Buletin Psikologi
Volume 34, Number 1, 2026: 39– 59
DOI: 10.22146/buletinpsikologi.113602

ISSN 0854 - 7106 (print)
ISSN 2528-5858 (Online)

Adult ADHD: A Narrative Review of Symptoms, Assessment, and Intervention Strategies

Farra Anisa Rahmania[1*], Dwi Fadhila[2]
[1]*Cluster of Interaction, Community Engagement, and Social Environment, School of Environmental Science, Universitas Indonesia, Indonesia,*
[2]*Psychology and Islamic Counseling, International Open University, The Gambia*

Submitted 29 November 2025 **Accepted 25 May 2026** **Published 26 June 2026**

Abstract. Attention-Deficit/Hyperactivity Disorder (ADHD) is recognized as a neurodevelopmental condition that persists across the lifespan. However, research focusing on adults with ADHD has received comparatively less attention than studies in children. This narrative literature review aims to explore recent evidence on adult ADHD, with particular emphasis on symptoms, assessment, and intervention strategies. Relevant literature was identified through a targeted search of selected databases, guided by an Integrative Review Framework (IRF). The review focused on peer-reviewed publications from 2020 to 2025 involving adult populations diagnosed with ADHD. The findings suggest that ADHD symptoms in adults influence multiple domains of daily functioning, including difficulties in attention and organization that affect academic and occupational performance, challenges in interpersonal relationships, and an increased risk of psychological comorbidities such as mood disorders, anxiety, and behavioral problems. Various intervention approaches have been reported, including pharmacological treatment, cognitive-behavioral therapy, coaching strategies, and integrated models combining psychosocial and medical components. This review underscores the importance of improving the assessment of ADHD in adulthood, developing tailored interventions, and encouraging longitudinal research to better understand long-term outcomes, ultimately contributing to improved resilience and quality of life for adults with ADHD.

Keywords: adult ADHD; ADHD symptom; ADHD assessment, ADHD intervention; narrative literature review

Introduction

ADHD in adults is a continuation of childhood ADHD and not a new disorder that emerges in adulthood (Lovett & Harrison, 2021). The diagnosis of ADHD in adults requires the onset of symptoms from childhood, with a minimum number of symptoms ($\geq$ 5 in adults). The discourse on adult-onset ADHD has been largely refuted because evidence shows that symptoms that only appear in adulthood

*Corresponding Author: farraanisarahmania@gmail.com

Copyright ©2026 The Author(s). This is an Open Access article distributed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by-sa/4.0/)

are more often caused by comorbid disorders or the effects of substance use (Sibley et al., 2018). Therefore, a comprehensive assessment is necessary to ensure the accuracy of ADHD diagnoses in the adult population. In Indonesia, awareness and understanding of ADHD remain considerably limited among both the general public and healthcare professionals. Murtani et al. (2020) surveyed 1.536 respondents comprising community members, teachers, general practitioners, medical students, pediatricians, and psychologists, finding that more than half of healthcare professionals demonstrated poor to very poor levels of knowledge, perception, and attitude toward ADHD. Notably, the majority of psychologists in the study did not classify ADHD as a mental disorder. As a result, adults with ADHD in Indonesia are particularly at risk of being overlooked, as limited professional knowledge continues to delay both early assessment and appropriate management of the condition.

A biopsychosocial framework can provide an integrative understanding of Attention-Deficit/Hyperactivity Disorder (ADHD) in adulthood. ADHD is conceptualized as a neurodevelopmental condition that persists across the lifespan, shaped by the interaction of biological, psychological, and social factors (Faraone et al., 2021). Biological aspects influence attention and executive functioning, psychological factors relate to cognitive and emotional regulation, and social contexts affect how symptoms manifest in daily functioning. This framework offers a coherent basis for examining symptom patterns, diagnostic challenges, and the effectiveness of intervention strategies in adults with ADHD. Within this biopsychosocial perspective, variations in the prevalence and manifestation of ADHD in adulthood can be better understood as the result of complex interactions between developmental patterns, individual psychological functioning, and environmental influences over time.

A study conducted by Song et al. (2021) explains that the prevalence of adults with ADHD decreases with age. There are two categories for understanding the prevalence of adults with ADHD, namely persistent adult ADHD and symptomatic adult ADHD. Persistent adult ADHD describes the emergence of ADHD symptoms in childhood that continue into adulthood, with a global prevalence of approximately 2.58%, while symptomatic adult ADHD describes the emergence of ADHD symptoms without regard to a history of symptoms since childhood, with a global prevalence of approximately 6.76%.

Additionally, research by Vos and Hartman (2022) revealed that there is another category, namely persistent ADHD with impairment, which is characterized by symptoms that have a real impact on daily life with an impairment score of ≥ 6 on a scale of 1–10. Although the age of onset criteria in the DSM-5 is before 12 years of age, a number of studies use an 18-year-old cutoff to accommodate the limitations of retrospective reports in adult participants and evidence that ADHD can fully emerge in adolescence. This approach emphasizes the importance of considering not only symptoms but also functional impact in assessing the prevalence of ADHD in adults. Riglin et al. (2022) argue that strong resources or support in childhood have a fairly good chance of helping to delay the onset of ADHD symptoms until later in life.

The implications of ADHD in adults can be discussed in multiple dimensions. ADHD in adults has a significant impact, especially on academic and work aspects (Varrasi et al., 2022). Challenges

commonly encountered in academic settings include difficulties with concentration, impairments in executive functioning that impact time management and planning, and reduced learning efficiency. These factors may contribute to lower academic achievement for adults with ADHD compared to those without the condition. On the other hand, in the workplace, adults with ADHD may have difficulty building relationships, focusing on work, and regulating emotions, which can reduce productivity and increase the risk of interpersonal conflict. However, with pharmacological, educational, and rehabilitative support, adults with ADHD can still develop their potential and achieve academic and professional success.

