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## A qualitative study of family caregivers' experiences in caring for breast cancer patients

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In recent years, the approach to caring for patients with breast cancer has evolved significantly, moving towards more outpatient and family-centered models. Despite this positive shift, family caregivers often find it challenging to embrace their new roles. Many are actively seeking ways to prepare themselves for the responsibilities that come with caregiving. Therefore, the present study was conducted to explore and describe the experiences of family caregivers of patients with breast cancer regarding their readiness for caregiving and the facilitating factors associated with it. This qualitative study was conducted with 11 participants who were purposefully selected from among the family caregivers of breast cancer patients visiting selected oncology centers in Tabriz, Iran. Data were collected through in-depth semi-structured individual interviews using an interview guide. Content analysis with a conventional approach was employed for data analysis. From the content analysis of the interviews with family caregivers, 216 codes, 20 sub-themes, and 5 main themes were extracted: "self-enhancement of knowledge", "self-soothing", "gradual enhancement of competence", "the role of healthcare personnel in empowering family caregivers" and "support and empathy as the pillars of care for patients with cancer". The results of the present study indicate the efforts of family caregivers to enhance their capabilities and readiness in caring for patients with breast cancer. The findings suggest that caregivers have employed strategies to accept this new responsibility and improve their competence in patient care, while the role of healthcare personnel in their preparation is not particularly prominent. The results of this study can serve as a basis for designing strategic programs in the country's healthcare systems and can help enhance the capabilities of family caregivers in providing quality care to patients.

**Keywords** Breast cancer, Family caregiver, Readiness

Breast cancer remains a major global health concern<sup>1</sup>, representing nearly 30% of all cancer cases among women<sup>2</sup>. In 2020, it was the most commonly diagnosed cancer worldwide, with around 2.6 million new cases<sup>3</sup>. According to the American Cancer Society's report in 2024, an estimated 310,720 new cases and 42,250 deaths occurred among women in the U.S. alone<sup>4</sup>. Similarly, in Iran, breast cancer is the most prevalent cancer among women and ranks at the top of the statistics for the Iranian population as well<sup>5</sup>. Based on the results of a systematic review conducted in 2022, the prevalence of breast cancer among Iranian women was reported to be 23.6% across 24 studies, with a total sample of 39,596 patients<sup>6</sup>.

The rising incidence of breast cancer has shifted care models from hospital-based to outpatient and family-centered care. In this context, family members have become the primary providers of support for these patients<sup>7,8</sup>. The involvement of a family member in this illness changes the family's role as a significant part of the cancer care system, with more than half of the patient's needs being met by family caregivers<sup>9</sup>.

Family caregivers play a crucial role in the treatment and recovery of cancer patients<sup>10</sup>. A family caregiver is defined as an unpaid supporter who is involved at every stage of the illness, including diagnosis, treatment, follow-up care, and monitoring side effects<sup>11,12</sup>. Caregivers are the first to assess patients' symptoms and have

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a significant role in facilitating early hospital visits, receiving treatment, and enhancing the quality of life for patients<sup>13</sup>.

Spouses of breast cancer patients face numerous physical, emotional, and social challenges<sup>14</sup>. Research indicates that the disease primarily affects men's lives in two key areas: managing daily responsibilities (such as household tasks and providing emotional-physical support) and assisting the patient through the treatment process<sup>15</sup>. This group experiences high levels of stress and depression. These issues arise from concerns about disease progression, changes in traditional roles, and the long-term pressures of caregiving<sup>16,17</sup>. Additional burdens such as financial strain, diminished emotional intimacy with their spouse, and a lack of support networks further intensify this psychological toll<sup>18</sup>.

Although patients face challenges related to their illness, families also encounter stresses and fundamental changes in their daily lives that affect intra-family communications<sup>19,20</sup>. Furthermore, studies on family caregivers of these patients reveal that they often experience disrupted daily routines<sup>21</sup>, stress and anxiety<sup>22</sup>, and the need to share responsibilities with others<sup>23</sup>. A concerning finding is that caregivers are frequently assigned their role without adequate training or institutional support<sup>9</sup>. A qualitative study in this field found that unprepared caregivers struggle with confusion when facing new circumstances, feelings of helplessness, and isolation in their caregiving role<sup>24</sup>.

As family caregivers take on numerous responsibilities and play a vital role in supporting their relatives, they need to be prepared to care for their ill family members<sup>25,26</sup>. Often, caregivers try to maintain the order of their daily lives while also managing the care and treatment of patients<sup>27</sup>. Family caregivers utilize various methods to cope with challenges and achieve the ultimate goal of care.

Given the high prevalence of breast cancer and the key role of families in the caregiving process, examining the experiences of family caregivers is of great importance. The researchers were motivated to conduct this study by directly observing the emotional, psychological, and practical challenges faced by family caregivers of breast cancer patients in Iran, particularly regarding their readiness for caregiving, through interactions with patients' families in treatment centers. Although numerous studies have addressed the general challenges of caring for cancer patients<sup>20,25,28–30</sup>, there is limited research that specifically and deeply focuses on the experiences of caregivers of breast cancer patients, especially in terms of readiness for caregiving<sup>24,31</sup>. A systematic review of the literature conducted by the research team indicates that no comprehensive study has yet been conducted in Iran to examine readiness for caregiving and its facilitating factors. Therefore, this research aims to elucidate the perspectives of family caregivers of breast cancer patients regarding readiness for caregiving and its facilitating factors using in-depth interviews in a qualitative study.

