PREVALENCE OF MALNUTRITION
Among Older Adults Receiving Care From A Home Nursing Service In Victoria.

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ACKNOWLEDGEMENTS.

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- Royal District Nursing Service (RDNS) Nursing staff and clients
- Study reference group
- Home and Community Care (HACC) services provided by RDNS are jointly funded by the Victorian and Australian Governments
- Dr Gail Miles, Dr Leila Karimi
BACKGROUND.

- Life expectancy at birth  
  ABS 2010, AIHW 2006
  - 79 years for males
  - 84 years for females

- 2.7 million Australians (13%) ≥65 years  
  AIHW 2006
  - Projected to more than double over the next 30 years to 6.3 million (24% of the population)
Background.

- No universal definition of malnutrition
- No agreed standard for diagnosis
- Reported Prevalence rates vary due to different criteria used
Malnutrition in the Elderly: CHICKEN or the EGG?

Diagram showing the connections between Community, Hospital, and Nursing Home.
**BACKGROUND.**

Malnutrition Prevalence in the Community.

Community living older adults are not routinely screened

<table>
<thead>
<tr>
<th>Setting</th>
<th>International data (People accessing care)</th>
<th>Australian data (Older adults)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>&gt;10% Stratton et al 2003</td>
<td>5% Visvanathan 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30% Lipski 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80% goes undetected in older people Lipski 2005</td>
</tr>
</tbody>
</table>
MARKERS OF MALNUTRITION.

Nutrient deficiencies

- Albumin, transthyretin, iron, B12 etc

Sunken eyes

Muscle wasting

Protruding bones

Weight loss

Malnutrition in community living older adults
HOW DOES HE MEASURE UP?

Calcium
Vitamin D
Magnesium
Iron
Vitamin B12
Folate
CONSEQUENCES OF MALNUTRITION.

Malnourished Older people in the community

1. More likely to be admitted to hospital or visit General Practitioner (GP)
2. Less likely to recover from malnutrition

Fig. 1: Clinical features of PEM. PEM = protein-energy malnutrition.

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For every $1 spent on better nutrition for the elderly, $5 is saved in health care costs. Lipski 2005
Study: The presence of malnutrition in community-living older adults receiving home nursing service.
METHODS

Sample

From a large community nursing service providing home-based care in Victoria

Inclusion criteria: 
- ≥65 years, new admissions, Home and Community Care (HACC) or Department of Veteran Affairs (DVA)

Exclusion criteria: 
- receiving palliative care, cystic fibrosis or enteral feeding
- on a fee for service program or once off visit

Recruitment
- Assessed by nursing staff
- 3 month period

Ethics Approval obtained
METHODS.
Assessments/Outcomes

Assessment Measures

**Anthropometry**
- Height
- Weight
- Mid arm Circumference (MAC)
- Body Mass Index (BMI)

**Mini Nutritional Assessment (MNA®)**
www.mna-elderly.com
METHODS.
Nurse’s Toolbox

Equipment
- Scales
- Anthropometric ready-reckoners
- Tape measure

Mini Nutritional Assessment Guide
www.mna-elderly.com

Education Program
### Participant Characteristics

<table>
<thead>
<tr>
<th>Participant characteristics</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years) (Mean, SD)</td>
<td>82.2 (7.0)</td>
</tr>
<tr>
<td>Ranges</td>
<td>65 – 100</td>
</tr>
<tr>
<td>Gender (n = 223)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>110 (47.2%)</td>
</tr>
<tr>
<td>Female</td>
<td>123 (52.8%)</td>
</tr>
<tr>
<td>Financial Status (n = 209)</td>
<td></td>
</tr>
<tr>
<td>Pensioner</td>
<td>181 (86.6%)</td>
</tr>
<tr>
<td>DVA</td>
<td>28 (13.4%)</td>
</tr>
<tr>
<td>Country of Birth (n = 215)</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>135 (62.8%)</td>
</tr>
<tr>
<td>Overseas</td>
<td>80 (37.2%)</td>
</tr>
<tr>
<td>Language Spoken (n = 232)</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>188 (81.0%)</td>
</tr>
<tr>
<td>Other</td>
<td>44 (19.0%)</td>
</tr>
<tr>
<td>Living Arrangement (n = 209)</td>
<td></td>
</tr>
<tr>
<td>Living with family/others</td>
<td>107 (51.2%)</td>
</tr>
<tr>
<td>Living alone</td>
<td>102 (48.8%)</td>
</tr>
</tbody>
</table>
PARTICIPANT CHARACTERISTICS.  \textit{n = 235}

