Shiraz E-Med J. 2023 March; 24(3):e115654. https://doi.org/10.5812/semj-115654.

Published online 2023 April 9. **Research Article**

Episodic Memory in Obsessive-Compulsive Disorder: Comparison with Healthy Controls

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Received 2021 April 27; **Revised** 2022 August 27; **Accepted** 2023 March 04.

Abstract

Background: Obsessive-compulsive disorder is identified by intrusive thoughts and related compulsive behaviors. Memory complaints are controversial among obsessive-compulsive disorder patients.
Objectives: The present study compared verbal, visual, episodic, and semantic memory between obsessive-compulsive disorder patients and healthy controls.
Methods: This is a case-control study. The participants included 31 newly diagnosed obsessive-compulsive disorder outpatients and 30 healthy controls. The patients were selected using targeted sampling from Emam Reza Polyclinic, affiliated with blinded for peer review. They responded to a demographic checklist, structured clinical interview for DSM-IV (SCID-I), verbal and visual episodic memory from the Wechsler Memory Scale-Revised (WMS-R), and autobiographical memory interview (AMI).
Results: The results indicated that patients with obsessive-compulsive disorder compared with the controls had lower scores in visual (P = 0.0001), verbal (P = 0.006), semantic (P = 0.3), and episodic memory (P = 0.001).
Conclusions: All types of memory which were evaluated in the present study were impaired in obsessive-compulsive disorder. Memory impairment might explain the psychiatric symptoms of the disorder.

Keywords: Episodic Memory, Obsessive-Compulsive Disorder, Memory Disorder

1. Background

Obsessive-compulsive disorder (OCD) is a neuropsychiatric disorder involving intrusive thoughts and related compulsive behaviors characterized by an early onset and chronic course (1-3). Obsessive-compulsive disorder represents itself as two separate parts related to each other (4, 5). Obsessive-compulsive disorder is associated with neurobiological abnormalities distinct from those associated with other anxiety disorders (3, 6). This biological aspect of OCD was also confirmed via neuroimaging studies and acquired brain injury (7). These studies revealed that orbitofrontal-subcortical circuitry dysfunction was observed in OCD (8). On the other hand, evaluating patients with a history of acquired brain injury, especially in the orbito frontal cortex (OFC) and anterior cingulate cortex (ACC), showed OCD symptoms in the follow-up (9, 10).

Patients with OCD may be involved in compulsion because of their memory impairment (5). Memory dysfunction appears to be due to a disruption in information organization in the encoding phase (11, 12). There was a significant difference between OCD patients and the healthy control group in different areas, such as visual and delayed visual memory (13). Neurocognitive studies which consider memory processes and their biological relationships have demonstrated that frontal association cortex lesions could be the cause of disruption in various aspects of encoding and retrieval in episodic memory (14). Therefore, memory defects have been attributed to neurocognitive impairment in patients with OCD (4, 5, 12, 15-18).

Some studies evaluated the neuropsychological performance of OCD patients and related these findings to cortical functions. These studies are controversial in their findings and methodology. For example, in one study, neuropsychological performance was compared among OCD, bipolar disorder, and healthy controls, revealing that there were no significant differences among the 3 groups in memory, evaluated by the Rey Auditory Verbal Learning Test (RAVLT) and the Wechsler Memory Scale-Revised (WMS-R) visual-reproduction subscale (19).

On the other hand, some studies claim that deficits are inherent because impairments are seen before the onset of symptoms and even after recovery from clinical symptoms

because no single, standardized instrument can evaluate all domains exactly.

Future empirical research is recommended to test the relationship among performance in different domains of memory, for example investigating executive function impairments to what extent and in what aspects of memory are affected. Also, it is suggested that future studies should evaluate memory before and after drug treatment and psychotherapy. This helps to clarify the origin of memory deficits in obsessive-compulsive patients.

5.1. Conclusions

Memory complaints are reported by OCD patients. The distinction between different types in OCD patients compared with the general population is significant because it may help identify and comprehend processes that contribute to the persistence of this disorder. Therefore, this study was designed to investigate the difference between these items between OCD and matched healthy control subjects in Iranian culture. The patients with OCD, compared with the controls, had lower scores in verbal and delayed verbal episodic memory, visual and delayed visual episodic memory, and episodic memory, which was statistically significant. Also, in childhood, semantic memory and childhood and adult episodic memory and function of patients were lower than controls.

Acknowledgments

The present article was extracted from the thesis written by Saeed Kordiyan as a part of the requirements for the medical degree and financially supported by a grant (no: 6063) from Shiraz University of Medical Sciences. The authors thank Shiraz University of Medical Sciences, Shiraz, Iran, the Center for Development of Clinical Research at Nemazee hospital, and Dr. Nasrin Shokrpour for editorial assistance.

Footnotes

Authors' Contribution: Study concept and design: Arash Mani and Ali Sahraian; collection of the data: Saeed Kordiyan, Leila Khabir and Ali Sahraian; analysis and interpretation of the data: Arash Mani and Leila Khabir; drafting the manuscript: All authors; critical revision of the manuscript for important intellectual content: Arash Mani and Leila Khabir; statistical analysis: Leila Khabir and Arash Mani.

Conflict of Interests: There is no conflict of interest.

Ethical Approval: IR.SUMS.REC.1393.6360.

Funding/Support: The present article was supported financially by a grant (no: 6063) from Shiraz University of Medical Sciences.

Informed Consent: All individuals to participate in the study expressed their satisfaction by signing written informed consent, and they were allowed to withdraw at any time and also were ensured of the confidentiality of the data.

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