



# **Gender and socio-economic differences in modifiable risk factors for Alzheimer's disease and other dementias**

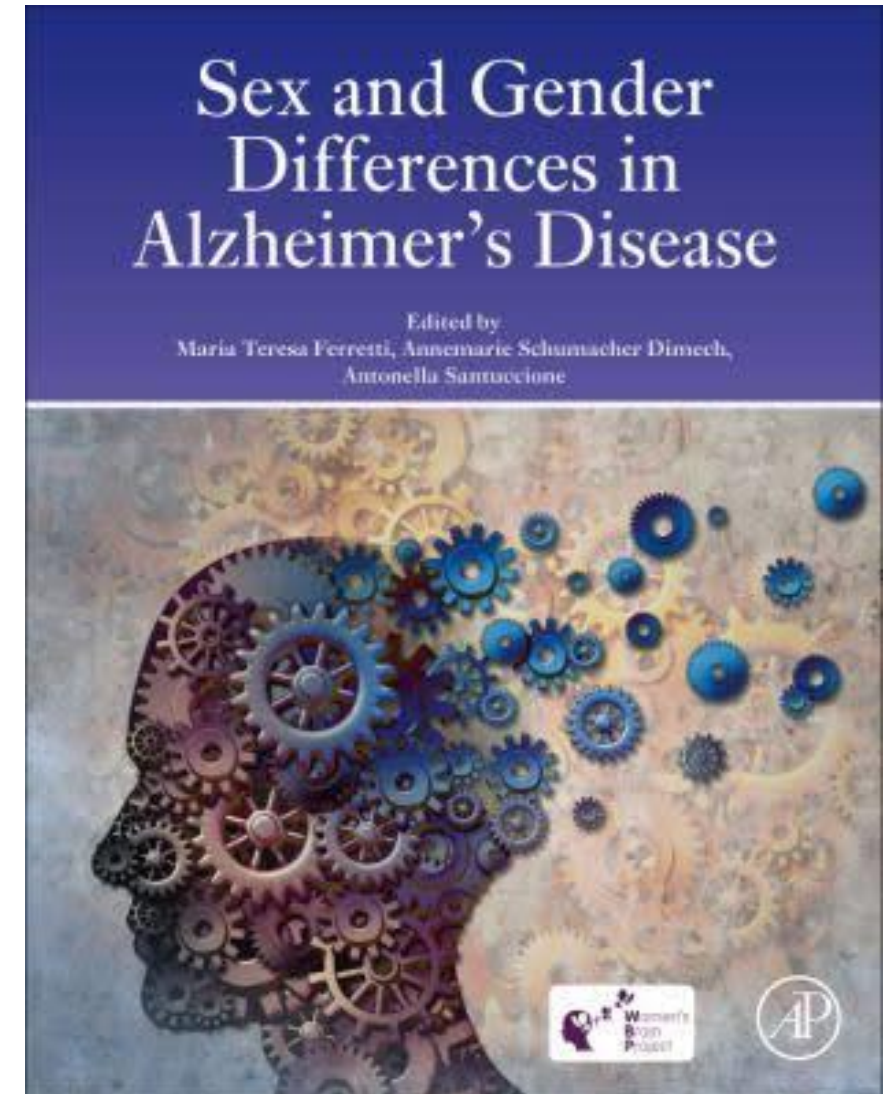
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No conflict of interest to declare

