Rehabilitation
Current Awareness Bulletin
February 2020

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Title: Autism spectrum disorder: How can occupational therapists support schools?

Citation: Canadian Journal of Occupational Therapy; Feb 2020; vol. 87 (no. 1); p. 30-41
Author(s): Grandisson, Marie; Rajotte, Émilie; Godin, Julie; Chrétien-Vincent, Myriam; Milot, Élise; Desmarais, Chantal

Background: Children with autism spectrum disorder (ASD) face multiple occupational challenges in their school, and school staff need additional support to increase their participation.

Purpose: The aim of this study is to identify how Response to Intervention (RTI) could be used by occupational therapists to support school personnel who work with children with ASD.

Method: In a descriptive qualitative study, three discussion groups were undertaken with occupational therapists and school staff members in Quebec, Canada, to identify the main concerns regarding the participation of children with ASD in school activities as well as the actions to consider when attempting to increase school-related abilities.

Findings: School staff members are primarily concerned with frequent outbursts and limited autonomy, along with low motivation and anxiety in children with ASD in diverse school activities and contexts. The actions identified provide guidelines for school and occupational therapist selection, the process to follow, collaborative practices, and support required.

Implications: A practice model is presented for occupational therapists who seek to develop school capacity to support the participation of children with ASD.

Title: Addressing clients' sexual health in occupational therapy practice.

Citation: Canadian Journal of Occupational Therapy; Feb 2020; vol. 87 (no. 1); p. 52-62
Author(s): Young, Kelli; Dodington, Abrielle; Smith, Catherine; Heck, Carol S.

Background: Sexuality is an important dimension of one's health and well-being. Studies show that occupational therapists regard clients' sexual health as a legitimate domain of practice but do not adequately address it in their clinical work.

Purpose: This study aims to describe occupational therapists' perspectives regarding clients' sexual health.

Method: This exploratory study surveyed Canadian occupational therapists using an online questionnaire that collected information on beliefs, knowledge, comfort, barriers, and facilitators with regard to addressing sexuality. Descriptive analysis was conducted on questionnaire data, and content analysis was used to organize respondents' comments.

Findings: While most respondents believed that addressing sexuality was within their scope, few actually did so in practice. Participants reported comfort with sexuality but identified lack of knowledge as a barrier to addressing clients' sexual health.

Implications: This study provided a greater understanding of factors that require consideration for occupational therapists to effectively meet clients' sexual health needs.

Title: Professional identity and emerging occupational therapy practice: An autoethnography.

Citation: Canadian Journal of Occupational Therapy; Feb 2020; vol. 87 (no. 1); p. 63-72
**Author(s):** Zubriski, S.; Norman, M.; Shimmell, L.; Gewurtz, R.; Letts, L.

**Background:** Research about occupational therapy practice in the community with people who have been imprisoned remains limited and may be considered an emerging area of practice.

**Purpose:** This paper provides a critical, first-person account about emerging occupational therapy practice with men transitioning to the community post-imprisonment. The practice context is described and reflected on from the lens of a new graduate.

**Methods:** Autoethnography draws meaning from reciprocal interactions between an individual and a culture. Data was collected by the primary author through reflective journal entries and process notes pertaining to a Photovoice project. Iterative application of established evaluative criteria served as a framework in an analytical writing process.

**Findings:** Autethnography promoted self-reflection and professional development while Photovoice provided an evidence-based framework in an emerging setting.

**Implications:** Current occupational therapy theories and models have limited applicability to inform practice with marginalized populations potentially benefitting from participatory research (e.g., Photovoice) and autoethnography.

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**Title:** "I'm not alone": Women's experiences of recovery oriented occupational therapy groups following depression.

**Citation:** Canadian Journal of Occupational Therapy; Feb 2020; vol. 87 (no. 1); p. 73-82

**Author(s):** Woolley, Hannah; Levy, Esther; Spector, Samantha; Geneau, Naomie; Castro, Aileen; Rouleau, Suzanne; Roy, Laurence

**Background:** Occupational therapy groups have been carried out as interventions in mental health settings across a variety of populations. Limited research explores the lived experience of individuals with depression following participation in recovery oriented occupational therapy groups.

