Screening for nutrition risk and dysphagia among older adults newly admitted to age related residential care facilities in the Waitemata DHB region.

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ABSTRACT

Background: New Zealand has an ageing population, reflected by an older average population age and reduced mortality. Good nutrition is essential for successful ageing. Many factors are known to influence nutrition risk, and a high prevalence has been observed overseas in people living in age related residential care (ARRC) facilities. In New Zealand, there is limited data on both the prevalence of nutrition risk in ARRC facilities and the health factors that contribute to risk. The changing demographics of the population means that a greater understanding in this area will be important to develop strategies which support the maintenance of good nutrition status for longer, thus potentially reducing health burden. This study aims to determine nutrition risk and the risk of dysphagia (swallowing difficulties) in older adults recently admitted to an ARRC facility in the Waitemata District Health Board (DHB) region.

Methods: Fifty-six individuals aged ≥65 years (or ≥55 years for Māori and Pacific) who were admitted for the first time to an ARRC facility within the Waitemata DHB region were invited to participate in the study. Potential contributors to nutrition risk were explored using a questionnaire that asked about nutritional and non-nutritional risk factors. The Mini Nutritional Assessment®-SF (MNA®-SF) was used to determine level of nutrition risk. Risk of dysphagia was identified using the Eating Assessment Tool (EAT-10). The Montreal Cognitive Assessment (MoCA) was carried out at the end of the interview and was used as a measure of cognitive function.

Results: A total of 53 participants with a mean age of 88 years were included. Overall, 91% of the participants were either malnourished (47%) or at risk of malnutrition (43%). Normal nutritional status was only prevalent in 9% of participants. Fifty-seven percent of participants were widowed, of which, 52% were malnourished. When malnourished participants were compared to those with normal nutritional status, malnourished participants were more likely to be underweight, in hospital level care, have a recent severe decrease in food intake, recent weight loss of greater than 3kg, have poorer mobility, experienced psychological stress or acute disease and have severe dementia or depression. Malnourished participants were more likely to report weight loss of greater than 3 kg than those at risk of malnutrition (56% vs. 13% respectively, $p = 0.03$; Fisher's exact test). Those who were malnourished had poorer mobility ($\chi^2 = 8.592$ $p = 0.003$) and were more likely to be at risk of dysphagia ($\chi^2 = 6.273$ $p = 0.01$) compared to those at risk of malnutrition. Participants in hospital level of care were also more likely to be at risk of dysphagia compared to those in rest home level of care ($\chi^2 = 4.627$ $p = 0.03$).

Conclusions: These findings suggest there may be a high prevalence of nutrition risk among older adults newly admitted to ARRC facilities within New Zealand and that existing poor nutrition may have contributed to the need to move into ARRC. The predisposing factors that affect nutrition status warrant further investigation so initiatives can be undertaken to avoid a change in living situation. The results highlight the need for nutrition screening and early intervention by a dietitian.

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ABBREVIATIONS

Abbreviation	Definition
ARRC	Age related residential care
AD	Alzheimer's Disease
ADL	Activity of daily living
ANSI	Australian Nutrition Screening Initiative
BMI	Body mass index
BMR	Basal metabolic rate
BPSD	Behavioural and psychological symptoms of dementia
BRIGHT	Brief Risk Identification Geriatric Health Tool
CAD	Coronary artery disease
CC	Calf circumference
CHD	Coronary heart disease
COPD	Chronic obstructive pulmonary disorder

CVD	Cardiovascular disease
DALY	Disability-adjusted life year
DHB	District Health Board
DST	Dysphagia Self-Test
EAT-10	10-item Eating Assessment Tool
EAT-20	20-item Eating Assessment Tool
GDP	Gross domestic profit
GDS	Geriatric Depression Scale
GIT	Gastrointestinal tract
GORD	Gastro oesophageal reflux disease
GUSS	Gugging Swallowing Screen
HDEC	Health and Disability Ethics Committee
ICD-10	International Classification of Diseases 10th revision
IHD	Ischaemic heart disease
IU	International Units
MCI	Mild cognitive impairment
MIHL	Minimum income for healthy living
MMSE	Mini Mental State Examination
MNA®	Mini Nutritional Assessment®
MNA®-SF	Mini Nutritional Assessment®-Short Form

MoCA	Montreal Cognitive Assessment
MOW	Meals on Wheels
MST	Malnutrition Screening Tool
MUST	Malnutrition Universal Screening Tool
NASC	Needs Assessment Service Coordination
NCEA	National Certificate of Educational Achievement
NHI	National Health Index
NSTEMI	Non ST segment myocardial infarction
NZBD	New Zealand Burden of Disease, Injuries and Risk Factors Study
OD	Oropharyngeal dysphagia
OTC	Over-the-counter
PEM	Protein-energy malnutrition
ROC	Receiver operating characteristic
SCREEN II	Seniors in the Community: Risk Evaluation for Eating and Nutrition, Version II
SD	Standard deviation
SGA	Subjective Global Assessment
VFS	Videofluoroscopy
WHO	World Health Organization
WI	Weight index
y	years