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Learning, memory, and executive control in individuals with obstructive sleep apnea syndrome.

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A range of neuropsychological deficits have been identified in individuals with obstructive sleep apnea syndrome (OSAS) and have been related to disruptions in function of the frontal cortex of the brain. We hypothesized that impairments in the use of strategic, frontally-mediated processes that facilitate learning and memory would be associated with deficits in the long-term episodic memory of verbal material (i.e., word lists). We evaluated 28 adults with OSAS and 24 controls (ranging from 28 to 60 years of age) using the California Verbal Learning Test. General executive abilities were assessed using the Wisconsin Card Sorting Test, Letter fluency, and Category fluency. Individuals with OSAS exhibited poorer recall across learning trials, less efficient use of semantic clustering, and poorer use of semantic cues. Retention of previously encoded information and recognition, however, were intact. With the exception of letter fluency, deficits were not observed in general executive control. Results are discussed within the context of disruptions in the interactions between long-term memory and executive abilities that are subserved by frontal and distal brain regions.

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