiterate	2.03±0.88	<i>P</i> =0.062
	Primary school	2.25±0.71	<i>F</i> =2.285
	Secondary school	2.00±0.71	<i>df</i> =4
	High school	2.16±0.83	
Information	Illiterate	2.17±0.77	<i>P</i> =0.448
	Primary school	2.46±0.68	<i>F</i> =0.929
	Secondary school	2.40±0.61	<i>df</i> =4
	High school	2.27±0.64	
Religious/spiritual support	Illiterate	2.07±0.85	<i>P</i> =0.006
	Primary school	1.94±0.82	<i>F</i> =3.695
	Secondary school	2.21±0.75	<i>df</i> =4
	High school	1.95±0.87	
Hospital facilities and services	Illiterate	1.57±1.06	<i>P</i> =0.708
	Primary school	1.71±0.79	<i>F</i> =0.537
	Secondary school	1.53±0.94	<i>df</i> =4
	High school	1.44±0.91	
Practical support	Illiterate	2.42±0.79	<i>P</i> =0.000
	Primary school	2.41±0.81	<i>F</i> =5.332
	Secondary school	2.18±1.02	<i>df</i> =4
	High school	2.09±0.97	
University	University	1.52±0.99	

The results of the *t*-test and the ANOVA showed a significant relationship between education status and most of unmet needs domain (*P*<0.05). [†]One-way ANOVA. SD: Standard deviation

family caregivers.^[18] The cultural and religious norms in Iran create a deep and strong family and support systems, which serve as an important source of patient care. Families voluntarily accept patients and take the responsibility of providing high-quality care to them.^[7,23,24] Religious and cultural teachings in Iran value caregiving. Therefore, relatives do not evade the responsibility of caregiving even in difficult situations and may not express their problems and needs in fulfilling this role.^[18] Moreover, a lack of palliative care centers and social organizations for supporting patients with cancer and their families creates heavier responsibility for family caregivers.^[25]

Overall, it can be concluded that the majority of the family caregivers of patients with cancer have many unmet needs. Physicians, nurses, and other professional

Table 12: Scores of family caregivers' unmet needs related to job status

Domain	Job status	Mean±SD	Statistical indicators [†]
Health and psychological problems	Unemployed	2.00±1.00	<i>P</i> =0.000
	Self-employed	1.86±1.01	<i>F</i> =4.769
	Employed	1.73±0.79	<i>df</i> =5
	Laborer	1.33±0.57	
	Homemaker	2.44±0.80	
Family and social support	Retired	1.90±0.87	
	Unemployed	2.42±1.13	<i>P</i> =0.161
	Self-employed	1.88±1.00	<i>F</i> =1.604
	Employed	1.73±1.09	<i>df</i> =5
Health care staffs (physicians and nurses)	Laborer	2.00±1.00	
	Homemaker	2.21±0.82	
	Retired	2.18±0.76	
	Unemployed	2.28±0.95	<i>P</i> =0.378
Information	Self-employed	2.23±0.67	<i>F</i> =1.071
	Employed	2.60±0.63	<i>df</i> =5
	Laborer	2.33±0.57	
	Homemaker	2.11±0.86	
Religious/spiritual support	Retired	2.18±0.72	
	Unemployed	2.85±0.37	<i>P</i> =0.357
	Self-employed	2.38±0.66	<i>F</i> =1.108
	Employed	2.33±0.61	<i>df</i> =5
Hospital facilities and services	Laborer	2.33±0.57	
	Homemaker	2.28±0.73	
	Retired	2.24±0.56	
	Unemployed	1.71±0.75	<i>P</i> =0.09
Practical support	Self-employed	1.78±0.87	<i>F</i> =1.934
	Employed	1.66±1.29	<i>df</i> =5
	Laborer	2.00±1.00	
	Homemaker	2.13±0.86	
Health and psychological problems	Retired	1.69±0.88	
	Unemployed	2.00±0.57	<i>P</i> =0.372
	Self-employed	1.71±0.97	<i>F</i> =1.082
	Employed	1.26±0.88	<i>df</i> =5
Information	Laborer	1.66±0.57	
	Homemaker	1.50±0.93	
	Retired	1.45±0.83	
	Unemployed	2.57±0.53	<i>P</i> =0.027
Religious/spiritual support	Self-employed	2.19±1.06	<i>F</i> =2.592
	Employed	1.33±1.04	<i>df</i> =5
	Laborer	2.66±0.57	
	Homemaker	2.13±0.90	
Hospital facilities and services	Retired	2.15±0.97	

