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**EVALUATION OF CONDUCTING A SCREENING ASSESSMENT
OF NUTRITIONAL STATUS OF HOSPITALIZED PATIENTS.
PRESENTATION OF MAIN GOALS AND OBJECTIVES
OF THE GLOBAL HEALTH PROJECT “NUTRITION DAY”**

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ABSTRACT

INTRODUCTION. European Society for Clinical Nutrition and Metabolism (ESPEN) commenced in 2004 a global health project named “NutritionDay” aiming to promote awareness of proper nutritional status of hospitalized patients and to draw attention to the need for early detection of malnutrition among patients. Under the Polish law - pursuant to the regulation of the Minister of Health dated September 15, 2011 (amendment as of 27.12.2013) - a nutritional status of each patient should be assessed at the time of a hospital admission.

THE AIM of this study was to analyze the fulfilment of the mandatory questionnaire assessment of nutritional status at selected wards of one of Warsaw’s clinical hospitals.

MATERIAL AND METHODS. The study included an analysis of medical records of patients hospitalized within 6 months (n = 26375). The correct fulfilment of screening questionnaire assessing nutritional status (NRS 2002 survey) and the information about patients’ body weight as well as the results assessment of nutritional status were subject to the analysis.

RESULTS. NRS 2002 questionnaire was present in only 67,14% medical records of patients, however 49.24% of them were unfilled.

CONCLUSIONS. The obtained results confirming low degree of NRS 2002 questionnaires’ fulfilment in one of the Warsaw clinical hospitals draws attention to the need for education of hospital personnel in the field of significance of screening of nutritional assessment and its regulations. The “NutritionDay” project is an interesting form to attract attention of the aforementioned problem and its global extent additionally encourage medical units to participate in the project.

Key words: *hospital malnutrition, NRS 2002 questionnaire, global health project, NutritionDay*

INTRODUCTION

Malnutrition among the hospital patients is usually unrecognized and left untreated, which is the cause of so-called hospital malnutrition (1). This condition is classified as the separate disease entity, that is why it has been enclosed into *International Statistical Classification of Diseases and Related Health Problems, as ‘malnutrition’* (E40 - E46). As well as any other disease the malnutrition should be cured according to applicable rules and its early recognition should become the priority for medical personnel. (1,2). Abnormal nutritional status of hospitalized patients is connected with the increase number of complications and treatment costs, lengthening the stay at the hospital and

convalescence period. The implementation of proper nutritional care at the right time prevents the development of negative effects associated with malnutrition. The diagnosis process of malnutrition of patients begins with the screening test performed at their admission to the hospital. In order to classify people into different risk groups of malnutrition, it is recommended to use questionnaires including basic questions related to unintended weight loss, current body weight and severity of the underlying disease, food supply (3). This is the Subjective Global Assessment of Nutritional Status (SGA) and/or Nutritional Risk Screening 2002 questionnaire (NRS 2002). In Poland, the choice of the aforementioned nutritional status assessments is listed in the Ordinance of the Minister of Health dated 15

September 2011, according to which the malnutrition assessment is obligatory conducted for every patient at the admission to the hospital (except the patients at the ER) (4). Moreover, questionnaires SGA as well as NRS 2001 are recommended by ESPEN and are the most popular around the world, what gives the possibility to compare the results from various countries (5). Please note that questionnaires NRS 2002 as well as SGA have been introduced in the Regulation 32/2008/DSOZ in attachments 7a and 7b.

Despite many recommendations given by both Polish and foreigner agendas, the malnutrition very often stays undiagnosed and untreated. As it comes to Poland, the reason of such situation results from the insufficient number of people responsible for organization of nutritional support, the nutritional care policy exists in very few hospitals (6). Moreover, in the aforementioned Ordinance of the Minister of Health from 15 September 2011, there is a lack of clearly formulated recommendations concerning the treatment of patients with diagnosed malnutrition or group of patients at risk of hospital malnutrition (4)]

Therefore, in response to the prevalence of malnutrition among hospitalized patients, in 2004 the European Society for Clinical Nutrition and Metabolism (ESPEN) created the worldwide health project „NutritionDay”. Its main goals are: to popularize the knowledge about the importance of proper nutrition of patients staying in hospital departments and to draw attention to the necessity of early diagnosis of malnutrition risk among the patients. The international scope of the project creates the possibility to compare the results from various countries.

WORK OBJECTIVES

The aim of this work was the analysis of correctness of filling in the mandatory questionnaire about the nutritional status assessment at the selected departments of one of the hospitals in Warsaw. Moreover, the

presentation of main objectives of international health project „NutritionDay”.

MATERIAL AND METHODS

The analysis included 493 medical histories chosen as the representative sample from 26,375 patients admitted to one of the teaching hospitals in Warsaw from 1 June to 31 December 2012. Based on formulas and calculator of quantitative trial recommended by the Market and Public Opinion Research Institute the number of representative sample has been calculated ($n=493$) with a confidence level of 95% and a statistical error of 4.41%.