In addition to academics and work, interpersonal relationships are frequently addressed in discussions regarding adults with ADHD. Interpersonal relationships are considered to be one of the areas of vulnerability for adults with ADHD. This is because adults with ADHD have risks in emotional regulation, attention, and impulsivity. These conditions can increase the risk of conflict, trigger social isolation, and make it difficult for individuals to build and maintain healthy relationships. Sodano et al. (2021) explain that adults with ADHD have higher levels of interpersonal problems with their peers, including maintaining intimacy, dealing with differences, and maintaining long-term relationships. This condition further supports the notion that ADHD not only affects academic and work functioning in adults, but also significantly affects the quality of social life.

Adults with ADHD often experience delayed or missed diagnoses. The concept of adult-onset ADHD has been debated in the clinical literature. Taylor et al. (2022) emphasize that the existing empirical evidence is not yet strong enough to establish adult-onset ADHD as a clinical entity separate from childhood ADHD. Instead, the emergence of symptoms in adulthood is more likely to be explained by several alternatives, such as unrecognized childhood symptoms, other clinical conditions that resemble ADHD, or environmental factors that manifest symptoms later in life. This perspective highlights the importance of a careful and comprehensive diagnostic approach to avoid overdiagnosis or misdiagnosis in adults who exhibit ADHD-like symptoms.

The literature on ADHD in children and adolescents is more extensive than research focusing on ADHD in adults, often leading to inconsistent results. Differences in symptom definitions, methodological variations, and limitations in diagnostic instruments make it difficult for practitioners to develop a comprehensive understanding of prevalence, assessment, and intervention strategies in adult populations compared to cases involving children or adolescents. Given the complexity of Attention-Deficit/Hyperactivity Disorder (ADHD) in adulthood, a comprehensive review of the existing literature is needed to synthesize current evidence regarding symptom manifestations, assessment processes, and intervention approaches. ADHD in adults often presents with symptom patterns that differ from those observed in childhood, creating challenges for accurate identification and increasing the risk of delayed or missed diagnoses.

Furthermore, barriers to accessing healthcare services prevent many adults with ADHD from receiving adequate treatment, thereby worsening functional impairment and increasing the risk of comorbidity. Therefore, the purpose of this narrative review is to critically examine empirical findings on the symptom profile of ADHD in adults, explore practices and challenges in assessment

and diagnosis, and summarize intervention strategies reported in the literature. The ultimate goal of this study is to provide an integrated understanding of current evidence, strengthen clinical practice, improve early assessment, and inform the development of more appropriate and effective interventions for adults with ADHD.

Method

This study adopted a narrative literature review approach to explore adult ADHD, focusing on its symptoms, identification, and intervention strategies. This approach was chosen because it allows for a comprehensive and critical synthesis of findings from various relevant studies, enabling a deeper understanding of the complexity of adult ADHD. A structured narrative framework was applied by following clear stages, including literature searching, selection, data extraction, and synthesis, to ensure transparency and rigor in the review process. The overall procedure consisted of three main steps: identifying and screening relevant literature, extracting and analyzing key information, and presenting and discussing the findings.

Research Questions

In this study, the researcher ensured that the scope of the research was appropriate for the objectives. The researcher formulated several research questions, which can be described as follows:

RQ1: What are the potential symptoms of ADHD in adults?
RQ2: How is ADHD identified and assessed in adults?
RQ3: What interventions can be provided to adults with ADHD?

Search Strategy

This study utilized ScienceDirect as the primary database to review literature related to Attention-Deficit/Hyperactivity Disorder (ADHD) in adults, with publications limited to the period between 2020 and 2025. The use of a single database was intentionally adopted to ensure consistency in indexing standards, peer-review quality, and accessibility of full-text articles within a well-curated platform. As a narrative review, this approach allows for a more focused and in-depth synthesis of relevant studies, prioritizing conceptual clarity and thematic integration over exhaustive coverage. While ScienceDirect provides substantial coverage in health, psychology, and neuroscience, it is acknowledged that restricting the search to a single source may limit the breadth of evidence and potentially exclude relevant studies indexed elsewhere. Therefore, the findings should be interpreted as a structured and focused synthesis rather than a fully comprehensive review of all available literature.

The search strategy focused on key topics relevant to the research question, namely ADHD symptoms, assessment, and intervention in adults. The keywords used include the terms "ADHD" or "attention deficit hyperactivity disorder," which are then combined with additional related terms such as "symptom," " assessment," and "intervention." With these restrictions, the articles obtained

are expected to be truly relevant, published in reputable journals, and able to provide empirical contributions in answering the research questions.

Literature Search and Study Selection

The identification and selection of studies in this narrative review followed a structured screening process to enhance transparency in reporting the literature search and selection procedures. Although this study adopted a narrative review approach rather than a systematic review methodology, a PRISMA style flow diagram was used to visually present the stages of article identification, screening, eligibility assessment, and inclusion.

The literature search was conducted through the ScienceDirect database and focused on publications related to Attention-Deficit/Hyperactivity Disorder (ADHD) in adults published between 2020 and 2025. The initial search yielded 2,630 records. Screening procedures were subsequently applied to retain research articles and open-access publications within the psychology subject area. Following eligibility assessment based on titles, abstracts, and full-text content, 95 articles were identified as relevant to the objectives of this review and were included for further analysis.

Articles were selected according to the following inclusion criteria: (1) published in ScienceDirect between 2020 and 2025, (2) written in English, (3) focused on ADHD in adult populations, and (4) contained information relevant to the research questions concerning symptom manifestations, assessment, diagnosis, or intervention strategies. Articles were excluded if they focused exclusively on children or adolescents, were not available in full text, or were not directly related to the objectives of this review.

