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Review Article

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A Systematic Review of the Comparative Efficacy and Safety of Atomoxetine and Methylphenidate in the Treatment of Adults with ADHD

Maria Sitko[1], Dominika Stolarczyk[2], Aleksandra Bąk[3], Katarzyna Agopsowicz[4], Anna Bieniasz[5], Anna Zdziebło[6], Katarzyna Zdziebło[7], Michalina Piwowar[8], Katarzyna Blicharz[9], Martyna Biernacka[10]

[1]Student, Jagiellonian University Medical College, ul. Świętej Anny 12, 31-008 Kraków, Poland; [2]Student, Jagiellonian University Medical College, ul. Świętej Anny 12, 31-008 Kraków, Poland; [3]Student, Jagiellonian University Medical College, ul. Świętej Anny 12, 31-008 Kraków, Poland; [4]Katarzyna Agopsowicz: Medical Dentistry Doctor, Medical University of Warsaw, Faculty of Dentistry, Żwirki i Wigury 61, 02-091 Warszawa, Poland; [5]Student, Jagiellonian University Medical College, ul. Świętej Anny 12, 31-008 Kraków, Poland; [6]Student, Medical University of Rzeszów, Faculty of Medicine, al. mjr Wacława Kopisto 2a, 35-315 Rzeszów, Poland; [7]Medical Doctor, Specialist Hospital of Edmund Biernacki in Mielec, ul. Żeromskiego 22, 39-300 Mielec, Poland; [8]Student, Medical University of Silesia, Faculty of Medical Sciences in Zabrze, plac Traugutta Street 2, 41-800 Zabrze, Poland; [9]Student, Medical University of Silesia, Faculty of Medical Sciences in Zabrze, plac Traugutta Street 2, 41-800 Zabrze, Poland; [10]Student, Medical University of Warsaw, ul. Żwirki i Wigury 61, 02-091 Warszawa, Poland.

ABSTRACT

Attention-deficit/hyperactivity disorder (ADHD) is a common mental disorder caused by abnormal regulation of noradrenergic and dopaminergic neurotransmission. In some patients, symptoms persist throughout life, making each area of daily living challenging and impairing overall functioning. In addition to psychotherapy, treatment includes pharmacotherapy in the form of psychostimulants (amphetamine and methylphenidate) and non-stimulants (atomoxetine). The function of the drugs is to improve neurotransmission and reduce symptoms. The purpose of this article is to compare the efficacy, tolerability and safety of methylphenidate and atomoxetine for adult ADHD patients. A systematic literature search was performed using databases such as PubMed, PsycINFO, and Google Scholar. 31 clinical trials were included, 10 concerned the effect of methylphenidate, 8 the atomoxetine and the remaining studies effectiveness of both of them. A comparative analysis of the effects of methylphenidate and atomoxetine indicates their effectiveness in reducing symptoms among adults with ADHD. Atomoxetine was shown to be superior in reducing hyperkinetic symptoms and in patients with severe symptoms. Both drugs are well tolerated and safe to use.

Key Words: ADHD, methylphenidate (MPH), Atomoxetine, Adults, Side effects, Effectiveness, Psychostimulants, Non-stimulant medication

INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental disorder globally prevalent with a frequency of 8.0% in children and adolescents.

The prevalence estimate is twice higher in boys (10 %) compared to girls (5 %). [1] Up to 60% of children with ADHD will continue to experience symptoms into adulthood. Which gives a prevalence rate of almost 5% in the adult population. Adults with untreated or undiagnosed ADHD may struggle with multiple aspects of daily living such as employment, relationships, and financial stability.

ADHD is treated by long-acting psychostimulants approved by the Food and Drug Administration (FDA). The treatment uses psychostimulants as first-line drugs and non-stimulant drugs (Atomoxetine) in the second line. There are two commonly used stimulants - methylphenidate (MPH) (Focalin, Focalin XR; Concerta) and amphetamines (AMP) (Adderall XR and Vyvanse). [2]

The exact mechanism of methylphenidate (MPH) is unclear, but it has been shown to act as a norepinephrine and dopamine reuptake inhibitor (NDRI) and has an impact on alpha-1 adrenergic receptor activity. There is a dose-related effect of psychostimulants on receptor stimulation, where higher doses are shown to cause locomotor-activating effects and cognition impaired. In contrast, low doses are found to selectively activate norepinephrine and dopamine neurotransmission within an area of the brain thought to play a prominent

