



## Underestimated Attention Deficit Hyperactivity Disorder (ADHD) in elderly adults

Marcos Altable<sup>1\*</sup>, Juan Moisés de la Serna<sup>2</sup>, Emilio Díaz-Moreno<sup>3</sup>, Alfonso Cruzado<sup>4</sup>, David Alvarez-Montano<sup>5</sup>, Adnan Srifi –Hasnaoui<sup>6</sup>

<sup>1</sup>Private Practice of Neurology, Neuroceuta. (Virgen de África Clinic), Ceuta, Spain

<sup>2</sup>Department of Education, International University of La Rioja (UNIR), Madrid, Spain

<sup>3</sup>Private Practice of Neuropsychology, HC Marbella. Ceuta, Spain

<sup>4</sup>Psychologist at Ability Center, Ceuta, Spain

<sup>5</sup>Psychologist at Concentra Center, Ceuta, Spain

<sup>6</sup>Family Doctor. INGESA, Ceuta, Spain

Corresponding E-mail: [maraltable@gmail.com](mailto:maraltable@gmail.com)

### ABSTRACT

**Purpose:** To review the existing literature on attention deficit disorder in older adults, focusing on epidemiology, psychosocial impact, and treatment. To show current knowledge about those aspects of attention deficit hyperactivity disorder (ADHD).

**Methods:** We manually reviewed articles until July 2021. We used the electronic databases MEDLINE / PubMed, Embase, and Cochrane Database, and reviewed articles regardless of language. The search terms used were ADHD, elderly and older adults. We also included manuscripts cited as references in the articles obtained in the initial search.

**Results:** The described prevalence varies between 2.8% and 4.2%. ADHD symptoms in older adults negatively affect their quality of life. The treatment is not clearly established since aside from the little knowledge and experience in ADHD in the elderly population, and these patients usually present significant comorbidities and frequent use of polypharmacy, which challenge the adequate treatment.

**Conclusions:** ADHD in old age is poorly understood and underestimated. These symptoms must be taken into account in the differential diagnosis of mental disorders at these ages. The interdisciplinary approach and more studies on this disorder in old age should be carried out.

**Keywords:** ADHD, Cochrane Database, Polypharmacy

### INTRODUCTION

#### Prevalence

The clinical picture of Attention Deficit Hyperactivity Disorder (ADHD) in old age is still largely unknown. A first epidemiological study to elucidate ADHD in older age comes from Guldberg-Kjär et al. (2009) [1], who retrospectively recorded symptoms of childhood ADHD in a sample of 1599 people between the ages of 65 and 80 years [2]. They found a prevalence of 3.3%. In 2013, Guldberg-Kjär et al. reported a relatively balanced occurrence of ADHD across different age groups in old age [1].

Research from Sandra Kooij's research group also supports understanding of ADHD as a disease that can persist into old age [3-7]. Based on a longitudinal aging study, in the Netherlands, they estimate the prevalence of syndromic ADHD in the 60-90 age cohort at 2.8% and the symptomatic prevalence at 4.2% [6]. An additional interesting finding in the study is that younger elderly adults (60–70 years) reported more ADHD symptoms compared with older elderly adults (71–94 years).

ADHD does not only progress over the lifespan, but there is an age-related decrease in symptoms [8].

Worth noting this generation also grew up under completely different educational and social development conditions. Symptoms associated with ADHD such as (motor) hyperactivity or inattentiveness have often been declared as a lack of discipline and poor stamina or lack of development and educational success. The construct of ADHD did not yet exist in the childhood and adolescence of people over the age of 60 today. Therefore, both research and practice are challenged to bring this understanding of the disorder and its social consequences closer to this group of people in order not only to enable adequate diagnostics but also to be able to pave the way for appropriate treatment.

The psychopathological characterization of ADHD in elderly adults can also be seen in the interplay of individual aging processes. In the case of ADHD-associated attention disorders, in particular, demential processes have to be taken into account in the differential diagnosis, since ADHD-preformed attention deficits are overlaid by neurodegenerative degradation processes and mnemonic deficits due to hippocampal neurodegeneration can be aggravated [9]. The symptom overlaps of ADHD and mild cognitive impairment or Alzheimer's dementia thus underlines the need for careful differential diagnosis. ADHD-associated deficit attention settings are fairly stable across generations and are therefore not necessarily seen as signs of neurodegenerative disease in older age [10]. The risk of developing Alzheimer's dementia does not increase by ADHD. Although Golimstok et al. (2011) [11] report an increased risk in the group of ADHD patients to develop Lewy body dementia in old age, their results are only based on a group of 20 patients [11]. Besides, while ADHD is a common psychiatric disorder, Lewy body dementia is a less common form of dementia (following Alzheimer's disease) [12].

### **Psychosocial impact**

Initial studies indicate that maturation and aging influences the pathophysiological consolidation process of ADHD, however, it is not possible to assume a complete regression of the symptoms associated with ADHD [1,6,8]. This leads to a negative influence on the quality of life of those affected, regardless of culture and also despite the other diseases that occur in addition to ADHD [13]. In general, ADHD-related problems in adulthood manifest themselves primarily in difficulties in organizing everyday life, dealing with stress, and deficient temperament and affect control [14]. In addition, age-specific impairments must be registered with people with ADHD under the individual requirements in the individual stages of life. What manifests itself in childhood and adolescence, in poor school success and, in the subsequent academic year, in poor professional success and poor financial security (low pension capital) in old age. In addition, older people with negative psychosocial consequences such as a low level of social integration (lack of stable and supportive relationships) and a high level of health stress (high comorbidity rates) have been reported [15-17].

### **Therapy**

A multimodal approach to drug and psychological treatment for ADHD treatment could be the best option. Therefore, the first question is whether the stimulant treatment can also be used in the therapy of elderly patients since, in this group, diseases and polypharmacy typical of old age have to be taken into account under the risk of drug interaction. The current research situation is still minimal, and reports mixed results. Individual studies report treatment successes comparable to those in younger patients, and no adverse drug effects have been reported [18,19]. However, the current findings are based on a few exploratory studies [16,18,19] and individual case vignettes [20,21]. Controlled clinical studies are not yet available. Schelleman et al. (2012) and Turner et al. (2003) [22,23] warn of significant cardiovascular side effects. Therefore, subsequent studies should also address the question of whether stimulant-free medication (e.g., antidepressants, antihypertensives) in this group of patients would be an alternative, as it is already used successfully in the field of treatment of childhood ADHD [24,25].

The question of adequate psychotherapeutic involvement of this patient group has so far been entirely unanswered. Ginsberg et al. (2014) [26] summarize in their review that the unmet needs for all adults with ADHD are not the same.

However, the diagnostic process often has positive, *i.e.*, relieving, and negative effects, since they see themselves left alone with their problem due to the lack of adequate therapeutic integration options. Against this background, the implementation of social support systems is desirable so that older patients can also contact self-help groups to exchange information and experiences in dealing with attention deficit hyperactivity disorder.

#### DISCLOSURE/CONFLICT OF INTEREST

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