Study Classification

In this research classification, articles selected in the initial stage were categorized based on keywords extracted from each article in alignment with the research questions (RQs), following the phrases used in the search strategy. This classification resulted in two categories: 1) Adults: articles that specifically discuss ADHD in the adult population; 2) Research in the Last 5 Years: articles published between 2020 and 2025, reflecting the latest and most relevant findings. With these criteria applied, the selected articles are ensured to focus on adults with ADHD and are grounded in the most current research, providing an up-to-date overview of symptoms, assessment, and intervention.

Search Strategy

The database search was conducted in August 2025. Relevant research results were obtained based on a search for articles with the keywords “Adult ADHD,” “ADHD Symptom”, “Detection” or “Assessment,” “Intervention” or “Treatment.”

Result

The identification and selection of studies in this review followed a structured screening process using the PRISMA flow diagram. The initial database search conducted on ScienceDirect within the

publication range of 2020 to 2025 yielded a total of 2,630 records. From this pool, screening was first applied to retain only research articles, reducing the number to 1,113 records. A subsequent filter for open access and open archive availability further narrowed the results to 472 reports, which were then assessed for eligibility based on the subject category of psychology, resulting in 95 records remaining for closer evaluation.

Following the eligibility assessment, records that did not specifically address the key themes of this review, namely "Adult ADHD," "ADHD Symptom," "Detection" or "Assessment," and "Intervention" or "Treatment," were excluded, removing an additional 82 records from consideration. After accounting for records removed prior to screening (n = 1,517), records excluded during screening (n = 641), and reports that could not be retrieved (n = 377), a final set of 13 studies met all inclusion criteria and were incorporated into the review. This rigorous multi-stage filtering process ensured that only studies directly relevant to the scope of the review were included, thereby strengthening the overall quality and focus of the evidence base presented. See Figure 1 and See Table 1

Figure 1

Stages of Literature Selection

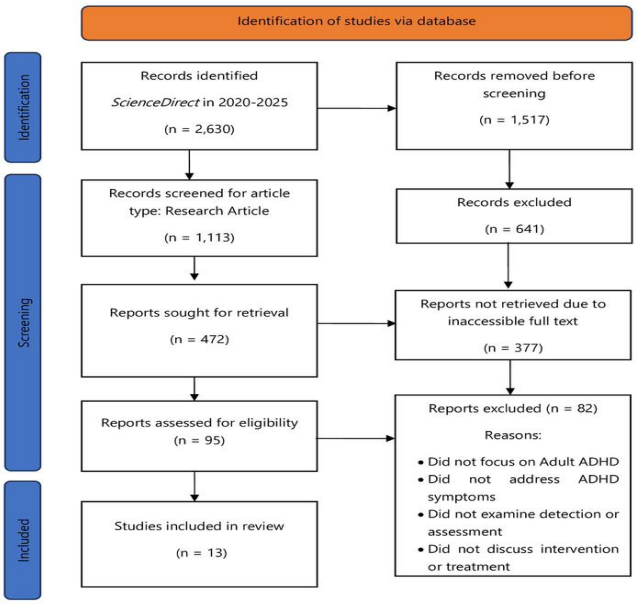


Table 1

Main Characteristic of The Studies Included in This Review

Study	Symptom	Assessment	Intervention	Outcome
de Vries et al. (2025)	Difficulty controlling emotions, decreased executive function, and difficulty in thinking processes.	Qualitative method using #ADHD on the TikTok app in the 'For You' discovery page.	This study does not specify the type of intervention recommended for individuals with ADHD. It only states that individuals diagnosed with ADHD require medical support.	This study focuses more on exploring the phenomenon of TikTok video content that discusses the characteristics of a person with ADHD. The majority of viewers (59.6%) identified themselves as having ADHD. Researchers recommend that healthcare providers and the general public obtain accurate information about ADHD.
Modesti et al. (2025)	Difficulties in regulating emotions, risk of problematic behavior, and cognitive dysfunction.	Adult ADHD Self-Report Scale Symptom (ASRS-v1.1) Checklist and DIVA-5 (Diagnostic Interview for ADHD in Adults).	Researchers explain that treatment for individuals with ADHD can involve multimodal treatment combining various interventions, such as pharmacotherapy, behavioral therapy, educational support, or other therapies.	Researchers recommend that the approach used to treat ADHD cases should integrate psychotherapy, social support, and pharmacological interventions. This study highlights the relationship between ADHD and the risk of antisocial behavior, alcohol use, and an increased risk of criminal behavior.

Table 1 (Continued)

Main characteristic of the studies included in this review

Study	Symptom	Assessment	Intervention	Outcome
Liu et al. (2024)	Emotional regulation problems, social media overuse, and attachment anxiety.	Adult ADHD Self-Report Scale Symptom (ASRS-v1.1) Checklist.	There is no explanation of what interventions can be provided to participants. However, researchers recommend that future studies explore the link between ADHD and social media addiction so that programs or interventions can be developed.	This study explores the relationship between ADHD symptoms and social media addiction. Researchers recommend that individuals with ADHD need to develop positive coping strategies to reduce negative symptoms such as low self-esteem, difficulty sleeping, and narcissism.
Tiego et al. (2023)	Decreased executive function and difficulties in self-regulation.	Adult ADHD Self-Report Screening Scale for DSM-5 (ASRS-5).	This study describes the Cognitive Impulsivity Suite (CIS), which has three main tasks: attention control, information gathering, and feedback monitoring.	The tasks in the Cognitive Impulsivity Suite (CIS) help researchers understand the different cognitive processes of individuals with ADHD. The three tasks account for nearly 16% of ADHD symptoms.

