

The Impact of the COVID-19 Pandemic on Cancer Patients' Access to Diagnostic and Treatment Services in Kerman Province: A Qualitative Study

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Abstract

Background: Pandemics affect patients' access to diagnostic and treatment services. As cancer patients need regular follow-up, any obstacle in accessing services can affect the conditions of these patients. Therefore, this study was conducted to investigate the effects of the COVID-19 pandemic on cancer patients' access to diagnostic and treatment services.

Methods: In this qualitative study, 15 people were selected through a targeted sampling method among the patients who were referred to cancer treatment centers in Kerman. The interviews were semi-structured and face-to-face and were conducted in April 2021. The data were analyzed using directed content analysis.

Results: Among the people included in this study, 10 (66.7%) were women and more than half of the investigated people were in the 36 to 55 years age group (53.3%). These patients faced challenges including delay in treatment, mental and psychological problems, financial problems, and delay in COVID-19 vaccination.

Conclusion: Various challenges and factors play a role in cancer patients' access to diagnostic and treatment services during the pandemic. Therefore, more physical space should be allocated to them in treatment environments to reassure them and facilitate their timely referral to doctors. In addition, psychiatric consultations to identify the problems of cancer patients and regular follow-up of these patients can reduce their problems during pandemics such as the COVID-19 pandemic.

Keywords: Pandemic, COVID-19, Cancer, Challenges, Diagnostic and treatment services

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Introduction

Due to the specific nature of their disease, cancer patients often require management of late treatment consequences, monitoring of their disease, and appropriate medical treatment. Compared to patients without a medical history of cancer, they are more likely to experience physical and mental health problems, often requiring referrals to multiple specialists (1). Along with the many difficulties that cancer treatment brings with it, accessibility and quality of treatment services have always been a concern for patients and their families. According to some researchers, access to medical services has a significant impact on the quality of diagnosis and cancer outcomes because timely and high-quality treatment can prolong the patient's life and reduce the chances of death due to cancer (2). Most morbidity and mortality may be due lack of access to cancer prevention technologies and early screening. The results of the study

have shown a strong relationship between insurance status and participation in cancer screening activities (3). Therefore, it is imperative to investigate ways to increase the quality and accessibility of medical services provided to cancer patients, alongside the general pursuit of clinical advances, which is a key issue for organizations providing healthcare services.

Pandemics of infectious diseases cause an increase in unemployment rates, loss of health insurance, decrease in visits to doctors and specialists, and increase in the costs of medical equipment and medications, which is aggravated by the allocation of some hospitals to the treatment of pandemic patients (4). In the early stages of the COVID-19 pandemic, a large proportion of patients became vulnerable to the direct and indirect effects of COVID-19 due to reduced access to healthcare. Health systems were strained by waves of COVID-19 patients, leading to reduced healthcare resources to manage both



COVID-19 and non-COVID-19-related illnesses. Access to healthcare was also hindered by mandatory isolation, travel restrictions, loss or reduction of income and support, and the perceived risk of COVID-19 to the self and vulnerable loved ones. Thus, in the past two years, much of outpatient and primary healthcare has moved towards remote health (5).

Cancer mortality is largely dependent on the diagnosis, and early diagnosis and treatment are associated with better prognosis and survival outcomes. Cancer patients have been among the most vulnerable groups in the recent pandemic both in terms of their level of access to health services and the risk of contracting COVID-19 (6). This is especially true for patients receiving active therapy, those with metastatic disease, and those affected by pulmonary and hematologic malignancies. Considering the impact of pandemics on healthcare resources, the reallocation of doctors (including oncologists) to other wards, and the possible reluctance of sick people to seek medical help in healthcare centers, there is an increased risk that diagnosis and treatment of cancer patients will be delayed by long periods during the pandemic (6).

Despite its importance, studies evaluating the impact of the pandemic on public healthcare systems are limited, particularly in cancer management. Therefore, considering the importance of cancer and the cancer patients' need to visit medical centers and access medical services, this study was conducted to investigate the effects of the COVID-19 pandemic on the availability of diagnostic and treatment services for cancer patients in Kerman Province.

Methods

Study design

The current research is a qualitative study in the form of directed content analysis. In this type of research, the researchers extract concepts from the data. In other words, the data will be the place where concepts emerge and are ultimately the source of creating knowledge. In this study, the participants were selected from the service centers for cancer patients in Kerman using targeted sampling. The inclusion criteria for this study were people with cancer who were referred to those centers and if the individual was willing, a face-to-face interview was conducted with them. We did our best to achieve maximum diversity in terms of age, gender, and financial status, which are presented in Table 1. Each interview took an average of 20 to 30 minutes.

