**Perspectives of cancer patients a year after the COVID-19 outbreak in Israel: Long-term implications examined through a qualitative exploratory study**

**Background**

Since its outbreak in December of 2019, the COVID-19 virus has spread, presenting a significant challenge to healthcare systems around the globe. The virus has serious implications for public health at the global level, in both clinical and psychological aspects.

Studies demonstrating the impact of the pandemic on the general public, healthcare staff and specific populations (e.g. students) are published regularly, revealing the immediate adverse effects of the spread of the pandemic and its implications on mental health (Huang & Zhao, 2020; Rajkumar, 2020).

The findings regarding the risks involved when cancer patients become infected with the virus are not encouraging. The number of studies conducted in recent months show a higher risk of morbidity among cancer patients compared to the general population (Liang et al., 2020; Zhang et al., 2020). It has further been found that cancer patients have a higher risk of suffering a more serious course of illness when contracting the coronavirus (Whisenant et al. 2020). In addition, cancer treatments may increase the risk of severe infection (Rolston, 2017; de Joode et al. 2020).

Cancer morbidity, as well as the course of its treatment, have interwoven clinical and psychological implications. Cancer patients are more sensitive to various infections and suffer higher rates of accompanying mental illnesses such as depression and anxiety (Rolston, 2017; Mehnert et al., 2014, 2018). Likewise, psychological pressure among cancer patients has been found to be linked to decreased immune function over several years (Anderson et al., 1998).

The COVID-19 pandemic has implications for the mental state of cancer patients due to the uncertainty involved, the guidelines and restrictions regarding physical distancing and isolation and the effect of the pandemic on daily life. A study conducted recently examined 658 women with or recovering from breast cancer during the COVID-19 pandemic found high rates of reported anxiety, symptoms of depression and sleeping disorders (Juanjuan et al., 2020). A survey conducted in the Netherlands among 5302 cancer patients found that most of the patients were worried about delays in the treatment and monitoring of their disease due to the spread of the virus, and expressed a need for psycho-oncological support (de Joode et al., 2020).

In another recent study, a survey was conducted to examine the psychological impacts of the COVID‐19 epidemic on cancer patients in Wuhan. The survey, which was conducted among 326 patients, revealed that 86.5% of the patients reported fear of their disease progressing, 67.5% reported anxiety and 74.5% reported depression (Chen et al., 2020).

It was further found that patients who had experienced a delay in cancer treatment due to the pandemic expressed higher rates of worry and concern. A paper published recently by oncologists presents the psychological challenges cancer patients are dealing with during the pandemic, which include loneliness, fear, conflicts regarding treatment, a sense of helplessness, frustration, anger, sadness and depression (Garutti et al., 2020).

Despite the growing number of studies examining clinical and psychological aspects of the coronavirus, we currently still lack an in-depth understanding of the pandemic’s effects and implications for the mental and social state of vulnerable population groups such as cancer patients. In Israel, three lockdowns were imposed as part of the strategy for fighting against the coronavirus, along with guidelines instructing the population to remain isolated and maintain social distancing. A year after the outbreak of the pandemic, in December 2020, the operation for vaccinating the population in Israel began. As a result, in February 2021, some of the restrictions were lifted, including those pertaining to distancing and isolation. In April of 2021 an almost complete return to normal conduct was noted, and even the restriction pertaining to wearing a mask in public areas was lifted. To date, approximately 57% of the population of the State of Israel is completely vaccinated against the virus.

The aim of the current study to examine the feelings of people dealing with cancer, through in-depth interviews, regarding the effects of the COVID-19 epidemic and its implications for daily life, about a year after its outbreak in Israel and after vaccination against the virus. Its findings shed light on psychological aspects of coping with cancer in the shadow of COVID-19 and its effects also after the crisis was over. Furthermore, the findings pave the way for the development of a customized and patient-focused intervention plan for managing cancer patient treatment during this complex time.

