



## The influence of COVID-19 on the treatment of oncological patients: systematic literature review

Laura de Vasconcelos Machado<sup>1\*</sup>, Marcela Rodrigues da Cunha Alvarenga<sup>1</sup>, Marielle Soratto Citadin<sup>1</sup>, Tamara Veiga Faria<sup>1</sup>

<sup>1</sup> FACERES – Medical School of Sao Jose do Rio Preto, Sao Paulo, Brazil.

\*Corresponding author: Laura de Vasconcelos Machado, FACERES – Medical School of Sao Jose do Rio Preto, Sao Paulo, Brazil.  
Email: lauravm251997@gmail.com

DOI: <https://doi.org/10.54448/mdnt21603>

Received: 09-21-2021; Revised: 10-11-2021; Accepted: 11-04-2021; Published: 12-16-2021; MedNEXT-id: e21603

### Introduction

In March 2020 the World Health Organization (WHO) declared that the world was going through a pandemic, all because of the uncontrolled dissemination of the SARS-Cov-2 and this state is maintained until nowadays. Because of this reality, there was a huge change in priorities in the health field, making the COVID-19 infection the main focus and, consequently, diminishing the care of other pathologies, cancer being one of them [1]. Even in a scenario that strategies were adopted to reduce the COVID-19 transmission, as the need for social distancing, the patients kept receiving oncological diagnosis and reassuring the rising number of cases reported of this disease and its need for treatment [1].

In view of these priorities changes in health care and the number of cancer diagnoses, the need to analyse the correlation between the COVID-19 infection in oncology patients and its influence over their treatment arose. Oncology patients have their immune system compromised in different degrees, these compromises are developed from neoplasms and therapeutic interventions, according to each case. When infected, adults with cancer are classified as a risk group, besides being more likely to develop worst cases and prognosis [2]. However, paediatric cancer patients with the COVID-19 infection, despite few scientific studies, are less likely to have worst case scenarios and morbidity when compared to non oncologic paediatric groups [2].

It is also important to highlight that there is a need to relocate patients to reference centers, where the treatment can be continued in the best way possible, and because of this, it became necessary to adapt the care provided by oncology health institutions and means

of transportation, so that they are able to provide patients and their families with the best service care while following all security protocols needed to avoid infection and propagation of these viruses [3].

The aim of this review is to study the influence that the Sars-CoV-2 pandemic had over the therapeutic oncology care, to determine which methods were developed to dim their interference over the oncology treatment and to investigate if there still is influence over their therapeutic developments.

### Methods

This is a systematic literature review based on the following questions: 1. Did the COVID-19 pandemic have influence over the treatment of oncological patients? 2. Which measures were settled to attenuate the COVID-19 influence over the oncological treatment? 3. How the relation between COVID-19 and oncological treatment was determined? Is there any interference on the treatment response? The articles selected to the study had to meet the following eligibility criteria: (1) be published in national or international journals; (2) be published between 2020 and 2021; (3) be fully available for free. Were excluded from this study those articles which did not answer the scientific questions proposed by the research team. The bibliographic research was carried out in Google Scholar, Mendeley, PubMed and Scielo databases during June to August 2021. Descriptors used are "COVID-19," "Oncological treatment," "Cancer," and "Oncology". At the first stages for the article selection, all duplicates were removed and the research team tracked their titles. Secondly, the eligible articles abstracts were used to execute a triage of the full texts. After that, the team members extracted the data from the selected studies using a data extract

form, which includes information about the study characteristics (title, year and country of origin), methodology and the answer of the scientific questions proposed.

## Results and Discussion

A list of 71 articles was found in the search databases, being found  $n = 19$  in Google Scholar,  $n=20$  in Mendeley,  $n = 18$  in PubMed and  $n=14$  in Scielo platforms. Of articles that were eligible,  $n=17$  were found in Google Scholar,  $n=7$  were found in Mendeley,  $n=14$  were found in PubMed and  $n=9$  were found in Scielo platforms. The systematic literature review consists of 47 articles. The other 24 studies were found not eligible. The psychosocial impacts of the cancer diagnoses are extremely difficult to manage, and in the pandemic context and social isolation it became more evident [4]. After all, it is a fact that the oncologic patient is particularly more susceptible to the morbidities and mortality [5]. Such effect can be explained by different points: the immunocompromised and higher risk of infection of cancer patients; the evasion of medical appointments and therapeutic follow-ups; the late cancer diagnosis due to its clinical similarities to COVID-19; the adaptations made by the health institutions that provided service during the virus outbreak; the lack of universal protocols to the care of oncological patients. Against these fragility, the increase in the evasion of oncologic therapeutic appointments was justified by the patient's fear of presenting the worst SARS-CoV-2 clinical manifestations [6,7]. However, some patients that do opt to attend to their therapies are welcomed with poor services - slow access, regulations and diagnosis [8].

Moreover, in a medical appointment, when the professional identifies some common cancer signs or even some toxic effects of the oncological therapy, those can be mistaken for common SARS-CoV-2 symptoms [5]. Thereafter, it results in postponement of the tracking, late diagnosis and even worst prognosis [9,10]. When talking about therapeutic measures, there is not a specific therapy that acts against the COVID-19 infection and offers beneficial survival results to patients with cancer, beyond that, some oncological interventions can be subjected to postponement [5,11].