Data collection method

Semi-structured interviews were conducted in April 2021. After obtaining approval from Kerman University of Medical Sciences, the researcher visited the centers and after obtaining verbal informed consent from the participants, the participants were asked to answer

Table 1. Demographic characteristics of interviewees with cancer in Kerman (Frequency= 15)

Variable	No. (%)
Age (y)	
15 to 35	3 (20)
36 to 55	8 (53.3)
56 to 75	4 (26.7)
Gender	
Male	5 (33.3)
Female	10 (66.7)
Marital status	
Single	2 (13.3)
Married	13 (86.7)
Education	
High school or lower	11 (73.3)
High school diploma or higher	4 (26.7)
Occupation	
Unemployed	4 (26.7)
Homemaker	9 (60.0)
Other	2 (13.3)
Place of residence	
City	7 (46.7)
Village	8 (53.3)
Income (Rials)	
<10 million	5 (33.3)
10 to 20 million	8 (53.4)
>20 million	2 (13.3)

the questions based on their experiences. Some of the questions were, "Do you regularly refer to receive services during the COVID-19 pandemic?" and "What have your problems been during the COVID-19 pandemic in visiting centers for treatment?" The interviews were conducted face-to-face, and the ambiguities and factors that came to the mind of the researcher during the interview were noted down so that they could be asked in the next interviews to clarify the concepts related to them. Data collection continued until data saturation was reached. Saturation was achieved after 13 interviews. Two further interviews were conducted to ensure the saturation of the collected data and the absence of new opinions.

Data analysis

The contents of the interviews were transcribed verbatim immediately after each interview and were reviewed several times, and then the initial codes were extracted. The extracted codes and concepts were checked for compatibility and accuracy by other researchers, and possible ambiguities were resolved by group discussion. To create categories and extract hidden concepts, the

codes were revised and similar codes were put together or merged. The subcategories and categories created can be seen in Table 2. MAXQDA10 software was used to manage the collected data.

Measuring the quality and validity of the collected data

In this study, the four criteria of Guba and Lincoln, which include credibility, confirmability, dependability, and transferability, were used to measure the accuracy of the data (7). Long-term interaction with the data and spending enough time to collect and analyze the data ensured validity. The comments of the participants regarding their statements were used to confirm the data. In addition, to measure the reliability, the opinions of external experts in qualitative studies were used. Additionally, the description of the participants' characteristics and maximum diversity in sampling were considered to ensure the transferability of data.

Results

A total of 15 patients suffering from different types of cancer were interviewed in this study. More than half of the participants were in the age group of 36 to 55 years (53.3%), lived in rural areas (53.3%), and had a monthly income of 10 to 20 million rials (53.3). In addition, in this study, the majority of the participants were female (66.7%), married (86.7%), homemakers (60%), and had high school education or lower (73.3%) (Table 1).

The impact of the pandemic on the availability of diagnostic and treatment services for cancer patients was divided into four subcategories: delay in treatment, mental and psychological problems, financial problems, and delay in COVID-19 vaccination (Table 2). The comments of the interviewees are mentioned below.

Delay in treatment

One of the subcategories identified in this study was "delay in treatment," which was mentioned by many interviewees. Some cancer patients had delayed their follow-up treatment due to crowded doctor's offices and fear of infection. One patient who was suffering from lung cancer stated,

"...with the spread of COVID-19 and the quarantine, we did not leave the house often. I was also afraid of the busyness of the office and getting infected, so I didn't go to the doctor for the treatment of my illness, and this caused my illness to worsen." (P6, Male, 43 years old).

Some patients were worried about and afraid of timely referrals due to suffering from other diseases. One of the interviewees who was suffering from breast cancer stated,

"...I have kidney problems, and I take medicine for it. My body may be weaker than other patients. Therefore, I am constantly afraid that I might get infected with coronavirus by going to the hospital or the doctor's office. That is why I had multiple late appointments." (P7, Female, 36 years old).

