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## Association between depression following stroke and subsequent risk of hip fracture: A population-based cohort study

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**Background:** Depression is a common complication for the post-stroke patients. Post-stroke depression (PSD) is associated with decreased functional recovery that has been reported to be associated with increased risk of falls. This study aimed at exploring the association between depression following stroke and subsequent risk of hip fracture.

**Methods:** Using a longitudinal database for patients with stroke in Longitudinal Health Insurance Database, Taiwan, between 1997 and 2010, two cohorts were categorized from the stroke patients: One with depression within 1 year after the date of newly diagnosed stroke (depression cohort), and the other without depression within 1 year after newly diagnosed stroke (non-depression cohort). Non-depression cohort was matched (1:10) with depression cohort according to age, gender, and index day. Demographic characteristics, comorbidities (including diabetes, hypertension, heart failure, osteoporosis, coronary artery disease, and peripheral vascular diseases), and event (i.e., hip fracture) were compared. Fine and Gray regression model is used for estimation of sub-distribution hazard ratios (sHR) with confidence interval of 95%.

**Results:** Patients with depression had a higher risk of hip fracture compared with the non-depression group (sHR 1.28, 95% C.I.: 0.99-1.66). While depression was associated with remarkably increased risk of hip fracture for patients with age<50 (sHR 3.27, 95% C.I.: 1.45-7.34), no difference was noted for those >50. No gender difference in risk of hip fracture was noted in both depression and non-depression groups. The presence of comorbidities also showed no significant correlation with hip fracture risk in both groups.

**Conclusion:** PSD was a significant contributor to risk of hip fracture in patients with stroke. The impact of PSD had a greater adverse impact on hip fracture risk in the younger population compared with their older counterparts regardless of the gender and the presence of comorbidities.

**Keywords:** Stroke, depression, hip fracture, age

### Biography

Hui-Fang Yeh has completed her Master at the age of 38 years from Fooyin Science and Technology of University and also a doctoral candidate at National University of Nursing and Health care. I'm the Vice Nursing Minister on E-Da hospital. I am continuing work hard at critical care, neurology, nursing education, elderly care, and evidence-based health care.

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