The results of the *t*-test and the ANOVA showed a significant relationship between job status and health and psychological problems and practical support domain (*P*<0.05). [†]One-way ANOVA. SD: Standard deviation

care providers should, therefore, attend to the care needs of patients with cancer, as well as the unmet physical, psychological, and social needs of their family caregivers and other family members by designing and implementing dynamic and holistic care programs. It is important to note that, although patients with cancer and their family caregivers are regarded as one care unit, the patients' needs should be attended to independently of the caregivers' needs, and meeting the patients' needs and their satisfaction

Table 13: Scores of family caregivers' unmet needs related to relationship with the patient

Domain	Relationship with the patient	Mean±SD	Statistical indicators [†]
Health and psychological problems	Spouse	2.11±0.93	<i>P</i> =0.1 <i>F</i> = 1.803 <i>df</i> =6
	Father	2.08±0.99	
	Mother	2.65±0.58	
	Brother	1.76±0.59	
	Sister	2.00±1.06	
	Daughter	2.21±0.88	
	Son	1.95±1.01	
Family and social support	Spouse	2.22±0.86	<i>P</i> =0.331 <i>F</i> = 1.156 <i>df</i> =6
	Father	2.41±0.90	
	Mother	2.1±0.64	
	Brother	1.76±1.09	
	Sister	1.88±0.78	
	Daughter	2.13±1.03	
	Son	1.92±0.94	
Healthcare staffs (physicians and nurses)	Spouse	2.24±0.78	<i>P</i> =0.762 <i>F</i> =0.559 <i>df</i> =6
	Father	2.16±0.71	
	Mother	2.25±0.78	
	Brother	2.00±0.57	
	Sister	1.94±0.89	
	Daughter	2.21±0.85	
	Son	2.27±0.75	
Information	Spouse	2.34±0.60	<i>P</i> =0.676 <i>F</i> =0.668 <i>df</i> =6
	Father	2.50±0.52	
	Mother	2.45±0.75	
	Brother	2.15±0.80	
	Sister	2.17±0.85	
	Daughter	2.32±0.74	
	Son	2.35±0.57	
Religious/spiritual support	Spouse	2.06±0.94	<i>P</i> =0.034 <i>F</i> =2.326 <i>df</i> =6
	Father	1.91±0.79	
	Mother	2.25±0.85	
	Brother	1.23±1.01	
	Sister	2.05±0.55	
	Daughter	1.86±1.03	
	Son	1.75±0.80	
Hospital facilities and services	Spouse	1.49±0.88	<i>P</i> =0.554 <i>F</i> =0.822 <i>df</i> =6
	Father	1.75±0.75	
	Mother	1.80±1.00	
	Brother	1.46±0.87	
	Sister	1.23±1.09	
	Daughter	1.51±0.90	
	Son	1.65±0.92	
Practical support	Spouse	2.26±0.98	<i>P</i> =0.265 <i>F</i> = 1.286 <i>df</i> =6
	Father	2.41±0.79	
	Mother	2.20±0.95	
	Brother	2.38±0.76	
	Sister	1.82±0.95	
	Daughter	1.89±0.99	
	Son	2.00±1.06	

The results of the *t*-test and the ANOVA showed a significant relationship between relative to patient and religious/spiritual support domain (*P*<0.05). [†]One-way ANOVA. SD: Standard deviation

does not equate to meeting the family caregivers' needs and their satisfaction.

Table 14: Scores of family caregivers' unmet needs related to awareness of the diseases