**Methods**

*Procedure and data collection*

The study was approved by the Barzilai Medical Center Ethics Committee (0151-20-BRZ). Ten in-depth semi-structured interviews were conducted with cancer patients between January and April of 2021. The sampling method used was deliberate sampling combined with snowball sampling. The interviews were conducted over the phone by a research assistant (an undergraduate public health student) who was guided by the researchers. No relationship between the researchers and the interviewees was established prior to beginning the study. Every patient signed a consent form agreeing to the recording and transcription of the interviews, which lasted between 30-40 minutes. The questions were written by the researchers and addressed the interviewees’ experiences, concerns and feelings regarding their daily life coping with cancer during the epidemic and once things had gone back to normal. The interview guide developed for this study is provided as Appendix 1.

*Data analysis*

The transcript files of the interviews were entered into the ATLAS.ti v.8 software to organize and analyze the qualitative material. After an in-depth reading of the texts, the interviewees’ statements were categorized into themes according to their content. The analysis was carried out according to the grounded theory qualitative approach (Charmaz, 2006).

**Results**

The interviewees’ demographic data are described in Table 1. Of the interviewees, seven were women, six were married and seven were unemployed. The average number of months since their diagnosis was 32.6+-24.

Table 1: The interviewee’s demographic data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Patient ID** | **Gender** | **Marital status** | **Employment status** | **Time from**  **diagnosis** |
| 1 | Female | Married | Working | 5 years |
| 2 | Female | Single | Working from home | 2 years |
| 3 | Female | Married | Unemployed | 1 year |
| 4 | Male | Married | Unemployed | 4 years |
| 5 | Female | Divorced | Working | 2 years |
| 6 | Male | Single | Unemployed | 2 years |
| 7 | Male | Married | Unemployed | 6 years |
| 8 | Female | Single | Unemployed | 5 months |
| 9 | Female | Married | Unemployed | 9 months |
| 10 | Female | Married | Unemployed | 5 years |

Analysis of the interviews revealed four distinct themes: 1. Social interactions; 2. The effects of the epidemic on the patients’ psychological well-being; 3. The impact of the epidemic on family and social support; 4. Managing medical care and support from the medical staff.

**Theme 1: Social interactions**

This theme reveals the changes in the patients’ social interactions following the outbreak, and mainly the implications of the guidelines for social distancing and the difficulty to get back to normal once the crisis was over. All the interviewees reported having taken strict precautions so as not to contract the virus, even after having been vaccinated against the virus. Most of the interviewees reported that they almost never left the house for fear of contracting the virus, despite the fact that the guidelines had become less strict, and noted that these changes also affected their interaction with their close environment and family. The patients reported feeling lonely as they were worried about getting back to normal life and feared their environment would infect them with the virus. Interviewee 1 emphasized this point: *“I don’t allow guests into my home and they know not to bring guests to my home, and when they do come over it’s in my garden without a mask. Only a few come in, friends don’t come and go anymore and my distant family doesn’t come over. It’s only over the phone because of COVID.”* Interviewee 2 added: *“I only go out to get groceries and I come back home immediately. So even though I got sick I almost never leave the house and I don’t spend time with people. No one comes over. I don’t see people and it’s not easy.”* Interviewee 8 described her fear of going back to normal life: *“During the epidemic I didn’t leave my house at all except for treatments, and when I began radiation therapy there was a psychologist I spoke to who encouraged me to go to malls, to all kinds of places outside. But I had no interest in leaving the house. I only started going out now but just a little, because the fear is still there.”*

Interviewee 7 also described the challenge he dealt with around social distancing and the fear of getting back to normal life: *“I stopped meeting up with people and kissing people and kids and my grandkids. I was very afraid of the virus. In the first lockdown my wife and I were in the house for three months straight. We didn’t go anywhere. We celebrated all the holidays alone and it was very difficult. Then I went back to work but to this day I take great care and do everything I can to keep myself safe.”* Interviewee 5 described how she abstained from social interactions:  *“I avoided interactions in general. Also on days that I came into work I asked people to stand at the entrance and wear a mask. Some would come over to hug me and I would say to them ‘I’m really sorry but I’d rather not hug. I love you and I’m hugging you from a distance.’”* Interviewee 6 emphasized the constant fear of contracting the virus: *“I’m always afraid when my brother comes over with his grandkids and I’m scared the people close to me will catch it and infect me. I encouraged people to get vaccinated because I didn’t want the people close to me to catch the virus.”*