Table 1 (Continued)

Main characteristic of the studies included in this review

Study	Symptom	Assessment	Intervention	Outcome
Huynh et al. (2024)	Higher-level emotional issues, difficulties with peer relationships, and conduct behavior.	Adult ADHD Self-Report Scale Symptom (ASRS-v1.1) Checklist.	This study does not describe therapy to reduce ADHD symptoms. However, researchers suggest that medication therapy can reduce symptoms, improve quality of life, and reduce the risk of developing eating disorders compared to ADHD patients who do not receive treatment.	This study reveals that women are more likely to be diagnosed with ADHD in adulthood. The Adult ADHD Self-Report Scale Symptom (ASRS) can be considered a concise and user-friendly tool to help professionals detect the possibility of someone having ADHD.
Miyauchi et al. (2023)	Difficulties in attention and memory, hyperactivity, anxiety, impulsivity emotional lability, and self-concept issues.	Japanese version of Conners' Adult ADHD Rating Scales-Self Report (J-CAARS-S), the Observation Report (J-CAARS-O), and the ADHD Rating Scale IV (ADHD-RS).	Research participants were given long-term treatment in the form of a combination of pharmacotherapy and cognitive behavioral therapy (CBT).	In this study, participants were diagnosed with OCD with comorbid ADHD. The researchers recommend specific and relevant clinical assessments for further studies so that more effective interventions can be provided for individuals with OCD with comorbid ADHD.

Table 1 (Continued)

Main characteristic of the studies included in this review

Study	Symptom	Assessment	Intervention	Outcome
Problovski et al. (2021)	Issues in interpersonal relationships and difficulties in social interaction.	Connor's Adult ADHD Rating Scale (CAARS)	Researchers developed a computerized task to measure interpersonal synchrony (IS) that will be applied to individuals with ADHD.	The purpose of the study is to assess the ability of individuals diagnosed with ADHD to synchronize. These results indicate that dysfunctional patterns of interpersonal synchronization may be a cause of interpersonal difficulties in people with ADHD.
Aydin et al. (2024)	Inattention, impulsivity, and hyperactivity.	Adult ADHD Self-Report Scale Symptom (ASRS-v1.1) Checklist.	This study used computerized tasks, such as the hybrid flanker Go/NoGo task, stop-signal task, and Stroop task to assess inattention in participants.	The researchers explain that inhibitory control can be an inhibitor of ADHD symptoms, particularly inattention. Self-control issues are seen in people who have been diagnosed with ADHD but do not always appear in people with mild inattention symptoms.

Table 1 (Continued)

Main characteristic of the studies included in this review

Study	Symptom	Assessment	Intervention	Outcome
Mauriello et al. (2021)	Having problems related to social cognition (processing, storing, and applying information about other people in social situations).	Brain activity was measured using EEG (electroencephalography) and analyzed using microstate analysis.	This study does not provide direct clinical intervention recommendations. Its focus is on understanding brain mechanisms in adults with ADHD. However, this study can serve as a basis for developing interventions, such as cognitive or social training, as well as technology-based therapy.	Adults with ADHD have impairments in the brain when processing eye gaze, particularly in the attention and recognition stages. This can be considered a characteristic pattern of the ADHD brain in adults. Adults with ADHD can recognize basic faces normally, but the brain shows impairments in the attention and recognition stages of eye gaze.
Schippers et al. (2024)	Inattention, hyperactivity, and impulsivity.	Adult ADHD Self-Report Scale Symptom (ASRS-v1.1) Checklist	This study did not test direct interventions, but it did provide important implications for ADHD therapy, namely integrating a strengths-based approach into ADHD treatment and helping individuals with ADHD utilize their strengths for coping.	Individuals with ADHD traits possess certain strengths, and enhancing these strengths can provide a new perspective for ADHD management.

Table 1 (Continued)

Main characteristic of the studies included in this review

Study	Symptom	Assessment	Intervention	Outcome
Bejerot et al. (2022)	Motor coordination difficulties, academic difficulties, and social vulnerability.	Retrospective questionnaires related to childhood experiences, such as bullying victimization, bullying perpetration, physical education (PE) performance as motor skills and academic ability.	• Early motor skills & coordination training • Social intervention so that children do not become more vulnerable to bullying. • Education for teachers and peers to understand that "clumsiness" in children with ADHD is part of a neurological condition, not "abnormal."	Children with ADHD who have poor motor skills are more vulnerable to bullying because they appear "different" socially. The study was conducted on adults (current age), using a recall questionnaire, and the implication is the need for motor and social interventions to prevent victimization from an early age.
Zhang et al. (2024)	Inattention (difficulty focusing attention) and hyperactivity (hyperactivity or impulsivity)	Adult ADHD Self-Report Scale Symptom (ASRS-v1.1) Checklist	This study focuses on diagnosis or assessment and therefore does not specifically discuss clinical interventions. However, these findings indirectly suggest that brain biomarker data (PFC activation) could be used as a basis for determining whether ADHD patients need pharmacological intervention, cognitive-behavioral therapy, or cognitive-based training to improve attention control.	The brain condition of people with ADHD + GAD shows a unique activation pattern during inhibition tasks (GO/NOGO). Functional near-infrared spectroscopy (fNIRS) can help professionals distinguish between GAD patients and GAD patients with comorbid ADHD so that adult ADHD diagnoses can be more accurate and not overshadowed by anxiety symptoms.

Table 1 (Continued)
Main characteristic of the studies included in this review

Study	Symptom	Assessment	Intervention	Outcome
Tiego et al. (2023)	Inattention (difficulty focusing attention) and hyperactivity or impulsivity	Adult ADHD Self-Report Scale Symptom (ASRS-v1.1) Checklist	This study does not explicitly describe clinical interventions that can be applied because its focus is on measuring and understanding the cognitive mechanisms of adults with ADHD.	ADHD in adults can be understood through core cognitive mechanisms such as attention control, flexibility, and the ability to gather information before making decisions. ADHD traits are dimensional, meaning that individuals can experience symptoms of varying severity.