## Methods

### Study design

The present study is the qualitative part of a mixed-methods study with a sequential explanatory design, consisting of both quantitative and qualitative phases. The quantitative phase employed a cross-sectional study to assess the level of preparedness for caregiving and its associated factors among family caregivers of breast cancer patients at selected oncology and radiotherapy centers in Tabriz, Iran (Shahid Ghazi Hospital, Shahid Madani Hospital, Al-Zahra Hospital, Valiasr Hospital, and Shams Hospital). The methodology for the qualitative phase of this study involved Conventional content analysis, conducted with family caregivers of breast cancer patients from May to October 2024. This qualitative study aimed to explore and describe the experiences of family caregivers of breast cancer patients regarding their readiness for caregiving and the facilitating factors associated with it. This qualitative research has been reported based on consolidated criteria for reporting qualitative research checklist (COREQ)<sup>32</sup>.

### Participants

Based on the mean total preparedness scores obtained in the quantitative phase, extreme cases were identified. Specifically, caregivers who scored in the top 10% and bottom 10% of the overall preparedness score for care were selected for qualitative interviews. Participants were purposefully selected from among family caregivers of breast cancer patients who met these extreme case criteria. The purposive sampling method enables researchers to gather rich information relevant to specific research questions<sup>33</sup>. This study was conducted in the oncology hospitals of Tabriz, including Shahid Ghazi Hospital, Shahid Madani Hospital, Al-Zahra Hospital, Valiasr Hospital, and Shams Hospital. Tabriz has the largest oncology centers in northwest Iran. The inclusion criteria included a diagnosis of breast cancer in the patient within the last two years, the patient being under treatment (chemotherapy, surgery, or radiotherapy), being the primary caregiver, awareness of the patient's cancer diagnosis, age 18 years and older, and literacy in reading and writing. Additionally, the exclusion criteria included not having experienced adverse events in the last three months (such as the death of a loved one or divorce), not suffering from mental health issues as reported by the individual, and not having a history of caregiving for a cancer patient. Participants also needed to be willing and able to describe their experiences regarding readiness for caregiving. The willingness of caregivers to participate in the study was assessed through a phone call by the researcher (H.Z). If they agreed to participate, a face-to-face meeting was arranged at their preferred location. After explaining the study's goals and procedures, including their rights and the confidentiality of recorded interviews, informed written consent was obtained from the participants. None of the participants refused or left the study.

### Data collection

Data were collected through in-depth, semi-structured individual interviews that utilized open-ended questions to facilitate a thorough exploration of participants' perspectives. The interviews were conducted in the participants' native language, Turkish, by the first author (H.Z), a female PhD nursing student trained in

qualitative methods. The caregivers determined the location for the interviews to ensure they were comfortable and able to respond freely. Most interviews took place in the counseling room of the outpatient clinic at the oncology hospital, with only two conducted at the interviewer's workplace. The sessions took place in a quiet and private setting to provide a secure and distraction-free environment for participants. Only the interviewee and the interviewer were present in the room at each session. The rooms were equipped with comfortable chairs, adequate lighting, and proper ventilation to facilitate a pleasant and uninterrupted discussion. Additionally, beverages were provided to ensure participants' comfort. To maintain confidentiality, measures were taken to prevent others from entering the room during the interviews, minimizing any potential disruptions or interruptions.

A semi-structured interview guide was developed based on the literature review and team discussions. The interview began with the main question, "Can you describe your experience in caring for your patient?" and then continued with additional questions depending on the participants' responses, such as "What factors do you think enhance readiness for caregiving?" and "What actions have you taken to prepare for caregiving?" Additionally, follow-up questions aimed at exploring the depth of the caregivers' experiences were posed based on the type of response to each question, such as "What do you mean by that?", "Why?", "Can you elaborate?", and "Could you provide an example so I can understand your point?".

Non-verbal data, such as tone of voice, facial expressions, and the participants' positioning, were also recorded by the researcher on a specific sheet, noting the time and location of the interview. The duration of the interviews varied from 30 to 60 min, and with the participants' consent, the interviews were audio recorded. At the end of the interviews, the participants were asked to express any further opinions they might have. All interviews were transcribed verbatim within 48 h.

### Data analysis

For data analysis, qualitative content analysis with a conventional approach as proposed by Graneheim and Lundman was employed. With this method, in addition to the explicit content of the interview texts, the hidden content and concepts with different levels of abstraction can also be achieved. Therefore, based on this method, five steps were taken: Transcribing the entire interview immediately after each interview; Reading the entire text several times to gain a general understanding of its content; Dividing the text into meaning units, extracting a summary of the meaning units, and coding; Classifying the initial codes into sub-themes based on comparing their similarities and differences; and Extracting themes as expressions of the latent content and concepts in the data. Data analysis began after each interview was conducted, recorded, and transcribed<sup>34</sup>. The phrases and sentences provided by caregivers regarding the facilitators of readiness for caregiving were coded in the margins of the transcripts. The coding was primarily close to the text and the descriptions provided by the caregivers themselves. Subsequently, codes with similar content were grouped into sub-themes and themes. The data analysis was conducted by two individuals, including the first author (H.Z) and the corresponding author (M.H). The authors engaged in discussions and exchanges regarding the interpretations of the facilitators of readiness for caregiving and reached consensus on the themes.

