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Original article

At Your Request® room service dining improves patient satisfaction, maintains nutritional status, and offers opportunities to improve intake

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SUMMARY

Background: Malnutrition in hospitals may be combatted by improving the meal service.
Aim: To evaluate whether At Your Request®, a meal service concept by Sodexo with a restaurant style menu card and room service, improved patient satisfaction, nutritional status, and food intake compared to the traditional 3-meals per day service.
Methods: We prospectively collected data in Hospital Gelderse Vallei (Ede, the Netherlands) before (2011/2012; n = 168, age 63 ± 15 y) and after (2013/2014; n = 169, 66 ± 15 y) implementing At Your Request®.
Results: Patient satisfaction increased after implementing At Your Request® from 7.5 to 8.1 (scale 1–10) and from 124.5 to 132.9 points on a nutrition-related quality of life questionnaire ($p < 0.05$). Body weight and handgrip strength did not significantly change in both periods. At admission, more patients in the At Your Request® period had risk of malnutrition (MUST ≥ 1; 47 vs 37). MUST scores improved in 18 patients in both periods. With At Your Request® 0.92 g protein per kg (g/kg) bodyweight was ordered. Protein intake based on food records from patients on an energy and protein enriched diet was 0.84 g/kg during At Your Request® (n = 38) versus 0.91 g/kg during the traditional meal service (n = 34).
Conclusion: At Your Request® is a highly rated hospital menu concept that helps patients to maintain nutritional status. The concept offers options for improving the intake of specific nutrients and foods, which should be evaluated in further studies.

1. Introduction

Proper nutritional care and food services in hospitals have beneficial effects on recovery and quality of life of patients [16]. However, hospital food has a widespread negative image and patients often expect poor quality, even before tasting the food [4,12]. The negative image might not necessarily be related to the food itself [4]; limited choice in meals, fixed mealtimes, and choosing a meal one day ahead all reduce the appreciation of hospital food [12,20]. Patient satisfaction improves if the hospital food resembles food at home [14]. Furthermore, personal contact with catering staff is an important factor in patient satisfaction [18].

Several studies have shown that nutritional intake increases when the meal is appreciated [14,28]. Increasing intake is beneficial, as malnutrition is a common and serious problem in hospitalized patients. About 25% of hospitalized patients suffers from malnutrition [22] caused by reduced intake, increased losses, increased requirements, or a combination of these factors. Besides energy, protein intake has priority in preventing and treating malnutrition. Many studies suggest that protein requirements among hospitalized patients are higher than the 0.8 g/kg bodyweight (BW) for healthy individuals. Estimates range from 1.1 to 1.7 g/kg BW depending on the method and patient group [10,30,37]. In the Netherlands, a protein intake of 1.2–1.5 g/kg BW is considered optimal for hospitalized patients [15], where body weight of patients with a BMI higher than 27 kg/m^2 is corrected to a body weight fitting a BMI of 27 to avoid overconsumption.

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Although the recommendations for patients are higher than for healthy individuals, intakes are usually lower. Published data on protein intake in hospitals differ between 0.34 and 0.99 g/kg BW [1,2,7]. The low protein intake is only partly explained by low energy intakes: mean energy intake in these studies was about 1700 kcal/day which was close to the calculated recommendation of 1800 kcal/day in two of those studies [1,2,7].

Various initiatives have been developed to stimulate protein intake, such as providing fortified meals and between-meal protein-rich snacks or drinks [5]. Reorganizing the hospital catering, giving patients more choice and flexibility in what they eat and when, is another option [9]. In the USA, the catering concept At Your Request® has been implemented by Sodexo in many hospitals. At Your Request® offers patients to choose what they eat, when they eat and where they eat their meals. In the Netherlands, Gelderse Vallei Hospital (500 beds) implemented At Your Request® in November 2012 as the first hospital in Europe. Its ambition was to improve patient satisfaction and nutritional status, while maintaining costs.

The aim of our study was to compare patient satisfaction, nutritional status, and food intake before and after introduction of At Your Request®. The same methods were used to prospectively collect patient data during both periods.

