


CLINICAL CORRESPONDENCE

Quality of life of cancer patients during coronavirus disease (COVID-19) pandemic

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1 | INTRODUCTION

The rapidly expanding coronavirus disease 2019 (COVID-19) has impacted all aspects of daily life.¹ For most people, life has radically changed for the worse, as unprecedented rates of job loss, isolation, and COVID-19 related deaths and infections continue to soar. One of the major fears of most physicians, governments, and patients is the heavy impact on the health care delivery systems. There is a risk that oncology patients may not receive treatment on time, because people are encouraged to stay home to prevent the spread of the virus, the numbers of active medical personnel are reduced, and the economic crisis deepens. The impact on quality of life (QoL) is considered important by physicians and patients and is closely related to progression of cancer.² During the pandemic period cancer patients are faced with a serious dilemma, since staying at home could increase the tumor progression, while visiting the hospital for cancer treatment could increase the COVID-19 infection risk.³ This study aims to assess the quality of life of cancer patients during the COVID-19 pandemic.

2 | METHODS

We conducted a survey of patients in Nicolaus Copernicus Multidisciplinary Centre for Oncology and Traumatology, Poland during March and April 2020. The study comprised of 260 patients with stage III and IV of different types of cancer undergoing chemotherapy,

of whom 238 (91.5%) completed the study (Appendix S1). Patients were asked about their cognitive and preventive behaviors regarding COVID-19 and the accessibility of medical support (Appendix S2). Moreover, the patients responded to the European Organization for Research and Treatment of Cancer quality of life questionnaire (EORTC QLQ-C30).^{4,5} The EORTC QLQ-C30 (version 3) is a 30-item instrument that includes five functional scales (cognitive, emotional, physical, role, and social functioning), global health status/QoL scale, eight symptom scales, and the perceived financial impact.^{4,5} The data have been compared with reference values from 8066 cancer patients in stages III-IV that have been obtained under non-epidemic conditions by EORTC.⁶ The EORTC has published a comprehensive and validated report containing QLQ-C30 reference values for a wide variety of cancers.⁶ The study was approved by an institutional review board of Medical University of Lodz. Written informed consent was obtained from all subjects after receiving an explanation of the study.

The data were analyzed from a group perspective and a paired *t* test applied between the reference group during non-epidemiological conditions and cancer patients during COVID-19 pandemic. Mean differences were considered significant at $P < .05$.

3 | RESULTS

The global quality of life of cancer patients during the global COVID-19 pandemic was significantly lower than that of the reference group.

Physical ($P = .088$) and emotional ($P = .069$) functioning were similar to the reference values, whereas cognitive ($P < .0001$), and social ($P < .0001$) functioning were significantly lower (Table 1). In comparison with the reference group, role ($P = .094$) functioning appeared to be unaffected by the pandemic. The only difficulties observed in functioning in social roles were the inability to perform work and reduction in its efficiency. Answers regarding the effect of restrictions on hobbies and other pastimes activities did not differ significantly from the reference group. Symptom scales were on average worse than the reference values. Insomnia ($P < .0001$) and fatigue ($P = .003$) were the most disturbing followed by loss of appetite ($P = .006$).

4 | DISCUSSION

Most patients also worried about their income due to the economic conditions in their country of residence which can be significantly affected by the COVID-19 pandemic and could indirectly influence their treatment options.⁷ Furthermore, long-term escalation in the need for health services caused by the COVID-19 pandemic will put pressure on healthcare workers and could at some point compromise the clinical management of people with cancer. During the COVID-19 crisis it cannot be excluded that cancer care regarding utilization of the wards including intensive care unit beds and blood products may directly conflict with care delivery for those with COVID-19. Analyzing the disturbances in the family and social life of cancer patients caused by the state of the pandemic, it was found

Key Points

- Cancer patients are faced with a serious dilemma, since staying at home could increase the tumor progression, while visiting the hospital for cancer treatment could increase the COVID-19 infection risk.
- The quality of life deteriorated in cancer patients during the COVID-19 pandemic.
- Financial difficulties and unstable economic situation impact patients' quality of life.
- 20% of cancer patients consider postponing chemotherapy and 5% consider abandoning further oncological treatment during the pandemic despite fear of disease progression.
- Living alone contributes to lower quality of life during outbreak.

