



## Scientific research with cancer patients during the COVID-19 pandemic: an experience report

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### Abstract

Scientific research brings resolutions to several problems in society, supporting clinical performance in health. Work with cancer patients needs to be even more careful. During the COVID-19 pandemic, cancer patients enter the risk group for exposure to the virus, limiting the monitoring of the disease, impairing treatment. New health technologies and telemedicine have been on the rise in recent years, changing the course of medicine, research and health care. Its implementation and validation have been widely discussed in recent years, and it was greatly encouraged by the COVID-19 pandemic. To report the development, adaptations and the six-month longitudinal follow-up of 20 individuals who underwent thyroidectomy at a university hospital. The research flowchart initially persisted in evaluating symptoms and vocal fatigue in individuals undergoing thyroidectomy due to thyroid cancer at three times: pre-surgical (M1), immediate post-surgical (M2) and late post-surgical (M3) in three to six months. The individuals were submitted to videolaryngoscopy, voice recording, voice acoustic analysis and completion of self-assessment protocols along with the medical consultation. All assessments were performed on an outpatient basis at the three times described. The research began in October 2019, and was interrupted at the beginning of the pandemic. In February 2020 we obtained eight cases with the two initial assessments, and only two cases with M3. Due to the pandemic, the surgeries were suspended and the continuity of the study was impaired, requiring modifications. The initial goal was to last nine months with 30 individuals in the sample. New cases were followed up from October 2020 until May 2021 when there was a reduction in cases. At the end, all data from 20 individuals in this period of the research were collected. The completion time increased from nine months to 20 months. None of the patients were

infected by COVID-19 during the research period. Therefore, the treatment of cancer patients encompasses several aspects that have been hampered by its continuity, delaying deadlines and making access difficult by COVID-19. As well as, scientific research in this population has undergone several adaptations to preserve the health of individuals, not unnecessarily exposing them to contamination with the virus. Monitoring by telemedicine proved to be effective for the initial objectives of this study, but it may limit it depending on the type of proposed intervention. Despite the existing pandemic, scientific production should not be stopped because it brings discoveries that aim to improve the health of the population.

**Keywords:** Neoplasms. Scientific Research. Technological Development. Medical Oncology. Telemedicine. Scientific research.

### Introduction

Scientific research brings resolutions to several problems in society, supporting clinical performance in health [1]. Development of various therapies, medications and surgeries, especially in oncology, is due to scientific research [2]. This always seeks scientific evolution and the best performance, minimizing risks and damages to individuals.

As it is a more fragile population and with more risks, work with cancer patients needs to be even more careful [2,3]. Cancer itself brings several weaknesses to an individual's health. When exposed to surgery, systemic or radiotherapy treatment increases the damage and changes resulting from the disease and treatment [4,5].

Individuals who undergo cancer treatment suffer from a series of changes, especially those of head and neck cancer. Direct impacts on feeding, breathing and swallowing are easily identified in this population. Changes are present since before the chosen treatment.

When undergoing surgery, the sequelae tend to be even greater in these functions, requiring continuous multiprofessional follow-up [6,7].

During the COVID-19 pandemic, cancer patients enter the risk group for exposure to the virus, limiting the monitoring of the disease, impairing treatment [8,9]. There are signs of reduction in the diagnosis of cancer cases due to the difficulty in accessing health care. A reflection of this will possibly appear in the next few years with more aggressive cancers without curative treatment [8,9].

New health technologies and telemedicine have been on the rise in recent years, changing the course of medicine, research and health care [10]. Its implementation and validation have been widely discussed in recent years, and it was greatly encouraged by the COVID-19 pandemic. To report the development, adaptations and the six-month longitudinal follow-up of 20 individuals who underwent thyroidectomy at a university hospital.

## Experience report

The research flowchart initially persisted in evaluating symptoms and vocal fatigue in individuals undergoing thyroidectomy due to thyroid cancer at three times: pre-surgical (M1), immediate post-surgical (M2) and late post-surgical (M3) in three to six months.

The individuals were submitted to videolaryngoscopy, voice recording, voice acoustic analysis and completion of self-assessment protocols along with the medical consultation. All assessments were performed on an outpatient basis at the three times described.

The self-assessment of symptoms and vocal fatigue was performed by three self-assessment protocols: Vocal Symptom Index (VSI), Thyroidectomy-Related Voice and Symptom Questionnaire (TVSQ) – Brazilian Portuguese version and Vocal Fatigue Index (VFI). Sociodemographic data, clinical and surgical treatment were collected from medical records.

The research began in October 2019, and was interrupted at the beginning of the pandemic. In February 2020 we obtained eight cases with the two initial assessments, and only two cases with M3. Due to the pandemic, the surgeries were suspended and the continuity of the study was impaired, requiring modifications. The initial goal was to last nine months with 30 individuals in the sample.

Because it is public health, many patients had financial difficulties in going to the hospital at other times exclusively for the evaluation and refused to go due to the risk of COVID-19 infection. In non-urgent cases were suspended the videolaryngoscopy because of

the high risk of infection as indicated by the Otolaryngology Foundation. Reassessment cases were performed using online forms and voice recording from each individual's mobile device. Teleconsultations were also carried out to follow up the cases.

New cases were followed up from October 2020 until May 2021 when there was a reduction in cases. The researcher used the personal protective equipment indicated for COVID-19, following the guidelines of the World Health Organization, as well as easy-to-clean electronic materials, such as a computer, cell phone and tablet. The M2 and M3 assessments were defined as online by teleconsultation to avoid exposure and risks to individuals.

At the end, all data from 20 individuals in this period of the research were collected. The completion time increased from nine months to 20 months. As the M2 and M3 assessments were online, there was no withdrawal of individuals in the period due to schedule adjustments and the lack of transportation. None of the patients were infected by COVID-19 during the research period.

## Reflection on experience

Telemedicine proved to be a great tool for scientific research, helping to monitor the patient and continue the assessment. Being limited depending on the proposed procedures. The COVID-19 pandemic has limited access to health care for cancer patients, in addition to putting this population at greater risk of life. The use of technology was necessary to improve communication and keep scientific research viable, but some procedures are lost.

The first care with the health of the researcher and the individual became the main objective of the research, as well as the performance of surgeries as soon as possible. Since the ICU beds, if necessary, were occupied by patients with COVID-19.

The continuity of treatment with iodine therapy, as well as multidisciplinary follow-up with physiotherapy and speech therapy were hampered due to the difficulty in accessing these treatments due to the pandemic. Limited public resources, great burden on health professionals and the fear of infection by COVID-19 were the main obstacles to the continuity of cancer treatment.

## Conclusion

The treatment of cancer patients encompasses several aspects that have been hampered by its continuity, delaying deadlines and making access difficult by COVID-19. As well as, scientific research in

this population has undergone several adaptations to preserve the health of individuals, not unnecessarily exposing them to contamination with the virus. Monitoring by telemedicine proved to be effective for the initial objectives of this study, but it may limit it depending on the type of proposed intervention. Despite the existing pandemic, scientific production should not be stopped because it brings discoveries that aim to improve the health of the population.

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### Data sharing statement

No additional data are available.

### Conflict of interest

The authors declare no conflict of interest.

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