

Abstracts zum NutritionDay-Projekt, vorgestellt als oral presentations oder Poster beim ESPEN Kongreß 2007 in Prag

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**NUTRITIONDAY 2006: IMPACT OF NUTRITIONAL STATE AND FOOD INTAKE ON LENGTH OF HOSPITAL STAY IN GERMAN HOSPITALS**

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**Rationale:** The NutritionDay project was initiated as a Europe-wide cross-sectional multi-centre audit to evaluate nutritional care and nutritional status in hospitalized patients. It is well known, that a poor nutritional state prolongs length of hospital stay (LOS). This analysis investigates, whether LOS is prolonged to the same extent in German (NDG) compared to European hospitals (NDav) in patients in poor nutritional state before admission.

**Methods:** On the NutritionDay (01-19-2006) data were collected in 748 units in 25 European countries, including 105 units in Germany, by means of questionnaires. These comprised questions on the unit structure, patients' clinical data and individual food intake which was reported by the patients. LOS was documented after 30 d.

**Results:** About 16,455 patients were documented, including 2105 (12.8%) in Germany. 5.0% (NDav 5.8%) of the patients were undernourished (BMI < 18 kg/m<sup>2</sup>), 43.8% (NDav 45.5%) well-nourished (BMI 18–25), 34.1% (NDav 31.1%) overweight (BMI 25–30), and 17.1% (NDav 17.6%) obese (BMI > 30). In German patients without weight loss or with weight gain LOS was significantly decreased by 4.2 d than in the total sample (NDG 20.3 ± 0.6 vs. NDav 24.5 ± 1.7 d, *p* < 0.0001). LOS was increased in patients with weight loss in both samples, but did not differ (NDG 28.5 ± 0.9 vs. NDav 28.9 ± 0.8 d). In German patients with normal food intake LOS was significantly decreased by 4.0 d (NDG 22.3 ± 0.6 vs. NDav 26.3 ± 1.4 d, *p* < 0.0001). In both cross-sectional samples patients with poor food intake (< 50%) had a longer LOS, which was significantly increased by 1.3 d in Germany (NDG 29.1 ± 1.2 vs. NDav 27.9 ± 0.5 d, *p* < 0.0001).

**Conclusions:** In both Germany and Europe patients with weight loss or reduced food intake before admission had a longer LOS compared to patients in good nutritional state. It is remarkable that German patients in good nutritional state had a significantly shorter LOS compared to the European cross-sectional sample.

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**NUTRITIONDAY IN EUROPEAN HOSPITALS: RISK FACTORS FOR MALNUTRITION IN PATIENTS OLDER THAN 75 YEARS**

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**Rationale:** Malnutrition at hospital admission is a risk factor for an unfavourable outcome, especially in elderly patients. The NutritionDay project was initiated as a Europe-wide cross-sectional multi-centre audit to evaluate risk factors for malnutrition in hospitalized patients.

**Methods:** In each country the national societies for clinical nutrition advertised the project. On the NutritionDay (Jan 19, 2006) data were collected in 748 units in 25 countries using questionnaires on structural information, patients' clinical data and outcome filled in by the care providers, and on the individual nutritional intake documented by the patients. Intensive care patients were excluded.

**Results:** About 16,455 patients were documented including 4799 patients (29.2%) older than 75 years. These patients were mainly seen in geriatric (75+:75%) and long-term care units (75+:80%). 41.2% of 75+ patients experienced a significant weight loss before admission compared to 37.6% of all patients (*p* < 0.0001). Patients with weight loss experienced a significantly (*p* < 0.001) longer median hospital stay than weight stable patients (17 vs. 21 days). The served meals were eaten completely only by 46% (breakfast), 34% (lunch) and 35% (dinner) of patients 75+. The reasons for eating less were being not hungry (27%), nausea/vomiting (6%), not allowed to eat (9%), and not liking the taste (13%). Poor intake was only in part compensated by giving protein supplements in 9% of the patients.

**Conclusions:** The NutritionDay cross-sectional sample provides comparable data of hospitalized patients in different specialities and countries. The first analysis shows that adequate measures should be taken to improve nutritional care for elderly patients.

**“NUTRITIONDAY”: FOOD CONSUMPTION IN A UNIVERSITY HOSPITAL IN SOUTHERN ITALY**

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**Rationale:** Studies across Europe in hospitalized patients have pointed out that undernutrition, poor appetite and low food intake are widespread. Hospital foodservices should represent a “first line prevention strategy”. Objective of our analysis was to investigate the patients’ intake of any food apart from hospital food, the part of the dish the patients ate at each meal and the reasons for eating less from the list given.