Table 2. Effective factors on the availability of diagnostic and treatment services to cancer patients in Kerman during the pandemic

Subcategory	Basic conceptual codes
Delay in treatment	Crowded doctor's offices
	Fear of getting infected because of underlying diseases The problem of not having a place to rest if the visit time is prolonged during the pandemic
Mental and psychological problems	The obsession to change the sheets on the hospital bed
	Patients' stress and anxiety due to the fear that they or their family members will get infected with coronavirus Increased nervous pressure during the pandemic
Financial problems	Not using public transportation to commute during the pandemic
	Preferring to go to private hospitals during the pandemic
Delay in vaccination	Fear of vaccination side effects
	Not vaccinating due to physical weakness caused by cancer treatment

Some people also postponed their treatment to a later time due to not having a place to rest in case of a prolonged visit to the city. A patient who was suffering from ovarian cancer stated,

"...I was very scared during the coronavirus period because I have cancer too, my body may be weaker, and I may get infected more easily. As we came from the village, whenever our visit was prolonged, we went to our relatives' houses, but since the outbreak of COVID-19, we no longer go to relatives' houses, and sometimes my appointments are delayed." (P10, Female, Single).

Mental and psychological problems

According to the results of this study, the pandemic had a significant impact on people's morale and caused psychological problems in these people. A patient who was suffering from colon cancer stated,

"...I was very stressed and worried during the pandemic. When I visited the doctor, I kept asking my companion to change the bedsheets. Sometimes I thought I had become too sensitive towards everything." (P1, Female, Housewife, 59 years old).

Some of the interviewees were worried about their family members getting infected with COVID-19 because of their own illness, and they suffered from stress and anxiety in this regard. A patient who was suffering from breast cancer said,

"...sometimes when I go to the doctor's office, I say to myself, even if I have not had the coronavirus yet, I will get infected the next time I visit the doctor. Because I have to keep visiting for my treatment, I am very worried that I will get infected during these visits. If I get infected, my husband and children will also get infected, and I am really worried about the health of my family." (P2, Female, 35 years old).

Some of the interviewees talked about the mental and emotional pressures they suffered during this period. A

patient who was suffering from colon cancer stated,

"...I became an irritable person because of my illness. At times I get irritated by the smallest thing, but due to the stress of the pandemic, I endure even more nervous pressure than before, and I lose my temper easily." (P5, Male, 48 years old).

Financial problems

One of the issues that many interviewees pointed to was "financial problems" and the impact of these problems on the access of patients to diagnostic and treatment services. A patient suffering from lung cancer who had a low income and came from a village stated,

"...we used to come by bus, but ever since the pandemic started, we take taxis for transportation more often. For example, once we had to buy my medicine one month late because we had spent our money on taxi fare. Because I have a low income, I have many problems." (P6, Male).

Some of the other interviewees spoke about their visits to private centers during the pandemic and their high costs. A patient suffering from colon cancer said,

"...since the pandemic started, I no longer go to public hospitals because they are too crowded. Because I am really afraid of crowded places. Anytime I need to go to a hospital I have to go to a private one. Of course, the cost of private hospitals is also very high, and this is a real problem, but I have no other choice." (P11, Female, 59 years old).

Delay in COVID-19 vaccination

Another subcategory identified in this study was "delay in vaccination," which was mentioned by a large number of interviewees. According to the findings of this research, some of the interviewees were not able to receive the vaccine at the appointed time due to the physical weakness caused by the treatment. A patient suffering from bone marrow cancer stated,

"...I am now hospitalized for a bone marrow transplant. That is why they told me to get vaccinated after the transplant, when I am in a better physical condition." (P14, Male, 45 years old).

Some people were not vaccinated and had delayed their vaccination due to the fear of vaccine complications. A woman who lived in the city stated

"...to be honest, I am afraid of vaccines. I heard from many people about the side effects of the vaccine. That is why I am afraid to get vaccinated." (P8, Female, Married, 38 years old).

Discussion

The findings of this study showed that patients suffering from different types of cancer had experienced different challenges in accessing diagnostic and treatment services during the pandemic. Based on the results of the interviews and according to the experiences of the participants, four subcategories including delay in treatment, mental

and psychological problems, financial problems, and delay in COVID-19 vaccination were identified. The problems that occurred during the pandemic in Iran and other countries will cause the burden of other diseases such as cancer to impose many problems on society and healthcare systems in the short and long term.

