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REVISIÓN BIBLIOGRÁFICA SEPTIEMBRE 2023
Selección de artículos

Interactive association between insomnia symptoms and sleep duration for the risk of dementia—a prospective study in the Swedish National March Cohort

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Abstract

Objective

Given the importance of sleep in maintaining neurocognitive health, both sleep duration and quality might be component causes of dementia. However, the possible role of insomnia symptoms as risk factors for dementia remain uncertain.

Methods

We prospectively studied 22,078 participants in the Swedish National March Cohort who were free from dementia and stroke at baseline. Occurrence of dementia was documented by national registers during a median follow-up period of 19.2 years. Insomnia symptoms and sleep duration were ascertained by Karolinska Sleep Questionnaire. Multivariable Cox proportional hazards models were used to estimate hazard ratios (HR) and 95% confidence intervals (CI).

Results

Compared to participants without insomnia at baseline, those who reported any insomnia symptom experienced a greater incidence of dementia during follow-up (HR 1.08, 95% CI: 1.03, 1.35). Difficulty initiating sleep versus non-insomnia (HR 1.24, 95% CI: 1.02, 1.52), but not difficulty maintaining sleep or early morning awakening was associated with an increased risk of dementia. Short sleep duration was associated with increased risk of dementia (6 h vs. 8 h, HR 1.29, 95% CI: 1.11–1.51; 5 h vs. 8 h, HR 1.26, 95% CI: 1.00–1.57). Stratified analyses suggested that insomnia symptoms increased the risk of dementia only amongst participants with ≥7 h sleep (vs. non-insomnia HR 1.24, 95% CI: 1.00–1.54, $P = 0.05$), but not amongst short sleepers (<7 h). Short sleep duration also did not further inflate the risk of dementia amongst insomniacs.

Conclusion

Insomnia and short sleep duration increase the risk of dementia amongst middle-aged to older adults.

Disponible en: https://doi.org/10.1093/ageing/afad163

Predictors of persistent opioid use in non-cancer older adults: a retrospective cohort study

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Abstract

Background

Long-term opioid use and associated adverse outcomes have increased dramatically in recent years. Limited research is available on long-term opioid use in older adults.

Objective

We aimed to determine the incidence and predictors of long-term or persistent opioid use (POU) amongst opioid-naïve older adults without a cancer diagnosis.

Methods

This was a retrospective cohort study using five national administrative healthcare databases in New Zealand. We included all opioid-naïve older adults (≥65 years) who were initiated on opioid therapy between January 2013 and June 2018. The outcome of interest was POU, defined as having continuously filled ≥1 opioid prescription within 91–180 days after the index opioid prescription. Multivariable logistic regression was used to examine the predictors of POU.

Results

The final sample included 268,857 opioid-naïve older adults; of these, 5,849(2.2%) developed POU. Several predictors of POU were identified. The use of fentanyl (adjusted odds ratio (AOR) = 3.61; 95% confidence interval (CI) 2.63–4.95), slow-release opioids (AOR = 3.02; 95%CI 2.78–3.29), strong opioids (AOR = 2.03; 95%CI 1.55–2.65), Charlson Comorbidity Score ≥ 3 (AOR = 2.09; 95% CI 1.78–2.46), history of substance abuse (AOR = 1.52; 95%CI 1.35–1.72), living in most socioeconomically deprived areas (AOR = 1.40; 95%CI 1.27–1.54), and anti-epileptics (AOR = 2.07; 95%CI 1.89–2.26), non-opioid analgesics (AOR = 2.05; 95%CI 1.89–2.21), antipsychotics (AOR = 1.96; 95%CI 1.78–2.17) or antidepressants (AOR = 1.50; 95%CI 1.41–1.59) medication use were the strongest predictors of POU.

Conclusion

A significant proportion of patients developed POU, and several factors were associated with POU. The findings will enable healthcare providers and policymakers to target early interventions to prevent POU and related adverse events.

Disponible en: https://doi.org/10.1093/ageing/afad167

Effect of combined physical and cognitive intervention on fear of falling in older adults: A systematic review and meta-analysis

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Abstract

Objective

Fear of falling (FOF) is common among older adults. Currently, physical exercise, cognitive intervention, and combined physical and cognitive intervention have been proven to be effective interventions. However, whether combined interventions can provide additional benefits than single interventions remains unclear. Thus, the systematic and meta-analysis was conducted to explore the immediate and retention effects of combined physical and cognitive interventions, in comparison with a single intervention.

