


Why do patients refuse hospital meals? Reflections on the nutritionDay Audit at the University Hospital in Krakow

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Abstract: Introduction: Despite increased awareness of malnutrition and improved nutrition-related policies, there are still cases of deterioration of nutritional status during hospitalisation. NutritionDay is an audit organised by the European Society for Clinical Nutrition and Metabolism (ESPEN), the Medical University of Vienna and the Friedrich-Alexander University Erlangen-Nürnberg (FAU) to prevent the onset of malnutrition and to improve hospital policies to deal with this problem. The aim of the study was to analyse the results of the audit with regard to factors that may contribute to the deterioration of a patients' nutritional status in hospital setting.

Materials and Methods: This cross-sectional study was performed in a tertiary teaching hospital and was part of an international audit. The questionnaires used were provided by the nutritionDay office, and included information on weight loss, patients' appetite, dietary restrictions, food intake and reasons for food rejection during hospital stay.

Results: Of the examined patients, 61% reported weight loss prior to the current hospital stay. We identified 25 patients who did not consume a whole portion of their main meal on the day the audit took place. Approximately 17% of the patients' complaints could be resolved within a hospital ward.

Conclusion: Hospital patients often eat less than a standard meal portion. Identifying the reasons for meal rejection may be helpful for development of standards for nutritional care in the hospitals.

Keywords: nutritionDay, hospital malnutrition, disease-related malnutrition, fight against malnutrition (FAM), nutritional intake.

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Introduction

In 1974, Butterworth developed the term of iatrogenic malnutrition to describe cases where the nutritional status of patients was affected by the actions, or lack of such, of the medical team. He used the term ‘skeleton in the hospital closet’ to emphasize that malnutrition was often overlooked or ignored during the patient’s stay in hospital, partly because there were limited practical ways of dealing with the problem at that time [1]. Over 20 years later, in 1993, the same author emphasized the change in awareness of the malnutrition, availability of nutrition support technological solutions and extended influence of clinical dietitians [2].

In the following years, much has changed in the field of clinical nutrition. In 2004, the NutritionDay initiative was launched as a response to the 2003 Resolution on Food and Nutrition Care in Hospitals and was conducted for the first time in 2005 in 5 countries. The primary aim of the initiative is to raise awareness on the disease related malnutrition by collecting the data on the hospital nutrition-related practices and patients’ nutritional habits, which could be then analyzed and made publicly available. The data is collected once a year, during the Malnutrition Awareness Week with partnership from European Society for Clinical Nutrition and Metabolism (ESPEN), Medical University of Vienna, and Friedrich-Alexander Universität Erlangen-Nürnberg (FAU). The initiative is an audit that is a multinational cross-sectional study using a standardised data collection tool [3, 4]. Poland participated in the audit for the first time in 2006. The graph below shows the number of patients participating in the audit in Poland from 2006 to 2022 (Fig. 1). The data are based on the work of Ostrowska and Jeznach-Steinhagen (2016) and data from national reports published on the nutritionDay website [5].

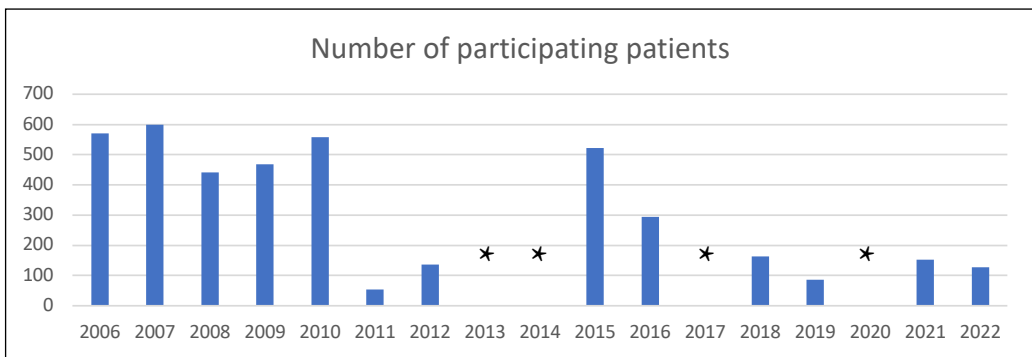


Fig. 1. Bar chart showing the number of audit participants in Poland between 2006 and 2022.