The findings from the synthesis above reveal that the spectrum of ADHD symptoms most commonly experienced by adults has typically already affected daily life, ranging from difficulties in regulating emotions and executive dysfunction to problems related to social interaction and motor coordination. Beyond the symptoms identified, the literature synthesis also found that the Adult ADHD Self-Report Scale (ASRS-v1.1) serves as the primary assessment tool, suggesting that this instrument is well-established and consistently used across studies. Notably, several studies also explored more objective, technology-based approaches, such as the use of EEG to measure brain activity in processing eye contact and fNIRS to distinguish ADHD from symptoms that may resemble those of generalized anxiety disorder (GAD), which frequently overlap.

On the other hand, findings regarding intervention across the majority of the evaluated studies did not explicitly test a single approach but instead largely offered findings-based recommendations. Several studies emphasized the importance of a multimodal approach combining pharmacotherapy, psychotherapy, and social support. Additionally, some research offered a somewhat different perspective by highlighting that the strengths inherent in each individual with ADHD can be developed and incorporated as part of a broader symptom management strategy. Other findings also indicated that children with ADHD who experience motor difficulties tend to be more vulnerable to bullying, making early motor and social interventions something that cannot be overlooked, as the consequences may extend well into the future.

Discussion

Symptom Patterns of ADHD in Adult Populations

Core Attention Deficits

The literature reviewed in this study indicates that attention-related difficulties remain one of the most prominent characteristics of ADHD in adulthood (de Vries et al., 2025; Zhang et al., 2024). Although ADHD is commonly associated with childhood symptoms, the findings suggest that attentional impairments frequently persist into adulthood and continue to affect daily functioning. Adults with ADHD often report difficulties sustaining attention, maintaining concentration during prolonged activities, and filtering out irrelevant stimuli. These challenges may interfere with their ability to perform effectively across academic, occupational, and personal settings.

Several studies identified organizational difficulties and problems with task completion as common manifestations of inattention in adults with ADHD (de Vries et al., 2025; Zhang et al., 2024). Individuals may struggle to prioritize tasks, manage schedules, and meet deadlines consistently. Such difficulties can contribute to reduced productivity and impair performance in educational and professional environments. These findings suggest that attention deficits in adulthood extend beyond simple distractibility and can significantly affect daily responsibilities and long-term functioning.

Hyperactivity, Impulsivity, and Executive Function Difficulties

In addition to inattention, adults with ADHD continue to experience symptoms related to hyperactivity and impulsivity, although their presentation may differ from those typically observed in childhood (Tiego et al., 2023; Zhang et al., 2024). Rather than displaying overt motor hyperactivity, adults often report feelings of internal restlessness, difficulty relaxing, and a persistent need to remain engaged in activities. Impulsivity may manifest through hasty decision-making, difficulties delaying gratification, and challenges regulating behavior in social and occupational contexts.

The reviewed studies also highlighted substantial impairments in executive functioning among adults with ADHD (de Vries et al., 2025; Tiego et al., 2023). Executive functions play a critical role in planning, organizing, problem-solving, monitoring behavior, and adapting to changing demands. Deficits in these areas may make it difficult for individuals to manage complex tasks and achieve long-term goals effectively. Executive dysfunction may also interact with symptoms of inattention and impulsivity, creating cumulative difficulties across multiple areas of functioning. Consequently, executive functioning impairments appear to represent a central mechanism underlying many of the challenges experienced by adults with ADHD.

Emotional and Social Functioning Difficulties

Beyond cognitive symptoms, several studies emphasized the presence of emotional and social functioning difficulties among adults with ADHD (Mauriello et al., 2021; Miyauchi et al., 2023; Modesti et al., 2025; Problovski et al., 2021). Emotional dysregulation emerged as a recurring finding, with individuals frequently experiencing difficulties managing frustration, controlling emotional reactions,

and maintaining emotional stability. These difficulties may increase vulnerability to interpersonal conflicts and contribute to stress in daily life.

The literature also identified impairments in social cognition and interpersonal functioning. Adults with ADHD may experience difficulties interpreting social cues, understanding others' perspectives, and maintaining stable relationships (Mauriello et al., 2021; Miyauchi et al., 2023). Such challenges can affect social integration and relationship satisfaction. Taken together, these findings suggest that ADHD in adulthood should not be understood solely as a disorder of attention. Rather, it represents a multidimensional condition involving cognitive, emotional, behavioral, and social difficulties that collectively influence overall functioning and quality of life.

Assessment and Identification of ADHD in Adults

Diagnostic Challenges in Adult ADHD

The reviewed studies indicate that identifying ADHD in adults remains a complex process due to the heterogeneous nature of symptom presentation and the substantial overlap between ADHD symptoms and other psychological conditions (Aydin et al., 2024; Liu et al., 2024; Modesti et al., 2025; Zhang et al., 2024). Symptoms such as inattention, impulsivity, emotional dysregulation, and executive dysfunction are not unique to ADHD and may also be observed in mood disorders, anxiety disorders, and other psychiatric conditions. This overlap can contribute to diagnostic uncertainty and may increase the risk of underdiagnosis or misdiagnosis. Consequently, accurate identification of ADHD in adulthood requires careful evaluation of symptom patterns, functional impairment, and developmental history.

