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Title

Combinations of frailty, social isolation and loneliness and the risk of adverse health outcomes: A UK Biobank analysis

Priority 1 (Research Category)

Social determinants and vulnerable populations

Presenters

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Abstract

Context: Three challenges for ageing populations are frailty (a state of reduced physiological reserve), social isolation (objective lack of social connections), and loneliness (subjective experience of feeling alone). Frailty may often co-exist with loneliness or social isolation. Objective: To examine how frailty in combination with loneliness or social isolation is associated with all-cause mortality and hospitalisation rate using data from UK Biobank, a large population-based research cohort. Study design: Longitudinal cohort. Dataset: UK Biobank. Population studied: 502,456 UK Biobank participants were recruited 2006-2010. Instrument: Baseline data assessed frailty (via two measures: frailty phenotype and frailty index, categorised robust/pre-frail/frail), social isolation, and loneliness. Outcomes: Adjusted cox-proportional hazards models assessed association between frailty in combination with loneliness or social isolation and all-cause mortality. Negative binomial regression models assessed hospitalisation rate. Results: Frailty, social isolation, and loneliness are common in UK Biobank (frail as per frailty phenotype 3.38%, frail as per frailty index 4.68%, social isolation 9.04%, loneliness 4.75%). Social isolation/loneliness were more common in frailty/pre-frailty. Frailty is associated with increased mortality regardless of social isolation/loneliness. Hazard ratios for frailty (frailty phenotype) were 3.38 (3.11-3.67) with social isolation and 2.89 (2.75-3.05) without social isolation, 2.94 (2.64-3.27) with loneliness and 2.9 (2.76-3.04) without loneliness. Social isolation was associated with increased mortality at all levels of frailty. Loneliness was only associated with mortality in robust/pre-frail people. Frailty was also associated with hospitalisation regardless of social isolation/loneliness. Incidence rate ratios for frailty (frailty phenotype) were 3.93 (3.66-4.23) with social isolation and 3.75 (3.6-3.9) without social isolation, 4.42 (4.04-4.83) with loneliness and 3.69 (3.55-3.83) without loneliness. At all levels frailty, social isolation/loneliness are associated with increased hospitalisation Results were similar using the frailty index definition. Conclusions: Social isolation is relevant at all levels frailty. Risk of loneliness is more pronounced in those who are robust or pre-frail. Proactive identification of loneliness within primary care regardless of physical health status may provide opportunities for intervention.