

## **Cognitive deficits in beta-thalassemia major patients**

**<sup>1</sup> Prof. Hani H. Dessoki , <sup>2</sup>Dr.Mohamed R. Soltan , <sup>1</sup>Dr.Ahmed A.Ezzat .**

<sup>1</sup>Department of Psychiatry, Faculty of Medicine, Beni Suef University, Beni Suef, Egypt.

<sup>2</sup>Department of Psychiatry, Faculty of Medicine, Fayoum University, Fayoum, Egypt.

### **Corresponding author and reprint:**

• Mohamed Ramadan Soltan M.D., lecturer of Psychiatry, Department of Psychiatry,  
Faculty of Medicine, Fayoum University, Egypt.

**Tel:** 002-048-2999084;002-01221562006. **Fax:**0842160180

**Postal Address:** El-fayoum - Fayoum University - Faculty of Medicine - Psychiatry  
Department - POBox: 63514.

**e-mail:** [dr.mohamedsoltan1979@gmail.com](mailto:dr.mohamedsoltan1979@gmail.com)

**Fund:** None

**Conflicts of interest:** None

# Cognitive deficits in beta-thalassemia major patients

## Abstract

**Background:** Children with  $\beta$ -thalassemia major ( $\beta$ -TM) have multiple risk factors for developing cognitive impairment. **Objective:** to assess cognitive function in children with ( $\beta$ -TM) by comprehensive, well standardized, and validated, wide age-range neuropsychological test (Computerized Wisconsin card sorting test) (WCST). **Subjects and Methods:** this is a cross-sectional comparative study that included two groups. Group I included 100 patients with  $\beta$ -TM. (Their age ranged from 6-15 years old, on almost monthly red blood cells transfusion, with no other medical diseases) and Group II included 50 healthy control subjects matched as regarding age and sex. Clinical examination that included general and systemic examinations was done. Laboratory data were gathered from patients' files. WCST-Computer - Administered Version was applied for assessment of cognitive function. **Results:** The thalassemic patients showed poorer performance than control subjects on measures of WCST as  $\beta$  - thalassemia patients had significant lower correct response than the control group. On the other hand, they had higher total Error, Preservative response, Preservative Error, Non Preservative Error than control group. It is possible that attentional deficits contribute to poor performance on memory, processing speed, and executive tasks. **Conclusions:** Beta-Thalassemia Major patients had significantly more cognitive deficits than healthy control subjects.

**Keywords:** Cognitive deficits; Beta Thalassemia Major; Wisconsin card sorting test.