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Clinical nutrition in internal medicine: An Italian survey by the scientific societies FADOI and SINPE

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ABSTRACT

Objectives: Patients hospitalized in internal medicine are frequently malnourished or at risk for malnutrition. The aim of this study, conducted by the Federation of Associations of Hospital Internists (FADOI) and the Italian Society of Artificial Nutrition and Metabolism (SINPE) was to assess the nutritional management of internal medicine inpatients in Italy, to identify critical issues and formulate practical proposals to improve nutritional treatment.

Methods: From February to April 2021, FADOI and SINPE conducted a national web-based survey, including a 13 multiple-choice item questionnaire related to three key areas:
screening and assessment of malnutrition and associated/overlapping sarcopenia and dysphagia;
specialist consultations; and
management of nutritional support.

Results: Responding to the questionnaire were 266 physicians among FADOI members (10.76%). Screening for malnutrition is performed with validated tests, within standardized care pathways, or routinely, only by 22% of participants. Global Leadership Initiative on Malnutrition criteria for diagnosis of malnutrition are little used (20%). Screening for sarcopenia was insufficient as the systematic use of assessment tools (handgrip/chair test) was minimal (3%). Screening for dysphagia is not a routine procedure for at-risk patients according to 33% of participants. Systematic involvement of clinical nutrition services/units in the management of malnourished/sarcopenic patients was reported by only 17% of internists.

Conclusions: To overcome the critical issues that emerged from the present study, FADOI and SINPE experts proposed practical solutions to promote the application of the most recent guidelines and to improve awareness and sensitivity to nutritional management in internal medicine real-life settings.

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Introduction

Approximately 30% to 50% of patients admitted to hospital wards in the medical area are malnourished or at risk for malnutrition, a condition strongly associated with greater mortality, morbidity, functional decline, prolonged hospital length of stay, and increased health care costs [1–3].

The main mechanisms responsible for progressive deterioration of nutritional status are disease-related anorexia, immobilization, and the inflammatory and endocrine responses to stress. However, the contribution of reduced food intake due to oropharyngeal dysphagia, a geriatric syndrome highly prevalent (47–82%) in elderly hospitalized patients and responsible for further complications (including dehydration, respiratory infections, hospital

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readmissions, institutionalization, and mortality), are also not negligible [4–6].

Malnutrition is an important etiologic factor, albeit modifiable, of sarcopenia, a progressive and generalized loss of strength and muscle mass, associated with both increased hospital length of stay (LOS) and readmissions as well as being predictive of a reduction in activities of daily living (ADLs), falls, and mortality 3 mo after discharge [7–10]. The prevalence of sarcopenia in the elderly admitted to medical hospital wards has been estimated at 42% and, although it frequently correlates and overlaps with the presence of malnutrition or risk for malnutrition, it should not be excluded in overweight/obese patients or in the absence of significant weight loss [11,12]. A recent meta-analysis showed that sarcopenia associated with obesity (*sarcopenic obesity*) correlates with a greater risk for mortality, particularly in the hospitalized elderly [13].

A systematic and standardized use of integrated screening and diagnostic methods at time of admission for malnutrition, dysphagia, and sarcopenia therefore appears justified, representing the starting point for a timely, appropriate, and effective nutritional intervention.

A recent multicenter study demonstrated that in the patient at nutritional risk, personalized support aimed at achieving the calorie and protein target during hospitalization has a beneficial effect on some important clinical outcomes, including severe complications, mortality at 30 d, functional status, and quality of life [14]. A subsequent review meta-analysis and a recent economic analysis study concluded that nutritional support in malnourished medical inpatients represents a cost-effective strategy that can reduce the risk for mortality and hospital readmission by about 25% [15,16].

However, despite the availability of guidelines and consensus documents aimed at optimizing nutritional support, their application in daily clinical practice is still insufficient due to the lack of resources and especially to poor knowledge and awareness for the topic of malnutrition [2,6,17–22]. Therefore, it is essential to analyze current hospital management of malnutrition, sarcopenia, and dysphagia, to identify critical issues and formulate practical solutions aimed at an integrated and multidisciplinary approach, based on recent guidelines, within quality and cost-effective pathways.

