POLISH JOURNAL OF FOOD AND NUTRITION SCIENCES
Pol. J. Food Nutr. Sci. 2006, Vol. 15/56, SI 2, pp. 43-46

HOSPITAL MALNUTRITION IN PATIENTS HOSPITALIZED IN EUROPE AND IN POLAND – PLENARY LECTURE

Bruno Szczygieł

Department of Human Nutrition, Warsaw Medical University, Warsaw

Key words: Council of Europe, undernutrition, hospital nutrition, etiology, prevention, nutrition in hospitals, nutrition care

It is well documented that hospital malnutrition and inadequate food intake are very common, and many patients lose weight during admission. Rapid weight loss may have adverse effects on the outcome of illness and increase mortality and total costs of treatment. In 1999 the Council of Europe established a Commission of Experts to collect information regarding nutrition programmes in hospitals.The aim was to review the current practice in Europe regarding food provision and to issue guidelines to improve the nutritional care and support of hospitalized patients. Five major barriers for proper nutritional care in European hospitals were defined: (1) Lack of clearly defined responsibilities in planning and managing nutritional care; (2) Lack of sufficient education with regard to nutrition among all staff groups; (3) Lack of influence of patients; (4) Lack of cooperation between different staff groups; and (5) Lack of involvement of hospital administration. To solve the problem of hospital malnutrition, a combined team–effort is needed from national authorities and all staff involved in the nutritional care and support, including hospital managers.

INTRODUCTION

Undernutrition which can be defined as a condition in which there is a specific deficiency in energy, protein or any other nutrient, leading to changes in body function and composition is a major worldwide pubic health problem. The existence of disease-related undernutrition among patients in the European hospitals is a well established fact [Beck *et al*., 2001]. If Body Mass Index (BMI) is used as an indicator of the nutritional status the prevalence of underweight (BMI <20 kg/m^2) has been found to be 20-30% in Denmark [Kondrup & Ovesen, 1997], Germany [Schauder *et al*., in press], Norway [Mowe *et al*., 1994], Sweden [Sjöberg *et al*., 1992], Switzerland [Mühlethaler *et al*., 1995], United Kingdom [McWhirter & Pennington, 1994], and Poland [Dzieniszewski *et al*., 2005].

Disease-related malnutrition is an independent factor in the worsening of illness, which prolongs recovery, causes immunodepression, increases the risk of serious complications of illness and mortality, prolongs the average length of hospital stay and increases the costs of hospital care [Beck *et al*., 2001].

Despite many attempts to improve the situation, the success has been meagre. Although there is a growing awareness that undernutrition in association with disease is a significant problem and several studies demonstrated more rapid recovery, reduced hospital stay and in some cases reduced mortality, following nutritional support, hospital malnutrition resulting from insufficient nutritional care is still present in almost all hospitals in Europe [Fürst, 2001].

UNDERNUTRITION IN HOSPITALS

Regardless of the methods used to assess the nutritional status of the patients in European hospitals conclusion is the same: undernutrition is present at admission in up to 50% of patients and in 70% of them their nutritional status is worsening during the first ten days in hospital. At the same time undernutrition develops in 30% of patients well nourished at admission to hospitals [Fürst, 2001; Weinsier, 1979; Rhoads & Alexander, 1955].

CONSEQUENCES OF UNDERNUTRITION

There are many adverse consequences of undernutriton. The patient becomes apathetic and depressed and this may lead to loss of will to recover. Weakened respiratory muscles function is impaired. Reduced mobility is delaying recovery and predisposes to thromboembolism and bedsores. The inhibitory effect of undernutrition on the immune function has been described in a Brazilian study [Waitzberg *et al*., 2001]. The incidence of complications in the undernourished group was 27% *versus* 16.8% in the well nourished. The mortality rate was almost threefold higher in the undernourished in comparison with the well nourished patients (12.4% *vs*. 4.7%).

HOW TO PREVENT HOSPITAL MALNUTRITION

Taking into consideration the negative effects of undernutrition on the results of treatment, in 1999 the Council of Europe decided to establish a European network consisting

Author's address for correspondence: prof. dr hab. Bruno Szczygieł, Department of Human Nutrition, Warsaw Medical University, ul. Ciołka 27, 01–445 Warsaw, Poland; tel.: (48 22) 836 09 72; fax: (48 22) 836 09 71; e-mail: diet@amwaw.edu.pl

of national experts in nutrition chaired by Denmark.

The aims of the network were: (1) To review the current practice in Europe regarding hospital food provision to patients prone to develop or suffering from disease-related undernutrition; (2) To issue guidelines which ensure that assessment of nutritional status and requirements, hospital food and nutritional support and monitoring are regarded as important components of patient care; and (3) To consider how national authorities, food services and health care personnel might work together to improve the nutritional care of hospitalized patients.

The current practice in eight countries in Europe was reviewed on the basis of the answers to the specially prepared questionnaire [Beck *et al*., 2001]. A brief summary of the guidelines in the report is given below.