### Trustworthiness of the findings

To enhance the trustworthiness of the data, five criteria: dependability, credibility, transferability, confirmability, and authenticity, were considered in the research<sup>35</sup>. To ensure the dependability of the data, maximum diversity in terms of age, education, employment status, and relationship to the patient was maintained in the selection of participants. To facilitate the collection of credible data, conditions were created during the interviews to foster a sense of trust, comfort, and ease for the participants, allowing them to express their opinions openly and candidly. In this study, member checks were conducted in such a way that after transcribing the interviews and coding the interview texts, the coded text was provided to three participants. They were asked to confirm the accuracy of the content and the relevance of the extracted codes to their experiences and opinions. They verified our interpretations and suggested minor wording changes (incorporated in the final analysis). To increase transferability, a basis for judging the relevance of the research context to other settings was provided. This was achieved by including detailed descriptive information, i.e., a rich and extensive set of details about the method and context, in the research report. To enhance confirmability, all stages of the research were documented so that other researchers could trace the data. To increase the authenticity of the data, at least one relevant quote was provided for each identified sub-theme. Additionally, quotes from various participants were included.

### Ethical consideration

This study was approved by the Ethics Committee of Tabriz University of Medical Sciences under the ethics code IR.TBZMED.REC. 1401.1099. The goals and procedures of the study were fully explained to the participants by the researcher, and written informed consent was obtained from them. The time and place of the interviews were determined with the consent of the participants. Participants were assured of their voluntary participation in the research, their consent to record the interviews, their right to withdraw from the study at any stage, and the confidentiality of their identity and information throughout the research process, with data being reported using numerical codes or pseudonyms. All the steps/methods were performed following the relevant guidelines and regulations.

### Results

After interviewing 8 participants, the data did not introduce new codes but rather reinforced what had already been observed. This indicated that the data had become saturated, so the interviews were completed with the 11th participant. The participants were selected from 5 oncology centers located in Tabriz, Iran, with an age range of 21 to 53 years and education levels from secondary school to university (Table 1).

Participants <sup>†</sup>	Age (year)	Education	Relationship with patient	Occupation
P1	39	University	Sister	Housewife
P2	31	University	Daughter	Nurse
P3	45	High school	Sister	Housewife
P4	36	Secondary school	Brother	Freelance job
P5	42	Secondary school	Husband	Freelance job
P6	21	University	Daughter	Housewife
P7	44	University	Brother	Employee
P8	48	Secondary school	Husband	Worker
P9	53	University	Husband	Employee
P10	26	Diploma	Boy	Freelance job
P11	51	Diploma	Mother	Housewife

**Table 1.** Sociodemographic characteristics of participants.

Meaning unit	Code	Sub-theme	Theme
I always read the brochure inside the medications that the doctor prescribes	Study the brochure inside the medications	Independent Learning	Self-enhancement of knowledge
I went and bought some cancer books and read them. I read a lot of books. I went to the bookstore to find books about cancer, but I could only find one book on this topic	Gather information about the disease by studying books		
We gathered our information by asking questions and searching, and I always studied my patient's medical records	Gathering information by the caregiver through inquiry and reading the patient's documents		

**Table 2.** An example of the analysis process.

Through the analysis of caregivers' perspectives regarding readiness for care, 216 codes were extracted and categorized into 20 sub-themes and five main themes. An example of the content analysis, including coding, sub-themes, and main themes, is presented in Table 2. The five main themes extracted were "Self-enhancement of knowledge", "Self-soothing", "Gradual enhancement of competence", "The role of healthcare personnel in empowering family caregivers", and "Support and empathy as the pillars of care for patients with cancer". For clarity, the themes and sub-themes were presented separately, and direct quotes were used to demonstrate how participants' perspectives supported these themes. To maintain confidentiality, numbers (e.g., Participant 1) were used instead of names in the report of the quotes.

### Self-enhancement of knowledge

In the present study, caregivers have attempted to obtain necessary information about breast cancer and related care by questioning doctors and nurses in the oncology department. However, due to the high workload of hospital staff, a thorough examination and assessment of caregivers' needs is not fully possible, and staff members are not completely able to answer caregivers' questions. Therefore, caregivers, in addition to inquiring from hospital personnel and relevant doctors, have turned to other means to gain information and increase awareness. This category consists of the subcategories "Independent Learning," "Gaining Awareness from Virtual Spaces," "Gaining Awareness from Peers," "Gaining Awareness through Inquiry from the Treatment Team," and "Sharing Information with Family."

#### Independent learning

Independent learning is one of the key aspects of the process of caring for patients with cancer. Caregivers gain a better understanding of the patient's condition by studying various proposed treatments, including chemotherapy, radiotherapy, and mastectomy. They collect necessary information by reading medical documents and research different treatment programs. Studying brochures included with medications and related books also helps them enhance their knowledge about the disease.

"At first, I had little preparation. Then I gradually got myself organized. I bought books about cancer and read them. I read a lot of books about cancer. It's really good for a person to read." (P5)

#### Gaining awareness from virtual spaces

One of the effective resources for increasing awareness has been the use of the internet and virtual spaces. Participants have stated that they utilized these platforms to gather information about the disease, treatment methods, medication side effects, and how to manage treatment-related complications.

