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REVIEW ARTICLE (META-ANALYSIS)

Outcomes With Individual Versus Group Physical Therapy for Treating Urinary Incontinence and Low Back Pain: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Belinda Robertson, Bachelor Occ Ther,[a] Katherine E. Harding, PhD[b]

From the [a]Occupational Therapy Department, Eastern Health, Melbourne, Australia; [b]Eastern Health, Allied Health Clinical Research Office, Melbourne, Australia.

Abstract

Objective: To evaluate the existing evidence comparing the outcomes of rehabilitation conducted in a group setting and individual therapy for patients receiving rehabilitation.

Data Sources: Electronic databases MEDLINE, CINAHL, EMBASE, PEDro, and OT Seeker were searched from the earliest date possible to July 2013. Additional references were identified by manual scanning of reference lists.

Study Selection: Randomized controlled trials investigating the effect of group therapy compared with individual therapy for patients receiving rehabilitation were included for review. Two reviewers independently applied the inclusion and exclusion criteria to identify included articles. Initial search identified 1527 potential articles, of which 16 trials with 2337 participants were included in the final review.

Data Extraction: Data extraction was completed for all included trials by one reviewer, using a customized data extraction form. Data were checked for accuracy by a second reviewer. Trials were independently assessed by 2 reviewers for methodological quality using the PEDro scale.

Data Synthesis: Trials meeting inclusion criteria had been conducted in back pain (n=6 studies), urinary incontinence (n=5), learning disability (n=2), hearing loss (n=1), joint replacement (n=1), and aphasia (n=1). Meta-analysis of physical therapy trials in back pain and urinary incontinence reporting sufficient homogeneous data showed no significant difference in outcomes for group versus individual therapy. These results were also supported by qualitative analysis of the remaining studies in these populations, but there is insufficient evidence to draw conclusions regarding other clinical areas.

Conclusions: Evidence shows that providing rehabilitation in a group format results in equivalent clinical outcomes to provision of similar therapy in an individual format in the treatment of back pain and urinary incontinence. There is currently insufficient evidence to draw similar conclusions in other populations or fields of rehabilitation.

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Rehabilitation programs are an integral part of the health care system. The World Health Organization defines "rehabilitation" as a process that enables people to reach and maintain their optimal physical, sensory, intellectual, psychological, and social functional levels and provide people with the tools they need to attain independence and self-determination.[1]

Rehabilitation services are provided by a wide range of health professionals and in many different ways. Rehabilitation can be provided by a single therapist or a multidisciplinary team and can take place in acute hospital settings, inpatient rehabilitation facilities, or community-based settings. Another variation in the delivery of rehabilitation is the use of one-to-one versus group treatment settings; that is, a single therapist treating a single patient or the use of group-based treatment in which 1 therapist sees 2 or more patients simultaneously.[2,3]

Individual or one-to-one therapy is currently more widely used in most areas of rehabilitation and tends to be favored by many organizations providing and funding rehabilitation services. It has often been assumed that individual therapy programs will provide

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greater outcomes for patients because they are receiving therapy within a program that can be individually tailored to meet their needs.[4] In the United States, patients treated in inpatient rehabilitation facilities are required to receive specific levels of therapy from an interdisciplinary team to meet requirements for Medicare funding.[5] Group-based therapy is deemed acceptable, provided that it does not constitute the majority of the care provided to the patient.[5] Similarly, guidelines of the Australasian Faculty of Rehabilitation Medicine recommend that patients of inpatient rehabilitation programs receive a minimum of 3 hours of therapy, 5d/wk,[6] and specify that therapy can occur either in an individual setting or in a group setting, but for therapy occurring in group settings the patients must be actively involved in the therapy and have an overlying individual rehabilitation program that is tailored to their needs.[6]

Although there appears to be a strong focus on individual therapy in many rehabilitation settings, group-based rehabilitation has been recognized and routinely used in some areas. Best practice guidelines for cardiac rehabilitation, for example, outline that exercise programs undertaken as part of the rehabilitation process are "tailored to individual needs while being conducted in groups."[7] The social interaction provided by group therapy is also argued to be positive in terms of providing peer support, increased motivation, and opportunities to reduce social isolation.[2] Furthermore, the provision of group therapy can mean that patients are actually receiving increased therapy or time engaged in activity, which in itself can lead to better functional outcomes.[3,8,9]