To our knowledge, there are no published data regarding the management of nutritional support in internal medicine inpatients in Italy. The goal of this study was to assess the state of the art on clinical practice relating to nutritional support in these polymorbid, complex patients.

Methods

A group of expert members from the Federation of Associations of Hospital Internists (FADOI) and the Italian Society of Artificial Nutrition and Metabolism (SINPE) developed a questionnaire with 13 multiple-choice questions. The invitation to participate in the study, addressed to hospital internist members of FADOI, was sent through the institutional websites of the two scientific Societies in February 2021. Data were collected anonymously from February to April 2021, using a special platform linked to the FADOI website.

The questionnaire administered to internists was structured to meet the objectives of the study and included questions on participant demographics and questions related to three key areas:

- Screening and assessment of malnutrition, sarcopenia, and dysphagia;
- Specialist consultations;
- Management of nutritional support.

Results

Of the 2473 FADOI members, 266 (10.76%) participated to the survey. A satisfactory distribution of responders across Italian regions (North 47%; Centre 23%; South and islands 30%) and type of health institutions (public hospitals 65%; teaching/university hospitals 27%; private hospitals 6%; and others 2%) was achieved. The responders' characteristics are presented in Table 1, and a detailed description of the answers is reported in Table 2. The average time to complete responses to the questions was <6 min.

Table 1
Characteristics of the responders to the survey

Descriptive analysis of the responders	%
Geographic distribution	
North	47
Centre	23
South and islands	30
Position within internal medicine unit	
Director/Chief	21
Physician	69
Resident	7
Other	3
Type of institution	
Public hospital	66
Teaching hospital	28
Private hospital	6

Screening and diagnosis of malnutrition; screening of sarcopenia and dysphagia (Q 1–5)

Most participants (85%) agreed that the presence of malnutrition is very important in the prognosis of patients admitted to an internal medicine ward. However, screening for malnutrition with validated tests (e.g., Nutrition Risk Screening [NRS] 2002, Malnutrition Universal Screening Tool [MUST], and the Mini Nutritional Assessment – Short Form [MNA-SF]) is performed routinely or within standardized care pathways by only 22% of internists. Some anthropometric parameters (e.g., weight, body mass index) and/or assessment of food history/diary are preferred in routine application (29%) rather than the NRS 2002, MUST, or MNA-SF. Notably, screening is not routinely performed or even omitted according to 50% of the participants.

Also, Global Leadership Initiative on Malnutrition (GLIM) criteria for diagnosis and severity grading of malnutrition are *never* or only *occasionally* used, according to 51% and 29% of participants, respectively.

Additionally, 69% of the internists reported that sarcopenia is not assessed through validated tools such as handgrip strength or chair stand test, even when these tests are feasible.

Conversely, a dysphagia screening test (e.g., water bolus test) is frequently used (67%) within standardized care pathways or otherwise routinely in all patients with at-risk conditions. However, the remaining participants (33%) only prescribe this screening test in patients with stroke or aspiration pneumonia, or not to use it at all, or not as a routine procedure.

Specialist consultations (Q 6 and 7)

In all patients at risk for or with malnutrition/sarcopenia, a specialistic evaluation (clinical nutritionist and/or dietitian) is required *always* or *often*, according to 17% and 21% of participants, respectively. However, the request may be only occasional (23%) or the patient may be managed directly by the ward staff due to the lack of a nutrition service/unit (13%) or despite its presence (21%).

According to 68% of physicians, after confirmation of overt or suspected dysphagia through screening tests, a specialistic consultation (speech therapist and/or phoniatrician/otolaryngologist) is *always* (36%) or *often* (32%) required. However, a sporadic nature of the requirement (13%), as well as direct management by the