"At first, when we realized, we were so confused that we couldn't ask the doctor many questions. Everything they explained, we didn't understand. Later, I started studying on the internet about what this disease is, why it happens, how the treatment works, and how treatable it is." (P10).

*Gaining awareness from peers*

Another effort made to increase knowledge among family caregivers has been seeking information from families with breast cancer patients. Caregivers gain a better understanding of the disease progression and treatment methods by obtaining information from patients and experienced caregivers.

"My daughter's teacher told me, 'Why are you making yourself upset? I had a mastectomy 9 years ago.' She said not to worry at all. May God grant them health; we received a lot of help, encouragement, and information from her. I told her, 'With your permission, I will give your number to my sister. If you talk to her, it will be very good for her spirit.' (P1).

*Gaining awareness through inquiry from the treatment team*

One of the most important resources for increasing awareness in patient care has been questioning the treatment team. Caregivers seek precise and clear information from doctors by asking specific questions about the side effects and consequences of medications. Writing down questions in advance and asking them during the visit allows caregivers to make the best use of their appointment time and clarify their uncertainties.

"Well, the situation that arose at that time, we took action by studying and gathering information from here and there, of course, from the doctors, not from others. It became clear to us. We saw that things are not like before. Now there are these facilities. The doctors provided excellent guidance and gave us the information we needed." (P11).

*Sharing information with family*

Sharing information about the illness with family plays a very important role in supporting the patient. Caregivers continuously share information related to the disease, its complications, proper nutrition, and pain management methods with other family members. This exchange of information not only helps improve the patient's condition but also strengthens the sense of solidarity and unity among family members.

"On the days I was on shift, my sister stayed with my mother. When my mother was in pain, it was very hard for her. For example, she would call me so I could tell her some things about it. I would say, 'Don't give her that medication. If her pain is mild, manage it with this medication for now, so if her pain gets worse, we have other options available.' (P2).

**Self-soothing**

Relief and comfort in various ways is another action taken to remain strong in the journey of patient care among family caregivers. This category includes subcategories of "Resilience," "Motivation to Stay Strong," "Seeking Help from God," and "Stress Management."

*Resilience*

Conditions such as being the sole caregiver and feeling lonely in the caregiving journey have compelled caregivers to adapt to the complex and challenging situations they face while simultaneously enhancing their readiness to provide care to patients. The necessity to remain hopeful and the effort to reach a stage of acceptance regarding the illness and the initiation of treatment are additional factors that help caregivers confront challenges and manage problems effectively.

"Some situations force you to be prepared. It's like when a thief breaks into your house, and you lose your composure. When they attack you, whatever you have in your hand, you are compelled to defend yourself." (P7).

*Motivation to stay strong*

Caregivers have expressed that their motivation to stay strong in caring for patients depends on the significance of the patient to the caregiver and the love and commitment the caregiver has towards the patient. Hope for treatment progress and the caregiver's role in maintaining the patient's morale enhance this motivation. The patient's difficult condition and their need for care contribute to the caregiver's resilience in continuing their support. On the other hand, withdrawing from care is not ethical; rather, caregiving is a human duty.

"Loving my sister is my strong motivation. I love my sister very much. I have two children, but my sister is something else for me. If someone else were in her place, I would not still definitely keep myself strong. But I love my sister a lot." (P3).

*Seeking help from god*

Seeking help from God in the journey of life, especially during illness, holds special significance. Caregivers have expressed that reflecting on God's wisdom and staying by the patient's side due to His will helps them cope with the challenging circumstances of illness. Remembering God's role and support in the treatment process enhances feelings of hope and tranquility. Sincere prayers and requests for the patient's recovery serve as a source of strength and support, playing a crucial role in the caregiving journey.

"Honestly, I wanted to end everything right from the start and leave. Because we had just gotten married. Then I thought there must be a reason and wisdom behind my marriage to her. I was upset and cried. But then I said, God wouldn't like that. Whenever I was really upset, I would go outside and recite prayers while walking, and that brought me peace." (P5).

**Stress management**

Caregivers have reported using various methods to manage stress caused by illness. Talking to others, especially during difficult times, and going for walks as a simple activity have a positive impact on stress control. Additionally, spirituality and connecting with God through prayer enhance feelings of tranquility. Asking questions to doctors and nurses also provides reassurance and helps reduce stress.

"To manage my stress, I talked with my family and friends. If I had the chance, I would take a short walk. I tried to ask my questions to the doctors or nurses, and not to blow things out of proportion. In the end, I reached the point where I needed to lower my expectations of myself and accept that I can't fix everything." (P10).

**Gradual enhancement of competence**

Family caregivers have stated that they initially lacked adequate preparation for the role of caring for a patient and suddenly found themselves in a caregiving role after a family member fell ill. However, over time, they made efforts to take action to acquire the necessary skills in this area. This category includes the subcategories of "Gradual Ability in Patient Care" and "Gaining Competence in Patient Nutrition Management."

*Gradual increase in patient care ability*

Caregivers have made significant efforts to learn about care in various aspects to maintain and improve the patient's condition. These efforts include learning the steps for catheterization to manage chemotherapy-related bladder complications, controlling nausea caused by these complications, caring for burn sites resulting from radiation therapy, and administering injections.

