

Can neurodevelopmental disorders influence the course of neurodegenerative diseases?

Preliminary results of a scoping review

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Introduction

→ The reason why neurodegenerative diseases (NDgD) sometimes start with **atypical symptoms** remains unresolved.

→ An emerging hypothesis proposes that **neurodevelopmental disorders** (NDvD) could constitute a cerebral vulnerability influencing the manifestation of NDgD¹.

→ This study **aims** at exhaustively compiling findings on interactions between NDvD and NDgD.

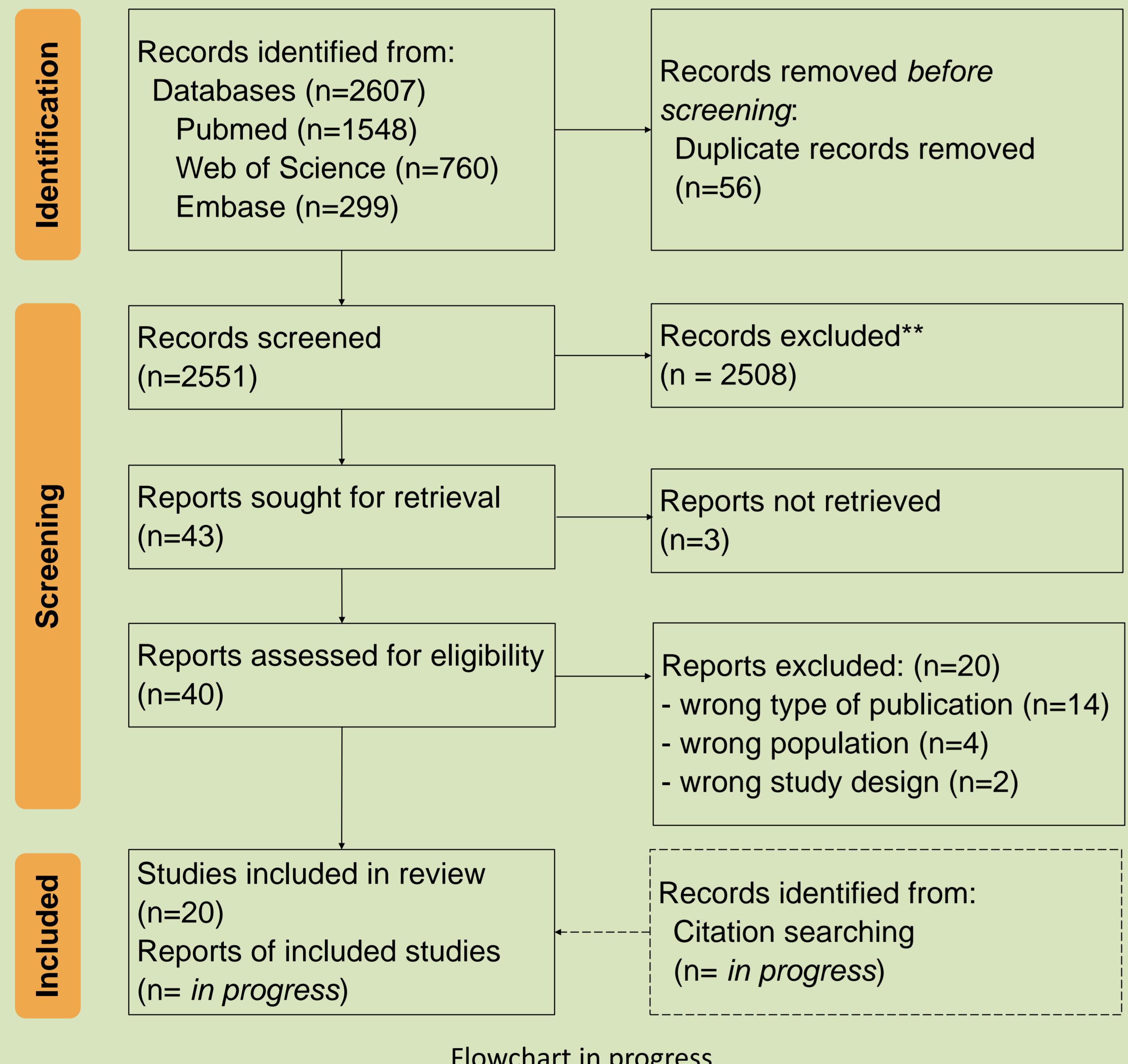
Method

→ PRISMA-ScR checklist

→ Peer reviewed primary studies in english

→ Exploring the influence of NDvD on the course of cognitive and behavioral NDgD in human.

