5 Association between Autism and Iron Deficiency in Autistic Children

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Background: Iron has an important role in cognitive, behavioral, and motor development. A high prevalence of iron deficiency (ID) has been reported in children with autism.

Aim: is to investigate the association between autism and iron deficiency in autistic children in the northern West Bank and to identify food selectivity.

Participant and Methods: 90 children with an age range of 3 to 13 years participated in a case control study distributed into study group and two control groups. Thirty children diagnosed with autism according to DSM-IV and ICD-10criteria served as a study group, 30 children with mental disorders other than autism served as a control group, and 30 typically developing children (normal children) taken from the public functioned as a second control group.

Results: ID was detected in 20% (N = 6/30) of autistic children based on Serum ferritin level (SF< 10µ/l), compared with 0% for the two control groups (p= 0.0001). And iron deficiency anemia was 13.3% (4\30) for autistic group. It was found also that the frequency of low iron intake in these children was associated with feeding difficulties and food selectivity; there was a significant difference between children in the autistic group who chose foods with a red color as a favorite 23% (7/30) compared to the other two control groups: 0%, respectively (p= 0.0001).

Conclusion: There is an association between autism, iron deficiency and anemia. Low levels of serum ferritin in autistic children might be a sign of iron deficiency and an early precursor of iron deficiency anemia. These findings suggest that food selectivity is more common in children with autism than in typically developing children. These findings suggest that ferritin levels should be measured in children with autism as a part of routine investigation.

Keywords: Child, Autism, Mental disorder, typically developing children, Iron deficiency, Iron deficiency anemia, Ferritin.