"When my sister went for radiation therapy, she had 27 sessions. It was during the fifth session that she suffered severe burns. Her doctor had warned her and had given her ointment, but it didn't work well. I was asking people and searching the internet to find solutions, and I would come and ask her doctor. I applied olive oil. I bought various ointments from the pharmacy. I went through a lot of distress, but I made sure that this ointment didn't interact with that one. I would wash the first ointment completely with water and soap—only soap, nothing else—then I would dry it thoroughly before applying the other ointment. During those two months, I did my utmost to heal the wounds that were supposed to take six months in just two months. At first, I struggled a lot, but by the later radiation sessions, I had learned what I needed to do." (P3).

*Gaining competence in patient nutrition management*

Gaining competence in patient nutrition management involves the efforts of caregivers and families to improve patients' diets. This process includes searching for nutritional information online and consulting healthcare staff about the patients' specific nutritional needs. Caregivers strive to create dietary variety and prepare the patients' favorite foods by providing a range of fruits and nutritious meals. They also pay attention to understanding the differences in patients' nutritional needs and the importance of adhering to nutritional principles.

"The doctors say there isn't a specific diet. They can eat whatever they want, but they should reduce carbohydrates and increase protein. For example, people around us said chamomile tea is good. I would search for it online and see that it was true. There isn't a specific diet; we just tried to keep it diverse. For instance, if they ate the same type of food for two consecutive days, having variety made it better for them to eat." (P6).

**The role of healthcare personnel in empowering family caregivers**

Healthcare personnel can instill a sense of confidence and readiness in caregivers by providing necessary training, multiple consultations, and accurate information about the illness and treatment process. Continuous and effective interaction between healthcare personnel and family caregivers can lead to increased competence and reduced stress for them. This category includes the subcategories of "Public Education about Cancer," "The Positive Role of Physicians and Health Care Providers in Screening," "Education about Illness and Treatment Methods Using Various Educational Approaches," "The Positive Role of Counseling," and "The Role of Personnel in Creating a Sense of Security and Calm."

*Public education about cancer*

The majority of caregivers have emphasized the importance of awareness regarding breast cancer and suggested various methods to enhance this awareness. Conducting educational classes in health centers before the onset of cancer provides a suitable opportunity to increase public awareness about risk factors and prevention methods. Additionally, teaching that cancer is not the end of life can help individuals face this disease with a more positive and resilient attitude. Furthermore, sending informational links through the Ministry of Health and educating about disease symptoms can assist in early detection and prevention of cancer progression.

"I think the Ministry of Health could prepare some packages, a collection, that could be sent as links via text messages to people, saying, 'Go to this link to gain information.' In my opinion, this would be much better than the information found on the internet. You see, a person might spend a lot of time searching online and reading, but none of it is useful. I believe the information sent by the Ministry of Health would be more helpful." (P9).

*The positive role of physicians and health care providers in screening*

According to caregivers, educating the necessity of check-ups and screenings through the Ministry of Health and health centers is very important, as it helps individuals understand the significance of this process. Additionally, assigning family physicians to women can greatly improve their health and facilitate breast screening.

"For example, giving women a family physician. I can say that I feel women's health issues are more prevalent than men's. Because of our reputation, women are sensitive. I am under a check-up. All women should be aware of and undergo screening. I believe a family physician can help with this." (P1).

*Education about illness and treatment methods using various educational approaches*

Caregivers have suggested diverse methods for educating about illnesses and treatment options. These methods include training caregivers in patient nutrition, conducting educational classes by associations, and creating an application for education, questions, and answers regarding the illness. Additionally, education through virtual groups and the formation of official associations for disseminating information play a significant role in raising awareness. Having a space in hospitals for sharing experiences and information, using smartphones, radio, and television as educational tools, and preparing suitable brochures for caregivers are also considered effective strategies in this area.

"Education can come in various forms. It can be through an application or platforms like Eita, etc. An application where you can open and read about others' problems, add your issue, and have a series of specialists respond. Or there could be content produced within it for people to study." (P6).

*The positive role of counselling*

Many individuals need a counselor to express their feelings and concerns due to the lack of someone to talk to. Caregivers highlighted the importance of introducing counseling centers, recommending therapists to help solve problems, and the availability of counselors through insurance. Additionally, training caregivers on how to interact with patients and having counselors present in oncology departments were also emphasized as important points.

"I think insurance companies should provide a series of counselors so that a patient's companion can talk to them whenever they experience anxiety, despair, or fear of loss. The caregiver puts all their worries into caring for the patient and forgets about themselves. Someone from outside needs to pay attention to this caregiver as well. For example, families can provide this support, but there might be someone who has no one. There should be a counseling room in the same area where the patients are, so a companion who is overwhelmed and has lost hope can go and talk to a counselor for a moment and regain some energy. A counselor who deals with these patients should not give false hope, but know how to make this crisis feel smaller for them." (P2).

*The role of personnel in creating a sense of security and calm*

Caregivers emphasized the importance and role of medical staff in creating a sense of reassurance and calm for both patients and themselves. A positive and trust-building relationship between nurses and patients can create a supportive environment. Additionally, the responsiveness of the attending physician to the questions of patients and caregivers reinforces feelings of assurance and helps them reduce their concerns, allowing them to engage in patient care with greater calmness.