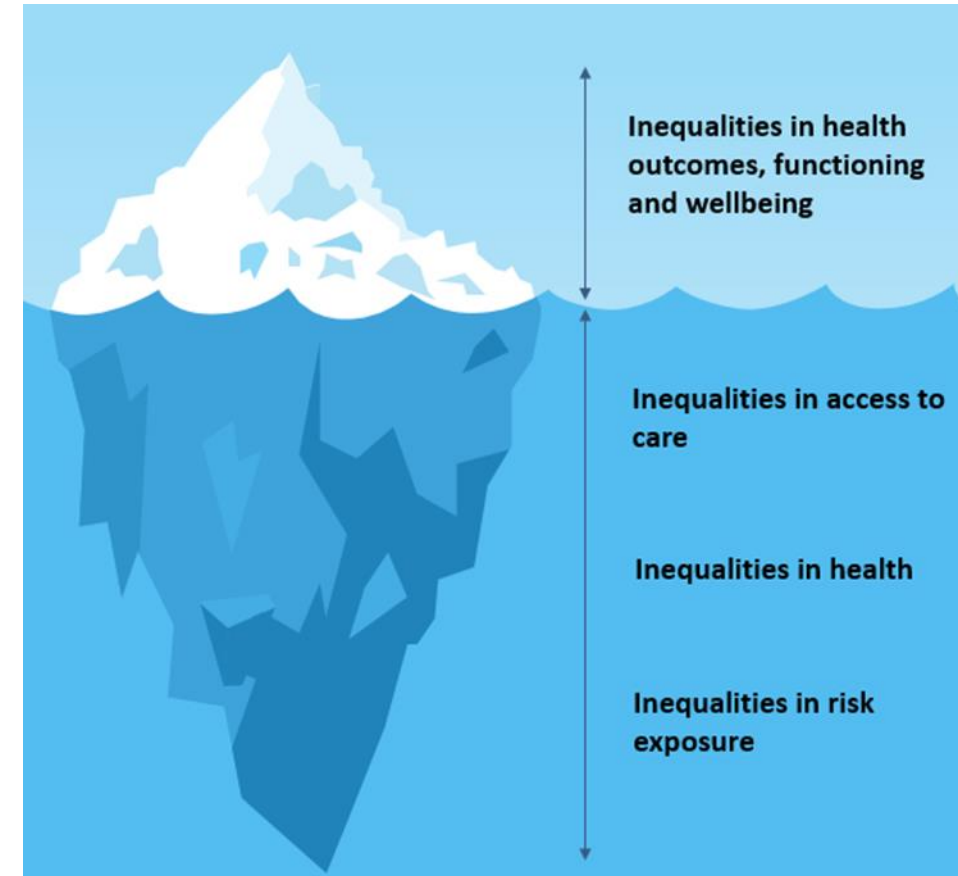


# Dementia prevention & modifiable risk factors

Growing body of evidence on the considerable contribution of modifiable risk factors across the life course to the risk of developing dementia (Livingston et al., 2017 & 2020)

**Dementia prevalence could be reduced by up to 40% if 12 risk factors would be appropriately addressed** (Lancet Commission on Dementia prevention, intervention and care, 2020)

Considering the enormous burden of a high and growing prevalence of dementia globally, it is essential these factors are placed at the center of a global dementia prevention strategy