that they are significantly worse compared to a similar group in more favorable epidemiological conditions, especially for patients living alone. The restrictions imposed on the prohibition of movement, the ban on social gatherings, and the ban on the use of public green spaces have significantly affected the social functioning and sleep of patients.⁸ In addition, under COVID-19 lockdown most cancer patients feel fatigue,

TABLE 1 EORTC QLQ-C30 overall health status, functional scales, and symptom scales in comparison to population reference values⁷

Quality of life	During COVID-19 pandemic $n = 238$		Reference values during normal conditions $n = 8066$		P value ^a
	Mean	(SD)	Mean	(SD)	
Global health status/QoL	41.7	(22.0)	61.5	(23.6)	<.0001
<i>Functional scales^b</i>					
Physical functioning	68.3	(21.5)	71.2	(25.8)	.08
Role functioning	66.9	(30.1)	70.6	(32.8)	.09
Emotional functioning	68.4	(25.6)	71.5	(23.8)	.07
Cognitive functioning	69.9	(25.9)	83.2	(21.3)	<.0001
Social functioning	67.1	(25.7)	75.1	(28.9)	<.0001
<i>Symptom scales^c</i>					
Fatigue	41.8	(23.4)	34.7	(27.9)	.003
Nausea and vomiting	10.2	(19.1)	7.8	(17.3)	.06
Pain	30.8	(23.8)	29.2	(30.8)	.29
Dyspnea	23.8	(30.1)	21.7	(28.7)	.27
Insomnia	40.0	(22.1)	28.5	(31.7)	<.0001
Appetite loss	26.8	(26.3)	20.8	(31.0)	.006
Constipation	20.5	(32.7)	17.0	(28.4)	.095
Diarrhea	11.4	(28.1)	8.3	(19.5)	.091
Financial difficulties	35.3	(31.5)	15.4	(27.7)	<.0001

Abbreviation: EORTC QLQ-C30, The European Organization for Research and Treatment of Cancer quality of life questionnaire C30.

^at-Test has been used.

^bFor functional scales, higher scores indicate better functioning.

^cFor symptom scales, higher scores indicate worse functioning.

possibly due to stress and uncertainty regarding their cancer therapy and possible COVID-19 infection. Restrictions on social contacts are most severe for patients living alone, which was reflected in the survey. As many as 87% of respondents replied that the COVID-19 pandemic reduced their sense of security and significantly affected their daily functioning.

Significant differences in cognitive functioning were observed. The epidemiological situation contributed to problems with concentration in more than half of the respondents. The next area of quality of life, assessed in research, was mental health, evaluated in terms of emotional tension, worry, irritability, and depression. Pandemic conditions significantly affect this sphere of life in cancer patients. Feeling depressed and worried persisted in half of the respondents.

Only 20% of respondents answered that they considered postponing chemotherapy due to a pandemic, and 5% considered abandoning further oncological treatment during the pandemic despite fear of disease progression. Restrictive social distancing is promoted as an effective measure to stem pandemics and appears to be the most promising strategy during this early stage of the COVID-19 crisis.⁹ These restrictions have a very severe impact on cancer patients, who were often accompanied by the family throughout the entire diagnostic and therapeutic process. Above 50% of respondents answered that changes in the organization of the hospital's work, which prohibit family and friends from visiting and the lack of the possibility of direct participation of family members in the diagnostic and therapeutic process negatively affects the well-being of cancer patients.

5 | CONCLUSIONS

The differences in perceived QoL concerned mainly social, emotional, and cognitive functioning while physical functioning was not affected. The observed slight differences in role performance were associated with an inability to work and reduction of its efficiency, which was linked to the reported social functioning and financial difficulties. In addition, QoL of cancer patient is distinctly affected when faced with public health emergencies such as a pandemic and they do require attention, and support of the physicians, families, and society.

During this extraordinary time, the oncology community faces unprecedented challenges to improve the mental health and QoL for people with oncologic diseases.

5.1 | Study limitations

This study was conducted during the early days of the pandemic, when most of the respondents did not personally know an infected person or a person in quarantine. We theorize that the impact of the pandemic and further restrictions on QoL may be more pronounced over time.

5.2 | Clinical implications

Identification of risk factors that deteriorate patients' QoL is necessary for a timely intervention. It could provide support to the implementation of preventive public health policies and help in decision-making processes in health management taking into consideration cancer patients.


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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

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