2. Methods

2.1. Study design

We performed an observational prospective study in Hospital Gelderse Vallei (Ede, the Netherlands). The measurements for the traditional meal service were done between October 2011 and March 2012. In November 2012, At Your Request® was implemented and measurements were done from October 2013 to January 2014 (Fig. 1). Data were collected at six wards: Cardiology, Geriatrics, Oncology, Surgery, Neurology, and Acute Admission, because patients at these wards have a relative high risk of developing malnutrition.

Participants were recruited at their day of admission. The inclusion criteria were age ≥18 years, an expected admission time of ≥4 days and a good understanding of the Dutch language. Patients who required parenteral or enteral feeding or who were too weak to respond to our questions were excluded from the study. Criteria for drop out were: discharge within 4 days, relocation to a non-participating ward, being too ill to continue participation, or death.

The study was approved by the hospital research board; the Medical Ethics Committee (MEC) of UMC Utrecht decided that no

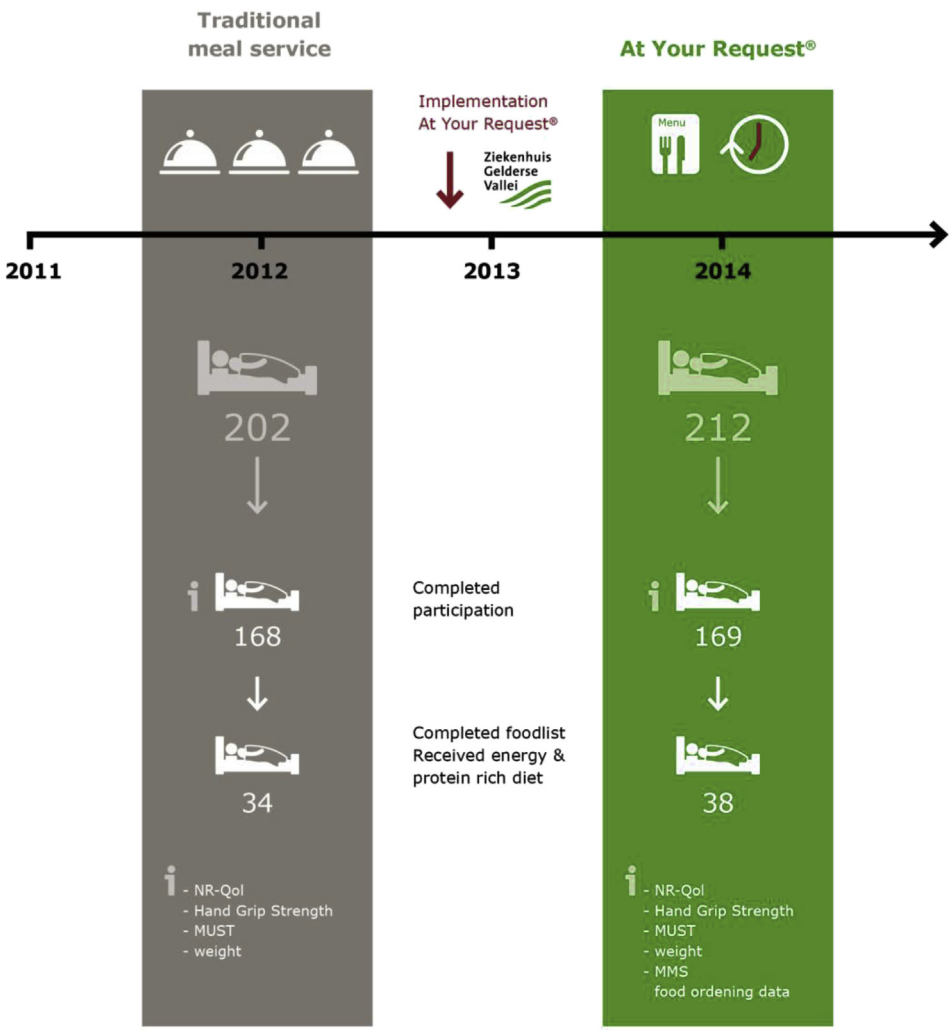

Fig. 1. Study design. Patient satisfaction, nutritional status, and food choice were compared between two periods in time. Detailed food intake data from food lists was only available for patients receiving an energy and protein enriched menu (bottom beds).

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