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Original article

Nutrition care practices in hospital wards: Results from the Nutrition Care Day Survey 2010

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SUMMARY

Background & aim: This paper describes nutrition care practices in acute care hospitals across Australia and New Zealand.
Methods: A survey on nutrition care practices in Australian and New Zealand hospitals was completed by Directors of dietetics departments of 56 hospitals that participated in the Australasian Nutrition Care Day Survey 2010.
Results: Overall 370 wards representing various specialities participated in the study. Nutrition risk screening was conducted in 64% ($n = 234$) of the wards. Seventy nine percent ($n = 185$) of these wards reported using the Malnutrition Screening Tool, 16% using the Malnutrition Universal Screening Tool ($n = 37$), and 5% using local tools ($n = 12$). Nutrition risk rescreening was conducted in 14% ($n = 53$) of the wards. More than half the wards referred patients at nutrition risk to dietitians and commenced a nutrition intervention protocol. Feeding assistance was provided in 89% of the wards. "Protected" meal times were implemented in 5% of the wards.
Conclusion: A large number of acute care hospital wards in Australia and New Zealand do not comply with evidence-based practice guidelines for nutritional management of malnourished patients. This study also provides recommendations for practice.

1. Introduction

The Australasian Nutrition Care Day Survey (ANCDS) reported a 30% malnutrition prevalence rate in acute care patients in hospitals across Australia and New Zealand.[1] While patients are often admitted to hospital with existing malnutrition,[1,2] the deterioration of their nutritional status during hospitalisation is not uncommon. Malnutrition is associated with adverse outcomes such as higher complications rates, impaired wound healing, increased length of hospital stay, higher readmission rates, increased morbidity and mortality, and increased health care costs.[3] Given its high prevalence and associated repercussions, early identification of malnutrition (or nutritional risk) is undisputable.[4]

Nutrition screening, a rapid and simple procedure, can help detect patients who are at nutritional risk or have existing nutritional problems.[5] A variety of screening tools[6–10] have been validated and endorsed by nutrition care guidelines in different countries.[11–13] However, the extent of the integration of nutritional screening within nutrition care in hospitals across Australia and New Zealand is unclear. While there is no published information about nutrition screening practices in New Zealand, a nutrition screening survey was conducted in 1995[14] and repeated in 2008[15] within Australian hospitals. In 1995, responses from dietitians representing 124 hospitals indicated that only 3% ($n = 4$) of the hospitals conducted nutrition screening.[14] In 2008, responses from 68 hospitals indicated that 78% ($n = 53$) of the hospitals had adopted screening as routine practice,[15] although the results may not have been reflective of the total population.

In 2009, the Dietitians Association of Australia published "Evidence Based Practice Guidelines for the Nutritional

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Abbreviations

ADA EAL	American Dietetic Association Evidence Analysis Library®
ANCDS	Australasian Nutrition Care Day Survey
Aus	Australia
AuSPEN	Australasian Society of Parenteral and Enteral Nutrition
HPE	High Protein Energy Diet
MST	Malnutrition Screening Tool
MUST	Malnutrition Universal Screening Tool
NCCAC	National Collaborating Centre for Acute Care
NHMRC	National Health and Medical Research Council
NRS-2002	Nutrition Risk Screening-2002 tool
ONS	Oral Nutritional Supplement

Management in Adult Patients across the Continuum of Care".[11] In addition to recommending nutrition screening, these guidelines also endorsed practices such as dietary counselling, fortification of food, oral nutritional supplements, tube feeding, parenteral nutrition, and the provision of feeding assistance at meal times as part of standardised nutrition care for acute patients.[11] It remains unknown if these guidelines have been implemented in hospitals across Australia or New Zealand. Evidence regarding the compliance with these practices within New Zealand hospitals is also lacking.

The present study is a part of the larger ANCDS and aims to describe nutrition care practices in acute care wards of participating hospitals. The paper also compares current practices with various evidence-based nutrition care practice guidelines (Appendix 1).