Table 2
Questionnaire items with answers

Questionnaire item	Answers, %
1. How much can the presence of calorie-protein malnutrition affect the prognosis of the patient admitted to an internal medicine department?	
Very much	85
Mildly	15
Little	0
Not at all	0
2. The malnutrition screening:	
Is included within a standardized care pathway and performed with validated tests (e.g., NRS 2002, MUST, MNA-SF)	12
Is not included in a standardized care pathway, but is routinely performed through validated tests (e.g., NRS 2002, MUST, MNA-SF)	10
Is performed routinely through the use of anthropometric parameters (e.g., weight, BMI) and/or assessment of food history/diary	29
Is not performed routinely	37
Is not performed at all	12
3. Are GLIM criteria used to diagnose malnutrition?	
Always	7
Often	13
Occasionally	29
Never	51
4. A screening test for dysphagia (e.g., water bolus test):	
Is included in a standardized care pathway	19
Is not included in a standardized care pathway but represents a routine procedure for all patients with at-risk diseases	48
Represents a routine procedure only for patients admitted for stroke or aspiration pneumonia	14
Is not a routine procedure	17
Is not performed	2
5. When possible, is sarcopenia assessment performed by handgrip strength/chair stand test?	
Always	3
Often	4
Occasionally	24
Never	69
6. In the case of a patient at risk for or with malnutrition/sarcopenia, is a specialist advice required (nutritionist and/or dietitian)?	
Always	17
Often	21
Occasionally	23
No, the patient is managed directly by the ward staff	21
No, the patient is managed directly by the ward staff as there is no clinical nutrition service/unit	13
Requests for specialist advice are carried out regardless of screening (not performed)	5
7. In the case of dysphagia or doubtful situations after screening test, is a specialist evaluation required (speech therapist and/or phoniatrician/ otorhinolaryngologist)?	
Always	36
Often	32
Occasionally	13
No, the patient is managed directly by the ward staff	10
No, the patient is managed directly by the ward staff as there are no referral specialists	7
Requests for specialist advice are carried out regardless of screening (not performed)	2
8. The type of diet in a patient with newly diagnosed dysphagia:	
Is chosen based on specialist indications, although there is only one level of texture modified diet	11
Is chosen based on specialist indications from at least two levels of texture modified diet	41
Is chosen autonomously by the ward staff, having only one level of diet available	16
Is chosen autonomously by the ward staff from at least two levels of texture modified diet	32
9. The food diary is predominantly used:	
During malnutrition screening	11
To monitor intake in patients already undergoing nutritional treatment (ONS, AN)	15
To screen malnutrition and to monitor intakes in patients already on nutritional treatment (ONS, AN)	30
Rarely/never	44
10. Oral nutritional supplements:	
Are provided to the patient with reduced intakes, before requesting any specialist advice	39
Are provided to the patient with reduced intakes, as directed by the specialist	31
Are provided to the patient with reduced intakes, independently by the ward staff, since the lack of a clinical nutrition service/unit	30
11. In the patient who does not eat, in the choice of the type of AN (EN vs PN):	
If gastrointestinal function is adequate and clinical conditions are permissive, EN is generally preferred to PN	77
PN is generally preferred	9
It is not important to consider gastrointestinal function, since EN and PN are equivalent in terms of clinical efficacy	1
It is considered only the earliest available and most manageable route of administration	13
12. Who sets up the AN program?	
The ward medical staff, regardless of the clinical nutrition service/structure	39
The ward medical staff, since the lack of a clinical nutrition service/structure	23
The hospital clinical nutrition service/unit	37
Other services/structures	1

(*continued*)

Table 2 (*Continued*)

Questionnaire item	Answers, %
13. If AN is continued at home, who is responsible for follow-up?	
The ward medical staff, regardless of the clinical nutrition service/structure	3
The ward medical staff, since the lack of a clinical nutrition service/structure	3
— The hospital clinical nutrition service/unit	19
Clinical nutrition service/unit other than the hospital's or home care services/units	48
The general practitioner	14
Other services/units	13

AN, artifical nutrition; BMI, body mass index; EN enteral nutrition; GLIM, Global Leadership Initiative on Malnutrition; ONS, oral nutritional supplement; MNA-SF, Mini Nutritional Assessment – Short Form; MUST, Malnutrition Universal Screening Tool; NRS, Nutritional Risk Screening; PN, parenteral nutrition

ward staff due to the lack (7%) or despite the presence (10%) of reference specialists were also reported.

Management of nutritional support (Q 8–13)

According to answers by 52% of participants, the type of diet chosen for a patient with newly diagnosed dysphagia is based on specialist indications, mainly in context with availability of at least two levels of texture-modified diet (41%). However, more frequently (48%) there is a suboptimal autonomy of choice by the ward staff, regardless of the available numbers of modified diet levels.

