

# Letter to the Editor, on “Effect of Anaemia on Cognitive Ability in Female Dental Undergraduate Students: A Cross-sectional Study”

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Dear Sir,

I read the original article “Effect of Anaemia on Cognitive Ability in Female Dental Undergraduate Students,” a cross-sectional study by Qairunnisa S et al., [1]. I found this article very interesting and potentially helpful in improving the cognitive ability of students. However, there are a few questions that need to be addressed:

- A) In this study, 50 students were found to have mild anaemia (Hb: 10.408±0.84 gm/dL) and 50 students had normal Hb (Hb: 12.718±0.65 gm/dL). As there are various important factors, other than anaemia, that affect cognitive ability, if the anaemic students had received appropriate treatment based on the type of anaemia, and if their cognitive function were reassessed using these tests (the digit symbol substitution test, letter cancellation test, and Stroop test), it could have been confirmed that anaemia causes a decrease in cognitive ability.
- B) One of the important factors that affect cognitive ability is basic intelligence. Because of its general nature, intelligence integrates cognitive functions such as perception, attention, memory, language and planning [2]. Various studies have proven that Sleep Deprivation (SD) can significantly affect cognitive ability. The decrease in attention and working memory due to SD is well established. Vigilance is especially impaired, but a decline is also observed in several other attentional tasks. These include measures of auditory and visuospatial attention, serial addition and subtraction tasks, and different reaction time tasks [3]. In some studies, it has been shown that mental stress and the personality of the individual also affect cognitive ability. The total effect, which is a combination of the direct effect of stress and the indirect effect of personality, indicates that stress is negatively associated with total/crystallised cognition [4].
- C) Now a days, the incidence of addictions or drug abuse has increased, and various studies have proven that people with Substance Use Disorders (SUDs) have moderate deficits in memory, attention, executive functions and decision-making [5]. Therefore, factors such as addictions or psychological problems should also be excluded when studying the effect of anaemia on cognitive ability.

## REFERENCES

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## Response to Reviewer

- A) We agree with your valuable comment. As this was a student Short Term Project (STS) funded by ICMR, we were restricted by a time limit, and we submitted a research proposal with limited parameters that were approved. Unfortunately, we were unable to extend it. However, we did recommend conducting an awareness program on anaemia for dental students after the report submission.
- B) Thank you for your patient review and for going through many research articles that support and enhance our work analysis from different perspectives. As the author concludes, that intelligence integrates cognitive functions, which are also reliable measures. We agree with this point and appreciate the valuable references quoted, which can be used to extend our work in long-term research.
- C) As a female student in India, especially in Tamil Nadu, we can confidently say that in the village where our college is located, substance abuse is rare and stigmatised. Women in our community are often discouraged from indulging in any form of substance use and are instead encouraged to focus

on education, family and social responsibilities. The cultural and social norms in the village prioritise tradition and modesty, making it unlikely for women to engage in substance abuse. However, we are aware that this might not be the case in other

parts of the country or in different social circles, and we believe it is essential to address the growing concern of substance abuse among Indian youth.

Thanks.