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An investigation of nutrition risk among hospitalised adults of advanced age admitted to the AT&R wards at North Shore and Waitakere Hospitals

A thesis presented in partial fulfilment of the requirements for the degree of Master of Science in Nutrition and Dietetics at Massey University, Albany New Zealand

Amy Popman
2015
Abstract

Background: In line with the global trend of an ageing population, the number and proportion of New Zealanders aged 65 years and older is increasing. Those of advanced age (85 years and older) make up the fastest-growing demographic group within the aging population. In coming years it is projected almost a quarter of older adults in New Zealand will be aged 85 years and older. Advanced age adults are at an increased risk of poor nutrition status. Optimising nutritional wellbeing in advanced age is important as nutrition risk has been associated with longer hospital admissions, loss of independence due to disability and the need for a higher level of care.

Aim: The aim of this study was to establish the prevalence of nutrition risk among adults of advanced age (85 years and older) recently admitted to the Admission, Treatment and Rehabilitation (AT&R) wards at North Shore and Waitakere Hospitals.

Method: Participants were recruited into this cross-sectional study within five days of admission to the AT&R wards at North Shore and Waitakere Hospitals. Sociodemographic and health characteristics were established using an interviewer administered questionnaire. Anthropometric measures including body mass, muscle mass, and muscle strength were also taken. Nutrition risk was assessed using a validated screening tool, the Mini Nutritional Assessment-Short Form (MNA-SF). The validated 10-item Eating Assessment Tool was used to assess dysphagia risk and the validated Montreal Cognitive Assessment was used to determine level of cognition. Data were analysed using descriptive statistics. Pearson Chi-Square and Fisher’s Exact tests were used to examine differences between MNA-SF nutrition status groups. A p-value<0.05 was considered statistically significant.

Results: Of the 88 participants, 43.2% were at high risk of malnutrition and 28.4% were malnourished. The majority of malnourished participants were widowed (64.0%), received the pension as their only source of income (76.0%), were taking more than five medications (76.0%), wore dentures (64%), had below normal cognitive function (92.3%), received regular support services (72.0%), and required daily help (76.0%). Participants who were malnourished were significantly more likely to be at risk of
dysphagia (52.0%, p=0.015). The MNA-SF score was positively correlated with body mass index (r=0.484, p<0.001); grip strength in the dominant hand (r=0.250, p=0.026), and negatively correlated with dysphagia risk score (r=-0.383, p<0.001).

**Conclusion:** Nutrition risk and malnutrition is highly prevalent among hospitalised adults of advanced age. Ensuring routine nutrition screening is carried out on admission to an AT&R ward is an important first step to identify those at nutrition risk. These findings also highlight the importance of screening for dysphagia risk alongside nutrition risk among advanced age adults. Screening on admission to hospital can help to identify those in need of further assessment and can help to shape the interventions to improve nutrition status.
Acknowledgements

I would like to express my sincere gratitude and appreciation to numerous people for their support while I was undertaking this research. Firstly, I would like to acknowledge the 88 participants involved in this study. Thank you for giving me insight into your lives, without your participation this study would not have been possible.

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The biggest thank you goes out to my family and friends for the unconditional love and support you have given to me. Mum and dad, I love you and I hope what I have achieved makes you proud. To Vince, thank you for teaching me to believe in myself. To my friends, thank you for the amazing adventures which took my mind off the overwhelming task of completing this research.
Dedication

This thesis is dedicated to my brother Andrew who taught me to never give up and inspired me to do great things.

I love you buddy.

02/05/1989 - 18/01/2012
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### Abbreviations

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<th>Description</th>
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<tbody>
<tr>
<td>AMDR</td>
<td>Acceptable Macronutrient Distribution Range</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>ANSI</td>
<td>Australian Nutrition Screening Initiative</td>
</tr>
<tr>
<td>AT&amp;R</td>
<td>Admission, Treatment &amp; Rehabilitation</td>
</tr>
<tr>
<td>BIA</td>
<td>Bioelectrical Impedance Analysis</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
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<tr>
<td>CC</td>
<td>Calf Circumference</td>
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<tr>
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<td>Centimetre</td>
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<tr>
<td>m</td>
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<tr>
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