The research material was the questionnaire about the nutritional status assessment NRS 2002 (Nutritional Risk Screening 2002) enclosed in patients' medical history documentation. It must be noted that at the admission of the patients to the hospital and setting up the medical history documents at the reception desk, the questionnaire NRS 2002 is attached to patient's every documents. Research assessed the medical history documents and the presence of questionnaire in it, its filling in and obtained results being the indication for nutritional treatment or consideration of preventative treatment and repeating the examination after a week. Also, it has been checked if in analysed medical history documents the patient body weight has been noted.

RESULTS

The group of respondents participating in the research consisted of 493 people, of which 47, 97% were women and 52.03% men. Median age was 63 years old and the average age was $60,71 \pm 18,41$ (SD).

The presence of NRS 2002 questionnaire has been noted in more than a half of medical history documents (67,14%). In remaining (32,86%) of medical history documents the absence of questionnaire has been noted.

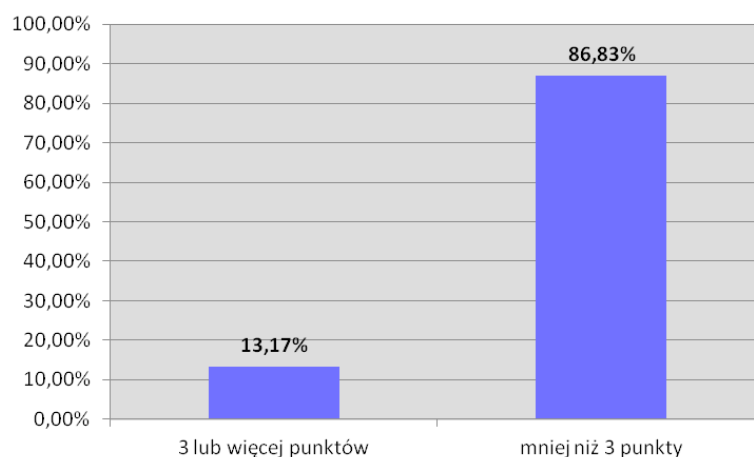


Fig. 1. Results of assessment of nutritional status on the basis of completed NRS 2002 questionnaire

Among the medical history documents containing the questionnaire only in 50,76% cases it had been filled in. In remaining documentations only blank questionnaire has been noted.

Analysing the level of filling in the NRS 2002 questionnaire only slightly higher percentage of filled in questionnaires has been achieved at the non-surgical facilities (53,10%) then at the surgical facilities (45,63)%.

The obtained results of the nutritional status based on the filled NRS 2002 questionnaires showed that only in 13,17% cases the nutritional treatment was required (because of obtaining 3 or more points), while in the remaining 86,8% cases the preventative treatment and repeating the examination after a week had been considered.

The analysis of the medical history documentation of patients hospitalised during the period of 6 months showed that only at the 43,4% cases the patient body weight had been noted.

INTERNATIONAL HEALTH PROJECT "NUTRITIONDAY"

„NutritionDay” (nD) is non-profit organisation working on the health project about analysing the level of hospital patients malnutrition. It has been initiated in 2004 by the European Society for Clinical Nutrition and Metabolism (ESPEN) to analyse the level of malnutrition of hospital patients. The validity of establishing this initiative has been supported by the Resolution of the Committee of Ministers of the Council of Europe ResAP/2003/3 on nutrition and nutritional treatment in hospitals signed by 18 European countries. The mentioned above legal act, accepted 12 November 2003, underlined that the hospital nutrition is the integral part of the medical treatment, therefore it should provide the patient with all the nutrients and adequate amount of energy. Moreover, it drew the attention to the necessity of identification of patient malnourished and at the risk of malnutrition.

The main ideas of this project are: to popularize the knowledge about the importance of proper nutrition of patients staying in hospital departments and to draw attention to the necessity of early diagnosis of malnutrition risk among the patients. Project consists in yearly filling in the standardized questionnaires regarding the nutritional care structure and the health status of patients of the medical units participating in this programme. This project is carried out worldwide on the same day, called „NutritionDay” (in 2015 it was 19 November). On the basis of collected on this day information, units participating in this research gets the feedback report showing their results compared with the results of other medical units of the same profile in

particular country or in global ranking. The aim of it is to show the weakest points in organisation of nutritional support in particular hospital, as well as to increase the awareness on this subject among the hospital decision makers and medical personnel.