**Purpose:** To better understand how recovery oriented occupational therapy groups shape participants' personal experience of daily life, including recovery.

**Method:** Five individuals who had previously completed at least one recovery oriented occupational therapy group each participated in two in-depth semi-structured interviews. Analyses of the transcripts were completed using interpretative phenomenological analysis (IPA).

**Findings:** Participants' experiences of the recovery oriented occupational therapy groups ranged from positive to negative, with variable impacts on their lived experiences. Two major themes emerged: (a) participants' perception of "normal" and (b) navigation of meaningful participation.

**Implications:** Increased understanding of what aspects of recovery oriented occupational therapy groups are meaningful to individuals with depression can help support their personal recovery process.

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**Title:** Obesity treatment: a role for occupational therapists?

**Citation:** Scandinavian journal of occupational therapy; Jan 2020; p. 1-8

**Author(s):** Jessen-Winge, Christina; Ilvig, Pia Maria; Jonsson, Hans; Fritz, Heather; Lee, Kim; Christensen, Jeanette Reffstrup
**Background:** Half of the Danish population is overweight or obese. Obesity can negatively impact health and daily life. The Danish National Board of Health’s guidelines for weight loss programmes to the Danish municipalities, recommends multidisciplinary teams, including occupational therapy, and interventions targeting diet, exercise, psychosocial coping, and everyday life.

**Aim:** To describe the structure and content of obesity programmes offered by the 98 municipalities in Denmark, including details such as the health professionals, programme recipients, dose, structure, content, and the role of occupational therapists.

**Method:** A quantitative content analysis was conducted on 234 published Danish municipal weight loss programmes. Programme descriptions were identified through internet searches using both sundhed.dk and Google.com.

**Results:** Various health professionals conducted the programmes, and five involved occupational therapists. Programmes targeted children, adolescent and adults. Dose, structure and content were heterogeneous.

**Conclusion:** The majority of the programmes were neither evidence-based, nor did they follow recommendations from Danish National Board of Health. Few programmes addressed the role of habits or social participation. Occupational therapists appear to be under-utilized as providers of the programmes. Significance: Occupational therapists have a role to play in weight loss programmes, because of their training in activity analysis and their consideration of people, environments, and occupations. These components are included in the recommendations about psychosocial aspects and everyday life from the Danish National Board of Health.

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**Title:** Sexuality in the context of physical rehabilitation as perceived by occupational therapists.

**Citation:** Disability and rehabilitation; Jan 2020 ; p. 1-11

**Author(s):** Lepage, Catherine; Auger, Louis-Pierre; Rochette, Annie

**Introduction:** One of the challenges for rehabilitation professionals is to discuss sexuality with their clients. The main objective of this study was to explore occupational therapists’ perceptions of the factors that influence their practice regarding the domain of sexuality, as well as the prioritization of these factors and the exploration of their needs.

**Methodology:** Descriptive qualitative study who took place in Montreal, Canada. Two focus groups were realized with seven occupational therapists working in outpatient setting in two different rehabilitation centers for physical disabilities. The focus group guide was based on the Theoretical Domains Framework (TDF). The verbatims were coded using QDA-Miner software and analyzed according to the principles of the Framework approach.

**Results:** The majority of participants were women (n = 6/7). Three main themes to answer the main objective emerged: (1) Occupational therapist's intrinsic factors such as professional identity and knowledge/skills; (2) Contextual and process factors of practice, including assessment/analysis and human resources; (3) Client factors such as identity factors and capabilities. Several influencing factors that have a significant impact on practice have been prioritized, for instance, the perception of the skill level of occupational therapists, interdisciplinary collaboration, culture/language and openness of the client to the subject of sexuality. The needs related to the acquisition of knowledge/know-how, human resources and continuing education were raised by clinicians.

