

# ADHD in older adults



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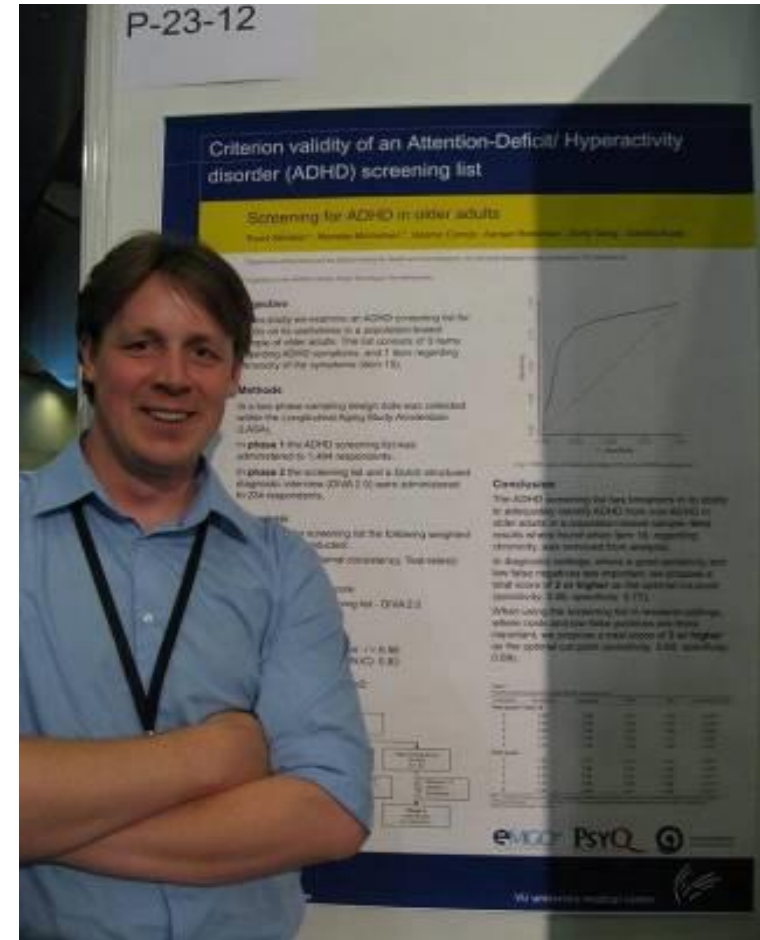
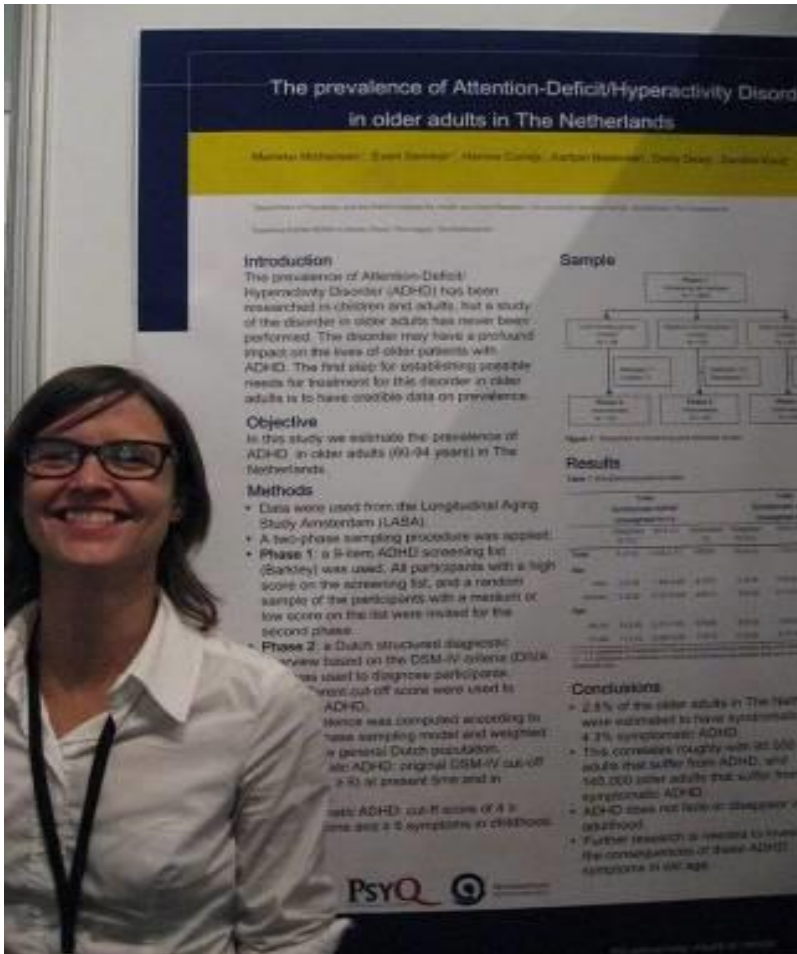
**VUmc** 