* Data for the years 2013, 2014, 2017 and 2020 are not shown as less than 6 units participated in the audit, which is a general rule for data presentation set by the nutritionDay office.

Although awareness of hospital malnutrition and the importance of maintaining good nutritional status during hospital stay has increased greatly since 1974, there are still cases of deterioration in nutritional status during hospitalization observed. As malnutrition is a complex issue, its development is the result of both factors that can be modified in a hospital ward and those, such as the disease itself, that could be described as non-modifiable in the context concerning the dietary intervention [6].

The aim of this study was to analyze results obtained in the nutritionDay audit with regard to factors potentially contributing to deterioration of a patient's nutritional status. We also aimed to assess whether these factors require a change that is accessible at the ward level and does not require a change in hospital policy or intervention in the treatment process itself.

Material and Methods

The described study was a part of the nutritionDay initiative conducted in 2022 in Internal Diseases and Geriatrics Clinical Department of the University Hospital in Krakow, Poland. All the questionnaires provided in the study were developed by nutritionDay audit organizers and the data were collected according to its protocol (Table 1) [7].

Table 1. Audit structure in consideration of the levels at which data was collected.

Level	Hospital	Ward	Individual patient
Questionnaire	Hospital Structures (Sheet 1c of the nDay questionnaire)	Unit Structures (Sheet 1a/b) About your patient (Sheet 2) 30 Day — Outcome (Evaluation Sheet)	Patient Sheet (Sheet 3)
Person responsible for data collection	University Hospital management committee	Researcher with help from the medical doctors and nurses	Individual patient with help from the researcher

We included all patients above 18 years of age who agreed to take part in the survey. Each patient, who signed an informed consent, received a questionnaire related to his/her general nutritional habits, in-hospital nutritional intake, hospital food and course of illness. In the Patient Sheet, patients provided detailed information on their food intake for the main meal of the day (lunch). Additionally, the information on the unit specifics, patient's demographics and anthropometric, comorbidities and number of drugs at admission, was collected from the electronic medical records (EMR).

The study was approved by the Bioethics Committee of the Jagiellonian University. All participants provided a written consent to participate in the audit.

Results

41 patients hospitalized in the Internal Diseases and Geriatrics Clinical Department of the University Hospital in Krakow on the day of Initiative were included in the study. The mean age of the participants was 72.4 years (SD 17.1), 65.9% were women. The participants took on average 7.9 drugs (SD 5.1). We identified, that 60.9% of the studied patients unintentionally lost weight in the three months before current hospitalization.

We found that our patients had various dietary preferences and exclusions that were not always appropriate for their medical conditions. Almost 10% of patients who took part in the audit reported that they were limiting their sugar intake and 9.8% were limiting their total carbohydrate

intake. Over 17% of patients reported fat restrictions in their diet. 4.9% of patients reported limited dairy products intake, due to subjectively perceived lactose intolerance.

We identified 25 (61%) patients who did not consume a whole portion of their main meal on the day the audit took place (Fig. 2). Among them 9 (36%) stated that they ate none of the provided hospital food. For the audits' purposes we recorded reasons for meal rejection. The most common reason for meal rejection were that portions in hospital were bigger than what the patients were used to (11 reports) and low acceptance for the type of food served in hospital or its taste/smell (10). Six patients indicated that they were not allowed to eat.

Of those who had not eaten a full portion of meal, 16 stated that they had unintentionally lost weight in the last three months, of which in only 5 cases was this documented in their medical history.

Nearly 17% of complaints were possible to solve within a hospital unit (the type of food offered), without change in the hospital policy.

