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## Editorial

## The TIDieR checklist will benefit the physiotherapy profession

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Evidence-based practice involves physiotherapists incorporating high-quality clinical research on treatment efficacy into their clinical decision-making.<sup>1</sup> However, if clinical interventions are not adequately reported in the literature, physiotherapists face an important barrier to using effective interventions for their patients. Previous studies have reported that incomplete description of interventions is a problem in reports of randomised, controlled trials in many health areas.<sup>2,3,4</sup> One of these studies<sup>4</sup> examined 133 trials of non-pharmacological interventions; the experimental intervention was inadequately described in over 60% of the trials and descriptions of the control interventions were even worse.

A recent study<sup>5</sup> evaluated the completeness of descriptions of the physiotherapy interventions in a sample of 200 randomised, controlled trials published in 2013. Overall, the interventions were poorly described. For the intervention groups, about one-quarter of the trials did not fulfil at least half of the criteria. Reporting for the control groups was even worse, with around three-quarters of trials not fulfilling at least half of the criteria. In other words, for the majority of the physiotherapy trials, clinicians and researchers would be unable to replicate the interventions that were tested.

Describing a treatment may seem like a simple task, but physiotherapy interventions can be very complex. Some interventions are multi-modal, involving the use of manual techniques, consumable materials, equipment, education, training and feedback. Some interventions are tailored to each patient's specific health state, including the patient's immediate response to the application of the treatment. When the intervention involves a course of treatments, the intensity or dose may be progressed over time. The descriptions of physiotherapy interventions in trial reports often do not capture all of these components of the interventions or detail their complexity.

If researchers fail to comprehensively report all aspects of the interventions, the trial results cannot be incorporated into clinical practice or the intervention could be implemented incorrectly. Incorrect implementation may make the treatment ineffective, wasting the clinician's and patient's time and healthcare resources. Inadequate reporting of interventions also poses a barrier to incorporating a trial's results into synthesis research such as systematic reviews and clinical practice guidelines, as well as the usability of these resources. This means that the resources that were invested in undertaking the trial have been wasted. Such resources are extensive, including: direct trial costs (eg, payment of researchers, consumables); use of infrastructure (eg, clinic space, equipment); human resources (eg, ethics committee review, granting body review); and the goodwill of patients who agree to participate. Currently, there is a growing realisation that we need

strategies to reduce waste in clinical research.<sup>6</sup> When the list of resources involved in a single study is considered, improving the reproducibility of interventions through better reporting could markedly reduce waste in research.<sup>7</sup>

The TIDieR checklist and guide were developed to improve the reporting of interventions in any evaluative study, including randomised trials.<sup>8</sup> The checklist contains 12 items and was developed as an extension to the CONSORT 2010 Statement<sup>9</sup> and SPIRIT 2013 Statement<sup>10</sup> to provide further guidance for authors on the key information to include in trial reports. TIDieR items include: name of the intervention; intervention rationale for essential elements; intervention materials and details about how to access them; description of the intervention procedures; details of intervention providers; mode of delivery of intervention; location of intervention delivery and key infrastructure; details about the number, duration, intensity and dose of intervention sessions; details of any intervention tailoring; any intervention modifications throughout the study; and details of intervention fidelity assessment, monitoring and level achieved. The TIDieR checklist will help to further improve the quality of intervention reporting if it is used not only by study authors, but also journal editors, peer reviewers, ethics committees and funding agencies.

In summary, incomplete reporting of interventions in physiotherapy studies is an important problem and we endorse the use of the TIDieR checklist as a potential solution. The responsibility for improving intervention reporting extends beyond the authors of individual trials to journal editors and others who can mandate the use of the TIDieR checklist to combat this problem. Mandating the use of the TIDieR checklist would guide authors to better describe their interventions and, consequently, help clinicians to use the interventions and researchers to synthesise and replicate the evidence.

At *Journal of Physiotherapy*, submitting authors will be encouraged to use the TIDieR checklist to ensure that any interventions described in their manuscript are fully reported. Submitting authors will also be invited to submit a completed checklist when they submit their manuscript, although this is not compulsory. The editor will make an initial decision about the suitability of the manuscript for peer review. For manuscripts that are suitable for review, the editor will check the manuscript against the checklist to ensure that all items are fully reported. Manuscripts that do not report all relevant aspects of the intervention will be returned to the authors to address the gaps in reporting before the manuscript will progress to peer review. The checklist can be downloaded from the website below. Submitting authors with questions about the checklist are invited to email the editor at the address below.

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## Websites

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# Paper of the Year 2015

The Editorial Board is pleased to announce the 2015 Paper of the Year Award. The winning paper is judged by a panel of members of the International Advisory Board who do not have a conflict of interest with any of the papers under consideration. They vote for the paper published in the 2015 calendar year that, in their opinion, has the best combination of scientific merit and application to the clinical practice of physiotherapy.

The winning paper is 'Rehabilitation that incorporates virtual reality is more effective than standard rehabilitation for improving walking speed, balance and mobility after stroke: a systematic review'.<sup>1</sup> The authors are Davide Corbetta and Roberto Gatti from San Raffaele Hospital and the private practitioner, Federico Imeri, from Milan, Italy.

High repetition of tasks connected to locomotion improve mobility in people with motor deficits following stroke.<sup>2</sup> Researchers have achieved some augmentation of the benefit obtained from repetitive task practice by incorporating additional measures such as cyclical electrical stimulation<sup>3</sup> and cueing of cadence.<sup>4</sup> The winning study by Corbetta et al<sup>1</sup> shows that incorporating virtual reality into rehabilitation augments several of its benefits: walking speed by a mean of 0.15 m/s (95% CI 0.10 to 0.19), balance by a mean of 2.1 points on the Berg Balance Scale (95% CI 1.8 to 2.5), and mobility by a mean of 2.3 seconds on the Timed Up and Go test (95% CI 1.2 to 3.4). Incorporating virtual reality may augment the benefits of rehabilitation by enabling simulated practice of functional tasks at a higher dosage than traditional therapies.<sup>5,6</sup> Other mechanisms contributing to the extra benefit may include immediate feedback about performance on simulated real-life activities<sup>7</sup> and improved motivation to complete higher numbers of exercise repetitions.<sup>8</sup>

The evidence generated by Corbetta and colleagues is an important step in a pathway of research about stroke rehabilitation. In several of the randomised trials that were included in the winning systematic review,<sup>1</sup> treadmill training was the form of rehabilitation into which the virtual reality was incorporated. The winning paper therefore builds on existing evidence that treadmill training is effective rehabilitation among ambulatory adults with stroke,<sup>9</sup> especially those whose comfortable walking speed is faster than 0.4 m/s before the training.<sup>10</sup>

The members of the Editorial Board congratulate Davide Corbetta and his co-authors on their success.

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