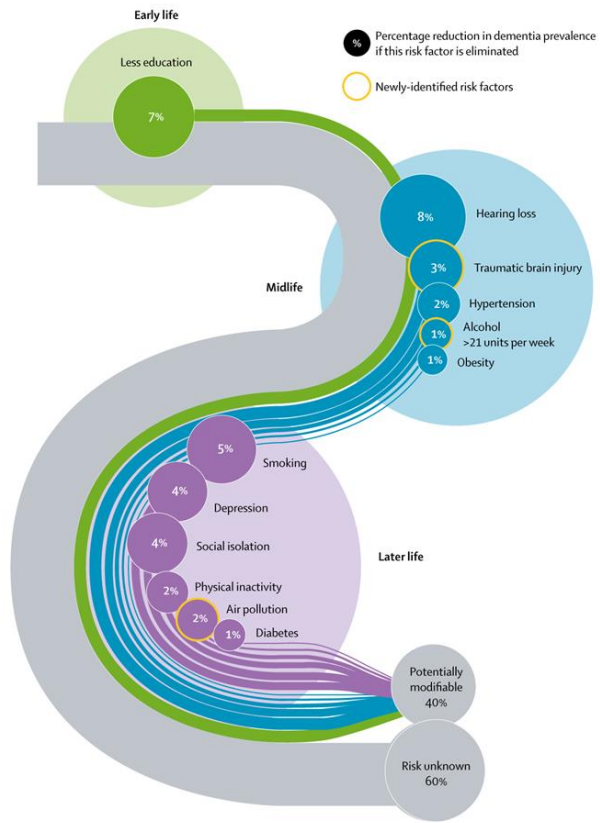


# Inequalities in health and risk exposure

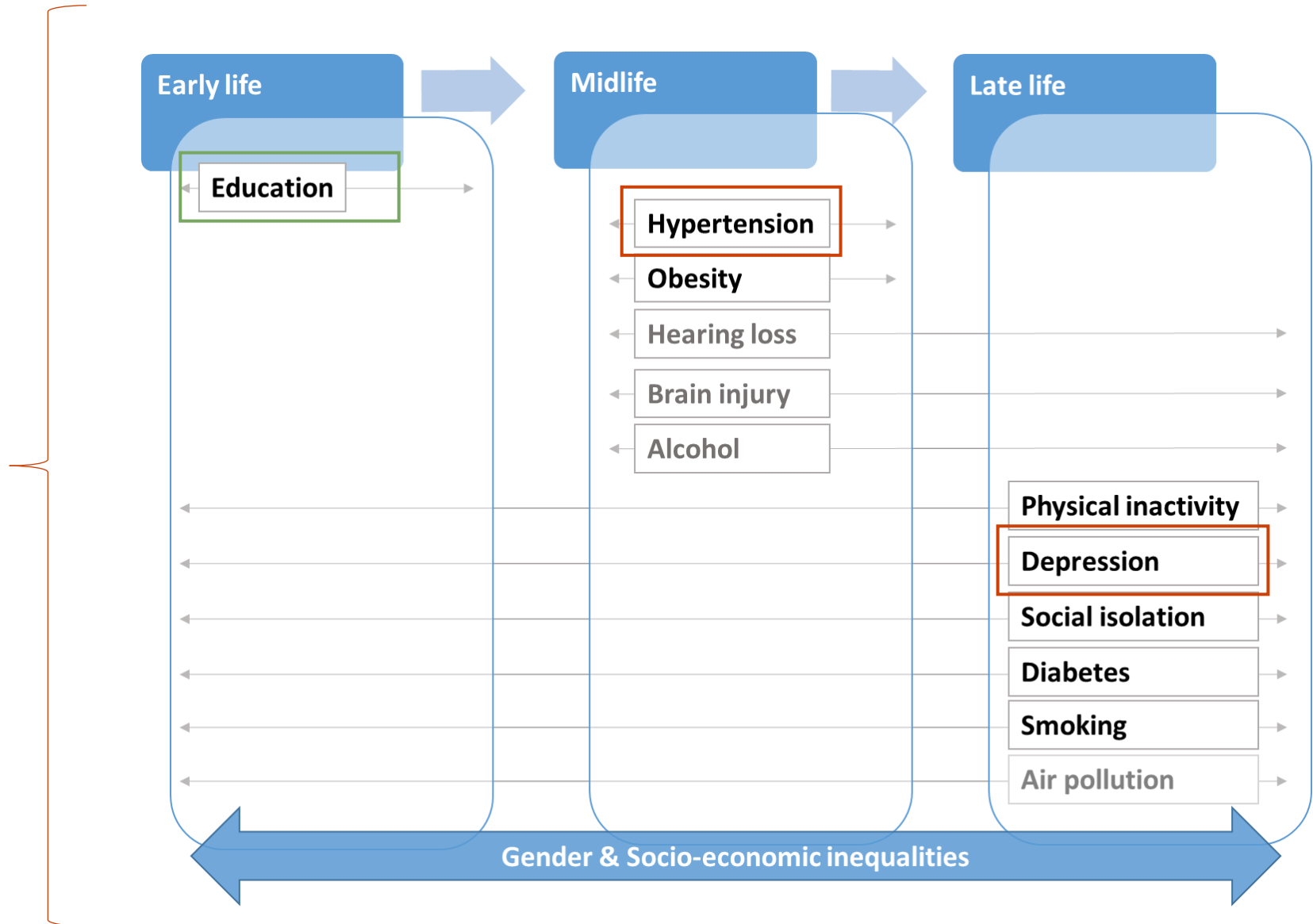
As the evidence accumulates, it is increasingly clearer not only that dementia prevalence is considerably higher among women but also that **most potentially modifiable risk factors exhibit strong inequalities**

- There is a **pronounced sex- and gender-dimension** to many of these risk factors
- Among people with lower income/wealth and lower educational attainment (most of whom are women) the prevalence of risk factors is considerably higher
- At the intersection of **gender and socioeconomic inequalities, growing numbers of women find themselves at increased risk of dementia, with limited support to mitigate it**