**Theme 2: The effect of the epidemic on the patients’ psychological well-being**

This theme revealed the effect of the epidemic and its implications for the patients’ psychological state, as well as other personal aspects of their daily life. All the patients reported the development of symptoms of anxiety, depression, sleeping disorders and mental stress stemming from the uncertainty surrounding their health and finances. In addition, the patients expressed a lack of trust in the public and its adherence to the guidelines, leading in turn to the constant fear of contracting the virus.

Interviewee 2 described her experience: *“I developed anxiety because of COVID, I almost went to see a psychiatrist. I would cry a lot. I just feel alone and I’m not the loner type. I was alone for a long time and I’m very sad and I don’t go anywhere like everyone else does. I’m on the verge of depression. I really hope it’ll be over already… I also have this financial stress. When I work from home versus when I used to work at the office, it’s different, and I get paid according to my sales. So now there’s this situation where I don’t have the energy to work from home. I’m in my pajamas and I’m tired and exhausted, and my sales go down and my financial situation deteriorates accordingly. And my daughter also stopped working and the financial issue is stressing me out. It’s causing me to be emotionally stressed. I have a mortgage and that makes me more stressed.”* Similarly, Interviewee 10 described the anxiety accompanying her experience of coping with cancer in the shadow of the epidemic and its effects on her daily life: *“I had anxiety and insomnia. I still have anxiety about everything. If my son would go out and come back, I would ask him to take off his clothes and get in the shower immediately. It affected me in particular and the whole family in general… I had difficulties with the kids and the school. I had almost no help with taking care of the children and I also wasn’t able to help them with their studies. All of this together is just too much.”* Interviewee 7 emphasized his health concerns: *“My constant fear is of catching the virus and dying. The vaccine currently is not 100% effective so we still keep ourselves safe. I already received both doses but I still take every precaution, no kissing or hugging, I still wear a mask and I’m scared, because I know it’s still possible to get infected.”* Interviewee 8 explained the ongoing psychological implications: *“I was afraid to leave the house because I didn’t want to catch the virus from people, because of the disease that puts me at risk. Negative thoughts come up once in a while, and I feel sorry for myself. Sometimes I cry for no reason. It happens to me during treatment as well.”* Interviewee 9 explained: *“It impacts my psychological state, just by the mere fact that I have to be closed in at home and can’t see family and friends like I used to.”*

**Theme 3: The impact of the epidemic on family and social support**

This theme revealed the nature of family and social support the patients received following the coronavirus outbreak as well as the changes that took place once the crisis was over. The in-depth interviews indicated that most patients received support from their close family members, spouses and children throughout the period. However, some patients reported a decrease in the support they received from their extended environment about a year after the outbreak, coinciding with a respective rise in their feelings of loneliness.

Interviewee 2 described the decline in support she received from her close environment: *“The truth is that everyone had had enough. For example, my brother used to call me every day and they don’t call so much anymore. Everyone’s tired of it and they don’t take that much of an interest in me like they did in the beginning. I lost touch with my girlfriends, I don’t see them and I don’t feel like talking that much, so we lost touch. This loneliness and aloneness, that’s mainly been the hardest thing during this whole period.”*

In contrast, Interviewee 3 noted: *“I think the crisis increased the support because suddenly I needed to be protected from two things, the cancer and the epidemic, and that increased the support. It enforced what was already happening. It didn’t necessarily require more visits, even sending a message or a sweet delivery of ice-cream, simple things that express support for me in tough times. That’s what we could do and we made the most of it.”*