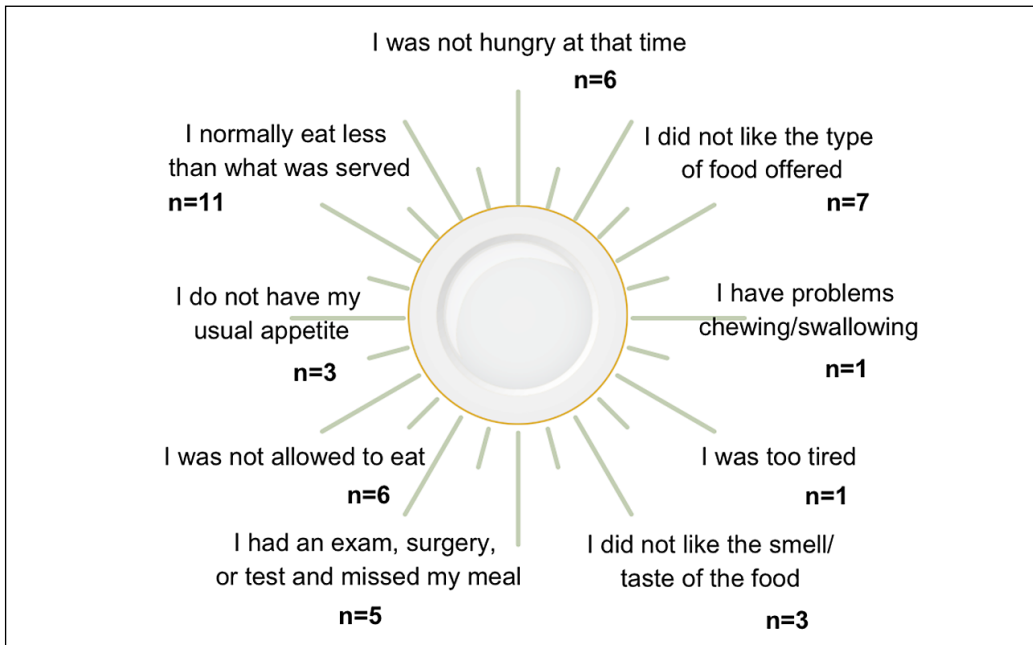


Fig. 2. Reasons for partial or total refusal of meals by audit participants.

Discussion

In our study, we found that more than 60% of the patients included had unintentionally lost weight before hospital admission, but not every patient assessed was able to say how much they had lost. This points to the need for routine nutritional screening, which would also include weighing the patient and documenting the result. As there can be many reasons for weight loss, it seems crucial to raise awareness of the importance of nutritional screening and assessment, which can help to identify the cause of weight loss and subsequent malnutrition and provide tailored solutions for hospitalised patients.

We showed that the most important factor for meal rejection in our setting was the size of the meals, followed by the low acceptance for the type of the food served in the hospital. Regarding the possibility to change the diet type, we estimated that in 16.6% cases the complaints did not require a change in hospital policy to improve nutritional care on that particular ward. As the low acceptance of meal size could have been caused by several factors, such as the nutrient density and composition of the diet and the low appetite of the patients, it was not possible to determine whether the size of the hospital meals was the factor that could be changed within the ward. However, it is important to consider the size of the meal when designing menus for hospitalised patients in order to provide the correct nutritional value of meals without increasing their volume.

Previously, the factors important for patients when describing their hospital meals were assessed in the study by Johns, Hartwell and Morgan (2010). They found out that the most commonly mentioned factors were food quality, choice and service staff, which is generally in line with our results indicating the most frequent reasons for meal rejection [8]. The reasons for refusing food were also investigated in the qualitative study by Larsen, Schjøtler and Melgaard (2021). The authors analysed the semi-structured interviews and described four main themes: 'the care relationship' (the quality of interactions between patients and hospital staff), 'meeting the system' (patient's adaptation to the hospitalization), 'influence from the surroundings' (the hospital environment, including medical appliances and specific design, but also portion sizes) and 'social interaction with fellow participants' (the company of others) [9]. Only some of these parts of the patient experience in the Larsen *et al.* study could be addressed in our setting, as our study was based on the questionnaire provided by the nDay initiative. The authors conclude that one of the most important factors in maintaining proper nutritional intake may actually be the care relationship between the health professional and the patient.

