Death risk of older people during COVID-19: A global perspective

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Outline of talk

• Demographic change
• Public health challenges for an ageing society
• Cross country differences in number of deaths due to COVID-19
• Mortality risk in older people due to COVID-19
• Challenges to protect older people within existing health system
% Population by age group, UN 2020 estimate

<table>
<thead>
<tr>
<th>Region</th>
<th>0-14 years</th>
<th>60+ years</th>
<th>80+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>17.57</td>
<td>20.31</td>
<td>2.95</td>
</tr>
<tr>
<td>North America</td>
<td>21.45</td>
<td>16.25</td>
<td>3.20</td>
</tr>
<tr>
<td>Asia</td>
<td>30.33</td>
<td>8.65</td>
<td>0.84</td>
</tr>
<tr>
<td>Africa</td>
<td>42.66</td>
<td>5.18</td>
<td>0.36</td>
</tr>
<tr>
<td>Sub Saharan Africa</td>
<td>44.32</td>
<td>4.74</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Africa will have a young population for sometime
Life expectancy at birth (Globally)
Epidemiological transition – changes in leading causes of deaths, from acute and infectious diseases to chronic and non-communicable ones.

Non-communicable diseases are big threats such as Heart disease, Stroke, Cancer, Diabetes, and Dementia.

These are also linked with disability, dependency, and long-term care needs.

Highly likely to suffer from multi-morbidities.
Age-related diseases

- Cardiovascular disease
- Cancer
- Stroke
- Dementia (Ageing brain)
- Diabetes
- Osteoporosis
- Arthritis
- Vision, hearing, and other sensory disorders

Age-related disease acted as confounder for deaths during pandemic.

So the aim of the research was to examine the role of comorbidities in deaths of elderly across the world.
Data and Method

Data come mainly from the following web sites (March-May, 2020):

- Centers for Disease Control and Prevention, [https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm#Comorbidities](https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm#Comorbidities)

<table>
<thead>
<tr>
<th></th>
<th>At birth Males</th>
<th>At birth Females</th>
<th>At age 65 Males</th>
<th>At age 65 Females</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life expectancy</strong></td>
<td>79.5</td>
<td>83.1</td>
<td>18.7</td>
<td>21.1</td>
</tr>
<tr>
<td><strong>Healthy Life expectancy</strong></td>
<td>63.4</td>
<td>64.1</td>
<td>10.5</td>
<td>11.2</td>
</tr>
<tr>
<td><strong>Number of years in poor health</strong></td>
<td>16.1</td>
<td>19.0</td>
<td>8.2</td>
<td>9.9</td>
</tr>
<tr>
<td><strong>% of life in poor health</strong></td>
<td>20.3</td>
<td>22.9</td>
<td>43.9</td>
<td>46.9</td>
</tr>
</tbody>
</table>
COVID-19 affects everyone today

COVID-19 pandemic affects all segments of the society, including young adults

- Unemployment rate has increased across countries
- Remittance has dropped in many countries, affecting families dependent on this
- Family support and healthcare services are affected
- Elderly are more vulnerable due to ill health
- Elderly are largely dependent on financial support system mainly from state and family
In China, mortality rates rise significantly among older patients.

Over 90% deaths reported to be for 60+ age group.
Co-morbidities were more prevalent in the dead group.

Nearly 61% of the patients had comorbidities,

About 24% had two or more comorbidities.
## Trends of specific cause of deaths out of all cause (% of people in 60+ age groups)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cause</th>
<th>China</th>
<th>South Africa</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>CVD</td>
<td>47.51</td>
<td>33.16</td>
<td>32.13</td>
</tr>
<tr>
<td></td>
<td>Cancer</td>
<td>37.17</td>
<td>12.21</td>
<td>22.60</td>
</tr>
<tr>
<td></td>
<td>Diabetes</td>
<td>1.72</td>
<td>11.36</td>
<td>2.98</td>
</tr>
<tr>
<td></td>
<td>Respiratory disease</td>
<td>1.69</td>
<td>8.00</td>
<td>2.52</td>
</tr>
</tbody>
</table>
Fatality rates in different Provinces of South Africa

COVID-19 fatality rate in South Africa

[Bar chart showing fatality rates for different provinces, with the highest fatality rate for Free State and the lowest for North West and Northern...]
Age distribution of cases and deaths due to COVID-19 in South Africa

Age distribution of test+ cases

- <40: 54.52%
- 40-49: 21.00%
- 50-59: 13.70%
- 60-69: 6.07%
- 70-79: 2.76%
- 80+: 1.96%

Age distribution of deaths

- <40: 6.93%
- 40-49: 10.57%
- 50-59: 24.96%
- 60-69: 26.52%
- 70-79: 24.96%
- 80+: 19.58%
- 80+: 13.34%
Age distribution of deaths due to COVID-19

China

Age-group

Percent

USA

Age-group

South Africa

Age-group

Percent
Cases and deaths by gender in South Africa

**Distribution of test+ cases**

- Male: 42.0%
- Female: 57.3%

**Distribution of deaths**

- Male: 53.4%
- Female: 46.6%
Time series by date of deaths in England

COVID-19 deaths in hospital by date of death, England

Source: COVID-19 Patient Notification System
Deaths involving Covid-19 in care homes in England and Wales

(by date of death, for deaths registered up to May 30 2020)
Number of deaths due to covid-19 in England and Wales

Source: ONS, 2020

- 93% deaths in 60+ group
- 91% deaths in 60+ group
Deaths by age and gender in March/April 2020, England and Wales

Source: ONS
Leading causes of deaths in England and Wales 2020

Cause of deaths in England and Wales

Source: ONS
Conclusion

• Older people are affected most due to COVID-19.

• Over 90% of all deaths are among 60+ age group of people.

• Older males are in greater risk than females counterparts.

• Pre-existing health condition is a risk factor for COVID-19.

• The elderly becomes extremely vulnerable and isolated.

• Africa seems to have suffered less due to the age structure of its demography and lower rates of obesity.
Questions?

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