The use of the food diary is poor: most internists (44%) said the food diary is *never* or only *rarely* used. When employed, the most frequent use (30%) is in both screening for malnutrition and monitoring intake in patients already on nutritional treatment.

Oral nutritional supplements (ONS) are provided to patients with reduced intake, especially before requesting any specialist evaluation (39%) rather than after (31%). However, ONS are also provided autonomously by the ward staff when a clinical nutrition service/unit is not available (30%).

In case of insufficient intakes, if gastrointestinal function is adequate and clinical conditions are permissive, enteral nutrition (EN) is generally preferred to parenteral nutrition (PN) by 77% of respondents in the choice of the artificial nutrition (AN) route. However, in a non-negligible percentage of cases (23%), the gastroenteric tract function is not considered when choosing the administration route.

The AN program is set up by the hospital clinical nutrition service/unit according to 37% of the participants. However, the AN is also set up by the ward medical staff due to lack of a clinical nutrition service/unit (23%) or mostly independently (39%) from the clinical nutrition service/unit.

After discharge, follow-up for patients on home artificial nutrition (HAN) is mainly guaranteed by clinical nutrition services/units outside the hospital or by home care services/units (48%); less frequently by the hospital clinical nutrition service/unit (19%), by the general practitioner (14%), or by other services/units (13%).

Discussion

Patients admitted to internal medicine wards are often older, polymorbid, and frail, malnourished or at risk for malnutrition.

Several underlying conditions contribute to the decline of nutritional status. Anorexia, edentulism, dysgeusia, dysphagia, gastroenteric tract hypokinesis, motor disabilities, visual loss, can all impair nutrient intake. Other factors, such as increased prevalence and severity of chronic diseases, polypharmacy, psychological (confusion, depression, or bereavement) and social factors (isolation, loneliness, poverty, or difficulty in preparing meals) also play a well-recognized etiologic role [23]. Additionally, the acute disease responsible for hospitalization may exacerbate malnutrition as a consequence of hypo/anorexia, bed rest, inflammatory response, and metabolic changes.

Dysphagia significantly contributes to the development of malnutrition in the elderly. This is due to a series of age-related physiologic changes in structure, motility, sensitivity, and coordination, which are responsible for an overall slowdown in the food bolus transit (presbyphagia). This condition of "frailty of swallowing," characterized by a reduced ability to compensate external "stressors" (pathologies and drugs), predisposes to the proper dysphagia development [24].

Moreover, malnutrition, together with limited mobility and disease, represents an important cause of secondary sarcopenia, which frequently overlaps with the progressive muscle mass loss associated with the aging process (primary sarcopenia) [17].

Malnutrition, sarcopenia, and dysphagia are all documented predictors of adverse clinical outcomes [1–10].

According to the present study, internists recognized the importance of malnutrition on the prognosis of medical inpatients. However, screening is carried out with validated tests, within standardized care pathways or routinely, only minimally. Among all validated screening tests, NRS 2002 and MUST may be considered the most appropriate for a hospital setting as they consider the role of acute disease among their items, whereas the MNA is more suitable for assessing patients in residential settings.

Likewise, also the diagnosis of malnutrition is often inadequately performed, since the GLIM criteria are not used or only occasionally used. This represents a critical point as the recent European Society for Clinical Nutrition and Screening guidelines recommend starting nutritional support in polymorbid medical inpatients recognized at risk for malnutrition at screening and assessment [2]. The absence of a systematic assessment of the nutritional status at hospital admission prevents the early recognition of individuals who can benefit from timely, appropriate, and effective nutritional treatment. Notably, hospitalization may be an opportunity to identify a preexisting, unrecognized malnutrition state, and at the same time to start an early nutritional intervention aimed at preventing worsening and deleterious consequences of malnutrition as well as rehospitalizations after the discharge. Data from the literature suggest that sarcopenia is present in about half of these patients [11]. Unfortunately, sensitivity to sarcopenia is insufficient because the systematic use of assessment methods (handgrip strength/chair stand test) is very low (3%). According to a recent consensus, the handgrip strength/chair stand test should be carried out after the positivity of a specific screening test (SARC-F [strength, assistance with walking, rising from a chair, climbing stairs, and falls]), when feasible, or by clinical suspicion [17].