*Kenniscentrum  
ADHD bij volwassenen*

 **PsyQ**  
PSYCHO-MEDISCHE PROGRAMMA'S

# Marieke Michielsens & Evert Semeijn



Presenting their first posters in Berlin, ADHD Congress, 2011

# Prevalence of ADHD in older people in the general Dutch population

Age: 61-95 years: lower prevalence of ADHD in the older old. Women: 59%

	Syndromatic ADHD		Symptomatic ADHD	
	%	95% CI	%	95% CI
<b>Total</b>	<b>2.8</b>	<b>0.86–4.64</b>	<b>4.2</b>	<b>2.05–6.39</b>
Sex				
Men	3.0	-0.20–6.12	4.6	0.96–8.39
Women	2.6	0.38–4.72	3.8	1.39–6.24

**11 papers on  
comorbidity,  
health & social  
functioning in  
older people  
(> 61) with ADHD  
compared to  
controls**

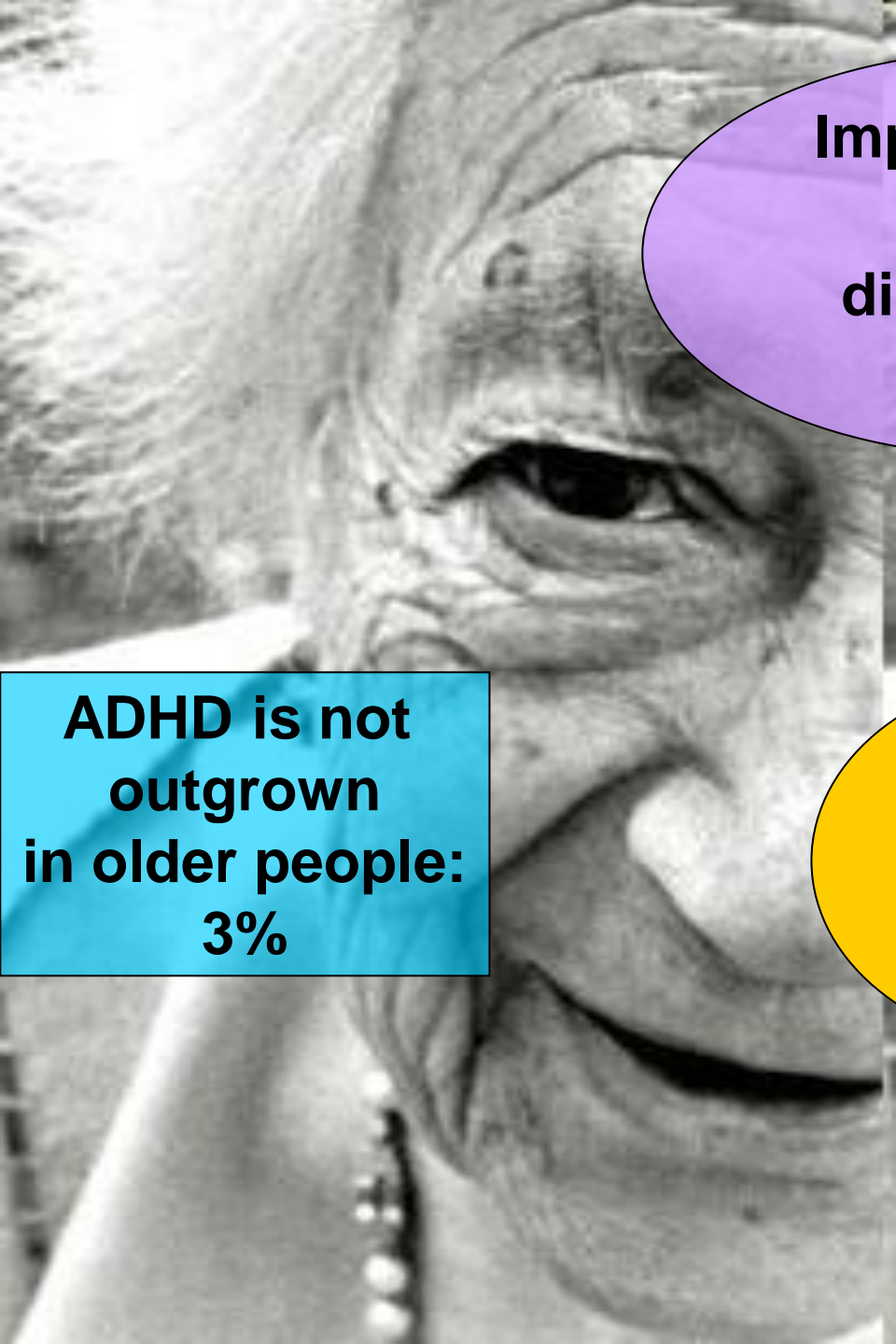
Michielsen 2012-2020  
Semeijn 2012-2016

