Frailty in middle aged linked to higher mortality

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Credit: University of Glasgow

Frailty is a condition commonly associated with old age, however new research has highlighted the significance of frailty in middle age, especially in those living with chronic illness, and the importance of diagnosing it at an early stage.

The study, led by the University of Glasgow's Institute of Health and Wellbeing and published today in *The Lancet Public Health*, found that frailty could be identified in both men and women of all ages between

37 and 73 years-old, and was more common in people with multiple long-term health conditions.

The researchers, who looked at 493,737 participants from the UK Biobank, also found that frailty in middle age was more common in socioeconomically deprived people.

Crucially, the research found that even after accounting for other factors (including socioeconomic status, number of long-term conditions, smoking, alcohol and BMI) people with frailty were at an increased risk of mortality. This was true of men of all ages between 37-73 years-old and women aged 45 and older.

Frailty has been found to be a predictor of mortality, falls, worsening disability, hospitalisation and care home admission in cohorts of elderly people but this is the first research to show that it can be an important issue for younger people too.

Lead author of the study, Professor Frances Mair, Norie Miller Professor of General Practice, said: "People with frailty are understood to be at higher risk of adverse health events, but previous research has almost always focused on older people. In our study we applied the test for frailty to a wider, and younger group of people and found that the condition was present in people of all ages.

"Interventions to reverse frailty or improve patient outcomes have, almost exclusively, focused on the very elderly or those in long-term care. However, our findings indicate that there is a need for a change in focus, to start identifying frailty and intervene much earlier. The hope is, with earlier identification and intervention frailty can be reversed in some patients."

The researchers defined frailty as the presence of three of more out of

five indicators: weakness (reduced grip strength), slowness (gait speed), weight loss, low physical activity, and exhaustion. People with one or two indicators are classified as 'pre-frail'.

Both the National Institute for Health and Care Excellence (NICE) and British Geriatrics Society emphasise the importance of identifying frailty to highlight multimorbid (the presence of two of more health conditions) patients at risk of adverse outcomes who may benefit from treatment optimisation.

Dr. Peter Hanlon, a co-author on the study, said: "Although frailty should be a cause for concern when identified in middle to older aged people, it may be reversible, particularly if it is identified at an early stage. Identifying frailty may have positive implications for care, planning interventions and a patient's prognosis, particularly in individuals who have more than one underlying health condition.

"In light of our findings we suggest that an assessment of frailty should be incorporated into routine monitoring and assessment of people with multimorbidity, which may help identification of those at greater risk to ensure more accurate targeting of care."

Of the nearly 500,000 participants studied, the researchers identified 16,538 'frail' participants (3·3%) and over 185,000 meeting the criteria for 'pre-frailty' (37·5%). The prevalence of frailty was higher in people with long term health conditions. Frailty and pre-frailty were associated with age, female sex, both obesity and underweight, smoking, socioeconomic deprivation and infrequent alcohol intake. Frailty was associated with a greater than two-fold risk of mortality in males and females over the age of 45 and males aged 37-45.

The study, 'Frailty and pre-frailty in middle-aged and older adults and its association with multimorbidity and mortality: a prospective analysis of

493,737 UK Biobank participants' is published in *The Lancet Public Health*.

More information: Peter Hanlon et al. Frailty and pre-frailty in middle-aged and older adults and its association with multimorbidity and mortality: a prospective analysis of 493 737 UK Biobank participants, *The Lancet Public Health* (2018). DOI: 10.1016/S2468-2667(18)30091-4

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