Project „NutritionDay” is available for hospitals, as well as for the nursing homes. Within the part of the project dedicated to hospitals, it has been divided into two categories: first is addressed to intensive care units, second one to the other units. Moreover, within the second category the special module has been created for oncology patients in order to adjust the questions to their specific nutritional requirements and to seek for solutions to improve their nutritional status. Every hospital department and care home can individually decide if they want to participate in particular year (participation in the project is free and anonymous) and then receive the questionnaires with the content adjusted to particular unit profile. Included questions regard the patients health profile, their nutritional behaviour, changes in body weight and the eventual types of the implemented nutritional therapy. Every hospital unit additionally gets the question sheet regarding the structures and nutritional standards in force in their institution. Questionnaires are available in over 30 languages (also in Polish), so the project is fully understandable to all participants and could be implemented without fear of the language barrier.

Every year several dozen thousand hospitalized patients and care homes habitants participate in „NutritionDay” project. Since year 2006 to 2014 there have been collected over 200 thousand data about participating institutions and respondents, by what „NutritionDay” became the widest spread health project regarding the subject of malnutrition connected with the disease. Nowadays, the project is carried out in almost 60 countries and covers 170 thousand patients in 1,993 medical units. The medical units that are not ICU enrolled to participate the most often, while the care homes rarely enrolled. Despite the wide interest in the project, it has to be noted, that health institutions, which systematically take part in this initiative, represent only 30% of all enrolled institution. Austria, Germany, Hungary and Belgium are leading forefront in participation.

In Poland, since year 2006 to 2012, in researches carried out at the units not being intensive care (the most popular part of the project) took part 2830 patients from 164 hospital departments. It has to be noted that in this period the number of patients participating in the research has gradually decreased. In years 2006 to 2010 the number exceeded 400 respondents, but in years 2011-2012 the number of respondents significantly decreased, until 137 patients in 2012. The reason of low percentage of polish respondents participating in the project could be the little interest of hospital authori-

ties in implementation of prevention programmes of nutrition. As the confirmation of the above hypothesis could be the position of Supreme Audit Office (NIK) which assessed that the preventative actions in hospitals consisting of giving the patients information about the principles of proper nutrition are insufficient (7).

DISCUSSION

First step to recognize the malnutrition among the hospitalized patients is the screening test focused on detecting deficiencies of nutritional status. In 2011 Poland introduced the obligatory assessment of nutritional status of each patient carried out at the admission to the hospital, that has been established in Ordinance of Minister of Health from 15 September 2011 (4). Whereas in the self-research the obligatory questionnaire dedicated to screening assessment of nutritional status (NRS 2002) was present in only 67,14% of analysed medical history documentations, of which the half had not been filled in, what have been understood as the lack of nutritional status assessment. This may prove the shallow knowledge of hospital personnel on the importance of carrying out the screening assessment of nutritional status and its legal regulations. However, not only in Poland such a low results of filling in the NRS 2002 questionnaires has been obtained. In Norwegian research *Tangvik R and others.* [8] from year 2010, carried out with screening assessment method, the nutritional status has been noted only in 27% cases of admitted patients. In Denmark, in 2006 [9] the carrying out of the assessment has been noted only at 15% of patients and in China in research *Liang X and others.* (10) it has been proved that 97,7% of patients admitted to the hospital departments have not been subjected to screening assessment of nutritional status.

The result of measurement of patient body weight is one of the most important information necessary to determine the nutritional treatment. That is why this process should be included in standard procedure conducted with every admission of the patient to the hospital. Knowing the actual body weight and height of the patient the Body Mass Index (BMI) can be calculated, which has very important meaning both diagnostic as well as therapeutic.

To assess changes in nutritional status by determining the direction of changes in BMI at least two measurements should be carried out in succession, eg. 4 months [1]. Despite all the advantages in favor of the strict control of patients body weight, it has been shown that only in 43,4% of analyzed medical history the patient body weight had been noted. Slightly better results have been noted in research *Jensen L. and others.* [11], where 65,7% of patients have been weighted at the

admission to the hospital, while among the patients not weighted 67% declared that they had never been asked about current body weight. Much more pessimistic results have been obtained in the research *McWhirter J and Pennington C* [12], where it has been stated that only 23% of patients had been weighted at the admission to the hospital, and in less than 50% cases in medical history any information about change in appetite and body weight had been noted.

SUMMARY AND CONCLUSIONS

Stated in the research low level of filling in the NRS 2002 questionnaire in one of the teaching hospitals in Warsaw pays attention to the necessity of educating the medical personnel in the field of importance of screening assessment of patients nutritional status and its legal regulations.

It is necessary to draw the attention of medical personnel and hospital authorities to the described problem and encouraging them to create the right strategies for dealing with hospital malnutrition through popularization of the knowledge on the importance of proper nutrition of hospitalized patients. It could be achieved by encouraging as many Polish hospital departments as possible to participation in „NutritionDay” project.

In our country, there is the necessity to carry out further research on presence of hospital malnutrition and necessity of monitoring the carrying out of the assessment of nutritional status of patients admitted to the hospital departments. That is why in next four years it is planned to undertake the activities aiming at the promotion, preparation and help in carrying out of the „NutritionDay” research in chosen teaching hospitals in Warsaw and publication of the obtained results in scientific literature.

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