In clinical practice, reduced muscle strength found through the handgrip test is sufficient to implement a nutritional intervention [17], even before low muscle mass confirmation through bioelectrical impedance analysis or, if not feasible or available, through conventional anthropometric measurements such as the calf circumference [17,20].

Although most malnourished patients also present sarcopenia, it should be noted that the loss of muscle mass and function can also occur in the presence of overweight/obesity (*sarcopenic obesity*) or in the absence of significant weight loss, with the risk of escaping diagnosis using the malnutrition screening alone [12,17]. Therefore, sarcopenia and malnutrition assessments must be systematically associated at the time of admission and, when possible, repeated before the discharge.

Among the causes (and consequences) of malnutrition, an important role is played by dysphagia. The survey shows an adequate attention to the signs and symptoms. In fact, a screening test is included within a standardized treatment plan or represents a routine procedure for patients with at-risk conditions according to two-thirds of the participants.

The discrepancy in the greater attention to detect the risk for dysphagia compared with that of malnutrition (67 versus 22%) may find a plausible explanation in the closer link between the swallowing disorder and aspirative pneumonia, which can represent both the cause of admission and a serious acute complication during hospitalization. Differently, malnutrition is often perceived as a generic comorbidity, as a *disease hiding among other diseases*, with apparently less immediate and direct effects on clinical outcomes. Indeed, in other contexts, such as in surgical wards, where the role of malnutrition appears stricter for some complications (e.g., wound dehiscence, infections), the rate of screening implementation is higher (ranging from 38 to about 60%) [25–27]. However, even dysphagia screening tests remain insufficiently applied in the remaining 33% of cases. This is a matter of concern for potential complications, even serious ones, that can derive from a failure to recognize a patient with unsafe and ineffective swallowing. Moreover sarcopenia, as a consequence of disuse and reduced calorie-protein intake, can also involve the swallowing muscles and worsen the dysphagia itself through a vicious circle (*sarcopenic dysphagia*) [28]. Given the high prevalence of dysphagia in patients hospitalized in the medical area, even in this case it does not seem possible to ignore the systematic, integrated application of ad hoc screening methods, as the water bolus test.

An optimal nutritional management in terms of appropriateness and efficacy should include an interdisciplinary and multiprofessional approach, with the involvement of experienced specialists. However, only 17% of internists reported a systematic involvement of clinical nutrition services/units in the management of malnourished and sarcopenic patients. Therefore, it is necessary to ensure of medical and nursing staff of internal medicine departments have a good awareness of malnutrition and sarcopenia issues. This can be accomplished through a basic teaching and training activity suitable to provide strategies and tools for initial nutritional approach, which should be followed by the involvement of other professionals, such as clinical nutritionists/dietitians, within specific protocols and standardized, shared treatment paths.

Similarly, the involvement of experienced specialists for the assessment and management of dysphagia (speech therapist and, when a clinical-instrumental evaluation is required, otolaryngologist/phoniatrician) is fundamental. The choice of the type of diet cannot be left to the ward staff, who may lack the necessary skills to identify the type of texture-modified diet that is most suitable for each individual patient, based on the type and severity of the dysphagia. It is also advisable to have several levels of modified diet available to guarantee the safety and efficacy of swallowing in all hospitalized patients. Recently, a document aimed at international standardization of terminologies and definitions of modified consistency diets has been proposed [21].

The food diary is still a tool that is not used enough. In daily clinical practice it represents a useful tool for a quali–quantitative assessment of caloric and protein intakes, certainly more reliable than the 24-h recall in a hospital setting, especially if analyzed by an expert dietitian. These data compared with the estimated nutritional needs, can be helpful for screening and diagnosis of malnutrition as well as to evaluate the nutritional intervention effectiveness.

