Time to recognise malnutrition in Europe

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Malnutrition develops when the body does not get the right amount of energy, protein, vitamins and other nutrients needed to maintain health and normal organ function. The term ‘malnutrition’ often evokes images of starvation, commonly associated with developing countries. However, many people are unaware that poor nutritional status also exists in regions where food is plentiful.

Defining malnutrition

The World Health Organization (WHO) defines malnutrition as ‘the cellular imbalance between supply of nutrients and energy and the body's demand for them to ensure growth, maintenance, and specific functions.’ Essentially, malnutrition occurs when the body does not receive enough energy or essential nutrients such as protein, vitamins, minerals or other nutrients needed to maintain healthy tissues and organ function. The condition is not confined only to obviously undernourished; people who are affected by obesity or overweight can suffer, too. However, in the context of this article, the term refers specifically to those who are malnourished due to undernutrition.

Undernutrition is a consequence of not consuming or absorbing energy or essential nutrients in proportion to the body’s needs, or of the body excreting these nutrients more rapidly than they can be replaced. Nutrient losses can be accelerated by a vast range of conditions including diarrhoea, severe intestinal dysfunction, burns, excessive sweating, heavy bleeding (haemorrhage), or impaired kidney function. Similarly, nutrient intakes can be restricted due to illness, excessive dieting, severe injury, lengthy hospitalisation, or substance abuse such as alcohol or drugs. Different disorders can develop depending on which nutrients are lacking or consumed in excess, but some general symptoms include fatigue, dizziness and unintended weight loss.

A worldwide problem

The WHO describes malnutrition in the undernourished as the gravest single threat to public health worldwide. It is by far the biggest contributor to child mortality, with six million children dying of hunger every year. Intra-uterine growth restrictions and being underweight at birth cause 2.2 million child deaths a year, while poor or non-existent breastfeeding is responsible for another 1.4 million deaths. Nutrient deficiencies, such as lack of vitamin A or zinc, account for yet another 1 million child deaths. Iron deficiency is the most common nutritional deficiency in children worldwide. It is estimated that close to 50% of all preschool children are anaemic, mostly due to iron deficiency. The malnourished grow up with worse health and lower educational achievements compared to children with adequate nourishment.

Malnutrition – the case of Europe

In Europe, an estimated 33 million people are at risk of malnutrition. Studies show that up to one third of
patients in hospital and nursing homes are at risk of undernutrition, as are 10% of individuals over the age of 65 in the European Union (EU). Old people living either alone at home or in nursing institutions are particularly vulnerable. Among other factors, appetite tends to decrease amongst this latter group, leading to reduced food and nutrient intake. Other key risk groups are those with chronic diseases, people who are living in poverty or are socially isolated and those who have recently been discharged from hospital. In addition, individuals undergoing rapid growth, such as infants and adolescents, but also pregnant women, have higher nutritional needs than others, and are therefore more susceptible to the effects of poor nutrition. Extremely premature infants are a high risk group and may need a five- or six-fold increase in their weight before they can be discharged from hospital care.

Malnutrition can result in compromised immune responses, which may lead to increased risk of infections, poor wound healing, delayed recovery from illness and longer hospitalisation. Other consequences include impaired muscle function, poorer quality of life, increased mortality, as well as increased healthcare resource use and costs.

Detecting malnutrition

There are various screening tools available to help detect malnutrition risk. One of the most well-known screening tools, developed in the UK, is called the Malnutrition Universal Screening Tool (MUST). MUST is a 5-step tool that has been designed to help identify adults who are underweight and at risk of malnutrition, though it also takes into consideration those who are affected by obesity. However, it is not used to detect deficiencies in or excessive intakes of vitamins and minerals. The 5 steps of MUST are:

Steps 1 and 2 – Gather nutritional status measurements (height, weight, BMI, recent unplanned weight loss)
Step 3 – Consider the effect of acute disease
Step 4 – Determine the overall risk score or category of malnutrition
Step 5 – Using the management guidelines and/or local policy, form an appropriate care plan

Consensus on screening suggests that adequately validated and reliable screening tools such as MUST are a useful way of identifying patients at risk of malnutrition. Similar screening instruments are also available for children, such as STAMP (Screening Tool for the Assessment of Malnutrition in Paediatrics).

