

Evaluating the Relationship Between Disability Index and Pain Scores in Chronic Pain Patients Undergoing Interventional Pain Procedures: A Quality Improvement Case Report

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Case Diagnosis: Over a 5 month period, 36 patients received corticosteroid injections for their affected body region (knee, cervical spine, or lumbar spine) and were evaluated with ODI and NRS questionnaires immediately before and 2 weeks after injections.

Case Description: Our clinic utilized the numeric rating scale (NRS) for assessing patients' pain severity prior to and after interventional pain treatments. However, the NRS only captures the unidimensional metric of pain intensity. The goal of our quality improvement (QI) project was to implement an additional validated measure, the Oswestry Disability Index (ODI), to more comprehensively identify patient outcomes following interventional pain procedures and provide information regarding functional levels for mobility and activities of daily living (ADLs).

Setting: Single-Center PM&R & Pain Outpatient ClinicAssessment/

Results: To maintain internal validity and control for confounding variables such as the timing of questionnaire completion, only responses recorded at 2 weeks post-procedure were included in our analysis. Of 36 patients, 9 provided responses at both pre-procedure and 2 weeks post-procedure. The mean ODI and NRS for 6 patients decreased by 53.5% and 61.5% compared to pre-op measures, respectively. However, for the remaining 3 patients, the mean 2-week post-procedure ODI increased by 19.5% while their NRS scores declined by 60.6%.

Discussion: Comparing pre- and post-procedure data of the 9 patients meeting inclusive criteria, 6 patients reported outcomes with a positive correlation between the ODI and NRS. In contrast, 3 patients demonstrated reduced pain intensity (decreased NRS) but decreased functional levels (increased ODI). In these scenarios, the ODI identified limitations in ADLs that would have otherwise been obscured using NRS alone, thereby informing the need for targeted rehabilitation therapy.

Conclusion: Supplementing NRS with ODI can offer a multidimensional assessment for patient outcomes and facilitate value-based care. Even if contrary to NRS scores, ODI may be an effective tool for identifying targeted rehabilitation goals.

Level of Evidence: Level V

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