Physical Functioning and Pain in Chronic Low Back Pain: A Systematic Review of Psychometric Properties of Various Outcomes Measures

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OBJECTIVE
To evaluate the methodological quality of studies that evaluated psychometric properties of functioning and pain outcome measures for CLBP using Consensus-based Standards for the selection of health status Measurement Instruments (COSMIN) checklist

MATERIALS AND METHODS
A systematic search was conducted following the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines
We searched PubMed and EMBASE databases from inception to June 2015 with specific key words.
Longitudinal cohort and cross sectional studies which included at least one assessment of psychometric property of outcome measures in CLBP patients were included.
Studies published in English language and on humans were included.
Studies published as reviews, editorials and case reports and other than CLBP were excluded.
Two reviewers independently performed study selection, data extraction and quality assessment procedures; disagreements between reviewers were resolved through discussion.

The COSMIN Checklist with 4-point Scale

INTRODUCTION
The American Academy of Family Physicians defines Low Back Pain (LBP) as “pain, muscle tension, or stiffness located below the costal margin and above the inferior gluteal folds, with or without radiating.”
LBP is said to be chronic (CLBP) when it persists for 12 weeks or more.
There is no clear consensus about the diagnosis, treatment, and assessment of outcomes for treatment of CLBP.
Since pain is subjective, the effectiveness of CLBP treatment is assessed using outcome measures catering to various domains such as pain, quality of life, mood, sleep, and functional capacity (physical, cognitive, emotional, and social).
A variety of such outcome measures have been used in CLBP randomized controlled trials (RCTs) for assessing efficacy of different treatment options
The analysis of psychometric properties of such outcome measures will provide a basis for selecting the best measurement instrument for a specific purpose.
Many studies have evaluated the psychometric properties of various physical functioning and pain outcome measures used in CLBP. RCTs.
It is also important to assess the methodological quality of the studies which have investigated psychometric properties of the CLBP outcome measures

RESULTS
Our study was done with an intention to assess the methodological quality of some of these measures having the core domains in the background to achieve comprehensive multidimensional evaluation of outcome in LBP.
IMMPACT propose that any intervention should have a high impact on patients’ outcomes in particular pain, disability or psychological distress.
For these to be meaningful, the outcome measures considered in these RCTs must be valid and represent the true impact of the intervention on various domains.

DISCUSSION
Many treatment options are in use for CLBP, but there is no clear consensus as to which treatment modality is the best.
RCTs on CLBP have focused on the statistical significance of change in scores from outcome measures.
Examples for such outcome measures include:
- Oswestry Disability Index
- Roland/Morris Disability Questionnaire (RMDQ)
- Quebec Back Pain Disability Score (QBDPS)
- Pain catastrophizing scale
- Disability Rating Index etc.

CONCLUSIONS
We found moderate methodological quality for most of the measures to advise tools use based on psychometric properties.
Further research is needed to investigate the psychometric properties of all outcome measures used in CLBP research.

REFERENCES
6. QBPDS = Quebec back pain disability score

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