

Introduction

Low back pain has an immense impact on the US economy, with two-thirds of the annual \$100 billion expenditure directly related to decreased productivity at work (1). A significant number of these patients undergo surgical management in order to regain meaningful functionality in daily life and in the workplace (2-10). Return to work (RTW) is a key measure in spine outcomes research, as it has profound implications for both individual patients and the economy at large (11).

Methods

The lumbar module of QOD was queried for patients who were employed at the time of surgery and had plan to RTW. Good outcomes were defined as patients who had no adverse events (readmissions/complications), had achieved 30% change in Oswestry disability index (ODI) and were satisfied (NASS satisfaction) at 3-month post-surgery. Distinct multivariable logistic regression models were fitted with RTW as outcome for a. overall population and b. the patients with Good outcomes.

Results

Of the total 12435 patients, 10604(85.3%) successfully returned to work at one-year post-surgery. Among patients who achieved good surgical outcomes, 605(7%) failed to RTW (Figure-1). For both the overall and subgroup analysis, older patients had lower odds of RTW. Gender-wise, females had lower odds of RTW compared to male patients. Patients with higher back pain and those with higher baseline ODI had lower odds of RTW. Patients with longer duration of symptoms, more physically demanding occupations, workers compensation and those who were on leave or had short-term disability leave at the time of surgery had a higher risk of failure to RTW independent of their good surgical outcomes (Figure-2,3).

Conclusions

This study identifies certain risk factors for failure to RTW independent of surgical outcomes. Most of these risk factors are occupational; hence, involving the patient's employer in treatment process and setting realistic expectations may help improve the patients work-related functionality.

Learning Objectives

1. In this study we identify the risk factors for failure to RTW after elective lumbar surgery.
2. In addition, we identified the risk factors for failure to RTW in patients who had otherwise good surgical outcomes.

References

- 1.Katz JN. Lumbar disc disorders and low-back pain: socioeconomic factors and consequences. *J Bone Joint Surg Am.* 2006;88 Suppl 2:21-4.
- 2.Aalto TJ, Malmivaara A, Kovacs F, Herno A, Alen M, Salmi L, et al. Preoperative predictors for postoperative clinical outcome in lumbar spinal stenosis: systematic review. *Spine (Phila Pa 1976).* 2006;31(18):E648-63.
- 3.Copeland B. Surgical versus nonsurgical treatment for back pain. *N Engl J Med.* 2007;357(12):1255; author reply -6.
- 4.Spengler DM. Lumbar discectomy. Results with limited disc excision and selective foraminotomy. *Spine (Phila Pa 1976).* 1982;7(6):604-7.
- 5.Weinstein JN, Tosteson TD, Lurie JD, Tosteson AN, Hanscom B, Skinner JS, et al. Surgical vs nonoperative treatment for lumbar disk herniation: the Spine Patient Outcomes Research Trial (SPORT): a randomized trial. *JAMA.* 2006;296(20):2441-50.
- 6.Deyo RA, Mirza SK, Martin BI, Kreuter W, Goodman DC, Jarvik JG. Trends, major medical complications, and charges associated with surgery for lumbar spinal stenosis in older adults. *JAMA.* 2010;303(13):1259-65.
- 7.North RB, Kidd D, Shipley J, Taylor RS. Spinal cord stimulation versus reoperation for failed back surgery syndrome: a cost effectiveness and cost utility analysis based on a randomized, controlled trial. *Neurosurgery.* 2007;61(2):361-8; discussion 8-9.
- 8.Ragab A, Deshazo RD. Management of back pain in patients with previous back surgery. *Am J Med.* 2008;121(4):272-8.
- 9.Weiner DK, Kim YS, Bonino P, Wang T. Low back pain in older adults: are we utilizing healthcare resources wisely? *Pain Med.* 2006;7(2):143-50.
- 10.McGirt MJ, Bydon M, Archer KR, Devin CJ, Chotai S, Parker SL, et al. An analysis from the Quality Outcomes Database, Part 1. Disability, quality of life, and pain outcomes following lumbar spine surgery: predicting likely individual patient outcomes for shared decision-making. *Journal of neurosurgery Spine.* 2017;27(4):357-69.
- 11.Graver V, Ljunggren AE, Loeb M, Haaland AK, Lie H, Magnaes B. Background variables (medical history, anthropometric and biological factors) in relation to the outcome of lumbar disc surgery. *Scand J Rehabil Med.*