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Cochrane review summary

Is multidisciplinary biopsychosocial rehabilitation effective on pain, disability, and work outcomes in adults with subacute low back pain? A Cochrane Review summary with commentary

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A B S T R A C T

The aim of this commentary is to discuss, in a rehabilitation perspective, the Cochrane Review "Multidisciplinary biopsychosocial rehabilitation for subacute low back pain" (Marin et al., 2017)[1] published under the 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

Globally, low back pain (LBP) has ranked as the leading cause of disability for almost three decades, contributing nearly 65 million years lived with disability in 2017 alone (GBD 2017 Disease and Injury Incidence and Prevalence Collaborators, 2018). The significant association of LBP with impairments in body functions, activity limitations and participation restrictions (Cieza et al., 2004) leading to significant disability is a challenge for rehabilitation professionals. Multidisciplinary biopsychosocial rehabilitation (MBR) stands out as an attractive option to meet the complex needs of individuals with LBP which may not be addressed by usual care or other treatments. MBR is defined as rehabilitation programs that target physical, psychological, social and/or occupational aspects of LBP, delivered by multiprofessional teams with different backgrounds and training in pain clinics, rehabilitation centers, or outpatient settings (Marin et al., 2017). A Cochrane review team searched for evidence regarding the effectiveness of MBR in the subacute stage of LBP to see if timely interventions targeting biopsychosocial factors might prevent the transition to chronic LBP.

Multidisciplinary biopsychosocial rehabilitation for subacute low back pain (Marin et al., 2017)

2.1. What is the aim of this Cochrane review?

The aim of this Cochrane Review was to examine the effectiveness of MBR in adults with subacute LBP (with pain lasting for a duration of 6–12 weeks) on primary outcomes of pain, back-specific disability, and work status.

2.2. What was studied in the Cochrane review?

The population addressed in this review was adults with subacute LBP. The intervention studied was multidisciplinary biopsychosocial rehabilitation. The intervention was compared to usual care and other treatments (e.g., a 'mini' intervention including light mobilization and a graded activity program; a brief clinical intervention including education and advice on exercise; functional restoration; or psychological counselling). The primary outcomes studied were pain, back-specific disability/functional status, and work status (return-to-work, sick leave days) with the primary follow-up point defined as long term (i.e. 12 months or more).

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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 6, DOI: https://doi.org/10.1002/14651858.CD002193.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. 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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2.3. Search methodology and up-to-dateness of the Cochrane review

The review authors searched for relevant randomized controlled trials (RCTs) in any language that had been published up to 13 July 2016 using a computer-aided search of the Cochrane Central Register of Controlled Trials, MEDLINE, Embase, CINAHL, PsycINFO and two trials registers (ClinicalTrials.gov and World Health Organization International Clinical Trials Registry Platform).

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

The review included 9 RCTs with data from 981 participants (mixed samples of males and females) with mean ages ranging between 32.0 and 43.7 years in trials. All studies were judged to have a high risk of bias.

The review shows that:

When multidisciplinary biopsychosocial rehabilitation was compared to usual care at 12-month follow-up in individuals with subacute LBP

- There is moderate quality evidence that patients receiving MBR had less pain (4 trials with 336 participants)
- There is low quality evidence that patients receiving MBR had less back-specific disability (3 trials with 240 participants)
- There is very low quality evidence that patients receiving MBR had increased likelihood of return-to-work (3 trials with 170 participants)
- There is low quality evidence that patients receiving MBR had fewer sick leave days (2 trials with 210 participants)

When multidisciplinary biopsychosocial rehabilitation was compared to other treatments in individuals with subacute LBP

- No differences were found between the groups receiving MBR or other treatment in terms of pain (2 trials with 336 participants) or functional disability (2 trials with 345 participants) based on low quality evidence
- No differences were found between the groups receiving MBR or other treatment in terms of time away from work (2 trials with 158 participants) based on very low quality evidence
- None of the included studies reported on adverse events.

2.5. How did the authors conclude?

The authors concluded that individuals with subacute LBP who receive MBR usually do better than those who receive usual care; but it is not clear whether they do better than individuals who receive some other type of treatment. However, the research included in the review provides mainly low to very low quality evidence. Therefore, there is a need for additional high-quality RCTs to determine the value of MBP with definitive recommendations for clinical practice.

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

If we interpret the evidence using qualitative statements based on the certainty of evidence (Cochrane Norway, 2017), moderate quality/certainty evidence indicates that MBR probably improves pain slightly (due to low effect size) when compared to usual care. However, low quality/certainty evidence suggests that MBR may reduce disability slightly (due to low effect size) and may reduce days of sick leave (due to moderate effect size) when compared to usual care. On the other hand, very low quality/certainty evidence raises doubts as to whether MBR improves return to work when compared to usual care. Low quality/certainty of evidence leads to the conclusion that MBR may make little or no difference to pain or disability when compared to other treatments. If the evidence on an outcome is only of moderate quality/certainty, it is likely that further research may have an impact on the authors' confidence in the estimate of effect and the evidence may change in future research. If there is only low quality evidence, the true effect may be substantially different from the effect estimate; it is very likely that further research would have an important impact on the authors' confidence in the effect estimate and evidence is likely to change in future research (Guyatt et al., 2008). Therefore, it is important for rehabilitation professionals to continue with further research to provide more definitive evidence on the effectiveness of MBR in individuals with subacute LBP. Furthermore, it is also important to select LBP specific outcomes based on the International Classification of Functioning, Disability and Health (ICF) (W.H.O., 2001) in future research to delineate the effects of MBR on specific problems in functioning which may be quite significant for decision-making for clinical practice in rehabilitation. For example, the studied outcomes in this Cochrane Review—pain, back-specific disability/functional status, and work status—have great significance for rehabilitation professionals. On the other hand, the spectrum of problems in functioning in individuals with LBP is very broad based on the ICF framework (W.H.O., 2001). The problems may relate to a large number of ICF category titles ranging from emotional functions to sleep functions in the body functions component as well as those ranging from handling stress and other psychological demands to using transportation, driving, and family relationships and many others in the activities and participation component (Cieza et al., 2004). However, disability/functional status as general terms having been assessed by a cumulative single score may not reveal important information on aforementioned numerous specific functioning problems. Therefore, we are not able to perceive on which specific impairments in body functions-other than pain- or on which specific activity limitations or participation restrictions-other than work relevant- MBR would be effective. This issue is argued in a recent study regarding the use of primary outcomes in Cochrane reviews on stroke indicating the importance of focusing on specific activities for facilitating clinical decision making and the application of evidence in rehabilitation practice (Engkasan et al., 2019). The use of ICF for standardized reporting of rehabilitation interventions in clinical trials and systematic reviews would make study findings more relevant, useful, reliable to stakeholders including patients, healthcare professionals, and decision-makers (Stucki et al., 2019). Moreover, it is also important to assess the impact of different components of MBR separately as well as costs employing economic analyses in future research.

Declaration of competing interest

The author declares no conflicts of interest.

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