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## **A study of dopamine D2 receptor Taq1 A alleles in children with attention deficit hyperactivity disorder**

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**Background:** Attention deficit hyperactivity disorder (ADHD) is a common neuro-developmental disorder influenced by many genes. The Dopamine receptor D2 (DRD2) Taq1A polymorphism affects the intracellular concentration of the second messenger cyclic adenosinemonophosphate (cAMP). This study aimed to assess the relationship between Taq1 A polymorphism and ADHD in a sample of Egyptian children.

**Methodology:** DRD2-Taq1A gene polymorphism was evaluated in 100 participants, 50 ADHD patients and 50 controls of healthy children with normal developmental and psychiatric evaluation with comparable age and sex. The patients were recruited from Psychiatric clinic, Faculty of Postgraduate Studies for Childhood- Ain Shams University, Cairo, Egypt with age ranged from 6 to 12 years. DRD2-Taq 1A allele distribution was investigated via polymerase chain reaction (PCR).


**Results:** Phenotype distributions of A1 allele showed statistically significant association with ADHD cases compared to controls ( $p=0.037$ ). A significant association was found between ADHD cases and heterozygous A1A2 genotype ( $p=0.047$ ). Meanwhile, ADHD cases showed statistically significant lower distribution of the homozygous A2A2 genotype ( $p=0.027$ ).

**Conclusion:** There was an evident association between ADHD phenotype and (DRD2) Taq1A gene polymorphism, and there was a heterozygous advantage regarding A1A2 allele genotype and ADHD cases.

### **Speaker Biography**

Marwa Mohammed Moro graduated from faculty of medicine at Cairo University, Egypt and had her master degree from the same university. She has completed her PHD in January 2019 from Ain Shams University. She is specialist of pediatrics in ministry of health hospitals, Egypt. She has some publications that have been cited several times.

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