



## Original Article

# Influence of anxiety and depression symptoms on the quality of life in patients undergoing lumbar spine surgery<sup>☆</sup>



Martins Back Netto<sup>a,\*</sup>, Ana Beatriz Sanches Barranco<sup>b</sup>,  
Karen Waleska Kniphoff de Oliveira<sup>b</sup>, Fabrícia Petronilho<sup>a</sup>

<sup>a</sup> Programa de Pós-Graduação em Ciências da Saúde, Universidade do Sul de Santa Catarina, Tubarão, SC, Brazil

<sup>b</sup> Universidade do Sul de Santa Catarina, Tubarão, SC, Brazil

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## ABSTRACT

**Objective:** Comparative analysis of the quality of life and functionality of patients undergoing lumbar spine arthrodesis due to degenerative lumbar spine disease. The authors sought to correlate the influence of anxious and depressive symptoms before and after surgery.

**Methods:** A prospective cohort study was performed, with 32 patients submitted to arthrodesis due to degenerative lumbar spine disease and the visual analogue pain scale pain questionnaire, the Oswestry Disability Index questionnaire, the Medical Outcomes Survey Short Form questionnaire – 36 items (SF-36), and the Hospital Anxiety and Depression Scale, applied in the preoperative period and four months after the procedure.

**Results:** There was improvement in the mean scores of the visual analogue pain scale ( $p < 0.001$ ) and the Oswestry Disability Index ( $p < 0.001$ ). In the preoperative period, the variables that presented a difference between patients with and without anxiety symptoms were the SF-36 domains of general health ( $p = 0.031$ ), social aspects ( $p = 0.008$ ), and mental health ( $p = 0.035$ ). In the postoperative period, patients without anxiety symptoms showed better results in the vitality ( $p = 0.004$ ), social aspects ( $p = 0.001$ ), mental health ( $p < 0.001$ ), and pain ( $p = 0.011$ ) domains. In the preoperative period, the variable that presented a difference between patients with and without depression was the SF-36 domain of emotional aspects ( $p = 0.022$ ). In the post-operative period, patients without depression presented better vitality ( $p < 0.001$ ), social aspects ( $p < 0.001$ ), emotional aspects ( $p = 0.004$ ), and mental health results ( $p = 0.001$ ).

<sup>☆</sup> Study conducted at Universidade do Sul de Santa Catarina, Tubarão, SC, Brazil.

\* Corresponding author.

E-mail: [mbackn@yahoo.com.br](mailto:mbackn@yahoo.com.br) (M.B. Netto).

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**Conclusion:** Lumbar spine arthrodesis was effective in improving pain, low back pain, functional capacity, limitation due to physical aspects, vitality, and social and emotional aspects. Patients without anxiety and depression symptoms had better results on the scales compared to those with such symptoms.

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## Influência dos sintomas de ansiedade e depressão na qualidade de vida em pacientes submetidos à artrodese de coluna lombar

### R E S U M O

#### Palavras-chave:

Artrodese  
Qualidade de vida  
Dor lombar  
Depressão  
Ansiedade

**Objetivo:** Análise comparativa da qualidade de vida e funcionalidade dos pacientes submetidos a artrodese de coluna lombar devido a doença degenerativa da coluna lombar. Os autores buscaram correlacionar a influência dos sintomas de ansiedade e depressão antes e após a cirurgia.

**Métodos:** Estudo de coorte prospectivo, que acompanhou 32 pacientes submetidos à artrodese por doença degenerativa da coluna lombar e aplicou os questionários escala visual analógica da dor, *Oswestry Disability Index*, *Medical Outcomes Survey Short Form - 36 items* (SF-36) e *Hospital Anxiety and Depression Scale*. Esses questionários foram aplicados no período pré-operatório e quatro meses após o procedimento.

**Resultados:** Observou-se melhoria nas médias das pontuações das escalas escala visual analógica ( $p < 0,001$ ) e *Oswestry Disability Index* ( $p < 0,001$ ). No pré-operatório, as variáveis que apresentaram diferença entre pacientes com e sem sintomas ansiosos foram os domínios de SF36 de estado geral de saúde ( $p = 0,031$ ), aspectos sociais ( $p = 0,008$ ) e saúde mental ( $p = 0,035$ ). No pós-operatório, os pacientes sem sintomas de ansiedade demonstraram melhores resultados nos domínios vitalidade ( $p = 0,004$ ), aspectos sociais ( $p = 0,001$ ), saúde mental ( $p < 0,001$ ) e dor ( $p = 0,011$ ). No pré-operatório, a variável que apresentou diferença entre pacientes com e sem depressão foi o domínio do SF36 de aspectos emocionais ( $p = 0,022$ ). No pós-operatório os pacientes sem depressão apresentaram melhores resultados nos domínios dor ( $p = 0,009$ ), estado geral de saúde ( $p = 0,001$ ), vitalidade ( $p < 0,001$ ), aspectos sociais ( $p < 0,001$ ), aspectos emocionais ( $p = 0,004$ ) e saúde mental ( $p = 0,001$ ).

**Conclusão:** A artrodese de coluna lombar mostrou-se efetiva na melhoria da dor, lombalgia, capacidade funcional, limitação por aspectos físicos e vitalidade, bem como em aspectos sociais e emocionais. Pacientes sem sintomas ansiosos e depressivos apresentaram melhores resultados nas escalas avaliadas quando comparados com aqueles com sintomas de ansiedade e depressão.

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## Introduction

Low back pain is defined as pain, muscle tension, or stiffness, which is established below the rib cage and above the lower gluteal fold, and which may be associated with pain radiating to the lower limbs.<sup>1,2</sup> Lumbar pain accounts for 50% of all chronic musculoskeletal diseases and affects 70% of the population in developed countries.<sup>3,4</sup> Responsible for most orthopedic medical appointments, admissions to hospital, and surgery, it is observed mainly in men over 40 years and women over 50 years.<sup>5</sup> Of the patients affected by this disease, 16.4–73.3% have depression, which is usually associated with worse postoperative results.<sup>6,7</sup>

Lumbar spine arthrodesis is a surgical procedure used for the treatment of low back pain and sciatica due to advanced

degenerative disease that has failed clinical treatment.<sup>8,9</sup> There is no good correlation between the clinical findings and the severity of the disease perceived by patients in relation to painful symptoms and functional disability.<sup>10</sup> Several instruments have been proposed to assess quality of life, psychological aspects, and functional capacity in patients with vertebral disease.<sup>11-15</sup>

Studies have evaluated the repercussion of the surgical procedure for lumbar spine diseases on patients' quality of life and functionality; these data still need to be complemented, correlating them with the pre-existing depressive or anxious state and the postoperative evolution.<sup>10,16</sup> This study is aimed at evaluating the health-related quality of life and functional status of patients before and after posterolateral arthrodesis of the spine with instrumentation, as well as to correlate

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