Corresponding Author:
Katarzyna Agopsowicz, Medical Dentistry Doctor, Medical University of Warsaw, Faculty of dentistry, Żwirki i Wigury 61, 02-091 Warszawa, Poland; Email: katarzyna.agopsowicz@gmail.com; https://orcid.org/0009-0006-3609-6472

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role in ADHD pathophysiology, thereby improving clinical efficacy and preventing side effects. The lower doses used to treat ADHD are not associated with the locomotor-activating effects associated with higher doses and instead reduce movement, impulsivity, and increase cognitive function including sustained attention and working memory. [3]

The only non-stimulant approved by the FDA for the treatment of ADHD in adults is Atomoxetine (Strattera) which is a selective, presynaptic, norepinephrine reuptake inhibitor known as a NET inhibitor. It lacks the abuse potential of stimulants and can be used as a substitute for patients addicted to psychostimulants (methamphetamine - METH). [4,5]

It might be an alternative for those who cannot tolerate or do not improve under psychostimulant treatment.

METHODOLOGY

A systematic literature search was conducted across three databases: PubMed, PsycINFO, and Google Scholar, using keywords such as "ADHD," "Attention-deficit/hyperactivity disorder," "Atomoxetine," "methylphenidate," and "adults." The search was limited to studies published in English between 2013 and 2025 that investigated the effects of methylphenidate and atomoxetine on ADHD in adult populations.

Initially, 244 records were identified (PubMed: 123, PsycINFO: 67, Google Scholar: 54). After removing 47 duplicates, 197 unique records remained for title and abstract screening. Based on relevance to the research question, 142 records were excluded at this stage. The full texts of the remaining 55 articles were assessed for eligibility against predefined inclusion criteria, which considered methodological quality, participant characteristics, treatment protocols, and outcome measures. Following this assessment, 24 studies were excluded due to reasons such as inappropriate population or insufficient data.

Ultimately, 31 clinical trials met all inclusion criteria and were included in the review. Among these, 10 studies investigated methylphenidate, 8 focused on atomoxetine, and the remaining studies evaluated both medications. The selected studies provided sufficient data to compare the efficacy of methylphenidate and atomoxetine in reducing ADHD symptoms in adults.

Risk of bias in the included studies was assessed using the Cochrane Risk of Bias Tool, which enabled a systematic evaluation of methodological quality and potential sources of bias.

RESULTS

Methylphenidate and ADHD

There have been a number of studies showing the effectiveness of methylphenidate in ADHD among adults. Both a several-week study. [6,7] and a multi-year study indicate that methylphenidate is superior to placebo. [8,9,10]

The drug's efficacy was measured using the CAARS scale, which takes into account the memory problems, hyperactivity/restlessness, impulsivity/emotional lability, problems with self-concept, inattention symptoms such as fails to give close attention to details, difficulty sustaining attention, does not seem to listen when spoken to directly; the PERMP (Permanent Product Measure of Performance) scale which is a 10-minute math test used to assess attention in individuals with ADHD, and ADHD-Rating Scale-5 (RS) total score.

The psychopathology of ADHD disorders is based on interactions between task-positive, task-related networks, and task-negative, which involve processing outside the task. Abnormalities in this relationship lead to symptoms such as impulsivity and inattention. In brain anatomy, the key area for these disorders is the posterior cingulate cortex associated with the default mode network (DMN). The DMN is mainly active during rest and weakened when engaging in internal and external orientation. Studies show that abnormalities in the DMN result in task-positive impairment, which in turn interrupts attention and increases "wandering thoughts" during task performance. Positive influences on the influence and interactions between the networks include increased availability of dopamine, which can be achieved with the use of the dopamine-norepinephrine reuptake inhibitor methylphenidate. This substance further increases the suppression of the DMN network during task performance, and thus improves attention. [10]

Methylphenidate can be used in monotherapy or in combination with other drugs. Adding memantine to methylphenidate improves Behaviour Rating Inventory of Executive Functions-Adult Inhibition and Self-Monitor subscales. [11] The combination with L-Methylfolate does not increase the effectiveness of treatment. [12]