Domain	Awareness of the diseases	Mean±SD	Statistical indicators [†]
Health and psychological problems	3 months	1.74±1.02	<i>P</i> =0.095 <i>F</i> =2.154 <i>df</i> =3
	3-6 months	2.29±0.87	
	6-12 months	2.08±1.00	
	> 1 year	2.17±0.84	
Family and social support	3 months	1.96±0.89	<i>P</i> =0.856 <i>F</i> =0.257 <i>df</i> =3
	3-6 months	2.16±0.83	
	6-12 months	2.10±0.94	
	> 1 year	2.08±0.93	
Healthcare staffs (physicians and nurses)	3 months	2.48±0.64	<i>P</i> =0.016 <i>F</i> =3.504 <i>df</i> =3
	3-6 months	2.27±0.69	
	6-12 months	1.91±0.81	
	> 1 year	2.23±0.80	
Information	3 months	2.4±0.57	<i>P</i> =0.362 <i>F</i> =1.071 <i>df</i> =3
	3-6 months	2.45±0.60	
	6-12 months	2.34±0.70	
	> 1 year	2.24±0.70	
Religious/Spiritual Support	3 months	1.85±1.06	<i>P</i> =0.9 <i>F</i> =0.195 <i>df</i> =3
	3-6 months	2.00±0.91	
	6-12 months	1.86±0.88	
	> 1 year	1.93±0.89	
Hospital facilities and services	3 months	1.66±0.87	<i>P</i> =0.252 <i>F</i> =1.372 <i>df</i> =3
	3-6 months	1.72±0.83	
	6-12 months	1.34±0.89	
	> 1 year	1.54±0.96	
Practical support	3 months	1.85±1.06	<i>P</i> =0.322 <i>F</i> = 1.171 <i>df</i> =3
	3-6 months	2.21±0.94	
	6-12 months	2.26±0.95	
	> 1 year	2.07±0.97	

The results of the *t*-test and the ANOVA showed a significant relationship between awareness of disease and healthcare staff domain (*P*<0.05). [†]One-way ANOVA. SD: Standard deviation

Nevertheless, part of the needs of the patients and family caregivers may be beyond the ability or scope of responsibility of physicians and nurses. Accordingly, the role of multidisciplinary care teams and other systems providing support and palliative services becomes more vital, and they can play an effective role in reducing the family caregivers' burden of care and improving their quality of life by adopting the right strategies and interventions.^[12] The members of care teams should always remember that the first responders to the problems of patients with cancer are their family caregivers, and their value in the process of patient care should be further recognized.

Limitations

Needs are a subjective concept that are affected by many variables in a complex way. Although reliable tools were used in this study to assess the family caregivers' needs, the likelihood of measurement error cannot be overlooked. Moreover, the sampling of the subjects was limited to the outpatient and inpatient departments of the only oncology referral hospital in Tabriz. For these reasons, generalizing

Table 15: Scores of family caregivers' unmet needs related to family income

Domain	Family income	Mean ±SD	Statistical indicators [†]
Health and psychological problems	Low	2.32±0.81	<i>P</i> =0.002
	Moderate	2.00±0.94	<i>F</i> =6.214 <i>df</i> =2
	High	1.28±1.11	
Family and social support	Low	2.22±0.83	<i>P</i> =0.082
	Moderate	2.00±0.95	<i>F</i> =2.532 <i>df</i> =2
	High	1.57±0.97	
Healthcare staffs (physicians and nurses)	Low	2.05±0.78	<i>P</i> =0.041
	Moderate	2.30±0.77	<i>F</i> =3.247 <i>df</i> =2
	High	2.57±0.53	
Information	Low	2.34±0.63	<i>P</i> =0.872
	Moderate	2.31±0.70	<i>F</i> =0.137 <i>df</i> =2
	High	2.42±0.78	
Religious/spiritual support	Low	1.95±0.98	<i>P</i> =0.563
	Moderate	1.91±0.82	<i>F</i> =0.576 <i>df</i> =2
	High	1.57±1.27	
Hospital facilities and services	Low	1.55±0.87	<i>P</i> =0.488
	Moderate	1.57±0.97	<i>F</i> =0.721 <i>df</i> =2
	High	1.14±0.37	
Practical support	Low	2.37±0.85	<i>P</i> =0.000
	Moderate	1.96±0.99	<i>F</i> =9.881 <i>df</i> =2
	High	1.00±1.00	

The results of the *t*-test and the ANOVA showed a significant relationship between family income and health and psychological problems and practical support domains (*P*<0.05).
[†]One-way ANOVA. SD: Standard deviation

the findings should be pursued with caution. There was no Iranian version of CNAT and thus the reliability of the Persian version of the questionnaire was assessed in a pilot study with 30 samples ($\alpha = 0.88$), which is small to ensure reliability of the questionnaire.

Conclusion

The majority of the family caregivers of patients with cancer had many unmet needs that required support. Three of their most important needs were in the areas of information, healthcare staff, and health and psychological problems. Professional care providers should attend to the care needs of patients with cancer, as well as the unmet needs of their family caregivers and other family members.

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Conflicts of interest

There are no conflicts of interest.

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