Prevalence and assessment of biochemical parameters of attention-deficit hyperactivity disorder children in Bangladesh

Chowdhury Mohammad Monirul Hasan, Mohammad Monirul Islam, Muhammad Mamunur Rashid Mahib, Mahmud Ahmed Chowdhury Arju

Journal of Basic and Clinical Pharmacy Volume : 7; Issue : 3; Page : 70-74 (2016)
DOI: 10.4103/0976-0105.183261

Background and Objectives:
This study aimed to evaluate some new biochemical parameters that help ensuring the early and precise diagnosis of attention-deficit hyperactivity disorder (ADHD) in blood plasma.

Design and Settings:
A prospective study conducted with patients scheduled for some new biochemical parameters that help ensuring the early and precise diagnosis of ADHD in blood plasma in a Child Development Center of the Chittagong, Bangladesh.

Materials and Methods:
The study was carried out at two levels. The first level was questionnaire on personal data and disease history while the second was on biochemical examination of the plasma ammonia and lactate status. A total of 100 children (age range 2 years 4 months to 12 years 6 months, mean age 7 years 5 months) were investigated in this study among 75 were male and 25 were female. This study was conducted in Chittagong Maa-O-Shishu General Hospital, Bangladesh.

Results:
We observed that the level of plasma ammonia and lactate were higher in ADHD children (36-60 μmol/L; P < 0.05 and 22-30 μmol/L; P < 0.05, respectively) compare to a reference value. The prevalence of ADHD is higher in male (75%) than in female (25%) with a ratio of 3:1. Consanguinity increases the risk of having ADHD in the next generation.

Conclusion:
This study concludes that there might be a correlation between ADHD and increased level of plasma ammonia and lactate level, and those might be an important parameter in the diagnosis of ADHD patients.