The Elderly with Tuberculosis

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The population 60 years and above has grown at a very rapid rate, increasing from 2.4 million in 1980 to 5.4 million in 2007 and 6.3 million in 2010.

By the year 2025, ten percent will be composed of senior citizens (assuming the medium-term assumptions of the Philippine population projections will hold true).
<table>
<thead>
<tr>
<th>Rank</th>
<th>Causes of deaths</th>
<th>Number of deaths</th>
<th>Rate per 100,000 older persons</th>
<th>% of older persons among the total population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cardiovascular diseases, all forms</td>
<td>79,065</td>
<td>1,704.21</td>
<td>18.56</td>
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<tr>
<td></td>
<td>Pneumonia</td>
<td>26,443</td>
<td>569.97</td>
<td>6.21</td>
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<td>Malignant neoplasms, all forms</td>
<td>21,785</td>
<td>469.57</td>
<td>5.11</td>
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<td></td>
<td>COPD</td>
<td>14,592</td>
<td>314.52</td>
<td>3.42</td>
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<tr>
<td></td>
<td>Tuberculosis, all forms</td>
<td>12,934</td>
<td>278.89</td>
<td>3.04</td>
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<tr>
<td></td>
<td>Diabetes mellitus</td>
<td>11,686</td>
<td>251.89</td>
<td>2.74</td>
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<td>Gastric, duodenal, peptic and gastrojejunal ulcers and other diseases of the digestive system</td>
<td>6,040</td>
<td>130.19</td>
<td>1.42</td>
</tr>
<tr>
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<td>Nephritis, nephrotic syndrome and nephrosis</td>
<td>5,062</td>
<td>109.11</td>
<td>1.19</td>
</tr>
<tr>
<td></td>
<td>Accidents and injuries, all forms</td>
<td>4,179</td>
<td>90.08</td>
<td>0.98</td>
</tr>
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<td>Chronic liver diseases and cirrhosis</td>
<td>2,483</td>
<td>53.52</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Source: Philippine Health Statistics
The Double Burden of Disease

- Communicable
- Non-communicable
Elderly Filipino, FNRI 2008

- Chronic Energy Deficiency (CED)
  - 27% age 70 and older
- Overweight
  - 20% age 60-69
- Anemia
  - 33.4% males
  - 32.8% females
TB, Malnutrition and Diabetes

- Immunosenescence
- Limitation of macrophage activation
- Reduced NK cytotoxic capacity
- Decrease IL 12
- Decrease in IFN gamma

The Triple Burden of Disease

- Communicable
- Non-communicable, including malnutrition
- Diseases of rapid urbanization and industrialization (e.g. Injuries, mental health (including suicide prevention) and alcohol /drug use)
NCDs and Health Expenditure

- Account for over a third of a country's total health expenditures.
- In most countries, expenditures on cardiovascular diseases (CVD) are the highest (varying between 8-22%) followed by cancers and mental health.
- In terms of hospital spending, these major NCDs account for almost half of the total hospital spending in most countries.

Functional Impairment

- Predicts institutionalization
- Predicts mortality
- Contributes to poor QOL
Contributors to Poor ADL Performance in NH Residents

- Poor balance
- Incontinence
- Cognitive impairment
- Depression
- Low BMI
- Impaired vision and hearing

FRAILTY

- Def: Fried criteria
  - Unintentional weight loss, fatigue, weakness, slow walking speed, and low levels of physical activity.
Clinical Presentation

- Radiological presentation are often non-specific – delayed dx and tx
- Outcomes and adverse effects not unlike younger persons
- Latent reservoir of tuberculosis
- High risk for reactivation as immunological status declines

Van den Brande. Drugs Ageing 2015
TB in Nursing Homes

1984-85 CDC study: TB cases 39.2/100,000 compared to 21.5/100,000 in elderly community dwellers

NH workers also at risk - case rate 3x

Outbreaks – INH preventive therapy for contacts
Guidelines TB in Nursing Homes

- Prevention Control and Surveillance – ICC if available
  PPD Mantoux test 5 U to identify infected
- CXR if with symptoms
- Skin test to all new residents and employees
- Contacts >10 hrs/week should be retested

delaVega 2016
TB Treatment in NH

- Direct observation
- Smear Positive – monitor until smear negative
- Monitor for ADR
- CXR for cough > 3 weeks or prolonged fever
Functional Assessment Scales

- No one scale is superior
- Comprehensive Geriatric Assessment best used for overall assessment of functional decline and case finding of frail individuals
The CGA

“A multidisciplinary evaluation in which the multiple problems of older persons are uncovered, described, and explained, if possible, and in which the resources and strengths of the person are catalogued, need for services assessed, and a coordinated care plan developed to focus interventions on the person’s problem”

PCGM Taskforce Approved CGA Domains
Modified from Ward and Reuben Aug 2015

12 Core Domains
- Functional capacity
- Fall risk
- Cognition
- Mood
- Polypharmacy
- Social support/Living situation
- Financial concerns
- Nutrition/weight change
- Urinary continence
- Sexual function
- Vision/hearing
- Dentition
The Filipino elderly enjoying a healthy body, mind and spirit, being treated with dignity, and valued as a productive member of society, in a dynamic process unique to him/herself, and beginning a life of unlimited possibilities.
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