Community services & nutrition: How do I identify and manage the nutritional risks of my patients?

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Outline

• Why is nutrition relevant to your older adult client in primary care?
• What is the prevalence of nutrition problems?
• How can screening be beneficial?
• Basics of screening- why, how
• Some tools- what makes a good tool
• What happens after screening?
  – The ethical screening process
• Where do you go from here?
Defining Malnutrition

1) Undernourishment resulting from insufficient food intake
2) Overnutrition caused by excess food intake
3) Specific nutrient deficiencies
4) Imbalance due to disproportionate food intake

Jelliffe, 1966

Affects body tissues, functioning, and overall health
Malnutrition

- Morbidity ↑
- Wound healing ↓
- Infections ↑
- Complications ↑
- Convalescence ↓

Mortality ↑

Treatment ↑

Hospital ↑

QOL ↓

COSTS ↑
Prevalence of malnutrition in older adults Kaiser et al., 2010

- 4507, 12 countries
- Continuum of care
- 75% female, mean age 82 years
- Mini Nutrition Assessment
- Malnutrition 23%, varied by site
  - 51% rehab
  - 39% hospital
  - 14% NH
  - 6% community
Some why is this important….

- Malnourished have 5 days longer hospital stay, 2x increased risk of readmission Agarwal et al., 2012
- Higher quality diet (MedD) in 60+ decreases CVD and all cause mortality Atkins et al., 2014
- Higher protein intake associated with maintenance of function Imai et al., 2014
- Low intake of micronutrients, energy and protein associated with frailty Insitari et al., 2011
- Nutrition risk associated with mortality and HRQOL Keller & Ostbye 2003, Keller et al., 2004
- Malnourished home care recipients more likely to fall Meijers et al., 2012
Why does malnutrition happen in older adults living in the community?

- Mobility deficits
- Lack of social support
- Female
- Depression
- Anxiety
- Comorbidity
- Polypharmacy
- Poor appetite

- Loneliness
- No partner/widowed
- IADL limitations
- Dentition
- Cognitive impairment
- Disease

German et al., 2011; Nykanen et al., 2013; Romero-Ortuno et al., 2011; Schilp et al., 2011; Ramage-Morin & Garriguet, 2013
Nutrition Care in Canadian Hospitals
Study

The Canadian Malnutrition Task Force

Advancing Nutrition Care in Canada
Prevalence of Malnutrition at Admission to Canadian Hospitals

<table>
<thead>
<tr>
<th>Group</th>
<th>Well nourished</th>
<th>Moderate Malnutrition</th>
<th>Severe malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;65 yoa</td>
<td>65.1%</td>
<td>27.4%</td>
<td>7.5%</td>
</tr>
<tr>
<td>≥65 yoa</td>
<td>54.3%</td>
<td>34.3%</td>
<td>11.4%</td>
</tr>
</tbody>
</table>

$P=0.01$
# Post Discharge Nutrition

<table>
<thead>
<tr>
<th>Parameter</th>
<th>&lt; 65</th>
<th>&gt;=65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional status at discharge* %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved</td>
<td>15.2</td>
<td>14.2</td>
</tr>
<tr>
<td>Stayed same</td>
<td>71.2</td>
<td>70.9</td>
</tr>
<tr>
<td>Got worse</td>
<td>13.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Special diet %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>53.5</td>
<td>47.3</td>
</tr>
<tr>
<td>Diet different from admission %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>34.0</td>
<td>30.4</td>
</tr>
<tr>
<td>Eat with others %*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often/Always</td>
<td>72.2</td>
<td>65.1</td>
</tr>
<tr>
<td>Prepares meals %*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient</td>
<td>47.3</td>
<td>31.0</td>
</tr>
<tr>
<td>30 d weight change %*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gained 5+ lbs</td>
<td>19.2</td>
<td>11.5</td>
</tr>
<tr>
<td>Lost 5 +lbs</td>
<td>21.9</td>
<td>26.4</td>
</tr>
<tr>
<td>30 d appetite %*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fair or poor</td>
<td>20.5</td>
<td>30.1</td>
</tr>
</tbody>
</table>

* Significant different at p<0.05
Prevalence of Nutrition Problems In Canada (based on SCREENII)

Stats Canada 2013

• 34% at risk
• In those at risk
  – 47% wt change > 5lbs
  – 27% poor appetite
  – 26% swallowing problems
  – 24% skip meals
  – 37% low F & V
  – 42% eat alone
  – 52% cooking difficulty

Vulnerable
Keller & McKenzie 2003

• 44% risk
• 22% weight loss
• 45% limits food/difficult
• 48% low F & V
• 20% low Milk products
• 35% chewing
• 23% swallowing
• 28% poor appetite
• 43% cooking difficulty
• 29% shopping
What is nutrition risk?