Self-Report Screening Instruments

Among the assessment methods identified in this review, self-report screening instruments were the most frequently utilized approaches. The Adult ADHD Self-Report Scale (ASRS), including both the ASRS-v1.1 and ASRS-5 versions, was commonly used to assess symptoms related to attention difficulties, impulsivity, restlessness, and task completion (Aydin et al., 2024; Liu et al., 2024; Modesti et al., 2025; Zhang et al., 2024). The widespread use of these instruments suggests that they provide a practical and accessible method for the initial identification of ADHD symptoms in both clinical and research settings. However, the reviewed evidence also indicates that screening measures alone may not be sufficient for establishing a definitive diagnosis, particularly given the symptom overlap between ADHD and other mental health conditions.

Clinical Interviews and Comprehensive Assessment

Several studies emphasized the importance of comprehensive clinical assessment in the diagnostic process. Structured interviews, particularly the Diagnostic Interview for ADHD in Adults (DIVA-5), were used to obtain detailed information regarding symptom history, severity, age of onset, and functional impairment across different life domains (Mauriello et al., 2021). Compared with self-report measures, structured interviews allow clinicians to evaluate symptoms within a broader developmental and contextual framework, thereby improving diagnostic accuracy. Additional

assessment tools, such as the Conners' Adult ADHD Rating Scale (CAARS) and the Cognitive Impulsivity Suite (CIS), were also employed to provide complementary information regarding behavioral characteristics and impulsivity-related processes (Mauriello et al., 2021; Tiego et al., 2023). These findings suggest that combining multiple assessment methods may enhance the reliability and validity of ADHD identification in adults.

Emerging Objective Assessment Approaches

The review also identified growing interest in objective and neurophysiological assessment approaches. Several studies examined the potential use of event-related potentials (ERP), electroencephalography (EEG), and functional near-infrared spectroscopy (fNIRS) to investigate neural mechanisms associated with attention, inhibitory control, and executive functioning (Problovski et al., 2021; Zhang et al., 2024). These approaches may provide valuable insights into the neurobiological characteristics of ADHD and contribute to a more comprehensive understanding of the disorder. Nevertheless, current evidence suggests that these techniques should be considered complementary tools rather than standalone diagnostic methods, as their clinical applicability remains under development.

The Role of Developmental History in Diagnosis

Another important finding concerns the role of developmental history in the assessment of adult ADHD. Evidence from longitudinal research indicates that childhood experiences, including academic difficulties, motor development challenges, and social functioning problems, may provide important contextual information for understanding symptom persistence into adulthood (Bejerot et al., 2022). Given that ADHD is classified as a neurodevelopmental disorder, retrospective evaluation of childhood symptoms remains a critical component of the diagnostic process. Incorporating developmental history may therefore help clinicians differentiate ADHD from other conditions with similar symptom presentations and improve diagnostic confidence.

Overall, the findings support a multimodal assessment approach that integrates self-report screening instruments, structured clinical interviews, developmental history, and emerging objective assessment techniques. Such an approach appears essential for improving diagnostic accuracy and addressing the complexity of ADHD symptom presentation in adult populations.

Evidence-Based Interventions for Adults with ADHD

Pharmacological Interventions

The reviewed literature consistently identified pharmacological treatment as a central component of ADHD management in adulthood (Miyauchi et al., 2023; Modesti et al., 2025). Medication remains one of the most widely used interventions for reducing core symptoms, including inattention, hyperactivity, and impulsivity. The evidence suggests that pharmacological treatment can improve symptom control and support daily functioning, particularly when difficulties with attention regulation and behavioral inhibition significantly interfere with occupational, academic, or social

responsibilities. However, symptom reduction alone may not fully address the broader functional challenges experienced by adults with ADHD, highlighting the need for complementary intervention approaches.

Psychological and Psychoeducational Interventions

In addition to medication, psychological and psychoeducational interventions were frequently identified as important components of comprehensive ADHD treatment (Miyauchi et al., 2023; Modesti et al., 2025). Cognitive-behavioral approaches were commonly discussed as strategies for helping individuals develop adaptive coping skills, improve self-monitoring, and enhance problem-solving abilities. Psychoeducational interventions may also increase individuals' understanding of ADHD and promote more effective self-management strategies. The reviewed evidence suggests that these approaches can address functional impairments that often persist despite improvements in core symptoms, particularly in areas such as organization, time management, emotional regulation, and goal-directed behavior.

Technology-Based Interventions

Emerging evidence also highlights the growing role of technology-based interventions in supporting adults with ADHD. Several studies reported the use of computerized cognitive training programs and digital tasks designed to improve attention regulation, inhibitory control, and social functioning (Aydin et al., 2024; Problovski et al., 2021). These interventions reflect increasing interest in utilizing technology to provide accessible and scalable support for individuals with ADHD. Although the findings appear promising, the current evidence remains limited, and further research is needed to determine the long-term effectiveness and clinical applicability of these approaches.

Strength-Based and Long-Term Support Approaches

Beyond symptom-focused interventions, the reviewed studies emphasized the potential value of strength-based approaches that recognize personal abilities, adaptive capacities, and individual strengths (Schippers et al., 2024). Rather than focusing exclusively on deficits, these approaches aim to foster self-efficacy, resilience, and positive self-perceptions, which may contribute to improved psychological well-being and functional outcomes. Furthermore, longitudinal evidence suggests that interventions targeting developmental, social, and adaptive functioning may have lasting benefits across the lifespan (Bejerot et al., 2022). These findings support the importance of considering long-term adjustment and quality of life as key treatment goals.

Overall, the literature supports a multimodal intervention framework that integrates pharmacological, psychological, educational, technological, and strength-based approaches. Given the complex and multidimensional nature of ADHD in adulthood, interventions that combine symptom management with functional and psychosocial support appear to offer the greatest potential for improving long-term outcomes and overall quality of life.