Identification of studies via databases and registers



Flowchart in progress

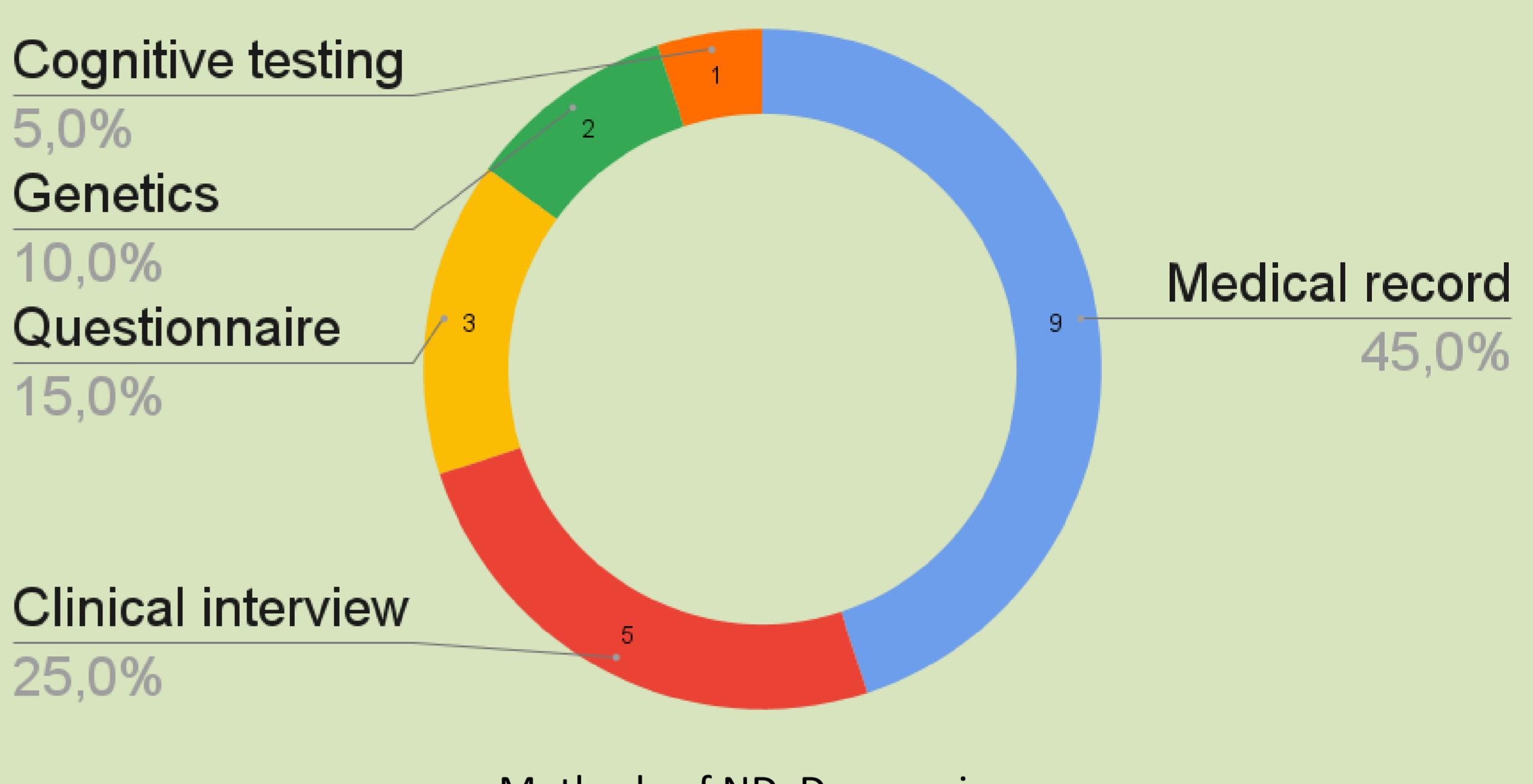
Take home message

→ There might exist a **significant association** between NDvD & NDgD.
→ NDvD might **influence the course** of NDgD².
→ However, methods are **flawed** & results are **scarce and heterogeneous**.
→ Towards a **personalized medicine**: tools are required to help screening NDvD in memory clinics.

