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Predictors of Quality of Life in Patients With Lumbar Spine Degenerative Diseases

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Background: Lumbar spine degenerative diseases (LDD) often attack people who are more than 50 years old. LDD, also named as lumbar spinal structure deterioration, includes disc narrowing, spinal canal stenosis, and vertebrae body slipping over the adjacent vertebrae. Study revealed that LDD often causes chronic lower back and legs pain, neurogenic claudication, neuropathy, and it also decreases patients' daily functional status. Consequently, LDDs influence the quality of life of patients. However, until now, very few studies have been conducted to investigate the predictors of quality of life in patients with lumbar spine degenerative diseases.

Purpose: This study aimed to examine the predictors of quality of life in Chinese patients with lumbar spine degenerative diseases.

Methods: A cross-sectional study was carried out in LDD patients from the neurosurgical units in a 1500-bed teaching hospital in Taiwan. Patients who were diagnosed by the neurosurgeons and admitted to the hospital for receiving lumbar fusion surgery were included. A sample of 80 patients completed four valid questionnaires, demographic questionnaire, Brief Pain Inventory–Short Form (BPI), Oswestry Disability Index (ODI), and World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire, including physical domain of quality of life (PCS) and psychological domain of quality of life (MCS). The BPI is a 10-point linear scale with 15 items evaluating pain intensity and pain interference. The ODI has 10 questions rated on a 5-point Likert scale to assess disability in terms of daily functional limitations. The WHOQOL-BREF has 28 questions using a 5-point Likert scale to assess quality of life. All questionnaires have good reliability and validity. Pearson's correlations, independent *t*-tests, one-way ANOVAs, and hierarchical regression were used for data analysis.

Results: The 80 participants were with 51.3% being female and with a mean age 56.49 ± 12.19 years. Most patients (83.8%) reported severe pain (VAS scores ≥ 7 to 10), and 28.8% patients have leg pain and 13.8% has back pain due to lumbar spine degenerative diseases. Oswestry Disability Index (ODI) were positively related to age ($r=0.241$), pain VAS scale ($r=0.314$), worst pain ($r=0.410$), average pain ($r=0.381$), present pain ($r=0.340$), and least pain ($r=0.447$), but negatively related to pain location prior surgery ($r=-0.230$) (all $p < 0.05$). Physical domain of quality of life (PCS) were negatively related to pain VAS scale ($r=-0.287$), worst pain ($r=-0.282$), and average pain ($r=-0.392$) (all $p < 0.05$). PCS ($r=0.277$) had a positive relationship with psychological domain of quality of life (MCS). A hierarchical regression model explained 44.7% of the variance in physical domain of quality of life (PCS).

Conclusion: The severe pain the LDD patients perceived, the poor daily function and quality of life they had. Age, leg and back pain prior surgery, average pain level, disability, psychological quality of life, explained 44.7% of the variance in physical domain of quality of life (PCS). Since we suggest that the clinical nurses should provide the proper pain management skills to the patients with LDD, especially the older people. Also, nurses should teach patients to early notice their pain location and daily activity limitation caused by the lumbar spine degenerative diseases, maintain a healthy life style, and go for proper treatment as necessary for prompting better quality of life.

Title:

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Keywords:

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Abstract Summary:

1. This study aimed to examine the predictors of quality of life in Chinese patients with lumbar spine degenerative diseases. 2. Age, leg and back pain prior surgery, average pain level, disability, psychological quality of life, explained 44.7% of the variance in physical domain of quality of life .

Content Outline:

Introduction

(A) Lumbar spine degenerative diseases (LDD) often attack people who are more than 50 years old. LDD, also named as lumbar spinal structure deterioration, causes chronic lower back and legs pain, neurogenic claudication, neuropathy, and it also decreases patients' daily functional status.

(B) Until now, very few studies have been conducted to investigate the predictors of quality of life in patients with lumbar spine degenerative diseases.

Method

1.(A) This study aimed to examine the predictors of quality of life in Chinese patients with lumbar spine degenerative diseases.

(B) A cross-sectional study was carried out in LDD patients from the neurosurgical units in a 1500-bed teaching hospital in Taiwan.

2.(A) A sample of 80 patients completed four valid questionnaires, demographic questionnaire, Brief Pain Inventory–Short Form (BPI), Oswestry Disability Index (ODI), and World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire

(B)All questionnaires have good reliability and validity. Pearson's correlations, independent *t*-tests, one-way ANOVAs, and hierarchical regression were used for data analysis.

Conclusion

(A)hierarchical regression model explained 44.7% of the variance in physical domain of quality of life (PCS).

(B)Age, leg and back pain prior surgery, average pain level, disability, psychological quality of life, explained 44.7% of the variance in physical domain of quality of life (PCS).

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