"The hospital staff was exceptional. They took amazing care of the patients. One of the nurses provided excellent guidance and managed tasks very well. They were very attentive to the patients, and both their knowledge and skills were high. You could see that this was their job. While talking, they also uplifted spirits, saying things like, 'God willing, you'll get better and won't have to come here again.' These are natural things... They were so good that you felt grateful for coming to this hospital." (P7).

**Support and empathy as the pillars of care for patients with cancer**

The existence of a cancer diagnosis in one of the family members involves all family members. In this situation, the support and empathy of family and friends play a very important role in the care of the patient. This category consists of the subcategories "Involvement of Family Members and Life Changes," "Support Among Family Members," "Family Support for the Caregiver," and "Receiving Financial Support from Family."

*Involvement of family members and life changes*

The diagnosis of breast cancer in one of the family members leads to deep involvement of family members and has a significant impact on their daily lives and family relationships. The illness of one member can affect all aspects of life and bring new challenges for the family.

"Enjoying something, feeling something—everything has vanished. We've postponed these things until everything gets better. We try to keep life going as usual... but cancer is such that even though one person in the house has cancer, all family members' lives become paralyzed." (P2).

*Support among family members*

Caregivers emphasized the importance of comforting and uplifting each other within the family, being together, and cooperating in the care of the patient.

"Since I had another daughter, we didn't have many problems. For example, when we went for chemotherapy, one of us would stay home to prepare anything needed or do the shopping. One of us would go to the hospital with my daughter. It wasn't like we encountered any issues." (P11).

#### *Family support for the caregiver*

Family support for the caregiver, including talking and comforting them, the cooperation of family members and the spouse in caring for the patient, and the family's adjustment to life's shortcomings due to the caregiver spending more time with the patient, are among the effective supportive factors that play a valuable role in reducing the caregiver's problems.

"May God be as pleased with my spouse as the earth and sky, as they stood by me and supported me a lot. I can say that the reason I'm standing strong and helping my sister is because of my spouse. They were never willing to let me suffer or let my sister suffer. There were times when I couldn't cook, and they said it's okay. There were times when their clothes weren't ready, and they said it was okay. They could have put pressure on me, but no, they always supported me." (P3).

#### *Receiving financial support from family*

Given the high costs of cancer treatment, families and relatives provide financial support. Additionally, families strive to reduce and cover medical and caregiving expenses. In some cases, families are forced to sell gold and borrow from others to cover treatment costs.

"Financially, thank God, my dad was there. He covered the expenses. He didn't let us reach into our pockets at all. Of course, the insurance later reimbursed the costs, and my sister paid my dad back. But at the moment we needed help, my dad stepped in." (P7).

## Discussion

This study elucidated the experiences of family caregivers of breast cancer patients regarding their readiness for caregiving and the facilitating factors associated with it. The emerging themes included "self-enhancement of knowledge", "self-soothing", "gradual enhancement of competence", "the role of healthcare personnel in empowering family caregivers", and "support and empathy as the pillars of care for cancer patients", which collectively formed five main themes.

One of the main themes of the present study was self-enhancement of knowledge, which reflects the efforts of family caregivers in seeking information and learning new skills to enhance care and improve the quality of patient care. This process involves utilizing various resources such as books, websites, and consultations with healthcare professionals. In this regard, the findings of Hasankhani et al. indicated that caregivers obtain the necessary information from health specialists and find this information comprehensible<sup>36</sup>. Additionally, the results of another study show that caregivers seek active interaction with healthcare providers, whom they identify as the most reliable source for obtaining health information<sup>37</sup>. Furthermore, another study revealed that caregivers expressed a desire for educational classes to be held by health professionals<sup>38</sup>. However, caregivers, despite their strong desire to learn, face challenges such as a lack of time from specialists and limited access to structured training.

On the other hand, the experiences of families of cancer patients indicate that caregivers are not adequately prepared to fulfill their roles and often find themselves alone in this responsibility after the diagnosis of cancer. They attempt to acquire the necessary knowledge and skills from various sources, but the high workload of healthcare professionals and the lack of formal training leave their questions unanswered. For this reason, they turn to the internet as a source of information regarding patient care and nutritional needs<sup>36</sup>. In this context, the results of another study show that many caregivers have identified the internet as an important source for obtaining information, and some health professionals have directed them to online resources. The majority of participants considered the internet a useful source and mentioned the advantages of online communities and support groups as places for gaining information and support<sup>39</sup>. These results align with the findings of the present study regarding information acquisition. However, reliance on the internet increases the risk of receiving incorrect or misleading information, especially in communities where oversight of online content is limited<sup>40,41</sup>. The current study has not adequately addressed the barriers to accessing reliable information, particularly within cultural and social contexts. For example, in communities with low health literacy or in rural areas, caregivers may face challenges in assessing the credibility of online sources or understanding medical terminology due to limited access to the internet and health professionals<sup>42</sup>.

This reliance on digital resources highlights a gap in formal health systems, where the informational needs of caregivers are often unmet, leading them towards self-directed learning strategies. The information paradox is evident in this context: despite access to diverse resources (professionals, the internet, peers), caregivers still face a lack of structured and reliable information. This contradiction underscores the urgent need to improve the health education system.

To address these issues, several solutions are proposed. Developing credible educational platforms with multimedia and multilingual content tailored to the health literacy levels of users could be an effective step. Additionally, implementing training programs to enhance caregivers' digital health literacy will help them identify reliable sources and critically evaluate information. Creating integrated support systems that combine formal education by professionals with the introduction of credible digital resources can more comprehensively meet the informational needs of caregivers.