The effects of methylphenidate do not persist after the end of therapy, and after a week of discontinuing use, there are no visible therapeutic effects or effects of the treatment. [13]

The medication is well tolerated but 10% of participants getting methylphenidate (PRC-063) suffer from headache, insomnia and decreased appetite. [14]

It is a drug with addictive potential; the Drug Enforcement Administration (DEA) has classified this medication as a Schedule II substance under the Controlled Substance Act (CSA). However, novel prodrug of d-methylphenidate (d-MPH) - Serdexmethylphenidate (SDX) chloride (Cl) has less addictive potential regardless of the form of administration - oral, intranasal or intravenous. [15]

Cataldo et al. in a randomized, double blind, placebo-controlled parallel-group study examined the effects of extend-

ed-release methylphenidate on sleep disorders. Based on completion of sleep questionnaires, there were no significant statistical differences in sleep disorders between the two groups. Disorders that were considered included reduced sleep efficiency, delayed falling asleep. Among patients who awoke during the night, the number of awakenings and the duration of night time wakefulness were similar in adult patients receiving PRC-063 or placebo. [16]

Adults with ADHD have an increased risk of nicotine addiction. The process of quitting smoking is difficult and can lead to weight gain. In an 11-week, double-blind, placebo-controlled, multisite trial, Heffner et al. compared OROS-MPH with placebo in adults with ADHD who were receiving transdermal nicotine replacement therapy for smoking cessation. The group receiving the psychostimulant showed reduced hunger and weight loss compared to their pre-study weight, whereas the placebo group experienced weight gain. The results were statistically significant and persisted after the study ended. [17]

Atomoxetine and ADHD

Atomoxetine is currently being used as a second-line treatment for ADHD. The effect depends on the severity of symptoms and is visible after 2 weeks of use. [18] Patients with baseline severe executive function (EF) changes are particularly more susceptible to treatment than patients with mild or modest symptoms. In addition, the region of origin influences the efficacy of treatment in European and North American patients showed greater improvement than in South American patients. [19]

Based on a study by F.W. Reimherr et al. based on the WRAADDS scale, Atomoxetine reduces the key features of the disease such as disorganization difficulties, hyperactivity/restlessness impulsivity and also the three emotional dysregulation symptoms which are presented in 1 in 3 patients with ADHD. [20]

Improvements in patient functioning persist during atomoxetine use as well as up to 6 months after discontinuation, and are more sustained the less severe the level of changes in executive functions. [21] The level of a patient's response to atomoxetine can provide an indication to the clinician of the severity of the disease. [21]

Atomoxetine is a well-tolerated drug and individually selected doses and dosing times achieve optimal therapeutic effects .[23,24] but during Atomoxetine treatment may appear common treatment-emergent adverse events (TEAEs) such as nausea, headache, dizziness, nasopharyngitis, fatigue, insomnia, and somnolence, sexual dysfunction in male. The majority of them were presented within the first week of therapy onset. Side effects are transient and resolve mostly within a few weeks. The longer resolution times of decreased appetite, hyperhidrosis, and dry mouth may be due to the peripheral noradrenergic effect of atomoxetine on the sympathetic and/or parasympathetic nervous systems. One possible explanation for the more transient nature of the other events is that they might be related to atomoxetine's central effects on the brain. [25] They resolve more quickly in patients taking atomoxetine once daily compared to patients taking twice daily. [26] Sexual male dysfunction occurred in about 2.5% of men participating in the study within 2 weeks of onset of using.

Table 1: Summary of efficacy, assessment tools, adverse events, and key notes of methylphenidate and atomoxetine in adult ADHD treatment

Medication	Efficacy	Assessment Measures	Adverse Events	Notes	References
Methylphenidate	Effective in adults with ADHD; superior to placebo in several-week and multi-year studies	CAARS, PERMP, ADHD-Rating Scale-5	Headache, insomnia, decreased appetite in ~10% of participants	Addictive potential; novel prodrug Serdexmethylphenidate has lower addictive potential	6–10, 14–16
	Improves executive functions when combined with memantine	Behavior Rating Inventory of Executive Functions-Adult	No significant impact on sleep disorders	Effects do not persist after discontinuation	11, 13
	Supports weight control during smoking cessation in adults with ADHD	–	–	–	17
Atomoxetine	Second-line treatment for ADHD; effects seen after two weeks	WRAADDS scale	Nausea, headache, dizziness, fatigue, insomnia, somnolence, male sexual dysfunction	Side effects mostly transient and resolve within weeks; once-daily dosing reduces side effects	18–20, 23–25
	More effective in patients with severe executive function impairments	–	–	Improvements can persist up to six months after discontinuation	21–22

