



# Nutrition in patients with cancer: a new area for medical oncologists? A practising oncologist's interdisciplinary position paper

Stefan Rauh,<sup>1</sup> Andrea Antonuzzo,<sup>2</sup> Paolo Bossi,<sup>3</sup> Robert Eckert,<sup>4</sup> Marie Fallon,<sup>5</sup> Anna Fröbe,<sup>6</sup> Silvia Gonella,<sup>7</sup> Raffaele Giusti,<sup>8</sup> Gabor Lakatos,<sup>9</sup> Daniele Santini,<sup>10</sup> Anna Villarini<sup>11</sup>

**To cite:** Rauh S, Antonuzzo A, Bossi P, *et al.* Nutrition in patients with cancer: a new area for medical oncologists? A practising oncologist's interdisciplinary position paper. *ESMO Open* 2018;**3**:e000345. doi:10.1136/esmoopen-2018-000345

Received 4 March 2018  
Revised 9 April 2018  
Accepted 12 April 2018

Published online  
5 May 2018

The nutritional status of every patient with cancer may be negatively affected by the cancer itself (ie, mechanical obstruction) or indirectly through tumour-induced metabolic changes (often referred to as cancer-induced malnutrition or cachexia).<sup>1</sup>

Most of the antineoplastic treatments are likely to cause bothersome side effects (eg, xerostomy, nausea, diarrhoea, taste alterations) that alter appetite and reduce food intake. Some of these side effects may persist for long after treatment has stopped and in some cases, patients do not ever recover (ie, taste alterations due to radiotherapy for head and neck cancer). This may provoke a loss in food enjoyment, which can lead patients to withdraw from social situations that may involve food,<sup>2</sup> thus, suggesting that nutrition in patients with cancer is a complex issue that requires a multidisciplinary approach by involving oncologists, nutrition specialists, psychologists, nurses and other allied healthcare professionals.

According to several studies, medical oncologists and other healthcare professionals treating patients with cancer seem to neglect nutritional issues, both considering screening and information or intervention.<sup>3,4</sup>

This has led the European Cancer Patient Coalition to publish a Cancer Patient's Nutritional Bill of Rights, which was presented in the European Parliament in Brussels in November 2017.<sup>5</sup>

The Bill of Rights is also based on the recently updated European Society of Parenteral and Enteral Nutrition guidelines on nutrition in patients with cancer patients.<sup>6</sup>

## NUTRITION: A MAJOR CONCERN TO OUR PATIENTS WITH CANCER AND THEIR FAMILIES

Nutrition is a major issue for most patients with cancer and their families, and its impact

will often lead to highly emotionalised discussions in our daily practice. Many patients will be worried when they witness loss of appetite and weight. Family members will pronounce even more often concerns, even when patients try to belittle them: weight loss is for many scarily synonymous with late, fatal stage cancer. For all participants, there often is an unpronounced underlying fear: that their cancer may already have 'consumed' the patient, and thus 'won'. On the other hand, nutrition is one factor they potentially (think they) can influence.

Family members often see food as a vehicle to aid recovery and believe that increasing intake would increase weight and prolong life, thereby they usually put their loved one under pressure to eat, causing tension and conflict in the patient-family unit.<sup>7,8</sup> Thus, also family members require medical information and guidance concerning nutrition to ensure they are getting the best care possible to their beloved, otherwise they would experience frustration and anger over weight loss management and perceive a lack of intervention in relation to nutritional concerns.<sup>7-9</sup>

Unfortunately, receiving correct information is still under-addressed by healthcare professionals, notwithstanding it's a primary right of the patients.<sup>7-9</sup>

The lack of guidance will often lead to doubtful 'self-management' strategies.

Frantic feeding strategies, continuously proposing or imposing food will often be counterproductive. Many will also turn to 'alternative' approaches: alimentary complements and high-dose vitamins are only some examples, sometimes proposed as 'expertise' by friends and family of the cancer patient, others advertised in the lay press or on commercial websites. There is an expanding

For numbered affiliations see end of article.

**Correspondence to**  
Dr Stefan Rauh;  
stefanrauh1964@gmail.com

market of ‘alternative’ hypo caloric anticancer diets, which are not supported by any scientific evidence and which may lead to insufficient protein-calorie intake and could only accelerate the way towards cancer cachexia.