In the present study, obtaining information from peers was another important method for gaining knowledge and support. In this context, the significance of group support, especially from individuals with similar

experiences, has been well established<sup>39</sup>. Interacting with peers who have undergone similar experiences can enhance a sense of community and support, reducing the feelings of isolation that caregivers often encounter. A recent study has shown that peer support significantly contributes to improving emotional well-being and strengthens coping mechanisms among caregivers<sup>43</sup>. Integrating peer support programs into health services can be helpful in meeting the informational and emotional needs of caregivers. This is particularly important in the cultural context of Iran, which places a high value on family and social support. However, in some cultures, sharing personal experiences with strangers may face resistance, necessitating the design of culturally sensitive interventions.

The concept of self-soothing refers to the ways caregivers manage their negative emotions and remain strong. Consistent with the findings of the present study, previous research has also emphasized the motivation of caregivers to provide care for women with breast cancer. For example, in one study, caregivers cited feelings of responsibility and commitment as the primary motivations for their caregiving roles<sup>24</sup>. Additionally, a study in Ghana showed that family and socio-cultural commitments, particularly for women, compel them to accept the role of caregiver for women with breast cancer<sup>19</sup>. The results of a study in China also indicated that family-oriented cultural norms encourage men whose wives have breast cancer to take on primary caregiving roles<sup>44</sup>. Many of these individuals have spoken about their ongoing commitment to support patients during the most difficult and challenging times<sup>45</sup>. Family members who care for patients are often responsible individuals with a strong sense of commitment to caregiving. One of the intrinsic motivations of family caregivers is their high sense of responsibility. Furthermore, love and affection for family members are among the deepest emotions that consistently motivate caregivers to assist, support, and care for patients<sup>46</sup>.

The current study shows that love and affection for family members serve as a profound emotional anchor, encouraging caregivers to continue their efforts in challenging circumstances. This emotional commitment, along with spiritual coping, plays a significant role in enhancing caregivers' resilience. However, cultural expectations and social pressures can act as a double-edged sword, jeopardizing caregivers' mental health. In family-oriented cultures, caregivers may feel compelled to fulfill caregiving roles due to social expectations, which can lead to emotional burnout or feelings of guilt if they are unable to meet their responsibilities<sup>47</sup>. This highlights the necessity of teaching healthy boundary-setting to maintain caregivers' mental health.

In addition, caregivers turn to God as a source for understanding and overcoming the challenges associated with breast cancer, stating that spirituality and faith help them comprehend their experiences and become strong caregivers for patients. Many of them describe psychological stress throughout this experience and seek solace in God<sup>48</sup>. Spirituality is recognized as a fundamental factor in coping with cancer for both affected women and their caregivers<sup>49</sup>. Religious beliefs act as a coping mechanism for stress, reducing stressors and ensuring inner stability<sup>31</sup>. These findings affirm the importance of seeking divine assistance.

The results of the present study align with previous research and confirm the gradual enhancement of caregiving competence as one of the facilitators for readiness to provide care. The responsibility of caring for a patient compels caregivers to expand their knowledge and skills in various areas, such as symptom management, treatment processes, and therapeutic options<sup>50</sup>. The findings of this study, along with research by Funk and colleagues, emphasize the importance of learning how to provide care and assist the patient. This study addresses various aspects of learning, including cognitive, motor, and skill development. Topics such as how to use and prescribe medications, identify side effects, change dressings, and wound care, as well as nutrition and hydration tips, were among the subjects examined in this research<sup>51</sup>.

Throughout the caregiving period, caregivers enhance the necessary skills for managing care and adapting to daily routines by frequently visiting the hospital and obtaining information from health professionals<sup>52</sup>. In this regard, a study conducted by Hendrix and colleagues indicates that structured and targeted training can help caregivers develop the skills needed to manage patients' conditions and increase their caregiving self-efficacy<sup>53</sup>. The current study suggests that caregiving competence develops dynamically through formal and informal learning opportunities. These findings highlight the importance of experiential learning in enhancing caregivers' competence. However, caregivers who simultaneously have other jobs or family responsibilities may not have sufficient opportunities to learn new skills. In this regard, the use of educational technologies, such as mobile applications or instructional videos, can provide an effective solution for easier access to the necessary information for caregivers and facilitate learning in their high-pressure life circumstances.

The role of healthcare personnel in empowering family caregivers emerged as a critical theme, characterized by the provision of informational, emotional, and spiritual support<sup>54</sup>. The results of this study regarding the role of healthcare personnel in empowering family caregivers align with the findings of many previous studies. For example, one study indicated that caregivers emphasized the necessity of conducting a comprehensive training course by health professionals to improve the quality of care<sup>38</sup>. Additionally, the results of a qualitative study highlight the importance of healthcare professionals dedicating time to caregivers, listening to their needs, and sharing caregiving information<sup>55</sup>.

