Musculoskeletal Science and Practice 44 (2019) 102060

Contents lists available at ScienceDirect

Musculoskeletal Science and Practice

journal homepage: www.elsevier.com/locate/msksp

Cochrane review summary

Are Back Schools beneficial for patients with chronic non-specific low back pain? - A Cochrane Review summary with commentary☆,☆☆

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The aim of this commentary is to discuss in a rehabilitation perspective the recently published Cochrane Review "Back Schools for chronic non-specific low back pain" by Parreira et al. (2017),[1] under the direct supervision of the Cochrane Back and Neck Group. This Cochrane Corner is produced in agreement with Musculoskeletal Science and Practice by Cochrane Rehabilitation.

1. Background

Low back pain (LBP) is the most common form of musculoskeletal pain, with a relevant personal, social and economic impact. More than 80% of people experience LBP at least once in their life. When LBP becomes chronic (CLBP), the possibility of a complete resolution becomes unlikely, with an estimate that only 5% of patients obtain complete resolution of symptoms. The reported prevalence of CLBP ranges from 1.4 to 15.6% (Fatoye et al., 2019). Moreover, while acute LBP is usually self-limiting, CLBP shows all the issues of persistent diseases, thus warranting a rehabilitation approach to help manage the condition and improve quality of life (Kovacs et al., 2005). In this respect, Back School (BS) is probably one of the oldest rehabilitation approaches, based on the idea of educating patients about spine anatomy and biomechanics, function, ergonomics, optimal posture, and exercises to improve function (Forssell, 1980).

2. Schools for chronic non-specific low back pain (Parreira P, Heymans MW, van Tulder MW, Esmail R, Koes BW, Poquet N, Lin CWC, Maher CG, 2017)

2.1. What is the aim of this cochrane review?

The aim of this Cochrane Review was to determine the effect of BS on pain and disability among adults with nonspecific CLBP.

2.2. What was studied in the cochrane review?

The population included adults (18–70 years old) with non-specific CLBP (more than 12 weeks' duration). Non-specific indicates that no specific cause was detected, such as infection, neoplasm, metastasis, osteoporosis, fracture, or inflammatory arthritis.

The intervention studied was any kind of BS. The primary outcomes were pain and disability. The secondary outcomes were work status and adverse events.

2.3. Search methodology and up-to-dateness of the cochrane review?

The review authors searched for studies published up to November 25th, 2016. The Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, CINAHL, two other databases and two trials registers were searched for trials. The reference lists of eligible papers were also searched and experts in the field of LBP management were consulted to identify any other potentially relevant study. There were no limitations for language or date of publication.

DOI of original article: https://doi.org/10.1016/j.msksp.2019.07.005

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☆☆ The views expressed in the summary with commentary are those of the Cochrane Corner author(s) and do not represent the Cochrane Library or Wiley.

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[1] The abstract/plain language summary of this Cochrane Review is taken from a Cochrane Review previously published in the Cochrane Database of Systematic Reviews (2017), Issue 8, CD011674, DOI: 10.1002/14651858.CD011674.pub2 (see www.cochranelibrary.com for information). Cochrane Reviews are regularly updated as new evidence emerges and in response to feedback, and Cochrane Database of Systematic Reviews should be consulted for the most recent version of the review.

https://doi.org/10.1016/j.msksp.2019.102060

Available online 14 September 2019

2.4. What are the main results of the cochrane review?

The review included 30 studies with a total of 4105 participants. For the outcome pain, the review shows:

- at short-term follow-up, there is very low-quality evidence that BS is more effective than no treatment;
- very low-quality evidence that there is no significant difference between BS and no treatment at intermediate-term or long-term follow-up;
- low-quality evidence that BS reduces pain at short-term follow-up compared to medical care;
- very low-quality evidence of no significant difference between BS and medical care at intermediate-term or long-term follow-up;
- Very low-quality evidence that BS is no more effective than passive physiotherapy at short-term, intermediate-term, or long-term follow-up;
- very low-quality evidence that BS is not better than exercise at short-term follow-up;
- low-quality evidence that BS is not better than exercise at intermediate-term and long-term follow-up.