Results

→ N = 20 studies (17 group studies, 2 case reports, 1 cohort study)

1. How is the history of NDvD determined?

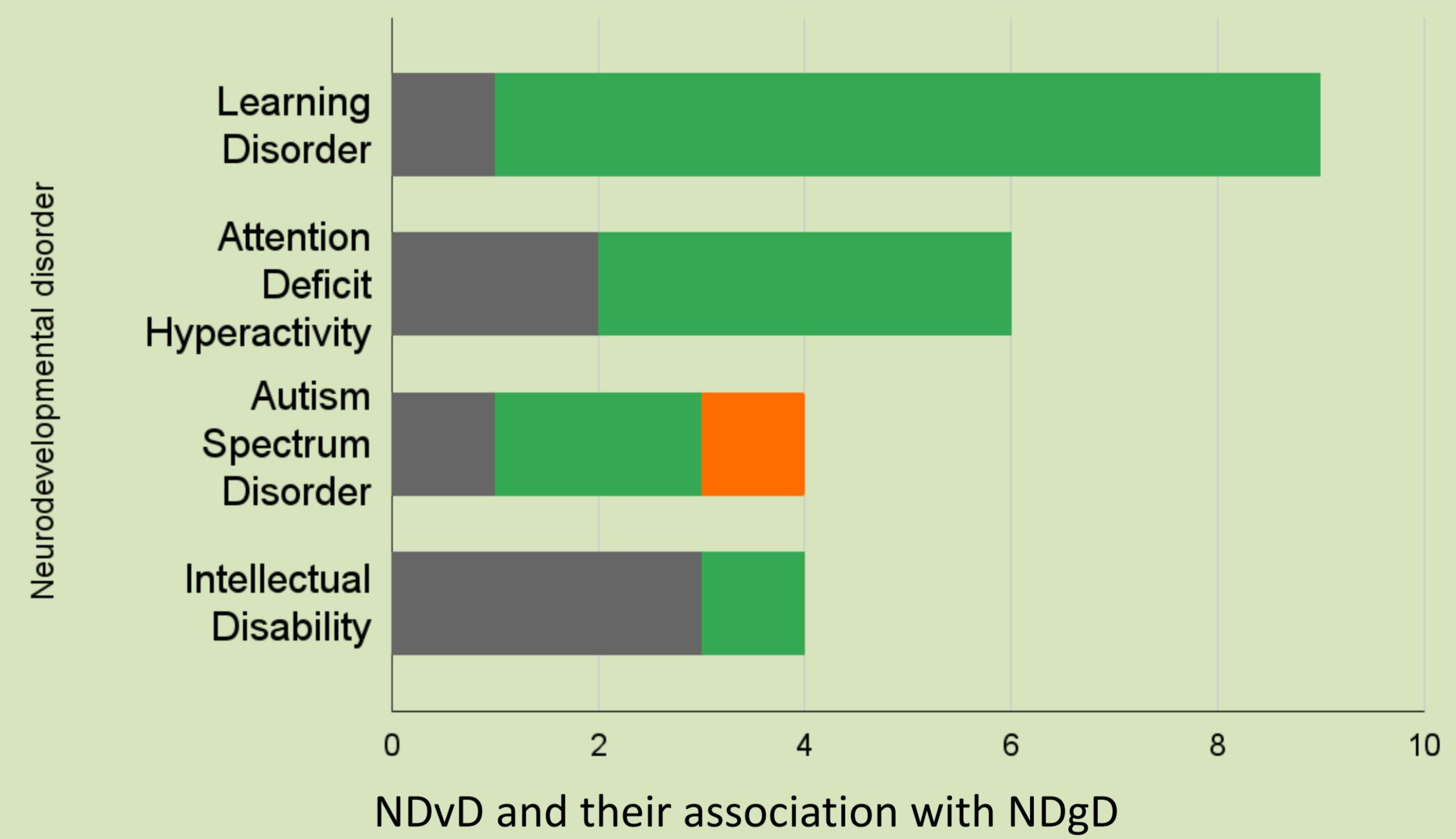


→ **No method is perfectly reliable.**

Flaws include recall bias, incomplete medical records, variability in diagnosis criteria over time, genetic pleiotropy...