DISCUSSION

So far, it has compared the effects and side effects of methylphenidate and atomoxetine versus placebo. They showed that both drugs are effective in the treatment of ADHD and provide treatment control of the basic symptoms of the disease, especially executive function (EF).

However, after discontinuation of therapy, the positive effects of Atomoxetine persist for up to 6 months while the use of methylphenidate has no lasting effects. Both drugs are well tolerated by patients and cause similar side effects such as headaches or nausea and vomiting, loss of appetite. Some studies also indicate sleep problems after methylphenidate use, but a study by Cataldo et al. found no significant statistical difference between sleep disturbances in methylphenidate-treated patients and placebo patients. The use of Atomoxetine can lead to sexual dysfunction in men (e.g. erectile dysfunction); the cause of these side effects may be the noradrenergic effect of atomoxetine.

Particular groups of patients in whom the use of methylphenidate has additional benefits are patients quitting smoking; methylphenidate helps to maintain a healthy body weight. No similar studies have been conducted for atomoxetine.

Studies directly comparing the effects of the two drugs have also been conducted. Based on these, both atomoxetine and methylphenidate were shown to be equally effective in their use in the improvement of ADHD core symptoms, social function, and quality of life. Atomoxetine was superior to IR-methylphenidate in the reduction of hyperactive/impulsive symptoms and overall ADHD severity. [27] Analogous conclusions were obtained by the same author in 2016 comparing the effects of both drugs to the fluctuations in an individual's response time across multiple trials of the same task - Intra-individual variability in reaction time (RT IIV). [27] Both drug improve wide range of executive functions. IR-methylphenidate was associated with improvement in Spatial working memory (SWM), attentional set shifting (IED) and spatial planning/problem solving (SOC). Atomoxetine was associated with improvement in SSP, SWM, sustained attention (RVIP), inhibitory ability (RVIP) and spatial planning/problem solving (SOC). [28]

Research is also underway on the effectiveness of other drugs in treating ADHD in adults. Schein et al., randomized, placebo-controlled studies, demonstrated that Centanafadine effectively improves symptoms of inattentiveness and hyperactivity-impulsivity in patients with ADHD. Its efficacy is comparable to that of atomoxetine and methylphenidate,[29,30] and the incidence of adverse reactions is lower compared to atomoxetine and methylphenidate. All drugs are well tolerated by patients.

CONCLUSION

There are many treatment options for ADHD in adults. Studies have shown superiority in the use of methylphenidate and atomoxetine over placebo. Both drugs are effective especially in improving executive functions and well tolerated by patients. Atomoxetine has a better effect on hyperactive symptoms and among patients with high symptom severity. Atomoxetine's effect, unlike methylphenidate's, persists for up to 6 months after discontinuation, so its use should be considered in patients living in areas with difficult access to treatment. Additional studies comparing the effects of the drugs in selected groups of patients are needed. New drugs such as Centanafadine are also available, whose efficacy may be comparable to atomoxetine and methylphenidate.

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Author's contribution

Conceptualization: Maria Sitko and Dominika Stolarczyk. Methodology: Katarzyna Zdziebło. Software: Anna Bieniasz. Check: Dominika Stolarczyk, Martyna Biernacka and Aleksandra Bąk. Formal Analysis: Katarzyna Agopsowicz and Katarzyna Zdziebło. Investigation: Anna Bieniasz and Michalina Piwowar. Resources: Katarzyna Blicharz and Michalina Piwowar. Data Curation: Martyna Biernacka. Writing-Rough Preparation: Anna Zdziebło. Writing-Review and Editing: Maria Sitko and Katarzyna Agopsowicz. Visualization: Katarzyna Blicharz. Supervision: Aleksandra Bąk. Project Administration: Katarzyna Agopsowicz

