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Abstract

Attention deficit and hyperactivity disorder (ADHD) remain a common neuropsychiatric complication in childhood rather than adulthood. However, recent cases of new diagnoses raise alarm over a potential increase in incidence in adulthood. This case series explores a 79-year-old woman with ADHD to capture insights into clinical practices, including diagnoses and treatments. This is a case report investigating a 79-year-old woman with a 20-year stint of self-medication to manage her ADHD. She presented at the clinic with a history of ADHD, but no symptoms at the time of incidence. Contrary to her knowledge, the Diagnostic and Statistical Manual, fifth edition, was used to determine her mental health and indicate a rational medication. The psychiatrists indicated Adderall XR and multivitamins to address her condition. The 79-year-old woman sought a legal prescription as she planned to relocate to France. She was diagnosed with ADHD, which is not a common incidence among adults and put on Adderall XR and multivitamins. Within four weeks, she reported remarkable improvement, including excellent task performance, concentration, and physical abilities. This case presents potential ADHD incidence in adulthood without awareness of symptoms among patients. A follow up confirmed improved task performance, concentration, alleviated hyperactivity, motor functions and attentiveness. These results set the differences in the effectiveness of unconventional and evidence-based interventions for ADHD among adults. It prompts policymakers to consider further investigations to establish a rational, evidence-based diagnosis and treatment. This case report marks the importance of evidence-based and rational drug use and disease management in adults. The old woman reported improved symptoms of ADHD following Adderall XR. Upon follow-up, psychiatrists indicated multivitamins to improve her well-being and improve her attentiveness. This combined therapy improved the woman's motor functions, cognition concentration and task performance. This case represents common cases of unconventional treatments among patients and makes a clinical statement of adequate patient diagnosis and management of ADHD among adults.

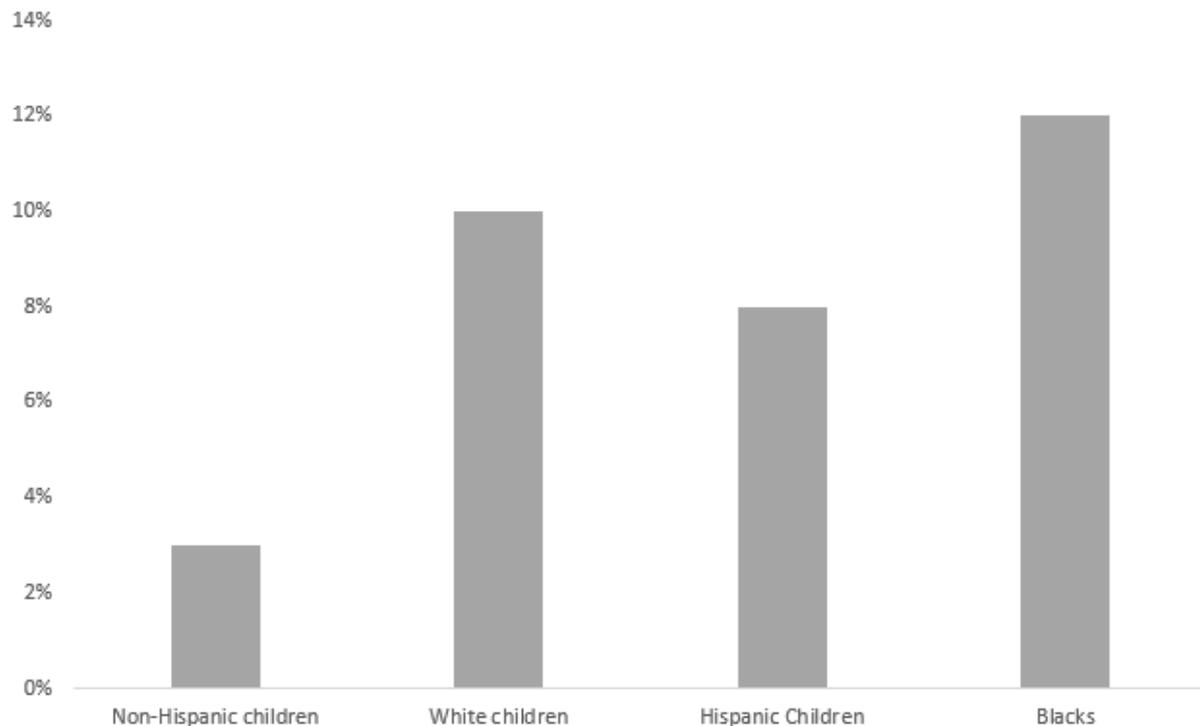
Keywords: *Methylphenidate, ADHD Diagnosis in Seniors, Long-term ADHD, Adult ADHD, Stimulant Medication*

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1.0 Introduction

In children, ADHD is a common neuropsychiatric disorder manifesting through inattention, impulsivity, and hyperactivity (American Psychiatric Association, 2024). The disorder is characterized by impulsivity, inattention and hyperactivity, and can interfere with children’s daily activities, including learning. Today, ADHD is more prevalent among Blacks, non-Hispanic children, Hispanics, and White children, with varied incidence rates (**Figure 1**).

