

A Poor Social-Support Trajectory is Associated with Worse Health Outcomes After Hip Fracture

Yea-Ing Lotus Shyu, PhD, RN, FAAN

Distinguished Professor, School of Nursing, Chang Gung University, Taoyuan, Taiwan

Background and purpose

Trajectories of social support have been explored in aging population, although not specifically focusing on those with hip fracture. Little is known about the role of social support in recovery over time after hip-fracture surgery. Therefore, the purpose of this study was to explore trajectories of social support and their role in recovery over 2 years following hip fracture surgery for older persons with diabetes mellitus.

Method

- Data from this secondary analysis came from a subset of clinical trial participants (N=158) with information on social support
- Social support was measured by the Medical Outcomes Study (MOS) Social Support Survey
- Outcome variables were measured at 1, 3, 6, 12, 18, and 24 months following hospital discharge:
 - independence in activities of daily living (ADLs) measured by Chinese Barthel Index (CBI)
 - depressive symptoms measured by Chinese-version Geriatric Depression Scale, short form (GDS-s)
 - health-related quality of life (HRQoL) measured by Medical Outcomes Study Short Form 36 (SF-36), Taiwan version
 - nutritional status measured by Mini Nutritional Assessment (MNA)
 - range of motion and quadriceps muscle strength of the affected hip

