Effect of Poly Unsaturated Fatty Acids Administration on Children with Attention Deficit Hyperactivity Disorder: A Randomized Controlled Trial

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Abstract

Introduction:
Attention Deficit Hyperactivity Disorder (ADHD) is a common disorder of childhood. Studies have indicated nutritional deficiencies, particularly Poly Unsaturated Fatty Acids (PUFA) deficiency in these children and have suggested supplementation with PUFA for clinical improvement.

Aim:
The present study aimed at evaluating the effect of PUFA administration in Indian children with ADHD.

Settings and Design:
The study was conducted in the paediatrics and psychiatry departments of a tertiary care hospital. We conducted a prospective double blind randomized control trial on children aged 4-11 years, diagnosed with ADHD according to DSM-IV TR criterias and Kiddie-Schedule for Affective Disorders and Schizophrenia - Present and lifetime version.

Materials and Methods:
The study subjects were randomized into study and control groups. The control group was administered Atomoxetine, while the study group received Atomoxetine along with Eicosapentanoic acid (EPA) and Docosahexanoic acid (DHA). Both groups were followed up every 2 weeks over the next 4 months using Conner’s Parent Rating Scale - Revised (CPRS-R).

Statistical Analysis:
The data was carefully analysed by SPSS (17th version) software with the help of a statistician. Confidence interval of 95% was used. The complete data was analysed using appropriate parametric and non parametric tests. Correlation was done between various socio-demographic and illness related parameters. For all analyses, probability of 5% or less was assumed to represent statistical significance.

Results:
Fifty children diagnosed with ADHD were randomized to study group (n=25) and control group (n=25). The study group had greater reduction in ADHD scores as compared to the control group, although not statistically significant (p = 0.08). Improvement was more significant in male study subjects with combined type of ADHD.

Conclusion:
It may be concluded that PUFA supplementation improves the symptoms of ADHD. However, the effect is not clinically significant if supplementation is not given for prolonged duration and in adequate doses.