Reviewer's report

Title: Sleep, symptom ratings and serum ferritin levels in children with ADHD: a case control study

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Reviewer: Samuele Cortese

Reviewer's report:

General comment
This study addresses an important topic, with relevant clinical implications, that has been scarcely investigated in previous literature. Therefore, replication studies like this are a welcome contribution to the field.

However, I think that the manuscript can be improved. In particular, the authors should better point out the rationale for the study and if this study was carried out to replicate in a different geographic context previous findings from other studies or if it was set out to extend previous findings exploring additional aspects not previously assessed.

Specific comments

major compulsory revisions

Abstract
“Attention deficit hyperactivity disorder” should be “Attention-deficit/hyperactivity disorder” as per DSM

From the background, it is not clear WHY this study was conducted: what is the rationale to assess iron in relation to sleep disorders in ADHD? How does this study add to current literature on the topic?

“There were no significant differences in ADHD symptoms in regard to ferritin levels”: this is not clear: do the authors mean that there was no a significant correlation between ADHDF symptoms severity (as assessed by the CPRS R:L) and ferritin levels.

Introduction
Pag 3, l 2: “hyperactivity impulsivity” should be “hyperactivity/impulsivity”

“Although several studies examined the effect of low serum ferritin level ion the severity of symptoms, few studies examined its effect on the sleep of children with ADHD” the authors correctly cite here the study by Oner et al. but they forgot to cite the study by Cortese et . who also assessed serum ferritin in relation to sleep disturbances in ADHD, that they mention later on in the manuscript. This study should be cited here as well.
Along with the Cortese et al. meta-analysis, the other meta-analysis should be cited as well:

Two important points are missing in the introduction:

1. The rationale: given that there are studies that already assessed ferritin in relation to sleep in ADHD, why was this study carried out? To replicate findings in another geographic context or to explore other aspects not assessed in previous literature? This should be pointed out.

2. Which was the hypothesis of the authors? The authors state: “We hypothesize..” but the hypotheses are quite vague...what do they mean when they say “has an impact”? Did they expect a significant correlation?

Methods, participant: oppositional defiant disorder is very common in ADHD: was ODD excluded as well: Sleep in children with attention-deficit hyperactivity disorder: a meta-analysis of polysomnographic studies. adeh A, Pergamin L, Bar-Haim Y. Sleep Med Rev. 2006 Dec;10(6):381-98

Which semi structured psychiatric interview was used?

Discussion

4th line: “than in the control group” should be “than the control group”

The limitations of the study are correctly acknowledged

The authors briefly discuss the alterations in alertness associated with ADHD. Interestingly, recently an association between obesity and ADHD has been reported (see for a systematic review: Obesity and ADHD: Clinical and Neurobiological Implications.

Cortese S, Vincenzi B.

Curr Top Behav Neurosci. 2012;9:199-218) and alertness alterations have been implicated in this association (Does excessive daytime sleepiness contribute to explaining the association between obesity and ADHD symptoms? Cortese S, Konofal E, Dalla Bernardina B, Mouren MC, Lecendreux M. Med Hypotheses. 2008;70(1):12-6; Alertness and feeding behaviors in ADHD: does the hypocretin/orexin system play a role? Cortese S, Konofal E, Lecendreux M. Med Hypotheses. 2008 Nov;71(5):770-5). The authors may want briefly to refer to this literature to stimulate further research in the field.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I declare that I have no competing interests