



TITLE: Roland-Morris Disability Questionnaire for Low Back Pain: Accuracy and Reliability

DATE: 29 June 2015

RESEARCH QUESTION

What is the accuracy and reliability of the Roland-Morris Disability Questionnaire for low back pain?

KEY FINDINGS

Four systematic reviews and eight non-randomized studies were identified regarding the accuracy and reliability of the Roland-Morris Disability Questionnaire for low back pain.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2010 and June 12, 2015. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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Table 1: Selection Criteria

Population	Patients requiring physiotherapy (e.g., musculoskeletal conditions and injuries)
Intervention	Roland-Morris Disability Questionnaire
Comparator	Other back pain scales, no comparator
Outcomes	Accuracy, reliability, ease of use
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and non-randomized studies.

Four systematic reviews and eight non-randomized studies were identified regarding the accuracy and reliability of the Roland-Morris Disability Questionnaire for low back pain. No relevant health technology assessments or randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Four systematic reviews¹⁻⁴ were identified regarding the accuracy and reliability of the Roland-Morris Disability Questionnaire (RMDQ) for low back pain. All four reviews¹⁻⁴ compared the RMDQ to the Oswestry Disability Index (ODI). One systematic review¹ reported the ODI to be more reliable than the RMDQ for patients with low back pain only, and those with low back pain and leg pain; however, reliability decreased when time between testing increased. Another systematic review² found there was no consistent advantage of the RMDQ over the ODI. Two systematic reviews³⁻⁴ reported that both the RMDQ and the ODI were reliable and validated.

Eight non-randomized studies⁵⁻¹² were identified regarding the accuracy and reliability of the RMDQ for low back pain. Responsiveness and reliability of the RMDQ may rely upon the patient population being tested. The following table summarizes the reported findings of the non-randomized studies.

Table 2: Summary of Findings of Non-Randomized Studies

First author, Year	Population	Intervention	Comparator	Author Findings and Conclusions
Paraes, 2015 ⁵	133 adults with low back pain (any duration or etiology)	RMDQ	ODI 2.1a, SF-36, VAS	The RMDQ showed good internal consistency, intra-observer reliability, construct validity, concurrent criterion validity, and correlated well with other scales
Takekawa, 2015 ⁶	50 adult, office workers with chronic or recurring low back pain	RMDQ	NMQ, VAS	NMQ alone had a higher success rate of correctly identifying subjects with low back pain, compared to RMDQ, NMQ and VAS together

Table 2: Summary of Findings of Non-Randomized Studies

First author, Year	Population	Intervention	Comparator	Author Findings and Conclusions
Caporaso, 2012 ⁷	37 adults with chronic, non-specific low back pain	RMDQ	Prolonged flexion, stair climb, lift test, stand to floor, roll-up test, sock test, fingertip-to-floor test, pick-up test	RMDQ scores at baseline correlated with 7 of the functional tests; 7-23% of the variance in RMDQ scores was explained by psychological factors, the remainder was explained by functional tests.
Hall, 2011 ⁸	831 patients with low back pain undergoing rehabilitation	RMDQ	PSFS	For patients with low levels of activity limitation, the PSFS is more responsive than the RMDQ, but not for patients with high levels of activity limitation
Preuper, 2011 ⁹	293 patients with non-specific, chronic low back pain	RMDQ	SCL-90-R	There was a weak relationship between RMDQ and SCL-90-R, suggesting that psychosocial distress is weakly related to disability in patients with chronic low back pain
Yoh, 2011 ¹⁰	44 osteoporotic patients with low back pain	RMDQ	SF-8	Bodily pain, as well as other subscales of the SF-8 contributed to scores on the RMDQ
Demoulin, 2010 ¹¹	212 patients with non-specific, chronic low back pain	RMDQ	GPE	Agreement parameters decreased when the time interval between test and retest was increased
Maughan, 2010 ¹²	63 patients with chronic low back pain, referred to education class and back exercise	RMDQ	NRS, ODI, PSEQ, PSFS	After participation in the class, PSFS and PSEQ were more responsive in measuring change in patients, however, these findings are limited by study characteristics

GPE = Global Perceived Effect; NMQ = Nordic Musculoskeletal Questionnaire; NRS = Numerical Rating Scale; ODI = Oswestry Disability Index; PSEQ = Pain Self-Efficacy Questionnaire; PSFS = Patient-Specific Functional Scale; RMDQ = Roland-Morris Disability Questionnaire; SCL-90-R = Symptom Checklist-90-Revised; SF-8 = Short Form 8; SF-36 = Short Form 36; VAS = Visual Analogue Scale

REFERENCES SUMMARIZED

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

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Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

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APPENDIX – FURTHER INFORMATION:**Non-Randomized Studies***Modified Versions of the Scale*

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