SINPE
Società Italiana di Nutrizione Artificiale e Metabolismo

INCREASE MALNUTRITION AWARENESS:
CHALLENGE FOR THE FUTURE

High prevalence of malnutrition in Italian Internal Medicine wards: results from A.M.I.D.O. study

P Gnerre[1], S Lingua[2], F Gallo[1], S Crivellari [3,4], F Giacchero[5], M Farotto[5], P Cerutti[1], A Bertone[1], G P Ferrari[1], M Garbin[1], **M Bertolotti[3], A Maconi[3], E Seksich[2]**

[1]SC Medicina Interna, Monsignor Galliano Hospital, Azienda Sanitaria Locale di Alessandria, Acqui Terme (AL), Italy
[2]SS Diabetologia ed Endocrinologia, Monsignor Galliano Hospital, Azienda Sanitaria Locale di Alessandria, Acqui Terme (AL), Italy.
[3]Research Training Innovation Infrastructure, Research and Innovation Department (DAIRI), Azienda Ospedaliera "SS Antonio e Biagio e Cesare Arrigo", Alessandria, Italy
[4]SS. Progetti, Ricerca e Innovazione, "Michele e Pietro Ferrero" Hospital, ASL CN2, Verduno (CN), Italy
[5]Research Training Innovation Infrastructure, Research and Innovation Department (DAIRI), Santo Spirito Hospital, Azienda Sanitaria Locale di Alessandria, Casale Monferrato (AL), Italy

Introducion

Malnutrition is defined as an acute, subacute and chronic nutritional state, in which varying degrees of deficient or excessive nutrition, with or without an underlying inflammatory state, lead to a change in body composition and functional impairment. European studies show an extremely high prevalence of malnutrition (>70%) in patients admitted to Internal Medicine wards: a FADOI-SINPE survey in Italy revealed that malnutrition is an underestimated clinical condition: 85% of respondents agreed that the risk of malnutrition in Internal Medicine is closely linked to adverse disease outcomes; only 22% had screened for malnutrition with validated tests, such as NRS-2002, MNA-SF and MUST. A Portuguese multicentre study pointed out that the prevalence of malnutrition in Internal Medicine wards was 73% (56% moderate/suspected malnutrition and 17% severe malnutrition), while 54% of patients needed a multidisciplinary intervention. At the national level, this aspect had already been highlighted by the PIMAI study, which had shown that the percentage of malnourished subjects on admission to Italian hospitals was 31%. Malnutrition is present in elderly patients admitted to Internal Medicine, it has a tendency to worsen during hospitalization and it has been associated with worse, long-term outcomes. The factors that most influence short-term prognosis are coming from residential care facilities, multimorbidity, the presence of sarcopenia, inflammation and dysphagia. Malnutrition is associated with critical outcomes such as depression of the immune system, difficulty in healing, muscle atrophy, prolonged hospitalization, increased risk of infections and complications, and increased mortality. Some data suggest that malnourished surgical patients, compared to well-nourished ones, have a two to three times higher risk of complications, increased mortality and prolonged hospital stay of up to 90%.

Materials and Methods

PRIMARY AIM: To assess the nutritional risk of patients consecutively admitted to the Internal Medicine SC of the Acqui Terme Hospital from 1 January 2023 to 15 May 2023, by administering the MUST questionnaire. **SECONDARY AIM**:- To assess the effectiveness of a nutrition programme started early during hospital stay; To assess clinical outcomes in relation to the degree of malnutrition; To assess any gender differences in relation to nutritional status.

TYPE OF STUDY: Non-pharmacological, monocentric, no-profit, interventional clinical trial, promoted by the Department of Integrated Activities Research and Innovation (D.A.I.R.I.) and approved by the Ethics Committee.

POPULATION: The study enrolled 268 patients admitted to the Internal Medicine SC of the Monsignor Giovanni Galliano Hospital in Acqui Terme between 1 January 2023 and 15 May 2023.

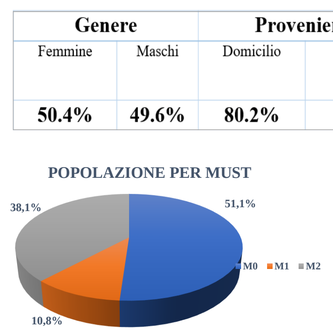
INCLUSION CRITERIA: Subjects admitted from 1 January to 15 May 2023 at the SC Internal Medicine of the Monsignor Giovanni Galliano Hospital in Acqui Terme of the ASL of Alessandria. Age 18 +.