Materials and methods

Randomized controlled trials of combined interventions on FOF in older adults were searched using Web of Science, PubMed, Cochrane Library, EMBASE, SCOPUS, CINAHL, and PsycINFO from inception to March 20, 2023. The risk of bias in included studies was evaluated using the Cochrane Collaboration Risk of Bias tool. Two independent researchers extracted the data using predetermined criteria.

Results

31 studies were included in the systematic review and meta-analysis. For the immediate post-intervention effect, the combined intervention was more effective than the blank/placebo/conventional intervention and the single cognitive intervention, while no additional effect was observed compared with the single physical intervention. Moreover, no additional follow-up retention effects were found when comparing the combined intervention with the single intervention.

Conclusions

Combined interventions had positive immediate effects on FOF in older adults, compared with single cognitive intervention, while combined interventions had a similar effect as a single physical intervention. More well-designed studies are required to explore the additional benefits of combined interventions compared with a single intervention and to investigate the follow-up effects of combined interventions.

Disponible en: https://doi.org/10.1016/j.archger.2023.105173

The Impact of Polypharmacy on Management of Lower Urinary Tract Symptoms in Parkinson's Disease

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Abstract

Lower urinary tract (LUT) symptoms are a common presentation of autonomic dysfunction in Parkinson's disease (PD). Symptoms significantly impact quality of life and are associated with worsening of motor symptoms and increased risk for falls. Different medical co-morbidities can often contribute to LUT symptoms, and a thorough evaluation therefore becomes essential. The effects of medications used for Parkinson's disease and other co-existing medical co-morbidities on LUT symptoms is often underestimated. Treatment options include behavioural therapy, oral agents such as antimuscarinic and beta-3 receptor agonist agents, botulinum toxin and neuromodulation. The first-line oral agents cause adverse effects that may exacerbate pre-existing Parkinson's disease-related symptoms. Furthermore, these oral agents can interact with other medications used in Parkinson's disease, and the challenges posed by interactions on pharmacological effects and metabolism are discussed. Knowledge about drug interactions can help in effective management of such patients and mitigate the risks for developing adverse effects.

Disponible en: https://doi.org/10.1007/s40266-023-01060-2

Sensor-Based Assessment of Variability in Daily Physical Activity and Frailty

Introduction:

Frailty is a common geriatric syndrome associated with decline in physiological reserve. While several digital biomarkers of daily physical activity (DPA) have been used in frailty assessment, the association between DPA variability and frailty is still not clear. The goal of this study was to determine the association between frailty and DPA variability.

Methods:

This is an observational cross-sectional study conducted between September 2012 and November 2013. Older adults (≥65 years), without any severe mobility disorder, and the ability to walk 10 m (with or without an assistive device) were eligible for the study. DPA including sitting, standing, walking, lying, and postural transition were recorded for 48 h continuously. DPA variability was analyzed from two perspectives: (i) DPA duration variability in terms of coefficient of variation (CoV) of sitting, standing, walking, and lying down durations; and (ii) DPA performance variability in terms of CoV of sit-to-stand (SiSt) and stand-to-sit (StSi) durations and stride time (i.e., slope of power spectral density – PSD).

Results:

Data was analyzed from 126 participants (44 non-frail, 60 pre-frail, and 22 frail). For DPA duration variability, CoV of lying and walking duration was significantly larger among non-frail compared to pre-frail and frail groups ($p < 0.03$, $d = 0.89 \pm 0.40$). For DPA performance variability, StSi CoV and PSD slope were significantly smaller for non-frail compared to pre-frail and frail groups ($p < 0.05$, $d = 0.78 \pm 0.19$).

Conclusion:

Lower DPA duration variability in pre-frail and frail groups may be attributed to the set daily routines frail older adults tend to follow, compared to variable physical activity routines of non-frail older adults. Higher DPA performance variability in the frail group may be attributed to reduced physiological capabilities toward walking for longer durations and the reduced muscle strength in the lower extremities, leading to incosistency in performing postural transitions.

Disponible en: https://doi.org/10.1159/000530900

Cognitive Activities, Lifestyle Factors, and Risk of Cognitive Impairment, with an Analysis of the Apolipoprotein Epsilon 4 Genotype

Introduction:

Cognitive stimulating activities and a healthy lifestyle are associated with less cognitive impairment. However, whether the association is varied by Apolipoprotein epsilon 4 (APOE ε4) allele carrier status remains inconclusive. We aimed to investigate whether the association of cognitively stimulating activities and a healthy lifestyle with the risk of cognitive impairment varied by APOE ε4 allele carrier status.

