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Title

How do components of social connection interact in their associations with all-cause and CVD mortality?

Priority 1 (Research Category)

Population health and epidemiology

Presenters

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Abstract

Context: Social connection is a complex social phenomenon comprised of functional (eg loneliness) and structural (eg social isolation) components. Each component is associated with all-cause mortality and cardiovascular disease (CVD). However, components may interact in their associations with adverse outcomes and lead to high-risk groups. Objective: Examine separate and combined associations between components of social connection and all-cause (ACM) and CVD mortality (CVDM). Study design/Analysis: Prospective cohort analysis. Cox proportional hazard models adjusted for sociodemographic and health confounders. Sensitivity analyses excluded those with prior CVD/cancer or who died within 2 years of recruitment. Dataset/Population: UK Biobank; 502,536 adults from across UK recruited 2006–10; age 37-73. Instrument: Self-reported exposures- 3 structural social connection components: friends and family visit frequency (FFVF; 6 categories), weekly group activity (yes/no), and living alone (yes/no); 2 functional components: frequency of ability to confide (6 categories), and lonely (yes/no). Outcome measures: ACM and CVDM. Results: Participants with full data (458,136 [91.2%]) included. After median 12.6 years follow-up, there were 33,135 (7.2%) deaths; 5,112 (1.1%) were CVD deaths. Each component was independently associated with outcomes. For FFVF, higher risk was seen from frequencies of monthly and less often. In combined associations, compared to least isolated-not lonely, associations with outcomes strengthened stepwise with each additional component. Lowest FFVF, no group activity, living alone, and not lonely had strongest associations with ACM (HR 95%CI 2.34 [1.65-3.30]). However, for all those with lowest FFVF, estimates overlapped irrespective of other components. There was an interaction between FFVF and living alone; compared to highest FFVF-not living alone, ACM HRs (95% CIs) for lowest FFVF were 1.33 (1.22-1.46) in those not living alone and 1.77 (1.61-1.95) in those living alone. Conclusions: Each social connection component is important. However, those with no friends or family contacts who also live alone are at particularly high risk of mortality and could benefit from targeted intervention. Less than monthly FFVF may represent a threshold of effect

and could inform interventions. UK Biobank data is not representative of UK and associations may not be causal but similar results from sensitivity analyses added weight against reverse causality.