# Italian pediatric nutrition survey

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Summary

Introduction

the prevalence of malnutrition in children and its impact on clinical outcomes is underrecognized by clinicians in Italy as well as worldwide. A novel definition of pediatric malnutrition has been recently proposed by a working group of the Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.), based on the correlation between illness and the use of zscores of anthropometric measurements.

Aim

to investigate the prevalence of malnutrition and related nutritional support among hospitalized children in Italy, in a nationwide survey performed in a single day (16/4/2015).

Methods

an open access website ([http://nday.biomedia.net](http://nday.biomedia.net/)) was used to collected data from 73 hospitals and 101 wards in 14 Italian regions (1994 patients). Anonymous information was collected on hospitals' characteristics, patient's anthropometry, admission diagnosis, presence of chronic diseases and use of nutritional support: oral nutritional supplements (ONS), enteral nutrition (EN) or parenteral nutrition (PN). Z-scores of anthropometric measurements, calculated with Epi Info 7.1.5, defined nutritional status: wasting was identified by BMI or Weight-for-Length z-score (<−1 mild, <−2 moderate, <−3 severe), stunting by Height-for-Age Z-score <−2. WHO 2006 and CDC 2000 growth charts were used respectively for children younger and older than 2 years old.

Results

1790 complete records were obtained for hospitalized patients aged 0–20 years, with median age 6.16 (0.1–20 years and 53.3% males). 52.9% were aged 0–6 years and 58.8% of children suffered from chronic diseases. Wasting was detected in 28.7% of the total sample with higher occurrence observed in age ranges 0–6 and 14–20 years, while 17.3% of patients showed stunting; surprisingly almost 27% of them were aged 0–2. A ranking of the admission diagnosis with the highest rate of malnutrition was complied. The prevalence of wasting was significantly (p < 0.005) higher amongst children with chronic diseases (34.1% vs. 27.1%); stunting prevalence tripled in patients with chronic disease (24.5% vs. 8.3%). Only 23.5% of malnourished children (17%, 25.6% and 36.7%, respectively mild, moderate and severe malnutrition) received nutritional support: 11.7% received oral nutrition supplements (ONS, modular or complete), 11.5% enteral nutrition (EN, 6.4% via nasogastric tube, 5.1% via gastrostomy) and 6.8 % received parenteral nutrition (PN); in some patients a combination of two. Nutritional support is more commonly used among stunting patients, 39.5% of children under treatment.

Conclusion

Malnutrition of any grade was observed in nearly 1/3 and stunting in 17% of the reported hospitalized children, and it is likely to be underrecognized as the nutritional support reached only a small part of the malnourished children.

Keywords

Malnutrition

Pediatrics

Nutritional support

Wasting

Stunting