

Malnutrition-Related healthcare costs in hospitalized patients with Inflammatory Bowel Disease: a nationwide real world data analysis

Bini C¹, Scortichini M¹, Lanati EP², Pagella V^{2,3}, Sciattella P¹

¹ CEIS-EEHTA, University of Rome "Tor Vergata"

² LIONHEALTH SB

³ Department of Pharmaceutical Sciences, University of Milan

LB083

Background

In Italy, approximately **250,000 people are affected by Inflammatory Bowel Disease (IBD)**. Evidence from the literature indicates that the **prevalence of malnutrition** in this population **ranges from 13% (32,500 patients) to 26% (65,000 patients)**. Although malnutrition is associated with **worse clinical outcomes** and **increased healthcare costs**, global data on its **economic impact in IBD** remain limited, and **no such data are currently available for Italy**. Moreover, **nutritional screening** and the use of **oral clinical nutrition** are **not systematically included** in the patient care pathway in Italy, leading to limited recognition of the value of clinical nutrition as a preventive strategy.

This study aimed to assess the **clinical and economic burden of malnutrition among hospitalized IBD patients in Italy**.

Method

Study design: Retrospective analysis
Source: Italian National Hospital Discharge Database (SDO)
Time frame: 2015 – 2019
Study population: Patients with a first hospitalization for **IBD (Crohn's disease or ulcerative colitis)**

Malnutrition was identified through specific **ICD-9-CM codes**. Patients were followed for 1 year to assess **clinical outcomes** (hospital mortality, length of stay, readmissions) and **costs** based on national DRG tariffs. Comparisons between patients with and without malnutrition were performed using 1:1 matching for age, sex, region and Charlson Comorbidity Index. After matching, 3,682 patients were included.

Results

Between 2015 and 2018, **64,307 patients** were hospitalized with an IBD diagnosis, of whom **3.1% (1,951) had a diagnosis of malnutrition**. Patients with malnutrition showed:

Table 2 – Clinical Outcomes Stratified by Malnutrition Status

Outcome	Malnourished patients	Not malnourished patients	Delta
In-hospital mortality rate	6.3%	4.5%	+ 1.8%
Hospital stays (days)	30	16	+ 14
Annual readmissions	1.26	0.71	+ 0.55

Table 3 – Costs Stratified by Malnutrition Status

Type of Hospitalization	Malnourished patients	Not malnourished patients	Delta	
			value	% increase
First hospitalization cost per patient with IBD	€ 5,097	€ 3,847	€ 1,250	+32,5%
Cost of readmissions for patients with IBD (Inpatient)	€ 5,567	€ 2,519	€ 3,048	+121%
Cost of readmissions for patients with IBD (Day Hospital)	€ 193	€ 151	€ 42	+27,8%
Total cost per patient with IBD	€ 10,857	€ 6,517	€ 4,340	+66,6%

Conclusions

- This study provides the **first Italian evidence on the economic impact of malnutrition in patients with IBD**, showing its additional **burden** on the National Health Service (NHS).
- These expenditure **should be properly considered into clinical management strategies** for patients with IBD in Italy. European evidence shows that use of oral nutritional supplements (ONS) are cost-effective relative to dietary advice in care home residents (ICER equal to 10,961/QALY, below the threshold range of £20,000-£30,000 used by NICE for cost-effectiveness assessments)³. Therefore, implementing **targeted clinical nutrition interventions** within the care pathway of patients with IBD may represent an effective strategy to **optimize healthcare use in Italy**.
- The study also highlights critical **issues related to the diagnosis of malnutrition**: the prevalence of IBD-related malnutrition reported in hospital discharge records is markedly lower than what is documented in the literature (**3.1% of patients vs. 13%–26%**), suggesting **underdiagnosis or undercoding**. This is likely due to the absence of a more complex DRG and higher reimbursement associated with malnutrition. Consequently, **the actual incidence of malnutrition is likely underestimated**.
- Based on these figures, it will be key to **assess impact on the Italian NHS of a new potential investment in medical nutrition** among IBD patients, in order to understand both patients outcomes and potential saving in terms of hospitalization.

References

- Singh, et al. 2022. "Evaluation of Nutritional Characteristics Reveals Similar Prevalence of Malnutrition in Patients with Ulcerative Colitis and Crohn's Disease".
- Casanova, et al. 2017. "Prevalence of Malnutrition and Nutritional Characteristics of Patients With Inflammatory Bowel Disease".
- Eliu, et al., 2018. "Cost-effectiveness of oral nutritional supplements in older malnourished care home residents".

Contact information

Paolo Sciattella, paolo.sciattella@uniroma2.it

Valentina Pagella, pagella@lionhealth.tech
www.lionhealth.tech