

Epidemiological studies on frailty and its associations with mortality, dementia, and polypharmacy

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Frailty can be defined as an aging-related syndrome of physiological decline, characterized by marked vulnerability to adverse health

outcomes. It is becoming an important public health concern as the aging population increases.

In her thesis, Ge Bai, doctoral student at the Department of Medical Epidemiology and Biostatistics, investigated the associations of frailty with mortality, dementia, and polypharmacy using three Swedish longitudinal studies of aging and comparing the characteristics of frailty between young and old adults using Swedish and U.K. data. Frailty was measured using the frailty index (FI).

What are the most important results in your thesis?

We found that frailty was a strong and independent predictor of adverse outcomes, such as mortality and [dementia](#). The [risk of dementia](#) conferred by frailty started from age 50 and onwards. Those who died before the age of 70 had a steadily increasing frailty trajectory with age, whereas those who died at the oldest age only experienced this type of health deficits from age ~75 and onwards. We also found that adults with polypharmacy may also have a higher risk of frailty.

Why did you choose to study this area?

Because of the rapid changes in aging and the increased life expectancy, it is important to investigate the role of frailty in a longitudinal view and to present evidence-based research to efficiently prevent frailty.

What do you think should be done moving forward in this research area?

Although we found associations between frailty and adverse outcomes in my thesis, the causalities of these associations are still unclear. Further studies are therefore needed to clarify the causal relationships between frailty and adverse outcomes. And due to the risk of frailty on adverse

outcomes found in middle-aged adults in my studies, intervention studies on [frailty](#) for middle-aged adults are needed to tell us what to do on a clinical level.

More information: Epidemiological studies on frailty and its associations with mortality, dementia, and polypharmacy.

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