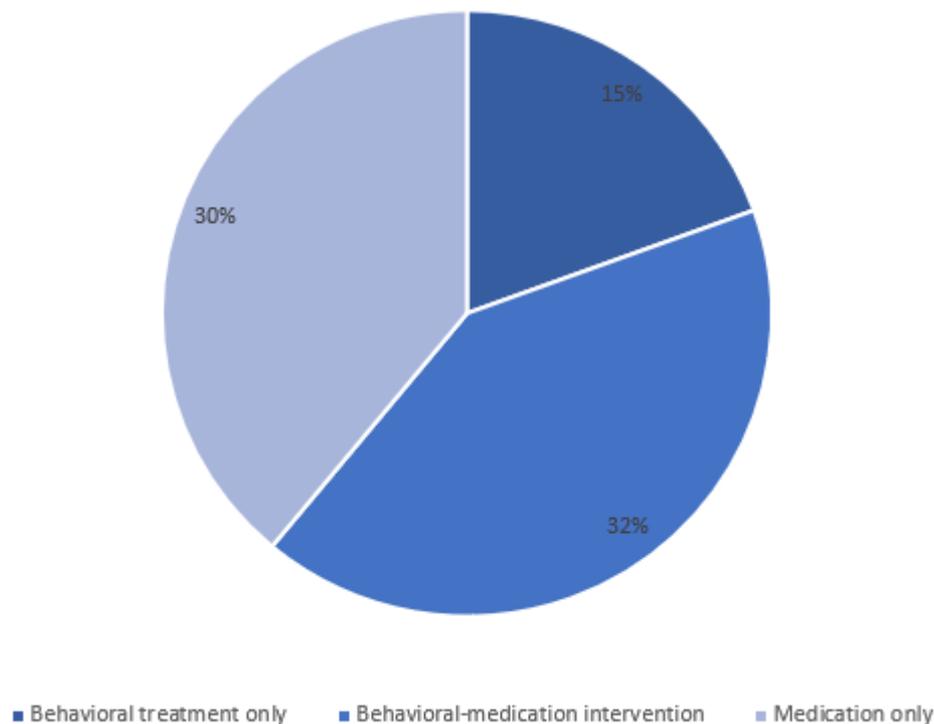
Figure 1: An overview of the global incidence of ADHD among children



Even though ADHD’s symptoms transition from childhood to adulthood, there is insufficient evidence on the incidence, diagnosis and treatment among adults, especially regarding new cases (Post & Kurlansik, 2012). While 30% of ADHD children suffer persistent cases in adulthood, approximately 3% to 4% of newly diagnosed cases are reported among adults. Coupled with the insufficient evidence, the new diagnoses prompt health concerns and the need for evidence-based treatments.

Nonetheless, treatment gaps emerge in literature. Whilst 77% of American children diagnosed with ADHD receive various forms of interventions, 23% who do not receive care raise concerns. Out of the 77% receiving care, 32% receive behavioral and pharmacological interventions, whereas 15% and 30% receive behavioral treatment only and behavioral treatment combined with medications, respectively. **Figure 2** summarizes the various interventions, including pharmacotherapy, that have been scrutinized for safety and efficacy issues. Even though medications like methylphenidate have been used as interventions among adults, there still exist debates on the clinical outcomes.

Figure 2: Therapeutic interventions used in ADHD



While some studies report positive clinical outcomes of medications like methylphenidate in ADHD among young, many questions have been raised over their effectiveness in adults (Goodman, 2009; Michielsen et al., 2012). This suggests knowledge gaps in the efficacy profile of this agent, prompting further investigations.

To bridge this knowledge gap, the present case series investigates a 79-year-old widow who was diagnosed with ADHD. The case series explores the old woman's 20-year experiences of surviving with unconventional medications to manage her condition. This investigation draws clinical insights and evidence that support evidence-based care based on the symptoms reported by the patient, outcomes of the medicines, and overall experience. The evidence will define the landscape of ADHD in adulthood and establish groups for evidence-based diagnosis, management and future research recommendations.

2.0 Case Presentation

The case involves a 79-year-old widow seeking professional ADHD treatment at the psychiatric clinic. In the last 20 years, the widow had been using frozen methylphenidate tables she obtained from a local infirmary. On this particular day, she did not present with noticeable symptoms. Neither did she complain of any other health complications. She sought professional intervention as she intended to leave the United States of America for France. Coincidentally, she recently read an article emphasizing the importance of professional interventions for mental illnesses. The article was categorical on potential cognitive impairments among adults using unconventional treatments for mental disorders like ADHD.