Oncologists are also confronted with patients undergoing conceptual diets (ie, avoiding carbon hydrates) or fasting periods considered to improve anticancer treatments, with varying evidence of benefit and lack of harm.<sup>10</sup>

An exploration of the experience of what patients with cancer cachexia want from healthcare professionals identified three dimensions that they would like to discuss:

- ▶ They want their weight loss acknowledged.
- ▶ Information about weight loss and the reasons justifying it.
- ▶ Interventions to deal with it.<sup>11</sup>

Patients claim for appropriate information with regard to the mechanisms of cancer cachexia and its likely negative consequences.

This represents the first point of the bill of right for appropriate and prompt nutritional support of patients with cancer.<sup>5</sup>

#### IF NUTRITION IS SO IMPORTANT TO OUR PATIENTS: WHY DO ONCOLOGISTS SEEM TO NEGLECT THIS ISSUE?

Healthcare professionals commonly recognise the impact of cancer cachexia on patients and their families, but the management of this syndrome is considerably influenced by a culture of avoidance and overreliance on the biomedical model.<sup>12</sup> Family members of patients with cachexia frequently perceive the sense of impotence and often they may feel abandoned by whom that would have cared for them referring to be *‘in limbo... nobody cared, we couldn’t turn to anybody... nobody seemed to help us ... we just had to cope on our own...’*<sup>8</sup> These words depicted a perception of isolation and ostracism and suggested that the implications of cachexia extend beyond the patient and involved the entire family unit.

According to recent data from a national survey about nutritional aspect among Italian oncologist, only 5.7% out of 2.375 Italian Association of Medical Oncology members answered the questionnaire on nutrition, which shows a very poor consciousness of the problem. Of even greater concern: only 14.1% of responders come from university hospitals—the centres designated for the training of young oncologists on all perspectives of the discipline and, thus, also on supportive care, should be cared about the most.<sup>3</sup>

Baseline screening of the nutritional status is far from routine for many oncologists. This lack of nutritional screening and interventions may be ascribable to lack of knowledge, guidelines and time, as suggested by a UK survey carried out among oncology specialist trainees in 2006.<sup>4</sup>

Many oncologists seemingly do not pronounce themselves on nutrition.<sup>3,4</sup> Others often propose an ‘eat what-you-like’ approach, trying not to emphasise food issues

too much, maybe also to ‘protect’ patients from directive and humiliating discussions with their family members (‘he knows he should eat more’, ‘I try everything I can to make him eat’, ‘He shouldn’t deny losing weight, everyone can see he’s skinny’,...) or avoid deviating discussions (‘what do you think of antioxidants? Gelée royale,....’).

Clinicians may be confused by conflicting data and evidence. Today, they can, however, rely on available international guidelines for nutritional support in patients with cancer.

They are supposed to bridge the gap between research and current practice and, thus, to reduce inappropriate variability in practice.<sup>13</sup>

Good modern clinical guidelines are based on the highest quality of evidence according to current data leading to a general consensus in state-of-the-art diagnosis and therapy of diseases and a standardised approach to patient care. This is highly appreciated in situations of multiple treatment options, in situation of sparse evidence or of uncertainty.<sup>14</sup>

#### WHAT SHOULD ONCOLOGISTS DO BETTER?

In the light of existing guidelines and patients’ expectations, clearly, practising oncologists will have to do better than in the past.

Maybe, for many of us, nutritional advice resumes in proposing a healthy Mediterranean diet. This cannot apply for the specific needs of patients with cancer undergoing treatments: we do have to learn to diversify.

Contemporary oncology considers ‘simultaneous care’ that means to treat both the illness and the symptoms at the same time—as its primary goal.<sup>15</sup> Indeed, some studies have shown the positive impact of early activation of supportive care on quality of life and patient’s outcome. Nevertheless, literature data demonstrate that symptoms are underestimated and undertreated in most patients. We have more and more successfully integrated pain control and other symptom-orientated supportive care into our practice: let us all make nutrition an equal factor of consideration in our professional care and adopt the current guidelines.

All aspects of nutrition among patients with cancer have to be considered, including the psychological aspects.

The psychological aspects of nutrition and cancer consist of behavioural, emotional, perceptual and attitudinal responses. Among the behavioural consequences are learnt food aversions, changes in food preferences and anticipatory nausea and vomiting. Documented emotional responses are depression and anxiety associated with eating. Attitudinal responses include social, religious, cultural and other values that may change as a consequence of the disease. Medical oncologists are asked to assess all of these issues and refer the patients to the appropriate specialist according to the identified problem. Therefore, medical oncologists primarily need to be aware of the complexity of nutritional question and

require better training on nutrition as a supportive care issue.

