

## **Tackling the methodological issues of evidence production in rehabilitation: the role of Cochrane Rehabilitation**

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**Background.** Rehabilitation interventions are usually complex and this complexity introduces many methodological challenges in the development of high quality scientific evidence for clinical practice.

**Purpose.** One of the aims of Cochrane Rehabilitation (CR) is to improve the quality of methodology in rehabilitation research.

**Methods.** The CR methodology committee applied and received a Catalyst Grant from New Zealand to schedule an international multi-professional meeting between methodologists and clinical experts in rehabilitation. The aim of the “Catalyst Meeting” was to produce a discussion around some of the main methodological issues in rehabilitation research and to define the research lines to improve the quality of evidence in the field.

**Results.** The Catalyst Meeting was held in July 2018 in Paris. During the meeting, papers on methodology in rehabilitation were presented:

- the use of pairwise comparison methods as a structured approach to prioritization of rehabilitation reviews within international groups;
- optimizing the real world impact of rehabilitation reviews;
- the replicability of randomized controlled trials in everyday physical and rehabilitation medicine clinics;
- reporting standards for rehabilitation interventions - empirical investigation of exercise reporting in a systematic review on conservative management of continence;
- analysis of the management of control groups in Cochrane reviews in neurorehabilitation;
- using functioning information when evaluating the outcome of rehabilitation interventions in systematic reviews;
- analysis of primary and secondary outcomes currently used in Cochrane reviews on neurorehabilitation – current practice and future recommendations;
- producing a list of the methodological issues in rehabilitation research: a scoping review;
- evaluation of human risk of bias in rehabilitation reviews;
- dealing with co-morbidities in systematic reviews;
- application and importance of Cochrane Overviews on rehabilitation.

**Conclusion.** The Catalyst Meeting highlighted the need to create a stable methodological working group in rehabilitation and to develop projects on prioritization, stakeholders mapping, checklist for applicability of RCTs in rehabilitation, ICF mapping of systematic reviews but also a list of main methodological issues in rehabilitation research and how to solve them. Cochrane Rehabilitation offers as the place for this methodological work.

**Implications.** Solving the methodological quality of evidence production in rehabilitation is an essential component of evidence production and synthesis. This work will eventually lead to more scientifically robust, and clinically meaningful evidence-based practice in rehabilitation.

**Keywords:** rehabilitation research; methodology; randomized-controlled clinical trials; risk of bias

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**Brief biography of presenting author** (200 words). Prof. Stefano Negrini, MD, positions:

- Professor Physical and Rehabilitation Medicine, Clinical Experimental Sciences Department, University of Brescia
- Rehabilitation Research Coordinator Rovato, IRCCS Don Gnocchi, Milan
- Director Cochrane Rehabilitation
- National Scientific Director, ISICO (Italian Scientific Spine Institute), Milan
- Chief-Editor, “European Journal of Physical and Rehabilitation Medicine”

Also:

- Top Italian Scientist
- Academician European Academy of Rehabilitation Medicine (EARM)
- Italian delegate, Physical and Rehabilitation Medicine Section, European Union Medical Specialists (UEMS-PRM Section)
- Invited member, Executive Committee, European Society of Physical and Rehabilitation Medicine (ESPRM)
- Chair, Special Interest Scientific Committee on Spinal Deformities, European Society of Physical and Rehabilitation Medicine (ESPRM)
- Associate Editor of 3 indexed journals
- Editorial Board of 3 international journals
- Advisory Board, international Society On Spinal Orthopaedic and Rehabilitation Treatment (SOSORT)

Past:

- Promoter Cochrane Rehabilitation
- Founder, President and General Secretary of SOSORT
- President or Scientific Secretary of 17 National and International Meetings
- Chair of 3 editions, International Master on-line Spinal Deformities conservative treatment
- Chair 12 editions, National Master Spinal Deformities conservative treatment
- Winner 12 Awards
- Awarded the DeLisa Lecture by the American Association Academic Physiatrists (AAP)
- Coordinator Editors, White Book on Physical and Rehabilitation Medicine in Europe

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