Upon further investigation, the widow indicated that she took tiny bits of the frozen methylphenidate tables whenever she wanted to perform physical or involving tasks. Happily, she indicated that the frozen methylphenidate enabled her to focus on her tasks. In no instance did she mention a breakdown, nor did she report adverse effects.

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However, as she decided to relocate to France and the sentiments she obtained from the article, she felt the need to seek professional ADHD or clinical intervention. She needed a legal diagnosis and a legal prescription for her condition. She was diagnosed and put on Adderall XR.

Outcome and Follow-Up

The old woman spent another month before she travelled to France. The psychiatrists followed up on her every week. In the first week of follow-up, her vitamin B12 and folate levels were taken. This diagnosis prompted the indication of multivitamins. Week after week, the old woman reported outstanding overall cognitive function, clarity and focus on motor functions. She asserted that she could complete her tasks effectively and on time than in the last 20 years. She argued that she became more energetic and psychologically upright.

In her last follow-up, clinicians found that her quality of life significantly improved before she flew to France. Laboratory tests revealed that her vitamin B12 and folic acid levels had increased to the desired levels, as summarized in **Table 1**. She became physically and mentally stronger and happier. She thanked the clinical team for the excellent care.

Table 1: A comparison of vitamin B12 and folic acid before and after multivitamin treatment

	Pre-treatment levels	Normal range	Post-multivitamin treatment
Vitamin B12	214 pg/mL	200 pg/mL and 900 pg/mL	457 pg/mL
Folic acid	2.7 ng/mL	2 ng/mL and 20 ng/mL	17 ng/mL

3.0 Discussion

ADHD is a common psychiatric complication among children. The psychiatric disorder has been thought to lessen among adults, causing reluctance among psychiatrists towards its diagnosis and treatment. However, the disorder is rather prevalent and highly severe among adults. In the Netherlands, one study found that syndromatic ADHD affects 2.8% of older adults, whereas symptomatic ADHD affects 4.2% (Michielsen et al., 2012). Additionally, Goodman's study reported significant ADHD prevalence among young and older adults. This evidence substantiates the need to investigate ADHD's prevalence, diagnosis and treatment among adults.

As ADHD among adults in both younger and older adults remain understated, the need to understand potential diagnostic measures and potential treatments arises. Unawareness of the potential incidence of ADHD among younger and older adults mushroomed and diverted psychiatrists', clinicians and researchers' attention. As a result, few studies have been conducted to establish significant evidence on diagnosis and treatments to expand clinical practices. The widow in this case series is an excellent example as she learns about the importance of evidence-based care in an article, which eventually improves her condition and quality of life. Clinically, the case series imparts fundamental knowledge that improves ADHD diagnosis among adults.

The widow's self-medication is an irrational drug use as she was diagnosed with ADHD to warrant an indication of methylphenidate. According to Goodman et al., the fifth edition of the Diagnostic and Statistical Manual is an effective diagnostic approach for ADHD among adults.

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This diagnostic approach caters to the assessment of inattention, hyperactivity, and impulsivity, as summarized in the table below.

Table 2: A summary of the DSM-5 for ADHD diagnosis among adults

Symptom	Parameters
Inattention	<ul style="list-style-type: none"> • Poor attention on tasks like work • Poor listening • Reluctance to engagement • Forgetfulness
Hyperactivity	<ul style="list-style-type: none"> • Squirming in the seat • Difficulty in engaging in physical tasks
Impulsivity	<ul style="list-style-type: none"> • Interrupts or intrudes into others' affairs • Frequent blurting

Even though the widow did not report adverse effects, significant improvements in symptoms suggest the importance of rational drug use to achieve optimal therapeutic effects. These findings are supported by a meta-analysis of evidence on Adderall XR administration among adults with ADHD. The study established Adderall's efficacy against inattention, disruptive behavior, and hyperactive-impulsivity among multiple patients (Faraone & Biederman, 2002). The case series demonstrated that rational Adderall administration improved the old woman's attentiveness, task performance, and overall well-being. This averted the potential dangers of expired medications, especially the long-term or unforeseeable adverse reactions.

This case spins off to patient supervision and follow-up to assess the patient's progress. Even though conventional medications are indicated based on standard efficacy outcomes endorsed in the drug development stages, varied efficacy profiles have been reported among different patients (Faraone & Biederman, 2002). Thus, patient follow-up is essential to fast-track response to the medication and dose optimization.

