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Research Paper Review

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Advice for Acute Low Back Pain - Comparing Guideline Recommendations with Supporting Research

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Stevens ML, Lin CC, de Carvalho FA, et al.

ABSTRACT

INTRODUCTION: *Advice is widely considered an effective treatment for acute low back pain (LBP); however, details on what and how to deliver this intervention is less clear. The purpose of this study is to assess and compare clinical trials hat test advice for acute LBP with practice guidelines for their completeness of reporting and concordance on the content, method of delivery, and treatment regimen of advice interventions.*

METHODS*: Advice randomized controlled trials were identified through a systematic search. Guidelines were taken from recent overviews of guidelines for LBP. Completeness of reporting was assessed using the Template for Intervention Description and Replication checklist. Thematic analysis was used to characterize advice interventions into topics across the aspects of content, method of delivery, and regimen. Concordance between clinical trials and guidelines was assessed by comparing the number of trials that found a statistically significant treatment effect for an intervention that included a specific advice topic with the number of guidelines recommending that topic.*

RESULTS: *Guideline recommendations were discordant with clinical trials for 50% of the advice topics identified.*

DISCUSSION: *The median (interquartile range) completeness of reporting for clinical trials and guidelines was 8 (7-9) and 3 (2-4) out of nine items on the Template for Intervention Description and Replication checklist, respectively.*

CONCLUSION*: Completeness of reporting was less than ideal for randomized controlled trials and extremely poor for guidelines. The recommendations made in guidelines of advice for acute LBP were often not concordant with the results of clinical trials. Taken together, these findings mean that the potential clinical value of advice interventions for patients with acute LBP is probably not being realized.*

ANALYSIS

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Background Information

All international guidelines include and recommend advice as an effective treatment for acute low back pain (LBP) (1). However, the details surrounding this particular intervention (such as the content, method of delivery, and treatment regimen) are not clearly defined, despite the importance of these details in guiding the administration of advice in practice.

The *Template for Intervention Description and Replication (TIDieR)* checklist can be used to assess whether all key aspects of an intervention have been reported in randomized controlled trials (3). To date, no studies have investigated whether the advice interventions recommended in the clinical guidelines for LBP are in concordance with those studied in trials. Thus, we do not know if clinical practice guidelines are appropriately informing clinicians wishing to deliver effective, evidence-based advice to patients with acute LBP.

This study:

1. assessed the completeness of reporting of advice interventions tested in RCTs and recommended in practice guidelines;
2. characterized the content, method of delivery, and regimen of advice interventions in RCTs and guidelines; and
3. assessed the concordance between the advice interventions supported by RCTs and those recommended in acute LBP clinical practice guidelines.

Pertinent Results:

Categorization of Advice Interventions

21 RCTs and 14 guidelines were included. Advice interventions for RCTs and guidelines were categorized as follows:

Content of Advice – 4 topic categories were identified:

1. Advice about mechanisms and course of LBP, including education on the structures of the back and how they are damaged, how back pain is caused and experienced, and the consequences of LBP
2. Advice about being physically active, including education on maintaining or improving general levels of physical activity, limiting physical activity, returning to work as soon as possible, and specific exercise recommendations
3. Advice on self-management of LBP, including education on ways to manage or cope with pain, ways to manage stress, and ways to avoid or minimize the pain
4. Advice on the medical management of LBP, including explanations of treatment options and further diagnostic tests

Methods of Advice Delivery:

This included the media used for advice delivery and the setting. Within RCTs, most advice was provided face to face, most commonly individually, and provided through booklets or handouts. Only half of the guidelines mentioned delivery method, favoring individual, face-to-face sessions and booklets or handouts.

Advice Regimens:

This included the period of time over which the advice sessions were conducted, and the total time required to deliver the advice. The most commonly tested regimen in the RCTs was a single advice session. Only one guideline made recommendations in this area, suggesting that advice interventions should run for more than 2 hours. It was not clear if this should be split over multiple sessions or provided as a block.

Concordance Between RCTs and Guidelines

Content of Advice:

Only 6 of 12 advice topics were considered concordant between RCTs and guidelines. The guidelines overstated the support for three advice topics (those being: LBP as a benign condition with good prognosis, staying active, and early return to work) and underplayed the support for the three self-management topics. For example, all guidelines recommended advice to stay active, while only 15% of RCTs showed positive effects with this advice. On the other hand, only 21% of guidelines supported advice on pain management and coping skills, although this was supported by 60% of RCTs.

