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Nutrition risk in age-related residential care: prevalence and associated factors in adults of advanced age

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Stacey Marie Senior
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Abstract

Background: The New Zealand population is rapidly ageing. Adults of advanced age (≥ 85 years) are one of the fastest growing population groups with numbers expected to double by 2036. Increasing longevity is associated with reduced mobility, health loss, cognitive decline, and nutritional vulnerability. This often results in increased care requirements and movement into age-related residential care (ARRC). Overseas research indicates an increased prevalence of malnutrition in ARRC residents. Malnutrition in older adults is associated with increased morbidity and mortality, and consequently increased cost of health care. This study aims to establish the prevalence of nutrition risk and associated factors among adults of advanced age recently admitted to ARRC within the Waitemata District Health Board (WDHB) region of Auckland, New Zealand.

Methods:

A total of 97 participants aged ≥ 85 years were recruited within five days of admission to WDHB ARRC facilities. Sociodemographic and health characteristics of participants were determined during a single 60-minute interview. Standardised measures were used to measure body composition, grip strength and gait speed. Nutrition risk was assessed using the Mini Nutritional Assessment-Short Form (MNA-SF), dysphagia risk using the 10-Item Eating Assessment Tool (EAT-10) and cognitive status using the Montreal Cognitive Assessment (MoCA).

Results:

Of the 97 participants (mean age 90.9 ± 3.8 years), half (50.5%) were malnourished, 40.2% at nutrition risk and a third (37.1%) were at dysphagia risk. Malnourished participants were more likely to be ≥ 90 years ($p = 0.019$), admitted to ARRC on a permanent basis ($p = 0.016$), at dysphagia risk ($p = 0.015$), have a BMI < 23 ($p = 0.022$), lower fat mass ($p = 0.005$), and fewer comorbidities ($p = 0.030$). The MNA-SF score was inversely correlated with age ($r = -0.225$, $p = 0.027$) and positively correlated with BMI ($r = 0.499$, $p = < 0.001$) and fat mass ($r = 0.765$, $p = < 0.001$).

Conclusion:

A high prevalence of malnutrition and dysphagia risk was discovered within this study population. Residents aged ≥ 90 years with low BMI are at greatest nutrition risk and are an easily identifiable group. Early screening and intervention is recommended upon admission to ARRC.

Key words: Aged, anthropometric measures, deglutition disorders, malnutrition, mini nutritional assessment, rest home

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Dedication

This work is dedicated to the memory of my beautiful Nana, Noeline King (1938 – 2017), whose strength and determination inspired me to meet challenges head on and come out the other side still smiling.

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Abbreviations

ARRC	Age-related Residential Care
BIA	Bioelectrical Impedance Analysis
BMI	Body Mass Index
Cm	Centimetre
COPD	Chronic Obstructive Pulmonary Disorder
DHB	District Health Board
EAT-10	10-Item Eating Assessment Tool
ESPEN	European Society for Parenteral and Enteral Nutrition
HDEC	Health and Disability Ethics Committee
Kg	Kilogram
LILACS NZ	Life and Living in Advanced Age: A Cohort Study in New Zealand
m	Metre
MCI	Mild Cognitive Impairment
MMSE	Mini Mental State Examination
MNA	Mini Nutritional Assessment
MNA-SF	Mini Nutritional Assessment-Short Form
MoCA	Montreal Cognitive Assessment
MST	Malnutrition Screening Tool
MUST	Malnutrition Universal Screening Tool
NZANS 2008/09	New Zealand Adult Nutrition Survey 2008/09
SD	Standard Deviation
SGA	Subjective Global Assessment
WDHB	Waitemata District Health Board
WHO	World Health Organisation
y	Years