

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

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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 (DM).

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 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 at 1, 3, 6, 12, 18, and 24 months following hospital discharge.

Results: Over the 2 years following hip-fracture surgery for persons with DM, we found four social-support trajectories: poor and declined ($n = 18$, 11.4%), moderate and stable ($n = 29$, 18.4%), high but declining ($n = 34$, 21.5%) and high and stable ($n = 77$, 48.7%). After controlling for intervention group, age, gender and attrition, social-support trajectory group was found to influence the intercepts for ADL performance, quadriceps muscle strength, MCS, MNA and GDS. Compared to the poor and declining social-support group, the high and stable social-support group had a significantly better ($b = 10.93$, $p < 0.05$) CBI score. Compared to the poor and declining social-support group, the quadriceps muscle strengths of the moderate and stable social-support group ($b = 2.82$, $p < 0.05$), the high but declining social-support group ($b = 3.42$, $p < 0.05$), and the high and stable social-support group ($b = 3.22$, $p < 0.01$) were significantly better. For the affected hip's range of motion, its rate of improvement in the moderate and stable social-support group ($b = 1.29$, $p < 0.05$) was significantly better than that of the poor and declining group during the first year, and its rate of decline was slower ($b = -0.07$, $p < 0.05$) during the second year following discharge. The rate of improvement in PCS for the high and stable social-support group ($b = 0.77$, $p < 0.05$) was significantly better than that of the poor and declining group during the first year. Compared to the poor and declining social-support group, MCS of the high but declining social-support group ($b = 5.83$, $p < 0.05$) and of the high and stable social-support group ($b = 8.98$, $p < 0.01$) were significantly better. Compared to the poor and declining social-support group, MNA scores of the moderate and stable social-support group ($b = 1.96$, $p < 0.05$), of the high but declining social-support group ($b = 2.75$, $p < 0.001$), and of the high and stable social-support group ($b = 2.66$, $p < 0.001$) were significantly better. Compared to the poor and declining social-support group, GDS scores of the moderate and stable social-support group ($b = -2.95$, $p < 0.05$), of the high but declining social-support group ($b = -2.29$, $p < 0.05$), and of the high and stable social-support group ($b = -3.75$, $p < 0.001$) were significantly higher. These differences remained throughout the 2 years following discharge.

Conclusion: The social support has great impact on the recovery post operation for hip fractured older persons. Therefore, the assessment of social support and appropriate interventions are important in facilitating the recovery following hip fracture. Specifically, the social support following hip fracture changes overtime. Therefore, it is suggested to assess the social support following hip fracture at least every 6 months during the first 2 years. Attention needs to pay particularly to those with constantly low and declining social support, because they appeared to have the poorest physical function and HRQoL following hip fracture. Also, for those with low and declining social support, in addition to assessment for

physical function and HRQoL, detection of depressive symptoms and malnutrition with appropriate interventions are suggested.

Title:

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References:

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Abstract Summary:

This presentation will describe types of trajectories in post-operative social support for hip fractured persons with DM and how these trajectory types influence the health outcomes within 2 years following the hip fracture.

Content Outline:**I. Introduction**

A. Recovery after hip fracture has been found to be directly and indirectly affected by social support.

B. Trajectories of social support have been explored in aging populations, although not specifically focusing on those with hip fracture.

C. The purpose of this study was to explore (1) the types of social-support trajectories over 2 years following hip fracture, and (2) the role of these trajectories in recovery following hip-fracture surgery.

II. Body

A. There are different types of social support trajectories following hip fracture surgery.

1. Over the 2 years following hip-fracture surgery for persons with DM, we found four social-support trajectories: poor and declining (n = 18, 11.4%), moderate and stable (n = 29, 18.4%), high but declining (n = 34, 21.5%), and high and stable (n = 77, 48.7%).

B. Higher social support predicting better recovery 6 months up to 2 year following hip fracture.

1. Participants in the high and stable social-support trajectory had better independence in ADL, quadriceps muscle power of the affected hip, mental-related HRQoL, and nutritional status, with fewer depressive symptoms than those in the poor and declining social-support group.

2. These differences remained throughout 2 years following hospital discharge.

III. Conclusion

A. The social support has great impact on the recovery post operation for hip fractured older persons. Therefore, the assessment of social support and appropriate interventions are important in facilitating the recovery following hip fracture.

B. The social support following hip fracture changes overtime. Therefore, it is suggested to assess the social support following hip fracture at least every 6 months during the first 2 years.

C. Attention needs to pay particularly to those with constantly low and declining social support, because they appeared to have the poorest physical function, HRQoL, more depressive symptoms and malnutrition following hip fracture.

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