



Are person- and work-directed interventions effective for enhancing return-to-work in patients with coronary heart disease? 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 “Interventions to support return to work for people with coronary heart disease”^[1] by Hegewald, Wegewitz, Euler, van Dijk, Adams, Fishta, Heinrich, Seidler,^a under the direct supervision of Cochrane Work Group. This Cochrane Corner is produced in agreement with the *Turkish Journal of Physical Medicine and Rehabilitation* by Cochrane Rehabilitation.

Background

Patients with coronary heart disease (CHD) often face significant problems in functioning as described based on the International Classification of Functioning, Disability and Health (ICF).^[2] These have the potential to restrict their participation in major life areas including return-to-work. A heart attack or a procedure such as coronary artery bypass grafting (CABG) or percutaneous coronary intervention (PCI) may result in impairments in body functions such as energy and drive functions, emotional functions (anxiety, depression), exercise tolerance functions, muscle power, and endurance functions. This may lead to activity limitations such as reduced walking distance and difficulties in carrying out daily routine, handling stress and other psychological demands, driving or using transportation, as well as barriers in environmental

factors such as those in the workplace as expressed using the ICF language.^[2] These problems in functioning may make work resumption difficult, cause absence from work for a long time, and jeopardize remunerative employment/return-to-work. Providing rehabilitation services to patients with cardiovascular conditions is an important area in Physical Medicine and Rehabilitation,^[3] which specifically addresses the impairments, activity limitations, and participation restrictions of individuals with disabling health conditions to facilitate their functioning in interaction with the environment.^[4] Therefore, evidence on interventions to promote work participation (e.g. return-to-work) is important for rehabilitation professionals to select effective and evidence-based interventions. A Cochrane Review looked at studies involving interventions to enhance return-to-work.^[1]

Interventions to support return to work for people with coronary heart disease (Hegewald et al., 2019)^[1]

What is the aim of this Cochrane review?

The aim of this Cochrane Review was to evaluate the effects of person-directed and work-directed interventions provided with an aim to enhance return-to-work in patients with CHD (after a myocardial infarction, CABG, or stent implantation or those with angina), compared to usual care or no intervention.

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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 authors and do not represent the Cochrane Library or Wiley.

What was studied in the Cochrane review?

The population addressed in this review was adults aged 18 years or over with a diagnosis of CHD (recovering from myocardial infarction, a coronary revascularization procedure such as CABG or PCI [implanting stents]) who were employed at the time of diagnosis (remunerative employment including self-employment) and on sick-leave due to CHD with at least 80% of whom were not working at the start of the trials. The interventions studied were all interventions which made return-to-work easier such as (i) person-directed interventions including a) psychological interventions (mostly counseling and health education addressing patients' anxieties, fears or depression and providing information on CHD) and b) physical conditioning interventions (exercise programs); (ii) work-directed interventions (modifying working conditions such as reducing work hours or tasks at the workplace); or (iii) any combinations of these interventions. The interventions were compared to no intervention or usual care. The primary outcome studied was return to work as measured using return-to-work rates (proportion of patients with CHD returning to work) or the time needed to return to work (number of days until returning to work). Secondary outcomes studied included health-related quality of life and adverse events such as reinfarction, deaths, and hospital readmissions.

Search methodology and up-to-dateness of the Cochrane review

The review authors searched for studies that were published up to October 11, 2018 using the Cochrane Central Register of Controlled trials (CENTRAL), MEDLINE (PubMed), Embase (OVID), NIOSHTIC, NIOSHTIC-2, PsycINFO, HSELINE, CISDOC, and LILACS along with clinical trial registeries (clinicaltrials.gov and WHO portal of trials) for the identification of ongoing trials.

What are the main results of the Cochrane review?

The review found 39 randomized-controlled trials (RCTs) (including 1 cluster RCT and 4 three-armed RCTs).

The review shows that:

When comparing person-directed psychological counseling and usual care

- The authors were uncertain whether person-directed psychological counseling interventions increased return-to-work rates (proportion of

patients with CHD who returned to work) in the short-term (follow-ups less than 6 months) (6 trials) or in the mid-term (follow-ups from 6 to 12 months) as certainty of the evidence were assessed as very low (7 trials).