Limitation

Several limitations should be considered when interpreting the findings of this review. As the search was confined to ScienceDirect with open access filters applied, relevant studies from databases such as PubMed or PsycINFO may not have been captured. Similarly, limiting the review to publications between 2020 and 2025 prioritizes recent evidence but risks omitting earlier foundational literature. Given that the review focuses exclusively on adults with ADHD, caution is advised when drawing comparisons with findings from younger populations. Social media content, despite its growing relevance to ADHD discourse, was excluded due to concerns over reliability and interpretive bias.

None of the included studies were conducted within the Indonesian context, which limits the applicability of the findings to the local population. Indonesia presents a distinct landscape for ADHD research, shaped by limited psychiatric resources, low public awareness of neurodevelopmental disorders, and unique sociocultural factors that may affect how symptoms are expressed and recognized. These contextual differences suggest that the findings of this review may not fully reflect the clinical realities faced by adults with ADHD in Indonesia, underscoring the need for locally grounded research in this area.

Conclusion

This narrative review shows that Attention-Deficit/Hyperactivity Disorder (ADHD) in adults is not only characterized by primary symptoms such as inattention, hyperactivity, and impulsivity, but is also associated with impaired executive function, emotional regulation, and social cognition. This condition has a significant impact on daily life, including decreased academic or work performance, difficulties in interpersonal relationships, and an increased risk of comorbidities, such as mood disorders, anxiety, addictive behaviors, and other behavioral problems. Instruments commonly used to detect ADHD in adults, such as ASRS, DIVA-5, CARR, and new computerized and neurophysiological approaches, still require confirmation through comprehensive clinical evaluation to establish an ADHD diagnosis.

In addition, this study also found that a multimodal approach combining pharmacotherapy with psychosocial strategies, such as cognitive-behavioral therapy, group therapy, psychoeducation, physical activity, and social support, can be an effective strategy in improving the quality of life of adults with ADHD. Early preventive interventions, including motor training and physical activities such as sports, also have the potential to be long-term protective factors. Therefore, further longitudinal and contextual research is needed to test the long-term effectiveness of these interventions and to encourage increased awareness, early assessment, and openness among individuals with ADHD in seeking professional support so that they can have a more optimal quality of life.

Implications

This review highlights the importance of a comprehensive and biopsychosocial approach in understanding and managing adult ADHD. Clinically, accurate diagnosis requires the integration of screening tools with thorough clinical assessment and developmental history. Interventions should

combine pharmacological and psychosocial strategies to address the multidimensional impact of ADHD. From a research perspective, further longitudinal studies are needed to examine long-term outcomes, while increased public awareness and access to services are essential to support early assessment and improve quality of life in adults with ADHD.

Recommendation

Based on the results of this review, future studies are encouraged to use a wider range of databases and include a broader time span so that the evidence on adult ADHD becomes more comprehensive and balanced. Research should also examine the long-term impact of multimodal interventions, particularly the combination of pharmacotherapy, cognitive-behavioral strategies, and technology-based approaches, to understand which methods offer the most sustainable benefits. In addition, the development of more sensitive and culturally appropriate assessment tools is needed to improve diagnostic accuracy in adult populations. Strengthening public awareness, reducing stigma, and providing training for professionals are also essential steps to help adults with ADHD access proper support and treatment.

Declaration

Funding

The authors received no financial support for the research, manuscript writing, and/or publication of this article.

Authors' Contributions

FA contributed to the design and development of the research framework, including the formulation of research questions, methodological approach, and overall structure of the study. DF contributed by synthesizing the research findings and providing critical insights during the analysis process.

Conflict of Interest

The authors declare that there is no conflict of interest in this research, manuscript writing, or publication.

Declaration of Generative AI in Scientific Writing

The authors declares that Grammarly were used solely to provide suggestions for language translation during the preparation of this manuscript. The use of AI did not influence the analytical process, interpretation of findings, or the overall scientific content of the study. The authors takes full responsibility for the accuracy and integrity of the final manuscript.

Orcid ID

Farra Anisa Rahmania https://orcid.org/0000-0003-4424-1386
Dwi Fadhila https://orcid.org/0009-0006-8365-8204

References

Aydin, T., Arabaci, G., Kilintari, M., Taylor, J., & Parris, B. A. (2024). Inhibitory control ability moderates the relationship between internet addiction and inattention in ADHD in a community sample. *Personality and Individual Differences*, *230*, 112804. https://doi.org/10.1016/j.paid.2024.112804

Bejerot, S., Ståtenhag, L., & Glans, M. R. (2022). Below average motor skills predict victimization from childhood bullies: A study of adults with ADHD. *Journal of Psychiatric Research*, *153*, 269–275. https://doi.org/10.1016/j.jpsychires.2022.07.019

de Vries, W., Batstra, L., & van Assen, A. (2025). Exploring concept creep: Youth's portrayal of ADHD on TikTok. *SSM-Mental Health*, 100489. https://doi.org/10.1016/j.ssmmh.2025.100489

Faraone, S. V., Banaschewski, T., Coghill, D., Zheng, Y., Biederman, J., Bellgrove, M. A., & Wang, Y. (2021). The world federation of ADHD international consensus statement: 208 evidence-based conclusions about the disorder. *Neuroscience & Biobehavioral Reviews*, *128*, 789–818. https://doi.org/10.1016/j.neubiorev.2021.01.022

Huynh, G., Masood, S., Mohsin, H., & Daniyan, A. (2024). The impact of late ADHD diagnosis on mental health outcomes in females. *Social Sciences & Humanities Open*, *10*, 100977. https://doi.org/10.1016/j.ssaho.2024.100977

Liu, T. Y., Ko, W. T., Griffiths, M. D., Pakpour, A. H., Üztemur, S., Ahorsu, D. K., & Lin, C. Y. (2024). The associations between levels of inattention/hyperactivity and social media addiction among young adults: The mediating role of emotional regulation strategies in self-blame and blaming others. *Acta Psychologica*, *251*, 104338. https://doi.org/10.1016/j.actpsy.2024.104338