COMMON MAJOR BARRIERS IN PROPER NUTRITIONAL CARE IN HOSPITAL

Five major barriers to proper nutritional care in European hospitals were defined by members of the network: (1) Lack of clearly defined responsibilities in planning and managing nutritional care; (2) Lack of sufficient education with regard to nutrition among all staff groups; (3) Lack of influence of patients; (4) Lack of cooperation between different staff groups; and (5) Lack of involvement from the hospital administration.

Lack of clearly defined responsibilities in planning and managing nutritional care

The responsibilities of different staff categories with respect to nutritional care seem unclear in most European hospitals. Routine nutritional risk screening and assessment in generally not performed. When it is performed weight, weight loss and BMI are used most frequently [McWhirter & Pennington, 1994; Thorsdottir *et al*., 1999; Wheatley, 1992].

Guidelines: Standards for assessing and monitoring nutritional status of the patient should be developed at a national level and the responsibility of each task clearly assigned.

Lack of sufficient education with regard to nutrition among all staff groups

Education of physicians involves only few lessons about nutrition related topics. As a consequence physicians who use nutritional support only occasionally do not know how to provide optimal nutritional support for individual patients [Payne-James *et al*., 1995]. Also nurses have a lot of difficulties with identification of patients at risk, setting up nutritional treatment plans and morning nutritional support [Rasmussen *et al.*, 1999]. Better situation is with clinical dietitians who receive up-to-date training nutrition support but in daily practice their influence on the level of hospital nutrition is very low [Howard *et al*., 1999].

Guidelines: An improvement in the education in general nutrition and techniques of nutritional support for all staff members involved in the nutritional care of patients is necessary. In every hospital the plan of education and training in the field of nutrition should be established and realized.

Lack of influence of the patients

In most European hospitals the patients have a choice between menus. Although information given to the patients regarding a proper menu is sparse and inconsistent. Also there is seldom a good description of the menus offered.

Additional factors such as the hours of meal service and disturbances during mealtime such as rounds by the medical personnel seem to affect consumption of food [Beck *et al*., 2001; McGlone *et al*., 1995].

Guidelines: The provision of meals should be flexible, and all patients should have the possibility to order food and extra food. Also patients should be involved in planning their meals.

Lack of cooperation between different staff group

Disease-related anorexia is probably the main reason of hospital malnutrition.

Generally the simplest way to provide adequate nutritional support is close cooperation between the patient and the medical nursing, dietetic, and food service staff. However in practice such cooperation seldom functions [Beck *et al*., 2001].

Guidelines: The hospital managers, physicians, nurses, dietitians, and food service staff should work together toward the common goal: optimal nutritional patient care. Also, contact between the hospital and the primary health care should be established.

Lack of involvement from the hospital management

Management does not consider food service to play important role in treatment of patients. Food service departments are usually grouped with general facilities rather than patients treatment services.

The general trend is that food service is administrated through contract. If the management is unable to describe what the food service should include the performance of the out-sourced service is going to be poor.

Guidelines: The provision of meals should be regarded an essential part of the treatment of patients and not such as a hotel service. The hospital management assessing the cost of food service should take account of the cost of the complications and prolonged hospital stay due to undernutrition [Beck *et al*., 2001].

RESOLUTION ON FOOD AND NUTRITIONAL CARE IN HOSPITALS

In 2003 the committee of Ministers of the Council of Europe accepted resolution on Food and Nutritional Care in Hospitals which contains the following important statements addressed to the governments of the member states: (a) Access to safe and healthy variety of food is fundamental human right; (b) Proper food service and nutritional care in hospitals has beneficial effects on recovery of patients and their quality of life; and (c) The number of the undernourished hospitals patients in Europe is unacceptable, prolonged rehabilitation, diminished, quality of life and unnecessary cost of health care [Council of Europe, Committee of Ministers Resolution ResAP, 2003; Kondrup, 2004].

Therefore this resolution recommends to the governments of the members states to: (a) Drew up implement national recommendations on food and nutritional care in hospitals; (b) Promote the implementation of the principles contained in the appendix to this resolutions which contains about 100 specific recommendations in a number of categories: nutritional assessment and treatment educations, hospital food and food service, and health economics; and (c) Ensure the widest dissemination of this resolution among public authorities, hospital staff, primary health care sector and non-governmental organizations active in the feed [Council of Europe, Committee of Ministers Resolution ResAP, 2003; Kondrup, 2004].

Some of the key recommendations at the level of government are: (1) Standards for assessing and monitoring nutritional risk should be developed; (2) The definition of disease-related undernutrition should be universally accepted and used as a clinical diagnosis and treated as such; (3) The intake of ordinary food by the patients should be documented; (4) Standards of practice for initiation monitoring and termination of all artificial nutritional support should be developed; (5) Nutritional risk screening assessment and monitoring should be included in the accreditation standards for hospital; (6) A continuous postgraduate education programme for all staff should be supplemented [Beck *et al*., 2001; Council of Europe, Committee of Ministers Resolution ResAP, 2003; Kondrup, 2004].