- There was low-certainty evidence that these interventions may make little or no difference in the proportion of patients with CHD working in the long-term (follow-ups of 1 to 5 years) (3 trials).
- There was also uncertainty (very low-certainty evidence) on whether the intervention decreased the number days until return-to-work (2 trials).

When comparing person-directed, work-directed counseling and usual care

- There was low-certainty evidence that work-directed counseling may make little to no difference in the number of days until return to work (4 trials).
- There was moderate-certainty evidence that the intervention probably resulted in little to no difference in cardiac death rates (2 trials).

When comparing person-directed, physical conditioning interventions and usual care

- There was uncertainty (very low-certainty evidence) on whether physical conditioning interventions (exercise) increased return-to-work rates in the short-term (at follow-ups less than 6 months) (4 trials)
- There was low-certainty evidence that exercise may cause little to no difference in return-to-work rates in the mid-term (at follow-ups from 6 to 12 months) (5 trials) and maintaining work after one year (2 trials).
- There was low-certainty evidence that exercise may result in little to no difference in the time (number of days) until return-to-work (4 trials).
- There was moderate-certainty evidence that exercise probably did not increase adverse events (cardiac deaths) (2 trials).

When comparing person-directed combined interventions and usual care

- There was low-certainty evidence that cardiac rehabilitation programs combining both physical conditioning interventions (exercise) and psychological interventions (counseling)

may have increased return-to-work rates in the short-term (follow-ups less than 6 months) (4 trials) and may make little to no difference in this outcome in the mid-term (follow-ups ranging from 6 to 12 months) (10 trials).

- There was uncertainty (very low-certainty evidence) on whether these combined interventions increased the proportions of patients with CHD working in the long-term (at follow-ups from 1 to 5 years [6 trials] or at five or more years [4 trials]).
- There was moderate-certainty evidence that these interventions probably reduced the number days until returning to work by about a month (2 trials).
- There was moderate-certainty evidence that these interventions probably resulted in little to no difference in adverse events (reinfarctions) (3 trials).

Work-directed interventions

- The review found no trials examining the effects of only work-directed interventions conducted at the workplace.

How did the authors conclude?

The authors concluded that cardiac rehabilitation programs consisting of combined interventions including both person-directed physical conditioning interventions (exercise) and psychological interventions (counseling) probably shortened the time (as assessed number of days) needed to return to work (moderate-certainty evidence) and may increase the number/proportion of patients with CHD returning to work within the first six months after a myocardial infarction, CABG or stent, but with no or little effect after six months (low-certainty evidence). The authors found no evidence of either a beneficial or harmful effect of other person-directed interventions as the certainty of evidence was assessed as very low.

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

This Cochrane review provided important evidence for practice in rehabilitation implying that cardiac rehabilitation programs including combined interventions, but not either exercise or counselling alone, probably lower the number of days until return-to-work based on moderate certainty evidence. It is important to note that “certainty

of evidence” is the term increasingly used to refer to “quality of evidence” in Cochrane language.^[6] Moderate-certainty/quality evidence indicates that the true effect is likely to be close to the effect estimate.^[6] On the other hand, multicomponent cardiac rehabilitation programs may increase return-to-work rates based on low-certainty/quality evidence, which indicates the limited confidence of the authors in the effect estimate with the likelihood of true effect to be substantially different than the effect estimate.^[6] The certainty of evidence has also implications for research in the way that in case of moderate-certainty/quality evidence, it is likely and in case of low-certainty/quality evidence it is very likely that the evidence may change in future research. Very low-certainty/quality evidence on some outcomes indicates that the authors are in doubt as to whether the intervention improves/reduces the outcome.^[5,6] This is the reason why the authors used the phrase, “We do not know”, in the original Cochrane review for some outcomes.^[1] In conclusion, from a rehabilitation perspective, given that components as well as combined interventions probably results in little to no difference in adverse events (moderate-certainty evidence), these results may be a driving force for rehabilitation professionals to conduct cardiac rehabilitation research on its components or their combinations to provide more conclusive evidence of effectiveness on return-to-work (an important indicator of participation in society), as the primary outcome.

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Declaration of conflicting interests

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