

הקשר בין חוסר בחומצה פולית בדם לסיכון לדמנציה

Serum Folate Deficiency and the Risk of Dementia

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Aim

- The current study aims to examine the associations between serum folate deficiency and the risk of incident dementia in a large national sample of older adults.

Background

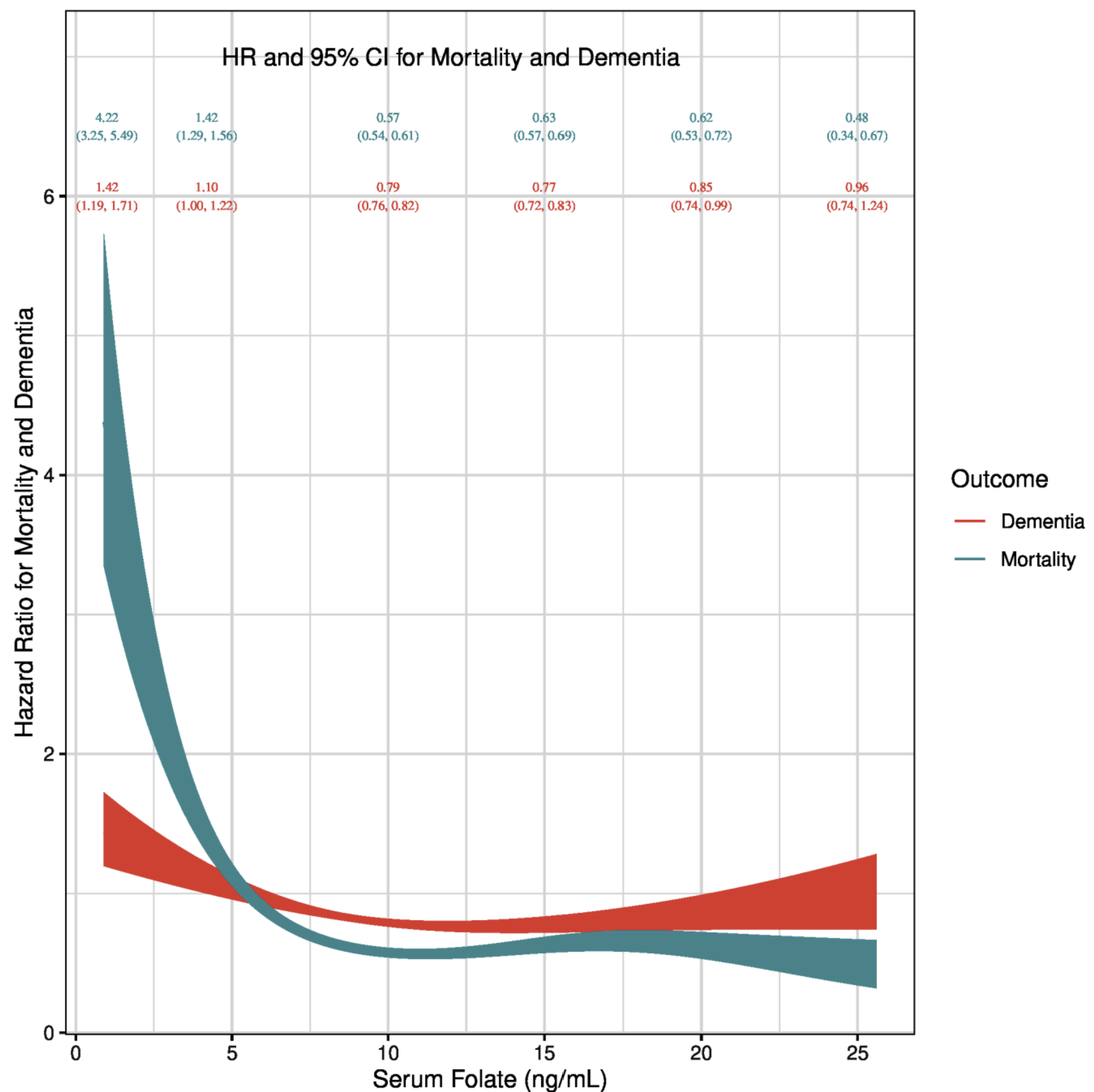
- With aging, serum concentrations of folate decrease, leading to a higher prevalence of a threshold-based medical condition termed serum folate deficiency.
- The highest folate deficiency rates in the population occur among older adults.
- Evidence suggests that serum folate deficiency increases the likelihood of deficits in neurological functioning, situating serum folate as a possible biomarker of dementia.
- However, the few observational studies that have examined the association between serum folate deficiency and the risk of dementia have shown inconsistent results.
- All studies comprised of small sample sizes, and no study of the association between folate deficiency and the risk of dementia has considered that mortality precludes dementia (a bias that is appropriate to account for in studies of older adults) or reverse causation.

Methods

- The current study data were derived from electronic health records held at 'Meuhedet Healthcare Services'.
- A prospective cohort aged 60–75 years without pre-existing dementia for at least 10 years (n=27,188) was tested for serum folate concentrations and followed up for dementia.
- Serum folate deficiency was classified as present (<4.4 ng/mL), otherwise absent.
- HRs and 95% CIs from competing risks Cox models were fitted to quantify the associations between serum folate deficiency and the risks of dementia and all-cause mortality.
- To examine reverse causation, the analysis was stratified by duration of follow-up

Results

- The presence, compared with the absence of serum folate deficiency, was associated with a higher risk of dementia (HR=1.68; 95% CI 1.32 to 2.13; p<0.001).
- Evidence for reverse causation was moderate.



Summary

- Serum folate deficiency (<4.4 ng/mL) was associated with a 1.68-fold increased risk of dementia.
- Therefore, serum concentrations of folate may function as a biomarker used to identify those at risk of dementia.
- However, reverse causation is likely. Our results suggest that serum folate deficiency may be a consequence of preclinical dementia rather than its cause.
- Further research is needed to examine the role of serum folate deficiency in dementia etiology.
- Clinical implications include monitoring and treating serum folate deficiency in older adults for preventative measures and/or as part of implementing therapeutic strategies.

Limitations

- A major limitation of this study relates to the selection of the population. While this study was based on a very large national cohort, it only focused on individuals who were selected to be screened for serum concentrations of folate.
- Additionally, serum concentrations of folate may not be indicative of long-term folate status because of sensitivity to fluctuations in recent food intake and metabolism.