While addressing irrational drug use, the U.S. Food & Drug Administration endorses pharmacovigilance among medical professionals. A case in point is dispensing prescription-only medications for patients with valid prescriptions and discarding expired medications according to outlined measures (U.S. FOOD & DRUG ADMINISTRATION, 2018). This case is a call to psychiatrists and the entire medical fraternity to ensure rational drug use and pharmacovigilance. Even though the old woman did not declare how or where she acquired methylphenidate tablets, she acquired them irrationally. This drags medical professionals and stakeholders involved in the trade of controlled substances to integrity issues.

Nonetheless, the clinical manifestations of Adderall XR mark the most fundamental psychiatric impacts in this case report. Goodman's study reported that ADHD's symptoms change in adulthood to changes in roles, especially gender roles. This is the manifestation in the present case series. The widow claims that she has not experienced any symptoms beyond ordinary in the last 20 years. Hypothetically, she was content with consuming methylphenidate, not knowing the potential adverse effects and the benefits of a professional intervention.

Upon consulting psychiatrists and obtaining a legally prescribed medication, the old woman reported improved clarity in her functions and enhanced focus on her tasks. These remarks assert the efficacy of Adderall XR and emphasize the importance of the benefit of transitioning

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to evidence-based care. Coupled with the multivitamins, the widow was satisfied with the clinical outcomes of the indicated medication.

Strong evidence supports the indication of multivitamins for elderly people with ADHD. Often, ADHD delipidate attention among adults with ADHD and interferes with attention (Abolfathi et al., 2021). Multivitamin indication restores attentional resources, enhancing psychomotor functions. Importantly, multivitamins improve physical performance, social interactions and physical performance, which emerges from the present case study.

Self-medication is a common practice among adults with most psychiatric illnesses. However, many studies reveal that self-medicated patients report better outcomes upon adopting a professional and legal diagnosis and treatments (Biederman et al., 2021; Khan & Aslani, 2021). This phenomenon raises health concerns and exposes a gap in ADHD management among adults. Self-medication, therefore, emerges as a prime area for further studies to establish causes, perpetrators, and potential mitigation measures.

Previous investigations support stimulant therapy for ADHD among elderly persons (Pliszka, 2016; Timothy E. Wilens et al., 2002). According to previous investigations, the clinical benefits of stimulant medications are two-fold: a high response rate and improved focus and task performance. Pliszka et al. assert that the stimulant response rate among adults is 90% and enhances task performance. This case scenario aligns with the findings from previous studies, as the widow cited quick and improved task performance. Like the clinicians, the widow noticed a rapid improvement in symptomatology.

Lastly, the case series demonstrated the importance of patient follow-up. The psychiatrists noted the patient's remarkable improvements. The follow-up was crucial to monitor the patient's progress and necessary changes. Patient follow-up fulfils primary care through amendment of interventions, reporting of adverse effects, and continuous patient education (Price et al., 2020). Thus, any adverse effects would have been reported in this phase. This phase was important for fast-tracking the patient's progress and essential evidence collection for ADHD management through Adderall. Also, they indicated the use of multivitamins during this phase of treatment. The multivitamins improved the patient's quality of life, complementing the overall care and intervention.

4.0 Conclusion

ADHD management in adults is an irresistible psychiatric development, given the significant rise in incidences and prevalence of neuropsychiatric disorders among adults. Today, clinicians and psychiatrists are exploring ADHD's incidence among adults to enumerate it as a pronounced psychiatric concern. To establish the efficacy and safety of stimulants in ADHD management among adults, this case series investigated the clinical outcomes of a 79-year-old woman who was put on Adderall XR.

In four weeks, the woman reported remarkable improvements in symptomatology, including improved concentration and task performance. This improvement would increase following the multivitamin indication. Even though there is no evidence of synergistic effects between the multivitamins and Adderall, the case suggests the potential combination to maximise positive outcomes.

These outcomes implicate clinical practices, future studies, and policy on ADHD management in adulthood. Due to insufficient evidence, future studies should investigate the potency of multivitamins and stimulants in the management of ADHD in adulthood. These investigations should compound evidence that will be used to expand ADHD management through an evidence-based approach.

Further investigations should be conducted on elderly people to establish the incidence of ADHD. The possibility of considerable incidence among adults cannot be ruled out due to the minimal probability of ADHD screening among adults. To complement this, further investigations should be performed on awareness of ADHD's symptomatology among adults. This will inform policymakers and prompt awareness and campaigns by community health workers, government agencies, stakeholders and non-governmental organizations.

Lastly, the case series exposes gaps in medication management through pharmacovigilance and raises concerns about how unskilled persons access expired controlled drugs. This suggests loopholes in the supply chain system of medications and mismanagement of controlled medications. Therefore, the evidence prompts a review of professional practices surrounding the management of controlled medications.

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