

The Characteristics Of The Mental Well-being Improvement And Its Predictor In The Patients Undergoing Cervical Surgery; Comparison With The Patients Undergoing Lumbar Surgery

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Background: Mental well-being is essential for patient satisfaction. Therefore, a better understanding of the changes in the mental well-being of patients following spinal surgery can be useful to surgeons.

Objective/Aim: We compared the 2-year postoperative change in the mental well-being of patients who underwent cervical and lumbar decompression surgery. Additionally, the predictive factors for improvement in mental well-being associated with both methods were evaluated

Methods: The patients who underwent spinal decompression surgery and were followed >2 years postoperatively were enrolled (lumbar cohort: n=111, cervical cohort: n=121). The 36-item Short-Form Health Survey (SF-36) mental component summary (MCS) was set as the mental well-being parameter, and the minimal clinically important difference (MCID) was defined as 4.0. After propensity score matching between the cervical and lumbar cohorts and adjustments for age, sex, preoperative comorbidities, and preoperative MCS, a mixed-effect model was used to compare improvements in the MCS between the matched groups. To identify predictors for improvements, the correlation between the MCS changes and preoperative clinical scores was evaluated.

Results: There were no significant differences in the MCS improvement between the adjusted cervical and lumbar cohorts; 47% and 49%, respectively, had MCS improvement score >MCIDs. However, predictors for the improvement were different between the two cohorts: SF-36 Social functioning in cervical surgery and lower back pain and SF-36 Role physical in lumbar surgery.

Conclusion: Although there was no significant difference in the improvement in the mental well-being between patients who underwent either cervical or lumbar decompression surgery, less than half of the patients in both groups achieved a meaningful improvement. Preoperative back pain and personal activity were independent predictors in the lumbar cohort, while social functioning was the only predictor in the cervical cohort.