Cognitive Impairment and Dementia: English Longitudinal Study of Ageing

Dorina Cadar, Jessica Abell, Andrew Steptoe
Behavioural Science and Health
University College London London
To examine the prevalence of cognitive impairment and dementia in England using data from the Harmonised Cognitive Assessment Protocol (HCAP), sub-study of ELSA, and the crosswalk algorithm with wave 9.
Harmonised Cognitive Assessment Protocol (HCAP), part of the Healthy Cognitive Ageing Project Worldwide
Cognition g factor

- Memory -Word recall immediate
- Memory -Word recall delayed
- Backwards counting
- Verbal Fluency –animals
- Logical memory –story recall I immediate
- Logical memory –story recall I delayed
- Logical memory –story recall II immediate
- Logical memory –story recall II delayed
- Symbol Digit Modalities Test
- Number Series
- Ravens
- Trail Making A (log transformed)
- Trail Making B (log transformed)
Adapted from Cognitive Functioning and Ageing Study (Richardson et al., 2019)
What are the key biopsychosocial determinants of neurocognitive disorders?
Biopsychosocial determinants


- High blood pressure
- Diabetes
- Low physical activity
- Depressive symptoms
- Loneliness
- Socioeconomic/neighbourhood

Cognitive impairment /dementia
Biopsychosocial determinants of cognitive impairment and dementia at wave 9

<table>
<thead>
<tr>
<th>Wave 4 predictors</th>
<th>Cognitive Impairment</th>
<th>Dementia</th>
</tr>
</thead>
<tbody>
<tr>
<td>High blood pressure</td>
<td>1.07</td>
<td>1.17</td>
</tr>
<tr>
<td>Low physical activity</td>
<td>1.03</td>
<td>1.61</td>
</tr>
<tr>
<td>Diabetes history</td>
<td>1.21</td>
<td>1.23</td>
</tr>
<tr>
<td>Depression</td>
<td>1.56</td>
<td>1.53</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.33</td>
<td>1.81</td>
</tr>
</tbody>
</table>

Fully adjusted models including age, age², sex, marital status, household wealth, CVD
Concluding remarks

Physical inactivity at wave 4 was an important determinant of dementia risk at wave 9.

We found an increased risk for cognitive impairment at wave 9, for those with elevated depressive symptoms 10 years earlier.

Greater loneliness at baseline was predictive of an increased risk of cognitive impairment and dementia almost a decade later.

The geographical region was not predictive of cognitive impairment or dementia.
Risk factors for dementia
An update to the Lancet Commission on Dementia prevention, intervention, and care presents a life-course model showing that 12 potentially modifiable risk factors account for around 40% of worldwide dementias.

Livingston et al. Dementia prevention, intervention and care, Lancet 2020
Implications

Loneliness and depressive symptoms represent important psychosocial determinants of cognitive impairment and dementia. Targeting loneliness and psychological wellbeing in middle aged and older adults, should be considered a priority.
Acknowledgments

❖ Investigators: Andrew Steptoe (PI)
   Carol Brayne, David Batty and David Llewellyn
❖ Collaborators: David Weir, Ken Langa, Fiona Matthews
❖ Funder: National Institute on Aging (NIA)
❖ Jessica Abell & NatCen
❖ ELSA study participants

Contact: d.cadar@ucl.ac.uk
     @DorinaCadar