

ECONOMIC AND CLINICAL INSIGHTS INTO ORAL NUTRITIONAL SUPPLEMENTATION IN ONCOLOGY: A BRAZILIAN REAL-WORLD STUDY

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BACKGROUND

Cancer is a major public health burden, with approximately 20 million new cases and 9.7 million deaths worldwide in 2022, according to the Global Cancer Observatory (GLOBOCAN). In Brazil, the National Cancer Institute (INCA) estimated around 704,000 new cases for 2023–2025. Cancer and anticancer treatments can lead to several negative side effects, including malnutrition. Despite the recognized need for adequate nutritional support in cancer patients, in daily clinical practice, nutrition is still not considered one of the first aspects to be contemplated. Malnutrition may affect 75% of cancer patients with a wide range of prevalence due to etiology in cancer patients which is complex, multifactorial and may be influenced by the location and type of tumor, stage of the disease, side effects of the treatment, socioeconomic status, functional performance, symptoms of nutritional impact, need for fasting and inadequate nutritional therapy, as well as medical staff awareness about the importance of nutritional status for the prognosis and quality of life of hospitalized patients. Malnutrition is also associated with increased morbidity, longer hospital stays, reduced treatment tolerance, and higher mortality. Oral nutritional supplementation (ONS) has been shown to reduce weight loss, improve treatment adherence, and decrease healthcare resource utilization. However, despite strong evidence, ONS is often underutilized and initiated late in the treatment continuum, which may compromise both clinical outcomes and economic efficiency.



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OBJECTIVES

Cancer patients and survivors need appropriate nutritional support in addition to surgical or pharmacological treatment. The purpose of this study is to analyze ONS utilization on each tumor stage and site.

METHODS

We conducted a retrospective study using administrative claims data from January 2019 to December 2024. Adult patients with confirmed cancer diagnosis undergoing oncological therapy were evaluated for the use of ONS. Variables collected comprised demographics, comorbidities, TNM staging, tumor site, ONS prescriptions, healthcare resource utilization (HCRU), and direct medical costs. Analysis was carried out separately for stages (I, II, III and IV) and by site. Utilization was analyzed separately for early-stage (I/II) and late-stage (III/IV) disease, as well as by tumor site. Statistical comparisons between categorical and continuous measures were performed using Chi-square and Fisher's exact tests, and Student's T-tests, respectively. Statistical significance was defined as a p-value less than 0.05.



From January/2019 to December/2024



1,816 cancer patients were evaluated for the use of **Oral Nutritional Supplementation**

Data Includes



Demographics



Comorbidities



HCRU

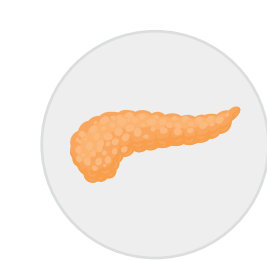


Costs

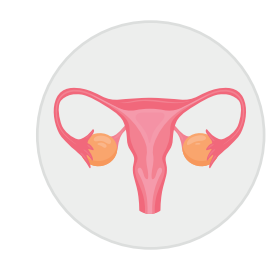
RESULTS

Among the 60,666 beneficiaries included in the database (mean age 53.3 years; 59.5% female), a total of 1,816 patients with a confirmed cancer diagnosis and undergoing oncological therapy (mean age of 69.8 years, female=56.3) met the eligibility criteria for this analysis. Within this cancer cohort, 27.3% of patients received at least one prescription of oral nutritional supplementation (ONS) during the observation period. ONS was used in 20.9% for early-stages (I/II) and 37.9% for late-stages (33.6% III, 40.7% IV) ($p < 0.001$). The highest rates of ONS use were observed in patients with pancreatic (55.2%), ovarian (50.0%), liver/biliary tract (44.2%), colorectal (43.1%), gastric/esophageal (40.9%), and lung cancers (34.9%). Annual rates of procedures were: outpatient visits=8.3, emergency room visits=2.7, tests=114.8 and 2.0 for hospitalizations. Average length of hospital stays was 11.7 days. From an economic perspective, the mean annual healthcare cost per patient was USD\$39,198. The largest proportion of expenditures was attributed to chemotherapy and radiotherapy (40.3%). Nutritional support represented a small share of total healthcare expenditures (3.9%), with oral nutritional supplementation (ONS) accounting for 14.6% of this spending.

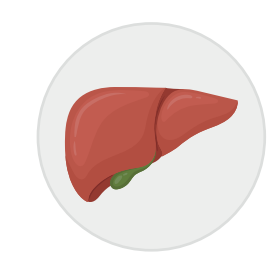
The tumors with the highest use of oral nutritional supplementation:



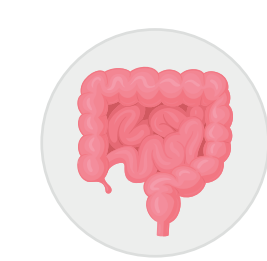
Pancreas
(55.2%)



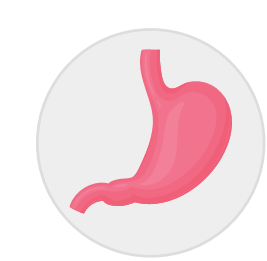
Ovary
(50.0%)