The results of the systematic review by Bilgin and colleagues on interventions to improve caregiving readiness among family caregivers of cancer patients showed that psychoeducational, supportive, and self-care programs significantly enhance caregivers' readiness to provide care<sup>28</sup>. Additionally, another systematic review indicated that skill-training interventions, including workshops on pain and symptom management, improve communication skills between physicians and families, as well as self-care, leading to better management of caregiving challenges<sup>56</sup>. Furthermore, the results of the study by Gabriel and colleagues (2019) demonstrate the positive impact of psychoeducational interventions on adapting to the caregiving role and coping strategies for the emotional aspects of caregiving, thereby enhancing caregivers' quality of life<sup>57</sup>. Also, the findings of the study by Bahrami and colleagues (2014) confirm the impact of supportive educational programs in reducing caregiver burden and improving caregivers' quality of life, reporting a significant increase in caregivers' knowledge about managing breast cancer and the physical, psychological, spiritual, and environmental dimensions of health<sup>58</sup>.

However, in some health systems, especially in developing countries, healthcare personnel are unable to provide adequate training to caregivers due to the high volume of patients and time constraints. Improving the structure of health systems, such as creating specialized roles for nurses or social workers who specifically focus on empowering caregivers, could be effective in this regard.

Support and empathy are key pillars of caregiving for cancer patients, which was another category extracted from the findings of the present study. A cancer diagnosis in a family member is recognized as a catastrophic event that poses significant challenges for both the patient and their family<sup>39</sup>. Family caregivers participate in coordinating all aspects of patient care from the onset of the disease symptoms, including seeking healthcare services and coordinating with healthcare providers<sup>39</sup>. They also provide psychological and social support, such as offering motivation and maintaining social connections, as well as physical support, including medication management and nutritional guidance for patients<sup>29</sup>.

Given the lengthy treatment processes and the challenges posed by illness, family support for one another is considered vital. This support enables family members to cope with the conditions arising from a member's illness and to feel a greater sense of control over their situation while managing the challenges and intense emotions associated with the disease<sup>39</sup>. Family and friends can assist caregivers in enduring the difficulties of caregiving by providing support. Some caregivers have reported that when they felt they could not control the situation, they sought help from family members or friends, and in some cases, they received support without even asking<sup>36</sup>. Additionally, another study found that caregivers rely more on the support of family and friends than on health professionals<sup>39</sup>.

The results of one study also indicated that caregivers need help themselves to provide effective support to patients<sup>59</sup>. Therefore, developing family-centered educational programs and addressing the emotional needs of caregivers is essential for improving support for patients and their families during cancer treatment<sup>60</sup>. On the other hand, considering that patients are often unable to cover treatment costs due to disease progression, financial support for them is crucial. A study found that caregivers and families financially assist patients with both medical expenses and non-medical costs, such as transportation and access to healthcare services<sup>19</sup>. Overall, family support plays a vital and undeniable role in the treatment process of serious illnesses like cancer. This support not only helps patients cope with the challenges and emotions associated with their illness but also provides caregivers with greater motivation and capability to face the difficulties of caregiving.

The current study emphasizes the reciprocal nature of support, where caregivers not only provide support but also receive empathy and backing within their social networks. These findings highlight the vital role of informal social networks in supporting caregivers. However, in individualistic societies or among immigrant families who may be distanced from extended family networks, access to these informal supports is more limited.

### Strengths and limitations

This study appears to be the first qualitative investigation in Iran that explores the experiences and viewpoints of caregivers of Breast cancer patients regarding their readiness for caregiving and the facilitating factors associated with it. Our study has some limitations that are important to acknowledge. First, we used convenience sampling, which may not fully represent the broader target population. This could restrict the applicability of our findings to specific groups rather than allowing for a wider generalization. Additionally, we collected data through interviews, and there is a possibility that caregivers may have withheld certain negative experiences due to fear of repercussions. To address this concern, we ensured that the interviews took place in a private setting with just the researcher and the participant present. This approach aimed to create a safe space where caregivers felt comfortable sharing their thoughts, knowing their responses would remain confidential and would not impact their access to healthcare for their patients. Another limitation is that our sample was limited to caregivers from Tabriz. To gain a more comprehensive understanding, we recommend conducting similar studies in other regions of Iran that encompass a variety of cultures and ethnic backgrounds. This would help enrich the findings and provide a more inclusive perspective on the experiences of caregivers across the country.

### Conclusion

The diagnosis of cancer is a catastrophic event that brings numerous challenges for patients and their families. Given that the care system for cancer patients has shifted from inpatient care to outpatient and family-centered care, family caregivers are not adequately prepared to take on this new role. They utilize methods such as self-enhancement of knowledge, self-soothing, gradual enhancement of competence, the role of healthcare personnel in empowering family caregivers, and support and empathy as the pillars of care for cancer patients. Additionally, the results of this study indicate that family caregivers adopt these strategies themselves, and the role of healthcare personnel in enhancing their preparedness is minimal. Therefore, the findings of the present study emphasize the importance of family-centered educational programs as well as addressing the educational, emotional, and supportive needs of family caregivers.

### Data availability

The data that support the findings of this study are available from the authors but restrictions apply to the availability of these data, which were used under license from Tabriz University of Medical Sciences for the current study, and so are not publicly available. Data are, however, available from the authors upon reasonable request by contacting corresponding author and with permission from Tabriz University of Medical Sciences.

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## Author contributions

H.Z., M.H. designed the study. H.Z. collected the data. H.Z. and M.H. analyzed the data. M.H., M.M., M.H.S. supervised the work. H.Z. wrote the manuscript. M.H.S., M.M. revised the manuscript. All authors approved the final draft of the manuscript.

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## Declarations

### Competing interest

The authors declare no competing interests.

### Additional information

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