In other words, the pandemic scenario has brought a negative impact over the oncological field. There is a need to correctly guide the patient and it could only be truly accomplished with multidisciplinary collaboration, being also necessary the elaboration of acting plans and guidelines to the standardization of the health care [12]. As the virus spreads, it is undeniable the need to study the relations between cancer and SARS-CoV-2, in order

to optimise the care and decrease the therapeutic interruptions [13]. Likewise, the COVID-19 outbreak has been severely paralysing researches and possibly delaying beneficial findings to the fight against cancer [13]. Therefore, it is apparent how much this current situation will continue to affect cancer patients care, whereas the COVID-19 priority comes postponing the perspective of success in the field of oncology. Against these uncertainty scenarios due to the Sars-CoV-2 pandemic it is undeniable that there is a need to deepen the studies aiming to define strategies that help with the diagnosis, caring and treatment specific for each case, mostly when it involves oncologic patients [14], because these compose an at-risk group for serious covid-19 infections outcome, especially as a result of their immune deficiency state [2].

## Conclusion

It is needed to deeply analyze the relation between the oncological therapy and the Sars-CoV-2 infection to determine if there are interferences and/ or losses in the cancer treatment, and to indicate which measures should be adopted to minimize those interferences and losses. It is at most urgency that guidelines and normatives are established to homogenize the oncological care in the health institutions during the duration of the Sars-CoV-2 pandemic, besides the creation of new protocols to guide the diagnosis and treatment of patients that went unnoticed during the virus outbreak.

**Keywords:** COVID-19. Oncological treatment. Cancer. Oncology.

## Acknowledgement

Nil.

## Funding

Not applicable.

## Data sharing statement

No additional data are available.

## Conflict of interest

The authors declare no conflict of interest.

## About the License

© The authors (s) 2021. The text of this article is open access and licensed under a Creative Commons Attribution 4.0 International License.

## References

1. Marques CM, Aruda EV, Nascimento L, Pereira MGM, Teixeira TC. Covid-19 no Brasil: os múltiplos olhares da ciência para compreensão e formas de enfrentamento: COVID 19 associado a piora do prognóstico neoplásico [Internet]. Ponta Grossa - Paraná, Brasil: Atena Editora; 2020: 30. Access in: 10 sep 2021.
2. Lima ALMA, Borborema MCD, Matos APR, Oliveira KMM, Mello MJG, Lins MM. COVID-19 coorte de crianças com câncer: atraso no tratamento e aumento da frequência de óbitos. Rev. Bras. Saúde Matern. Infant. 2021; 21(1): 305-10.
3. Barbosa DG, Silva AR, Monteiro BHM, Cardoso LC, Abinader PBM. Covid-19 no Brasil: os múltiplos olhares da ciência para compreensão e formas de enfrentamento: Manejo do paciente oncológico relacionado ao tratamento antineoplásico frente à covid-19: revisão integrativa [Internet]. Ponta Grossa - PR, Brasil: Atena Editora; 2020: 30 p. Access in: 10 sep 2021.
4. Cirilo SSV, Silva PHS, Cruz VT, Correia RS, Maia JPC, Silva FBF. Necessidade de assistência psicossocial em tempos de pandemia causada pelo novo coronavírus: um olhar atento aos pacientes oncológicos e aos profissionais da área da oncologia. Rev Bras de Cancerologia. 2020; 66: 1-4.
5. Figueira K. COVID-19 em pacientes com câncer: gerenciamento de uma pandemia dentro de uma pandemia. Brazilian Journal of Implantology and Health Science. 2020; 2 (12): 1-6.
6. Escuissato DL. A COVID-19 e os pacientes oncológicos covid- 19 and cancer patients. Radiol Bras. 2020; 53(4): V.
7. Araújo SEA, Leal A, Centrone AFY, Teich VD, Malheiro DT, Cyrano AS et al. Impacto da covid-19 sobre o atendimento de pacientes oncológicos: experiência de um centro oncológico localizado em um epicentro latino-americano da pandemia. Einstein. 2021; 19: 1-8.
8. Galindo RJSC, Andrade LB, Sena GR, Nogueira LPM, Lima TPF, Lima JTO et al. Mulheres com câncer e covid-19: uma análise da letalidade e aspectos clínicos em pernambuco. Rev Bras Saude Mater Infant. 2021; 21 (1): 167-75.
9. Tejera-Vaquerizo A, Cañueto J, Toll A, Santos-Juanes J, Jaka A, Ferrandiz C et al. Efeito estimado do bloqueio de covid-19 no tamanho e na sobrevivência do tumor da pele: um modelo de crescimento exponencial. Actas Dermosifiliogr. 2020; 111(8): 629-38.
10. Silvestris N, Di Maio M, Russo A, Chiari R, Gorfi U, Del Mastro L et al. Infecção por covid-19 em pacientes com c ncer: qual tem sido a contribuição da associazione italiana oncologia médica (aiom) para o cuidado oncológico desde o início da primeira onda pandêmica. ESMO Open. 2021; 6(2): 100.
11. Fantin JPP, Spessoto LCF, Facio Junior. In the time of corona - is it safe to delay treatment for prostate cancer?. Rev Assoc Med Bras. 2020; 66(4): 388-9.
12. Sternberg C, Andrade TL, Nova APGAV, Fiscina BV, Fernandes APL, Alves CD et al. Oncology practice during covid-19 pandemic: a fast response is the best response. Rev Assoc Med Bras. 2020; 66(3): 338-4.
13. Bakouny B, Hawley JE, Choueiri TK, Peters S, Rini BI, Warner JL, Painters CA. COVID-19 e cancer: desafios e perspectivas atuais. Cancer Cell/ 2020; 38: 629-46.
14. Marcondes SS, Novaes ACZL, Cazeli AB, Lodi SF, Passamani JS, Belloti VL et al. COVID-19: experiência de atendimento dos pacientes onco-hematológicos do hospital santa casa de misericórdia de vitória. Hematol Transfus Cell Ther. 2020; 42: 527-8.