REFERENCES

1. Ayano G, Demelash S, Gizachew Y, Tsegay L, Alati R. The global prevalence of attention deficit hyperactivity disorder in children and adolescents: An umbrella review of meta-analyses. J Affect Disord. 2023;339:860-6. https://pubmed.ncbi.nlm.nih.gov/37495084/
2. Gondek TM, Stramecki F, Cieśla M. Diagnostic and therapeutic procedures in adults with ADHD. Pers Psychiatry. 2024;3(3):43-73. https://www.termedia.pl/Diagnostyka-i-postepowanie-terapeutyczne-u-doroslych-z-ADHD-Rekomendacje-Sekcji-Ksztalcenia-Specjalizacyjnego-Polskiego-Towarzystwa-Psychiatrycznego-i-koalicji-organizacji-na-rzecz-osob-z-ADHD-2024-r-,169,54745,1,1.html
3. National Center for Biotechnology Information. PubChem Compound Summary for CID 4158, Methylphenidate. 2025. Available from: https://pubchem.ncbi.nlm.nih.gov/compound/Methylphenidate
4. Fedder D, Patel H, Saadabadi A. Atomoxetine. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025. https://pubmed.ncbi.nlm.nih.gov/29630286/
5. Rabiey A, Hassani-Abharian P, Farhad M, Moravveji AR, Akasheh G, Banafshe HR. Atomoxetine efficacy in methamphetamine dependence during methadone maintenance therapy. Arch Iran Med. 2019;22(12):692-8. https://pubmed.ncbi.nlm.nih.gov/31823620/
6. Philip A, Lena J, Rachel H, Tom F, Andrew F, Sheila H, et al. Randomised controlled trial of the short-term effects of OROS-methylphenidate on ADHD symptoms and behavioural outcomes in young male prisoners (CIAO-II). Trials. 2019;20(1):663. https://pubmed.ncbi.nlm.nih.gov/31791384/
7. Goodman DW, Starr HL, Ma YW, Rostain AL, Ascher S, Armstrong RB. Randomized, placebo-controlled study of individualized dosing of OROS methylphenidate for adult ADHD. J Clin Psychiatry. 2017;78(1):105-114.
8. Weiss MD, Childress AC, Donnelly GAE. Efficacy and safety of PRC-063 in adults with ADHD. J Atten Disord. 2021;25(10):1417-28. https://pubmed.ncbi.nlm.nih.gov/31916473/
9. López-Pinar C, Rosen H, Selaskowski B, Staerk C, Jans T, Retz W et al. Adherence to therapy and clinical outcomes in adults with ADHD: Results from the COMPAS trial. Psychother Psychosom. 2024;93(1):46-64. https://pubmed.ncbi.nlm.nih.gov/38142690/
10. Mowinckel AM, Alnæs D, Pedersen ML, Ziegler S, Fredriksen M, Kaufmann T et al. Increased default-mode variability in adults with ADHD. Neuroimage Clin. 2017;16:369-82. https://pubmed.ncbi.nlm.nih.gov/28861338/
11. Biederman J, Fried R, Tarko L, Surman C, Spencer T, Pope A et al. Memantine for executive function deficits in adults with ADHD. J Atten Disord. 2017;21(4):343-52. https://pubmed.ncbi.nlm.nih.gov/24970718/
12. Surman C, Ceranoglu A, Vaudreuil C, Albright B, Uchida M, Yule A et al. L-Methylfolate supplementation with methylphenidate: RCT evidence. J Clin Psychopharmacol. 2019;39(1):28-38. https://pubmed.ncbi.nlm.nih.gov/30566416/
13. Tamminga HGH, Reneman L, Schrantee A, Bottelier MA, Bouziane C, Geurts HM et al. Methylphenidate effects on cognition beyond treatment. Eur Neuropsychopharmacol. 2021;46:1-13. https://pubmed.ncbi.nlm.nih.gov/33735707/
14. Weiss MD, Childress AC, Donnelly GAE. PRC-063 in adults with ADHD: 6-month extension. J Atten Disord. 2021;25(10):1417-28. https://pubmed.ncbi.nlm.nih.gov/31916473/