In 2023 a systematic review was performed by Rinninella *et al.* aiming to identify the hospital services that could improve patients' nutritional intake and reduce meals waste. The interventions presented in the review can be classified into five groups: food service modifications, protected mealtimes and feeding assistance, food presentation, nutritional education strategies and inclusion of plant-based protein products [10]. In the study by Manning *et al.* introducing initiative of feeding assistance provided by volunteers was associated with energy and protein intake increase. Trials that reported interventions based on changing the form of the menu (from a traditional menu with information about the standard meals to the possibility of changing the meals offered) were also effective in helping patients meet their energy and protein needs. In studies by Maunder *et al.* and Barrington *et al.* introducing bedside electronic meal ordering system instead of traditional paper menu with default meals was associated with higher average energy and protein intake [11]. In our study, 24.4% of patients reported low acceptance of the food served in hospital or its taste or smell, therefore changing the composition of meals or providing patients with a menu of their choice could effectively solve the problem of low intake. The results obtained by these authors can be considered important in the light of the new catering service being introduced in many Polish hospitals. The initiative, run by one of Poland's largest catering companies, is called 'Patient's Choice' and involves offering hospital patients a menu of their choice rather than a standard menu [12].

Another type of intervention used in one of the studies included in the review was improving the appearance of meals, which was highly effective, increasing energy intake by almost 20%. This particular intervention seems to be important in Poland at the moment, as the new government programme is being implemented.

The government pilot programme “A Good Meal in Hospital” (pl: Dobry posiłek w szpitalu) was launched on 6 October 2023. The programme is aimed at improving the quality of hospital meals and increasing the availability of dietary advice in the hospital setting. Units that decide to join the programme are required to provide patients with a diet appropriate to their condition and to publish on their website menus and photographs of at least two meals from the most commonly used diets on a given day, together with a reference to the menu items. In addition, hospitals are required to ensure that the interval between meals (especially dinner and breakfast on the following day) does not exceed 12 hours. Healthcare services provided under the pilot programme shall be invoiced taking into account the rate of PLN 25.62 (EUR 5.75) per person-day of hospitalisation of a patient who enters the pilot programme [13].

It is important to mention, that providing patients with nutritious, healthy meals can have a wider impact than preventing the development of malnutrition in hospital. The food served in hospitals can be part of nutritional education, as patients learn how to compose their meals, what types of products (especially protein sources) to choose, and how large their portions should be. However, the pilot programme does not aim to implement any kind of food intake monitoring that would motivate hospital staff to pay more attention not only to what is served, but also to patients’ oral intake. For the NutritionDay audit’s purposes, we recorded the reasons for meal rejection among patients, while there are no formal country-level procedures for recording the food intake in the Polish hospitals and there is no data available on how many hospitals in Poland introduced any kind of monitoring. It is important, as one of the indications for the initiation of partial or total enteral or parenteral nutrition is low food intake in the last 7 days, the lack of a formal assessment of food intake would probably delay the decision to start enteral or parenteral feeding, especially in cases where the patient’s oral intake appears to be adequate or only slightly reduced but still is insufficient to meet energy requirements.

In conclusion, in our study we found different reasons for refusal of food among hospitalised patients. It is important to note that nutritional care in Poland lacks formal standards for assessing patients’ food intake. Many hospital patients eat less than a standard meal portion and the lack of nutritional assessment allows this to go unnoticed. To provide better care, a new standard of nutritional care needs to be developed, consisting of improvements in the quality of hospital food and services, and nutritional education for both patients and hospital staff.

Authors’ contributions

A.R. and K.P. had the idea for taking part in the audit, that was further developed in discussion with J.G. and B.G. A.R. and P.W. performed the data collection. A.R. and K.P. prepared the first draft. K.P., J.G. and A.R. prepared the final version. B.G. reviewed the manuscript for the important intellectual content. All authors have seen, commented upon, and approved of the final version of the work.

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Conflict of interest

None declared.

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