Recognising malnutrition

Compared to obesity – a nutritional problem that regularly hits the headlines – malnutrition is still poorly recognised. To address this issue, the European Society for Clinical Nutrition and Metabolism (ESPEN), the European Nutrition for Health Alliance (ENHA) and the Medical Nutrition International Industry group (MNI) launched a short film in 2008 entitled ‘Malnutrition – Another Weight Problem’. The clip emphasises how the problem of malnutrition due to undernutrition poses a health threat equal to that of obesity and calls for a concerted action from governments, health institutions and professionals. Healthcare professionals with specialist nutritional skills are also being called upon to use the movie in educating colleagues to reduce the unnecessary threat of malnutrition in Europe.
However, the general awareness surrounding the issue of malnutrition remains poor. Large scale studies in the UK and the Netherlands have shown that about 1 in 4 patients are at risk of undernutrition upon admission to hospital and many more go undiagnosed due to inadequate screening.\textsuperscript{3,10-12} Similarly, the project “nutritionDay”, which has surveyed thousands of hospital patients across the EU, showed that less than half of patients ate all their meals while in hospital.\textsuperscript{13} Health professionals have an important role in ensuring that patients meet their nutritional requirements while in hospital, yet the levels of knowledge and awareness of nutritional problems are low among caregivers.\textsuperscript{14} As a consequence, malnutrition remains under-recognised and under-treated, despite the existence of treatment guidelines. Often, nutrition therapy has no place within health and social care budgets.\textsuperscript{15}

The cost for Europe

Across Europe, malnutrition is associated with increased morbidity, prolonged hospital stays and higher health care costs.\textsuperscript{15} This impact has been studied in numerous patient groups.\textsuperscript{4} The figures for the community are alarming, with the proportion of malnourished patients reaching 60% for certain diseases.\textsuperscript{14} In the EU, the cost of treating patients with disease-related malnutrition is considerable and approximately twice that of the management of obesity and its consequences.\textsuperscript{16} It is estimated that the cost of malnutrition to the EU alone is a staggering 120 billion Euros per year.\textsuperscript{4}

In light of this, it is high time nutrition and health strategies concentrated on the important problem of malnutrition in the undernourished. Interventions to ensure appropriate nutritional care would be cost-effective, and the impact of nutritional support is well known from many clinical trials.\textsuperscript{3,15} Although there may be strategies in place to prevent undernutrition, nutritional support is often disregarded as an important therapeutic tool for the management of patients.

Solutions for the malnourished

A balanced diet that provides the necessary energy and nutrition for a healthy person may not be sufficient when there is existing chronic malnutrition. To allow recovery of nutritional status, nutritional requirements may be increased compared with those for a healthy, nourished person. Often, it is not feasible for people who are undernourished due to disease to meet their requirements through diet alone. This challenge is partially due to the fact that many suffer from a chronic loss of appetite, which affects food intake; other factors may also impair food intake. In these cases the diet may be supplemented with oral nutritional supplements (ONS), which are energy- and nutrient-dense products regulated as “food for special medical purposes” in the EU. An intake of ONS of between 200 and 400 millilitres can make a substantial contribution to meeting the requirements for energy, protein and other important components such as vitamins. There is increasing clinical evidence to demonstrate the nutritional, functional and clinical benefits of ONS, particularly in acutely ill and older patients, and there are also numerous guidelines available which refer to ONS use.\textsuperscript{15} Apart from the potential benefits of ONS to the health of the individual, economic advantages may also be derived.\textsuperscript{16}
Combating and preventing malnutrition – a policy for the future

Many steps have been made over recent years to gain more attention for malnutrition at European level. In 2011, a multi-stakeholder meeting was held in Warsaw under the auspices of the Polish Presidency of the EU, which involved representatives from ESPEN, ENHA, the European Parliament, the Ministry for Health in Poland, the Polish Society for Parenteral and Enteral Nutrition (POLSPEN), other scientific and professional associations, industry, and patient and health insurance groups. The consortium issued a warning to EU governments and citizens that disease-related malnutrition is a critical public health concern in Europe, affecting up to 20 million citizens.

The meeting identified four key areas to help address the wide range of adverse effects that malnutrition can have on patients and healthcare systems.

Governments, national and local authorities, healthcare professionals, patients, caregivers, industry and insurance companies were encouraged to work together in public-private partnerships to actively promote:

1. Implementation of routine nutrition-risk screening across the EU
2. Public awareness
3. Reimbursement policies
4. Education of medical staff

In summary

Malnutrition not only represents a problem in the developing world, but also affects a large number of people in industrialised countries. Public health policies across Europe need to accommodate this fact and include measures to raise awareness about the importance of a varied and balanced diet for good health, and about the risks associated with poor nutritional intake in disease. Healthcare professionals need to acquire the awareness and necessary skills for assessing malnutrition (risk) – for which various tools are available – and they need to be provided with adequate infrastructures to carry out screening and follow-up. Management of malnourished individuals may include energy- and/or nutrient-enriched oral nutritional supplements. Reducing the burden of malnutrition in Europe will result in lower health care costs in the long term, and will improve the quality of life for many.

Further information

www.nutritionday.org
www.european-nutrition.org
www.espen.org
www.bapen.org
www.medicalnutritionindustry.com
www.european-nutrition.org
www.chancefood.org
References

8. STAMP (Screening Tool for the Assessment of Malnutrition in Paediatrics) website
9. ESPEN website, Video clip “Malnutrition – Another Weight Problem”.