2. Are NDvD associated with NDgD?

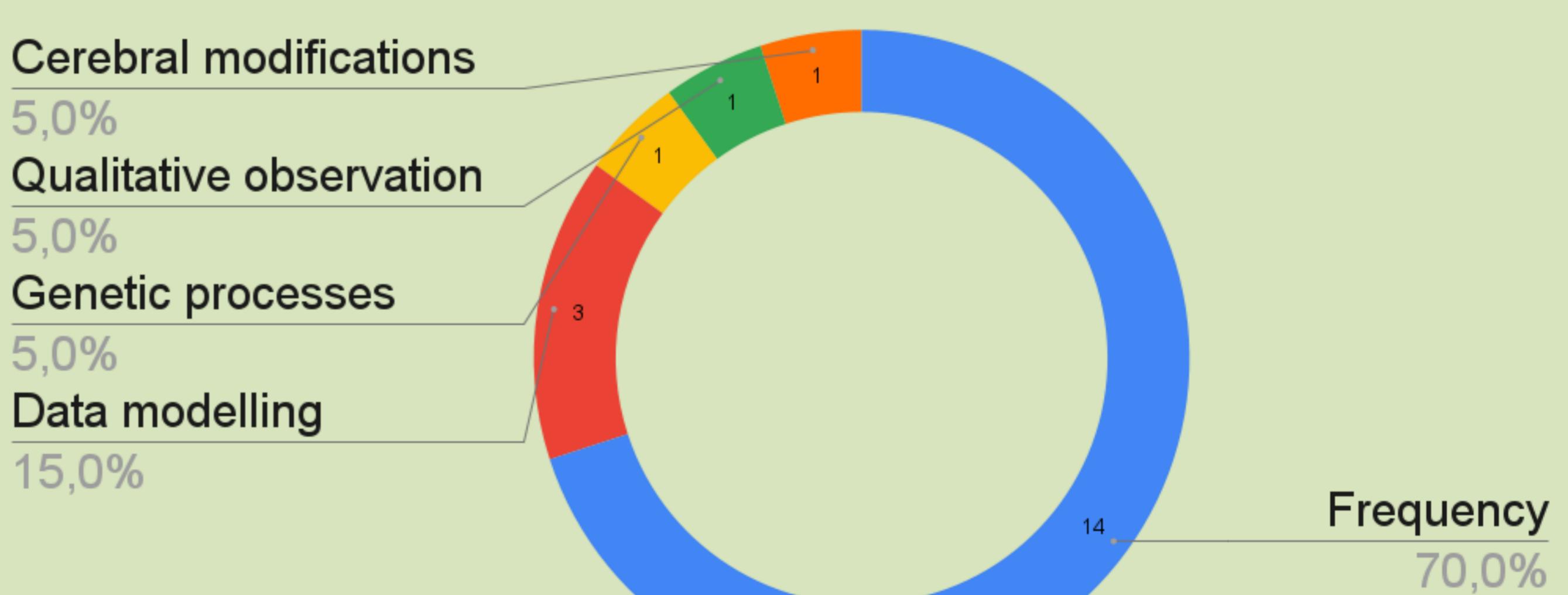
■ No association ■ Positive association ■ Negative association



→ **Alzheimer's disease** (AD) was positively associated with a NDvD in 71% of the studies (12/17).

→ **Learning disorders** might influence the course of AD and frontotemporal dementia.

3. What is the criterion of association?



Criterion of association between NDvD and NDgD

→ **Cohort studies** assessing the prevalence of NDgD in patients with NDvD could be the gold standard. To our knowledge, no such study has been conducted to date.