If the patient is malnourished, sarcopenic, or both or at risk for malnutrition or sarcopenia, individualized nutritional support strategy should be early established. For medical ward patients, a stepwise escalation of nutritional support should be performed. As a first step, for patients who tolerate oral nutrition, fortification of the standard hospital diet and/or ONS use should be guaranteed. Indeed, ONS have been shown to be effective in preserving muscle mass and independence, improving quality of life as well as reducing complications during hospitalization and readmissions [2].

In patients where nutritional requirements cannot be met orally despite counseling and ONS administration, AN should be considered. Correctly, according to participant answers, in the presence of adequate gastrointestinal function and whenever the general and clinical conditions of the patient allow it, EN is preferred to PN. However, when possible, it would be appropriate that after an initial clinical and nutritional assessment, the choice of route of administration (EN versus PN) and the prescription of an AN program should be made in collaboration with clinical nutrition specialists to ensure an optimal nutritional treatment plan that could be continued at home after discharge.

According to this survey, nutritional therapy at home is predominantly managed by clinical nutrition services/units other than the one in the hospital or by home care services/units. It must be emphasized that HAN represents a medical therapy, the implementation of which is complex and requires an adequate level of operational standard [29]. The management of HAN requires specific skills that ensure the knowledge, prevention, and treatment of the most frequent technical and metabolic complications. Therefore, it is essential to consider HAN as a therapeutic specialistic procedure that can be performed by dedicated personnel mainly belonging to clinical nutrition services/units or to services/units with documented experience, at a hospital (or out-of-hospital) level, with the involvement of the general practitioner.

This work had some strengths. First, the assessment of awareness and attitude toward the problem of malnutrition in internal medicine patients, a topic of particular relevance in terms of both clinical and economic effects, on which specific focus is needed; however, the literature is still limited to date. In fact, although the results we obtained appear consistent with other currently available evidences, all of which agree on emphasizing the need to improve awareness and practices regarding malnutrition, the present study was the first performed, to our knowledge, in this clinical setting, as the other ones mostly refer to oncological patients [30–33]. Second, the survey investigates all the crucial points of the nutritional pathway, from screening/diagnosis phases to treatment during hospitalization and, when necessary, after discharge. Third, the focus is not limited to malnutrition alone but also takes into account other harmful conditions, often concomitant, such as sarcopenia and dysphagia, which require an integrated multidisciplinary management. Finally, the two scientific societies FADOI and SINPE synergically aimed to formulate proposals for an optimal nutritional management, arising from the practical application of the most recent guidelines and consensus in the real-life internal medicine setting.

The main limitation of this study was the suboptimal response rate, probably also attributable to the pandemic emergency period when the survey was conducted.

However, considering the homogeneity of respondents in terms of distribution among the Italian regions and type of health care

Table 3
Critical points and FADOI–SINPE-proposed practical solutions for nutritional management of medical inpatients

	Critical points	FADOI–SINPE-proposed solutions
Screening	**Malnutrition**	In clinical practice, application of: **- NRS 2002 or MUST**
	Sarcopenia	**- SARC-F** (for case finding) - Handgrip (detects low muscle strength)Prediagnostic tool: a low muscle strength is enough to trigger assessment of cause and start intervention
	Dysphagia	**- Bolus water test** *They should be applied in all patients, contextually, early (<48 h after admission), by nurses or trained health care personnel, within standardized care pathways*
Assessment	**Malnutrition**	In clinical practice, application of: **- GLIM criteria** (diagnosis and severity of malnutrition)
	Sarcopenia	**- BIA** (diagnostic tool, confirms low muscle mass)If no other muscle mass diagnostic methods are feasible/available, use anthropometric parameters such as calf circumference (cutoff <31 cm)
	Dysphagia	**- Swallowing specialist advice** They should be applied, after a positive screening test, by a ward physician or nutritionist, within standardized care pathways
	Specialist consultations	Requirement of: • **Nutritional specialist advice** (clinical nutritionist, dietitian) In all patients who are malnourished/sarcopenic and/or at risk for malnutrition/sarcopenia • Advice from **swallowing specialists** (speech therapist, otolaryngologist, phoniatrician) In all patients at risk for dysphagia, for diagnosis confirmation and quantifying severity Requirement for specialist advice should be timely and systematic
Treatment	**Dysphagia diet**	When necessary, to ensure safe and effective swallowing, it should be chosen: • From at least **2 levels of texture modified diet** • Based on specialist recommendations Among modified diet levels, the "pureed" and "soft" textures are generally the most needed
	Nutritional treatment *during* hospitalization	• **Hospital diet fortification, dietary counseling** (nurse/dietitian) • **Oral nutritional supplements** (ward staff/dietitian) • **AN** (physician) AN is recommended when nutritional requirements cannot be met orally, or oral nutrition is contraindicated If gastrointestinal function is adequate and clinical conditions are permissive, enteral nutrition is preferred to parenteral nutrition AN indication, finalities, and management should be shared by internists and clinical nutritionists
	Nutritional treatment *after* discharge	As during hospitalization, the nutritional strategy after discharge should be shared between internists and clinical nutritionists