The demand for rehabilitation services is increasing. These demands are being driven by general population growth as well as an aging population. Changes in hospital discharge practices are leading to shorter lengths of stay in acute facilities, with a subsequent shift of restorative care services into subacute or community sectors.[10] In addition, advances in treatment for complex and chronic conditions and increasing patient expectations are creating new demands for health services and procedures.[11] It is therefore becoming increasingly pertinent that resources within the rehabilitation setting be utilized as efficiently as possible to provide the best possible care for patients while meeting these increased demands.[10]

Given the potential for increased efficiencies through greater use of group-based treatment in rehabilitation, there is potential benefit for clinicians and hospital managers from a synthesis of the available evidence regarding the effectiveness of group therapy in comparison to traditional one-to-one therapy provided in the rehabilitation setting.

The primary aim of this systematic review was to evaluate the existing evidence to determine whether group therapy provides similar patient outcomes to individual therapy for adults receiving rehabilitation.

Methods

A systematic review was conducted of randomized controlled trials investigating the provision of rehabilitation to adult patients in a group format compared with the provision of similar therapy in an individual format. This review has been registered on Prospero CRD42013005675.

List of Abbreviations:

PT **physical therapy**

Trial identification and selection

The following electronic databases were searched from the earliest date possible to July 2013: MEDLINE, CINAHL, EMBASE, PEDro, and OT Seeker. Two reviewers (B.R. and K.E.H.) independently reviewed the titles and abstracts of all trials located within the search. Any disagreements between reviewers were resolved by discussion. If there was uncertainty regarding the inclusion of a particular trial, the full text was obtained to clarify inclusion/exclusion. Manual scanning of reference lists of included trials was also undertaken to identify any additional studies that were not identified by the search strategy.

Inclusion criteria

Trials were included if they were randomized controlled trials, involving adults participating in physical, cognitive, or sensory rehabilitation therapies for restoration of and/or active prevention of functional decline. Publications were excluded if the interventions were primarily for the purpose of mental health or psychosocial treatment because group therapy in these settings is often conducted with a specific therapeutic purpose that is beyond the scope of this review. Interventions that aimed to improve general fitness or promote weight loss in otherwise healthy populations were excluded. Trials had to involve therapies overseen by any qualified allied health professional(s), working either as individuals or as part of a multidisciplinary team, and compare therapies of a similar nature in a group setting versus an individual setting. Therefore, articles were excluded if the comparison group differed significantly in terms of the duration or content of intervention or if there were major differences in the skills and experience of the clinician providing the therapy. Provision was made for translation if required, and no articles were excluded on the basis of publication language. Studies in pediatrics were excluded because of the substantial difference in the nature of rehabilitation with children compared with adults, such as the extensive involvement of families and focus on play-based interventions.

Risk of bias

The 2 reviewers assessed the quality of each trial using the PEDro scale.[12] This scale is used to measure the methodological quality of randomized controlled trials and has 11 criteria against which included studies are assessed, with a study scoring 1 point for each criteria met (excluding item 1, external validity). It has been demonstrated to be a valid measure of the methodological quality of clinical trials, with reasonable levels of interrater reliability.[13] Any trial with a score of 4 or less is considered to be of lower quality[9] and hence at a higher risk of bias according to the PEDro scale. However, trials were not excluded from the present review according to their risk of bias. Any disagreements between the 2 reviewers were resolved by discussion.

Data extraction and analysis

Data extraction was completed for all included trials by one reviewer (B.R.) and checked for consistency by a second reviewer (K.E.H.). A customized data extraction form was developed and used by the reviewers. The form was tested on 2 of the included trials and then refined for the remaining 14 trials. A summary of the information is included in tables 1−3.

To provide a comparison between key outcomes within trials, meta-analyses were conducted for key outcomes for trials looking