LIFESTYLE RISK FACTORS FOR EARLY VS LATE ONSET DEMENTIA:
a systematic review and meta-analysis

Nausicaa Berselli[1], Giorgia Adani[1], Tommaso Filippini[1], Marco Vinceti[1,2]
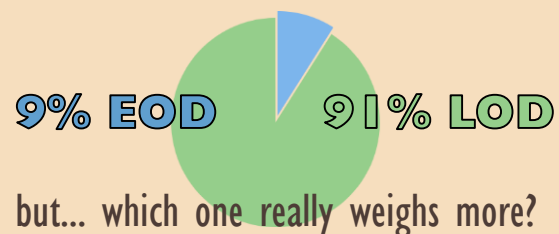
BACKGROUND

Dementia is a prevalent and growing condition, affecting ≈10% of people aged 60 years and older. It is a leading cause of disability entailing important economic and social costs: it has been defined as a "global public health priority" from WHO. Dementia can be divided into two forms according to age of onset: **Early Onset Dementia (EOD** < 65 years) and **Late Onset Dementia (LOD** ≥ 65 years). The differences between EOD and LOD are still not well understood. The aim of this meta-analysis is **to determine if environmental and lifestyle risk factors** of dementia **may differ** between EOD and LOD.

9% EOD   91% LOD

but... which one really weighs more?

METHODS

Literature database was searched up to June 2020, to retrieve studies assessing the impact of modifiable factors in patients who had developed the first symptoms of dementia before or after 65 years. From 5504 articles. 66 were eligible for the final analysis. The **main results for the different categories of risk factors** were extracted, and the summary **risk ratio (RR)** was computed using **random effect meta-analysis** with STATA software.

WHILE YOU'RE READING THIS POSTER
30 DEMENTIAS
ARE DIAGNOSED WORLDWIDE
(one every 4.1 sec)

CAN WE HELP TO PREVENT?

CONCLUSION

The observation of different associations between some modifiable risk factors and EOD or LOD risk appears to support the existence of **two different pathologies**. Another hypothesis is that the risk factors having the greatest effect on EOD may have a **susceptible window** for such an effect earlier than other risk factors. However, the question remains open and subject to further studies. These data could surely **help us to prevent dementia onset**.

RESULTS

There are different effects for some risk factors as **alcohol consumption**, **brain injuries** and **pesticides**, which appear to have **more impact on EOD**, and **aluminum** and **closeness of magnetic fields**, which appear to have **more impact on LOD**. Other factors considered, such as smoking, low educational attainment and socio-economic status, appear to have similar impact on the two forms. Some other had not sufficient data to make a comparison.

RISK FACTOR	EOD (RR)	LOD (RR)
Long-life Smoking	0.9 (0.7 - 1.1)	1.1 (0.9 - 1.2)
Current Smoking	0.6 (0.3 - 0.9)	0.8 (0.6 - 1.1)
Aluminium	1.1 (0.2 - 1.9)	1.5 (0.9 - 2.0)
Pesticides	2.1 (0.3 - 4.4)	1.3 (1.0 - 1.5)
Alcohol	**2.8 (2.2 - 3.4)**	1.2 (0.9 - 1.5)
Magnetic Fields	1.0 (0.8 - 1.2)	1.4 (0.9 - 3.7)
Brain Injury	**1.4 (1.2 - 1.6)**	1.0 (0.6 - 1.4)
Lower Educational Attainment	1.2 (1.1 - 1.2)	1.1 (1.1 - 1.2)
Socioeconomic Status	1.0 (0.9 - 1.1)	1.1 (0.9 - 1.2)

EOD   LOD

2020
16TH WORLD CONGRESS ON PUBLIC HEALTH