- More anxiety and depressive symptoms
- More chronic lung and cardiovascular diseases (CNSLD), higher number of chronic diseases, and lower self-perceived health
- More divorce or never married
- Less contact family members
- More emotional loneliness
- Lower income level

# Can ADHD be treated in older people?

- Case studies: patients aged 67-81 yrs
- Successfully treated with stimulants in old age
- Monitoring cardiovascular side effects before and during treatment
- RCTs lacking so far





**Impairment is not diminishing**

**Similar comorbidity and prevalence rates**

**ADHD is not outgrown in older people: 3%**

**Similar medication response**

**Needed: RCT's!**

**Needed: Lifespan clinics!**



doi: 10.1080/14737175.2016.1204914. Epub 2016 Jul 4.

# ADHD in old age: a review of the literature and proposal for assessment and treatment

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Affiliations + expand

PMID: 27334252 DOI: [10.1080/14737175.2016.1204914](https://doi.org/10.1080/14737175.2016.1204914)

## Abstract

ADHD is an often heritable, neurodevelopmental disorder with a prevalence of 4-5% in children and adults and about 3% in older adults. The disorder in older adults (> 55 years) is accompanied by similar comorbidities such as anxiety and depression, and social impairment as in younger age groups. Areas covered: An overview of the literature on diagnostic assessment, differential diagnosis, and treatment of older adults with ADHD is described. Case studies show that stimulant treatment is beneficial for ADHD in old age, but randomized controlled trials are lacking. Stimulant treatment has been studied in depression and even dementia in older adults, and seems safe with active cardiovascular risk management. In this paper, a proposal for diagnostic assessment and treatment is described for ADHD in older adults, including differential diagnosis with other psychiatric and neurocognitive disorders. Expert commentary: Regarding the organization of mental health, professionals in geriatric psychiatry need to be trained in assessment and treatment of ADHD in older age. Lifespan ADHD clinics may help patients of all ages to receive better specialized care.



## Cardiovascular assessment > age 50

Kooij ea 2016

### Evaluate in patients $\geq$ age 50 before starting ADHD medications:

1. **Cardiac complaints** in the last 6 months: shortness of breath during exertion or at night, chest pain/ between shoulder blades, arrhythmia, tiredness, nocturia (> 1x), peripheral edema
2. **Cardiac history:** high cholesterol/ triglycerides, hypertension, diabetes, meds for these disorders
3. **CV family history:** stroke or TIA, heart attack, cardiac death
4. **Physical exam:** pulse, blood pressure, weight, edema
5. **ECG**

### Evaluate after start ADHD medication, after increase dose, and after stabilization every 6 months:

- Heart rate
- Blood pressure
- Weight

Other evaluations when indicated



# Methods

Retrospective data from electronic files of 113 patients aged 55 – 79 yrs

## Outcomes:

- Medication response
- Side effects
- Cardiovascular parameters before and after treatment
- % of patients that stopped medication