- A process towards the status of malnutrition, existence of antecedents to malnutrition

(Chen et al., 2001)
What is screening?

- the examination of **asymptomatic** people in order to classify them as likely or unlikely to have the disease that is the object of screening (Morrison, 1985)
- process of identifying characteristics known to be associated with nutrition problems (ADA, 1994)
- process of identifying those who have a nutrition diagnosis and benefit from further assessment and treatment by a dietitian (ADA, 2011)
Screening and Assessment Across the Continuum of Care for Older Canadians

**Primary Prevention**

**Phase 1**
- Risk Factors Present
  - appetite
  - swallowing
  - chewing
  - restrictive diet
  - FADL
  - food security

**Secondary Prevention**

**Phase 2**
- Impaired Food Intake
  - food groups
  - nutrients
  - energy

**Phase 3**
- Sub-clinical Malnutrition
  - Changes in:
    - weight
    - anthropometry
    - biochemistry

**Tertiary Prevention**

**Phase 4**
- Overt Malnutrition
  - Significant changes in:
    - weight
    - anthropometry
    - biochemistry

**Interventions**

- Educational materials
- Food demonstrations
- Cooking groups
- Meal programs
- Transportation help
- Meal preparation help
- Individualized counseling
- Meal programs
- FADL assistance
- Meal supplementation

Adapted from Keller, 2007
Why screening is relevant...

• Malnutrition has negative consequences
• Prevalent enough that makes sense to screen
• Not so prevalent that you want to automatically treat & treatments vary depending on cause
• Malnutrition is under-recognized outside of the dietetic/nutrition professional community
• Treatment can improve malnutrition and consequent health outcomes
Why should PC screen?

- Identification of clients with increased needs-targeting of services
- Service/care plans linked to problem areas-increase efficiency, improve individualization of care, improve outcomes
- Monitor/surveillance
- Evaluate program interventions
- Advocate for clients and resources
Screening tools...
Main considerations in selecting a screening tool.

• Easy, front-line personnel can use
• Inexpensive to collect on all clients
• Implemented as part of a general work-up
• Data readily available for monitoring
• Appropriate for the setting in which it is to be used
• Specific to the population
Efficacy & Effectiveness Framework

Development

Reliability Testing

Validity Testing
- Sensitive
- Specific
Mini Nutrition Assessment (MNA)

- Valid, reliable
- Interviewer administered, requires measures
- Used extensively worldwide
- Originally designed for a clinical environment, geriatric clinics
- Short and longer forms
- Short form advocated for community
- May measure frailty rather than strictly malnutrition
Items on MNA

Short version (6 items)

• BMI or calf circumference (measured)
• Decreased intake in past 3 months (regardless of cause)
• Weight loss in past 3 months
• Mobility
• Psychological stress or acute disease in past 3 months

Long version

• Lives independently
• 3+ prescriptions
• Pressure sores
• # full meals per day
• Consumption of protein
• 2+ F & V
• Fluid per day
• Mode of feeding
• Perception of nutrition status
• Perception of health status
• Mid arm circumference
• Calf circumference
Seniors in the Community: Risk Evaluation for Eating and Nutrition
SCREEN

- SCREEN can be self or interviewer administered
- Expert and seniors involved in development
- Validated against a dietitian’s rating of nutritional risk
- Demonstrated test-retest reliability
- Intermodal, inter-rater reliability
- SCREEN program
  - Referral process based on identified risk items
- E-SCREEN

EJCN, 2005; J Clin Epi, 2007
Items on SCREENII

- Weight change
  - Loss/gain
  - Intentionality
  - Perception
- Skipping meals
- Diet restrictions/difficulty
- Appetite
- Eating alone
- Use of meal replacements

- Intake
  - F&V
  - Milk products
  - Meat & alternatives
  - Fluid
- Swallowing
- Chewing
- Grocery difficulty
- Cooking difficulty
Eating Habits Survey
Welcome! If you are an older adult, this questionnaire will help you find out how you are doing with choosing foods that help you stay healthy and active.

Answer 14 short questions about your eating habits. This should take about 10 minutes.