**Methods:** Within the NutritionDay audit, we assessed patient’s view on eating and nutritional intake using two self-compiled questionnaires. One hundred and eleven questionnaires were administered in 7 units: geriatrics, general surgery, general medicine, infectious diseases,

gynecology and obstetrics, nephrology, otolaryngology. Data were analyzed using SPSS version 14.0.

**Results:** Seventy five patients (37% men, 63% women; 51.5±14.5yr) accepted to participate to the audit (adhesion rate: 67%). 51% of the patients ate food apart from hospital food, mostly meals taken from home by parents. Only 40% of the patients consumed all the hospital meal at breakfast, lunch and dinner. Forty percent of the patients did not consume breakfast, 21% lunch and 26% dinner. The most common reasons of reduced consumption were: “I was not hungry” (27%) and “I had an examination/surgery” (22%) for breakfast, “I did not like the taste” for lunch and dinner, respectively 31% and 27%, and “I did not like taste and smell” for lunch and dinner, respectively, 24% and 32%. Thirty-four percent of the patients consumed on their own a snack during the day.

**Conclusions:** Our data show that the hospital foodservice continues to have critical points, especially food dislike and, to a lesser degree, overlapping with medical examination. Specific improvements in foodservice practices should be implemented on a local and national level, as the development of standards for food service systems, based on patients’ needs rather than on hospital’s needs.

**NUTRITION DAY 2006 IN ISRAEL**

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**Rationale:** The aim of this international cross-sectional multicentre audit throughout Europe was to generate a risk and level of nutritional intervention profile for an individual unit based on case-mix, hospital structures and social environment.

**Methods:** The 198 patient results from 6 units (2 main hospitals) were compared to the 16,455 patients of 748 units obtained during the same day survey in Europe. The results are expressed in comparison with patients from the same medical category

**Results:** The staff per patient description was quite similar between Israel and Europe: physicians per patients 0.11 ± 0.03 in Israel and 0.16 ± 0.15 in Europe, nurses 0.37 ± 0.24 in Israel and 0.24 ± 0.23 in Europe while dieticians were understaffed in Israel: 0.03 ± 0.01 versus the double in Europe 0.06 ± 0.05. In the Israeli hospitals, 67% of the units had a nutrition team (74% in Europe), and written procedure were performed individually in 4 units, locally in 3 units (57% in Europe).

198 Israeli and 16455 European patients had similar demographic data. Weight was measured at admission in 44%, as requested in 32% and never much than in Europe. In Israel 68 (34.3%) of the patients were post-operative while only 25.4% in Europe. The Israeli patient is not only eating less 1 week before hospitalization, he is also eating less at breakfast, lunch as well as dinner. Interestingly, in Israel, 16.8% did loose 0–4kg, 5.9% 5–8 kg and 11.9% more than 8kg, while in Europe 16.8% lost 0–4kg, 8.87% between 5 and 8kg and 9.49% more than 8 kg.

**Conclusions:** This study underlines the high hospital prevalence of under nutrition in Israel as well as in Europe and its clinical consequences. The recommendations of the Council of Europe have to be implemented in Israel and the Nutrition Day model may serve as a tool for audit and quality assessment for action taken to decrease hospital malnutrition.

**PROTEIN INTAKE INCREASED AFTER IMPLEMENTING A QUICK AND EASY SCREENING TOOL FOR EARLY RECOGNITION AND TREATMENT OF MALNUTRITION: RESULTS NUTRITION DAY 2006**

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*Rationale:* January 19th 2006 50 students measured intake of 300 patients during Nutrition day. The outcome made

clear that the problem of disease related malnutrition (DRM) was present in our hospital in 34%. This outcome made it important for the Academic Medical Centre to implement a tool that increases recognition of DRM and thereby starts adequate nutritional treatment in an early stage of hospital admittance.

*Methods:* To screen the hospitalized patients the SNAQ method was chosen because all information necessary to answer the screening questions were already in the nursing files. A nutrition form filled out at admittance was combined with the SNAQ in order to have all patients screened at admittance and informing the nutrition department about the patients' riskscore. All patients get 'optimal nutrition' defined as 1.5g protein/kg body weight. This is realised by 3 times a day a normal meal and 3 times a day in-between-snacks. Malnourished patients are notified to use high protein supplements as in-between-snacks. Nurses and nutrition staff were trained in screening and treatment of patients.