One of the main and most obvious effects of the pandemic on infectious diseases in cancer patients was the postponement of cancer treatment in these patients, which was due to the overcrowding of medical centers and, as a result, the fear of contracting the COVID-19 disease and its aggravation by the underlying disease. In this regard, the results of other studies have also shown that one of the challenges created during the pandemic was the decreased referral of patients with chronic diseases, including patients with heart, respiratory, kidney, and other diseases, and cancer to hospitals and medical centers and those suffering from these diseases were not willing to go to and continue treatment in hospitals because of the fear of contracting COVID-19 (8,9). In addition, in a similar study in Dubai investigating the challenges related to the management of cancer patients during the COVID-19 pandemic in 2020, it was found that two-thirds of lung cancer patients refrained from visiting hospitals and treatment centers due to the fear of getting infected with COVID-19, and a third of them stopped their radiotherapy due to this concern (10). Regarding this problem, it seems that allocating more space in treatment environments to these patients, ensuring that physical distancing is observed for cancer patients who come for treatment or visiting a doctor, and also, creating a safe space to accommodate patients and their families can partially prevent their fear and non-referral.

Another problem that cancer patients suffered from during the pandemic was psychological problems. In this regard, patients' concern about themselves or their families contracting COVID-19 and losing their family members and support network led to problems such as obsession to change the sheets on the hospital bed. This happened because of the high infectivity of this disease. Because the health systems of the world were surprised by it, there was a lack of effective treatment protocols for it. In addition, problems caused by becoming more nervous during the COVID-19 pandemic have been observed in cancer patients, which may be due to the imposition of lengthy restrictions and quarantine. In this regard, the results of Liang and colleagues' study on the outbreak of COVID-19 in China in 2020 indicated that people reported psychological problems such as stress (8.1%), anxiety (28.8%), and depression (16.5%) (11). Therefore, considering that compared to the healthy population, cancer patients are at higher risk of mental health problems (12,13), taking effective measures such as free psychological consultations based on demand and

also following up with patients to reduce these problems seems essential.

Cancer patients experienced more financial difficulties during the COVID-19 pandemic. The results of a study in South Asia showed that people with cancer experienced worse financial conditions during the COVID-19 pandemic. Pressures caused by treatment costs loss of income and long-term unemployment were among the causes (14). Patients' preference to use private vehicles instead of public transportation, patients' preference to use private hospitals and medical centers due to the busyness and contamination of public hospitals, loss of jobs, and reduced income in some people due to the pandemic can also increase the severity of financial problems. Financial problems can cause delays and problems in the treatment of patients (15). Providing more services and facilities by insurance institutions and private organizations can be effective in reducing the financial problems of patients.

Finally, another challenge faced by cancer patients during the pandemic, based on the results of this study, was postponing vaccination due to the fear of complications caused by vaccination and the treatment they were receiving. This issue can be related to the complications of cancer treatments and the weakening of the immune system in these people (16). The results of studies have shown that cancer patients were afraid of and unsure about getting vaccinated for coronavirus, which could be due to the rumors surrounding these vaccines (17,18). In this regard, it appears that doctors can play an effective role in assuring the patients about the vaccine and its complications and recommending vaccination based on the conditions of each patient. To reduce this concern, it is necessary to carefully evaluate the complications of COVID-19 vaccines in different patients, especially cancer patients, and to consider vaccines with fewer complications for these patients.

Considering that the current study was qualitative, it has limitations inherent to qualitative studies, including observer bias and non-generalizability of the results; however, efforts were made to control the limitations of the study, and people with different characteristics were included in the study.

Conclusion

Various challenges and factors impact the access of cancer patients to diagnostic and treatment services during an infectious pandemic, including delayed cancer treatment, psychological problems, financial problems, and problems related to delay in vaccination against COVID-19. Overall, our findings support investment in strengthening the cancer care infrastructure in order to maintain the well-being of this group during such challenging times. Allocating more space than before in treatment environments to reassure patients, timely referral for treatment, paying attention to and identifying

mental and psychological problems, conducting free consultations for patients, and also, doctors' emphasizing the necessity of vaccination according to the conditions of each patient can be effective in reducing the challenges related to cancer patients' access to treatment and diagnostic services during an infectious disease pandemic.

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Competing Interests

The authors hereby declare that there was no conflict of interest in this work.

Ethical Approval

At the beginning of each session, the researcher introduced himself, stated the objectives of the study, and invited the participants to participate in this study if they gave consent. In addition, the participants were assured that their information would remain confidential. This study received the ethical code IR.KMU.REC.1400.158 from Kerman University of Medical Sciences.

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