

# Generalized Anxiety Disorder (GAD) and Anxiety Symptoms in Older Adults

Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligen försvaras i Arvid Carlsson, Medicinaregatan 3, Akademikum (Medicinareberget), den 4:e oktober, klockan 9.00

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## Avhandlingen baseras på följande delarbeten

- I. Nilsson J, Östling S, Waern M, Karlsson B, Sigstrom R, Guo X, Skoog I. (2012). The 1-Month Prevalence of Generalized Anxiety Disorder According to DSM-IV, DSM-V, and ICD-10 Among Non-demented 75-Year-Olds in Gothenburg, Sweden. *American Journal of Geriatric Psychiatry*, 20(11): 963-972
- II. Nilsson J, Sigstrom R, Östling S, Waern M, Skoog I. (2018). Changes in the expression of worries, anxiety, and generalized anxiety disorder with increasing age: A population study of 70 to 85-year-olds. *International Journal of Geriatric Psychiatry*, 34(2): 249-257
- III. Nilsson J, Najar J, Sundh V, Johansson L, Zettergren A, Östling S, Waern M, Skoog I. Midlife anxiety, but not worry, increases risk of late-life dementia: A 44-year follow-up of the Prospective Population Study of Women. (*Submitted manuscript*)

**SAHLGRENKA AKADEMIN  
INSTITUTIONEN FÖR NEUROVETENSKAP OCH  
FYSIOLOGI**



# Generalized Anxiety Disorder (GAD) and Anxiety Symptoms in Older Adults

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## Abstract

Anxiety is a broad concept, difficult to detect and recognize. Expression may shift over the lifetime further complicating identification. Generalized Anxiety Disorder (GAD) is one of the most common anxiety disorders in older adults; however, the true nature remains unclear. Research on older populations is lacking, even though the proportion of older adults is growing larger. The aim of this thesis was to increase the understanding of anxiety symptoms and GAD, by exploring changes in the expression and consequences of anxiety among older adults.

The samples were derived from the Gothenburg H70-birth cohort studies. Participants completed a semi-structured psychiatric interview and a comprehensive battery of tests conducted by trained research nurses or medical doctors. Psychiatric diagnoses were mainly based on items from the Comprehensive Psychopathological Rating Scale (CPRS), according to current classification systems.

The main results were as follows. **Study I:** GAD was common in old age, around 4%. The prevalence was similar for both classification systems. However, diagnostic agreement was moderate and different classification systems only captured the same individuals in about half of the cases. Comorbidity with selected mental disorders was high, and highest in those with depression. **Study II:** The expression of anxiety changed with increasing age. Autonomic arousal and muscle tension decreased markedly, while symptoms of worry remained stable or increased. **Study III:** Midlife anxiety, but not worry, was shown to increase the risk of dementia in late life. The association was independent of depression, neuroticism, and stress level at baseline. Furthermore, our findings support the notion of qualitative differences between anxiety and worry.

The findings suggest that current classification systems for GAD, in many cases, capture different individuals. Emphasis, in upcoming revisions, should be directed at unifying criteria to avoid misclassification. Our results showed that exposure to anxiety increased the risk of incident dementia, suggesting that increased attention to identification and successful treatment of anxiety may be warranted in dementia prevention.

**Keywords:** Anxiety, Worry, GAD, Epidemiology