

Original Paper

Verbal fluency and working memory deficit in first-degree relatives of autistic children

Nejati V (PhD)*¹, Izadi-Najafabadi S (BSc)²

¹Assistant Professor, Department of Cognitive Neuroscience (Brain and Cognition), Shahid Beheshti University, Tehran, Iran. ²MSc Student in Occupational Therapy, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Abstract

Background and Objective: Autism spectrum disorder is a genetic-based cognitive and neurobehavioral disorder characterized by impairment in social interaction, verbal and non-verbal communication and repetitive motor behavior. This study was done to evaluate the verbal fluency and working memory deficit in first-degree relatives of autistic children.

Materials and Methods: In this case - control study, 49 first-degree relatives of autistic children from 33 families (32 mothers, 10 fathers, 6 sisters, and 1 brother) supported by Isfahan autism association were selected and compared with 51 first-degree relatives of typical children (23 mothers, 16 fathers, 7 sisters, and 5 brothers) of 27 families during 2010. The assessing tasks were phonemic and semantic verbal fluency tests to assess verbal fluency and forward and backward digit span tests to assess low load and high load working memory. Data were analyzed using SPSS-19 and independent t-test and paired t-test.

Results: Autistic relatives showed significant poor performance in phonemic (11.46 ± 3.3 V.S. 14.08 ± 3.8), semantic verbal fluency (16.83 ± 3.3 V.S. 19.23 ± 3.9), forward digit span (5.22 ± 0.6 V.S. 5.55 ± 0.9) and backward digit span (3.65 ± 0.98 V.S. 4.14 ± 0.8) ($P < 0.05$) compared to healthy children of first-degree relatives.

Conclusion: This study showed that parents and siblings of autistic children have a lower performance in phonemic and semantic, low and high load verbal fluency, which might be transmitted genetically.

Keywords: Verbal fluency, Working memory, First-degree relatives, Autism

* Corresponding Author: Nejati V (PhD), E-mail: nejati@sbu.ac.ir

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