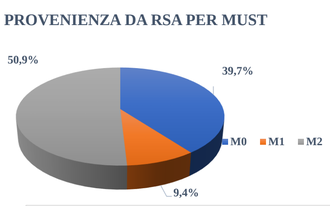
STUDY PHASES: Enrolment: evaluation of all patients referred to the Internal Medicine SC of the Monsignor Galliano Hospital of Acqui Terme, to verify that they fell within the inclusion criteria envisaged by this protocol. The Principal Investigator, or a specially identified collaborator, then proceeded to deliver the informed consent document for participation in the study. Submission of the MUST questionnaire and nutritional intervention: within 48 hours after signing the consent, the MUST questionnaire is submitted to the patient. Based on the outcome of this, the nutritional intervention will proceed. If MUST result score 0 (overall risk of malnutrition low), no nutritional support is undertaken. The patient is however re-evaluated every 5 days until discharge. If MUST result score 1 (overall risk of medium malnutrition) the patient is monitored every 3 days until discharge. MUST outcome score 2 (overall risk of high malnutrition) the patient is monitored every 2 days until discharge. In accordance with normal clinical practice, in cases which malnutrition is detected, the enrolled subject will be prescribed a specific nutritional plan with scheduling of an outpatient re-evaluation at the Dietetics Service at 1 and 3 months after discharge.

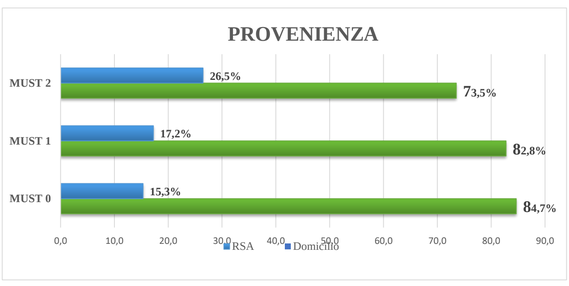
STATISTICAL ANALYSIS: Continuous variables are reported as mean and standard deviation or median and interquartile range if not normally distributed. Categorical variables are reported as absolute frequencies and percentages. Variables analyzed: demographic (age, sex, social status, geographic origin), anthropometric (height, weight), length of stay in days, reason for admission (main diagnosis), clinical history, comorbidities, clinical outcomes (discharge to home, discharge to residential care facility, death), MUST questionnaire outcomes.- Database: the indicated variables related to the enrolled subjects are entered into a database created ad hoc, the patients enrolled in the study were identified with an anonymous code and an individual progressive number (example: the first enrolled patient code AMIDO-001).

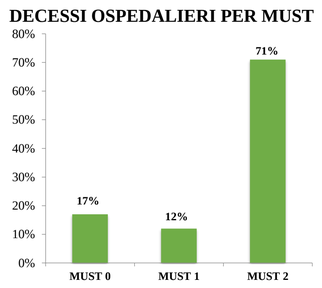
Results

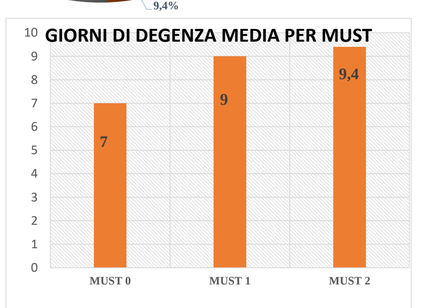
Genere		Provenienza		Età
Femmine	Maschi	Domicilio	RSA	≥ 65
50.4%	**49.6%**	**80.2%**	**19.8%**	**88.1%**

