



Robustness and practical applicability of EvidenceGRADER



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Stream 4

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EvidenceGRADER

GRADE framework is a systematic approach to assessing the available medical evidence for a clinical question to enable clinical practice recommendations

Used a neural approach with a pre-trained language model to predict:

- a GRADE score (4 ratings for certainty of evidence)
- a simplified binary GRADE score
- downgrading reasons (5 indep. binary classifiers)
- downgrading reasons (multi-labelling)



Open question:

Analysis of robustness & application in real-life

- understanding robustness and error disparity across medical domains
- technical considerations and effect of domain shift



COGTALE

Cognitive Treatments Article
Library and Evaluation

Search criteria

BROAD OUTCOME

Global Cognition

POPULATION TYPE

Dementia

INTERVENTION TYPE

Cognitive training

Add Search Property

Retrieved articles

- Cognitive Training in Patients with Alzheimer's Disease: Findings of a 12- month Randomized Controlled Trial**
Trebastoni, A, Imbriano, L, Podda, L, Rendace, L, Sacchetti, M.L, Campanelli, A, D'Antonio, F, and de Lena, C. (2018) Current Alzheimer Research. **VERIFIED**
Background: Cognitive training (CT) is a non-pharmacological intervention based on a set of tasks that reflect specific cognitive functions. CT is aimed at improving cognition in patients with cognitive impairment, though no definitive conclusions have...
- Computerized Structured Cognitive Training in Patients Affected by Early-Stage Alzheimer's Disease is Feasible and Effective: A Randomized Controlled Study**
Cavallo, M., Hunter, E. M., van der Hiele, K., & Angilletta, C. (2016) Archives of Clinical Neuropsychology. **VERIFIED**
Introduction: Alzheimer's disease (AD) presents with significant neuropsychological deficits. Cognitive training in AD has recently started to demonstrate its efficacy. In this study, we implemented computerized cognitive training of a large group of...
- One-year repeated cycles of cognitive training (CT) for Alzheimer's disease**
Bergamaschi, S., Arcara, G., Calza, A., Villani, D., Orgetta, V., & Mondini, S. (2013) Aging clinical and experimental research. **VERIFIED**
Background Recent research suggests that a combination of both pharmacological and psychosocial treatments targeting cognitive functions improves cognition in patients with Alzheimer's disease (AD). The present study evaluated the effectiveness of a ...
- Protecting cognition from aging and Alzheimer's disease: a computerized cognitive training combined with reminiscence therapy.**
Barban, F., Annicchiarico, R., Pantelopoulou, S., Federici, A., Perri, R., Fadda, L., ... & Turchetta, C. S. (2016) International Journal of Geriatric Psychiatry. **VERIFIED**
Objective The aim of this paper was to assess the efficacy of process-based cognitive training (pb-CT) combined with reminiscence therapy (RT) in patients with mild Alzheimer's disease (mAD) and mild cognitive impairment (MCI) and in healthy elderly ...

Adding assessment from EvidenceGRADER (quality score + justification + confidence)

- no ground truth available for GRADE; input representation deviates from Cochrane data
- how consistent are the model outputs on different task variations?

Broader questions:

How affected are accuracy and calibration by the choice of a medical sub-domain?

What's driving the variation in error rates on different sub-domains?

the accuracy of this finding is low. Therefore, it would be premature to make a recommendation for or against this treatment in relation to the specific indication searched here (e.g., population, outcome, etc.) at this time. This advice may change with the accumulation of further high-quality evidence.