# Response and Side Effects Using Stimulant Medication in Older Adults With ADHD: An Observational Archive Study

Marieke Michielsen , Didi Kleef, Denise Bijlenga, Cinderella Zwennes, Kim Dijkhuizen, Jan Smulders, Andreia Hazewinkel, Aartjan T. F. Beekman, J. J. Sandra Kooij

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[Article information](#) v



## Abstract

**Objective:** To examine the naturalistic response to and cardiovascular side effects of stimulant medication in older adults with ADHD. **Methods:** Electronic Health Record (EHR) data of adult patients with ADHD ( $\geq 55$  years) at the specialized PsyQ outpatient clinic for adult ADHD ( $n = 113$ , 55-79 years) were collected. Response, cardiovascular status, side effects, and provided medical care before and after the first ADHD medication dose have been recorded. **Results:** A total of 65% of the patients reported positive response to the medication, and 42% of the patients quit their medication due to side effects or nonresponse. There was a small but significant decrease in weight and increase in heart rate before and after methylphenidate use. **Conclusion:** Our results indicate that the use of stimulants may be a relatively safe and effective treatment for older adults with ADHD, under the condition that the cardiovascular parameters are monitored before and during pharmacological treatment. Randomized controlled trials (RCTs) are needed to confirm these findings.

# Objective assessment of attention-deficit/hyperactivity disorder in older adults compared with controls using the QbTest

Denise Bijlenga<sup>1</sup>, Fredrik Ulberstad<sup>2,3</sup>, Lisa B Thorell<sup>2</sup>, Hanna Christiansen<sup>4</sup>, Oliver Hirsch<sup>5</sup>, J J Sandra Kooij<sup>1,6</sup>

Affiliations + expand

PMID: 31243809 DOI: [10.1002/gps.5163](https://doi.org/10.1002/gps.5163)

## Abstract

**Objectives:** Attention-deficit/hyperactivity disorder (ADHD) persists into old age, with prevalence rates of 2.8% to 3.3% in adults over 60 years of age. Most diagnostic assessment tools are not validated for older adults. The Quantified behavioral Test (QbTest) is an objective assessment for the core symptoms of ADHD and is validated for children and younger adults. We investigated whether the QbTest can be used to differentiate between older adults with ADHD and healthy controls.

**Methods:** Older adults aged 55 to 79 years with (n = 97) or without (n = 112) ADHD were assessed with the QbTest. They also rated their ADHD symptom severity. QbTest raw scores were compared between groups. Factor scores were computed using factor loadings from a confirmatory factor analysis (CFA). Multilevel regressions were used to determine effects of background characteristics and comorbidity. Logistic regressions were performed to determine whether the QbTest differentiated between patients with ADHD and healthy controls.

**Results:** The factor structure of the CFA was comparable with that of younger age groups. Older age was associated with higher Inattention score. Parameters comprising the factors Hyperactivity and Inattention, but not Impulsivity, were shown to contribute significantly in differentiating between the groups. The QbTest had a correct classification rate of 70%, which was increased to 91% when combining QbTest scores and self-reports of ADHD symptom severity.

**Conclusions:** The QbTest is feasible for older adults, and the factors Hyperactivity and Inattention are valid parameters for the diagnostic assessment of ADHD in older adults, when used in addition to self-reports.

# Burden of illness in older adults with ADHD

- Tel. interviews in n=24 older adults diagnosed with ADHD later in life
- Mean age 66 years, mean age at diagnosis 57 years
- 68% were men
- 63% reported other comorbid mental health conditions
- ADHD symptoms were inattention (71%), impulsivity (58%), hyperactivity (54%), and disorganization (54%).
- In 63% accumulated lifetime burden of illness and being financially less-well-off, lower educational achievement, job performance, and greater social isolation due to ADHD.
- C/ Older adults' QoL suffers from the **accumulative negative impact of ADHD symptoms/impairments** on their professional, economic, social, and emotional well-being.