Your Benefits:
- What you eat impacts your health
- Find out what you are doing well
- Find out where you can improve
- Learn about some steps you can take to improve your eating habits

Your Results:
- Step 1 Tell us a bit about yourself
- Step 2 Complete all 14 questions
- Step 3 When you are finished, we will tell you your results
- Step 4 Find nutrition resources and links to help you to improve your habits

Click Here To Start
Screening and Assessment Across the Continuum of Care for Older Canadians

**Primary Prevention**

**Secondary Prevention**

**Tertiary Prevention**

**Screening**

**Assessment**

**Phase 1**
Risk Factors Present
- appetite
- swallowing
- chewing
- restrictive diet
- FADL
- food security

**Phase 2**
Impaired Food Intake
- food groups
- nutrients
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**Phase 3**
Sub-clinical Malnutrition
Changes in:
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Significant changes in:
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**Screening Tools**

- SCREENII
- MNA
- MNA-SF
- MUST
- MST

Adapted from Keller, 2007
Screening process...
Principles of “Ethical Screening”

• Target screening to the right people

• Identify nutrition problems and appropriate course of action (e.g. assessment, resources)

• Has a referral/resource framework that meets needs

• Includes follow-up education and skill building after screening
The Ethical Screening Process

Client/patient enters service

Nutrition screen completed

At Risk (second screen)

Higher level intervention provided/referred
- Assessment:
  - RD
  - Physician
  - Nurse practitioners
  - e.g. counseling by RD, nutrition support

Follow-up if:
- needs met
- ready to receive services if prior refusal
- new services indicated

Not at High Risk

Not at Risk

Monitoring screening schedule triggered

Dietitians of Canada,
2012 Screening course
What to do with persons at risk...

- Meta-analysis shows oral nutrition supplements modestly improves weight and mortality in undernourished, but no effect on complications, LOS or functional outcomes (Milne et al., 2009)

- Oral nutritional supplements post discharge from hospital is not enough... compliance (McMurdo et al., 2009)
Meeting Nutritional Needs of Older Adults

Food Related Services

- Meal programs
  - MOW
  - Congregate dining
- Seniors centres
- Transportation
- Grocery delivery service
- Eat Right Ontario

Assessment

- Geriatric day hospital
- Home care RD
- FHT RD
- Speech Pathology
Example of when Older Adults are Referred in a Screening Program

**Score**
- Score 54 - 64
  - Senior is doing well. Encourage them to continue.
  - EatRight Ontario and A Guide to healthy Eating for Older Adults

**Score 50 - 53**
- No Challenges
  - Senior has some risks but no specific challenges.
  - EatRight Ontario and A Guide to healthy Eating for Older Adults

**Score 50 - 53**
- Some Challenges
  - Senior has some risks and is having challenges in some areas.
  - EatRight Ontario and A Guide to healthy Eating for Older Adults
  - Specific Educational Resource
  - Community Referral

**Score <50**
- Some Challenges
  - At High Risk
  - Specific Educational Resource
  - Community Referral
  - MD/NP/RD Referral especially if score ≤ 46
  - Community Referral

**LEGEND**

1 Score on any item ≤ 2 is considered to be a challenge
2 See SCREEN© Resource Selection
3 Based on SCREEN© Referral Map for your site/community

MD= physician
NP= Nurse Practitioner
RD= Registered Dietitian
Educational Resources

Eat Right Ontario

- Recipes
- Tips for grocery shopping, cooking, eating alone

Guide to Healthy Eating for Older Adults

How to get the best nutrition for your money!

If you are on a tight budget, with a little planning, you can buy a variety of healthy foods and still control what you spend.

Here are some tips to help you eat well on a budget.
Eating well is vital to your health.

Best buys for each food group

- Vegetables and Fruit
  - Frozen vegetables
  - Fresh fruit/vegetables in season
  - Staples like carrots, potatoes, oranges, bananas

- Meat & Alternatives
  - Dried or canned beans, peas or lentils
  - Canned fish
  - Less expensive cuts of meat, such as stewing, blade or flank or pork

Tips to make grocery shopping easier

Do you find it hard to get to the grocery store?
Is it a challenge to shop by yourself?
Or get your groceries home?

Before you go:
- Make a list of groceries you need.
- Find a shopping buddy. Share large food items with them.
Resources for moving ahead

• Dietitians of Canada
  – Nutrition Screening ecourse

• Flintbox- SCREEN

• Nutri-eSCREEN
  – www.eatrightontario.ca/~escreen

• Guide to Healthy Eating for Older Adults
  – www.drheatherkeller.com

• Canadian Malnutrition Task Force
  - www.nutritioncareincanada.ca
Some final thoughts...

• Measuring nutrition risk and following through with services/treatment has the potential to improve outcomes

• Pick a good tool, match to your needs and purpose

• Screening only raises awareness, need to provide services/interventions to improve outcomes

• Develop capacity... If the screening process doesn’t work, screening will not be effective
Discussion