### HOW SHOULD MEDICAL ONCOLOGISTS CARE ABOUT THEIR PATIENTS' NUTRITION?

Ideally, nutritional problems should be dealt with by nutrition specialists. This is still unfortunately far from reality in many institutions and countries across Europe. While an interdisciplinary environment including nutrition specialists is clearly a standard to strive for, oncologists are asked to manage basic features. Therefore:

- ▶ Every oncologist should be aware of existing updated guidelines concerning the nutrition of patients with cancer.
- ▶ The scientifically proven benefit of nutritional screening and interventions make it mandatory to address these issues in all the patients.<sup>6</sup>
- ▶ Screening for malnutrition is simple and should be mandatory during every visit or new admission of any patient with cancer, so as to identify as early as possible malnutrition (the earlier it is detected, the more treatment strategies will be likely to be beneficial). Several nutrition-screening tools are considered reliable for patients with cancer (ie, Malnutrition Screening Tool, Mini Nutritional Assessment Short Form Revised, Malnutrition Universal Screening Tool and Nutritional Risk Screening 2002) and allow a quick and easy nutrition screening, thus freeing up resources that may be reallocated in higher priority nutrition activities.<sup>16</sup>
- ▶ Medical oncologists should be knowledgeable concerning possible interventions. Most of all, they should consider addressing nutritional (as well as other supportive care) issues in a multidisciplinary manner, both to diagnose possible remediable causes for malnutrition as well as decide interventions.<sup>4</sup>
- ▶ According to the patients' bill of right, every patient with cancer has the right to nutritional screening and prompt referral for comprehensive nutritional assessment when a nutritional risk has been identified<sup>5</sup>
- ▶ Time constraints may not let medical oncologists to offer all the information about the mechanisms and consequences of cachexia that patients and their families would desire. Similarly, medical oncologists rarely have enough time to thoroughly investigate all the side effects a patient with cancer complains of. Therefore, a multidisciplinary approach with nurses and other allied healthcare professionals that strictly collaborate with medical oncologists in offering correct information and performing a systematic nutritional screening, using validated tools, both at diagnosis and at regular intervals depending on the clinical status, may be a successful strategy to overcome the lack of time and guarantee patients with cancer their rights. Indeed, nutrition risk screening of patients with cancer is the first step to allow early recognition of nutritional problems and refer patients identified as at nutritional risk to health professionals with documented

skills in clinical nutrition for appropriate nutritional management.<sup>17</sup>

- ▶ Patients and their families are confronted daily with overwhelming amounts of non-professional nutritional proposals, some purely commercial. Medical oncologists should not avoid discussion of this topic, trying to offer evidenced-based strategies.

### HOW CAN WE GET THERE? OF FACILITATORS AND BARRIERS

The relatively low esteem of nutritional support in today's clinical oncology has to be overcome: more room for education in the Medical Oncologist's curriculum is needed to make future oncologists aware and train them. The European Society for Medical Oncology/American Society of Clinical Oncology global core curriculum refers very briefly to the fact that a trainee should learn and understand 'supportive measures in relation to all kinds of systemic anticancer therapies'. In this regard, nutrition needs continuous support.

Nutritional assessment and management should become an integrative part of clinical trials. This would further enhance its importance and facilitate integrating management strategies into daily practice.

Guidelines should provide clear and easy to follow algorithms, adapted to different phases of the journey of a patient with cancer and according to needs at diagnosis, during treatment and follow-up.

The development of checklists at the oncologist's and the patients' disposal could facilitate guideline implementations.

Guidelines need to be locally implemented to be efficient. Nutritional multidisciplinary working groups should be created in every cancer centre, who should 'translate' current guidelines into practice. Clear tasks and responsibilities would have to be defined for all participants. In the future, this could be part of a national or other accreditation framework for an oncologic centre of excellence.

Assessment/screening of nutritional status at baseline should be part of mandatory global patient evaluation. Patients should be implicated in these steps to better understand specific needs.

The Cancer Patient's Nutritional Bill of Rights should not be a call without an answer but soon confirmed by our daily practice.

