

# Enhanced learning and retention of medical information in Alzheimer's disease after differential outcomes training

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Background Adherence to treatment is a crucial factor for patients who have chronic illnesses or multiple morbidities and polypharmacy, which is frequently found in older adults. The non-adherence to medications has important economic and social consequences as well as impacts on the health of the patients. One of the reasons that can explain the low adherence to treatment, is the memory deficits that are characteristics of this population and that are even more evident in cases that involve neurodegenerative diseases. Methods and findings In this study, we explore whether the differential outcomes procedure (DOP), which has been shown to be useful in improving discriminative learning and memory in different populations, may facilitate learning and retention of medical recommendations in older adults who have been diagnosed with Alzheimer's disease. The results demonstrate that when this procedure was applied, the patients showed improvements in learning and long-term retention of two pill/time of day associations in a situation that simulates adherence to medical prescriptions. Conclusions These findings contribute new data about the potential benefits of the DOP in patients with neurodegenerative disorders, highlighting the important role that this procedure could play in addressing important issues related to the health and quality of life of older adults, with or without neurodegenerative diseases, such as low adherence to medical treatments. © 2020 Molina et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.