For the outcome of disability, the review shows:

- very low-quality evidence that BS is no more effective than no treatment at intermediate term and long-term follow-up; medical care at short-term and long-term follow-up; passive physiotherapy at short-term and intermediate-term follow-up; and exercise at short-term, intermediate-term, and long-term follow-up.
- very low-quality evidence of a small difference between BS and no treatment at short-term follow-up and medical care at intermediate-term follow-up.
- very low-quality evidence that passive physiotherapy is better than BS at long-term follow-up.

Few studies measured adverse effects. Due to this lack of information, it was not possible to statistically pool the adverse events data.

2.5. What did the authors conclude regarding the evidence?

The authors concluded that due to the low-to very low-quality evidence for all treatment comparisons, outcomes, and follow-up periods investigated, it is uncertain if BS is effective for chronic low back pain. Although the quality of the evidence was mostly very low, the results showed no difference or a marginal effect in favor of Back School. The main limitations come from the low number of studies for each comparison and the varying protocols including very intensive and long lasting programs (36 sessions over 12 weeks) as well as brief interventions (4 sessions over 4 weeks)(Dufour et al., 2010; Garcia et al., 2013). Pooling these differing protocols leads to a further bias: for this reason there is clearly a need for additional clinical trials. If we look at the evidence coming from the comparisons with exercise, stretching and passive physiotherapy, which appeared to be somewhat effective modalities, we could conclude that BS can be applied in CLBP patients. Unfortunately, if compared to no treatment, there were only trivial advantages of Back school in the short term, and even fewer advantages in the mid-to long-term.

Based on the current evidence, the authors concluded that there does not appear to be sufficient justification for using back school in clinical practice. It might have a role in clinical settings where better interventions aren't available or aren't affordable. Decisions should be shared with the patients.

2.6. What are the implications of the cochrane evidence for practice in rehabilitation?

Back school has been a common rehabilitation approach for many years. Despite a promising rationale, current evidence seems unable to support its application in clinical practice to improve pain and disability in patients with chronic low back pain.

BS is an approach based on education and exercises provided in groups. What has changed most in recent years have been the content of the educational messages (Traeger et al., 2015), while for exercises we do not have convincing data that any one approach is superior to others (Searle et al., 2015). Different protocols have been developed over time, with different degrees of intensity, duration and with different messages (Cecchi et al., 2010; Dufour et al., 2010; Garcia et al., 2013). The original BS offered quite negative messages, in terms of giving strict indications about what to avoid. Over the intervening years messages have become more positive, with more attention about what to do and how to do it. This latter approach seems more appropriate to support psychological wellness in patients whose mindset is often quite fragile. Unfortunately, no clear comparisons among the different protocols are available, and we have no conclusive information about the effectiveness and efficacy of BS for CLBP.

Nevertheless, since the BS approach has changed over time, we performed a qualitative check of the RCTs included in this Cochrane review and found that more recent studies seems to provide better results for pain at long term compared to no treatment, and that more active educational protocols gave better results in terms of pain improvement at long term. Unfortunately, these are suggestions based on two small studies only (Lankhorst et al., 1983; Lonn JH, Glomsrod B, Soukup MG, Bo K, Larsen S, 1999). Subgrouping is not really possible at this stage, given the sparse data, and our check is only qualitative. Consequently, it may give some insights on future Currently, we can say that there is moderate quality evidence that education is effective for low back pain, provided the correct messages are given (Hayden et al., 2005); there is also moderate quality evidence that exercise can be effective for chronic low back pain, independently from the type of exercises given (Saragiotto et al., 2016); we don't know about the evidence of group therapy for low back pain. The combination of all these treatments together, under the common name of BS, provides very low-quality evidence of efficacy.

Disclosures

Stefano Negrini has a stock of ISICO (Italian Scientific Spine Institute), Italy.

Acknowledgements

The author thanks Cochrane Rehabilitation and Cochrane Back and Neck Group for reviewing the contents of the Cochrane Corner.

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