2. Methods

The ANCDS was a multisite cross-sectional survey. Members of the Australasian Society of Parenteral and Enteral Nutrition (AuSPEN), and Dietitians Association of Australia (DAA) Interest Groups participated in the study. Site representatives from each participating hospital were provided with details regarding the study methodology. Wards where:

- malnutrition prevalence was likely to be low (e.g. Maternity and Obstetric);
- patient burden for participation was likely to be high or patients were critically ill (e.g. Paediatric, Mental health (including eating disorders), Intensive Care Units, High Dependency Units, Emergency Departments);
- nutrition screening and assessment are not routinely performed (Outpatient Departments);

were excluded from the study. Non-acute care wards (such as Rehabilitation and sub-acute wards) were also excluded.

Directors of Nutrition and Dietetics Departments of participating hospitals were requested to complete a questionnaire for each participating ward from their hospital for this study. Information collected in the questionnaire included:

- Ward speciality
- Number of beds
- Protocols regarding:
  - Weighing patients,
  - Nutrition screening and rescreening,
  - Management of patients with nutritional risk,
  - "Protected" meal times (periods when all non-urgent clinical ward-based activities are ceased to allow for patients to eat meals without interruptions and for staff to offer assistance to improve patients' nutritional intake[16]),
  - Feeding assistance (a variety of activities such as adjusting the bed-table to allow easier access to the meal, helping patients sit comfortably, opening food containers, helping patients with using cutlery, providing verbal encouragement, cutting the meals, pouring drinks into cups, providing a more social atmosphere, and physically feeding the patients[17]).

Ethical approval was provided by the Medical Research Ethics Committee of The University of Queensland. Approval was also obtained from local Human Research Ethics Committees of participating hospitals.

2.1. Statistical analyses

All statistical analyses were performed with software package PASW Statistics Gradpack 18 (SPSS Inc., USA). Frequency and percentage was used to describe categorical variables (ward speciality; protocols related to weighing patients, "protected" meal times, feeding assistance, nutrition screening, nutrition rescreening, type of screening tool used, dietary interventions for patients identified as at risk of malnutrition).

Bivariate analyses of categorical variables were undertaken using Chi-square tests. Exact tests (using Monte Carlo method) were used when the minimum cell frequency assumption was violated. Comparisons of medians were performed using non-parametric tests (Mann–Whitney *U* Test). *P*-values less than 0.05 (two tailed) were considered statistically significant.

3. Results

3.1. Demographics

A total of 370 wards from 56 hospitals participated in the study (Australia: 287 wards from 42 hospitals; New Zealand: 83 wards from 14 hospitals) (Table 1). Wards from eight main specialities (Medical, Surgical, Oncology, Neurology, Orthopaedics, Renal/Urology, Gastroenterology, and Cardiology/Respiratory) participated in the study with ward sizes ranging from 7 to 54 beds.

3.2. Protocols

3.2.1. Weighing patients

Patients' weights at the time of admission were recorded in 32% ($n = 117$) of the wards. More than half the wards ($n = 204$, 55%) weighed patients only when requested. Although the remaining wards did not record patient weights at the time of hospital admission, they did so on a daily ($n = 12$, 3%), weekly ($n = 18$, 5%), biweekly ($n = 8$, 2%), or pre-surgery ($n = 10$, 3%) basis. A significant difference in protocols for weighing patients according to ward speciality was observed (χ^2, $p < 0.01$, d$f = 88$). Oncology wards had the highest reports of weighing patients on admission ($n = 12$, 46%). The practice of weighing patients when requested was most commonly reported for orthopaedic ($n = 24$, 77%), gastroenterology ($n = 8$, 62%), other ($n = 14$, 61%), surgical ($n = 47$, 58%) and medical wards ($n = 58$, 57%).

3.2.2. Nutrition screening and rescreening practices

Nutrition screening was routinely performed in 64% ($n = 234$) of all wards. Intra-hospital variations in nutrition screening practices were reported in 114 participating wards from 12 hospitals. Less than half of these wards ($n = 54$, 47%) implemented nutrition screening.