*Results:* The implementation started at 4 wards. After 4 months 1000 patients were screened, 60% of the patients were not at risk, 10% medium risk and 25% were high risk malnutrition patients. 5% of the forms were qualified as missing. Nutritional support increased from 59% of daily protein need before the screening to 70% with the introduction of the in-between-snack.

*Conclusions:* Introducing the early recognition and treatment method increased the intake of protein in hospitalized patients. More research is necessary why the goal of 100% protein intake is not possible to reach and if the DRM at admittance can be reduced by starting screening and treatment in the outpatient clinic.

**NUTRITIONDAY IN NORTH WALES: AN AUDIT OF THE INCIDENCE AND EFFECTS OF MALNUTRITION**

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*Rationale:* The adverse effects of malnutrition on the health and recovery of hospital inpatients are well documented, a large number of patients have a poor nutritional intake and clinical impression is that only a few receive nutrition support. The main objective of the survey was to investigate the incidence of malnutrition amongst patients in hospital and its effects on the most vulnerable patients.

*Methods:* On a selected day 165 patients completed a questionnaire detailing their weight history, appetite and intake. Patients with a score of one or greater using the Malnutrition Universal Screening Tool were identified as at risk of malnutrition. The inpatient status was checked a month later and patients aged 60 and over at risk of malnutrition were asked further questions on appetite, food intake, weight and nutritional treatment.

*Results:* In total 165 patients were surveyed and 65 (39%) were identified as at risk of malnutrition. The majority of patients (83%) at risk of malnutrition were aged 60 and over. 11% of the at risk patients were readmitted to hospital and 17% died. In comparison, 8% of those not at risk were

readmitted and 8% died. Thirty-eight patients aged 60 or over at risk of malnutrition survived. On reassessment 25(66%) of these 38 patients reported an improvement in appetite where as 12(32%) stated that it remained poor, 21(55%) reported a normal food intake as opposed to 17(45%) who reported a reduced oral intake. Further weight loss occurred in 16(42%) while 11(29%) had gained weight. 17 (45%) patients in this group received nutritional support and out of these 12 were seen by a dietician.

*Conclusions:* The results of this study concur with other published data suggesting that malnutrition continues to be a problem in hospital. This survey also showed that less than half of patients requiring nutrition support received it thus highlighting the need for the implementation of robust screening and treatment protocols for malnutrition.

**NUTRITIONDAY 2006 IN GERMAN HOSPITALS**

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**Rationale:** The NutritionDay project was initiated as a Europe-wide cross-sectional multi-centre audit to evaluate nutritional care and nutritional status in hospitalized patients. On the basis of this standardized data collection it is possible to compare data of different countries. This analysis aims at presenting the data collected in Germany (NDG) compared to the European average (NDav).

**Methods:** On the NutritionDay (01-19-06) data were collected in 748 units in 25 countries all over Europe, including 105 units in Germany, by means of questionnaires. These included questions on structure of the units, patients' clinical data and outcome, filled in by the care providers, and the individual nutritional intake documented by the patients.

**Results:** A total of 16455 patients were documented in Europe, including 2105 (12.8%) in Germany. Mostly medical (NDG 61.5%; NDav 49.6%) and surgical (NDG 11.5%; NDav 24.5%) units participated. 40.3% (NDav 38.7%) of patients reported weight loss during the 3 months before admission, 53.0% of these patients (NDav 47.4%) lost > 5 kg. Two thirds of the patients (NDG 66.2%, NDav 62.3%) were provided with normal hospital meals, in part combined with enteral nutrition or protein supplements. On the NutritionDay a food intake of 50% or less of the served meals was documented by 44.5% of patients (NDav 42.5%) for breakfast, by 49.6% (NDav 48.9%) for lunch, and by 42.8% (NDav 45.7%) for dinner. Thirty days after the NutritionDay 69.4% of the German patients (NDav 67.2%) were discharged home, 10.2% (NDav 8.3%) were transferred to another institution, 11.4% (NDav 10.2%) were still in hospital, and 2.6% (NDav 3.7%) had died.

**Conclusions:** Despite the differences in participating specialties the German and European data show a similar pattern. The high percentage of patients with weight loss and reduced food intake in this cross-sectional sample points to the problem of malnutrition in hospitalized patients in both samples.