Dopamine transporter gene polymorphism in children with ADHD: A pilot study in Indonesian samples.

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Abstract

INTRODUCTION:
Several studies showed that DAT1 polymorphism closed related with ADHD although the results were not consistently found. Studies in China, South Korea, Japan revealed that 10-repeat allele gave a risk for ADHD. Based on that understanding, this study tried to identify whether the similar polymorphism of DAT1 was also apparent in Indonesian children with ADHD.

METHOD:
This was a case-control study. Case was 50 Indonesian origin children with ADHD and without any other mental disorders and mental retardation. Control is Indonesian origin children without ADHD, other mental disorders and mental retardation. ADHD diagnosis was taken after doing the psychiatric interview and observation based on the DSM-IV TR diagnostic criteria for ADHD at the Child and Adolescent Psychiatry Out-patient Clinic, Dr. Cipto Mangunkusumo National Referral Hospital - Faculty of Medicine Universitas Indonesia. DNA isolation, DNA purity and concentration were measured. PCR was done by using a primer based on Homo sapiens solute carrier family 6 (neurotransmitter transporter), member 3 (SLC6A3), RefSeq Gene on chromosome 5 with accession number NG_015885.1. To identify the serial of repeated allele, we used the sequencing technique.

RESULTS:
There were 47 children with ADHD and 48 children without ADHD that involved in the final analysis. The mean of age amongst ADHD group was 9.18 (2.42) and 8.10 (2.46) years old in non-ADHD group. The 10-repeated allele of DAT1 was the highest proportion in both.

CONCLUSION:
This finding was apparently similar with other studies on DAT1 polymorphism across Asian.