## Potentially modifiable risk factors for dementia throughout the life course

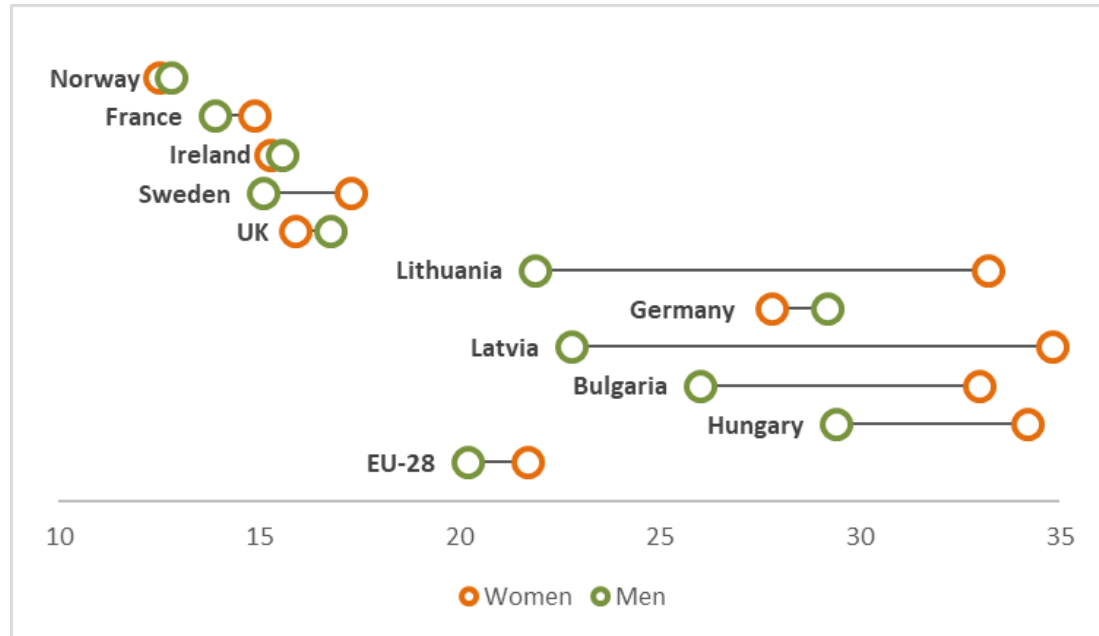


Livingston G, Huntley J, Sommerlad A, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. *The Lancet* 2020.

