



Providing nutritional care to cancer patients during the COVID-19 pandemic: an Italian perspective

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Abstract

The COVID-19 outbreak has drastically changed practices inside hospitals, which include oncology routines. In oncology, malnutrition was and certainly still is a frequent problem associated with an increase in treatment-related toxicity, a reduced response to cancer treatment, an impaired quality of life, and a worse overall prognosis. Even in this situation of healthcare crisis, nutritional support in cancer care is an essential element. During the current COVID-19 pandemic, there is a concrete high risk to see a dramatic worsening of cancer patients' nutritional status, who are left without adequate clinical and nutritional support. The consequences are already reasonably foreseeable and will have a severe negative impact after the emergency. Therefore, we believe that it is essential to try to continue, as far as possible, the activity of clinical nutrition in oncology, by revolutionizing the setting and the approach to patients. For this purpose, the Clinical Nutrition and Dietetics Unit and the Medical Oncology Unit of our hospital, one of the largest community hospital in Lombardy that has been involved in the COVID-19 outbreak management since its inception, have reorganized the clinical routine activity in strict collaboration since the very beginning of the emergency, to better face up to the challenge, while preserving cancer patients' needs.

Keywords Coronavirus disease (COVID-19) · Cancer · Malnutrition · Nutritional care

The emergence of 2019 novel coronavirus disease (COVID-19) has caused a global public health emergency [1]. Italy was the first European country where the disease widespread [2], and Lombardy is the principal cluster [3].

The majority of COVID-19 severe complications and deaths are reported among older patients with evidence of underlying illness such as cardiovascular, liver, kidney disease, and cancer [4]. Cancer patients represent a particularly fragile group, which is more susceptible to infections as a consequence of the immunosuppressed status caused by malignancy or anticancer treatment. Therefore, they might be at increased risk of COVID-19 infection and worse prognosis [5, 6].

In the most affected areas, a rapid and thorough reorganization of hospital clinical procedures is taking place, in order to deal with the increasing number of COVID-19 positive patients who require medical assistance: all non-essential clinical activity has been suspended, while the ordinary activity continues for whom diagnostic procedures and treatments cannot be delayed.

It is the case of cancer patients undergoing treatments with curative intent; in this situation of deep distress for the health care system, the inability to satisfy cancer patients' clinical needs is an additional concern.

In oncology, malnutrition was and certainly still is a frequent problem associated with an increase in treatment-related

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toxicity, a reduced response to cancer treatment, an impaired quality of life, and a worse overall prognosis [7, 8].

Even in current emergency, nutritional support in cancer care is an essential element. Despite the availability of international guidelines and recommendations for nutritional support in cancer patients [9, 10], the attitudes toward this issue vary considerably among oncologists, with the consequence that many malnourished patients are not receiving adequate and prompt nutritional support [11–13]. In a recent national survey, we explored the management of cancer-related malnutrition and compared the attitudes to nutritional care of Italian oncologists and patients. Our results confirmed that there is still a marked gap between needs and actual delivery of nutrition care in oncology [14].

In the light of the above, during the current COVID-19 pandemic, it is likely to see a dramatic worsening of cancer patients' nutritional status, due to possible delayed clinical assistance and difficulties in procuring nutritionally adequate quality food as lock-down's repercussion. The consequences are already reasonably foreseeable and will have a severe negative impact after the emergency.

We believe that it is essential to carry on, as far as possible, the activity of clinical nutrition in oncology, which can be safely provided only by a thorough setting and approach to patient rearrangement.

For this purpose, the Clinical Nutrition and Dietetics Unit and the Medical Oncology Unit of our hospital, one of the largest community hospital in Lombardy that has been involved in the COVID-19 outbreak management since its inception, have reorganized the clinical routine activity in strict collaboration since the very beginning of the emergency, to better face up to the challenge, while preserving cancer patients' needs. Several general actions have been taken to protect both patients and healthcare professionals; remote capabilities have been implemented to minimize interactions; efforts are being done to secure medical resources and supplies; clinical trials' management and monitoring points have been reconsidered. This allowed the regular provision of nutritional counseling and nutritional support in both inpatients and outpatients, in line with the recommended hygienic measures to protect both patients and healthcare professionals. At hospital discharge, a booklet containing nutritional advice during the COVID-19 epidemic is being delivered, with the aim to provide appropriate dietary and nutritional advice and prevent or contrast fake-news on COVID-19 protective diets [<https://nutritionstudies.org/covid-19-resources/>] that may worsen nutritional status of cancer patients [15]. In addition, oral nutritional supplements (ONS) are being directly provided to cancer patients detected at risk of malnutrition, in order to increase calorie-protein intake.

Nutritional follow-up has been planned by telephone counseling: phone calls by clinical nutritionists and dietitians are being regularly provided to patients in order to perform a

quick triage of their clinical and nutritional conditions; laboratory exams are being checked by email; the prosecution or modification of nutritional support, including home artificial nutrition, are decided also in view of the ongoing cancer treatment, and the decision is shared with the oncologists. In case of particular critical issues, e.g., the worsening of nutritional status, hospital admission is planned.

We think that massive efforts should be put into monitoring patients at home not only by regular telephone and email contacts but also by smartphone apps. In particular, we are using the app NUTritional Risk Assessment (NUTRIENT), which was developed by the joint Working Group of the Italian Association of Medical Oncology (AIOM), the Italian Society of Artificial Nutrition and Metabolism (SINPE), and the Italian Federation of Volunteer-based Cancer Organizations (FAVO) [16]. It allows physicians, nurses, and dietitians to quickly perform nutritional risk assessment by the Nutritional Risk Screening 2002 (NRS-2002) [17]. In addition, this app allows patients to access multimedia textual and iconographic contents that can help them in facing the most frequent eating difficulties and nutrition-impact symptoms.

In the era of new technologies and social media, the current emergency may serve as the stimulus to implement telemedicine whenever possible and feasible.

We are currently working to activate telemedicine, in order to provide patients with online consultations by clinical nutritionists, dietitians, and medical oncologists. In the current pandemic, we believe that it may be extremely helpful for patients monitoring and support, leaving them safely at home, and could also help to alleviate patients' isolation and loneliness [18, 19].

Although “telehealth” cannot be the only future strategy of medicine due to the relevance of patient-doctor interaction, particularly in the field of oncology, the current crisis of the healthcare system may require the use of electronic communication as a prompt and effective means to optimize cancer treatment and nutritional care.

Implementing appropriate nutritional care in oncology during this unprecedented emergency is a hard challenge. However, any effort should be done to guarantee, along with active treatment, adequate nutritional support to cancer patients, in order to prevent the deleterious consequences of malnutrition on clinical outcomes and quality of life.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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