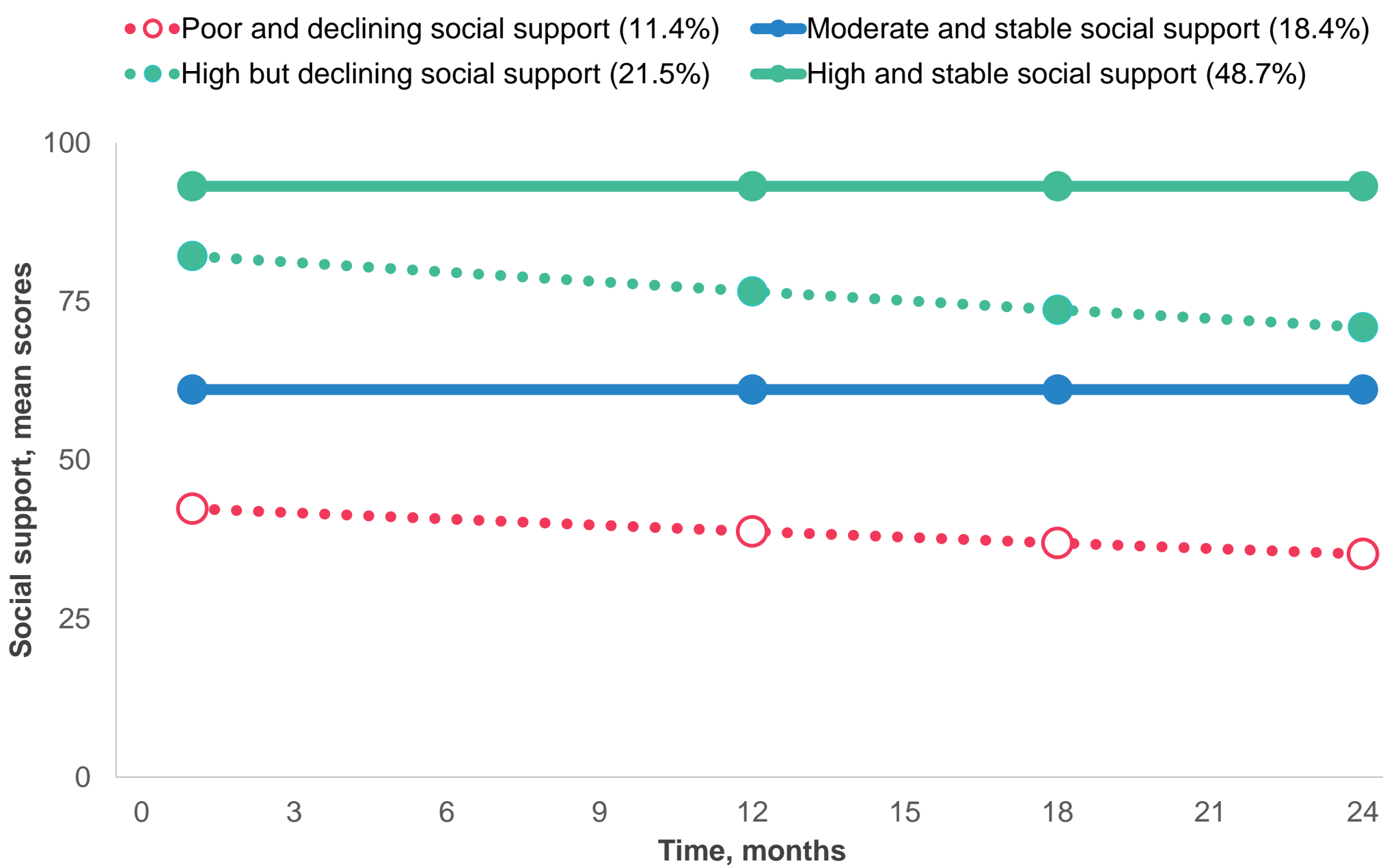


Figure 1. Social-support trajectory groups over time after hip-fracture surgery

Table 1. Participants' demographic and clinical characteristics (N = 158)	
Characteristic	Number (%)
Age (years)	77.8 (8.13)*
Group	
Experimental	80 (50.6)
Control	78 (49.4)
Gender	
Male	39 (24.7)
Female	119 (75.3)
Marital status	
Married	75 (47.5)
Widowed	80 (50.6)
Divorced or single	3 (1.9)
Educational background	
Illiterate	66 (41.8)
Primary school	64 (40.5)
High school and above	28 (17.7)
Number of comorbidities	2.84 (1.12)*
Type of fracture	
Femoral neck	85 (53.8)
Intertrochanteric	70 (44.3)
Subtrochanteric	3 (1.9)
Type of surgery	
Arthroplasty	73 (46.2)
Internal fixation	85 (53.8)
Length of hospital stay (days)	8.48 (5.07)*
Pre-fracture independence in ADL	
Yes	81 (51.3)
No	77 (48.7)
Pre-fracture CBI	90.73 (12.91)*
Time since DM diagnosis (years)	13.13 (10.08)*
At least one DM complication at baseline	
Yes	25 (15.8)
No	133 (84.2)
Attrition	
Yes	25 (15.8)
No	133 (84.2)

ADL activities of daily living, CBI Chinese Barthel Index, DM diabetes mellitus.
*Mean (SD).