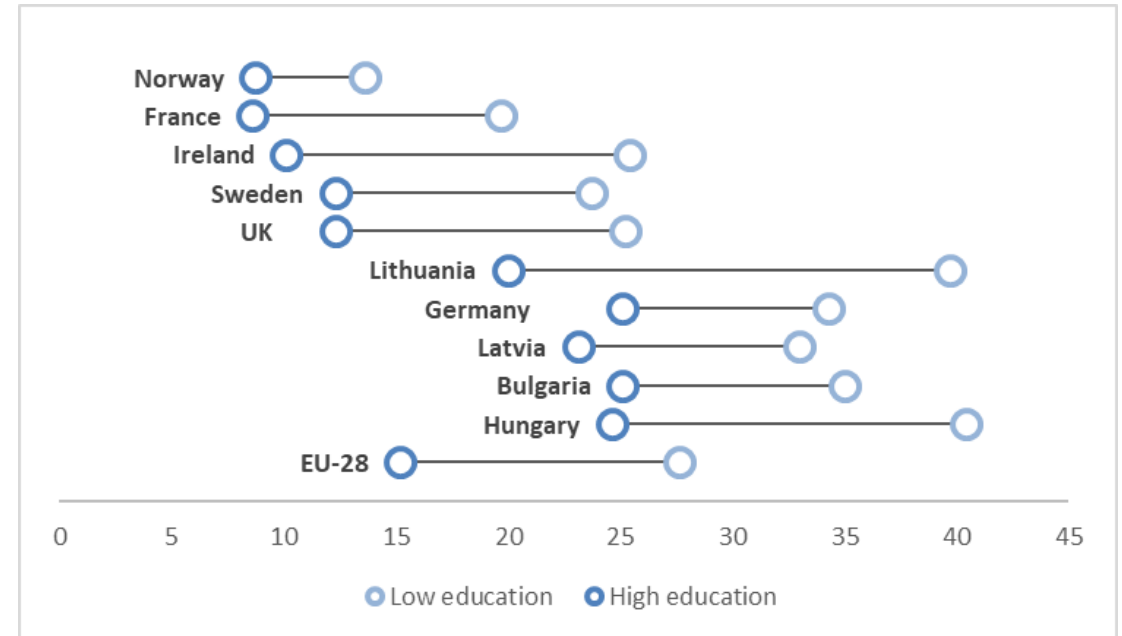


# Share of population reporting high blood pressure

## By gender (2014, in %)



## By education achievement (2014, in %)



Source: European Core Health Indicators database

# Hypertension

**Gender differences in hypertension prevalence are closely paralleled by socio-economic inequalities**, and there is evidence of an intersectional impact (i.e. strength of association of SES with hypertension is higher among women)

Inequalities in outcomes and health status are determined not only by the distribution of socio-economic risk factors but also by **inequitable access to care and support services as well as different treatment adherence patterns between groups**:

- women and individuals with higher education achievement are more likely to control and manage hypertension, once diagnosed
- But women and lower income individuals are less likely to be diagnosed in a timely manner

# Late life depression & dementia

Depressive symptoms and social isolation occur so commonly in the clinical presentation of dementia that they are recognized as prodromal symptoms – nonetheless, they also act as an independent risk factor for dementia, particularly when occurring in late life.

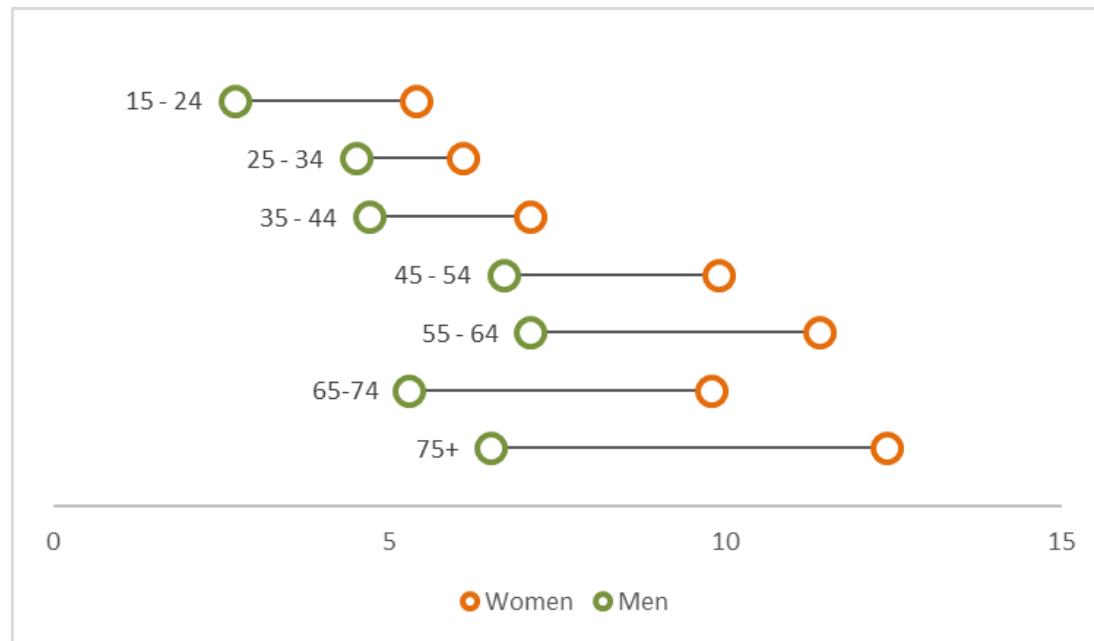
Depression can influence cognitive function by :

- triggering changes in stress hormones, neuronal growth factors, and hippocampal volume (Livingston, 2017)
- But also, through its strong association with social isolation, lack of physical activity and low cognitive stimulation



# Dementia prevalence in Europe

Depression affects all population groups, but **prevalence rates increase with age**, peaking in older adulthood (55 to 74 years), in disadvantaged and deprived communities and among groups exposed to violence and displacement