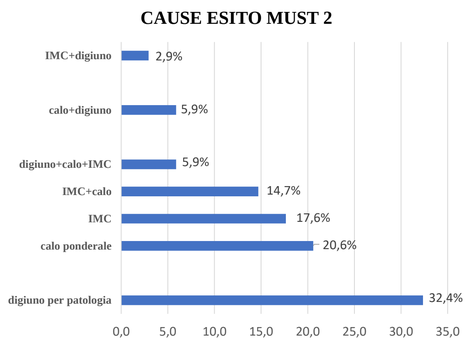


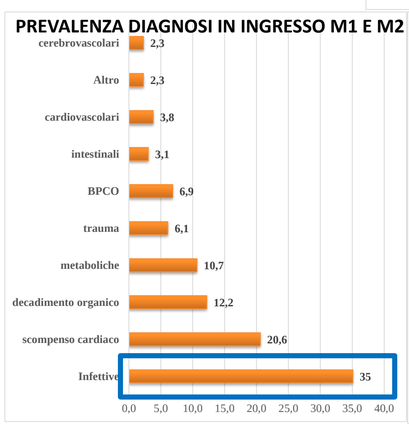


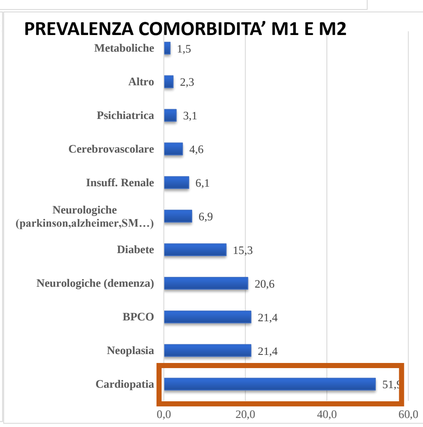




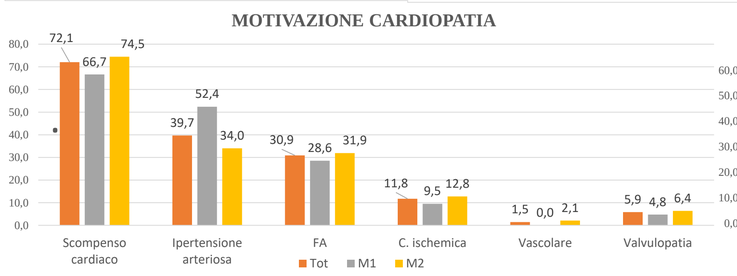


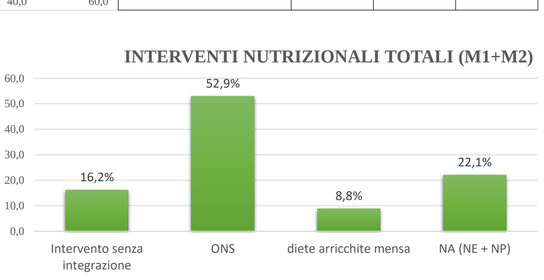






Prevalenza comorbidità	% tot	M1 %	M2 %
Cardiopatia	**51,91**	**72,41**	**46,08**
Cerebrovascolare	4,58	3,45	4,90
Neoplasia	21,37	17,24	22,55
Diabete	15,27	10,34	16,67
Metaboliche	1,53	0,00	1,96
Insuff. Renale	6,11	10,34	4,90
BPCO	21,37	24,14	20,59
Neurologiche (demenza)	20,61	17,24	21,57
Neurologiche (parkinson,alzheimer,SM…)	6,87	10,34	5,88
Psichiatrica	3,05	0,00	3,92
Altro	2,29	3,45	1,96





Discussion

Older age is a risk factor for the development of malnutrition; the predisposition to the risk of malnutrition during hospitalization is equal to gender; coming from home is highest in MUST 0 (84.7%), followed by MUST 1 (82.8%) and MUST 2 (73.5%); the risk of malnutrition in patients coming from residential care facility accounts for 50.9% in MUST 2.The average length of stay increases with the risk of malnutrition: on average 7 days MUST 0, 9 days MUST 1 and 9.4 days MUST 2. Weight loss (62.1% in MUST 1 and 20.6% in MUST 2) and fasting due to pathology (47.1% overall of other factors and 32.4% as a single cause in MUST 2) were the most important predisposing factors for the risk of malnutrition during hospitalization. The main reason for hospitalization was pneumonia, followed by cardiovascular disease and sepsis. The comorbidities most frequently associated with the risk of malnutrition were heart failure, neoplasms, chronic obstructive pulmonary disease (COPD) and neurological diseases. Deaths increase significantly with the screening result and there is a correlation between risk of malnutrition and the presence and number of comorbidities. Dysphagia has been reported in 13.8% MUST 1 and 10.8% MUST 2, respectively. Dietary therapy in 52.9% involved the use of oral nutritional support (ONS), in 8.8% it involved the introduction of enriched meals from the canteen; in 16.2% there was an intervention to change the type of diet without supplementation. Artificial nutrition (AN), of which enteral (NE) and parenteral (NP), was used in 22.1% of interventions. Nutritional screening made it possible to identify MUST 0 patients who needed a specific nutritional intervention regardless of the risk of developing malnutrition. The activation of specific dietary plans made it possible to optimize the organization of the ward in the management of diets and supplementation by OS, allowed the P.D.T.A. to be taken over to manage the dysphagic patient and the revision of his specific diet (thickened diet).

Conclusion

The prevalence of malnutrition risk in the internist population is high. To prevent or treat malnutrition, routine screening at admission is necessary to improve disease outcomes. In according with the most recent ESPEN guidelines, nutritional screening and nutritional support in patients with polymorbidity is recommended. This is particularly significant in Internal Medicine, where it has become peremptory to define a specific therapeutic care approach for each patient that provides, compatibly with available resources, a correct nutritional strategy even in the long term after discharge.

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