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Hip Fracture

Associated factors, mortality, and recovery

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Academic dissertation

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Abstract

Background: Hip fracture is a major health concern among older adults, associated with substantial morbidity, mortality, and loss of independence. Despite advances in acute care and rehabilitation, outcomes following hip fracture remain highly variable. As the older population is heterogeneous with regard to health status, functional ability, and individual circumstances, a better understanding of factors associated with the hip fracture risk and associated mortality and recovery is needed.

Aim: The overall aim of this thesis was to examine factors associated with hip fracture and subsequent mortality, as well as older adults' experiences of recovery following hip fracture.

Methods: Four studies were conducted for this thesis using quantitative and qualitative approaches. Studies I and II were performed with data from the population-based Umeå 85+/Gerontological Regional Database cohort of 1,277 adults aged 85 years and older living in northern Sweden. In study I, sex-specific associations of potential risk factors with hip fracture during 5 years of follow up were examined using Cox and competing risk regression. In study II, factors associated with 1-year mortality among participants who sustained hip fractures were examined using Cox regression. Study III included 404 adults aged 70 years and older with hip fractures, and involved the examination of associations of dementia and depressive disorders with mortality at 12, 24, and 36 months using multivariable logistic regression. Study IV had a qualitative longitudinal design and included 13 older adults who were interviewed at 1, 4, and 12 months after hip fracture to explore their experiences of recovery. The data were analyzed using a longitudinal thematic approach.

Results: In study I, the incidence of hip fracture was similar among very old men and women, although the factors associated with the fracture risk differed by sex. Among women, greater functional independence was associated with an increased hip fracture risk. In study II, mortality following hip fracture was high, with nearly half of the very old adults dying within 1 year. Subtrochanteric fracture, previous stroke, and depressive disorders were associated with increased mortality. In study III, dementia was consistently associated with increased mortality at 12, 24, and 36 months after hip fracture, whereas the association between depressive disorders and mortality varied across follow-up time points. The coexistence of dementia and depressive disorders did not contribute to the mortality risk in a simple additive manner. Study IV showed that older adults experienced recovery after hip fracture as a dynamic and non-linear process characterized by periods of progress, stagnation, and setback. Four interrelated themes representing key aspects of recovery were identified: engagement in daily activities, the fear of falling, family members' bridging of the support gap, and striving for independence.

Conclusions: The findings of this thesis research demonstrate that hip fracture in later life should be understood as a complex and life-altering event, rather than solely as an isolated orthopedic injury or an inevitable consequence of aging. The hip fracture risk and subsequent mortality and recovery are shaped by the interplay of functional, clinical, psychological, and social factors. The findings highlight the importance of recognizing heterogeneity among older adults and of considering individual vulnerability, exposure, and recovery experiences beyond chronological age alone.

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