**Prevalence of self-reported depression, by gender (2018, in %)**

*Source: European Core Health Indicators database*

# Depression and socio-economic status

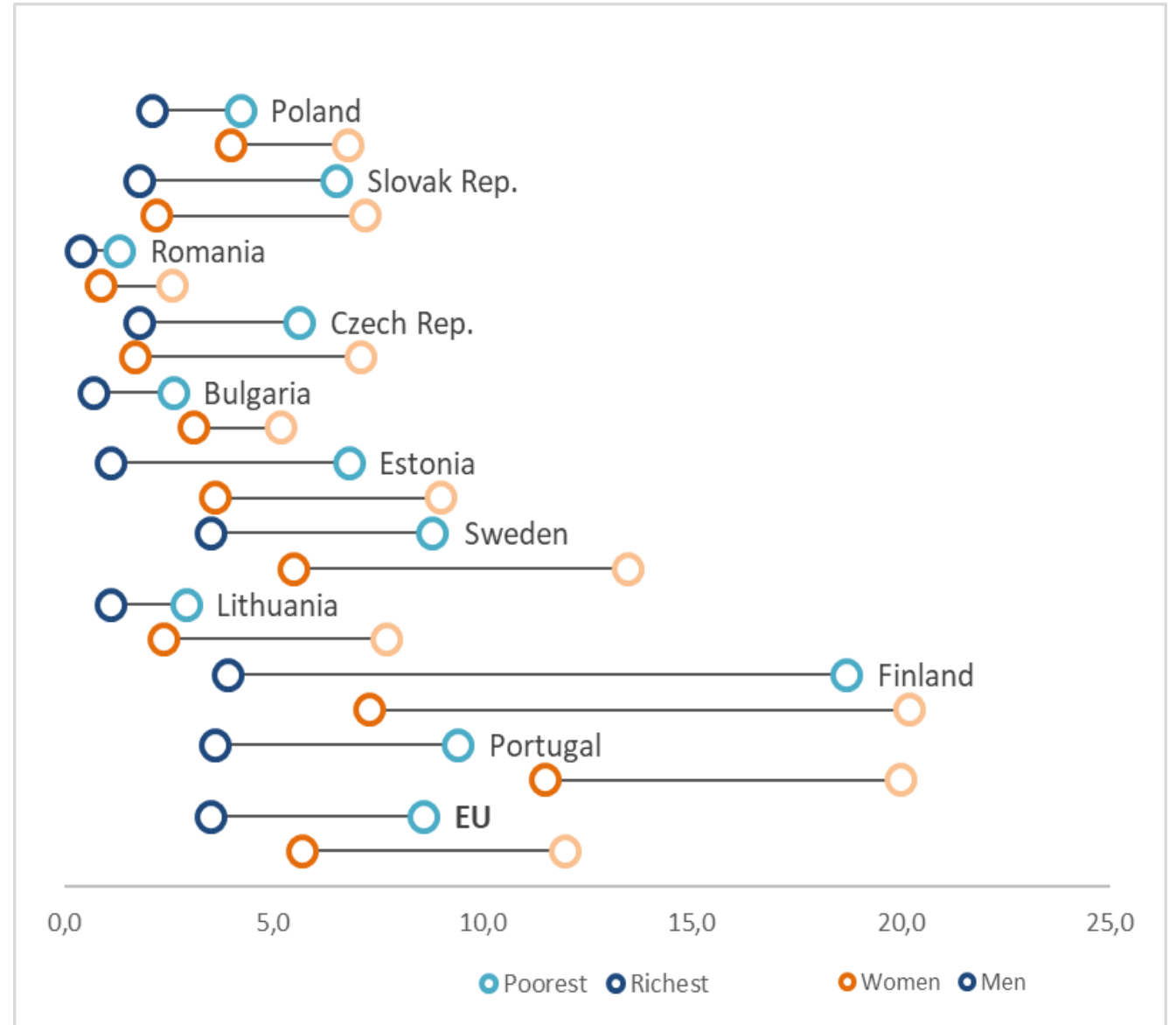
Across gender and age groups, depression is more commonly reported by people with lower socio-economic status, whether measured by education level or income.

