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Reference Materials

Title: **Independent and combined effects of cognitive and physical activity on incident MCI**

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Abstract:

Objective

To examine the independent and combined influences of late-life cognitive activity (CA) and physical activity (PA) on risk of incident mild cognitive impairment (MCI).

Methods

We used interval censored survival modeling to examine risk of incident MCI (Clinical Dementia Rating (CDR)=0.5) as a function of CA (high vs. low) and at least moderate intensity PA (any vs. none) among 864 cognitively normal (CDR=0) older adults.

Results

During three annual follow-up waves, 72 participants developed MCI. Compared to low CA with no PA, significant reductions in risk for MCI were observed for high CA with any PA (HR=0.20, 95% CI 0.07–0.52) and low CA with any PA (HR=0.52, 95% CI 0.29–0.93), but not for high CA without PA (HR=0.94, 95% CI 0.45–1.95).

Conclusions

These findings suggest that a combination of CA and PA may be most efficacious at reducing risk for cognitive impairment.

Keywords: Mild cognitive impairment, cognitive activity, physical activity, cohort study, epidemiology, observational study

Key findings:

In summary, our data suggest that a combination of PA and CA in late life may delay the onset of cognitive impairment and that this effect may be influenced to a greater extent by PA relative to CA.

Additional studies are needed to better understand the parameters (i.e. type, duration, intensity, timing) of these activities, separately and combined, that are most effective, and, perhaps most important, who benefits. This will require longitudinal studies with longer followup, perhaps from a life-course perspective or beginning in mid-life. Detailed assessment of CA and PA and careful interpretation of these data are critical when designing nonpharmacological intervention trials.