15. Shram MJ, Setnik B, Webster L, Guenther S, Mickle TC, Braeckman R et al. Abuse potential of serdexmethylphenidate: Oral, IN, IV. Curr Med Res Opin. 2022;38(7):1237-50. https://pubmed.ncbi.nlm.nih.gov/35570699/
16. Cataldo M, Donnelly G, Cutler AJ, Childress A, Mikl J, Bhaskar S et al. Sleep diary analysis in PRC-063 studies in ADHD. J Atten Disord. 2022;26(14):1870-81. https://pubmed.ncbi.nlm.nih.gov/35786058/
17. Heffner JL, Lewis DF, Winhusen TM. OROS methylphenidate prevents weight gain during smoking cessation in ADHD adults. Nicotine Tob Res. 2013;15(2):583-7. https://pubmed.ncbi.nlm.nih.gov/22955246/
18. Goto T, Hirata Y, Takita Y, Trzepacz PT, Allen AJ, Song DH et al. Atomoxetine in Asian adults with ADHD. J Atten Disord. 2017;21(2):100-9. https://pubmed.ncbi.nlm.nih.gov/24203774/
19. Tanaka Y, Escobar R, Upadhyaya HP. Atomoxetine in adult ADHD: Geographic response consistency. Atten Defic Hyperact Disord. 2017;9(2):113-20. https://pubmed.ncbi.nlm.nih.gov/28058589/
20. Reimherr FW, Marchant BK, Strong RE, Hedges DW, Adler L, Spencer TJ et al. Emotional dysregulation in adult ADHD and atomoxetine response. Biol Psychiatry. 2005;58(2):125-31. https://pubmed.ncbi.nlm.nih.gov/16038683/
21. Adler LA, Solanto M, Escobar R, Lipsius S, Upadhyaya H.Executive function outcomes with atomoxetine in adult ADHD. J Atten Disord. 2020; 24(3):363-72. https://pubmed.ncbi.nlm.nih.gov/27521574/
22. Dodson WW. Pharmacotherapy of adult ADHD. J Clin Psychol. 2005;61(5):589-606. https://pubmed.ncbi.nlm.nih.gov/15723384/
23. Upadhyaya H, Tanaka Y, Lipsius S, Kryzhanovskaya LA, Lane JR, Escobar R et al. Adverse events before/after atomoxetine discontinuation. Postgrad Med. 2015;127(7):677-85. https://pubmed.ncbi.nlm.nih.gov/26329980/
24. Wietecha LA, Ruff DD, Allen AJ, Greenhill LL, Newcorn JH. Atomoxetine tolerability with different dosing in ADHD. J Clin Psychiatry. 2013;74(12):1217-23. https://pubmed.ncbi.nlm.nih.gov/24434090/
25. Ni HC, Lin YJ, Gau SS, Huang HC, Yang LK. Open-label, randomized trial of methylphenidate and atomoxetine. J Atten Disord. 2017;21(1):27-39. https://pubmed.ncbi.nlm.nih.gov/23475825/
26. Ni HC, Lin YJ, Gau SS, Huang HC, Yang LK. Open-label comparison of methylphenidate and atomoxetine. J Atten Disord. 2017;21(1):27-39. https://pubmed.ncbi.nlm.nih.gov/23475825/
27. Ni HC, Hwang Gu SL, Lin HY, Lin YJ, Huang HC, Yang LK. Head-to-head trial: Atomoxetine vs methylphenidate on variability. J Psychopharmacol. 2016;30(5):459-67. https://pubmed.ncbi.nlm.nih.gov/35078957/
28. Ni HC, Shang CY, Gau SS, Lin YJ, Huang HC, Yang LK. Executive function in ADHD: Methylphenidate vs atomoxetine. Int J Neuropsychopharmacol. 2013;16(9):1959-73. https://pubmed.ncbi.nlm.nih.gov/23672818/
29. Adler LA, Adams J, Madera-McDonough J, Kohegyi E, Hobart M, Chang D et al. Centanafadine for adult ADHD: Phase 3 trials. J Clin Psychopharmacol. 2022;42(5):429-39. https://pubmed.ncbi.nlm.nih.gov/35652746/
30. Schein J, Cloutier M, Gauthier-Loiselle M, Catillon M, Xu C, Qu A et al. Indirect comparison of centanafadine vs other ADHD treatments. J Comp Eff Res. 2024;13(9):e240089. https://pubmed.ncbi.nlm.nih.gov/39132746/