Combinations of certain social risk factors of race, sex, education, socioeconomic status (SES), insurance, employment, and one's housing situation have been associated with poorer pain and disability outcomes after lumbar spine surgery.

An exploration of such factors in patients with cervical spine surgery was conducted by Rethorn et al. they aimed to 1) define the social risk phenotypes of individuals who have undergone cervical spine surgery for myelopathy and 2) analyze their predictive capacity toward disability, pain, quality of life, and patient satisfaction-based outcomes

The Cervical Myelopathy Quality Outcomes Database was queried for the period from January 2016 to December 2018. Race/ethnicity, educational attainment, SES, insurance payer, and employment status were modeled into unique social phenotypes using latent class analyses. Proportions of social groups were analyzed for demonstrating a minimal clinically important difference (MCID) of 30% from baseline for disability, neck and arm pain, quality of life, and patient satisfaction at the 3-month and 1-year follow-ups.

A total of 730 individuals who had undergone cervical myelopathy surgery were included in the final cohort. Latent class analysis identified 2 subgroups: 1) high risk (non-White race and ethnicity, lower educational attainment, not working, poor insurance, and predominantly lower SES), n = 268, 36.7% (class 1); and 2) low risk (White, employed with good insurance, and higher education and SES), n = 462, 63.3% (class 2). For both 3-month and 1-year outcomes, the high-risk group (class 1) had decreased odds (all $p < 0.05$) of attaining an MCID score in disability, neck/arm pain, and health-related quality of life. Being in the low-risk group (class 2) resulted in an increased odds of attaining an MCID score in disability, neck/arm pain, and health-related quality of life. Neither group had increased or decreased odds of being satisfied with surgery.

Although 2 groups underwent similar surgical approaches, the social phenotype involving non-White race/ethnicity, poor insurance, lower SES, and poor employment did not meet MCIDs for a variety of outcome measures. This finding should prompt surgeons to proactively incorporate social consciousness care pathways within healthcare systems, as well as to optimize community-based resources to improve outcomes and personalize care for populations at social risk [1)].

The impact of the choice of a Patient-reported outcome measures (PROM) and the cut-off values for 'meaningful important differences' (MID) on the study results in patients with lumbar spinal stenosis (LSS) is unclear.

The objective is to study the consequences of applying different PROMs and values for MID for pain and disability on the proportions of patients with improvement.

Prospective multi-center cohort study.

Proportions of patients with improvement using established MID cut-off values were calculated and compared for PROMs for pain and disability. RESULTS:

466 patients with LSS completed a baseline and 6-month follow-up assessment and were analyzed. Treatment modalities included surgery (65 %), epidural steroid injections (15 %), or conservative care (20 %). The prevalence of patients fulfilling the criteria for MID ranged from 40 to 70 % across all outcome measures and cut-offs. The agreement of the spinal stenosis outcome measure (SSM) symptom subscale with other pain scales, and the SSM function subscale with other function scales was fair to moderate (Cohen's κ value between 0.24 and 0.5). Disagreement in the assessment of MID

(MID reported by patients in one scale but not the other) was found in at least one-third of the patients.

The MID in outcome scores for this population varied from 40 to 70 %, depending on the measure or cut-off score used. Further, the disagreement between domain specific measures indicates that differences between studies may be also related to the choice of an outcome measures. An international consensus on the use and reporting of outcome measures in studies on lumbar spinal stenosis is needed [2)].

1)

Rethorn ZD, Cook CE, Park C, Somers T, Mummaneni PV, Chan AK, Pennicooke BH, Bisson EF, Asher AL, Buchholz AL, Bydon M, Alvi MA, Coric D, Foley KT, Fu KM, Knightly JJ, Meyer S, Park P, Potts EA, Shaffrey CI, Shaffrey M, Than KD, Tumialan L, Turner JD, Upadhyaya CD, Wang MY, Gottfried O. Social risk factors predicting outcomes of cervical myelopathy surgery. J Neurosurg Spine. 2022 Jan 28:1-8. doi: 10.3171/2021.12.SPINE21874. Epub ahead of print. PMID: 35090132.

2)

Wertli MM, Buletti FC, Held U, Rasmussen-Barr E, Weiser S, Burgstaller JM, Steurer J. A comparison between different outcome measures based on “meaningful important differences” in patients with lumbar spinal stenosis. Eur Spine J. 2016 May 13. [Epub ahead of print] PubMed PMID: 27177468.

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