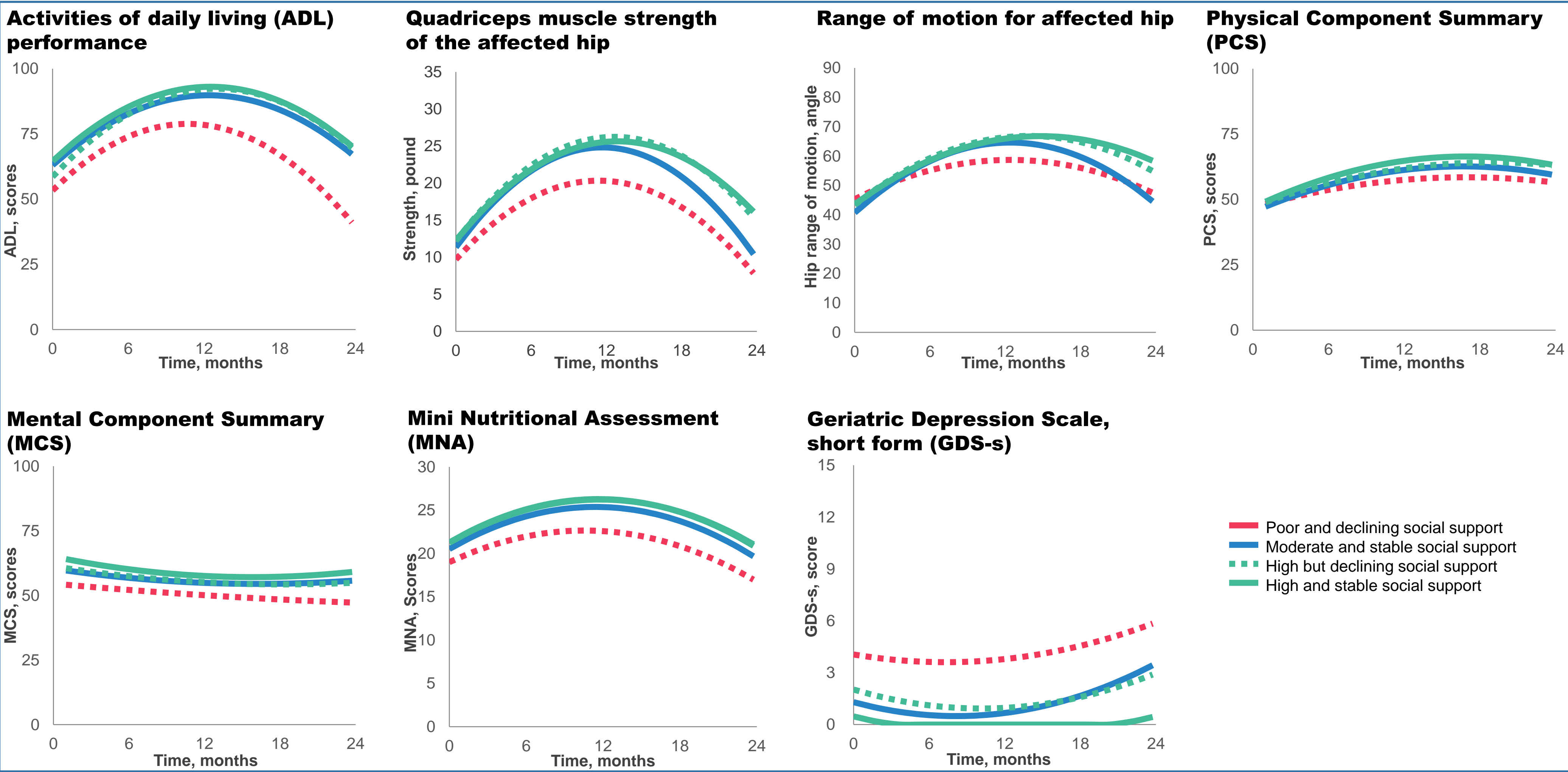


Figure 2. Health-outcome trajectories following hip-fracture surgery for patients in different social-support groups

Conclusions

We found that persons with diabetes mellitus who underwent hip-fracture surgery had four social-support trajectories: poor and declining, moderate and stable, high but declining, and high and stable. Hip-fractured older persons in the high and stable social-support group had better ADL performance, quadriceps muscle power of the affected hip, mental-related HRQoL, nutritional status, and fewer depressive symptoms than those in the poor and declining social-support group; these differences remained until 2 years following hospital discharge. These results suggest continuously assessing social support following hip-fracture surgery and providing interventions specifically to hip-fractured persons with continuously low and declining social support.

Clinical implications

- Social support predicted the functional, emotional, and nutritional recovery of older person after hip-fracture surgery. Therefore, assessing social support and providing appropriate interventions are important in facilitating recovery following hip-fracture surgery. Specifically, social support changes over time following hip fracture. Therefore, we suggest assessing patients' social support following hip-fracture surgery at least every 6 months during the first 2 years after hospital discharge.
- Attention needs to be paid particularly to those with constantly low and declining social support, because they appeared to have the poorest physical function and HRQoL following hip fracture
- Those with low and declining social support be assessed not only for physical function and HRQoL, but also depressive symptoms and nutritional status, with appropriate interventions provided