Methods of Advice Delivery:

The use of booklets or handout, face-to-face delivery, and video delivery provided in an individual setting were all supported by both the RCTs and guidelines, while the use of

telephone delivery and delivery in a group or mixed (group and individual) setting were underplayed in the guidelines. However, telephone communication was only found to be positive in one RCT.

Advice Regimens:

The guidelines provided essentially no information on advice regimens. RCTs were more likely to be positive when multiple advice sessions were used and when the delivery of advice took longer than 20 minutes. This suggests that advice interventions need to be delivered in multiple session over a number of weeks, however, the optimal length of each session remains unclear.

Clinical practice guidelines for acute LBP were generally found to provide an incomplete description of advice interventions, while RCTs on advice tended to provide more complete descriptions.

CLINICAL APPLICATION & CONCLUSIONS

The results of this systematic review raise questions regarding the usefulness of the current guidelines for providing evidence-based information on advice interventions for patients with acute LBP. The results suggest there is much room to improve the processes used to develop guidelines, specifically that guidelines should provide more complete descriptions of advice interventions. As well, where evidence is lacking on a particular aspect, guidelines could still include recommendations, with acknowledgement that the strength of the evidence behind this recommendation is weak. Guideline authors also need to ensure that their recommendations are concordant with the findings in the research literature. It is possible that guidelines may be biased toward simpler, more easily-implemented components with more involved self-management strategies being underplayed.

Despite the lack of concordance demonstrated between RCT results and clinical guideline content, rest assured the use of advice as a treatment for acute LBP was generally supported in the literature. The details of providing advice, however, including the specific content, delivery method and optimal treatment regimen, are still unclear and require more study.

STUDY METHODS

A systematic search was conducted of MEDLINE, EMBASE, CENTRAL, and PEDro from inception to September of 2015 using the Cochrane Back and Neck Group key words for LBP and RCTs (4), combined with key words for education or advice (5). Practice guidelines were sourced from guideline overviews.

A single reviewer screened titles and abstracts and retrieved full text articles. These were further screened by two independent reviewers using the following inclusion and exclusion criteria.

Inclusion Criteria:

- RCTs that utilized true randomization (meaning quasi-RCTs were excluded)
- Subjects with acute (
- Studies utilizing advice interventions (verbal, written, or audio-visual, including web-based interventions) given by a health-care professional to improve patients' understanding of their back problem and appropriate management (5). Co-interventions were allowed as long as the advice component accounted for > 50% of the total treatment regimen.
- Studies utilizing no treatment, placebo, or another treatment as a control (including different advice)
- Articles including a clinical outcome for acute LBP (like pain, disability, work status or health-related quality of life)
- Articles written in English
- Practice guidelines identified by Koes et al. (1) and Verhagen et al. (6) that were written in English and made recommendations on advice for the management of acute LBP

Exclusion Criteria:

- Mixed-duration populations or trials including specific populations other than nonspecific LBP (such as those with Ankylosing Spondylitits, sciatica, or those who with pregnancy-related LBP)

The *Template for Intervention Description and Replication (TIDieR)* checklist items 1-9 were used to guide extraction of details regarding the advice interventions. These include the name or description of the intervention, the rationale or theory behind the intervention, the materials and procedures used to conduct the intervention, details of who provided the intervention, how, where, when and how much was provided, and any planned personalization of the intervention. Data was extracted by two independent reviewers, with disagreements resolved by discussion or consensus, or by a third reviewer if consensus was not reached.

Concordance between RCTs and guidelines was assessed for content, method of delivery and regimen by comparing the number of trials that found a statistically significant treatment effect for an intervention against the number of guidelines recommending that topic. Concordance was then evaluated as balanced if the proportion of guidelines recommending the topic was within 25% of the proportion of trials finding a statistically significant treatment effect. Results falling outside of this were classified as underplayed if

the guideline proportion was below the trial proportion, or overstated if the guideline proportion was above the trial proportion.

STUDY STRENGTHS/WEAKNESSES

Strengths:

- RCTs were identified through a strong systematic search and thoroughly assessed for completeness of reporting and description of advice interventions using the TIDieR scale.

Weaknesses:

- A descriptive method of analysis was used to assess concordance between RCTs and guidelines. Simply examining the percentage of positive trials within each does not necessarily denote the strength or direction of the evidence.

- Analysis of advice as an intervention was complicated by the presence of co-interventions and the variety of comparison interventions. These differences were difficult to account for.

- Some studies that were commonly cited by the guidelines were not included in this review. This could have affected the rates of concordance.

- The guidelines were almost 8 years old (on average), so may not be representative of the most current research.

Additional References:

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