

ARE ALL PAIN SCALES THE SAME? COMPARING THREE MEASURES OF PAIN INTENSITY IN CHRONIC LOW BACK PAIN WITH AND WITHOUT SCOLIOSIS

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In chronic low back pain with or without scoliosis, ODI, SRS-22, and COMI classify pain similarly but differ in absolute values, limiting their interchangeability.

BACKGROUND

- Pain measurement is essential but challenging
- Multiple pain scales (e.g., ODI, SRS-22, COMI) are commonly used in low back pain assessment.
- Differences in format may influence responses

Agreement between three pain measures was assessed.

Table 1: Spearman's correlation coefficients between ODI, SRS-22, and COMI pain scores (normalized values).

	All subjects	Scoliosis + low back pain	Low back pain	p-value
ODI and SRS-22	0.50	0.49	0.55	0.548(ns)
ODI and COMI	0.61	0.61	0.64	0.677(ns)
SRS-22 and COMI	0.69	0.68	0.7	0.788(ns)

	Females	Males	p-value
Scoliosis + low back pain			
ODI and SRS-22	0.48	0.57	0.517(ns)
ODI and COMI	0.6	0.69	0.383(ns)
SRS-22 and COMI	0.68	0.71	0.775(ns)
Low back pain			
ODI and SRS-22	0.54	0.63	0.633(ns)
ODI and COMI	0.61	0.83	0.099(ns)
SRS-22 and COMI	0.7	0.66	0.752(ns)

Table 2: Kendall's W and ICC among pain scores (normalized values) from ODI, SRS-22 and COMI questionnaires.

	All subjects (N = 417)	Females (365)	Males (52)	SLBP (319)	LBP (98)
Kendall's W	0.74	0.73	0.79	0.74	0.79
ICC	0.61	0.61	0.64	0.60	0.65

Scales rank patients similarly but are not interchangeable

Pain scales show moderate-to-high agreement, but only moderate absolute concordance.

AIM

To determine and compare the responsiveness of three pain scales or questions about pain intensity in a group of patients with chronic LBP (CLBP) with and without scoliosis.

METHODS

- **Design:** Secondary analysis of a cross-sectional study
- **Sample:** 417 subjects from an original cohort of 1,092 with complete data
- **Groups:** scoliosis with low back pain (SLBP) and low back pain (LBP)
- **Pain measures:**
 - ODI (pain at the moment)
 - SRS-22 (pain in the last month)
 - COMI (pain in the last week)
- **Analysis:** agreement assessed using Spearman correlation, Kendall's W, and ICC

RESULTS

- **417 subjects** (88% female), mean age 65 ± 10 years
- Groups: **SLBP (n = 319)**, **LBP (n = 98)**
- Pain levels were similar across scales (ODI/SRS-22 ≈ 3; COMI ≈ 5)
- Correlation: **moderate to high** ($\rho = 0.50-0.69$)
- Kendall's W: **0.74-0.79**
- ICC: **0.60-0.65** (moderate)
- No significant differences by sex or pathology

CLINICAL SIGNIFICANCE

Pain scales can be used to classify patients consistently, but should not be used interchangeably for quantitative comparisons.



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Stefano Negrini own stock of ISICO.
All other authors have no conflicts of interests to declare.