Similarly, Interviewee 4 also emphasized: *“I felt family and social ties growing stronger. My true friends at the time made more of an effort. I also made more of an effort if someone was in a jam and I could help in any way. So we tried to help anyone who needed help.”*

However, Interviewee 6 described the change in family support: *“I don’t go to visit my family anymore. Even when they come to visit me, it’s not the same as it used to be. It’s difficult now because people don’t do enough to make sure they don’t catch the virus and infect others, and I’m scared of catching it.”*

**Theme 4: Managing medical care and support from the medical staff**

This theme reveals the change that took place in the patients’ medical care, such as delayed appointments, the treatment from the staff, etc. It further revealed the nature of the support the interviewees received from the medical staff during the epidemic*.* Most of the interviewees reported that no deterioration had occurred in the management of the medical care they received during the epidemic, and even commended the medical staff for their attempt to maintain their treatment routine. At the same time, the findings show that while some patients were offered support by the medical staff and even received it, most of the patients stated that the doctors were focused on their medical care. They noted they had received no offer for broader support in dealing with their illness and that they had not asked for such support from the medical staff.

Interviewee 1 explained: *“I didn’t seek or ask for help but I wasn’t expecting any. Some social workers are always available to deal with any problem, but I personally have never turned to them for help. I was never offered support. Anyone who needs it goes directly to the social workers.”* Interviewee 3 also noted: *“I was offered help at the very start of the epidemic. There’s a social worker and a psychologist. I met the social worker first. They really helped me, also with the disability issues, the psychological treatment, even though I wasn’t open to it at first.”*

On the other hand, Interviewee 10 explained why she avoided asking for support from the medical staff: *“I didn’t voice my need for support in front of the staff too much, and I saw that they weren’t offering me support either, so I didn’t talk about it.”*

Interviewee 7 appreciated how the management of her treatment was maintained with no hindrances or delays: *“They took really good care of me. The treatment was consistent the whole time, with no hiccups along the way. On the contrary, appointments for tests during my treatment were really early and quick and I didn’t have to wait a long time, like for cardio echo and pulmonary and cardiac mapping to see that everything was okay, so they got me appointments within a week. The treatment was excellent and top-grade.”*

Similarly, Interviewee 9 added: *“There was no change for the worse in terms of the treatment. Not in terms of the oncological treatment and not in terms of general healthcare. Everyone wore masks, maintained hygiene. The appointments were even quicker because people weren’t coming in to the clinics.”*

**Discussion**

The current study presents a situation report revealing the implications of the COVID-19 epidemic for cancer patients a year after its outbreak. Most of the cancer patients participating in this study had received two vaccine doses at the time they were interviewed. Despite vaccination and the State of Israel having come out of the crisis, it is clear that the implications of the crisis for the cancer patients’ mental and social state are not fully apparent. One of the central themes emerging from the current study deals with the epidemic’s implications for the patients’ mental health, and primarily with feelings of anxiety, stress and symptoms of depression, which the patients reported experiencing also once the crisis was over in Israel.

Similarly, recent studies that examined psychological stress in cancer patients found a high prevalence of fear of disease progression, anxiety, PTSD and depression. (Chen et al., 2020; Wang et al., 2020). In addition, similar to the current study findings regarding expressions of the patients regarding their fear of being infected and perceiving others as not adhering to guidelines, a recent study also found participants had no confidence in others practicing good hygiene, which amplified their sense of worry and perceived threat (Chia et al., 2021).

Another theme presented the epidemic’s impact on the patients’ social interactions. Most of the interviewees reported having major concerns about leaving the house, despite the guidelines of the Ministry of Health having been made less strict and the vaccination of the general population, noting the ongoing impact on their interactions with their close environment and family members. The patients reported feelings of loneliness due to the fear of life going back to normal and their environment infecting them. Pursuantly, the in-depth interviews revealed that some of the patients reported a decrease in support from their broader environment about a year after the outbreak of the epidemic. This finding is alarming as the importance of social and family support when dealing with cancer has been known for some time.

