



# Activities of daily living and quality of life of older patients undergoing hip fracture surgery

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## Background

- Older people often suffer from hip fractures, resulting in severe pain, poor daily physical activity, or even death, and very few patients could regain sufficient physical function.
- Hip fracture not only decreases older patients’ quality of life but also increases medical costs.
- However, few studies have investigated the daily living activities and quality of life of older patients with hip fractures.

## Objective

To evaluate the relationships of activities of daily living and quality of life in Chinese older patients undergoing hip fracture surgery.

**Table1. Correlation analysis between basic attributes and physical activity (BI) and quality of life(SF-36)**

Variable	Age	LOS	BI	PCS	MCS
Age	1				
LOS	0.079	1			
BI	-0.303*	-0.415**	1		
PCS	-0.384**	-0.388**	0.729**	1	
MCS	-0.205	-0.350**	0.716**	0.818**	1

LOS: Lengh of hospital stay; PCS:Physical Component Summary; MCS:Mental Component Summary\**p*<.05; \*\**p*<.01; \*\*\**p*<.001

## Methods

\*A cross-sectional prospective study

\*Inclusion criteria (1) aged >60 years old, and (2) requiring hip fracture surgery as advised by an orthopedist.

\*60 patients completed three valid questionnaires: demographic questionnaire, Barthel Index (BI) questionnaire, and quality of life (SF-36 short-form health survey), at 1 month after surgery.

\*Chronbach- $\alpha$  of BI and SF-36 were .750 and .931, respectively

\*Data analysis: Pearson’s correlations, Independent *t*-tests, and Chi-square test.

**Table2. Demographic stratified according to BI and SF-36 scores after surgery**

Variable	n(%)	BI			PCS			MCS		
		mean±SD	t	p	mean±SD	t	p	mean±SD	t	p
Comorbidities			1.757	.084		1.647	.105		1.229	.224
No	10 (16.7)	75.00±24.72			41.80±10.21			62.09±13.51		
Yes	50 (83.3)	58.60±27.33			34.67±12.88			53.88±20.17		
Hypertension			.751	.456		1.451	.151		.492	.624
No	30 (50.0)	64.00±27.62			38.22±13.03			56.48±19.69		
Yes	30 (50.0)	58.67±27.42			33.50±12.08			54.00±19.30		
DM			1.897	.063		.494	.623		-.383	.703
No	39 (65.0)	66.15±24.75			36.46±12.40			54.54±18.82		
Yes	21 (35.0)	52.38±30.40			34.75±13.44			56.56±20.77		
Renal failure			2.132	<b>0.037*</b>		2.532	<b>.014*</b>		1.588	.118
No	51 (85.0)	64.41±27.20			37.52±12.31			56.89±18.85		
Yes	9 (15.0)	43.89±22.75			26.42±11.00			45.91±20.74		
Parkinson disease			0.854	.397		.863	.392		2.204	<b>.031*</b>
No	56 (93.3)	62.14±27.28			36.24±12.90			56.67±18.93		
Yes	4 (6.7)	50.00±30.82			30.56± 8.53			35.26±15.40		

SD: Standard deviation; ORIF: Open reduction internal fixation; \**p*<.05; \*\**p*<.01; \*\*\**p*<.001

**Table3. Demographic stratified according to BI and SF-36 scores after surgery**

Variable	n(%)	BI			PCS			MCS		
		mean±SD	F	p	mean±SD	F	p	mean±SD	F	p
				Post hoc						Post hoc
Age			1.922	0.137		3.713	<b>0.017*</b>	<b>1&gt;3<sup>a</sup></b>	0.953	0.422
60-69 <sup>1</sup>	12 (20.0)	74.58±27.84			45.67±15.84			62.63±21.47		
70-79 <sup>2</sup>	22 (36.7)	63.86±22.78			35.18±11.50			55.27±19.56		
80-89 <sup>3</sup>	20 (33.3)	54.25±30.14			31.73±10.97			52.97±19.54		
>90 <sup>4</sup>	6 (10.0)	49.17±26.54			32.50± 4.20			47.97±11.93		
Marital status			1.037	0.384		1.292	0.286		1.100	0.357
Single	4 (6.7)	80.00±16.83			45.00± 8.74			65.69±13.73		
Married	23 (38.3)	62.39±26.06			34.88±14.55			50.55±17.99		
Divorced	6 (10.0)	67.50±37.37			41.29±13.84			61.84±23.45		
Widow	27 (45.0)	56.30±28.41			34.13±10.79			56.23±20.07		
Diagnosis			0.284	0.754		1.166	0.319		0.515	0.600
Femoral neck fracture	28 (46.7)	63.93±28.91			38.25±13.64			56.49±19.73		
Intertrochanter fracture	24 (40.0)	58.13±26.61			32.90±11.83			52.35±20.21		
Subtrochanter fracture	8 (13.3)	61.88±26.85			36.38±11.16			59.56±16.21		
Discharge			4.152	<b>0.021*</b>	<b>1&gt;2<sup>a</sup></b>	6.272	<b>0.003**</b>	<b>1,3&gt;2<sup>a</sup></b>	5.193	<b>0.008*</b>
Home <sup>1</sup>	41 (68.3)	66.46±26.75			37.76±13.15			58.54±17.82		
Institution <sup>2</sup>	15 (25.0)	44.67±26.08			27.58± 7.66			42.83±20.11		
Post acute care <sup>3</sup>	4 (6.7)	71.25±13.77			37.43± 3.34			68.05±11.08		

PCS:Physical Component Summary; MCS:Mental Component Summary; a: Scheffe; \**p*<.05; \*\**p*<.01; \*\*\**p*<.001

## Results

- Activities of daily living was positively related to PCS and MCS, but negatively related to age and length of hospital stay. PCS was positively related to MCS, but negatively related to age and length of hospital stay . MCS was negatively related to length of hospital stay (all *p*<0.05)(Table 1).
- Older patients who did not have renal failure with routine hemodialysis had better activities of daily living. Older patient with Parkinson's disease had lower physical quality of life (PCS) than who did not.(all *p*<0.05)(Table 2)
- Patients who returned home after discharge had better activities of daily living and quality of life than those who were sent to nursing home.
- Patients with age group of 60-69 years old had better physical quality of life than group of 80-89 years old(all *p*<0.05) (Table 3).

## Conclusions

- Elderly who were younger or without renal failure or Parkinson's disease, returned home for further care, had better daily living and quality of life.
- The older and longer hospital stays of the patients, the lower the daily activity and physical quality of life.
- The clinical staff should arrange the continuous rehabilitation plan for promoting the recovery of physical activity, provide holistic cares through multidisciplinary team and develop an individual care plan for older patients in reducing hospitalization days and helping the older patients return home safely.

## References

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