- In the EU, those in the **lowest income group are more than two times as likely to report chronic depression than those at the top of the income distribution** (OECD/EU, 2018)

BUT

**Income inequalities are more pronounced among women in all countries**, suggesting they are more vulnerable to the detrimental mental health effects of poverty and deprivation.

**Prevalence of self-reported depression, by income quintile (2018, in %)**



Source: European Core Health Indicators database

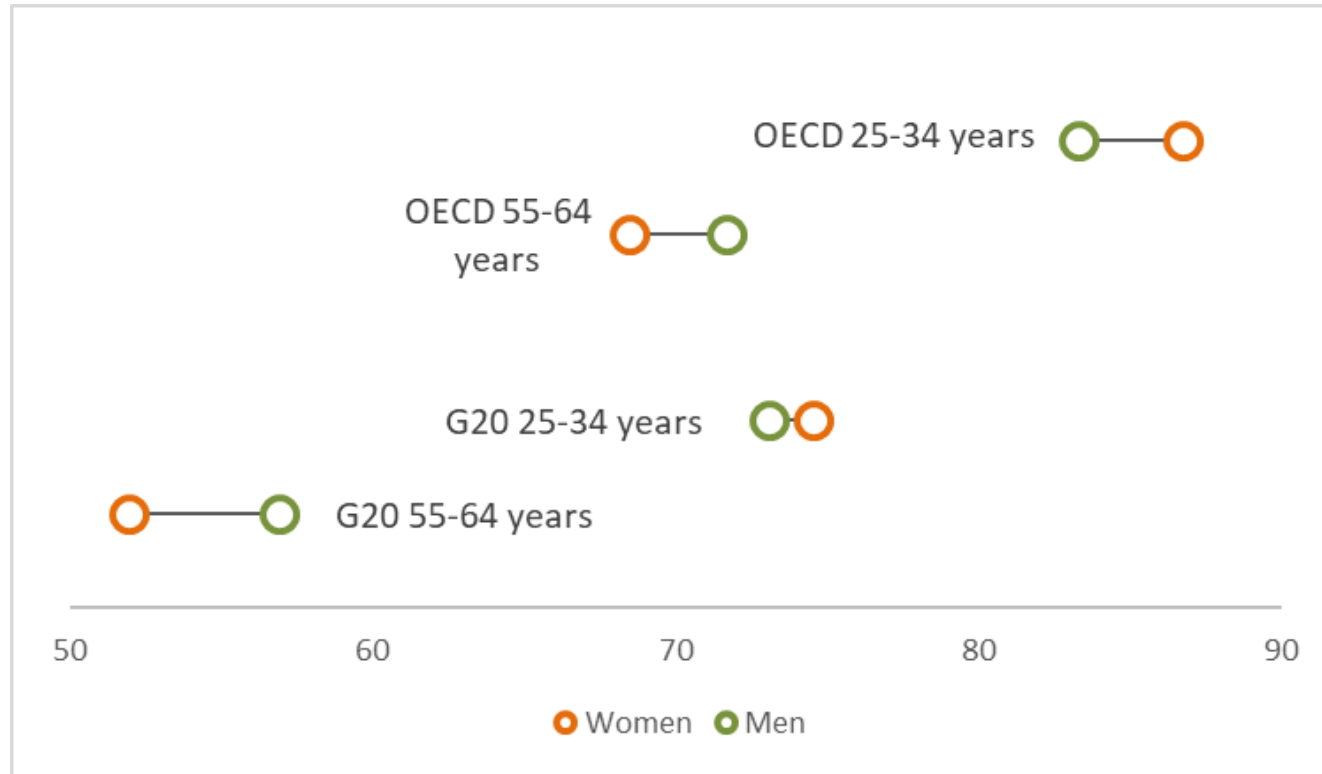
# Education achievement & dementia

**Lower educational attainment is robustly associated with a higher risk of developing dementia**, even when individuals achieve higher socioeconomic status in adulthood

- There is a growing consensus that some of these differences may be related to differences in ***cognitive reserve***, which may help to protect against some of the biological changes to the brain

A meta-analysis of available evidence suggests **each additional year of education reduces by 8% the risk of developing Alzheimer's Disease** and **by 7% the risk of developing dementia**.