Social support is regarded as a complex construct that has long been suggested to have direct and buffering effects on patients’ wellbeing and emotional adjustment to cancer (Kroenke et al., 2020). Williams et al. (2019) found that 67% of 1460 adult cancer patients reported the need for social support, half reported a need for emotional support and 47% expressed the need for physical support. Nearly half of the subjects reported that their need for such support went unmet. Environmental factors, especially social support, are responsible for psychological adaptation (Eicher, 2015) and for cancer patients’ overall resilience (Somasundaram & Devamani, 2016).

In a study examining how breast cancer patients dealt with the implications of the COVID-19 pandemic, the fear of going back to normal everyday life was also found to be a major stressor (Savard et al., 2021). Just the thought of having to return to work in the context of a pandemic made some participants very anxious, and having to adapt to new health measures at work or to telecommuting were perceived as major stressors.

In contrast to the findings of the last studies, it appears that in Israel no significant changes occurred in the management of the cancer patients’ treatment during the epidemic. The patients positively noted the actions taken by the medical staff to maintain their treatment routine and provide them with optimal medical care. At the same time, the patients reported that the medical staff was focused on clinical care and that they were not offered broader support in dealing with their disease in the shadow of the epidemic. A qualitative study examining the experience of cancer patients during the pandemic found that many patients reported disruptions to their treatment routine, an inaccessibility of healthcare services for the purpose of doing tests and evaluating symptoms and delays in routine treatments (Colomer-Lahiguera et al., 2021).

On the other hand, in a recent study that examined the emotional and behavioral responses of cancer patients and their caregivers to the COVID-19 pandemic, healthcare providers were perceived as highly competent. This competence was described as broadly encompassing several aspects, from managing cancer treatment to treating COVID-19 and maintaining good hygiene standards (Chia et al., 2021).

The current study has several limitations. First, its sample was rather small, making it difficult to draw broad conclusions on its basis. Second, no customary objective tools were used to assess the patients’ mental health. Nevertheless, a qualitative study examining a phenomenon through in-depth interviews is valuable for presenting a comprehensive and in-depth picture of the effects of the epidemic on cancer patients. The findings of the current study reflect the need to devote broad attention to the implications of the epidemic also after vaccination of the population and emergence from the crisis. There is a need to assess and monitor the patients’ mental state, as well as their psychological, social and medical needs during this complex time and in light of the uncertainty regarding the spreading of the pandemic and the development of various virus mutations.

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**Appendix 1 – Interview questions:**

1. Thank you for agreeing to do this interview. Tell me a little about yourself. When was the disease diagnosed? How did it affect you emotionally/your relationship with your family/your day-to-day life?
2. Do you live alone/with a partner/family? Do you work? Describe your daily routine coping with cancer (frequency of treatments at the oncological institute, physical activity, social/family gatherings, hobbies).
3. In coping with the disease, do you receive support from family/friends/neighbors? Tell me a little about this support and how it is expressed.
4. How did the COVID-19 outbreak change your daily life? Did your routine change? In what way? Do you leave the house/meet with people less? Have your healthcare habits changed?
5. Do you take any specific precautions to avoid catching the virus? Tell me about them.
6. Do you feel your close environment takes more care in adhering to the guidelines to prevent infection?
7. Do you feel the epidemic has affected how your treatment is managed by the medical staff? In what way?
8. Do you feel your treatment was delayed or harmed due to the outbreak of the coronavirus? In what way?
9. Do you feel the epidemic has affected your mental state? Do you suffer from insomnia? Symptoms of anxiety? Negative thoughts?
10. Describe your personal concerns and worries regarding the epidemic.
11. Have you expressed your concerns to the medical staff? Have they offered you support or help?
12. Describe how you deal with worries and concerns that arise for you during this complex time.
13. Do you feel the epidemic has affected the support you receive from your environment/family/those who are close to you?
14. Do you feel you have needs that aren’t being met during this period?