#### Author affiliations

<sup>1</sup>Oncology, Centre Hospitalier Emile Mayrisch, Esch, Luxembourg

<sup>2</sup>Department of Oncology, Azienda Ospedaliero Universitaria, Pisa, Toscana, Italy

<sup>3</sup>Oncologia Medica 3, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy

<sup>4</sup>Medical Oncology, Onkologische Schwerpunktpraxis, Esslingen, Germany

<sup>5</sup>Palliative and Supportive Care Group, University of Edinburgh, Edinburgh, UK

<sup>6</sup>Clinical Oncology, University Centre Sestre Milosrdnice, Zagreb, Croatia

<sup>7</sup>Nursing Sciences and Public Health, AOU Città della Salute e della Scienza, Turin, Italy

<sup>8</sup>Department of Oncologia, Azienda Ospedaliera Universitaria Policlinico Umberto I, Roma, Italy

<sup>9</sup>Medical Oncology, Magyar Klinikai Onkológiai Tarsaság, Budapest, Hungary

<sup>10</sup>Oncologia Medica, Università, Campus Bio Medico, Roma, Italy

<sup>11</sup>Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Lombardia, Italy

**Contributors** This paper has been written by SR. All authors contributed actively to the writing, modifying and correcting the text as well as approving the final version.

**Funding** This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Author note** SR, RE, AF and GL are the members of the ESMO Practising Oncologist's Committee.

**Open Access** This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

© European Society for Medical Oncology (unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

## REFERENCES

1. Fearon K, Strasser F, Anker SD, *et al.* Definition and classification of cancer cachexia: an international consensus. *Lancet Oncol* 2011;12:489–95.
2. Alvarez-Camacho M, Gonella S, Ghosh S, *et al.* The impact of taste and smell alterations on quality of life in head and neck cancer patients. *Qual Life Res* 2016;25:1495–504.
3. Caccialanza R, Cereda E, Pinto C, *et al.* Awareness and consideration of malnutrition among oncologists: Insights from an exploratory survey. *Nutrition* 2016;32:1028–32.
4. Spiro A, Baldwin C, Patterson A, *et al.* The views and practice of oncologists towards nutritional support in patients receiving chemotherapy. *Br J Cancer* 2006;95:431–4.
5. Caccialanza R, De Lorenzo F, Gianotti L, *et al.* The cancer patients' charter of rights for appropriate and prompt nutritional support. *Nutritional Care Cancer* 2017;25:3001–4.
6. Arends J, Bachmann P, Baracos V, *et al.* ESPEN guidelines on nutrition in cancer patients. *Clin Nutr* 2017;36:11–48.
7. Reid J, McKenna H, Fitzsimons D, *et al.* Fighting over food: patient and family understanding of cancer cachexia. *Oncol Nurs Forum* 2009;36:439–45.
8. Reid J, McKenna H, Fitzsimons D, *et al.* The experience of cancer cachexia: a qualitative study of advanced cancer patients and their family members. *Int J Nurs Stud* 2009;46:606–16.
9. Hopkinson JB, Richardson A. A mixed-methods qualitative research study to develop a complex intervention for weight loss and anorexia in advanced cancer: the family approach to weight and eating. *Palliat Med* 2015;29:164–76.
10. Chung HY, Park YK. Rationale, feasibility and acceptability of ketogenic diet for cancer treatment. *J Cancer Prev* 2017;22:127–34.
11. Reid J, McKenna HP, Fitzsimons D, *et al.* An exploration of the experience of cancer cachexia: what patients and their families want from healthcare professionals. *Eur J Cancer Care* 2010;19:682–9.
12. Millar C, Reid J, Porter S. Healthcare professionals' response to cachexia in advanced cancer: a qualitative study. *Oncol Nurs Forum* 2013;40:E393–E402.
13. Gundersen L. The effect of clinical practice guidelines on variations in care. *Ann Intern Med* 2000;133:317–8.
14. Fischer F, Lange K, Klose K, *et al.* Barriers and strategies in guideline implementation – a scoping review. *Healthcare* 2016;4:36.
15. Temel JS, Greer JA, Muzikansky A, *et al.* Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med* 2010;363:733–42.
16. Skipper A, Ferguson M, Thompson K, *et al.* Nutrition screening tools: an analysis of the evidence. *J Parenter Enteral Nutr* 2012;36:292–8.
17. Isenring E, Elia M. Which screening method is appropriate for older cancer patients at risk for malnutrition? *Nutrition* 2015;31:594–7.