Brod 2012

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- N=17 older adults in depth interviews
- Four themes correspond to ADHD symptoms: "being active," "being impulsive," "attention problems," and "mental restlessness."
- In addition, the themes "low self-esteem," "overstepping boundaries," and "feeling misunderstood" emerged.
- C/ **ADHD has a negative impact on late life**, and older adults with the disorder may benefit from treatment.

Michielsen 2018



# ADHD or cognitive decline?

Pierre, 2019, French Memory Center

- [Adult ADHD can masquerade as cognitive impairment](#), including a stable cognitive complaint from infancy to old age.

Tzeng 2017

- National Health Insurance Research Database of Taiwan
- [In ADHD 3.4x fold increased chance of dementia](#) compared to controls

Fluegge 2018

- [Severe ADHD increases hospitalization risk for Lewy Body Dementia \(LBD\) \(IRR: 1.21\) and Alzheimer's disease \(AD\) \(IRR: 1.15\)](#). Relationships may be dependent on metabolic dysregulation in case of AD (diabetes), but not LBD.

Golimstok 2011

- N=149 patients with dementia (LBD/AD)
- [Preceding ADHD symptoms in LBD cases in 47.8%, in AD 15.2% and 15.1% in controls.](#)

Dobrosavljevic 2020

- [Swedish Population study. In ADHD increased risk for dementia \(HR 2.92\) and MCI \(HR 6.21\). After adjustment for psychiatric disorders HR = 1.62 for dementia, and 2.54 for MCI.](#)

Zang 2022

- [Swedish Population study. ADHD associated with AD and any dementia across generations, suggesting shared familial risk between ADHD and AD.](#)





# ADHD & dementia

Fan 2020

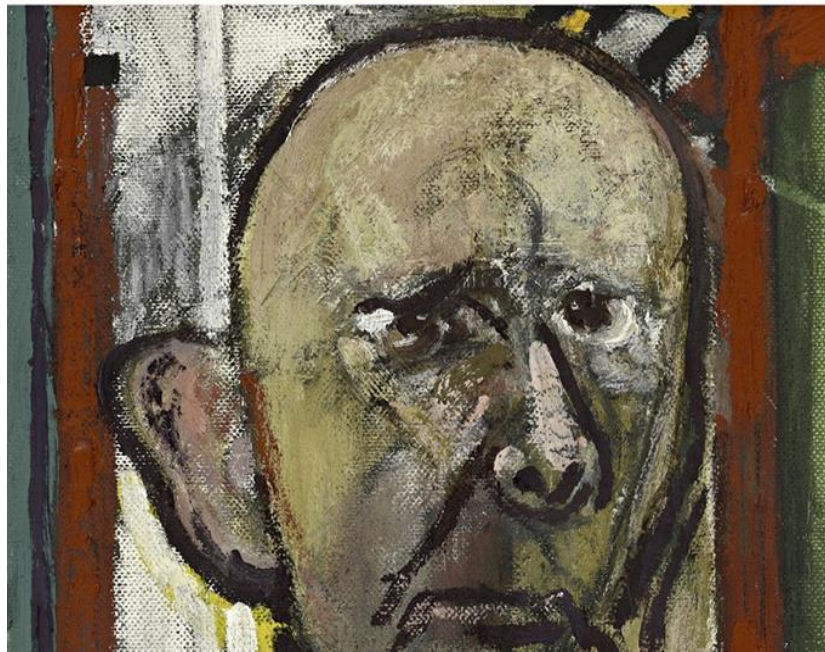
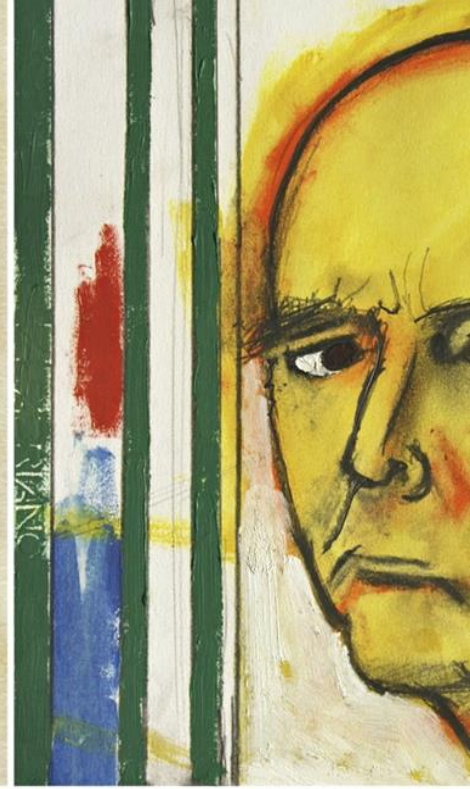
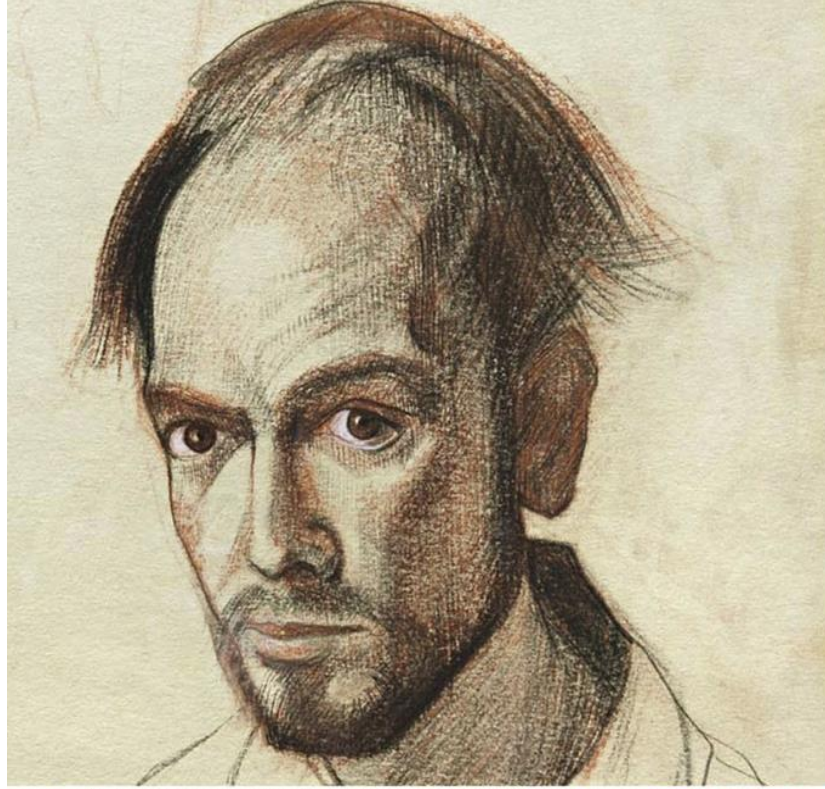
Taiwan health insuredatabase

