

Press release: ECNP Conference, Amsterdam

ADHD: women are diagnosed five years later than men, despite symptoms appearing at the same age

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Scientists have found that ADHD (Attention-Deficit/Hyperactivity Disorder) in women is diagnosed approximately 5 years later than in men, despite symptoms appearing at the same age. Women with ADHD also suffer greater emotional and functional difficulties than men. This work will be presented at the ECNP Congress in Amsterdam, after recent publication.

Lead researcher Dr Silvia Amoretti (Barcelona) said:

“ADHD affects millions of people, but our understanding of how it presents and impacts males and females differently remains limited. We found that females are underdiagnosed, often receiving a diagnosis years later than males. This delay may lead to worse clinical outcomes, including depression, anxiety, and functional impairment. Males on the other hand showed a higher level of involvement in delinquent behaviours such as legal problems and driving-related difficulties. We believe that a better understanding these sex-based differences might improve diagnosis and treatment.”

The researchers analysed a large clinical sample of 900 adults (54.9% male, 45.1% female, average age 36.94) diagnosed with ADHD for the first time at a specialized outpatient program in Barcelona. They assessed differences between males and females in terms of age at diagnosis, ADHD symptom severity, psychiatric comorbidities, psychosocial functioning, and disability. Participants underwent a standardized battery of clinical interviews and validated rating scales. They found that females had been diagnosed with ADHD at an average age of 28.96 years, whereas males were diagnosed at age 24.13 on average. Symptoms appeared in both males and females at approximately the same age. Males were around 3 times more likely to have encountered legal problems (18.1%) than were females (6.6%).

Silvia Amoretti said:

“We found that although ADHD symptoms started at a similar age in males and

females, women were diagnosed about five years later. By the time of diagnosis, they showed more severe symptoms, worse functioning in daily life, and higher rates of depression and anxiety.

This is important because it shows that ADHD often goes unnoticed in women until it becomes a serious problem. Our findings suggest that we may be missing the early signs in girls and women, especially when their symptoms are less disruptive but still impactful. This has clear implications for earlier screening and sex-sensitive diagnostic tools.

We didn't set out to compare the age of diagnosis in males and females, we were aiming to understand the general age when symptoms appear, regardless of sex. This finding was not part of our initial hypotheses but became evident during the analysis but became evident during the analysis, and the scale of the difference in diagnosis between the sexes was a surprise.

It's likely that women are diagnosed later because the symptoms of ADHD manifest themselves differently in men and women. Boys are more likely to be hyperactive or impulsive, and this behaviour is more visible to parents, teachers and clinicians. On the other hand, girls with ADHD are more likely to seem inattentive and generally less disruptive. This becomes clinically important, as it means that women are just not treated early enough, and often are just not diagnosed at all. We have seen similar tendencies internationally, so it is likely that this is a global problem. The nature of the condition leads to poorer diagnosis in women everywhere, meaning that women can lose on average five years of treatment, 5 years of a better life".

Commenting, Professor Sandra Kooij (Amsterdam UMC/VUmc and PsyQ, the Hague, the Netherlands) said:

"This study by Sylvia Amoretti and colleagues shows the delay in diagnosis in girls and women with ADHD compared to boys and males. Different presentation of symptoms, lack of awareness among clinicians that women have ADHD too, and the hormonal changes leading to severe mood instability in the last week of the cycle are all responsible for the gender differences in time to diagnosis of ADHD.

Increasing awareness in both society and medicine helps girls and women to get earlier help when they need it".

Professor Kooij was not involved in this research; this is an independent comment. Professor Kooij is founder and chair of the European Network Adult ADHD.

The work on which this is based was published in *European Psychiatry*, doi: 10.1192/j.eurpsy.2025.2441. None of the comments in this press release are included in

the publication. **Please acknowledge the presentation at the ECNP congress in any press release.**

Notes for Editors

This work is presented at the 38th ECNP Congress, taking place in Amsterdam and online 11-14th October 2025, see <https://www.ecnp.eu/congress2025/>. With more than 7000 participants the ECNP Congress is Europe's leading platform for the science and treatment of brain disorders.

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Conference Abstract

Exploring sex differences in attention deficit hyperactivity disorder: a comparative study of onset, diagnosis, and symptom severity

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Background

Attention deficit hyperactivity disorder (ADHD) is the most common and earliest neurodevelopmental disorder, affecting 5-7% of children. In adulthood, 15% maintain the full syndrome and 60% experience disruptive symptoms (1, 2), leading to significant risks such as accidents and suicide (3, 4). The disorder's outcomes differ by sex, with females often experiencing delayed diagnosis and distinct patterns of severity and comorbidities (5, 6). These differences may be due to a higher prevalence of the inattentive ADHD presentation in females, which is less disruptive and more difficult to detect than the hyperactive-impulsive or combined subtypes. Additionally, hormonal fluctuations throughout life may play a role in symptom expression and treatment response.

This study aims to analyze the differences in ADHD severity, its comorbidity with other psychiatric disorders, and its impact on psychosocial functioning, depending on sex and ADHD subtype. Understanding these differences is essential to improve diagnostic accuracy and develop tailored interventions that address specific needs in males and females with ADHD.

Methods

This cross-sectional study was conducted at the Adult ADHD Program of the Vall d'Hebron University Hospital of Barcelona (Spain). Participants referred for the first time to the ADHD Program were consecutively recruited between 2018 and 2024 if the diagnosis of ADHD was confirmed. Participants met the following inclusion criteria: being over 18 years old, meeting DSM-5 criteria for ADHD, and providing written informed consent before participation.

Participants underwent a comprehensive clinical and psychological assessment, including semi-structured diagnostic interviews for ADHD and comorbidities. Symptom severity was assessed using validated rating scales such as ADHD Rating Scale (ADHD-RS). Additionally, depressive (Beck-II Depression Inventory II, BDI) and anxiety (State-Trait Anxiety Inventory, STAI) symptoms were evaluated, as well as sleep quality, psychosocial functioning (Functioning Assessment Short Test, FAST), and disability (World Health Organization Disability Assessment Schedule version,

WHODAS). Statistical analyses included chi-square tests for categorical variables and Student's t-tests for continuous variables to compare males and females.

Results

A total of 900 patients met the inclusion criteria (54.9% male, mean age 36.94 ± 11.93 years). The combined ADHD subtype was the most common, affecting 48.2% of participants. The age of symptom onset was similar between males and females ($p=0.220$), but females were diagnosed significantly later (28.96 ± 14.75 vs. 24.13 ± 15.12 years, $t=3.540$, $p<0.001$). Legal problems were more frequent in males (18.1%) than females (6.6%) ($X^2=24.924$, $p<0.001$). Females with ADHD had higher symptom severity ($p<0.001$), worse psychosocial functioning ($p=0.039$), and greater disability ($p=0.001$). They also exhibited higher rates of depression ($p=0.003$) and anxiety ($p<0.001$).

Conclusion

This study highlights the delayed diagnosis of ADHD in females, who exhibited greater clinical impairment, emotional distress, functional difficulties, and disability compared to males. Males, on the other hand, showed higher involvement in delinquent behaviors. These findings emphasize the importance of early detection and intervention in females to promote adaptive coping strategies, reduce symptom impact, and prevent the development of comorbid psychiatric disorders in adolescence and adulthood.