CONCLUSIONS

1. All patients have the right to expect that their nutritional needs will be fulfilled during their hospital stay.
2. Identification of nutritional risk of patients should be followed by a treatment plan including dietary goals, monitoring of food intake and body weight.
3. The national guidelines for hospital food provision and nutritional care and support should be established to prevent undernutrition in the hospitals.

REFERENCES

1. Beck A. M., Balkanas U. N., Fürst P. *et al*., Food and nutritional care in hospitals: how to prevent undernutrition – report and guidelines from the Council of Europe. Clin. Nutr., 2001, 20, 455-460.
2. Council of Europe. Committee of Ministers Resolution ResAP (2003) on food and nutritional care in hospitals. 844 meeting of the Minister's Depuites (19 June 2003), Strasbourg 2003.
3. Dzieniszewski J., Jarosz M., Szczygieł B. *et al*., Nutritional status of patients hospitalized in Poland. Europ. J. Clin. Nutr., 2005, 59, 552-560.
4. Fürst P., Undernutrition in hospitals: A challenge for prevention. Proceedings: Food and nutritional care in hospitals: Acting together to prevent undernutrition. Council of Europe. Strasbourg 2001.
5. Howard J. P., Jonkers-Schuitema C.F., Kyle U., The role of the nutrition support dietician in Europe. Clin. Nutr., 1999, 18, 379-383.
6. Kondrup J., Ovesen L., Nutrition in hospitals. J. Dan. Med. Assoc., 1997, 159, 3755-3759.
7. Kondrup J., Proper hospital nutrition as a human right. Clin. Nutr., 2004, 23, 135-137.
8. McGlone P.C., Dickerson J.W.T., Davies G.J., The feeding of patients in hospital: a review. J. Royal. Soc. Health., 1995, (Oct.), 282-288.
9. McWhirter J.P., Pennington C.R., Incidence and recognition of malnutrition in hospital. Br. Med. J., 1994, 308, 945-948.
10. Mowe M., Bohmer T., Kindt T., Reduced nutritional state in an elderly population (>70 years) is probable before disease and possible contributes to the development of disease. Am. J. Clin. Nutr., 1994, 59, 317-324.
11. Mühlethaler R., Stuck A.E., Minder C.E., Frey B., The prognostic significance of protein – energy malnutrition in geriatric patients. Age Ageing, 1995, 24, 193-197.
12. Payne-James J.J., de Gara C.J., Grimble G.K., Silk D.B.A., Artificial nutrition support in hospitals in the United Kingdom – 1994; Third National Survey. Clin. Nutr., 1995, 14, 329-335.
13. Rasmussen H.H., Kondrup J., Ladefoged K., Staun M., Clinical nutrion in Danish hospital: a questionnaire based investigation among physicians and nurses. Clin. Nutr., 1999, 18 153-158.
14. Rhoads J.E., Alexander C.E., Nutritional problems in surgical patients. Ann. NY. Acad. Sci., 1955, 63, 268-273.
15. Schauder P., Auerswald U., Beleites E. *et al*., Mangelernährung in Krankenhaus in Deutschland, in press.
16. Sjöberg M., Väisänen M., Wennerberg J., Hospital meals – What do patients need and what are they given? Scand. J. Nutr., 1992, 36, 138-141.
17. Thorsdottir J., Eriksen B., Eysteinsdottir S., Nutritional status at submission for dietetic services and screening for malnutrition at admission to hospital. Clin. Nutr., 1999, 18, 15-21.
18. Waitzberg D., Waleska T.C., Correia I.T.D., Hospital malnutrition: The Brazilian National Survey (IBRANUTRA): A study of 4000 patients. Nutrition, 2001, 17, 573-580.
19. Weinsier R.L., Hospital malnutrition: a prospective evaluation of general medical patients during the course of hospitalization. Am. J. Clin. Nutr., 1979, 32, 418.
20. Wheatley P., Report of a nutritional screening audit. J. Hum. Nutr. Dietet., 1992, 12, 433-436.

NIEDOŻYWIENIE U PACJENTÓW HOSPITALIZOWANYCH W EUROPIE I POLSCE – WYKŁAD PLENARNY

Bruno Szczygieł

Zakład Żywienia Człowieka, Akademia Medyczna, Warszawa

Niedożywienie szpitalne dotyczy większości chorych leczonych w szpitalach. Pogorszenie stanu odżywienia ma negatywny wpływ na wyniki leczenia: zwiększa częstość powikłań, śmiertelność i koszty leczenia. Dlatego w roku 1999 Rada Europy powołała Komitet Ekspertów w celu zebrania informacji o żywieniu w szpitalach w Europie. Zdaniem ekspertów, głównymi przyczynami niedożywienia szpitalnego są: brak ściśle określonej odpowiedzialności za organizację i dostarczanie pożywienia; brak wiedzy wśród personelu na temat znaczenia żywieni a w leczeniu chorób; brak wpływu pacjentów; brak współpracy pomiędzy grupami pracowników szpitala i brak zainteresowania administracji żywieniem w szpitalu, jako elementem leczenia. W celu rozwiązania problemu niedożywienia szpitalnego konieczne są zorganizowane działania administracji rządowej, organizacji pozarządowych oraz lekarzy i pielęgniarek.