- Prior ADHD in patients with and without Parkinson's disease: Prior ADHD 2.8 times more likely in PD patients.

Curtin 2018

Utah Population Database, participants with and without ADHD.

- In ADHD: 2.4-fold increased risk of basal ganglia and cerebellum diseases compared with non-ADHD persons.
- In 4960 ADHD patients prescribed psychostimulants, risk of basal ganglia and cerebellum diseases was especially pronounced, at 8.6-fold.
- May reflect a more severe ADHD phenotype rather than a direct association between prescribed stimulant use and basal ganglia or cerebellum disorders, but more research is needed.





# Conclusions ADHD in older adults

ADHD is prevalent in around 3% of people > 60 yrs

Similar patterns of comorbidity as in younger age groups

Older patients suffer of consequences of lifetime ADHD & still want treatment

Treatment with stimulants is possible using careful cardiovascular monitoring before and during treatment, but RCT still needed

ADHD can be mistaken for MCI or dementia, esp. when ADHD is unfamiliar to the investigator

ADHD has 2-3 fold increased association with comorbid MCI and dementia, same is true in family members

More research needed into pathophysiology of relationship between ADHD and dementia and prevention

# Q & A

Differentiating Dementia From ADHD in Older Adults | LiveTalk | Being Patient

**LIVE TALK**  
Later bekij...

Delen

## DIFFERENTIATING DEMENTIA FROM ADHD IN OLDER ADULTS

**Sandra Kooij**

Associate Professor of Psychiatry at  
Amsterdam University Medical Center

HOSTED BY BEING PATIENT

0:00 / 27:29

YouTube