

# A study on association of iron deficiency with attention deficit hyperactivity disorder in a tertiary care center.

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Abstract

## BACKGROUND:

Iron is important for brain development and cognitive function. Iron deficiency may cause alteration of neurotransmitters and may be manifested by different central nervous system disorders including attention deficit hyperactivity disorder (ADHD).

## AIMS:

As studies are scarce in the Indian context, we had undertaken this study to find out the association between iron deficiency and ADHD.

## SETTINGS AND DESIGN:

Hospital-based cross-sectional study.

## MATERIALS AND METHODS:

Hematological parameters indicating iron status (hemoglobin [Hb], ferritin, Iron, total iron binding capacity [TIBC], mean corpuscular volume [MCV], and mean corpuscular Hb [MCH]) were measured among 119 ADHD patients selected by complete enumeration method and 119 controls.

## STATISTICAL ANALYSIS:

Shapiro-Wilk test, Mann-Whitney U-test, Spearman's correlation, and binary logistic regression were used.  $P < 0.01$  was taken as statistically significant.

## RESULTS:

Hb, iron, ferritin, MCV, and MCH were lower among cases and negatively correlated to ADHD, while reverse is true for TIBC and ADHD. Iron deficiency anemia makes one 3.82 times more prone for ADHD.

## CONCLUSION:

Iron deficiency was associated with ADHD.