AN, artificial nutrition; BIA, bioelectrical impedance analysis; FADOI, Federation of Associations of Hospital Internists; GLIM, Global Leadership Initiative on Malnutrition; MUST, Malnutrition Universal Screening Tool; NRS, Nutritional Risk Screening; SARC-F, strength, assistance with walking, rising from a chair, climbing stairs, and falls; SINPE, Italian Society of Artificial Nutrition and Metabolism

institutions, this exploratory sample may represent a reliable picture of the national panorama, also considering views by well-experienced internal medicine directors/chiefs (21% of respondents).

Another limitation was the lack of a section aimed at specifically assessing the perceived barriers for implementation of nutrition care. However, some of these were inferred indirectly through careful analysis of the responses, and it was still possible to identify certain priority actions to valorize the role of clinical nutrition in the internal medicine wards. Moreover, there were no direct questions on the economic costs of malnutrition, which will be the topic of a forthcoming SINPE investigation.

Conclusions

Although the recent COVID-19 pandemic has led to many disruptions in the routine activities in both internal medicine departments and clinical nutrition services/units, an improvement in the nutritional management of inpatients is essential and has proven benefits, both in terms of length and outcome of hospitalization, as well as economics.

The critical issues focused on in this study are the starting points for proposing practical operative actions aimed at promoting the appropriateness and effectiveness of nutritional support in medical real-life settings, through the implementation of existing guidelines, within protocols, procedures, and standardized care pathways. The solutions proposed jointly between FADOI and SINPE concern the following areas (Table 3):

- Screening and assessment for malnutrition, sarcopenia, and dysphagia;
- Involvement of clinical nutrition services/units staff (physician, dietician, nurse), as well as swallowing specialists (speech therapist, otolaryngologist/phoniatrician);
- Nutritional treatment during hospitalization and after discharge.

Additionally, Table 4 provides a list of priority actions crucial to enhancing the role of clinical nutrition, to improve the effectiveness of nutritional intervention, and to increase awareness and knowledge of nutritional issues among medical and nursing staff.

In this view, a political action should be undertaken mostly through educational interventions, to promote and support responsibilities within hospitals and to create adequate economic reimbursement schemes [34–36].

It will be interesting and worthwhile to repeat a similar survey in a few years to check the real implementation, effectiveness, and results of this initiative.

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Table 4
FADOI–SINPE suggestions aimed at enhancing the role of clinical nutrition in internal medicine

List of priority actions to implement clinical nutrition in medical settings
1. Include the nutritional screening/assessment in the patient's clinical folder
2. Code malnutrition (and relative interventions) at the time of discharge for the purpose of diagnosis and economic reimbursement of hospitalization
3. Implement and share standardized pathways between nutritionists and internists, possibly identifying reference figures in the medical ward (physician and nurse)
4. Refer to hub clinical nutrition service/unit in hospitals that lack it
5. Organize training courses targeted at ward staff, emphasizing the role of hospital malnutrition, sarcopenia, dysphagia, early recognition, and management
6. Equip internal medicine wards with appropriate tools for assessment of malnutrition/sarcopenia, such as hand-held dynamometer and bioelectrical impedance analysis devices
7. Include clinical nutrition in the curricula of postgraduate internal medicine programs and, ideally, in all medical schools [34]

FADOI, Federation of Associations of Hospital Internists; SINPE, Italian Society of Artificial Nutrition and Metabolism

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