# Gender inequality in educational achievement



**Share of population with upper secondary educational attainment or higher, by gender and age group (2018)**

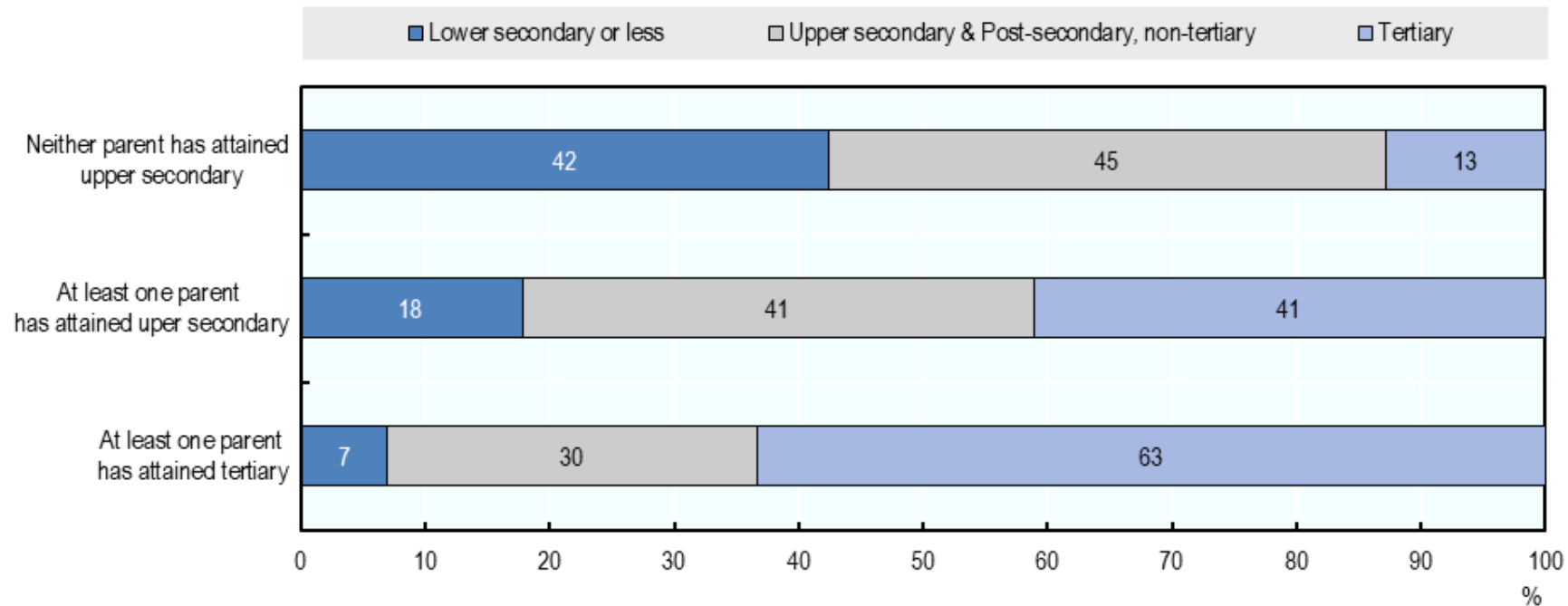
*Source: OECD Statistics - Educational attainment and labour-force status database*

Educational attainment has increased considerably in recent decades.

Gains have been particularly impressive for women, with **gender-based inequalities in educational attainment disappearing or even reversing in many countries**

# Socio-economic inequality in educational achievement

Likelihood of educational attainment by parental education background, OECD average in % (2018)



While significant gains have been made in reducing the gender gap in education attainment, **pronounced socio-economic inequalities persist** as family background continues to strongly influence educational outcomes

## To conclude

There are **pervasive gender inequalities in modifiable risk factors** for Alzheimer's disease and dementia, which place women at a disadvantage throughout the life course

**Gender and social class inequality intersect**, rendering women more vulnerable to the detrimental impacts of low SES on health outcomes.

Some **gender differences in risk factors will be attenuated as more recent cohorts move towards old-age** (e.g. education) showing important progress can be made by addressing the social determinants of health

A successful prevention strategy for dementia must take **a population health approach and must be built on reducing inequalities in risk factors and access to treatment and care.**



**Thank you for your attention!**

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