Lovett, B. J., & Harrison, A. G. (2021). Assessing adult ADHD: New research and perspectives. *Journal of Clinical and Experimental Neuropsychology*, *43*(4), 333–339. https://doi.org/10.1080/13803395.2021.1950640

Mauriello, C., Pham, E., Kumar, S., Piguet, C., Deiber, M. P., Aubry, J. M., & Berchio, C. (2021). Dysfunctional temporal stages of eye-gaze perception in adults with ADHD: A high-density EEG study. *Biological Psychology*, *17*, 1–11. https://doi.org/10.1101/2021.10.14.464365

Miyauchi, M., Matsuura, N., Mukai, K., Hashimoto, T., Ogino, S., Yamanishi, K., & Matsunaga, H. (2023). A prospective investigation of impacts of comorbid attention deficit hyperactivity disorder (ADHD) on clinical features and long-term treatment response in adult patients with obsessive-compulsive disorder (OCD). *Comprehensive Psychiatry*, *125*, 152401. https://doi.org/10.1016/j.comppsych.2023.152401

Modesti, M. N., Gubbini, S., De Rossi, P., Manzi, A., Nicolò, G., Adriani, B., & Ferracuti, S. (2025). ADHD in adults and criminal behavior: The role of psychiatric comorbidities and clinical and sociodemographic factors in a clinical sample. *International Journal of Law and Psychiatry*, *101*, 102088. https://doi.org/10.1016/j.ijlp.2025.102088

Murtani, B. J., Wibowo, J. A., Liu, C. A., Goey, M. R., Harsono, K., Mardani, A. A. P., & Wiguna, T. (2020). Knowledge/understanding, perception and attitude towards attention-deficit/hyperactivity

disorder (ADHD) among community members and healthcare professionals in Indonesia. *Asian Journal of Psychiatry*, *48*, 101912. https://doi.org/10.1016/j.ajp.2019.101912

Problovski, H. Z. G., Lavi, D., Yozevitch, R., Sherman, M., Hagay, Y., & Dahan, A. (2021). Impairments of interpersonal synchrony evident in attention deficit hyperactivity disorder (ADHD). *Acta Psychologica*, *212*, 103210. https://doi.org/10.1016/j.actpsy.2020.103210

Riglin, L., Wootton, R. E., Livingston, L. A., Agnew-Blais, J., Arseneault, L., Blakey, R., & Thapar, A. (2022). "Late-onset" ADHD symptoms in young adulthood: Is this ADHD? *Journal of Attention Disorders*, *26*(10), 1271–1282. https://doi.org/10.1177/10870547211066486

Schippers, L. M., Greven, C. U., & Hoogman, M. (2024). Associations between ADHD traits and self-reported strengths in the general population. *Comprehensive Psychiatry*, *130*, 152461. https://doi.org/10.1016/j.comppsych.2024.152461

Sibley, M. H., Rohde, L. A., Swanson, J. M., Hechtman, L. T., Molina, B. S., Mitchell, J. T., Arnold, L. E., Caye, A., Kennedy, T. M., Roy, A., & Stehli, A. a. (2018). Late-onset ADHD reconsidered with comprehensive repeated assessments between ages 10 and 25. *American Journal of Psychiatry*, *175*(2), 140–149. https://doi.org/10.1176/appi.ajp.2017.17030298

Sodano, S. M., Tamulonis, J. P., Fabiano, G. A., Caserta, A. M., Hulme, K. F., Hulme, K. L., & Tronci, F. (2021). Interpersonal problems of young adults with and without attention-deficit/hyperactivity disorder. *Journal of Attention Disorders*, *25*(4), 562–571. https://doi.org/10.1177/108705471882172

Song, P., Zha, M., Yang, Q., Zhang, Y., Li, X., & Rudan, I. (2021). The prevalence of adult attention-deficit hyperactivity disorder: A global systematic review and meta-analysis. *Journal of Global Health*, *11*, 04009. https://doi.org/10.7189/jogh.11.04009

Taylor, L. E., Kaplan-Kahn, E. A., Lighthall, R. A., & Antshel, K. M. (2022). Adult-onset ADHD: A critical analysis and alternative explanations. *Child Psychiatry & Human Development*, *53*(4), 635–653. https://doi.org/10.1007/s10578-021-01159-w

Tiego, J., Verdejo-Garcia, A., Anderson, A., Koutoulogenis, J., & Bellgrove, M. A. (2023). Mechanisms of cognitive disinhibition explain individual differences in adult attention deficit hyperactivity disorder traits. *Cortex*, *167*, 178–196. https://doi.org/10.1016/j.cortex.2023.06.013

Varrasi, S., Boccaccio, F. M., Guerrera, C. S., Platania, G. A., Pirrone, C., & Castellano, S. (2022). Schooling and occupational outcomes in adults with ADHD: predictors of success and support strategies for effective learning. *Education Sciences*, *13*(1), 37. https://doi.org/10.3390/educsci13010037

Vos, M., & Hartman, C. A. (2022). The decreasing prevalence of ADHD across the adult lifespan confirmed. *Journal of Global Health*, *12*, 03024. https://doi.org/10.7189/jogh.12.03024

Zhang, Y., Feng, Y., Liu, L., Jiang, G., & Wang, M. (2024). Abnormal prefrontal cortical activation during the GO/NOGO and verbal fluency tasks in adult patients with comorbid generalized anxiety disorder and attention-deficit/hyperactivity disorder: An fNIRS study. *Journal of Psychiatric Research*, *172*, 281–290. https://doi.org/10.1016/j.jpsychires.2024.02.053