Anthropometric data

<table>
<thead>
<tr>
<th></th>
<th>Underweight BMI &lt; 22 kg/m²</th>
<th>Healthy Weight BMI 22 to &lt;27 kg/m²</th>
<th>Overweight BMI 27 to &lt;30 kg/m²</th>
<th>Obese BMI &gt; 30 kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textbf{n =}</td>
<td>45 (19.1%)</td>
<td>97 (41.3%)</td>
<td>40 (17%)</td>
<td>53 (22.6%)</td>
</tr>
<tr>
<td>\textbf{BMI Range (kg/m²)}</td>
<td>13.2 – 21.9</td>
<td>22.0 – 26.9</td>
<td>27.0 – 29.9</td>
<td>30.0 – 45.0</td>
</tr>
<tr>
<td>\textbf{Weight Range (kg)}</td>
<td>31.8 - 70.0</td>
<td>40.0 – 87.8</td>
<td>58.2 – 100.0</td>
<td>60.2 – 135.0</td>
</tr>
</tbody>
</table>
Results

Analysis

SUBJECTS
235

PERIOD
3 months
May 2009 to July 2009

INFO
Almost 1 in 2 are at risk of malnutrition or malnourished

No risk: n = 135
At risk: n = 81
Malnourished: n = 19

Malnutrition Prevalence

Nutritional Status

No Risk
At Risk of Malnutrition
Malnourished

Percentage %

0 10 20 30 40 50 60 70

57.4 34.5 8.1
### Discussion

**Malnutrition in the community - MNA®**

<table>
<thead>
<tr>
<th>Setting</th>
<th>n</th>
<th>Malnourished</th>
<th>At risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Victoria</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older adults receiving home nursing care (≥65 years)</td>
<td>235</td>
<td>8.1%</td>
<td>34.6%</td>
</tr>
<tr>
<td>Rist et al 2010</td>
<td></td>
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<tr>
<td><strong>South Australia</strong></td>
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</tr>
<tr>
<td>Functionally dependent Domiciliary Care recipients (&gt;67 years)</td>
<td>250</td>
<td>4.8%</td>
<td>38.4%</td>
</tr>
<tr>
<td>Visvanathan et al 2003</td>
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</tbody>
</table>
Malnutrition in community living older adults
Nutrition Model of Care.

Community nursing service

NURSE

DIETITIAN

Promoting & improving nutritional status of older adults living in the community

General Practitioner/Doctor

COMMUNITY SERVICES
eg. Meals on wheels, nutrition programs

Malnutrition in community living older adults
Nutrition Model of Care.

**Nutritional Screening (MNA-SF®)**

- ≥12: Normal
- ≤11: Possible malnutrition

**Nutritional assessment (Full MNA®)**

- <17: Malnourished
- ≥17: At risk of malnutrition
Nutrition Model of Care.

Nutritional Screening (MNA-SF®)

- ≥12
  - Normal
  - Provide healthy eating information

- ≤11
  - Possible malnutrition
  - Nutritional assessment (Full MNA®)

  - <17
    - Malnourished
    - Intervention as per nutrition care plan & guidelines
    - +/- Referral to dietitian (APD)
    - Liaise with GP

  - ≥17
    - At risk of malnutrition
Nutrition Model of Care.

Nutritional Screening (MNA-SF®)

- \( \geq 12 \) → Normal
  - Provide healthy eating information
  - Re-screen 6 monthly

- \( \leq 11 \) → Possible malnutrition
  - Nutritional assessment (Full MNA®)
    - \( < 17 \) → Malnourished
      - +/- Referral to dietitian (APD)
      - Liaise with GP
      - Intervention as per nutrition care plan & guidelines
      - Monitoring + weights + MAC
    - \( \geq 17 \) → At risk of malnutrition
      - Monitoring + weights + MAC
NUTRITION MODEL OF CARE: RESOURCES

- Client Information materials/sheets
- Client care plan & guidelines
- Guide to using the MNA®
- Anthropometric ready reckoner
- Nutritional intervention and oral supplement decision tree flow chart
- Dietitian referral guide
- Nutrition support Intranet site
NUTRITION MODEL OF CARE.

EVALUATION
PREVALENCE STUDY: LIMITATIONS.

Sample not representative of general population
CONCLUSIONS.

8.1% malnutrition

high nutrition risk

no routine screening or assessment
Malnutrition in the Elderly: CHICKEN or the EGG?
1. Australia wide malnutrition prevalence study

2. Health professionals and service providers implement and use a validated nutrition screening and assessment tool

3. Health services ensure strategies are in place to address malnutrition in the community
The time to change is NOW

“Malnutrition is not a consequence of ageing and it should not be allowed to persist as though it were a ‘normal’ process”

THANKS FOR WATCHING.

For more information please contact me:
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