Pain and quality of life of Chinese patients with lumbar spine degenerative diseases

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Background

1.Lumbar spine degenerative disease (LDD) refers to lumbar spinal structure deterioration, which includes herniated intervertebral disc (HIVD), lumbar spinal stenosis, and spondylolisthesis.
2.Patients with LDD may suffer from chronic low back pain, radiculopathy, intermittent claudication, and difficulty voiding, resulting in disability of daily activity, sick leave of work, and decrease of quality of life.
3.However, relevant study of this filed is limited in Asia, especially in Taiwan.

Objective

This study examined pain and quality of life of patients with lumbar spine degenerative diseases.

Methods

48 LDD patients underwent lumbar fusion surgery

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Complete questionnaires
* Demographic questionnaire: 13items
* Brief Pain Inventory–Short Form (BPI): 15items
* Quality of Life-BREF (WHOQOL-BREF): 28items

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Statistical Analysis
* Descriptive statistics
* Correlation coefficient
* Independent t-test/One-way ANOVA

Results

1.The majority of participants were female, worked as a laborer, suffered from pre-surgery back and legs pain, had hypertension, diagnosed of HIVD, spinal stenosis as well as spondylolisthesis.
2.Female patients (p=.030) and patients with hypertension (p=.007) perceived higher levels of pain intensity, worked as laborers perceived lower pain intensity than housekeepers (p=.029).
3.Patients had HIVD with HIVD with spinal stenosis and spondylolisthesis perceived higher worst pain scores than those only had HIVD with spinal stenosis (p=.019).
4.Pain intensity was negatively related to physical (r=-.315, p<.05) and psychological (r=-.308, p<.05) quality of life.

Table1. Demographic characteristics & pain intensity before surgery (n=48)

	n (%)	Worst pain (mean ± SD)	p	Average pain (mean ± SD)	p	Present pain (mean ± SD)	p	Least pain (mean ± SD)	p	Post hoc
Sex			.885		.965		**.030***		.565	
Male	22(45.8)	8.68 ± 1.13		7.14 ± 1.28		4.55 ± 2.61		3.50 ± 2.72		
Female	26(54.2)	8.73 ± 1.19		7.15 ± 1.41		6.08 ± 2.13		3.08 ± 2.33		
Work categories			.626		.782		.609		**.029***	3>2
Office worker[1]	5(10)	8.40 ± 1.14		6.80 ± 1.64		5.20 ± 2.68		2.20 ± 1.92		
Laborer[2]	34(71)	8.68 ± 1.25		7.15 ± 1.40		5.59 ± 2.62		2.91 ± 2.45		
Housekeeper[3]	9(19)	9.00 ± 0.71		7.33 ± 1.00		4.67 ± 1.73		5.22 ± 2.05		
Pain location			.867		.678		.674		.176	
Legs	17(35.4)	8.67 ± 1.23		7.27 ± 1.03		5.60 ± 2.13		4.00 ± 3.00		
Back and legs	31(64.6)	8.73 ± 1.16		7.09 ± 1.45		5.27 ± 2.63		2.94 ± 2.21		
Comorbidity										
Hypertension	20(41.7)	8.90 ± 1.67	.334	7.35 ± 1.31	.377	6.45 ± 2.21	**.007***	3.65 ±2.83	.381	
Diabetes mellitus	10(20.8)	8.90 ± 0.88	.559	7.70 ± 1.57	.142	6.30 ± 2.63	.185	4.20 ± 2.97	.189	
CAD	4(8.3)	7.50 ± 1.00	.072	7.25 ± 0.96	.873	5.50 ± 2.08	.917	4.00 ± 2.94	.548	
Diagnosis			**.022***		.116		.295		.287	3>2
HIVD[1]	4(8.3)	9.00 ± 1.41		7.00 ± 2.16		4.00 ± 4.32		1.72 ± 1.26		
HIVD and LSS[2]	6(12.5)	7.40 ± 1.52		6.00 ± 1.00		4.40 ± 3.85		2.40 ± 2.70		
HIVD, LSS, as well as SPL[3]	38(79.2)	8.85 ± 0.99		7.31 ± 1.24		5.64 ± 2.02		3.54 ± 2.53		

Abbreviation: SD, Standard deviation; CAD, Coronary artery disease; HIVD,hemiated intervertebral disc; LSS,lumbar spinal stenosis; SPL, spondylolisthesis; Post hoc: Scheffe method;
*p<.05; **p<.01; ***p<.001

Table2. Correlations between pain intensity & quality of life (n=48)

Variable	Worst pain	Average pain	Present pain	Least pain	PhyQOL	PsyQOL
Worst pain	1					
Average pain	**.381****	1				
Present pain	.040	**.312***	1			
Least pain	.222	.220	.205	1		
PhyQOL	-.156	**-.315***	-.059	.073	1	
PsyQOL	.092	**-.308***	-.154	.119	**.486****	1

Abbreviation: PhyQOL, physical quality of life; PsyQOL, psychological quality of life;
*p<.05; **p<.01; ***p<.001

Conclusions

1. The prevalence of LDD is commonly in the Chinese patients who were female, employed as a laborer, suffered from pre-surgery back and legs pain, and had comorbidity of hypertension.
2. Work categories and severity of lumbar spine degeneration influence the levels of pain intensity.
3. LDD patients suffered from high levels of pain intensity and poor physical and psychological quality of life before they came to doctors for receiving lumbar spine surgery.
4. Patients who worked as laborer perceived lower pain intensity than housekeepers.

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