Liver/Biliary Tract
(44.2%)



Colorectal
(43.1%)

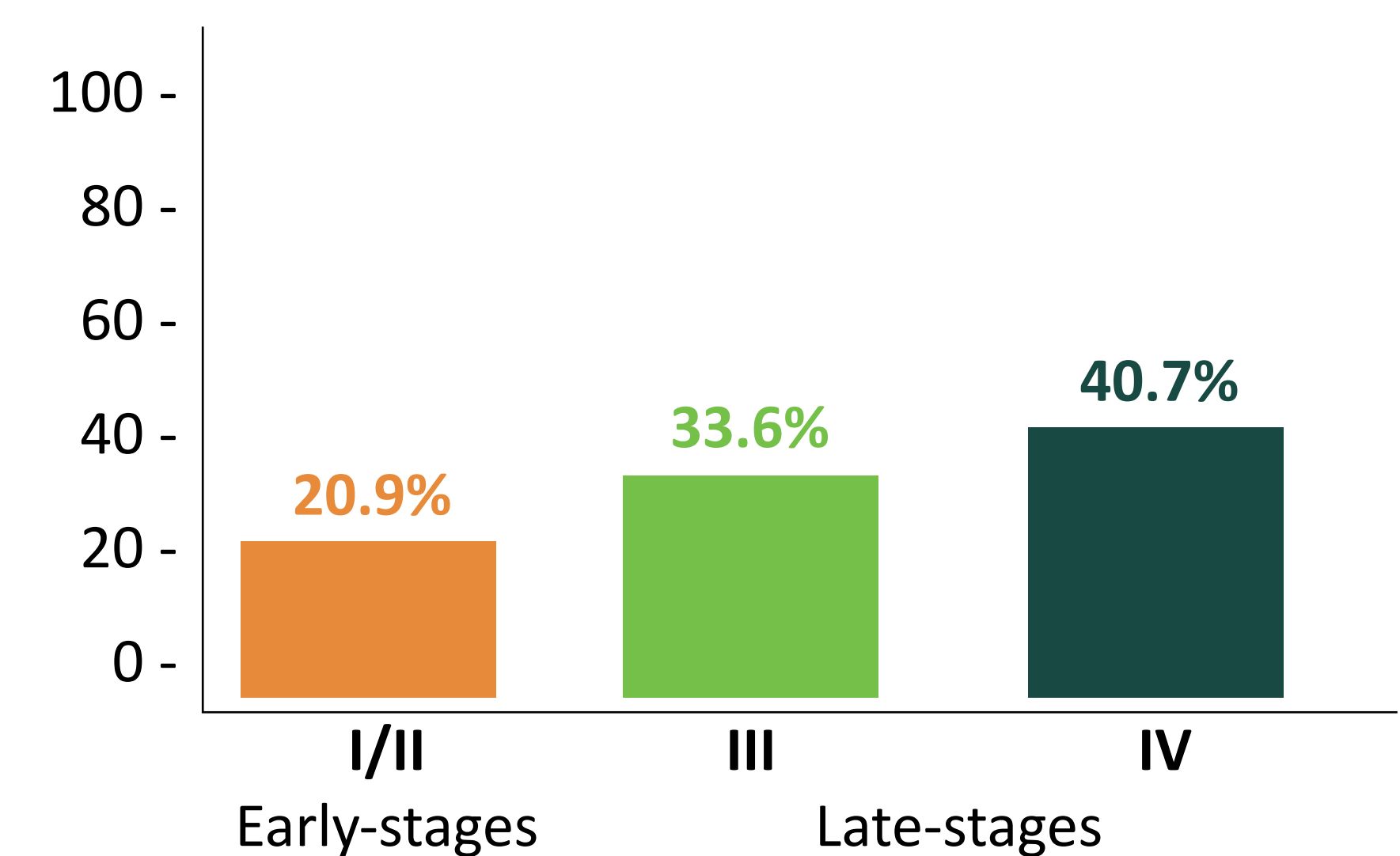


Gastric/Esophageal
(40.9%)



Lung
(34.9%)

27.3% of patients received at least one prescription of oral nutritional supplementation (ONS)



The largest proportion of expenditures was attributed to

40.3%
Chemotherapy
and radiotherapy

3.9%
Nutritional
support

14.6%
Oral nutritional
supplementation

CONCLUSIONS

Malnutrition is a frequent problem in cancer patients, which leads to prolonged hospitalization, a higher degree of treatment-related toxicity, reduced response to cancer treatment, impaired quality of life and worse overall prognosis. Even minimal weight loss during chemo/radiotherapy (CRT) is associated with significantly reduced survival. This study shows that tumor sites had a significant association with the use of ONS but were more used in patients with the worst prognosis and/or late stages of cancer. The position of The Survivorship Care and Nutritional Working Group of The Alliance Against Cancer, recommends early intervention with ONS for cancer patients at nutritional risk, including those in early stages, aiming to prevent the progression of malnutrition status. Despite representing a small share of total healthcare costs, timely and systematic nutritional intervention—including early ONS initiation—may be a cost-effective strategy to improve treatment adherence, to prevent extended hospital stays, reduce complications, and optimize both clinical outcomes and resource utilization in oncology.

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