Methods:

A case-control study was conducted for adults aged 60 years and above. Six province administrative units (Beijing, Shanghai, Hubei, Sichuan, Guangxi, and Yunnan) were included using stratified multistage cluster sampling. A total of 1,300 individuals were identified with cognitive impairment (cases) at enrollment and were matched 1:2 on sex, age (±2 years), and residential district with controls who were cognitively normal at the time of the evaluation. We used a standardized questionnaire to collect information on cognitive stimulating activities, lifestyle factors, demographics, and comorbidity. Cognitive stimulating activities included reading books or newspapers, playing cards or mahjong, using the Internet, socializing with neighbors, and community activities. Lifestyle factors included smoking, alcohol drinking, daily tea drinking, and regular exercise. We used logistic regression to assess the interaction between cognitive stimulating activities, lifestyle factors, and APOE ε4 allele carrier status (yes/no) on the risk of cognitive impairment.

We tested for additive interaction by estimating relative excess risk (RERI) due to interaction and multiplicative interaction employing the p value of the interaction term of each lifestyle factor and APOE ε4 into the model.

Results:

Four cognitive stimulating activities were associated with less cognitive impairment regardless of APOE ε4 status. Using the Internet (odds ratio [OR]: 0.53, 95% confidence interval [CI]: 0.30–0.95), daily tea drinking (OR: 0.79; 95% CI: 0.63–0.98), and regular exercise (OR: 0.78; 95% CI: 0.65–0.94) were associated with less cognitive impairment only in noncarriers. Multiplicative and additive interactions were found between community activities and APOE ε4 carrier status (multiplicative p value = 0.03; RERI 0.738, 95% CI: 0.201–1.275).

Conclusion:

The associations between cognitive activities and cognitive impairment were robust regardless of the APOE ε4 carrier status, while the associations between lifestyle factors and cognitive impairment varied by APOE ε4 carrier status.

Disponible en: https://doi.org/10.1159/000531109

Journal of Clinical Interventions In Aging

Effect of Dexmedetomidine on Postoperative Plasma Neurofilament Light Chain in Elderly Patients Undergoing Thoracoscopic Surgery: A Prospective, Randomized Controlled Trial

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Purpose:

Dexmedetomidine exerts a neuroprotective effect, however, the mechanism underlying this effect remains unclear. This study aimed to explore whether dexmedetomidine can reduce the increase in neurofilament light chain (NfL) protein concentration to play a neuroprotective role during thoracoscopic surgery.

Patients and Methods:

Patients aged ≥ 60 years undergoing general anesthesia for thoracoscopic surgery were randomly assigned to receive dexmedetomidine (group D) or not receive dexmedetomidine (group C). Patients in group D received a loading dose of dexmedetomidine 0.5 μg/kg before anesthesia induction and a continuous infusion at 0.5 μg·kg− 1·h− 1 until the end of the surgery. Dexmedetomidine was not administered in group C.

The primary outcome was the NfL concentration on postoperative day 1. The concentrations of procalcitonin (PCT), serum amyloid A (SAA), and high-sensitivity C-reactive protein (hs-CRP) were detected preoperatively and on postoperative day 1. In addition, the numerical rating scale (NRS) and quality of recovery-40 (QoR-40) scores were evaluated.

Results:

A total of 38 patients in group D and 37 in group C were included in the analysis. No differences were observed between the groups in terms of the plasma concentration of NfL preoperatively and on postoperative day 1 (11.17 [8.86, 13.93] vs 13.15 [10.76, 15.56] pg/mL, $P > 0.05$; 16.70 [12.23, 21.15] vs 19.48 [15.25, 22.85] pg/mL, $P > 0.05$, respectively). However, the postoperative plasma NfL concentration was significantly higher than the preoperative value in both groups (both $P < 0.001$). The groups exhibited no differences in PCT, SAA, hs-CRP, NRS, and QoR-40 (all $P > 0.05$).

Conclusion:

Intraoperative administration of dexmedetomidine at a conventional dose does not appear to significantly reduce the increase in postoperative plasma NfL concentration in elderly patients undergoing thoracoscopic surgery. This finding suggests that the neuroprotective effect of dexmedetomidine at a conventional dose was not obvious during general anesthesia.

Disponible en: https://doi.org/10.2147/CIA.S422560