**Conclusion:** There is a need in developing training tools to support clinical practice and to overcome the many barriers encountered by occupational therapists regarding the domain of sexuality.
Implications for Rehabilitation: Addressing sexuality domain with their clients remains a challenge for occupational therapists working in outpatient physical disability rehabilitation. Several factors influence the practice of occupational therapists in the domain of sexuality, including occupational therapist's intrinsic factors, their practice process, contextual factors and client-related factors. Improved interdisciplinary practice in sexuality is needed to ensure that sexuality is addressed and that there are referrals to the proper health professionals according to clients' needs. The availability of sexology resources is an important factor for occupational therapists addressing sexuality.

Title: Cancer care and occupational therapy: A scoping review.

Citation: Australian occupational therapy journal; Jan 2020
Author(s): Wallis, Amy; Meredith, Pamela; Stanley, Mandy

Introduction: Cancer can disrupt participation in everyday activities, suggesting a place for occupational therapy; however, there is a need to articulate the nature, scope and available evidence supporting the occupational therapy role within cancer care. In this scoping review, we identify the breadth of practice and evidence for occupational therapy in cancer care, across all stages of the disease trajectory (diagnosis to palliation/survivorship) throughout the lifespan.

Methods: Five electronic databases were searched in June 2018, for English language articles. Key words were: cancer care, OR oncolog*, OR oncologic care, OR neoplasms, OR cancer survivors, OR terminal cancer, OR cancer rehabilitation, AND occupational therap*. No date restrictions were imposed. Included were: all styles of literature including grey literature, all types of cancers and all age brackets. There were no restrictions on place of origin of papers. Following the Arksey and O'Malley (2006; International Journal of Social Research Methodology, 8: 19-32) framework for scoping reviews, the first author screened titles and abstracts, and all three authors reviewed sets of the included articles. Conflicts were discussed until consensus was reached.

Results: After evaluating 305 titles and abstracts and 111 full-text articles, 89 papers were retained. Articles included research studies (n = 43), reviews (n = 15), grey literature (n = 16), practice analyses (n = 14) and an editorial (n = 1). The occupational therapy roles described were diverse, but largely descriptive in nature, with little evidence of outcomes from treatment. Furthermore, the majority of papers addressed adult populations, with few considering children, adolescents or young adults. Most papers focused on specific stages of the disease, and none addressed the disease along its full trajectory.

Conclusion: Despite identifying a diverse range of occupational therapy roles in cancer care throughout the disease trajectory and across the lifespan, the need for professional discourse and research within our profession was highlighted. This was particularly evident for adolescents and young adults with cancer.

Title: Capabilities, Opportunities, Resources and Environments (CORE): Using the CORE approach for inclusive, occupation-centred practice.

Citation: Australian occupational therapy journal; Jan 2020
Author(s): Pereira, Robert B; Whiteford, Gail; Hyett, Nerida; Weekes, Gemma; Di Tommaso, Amelia; Naismith, James
Background/Aim: Occupational participation is often claimed as a human right and determinant of health by occupational science and therapy scholars. Yet, maintaining occupation at the centre of practice is a challenge. The Capabilities, Opportunities, Resources and Environments (CORE) approach provides a mechanism for occupational therapists to address this challenge by viewing their practice through an inclusive lens, and enacting inclusive, occupation-centred occupational therapy. This paper presents applications of the CORE approach via three case narratives. The aim is to increase occupational therapists' understanding of how to apply the CORE approach and to facilitate research-to-practice knowledge translation.

Methods: The CORE approach is introduced and applied through three case narratives, each highlighting one of the CORE elements within the context of the broader approach.

Findings: The narratives contain critical reflective case narratives on the application of the CORE approach in the context of three different practice settings in Australia based on the authors' experiences. Practice settings include working within the National Disability Insurance Scheme, in a secure forensic mental health facility, and in rural community health. The forensic health case narrative documents findings from the authors' research which applied the CORE approach as an analytical tool, providing an additional layer of analysis of the identified themes from the original study.

Conclusion: This paper provides occupational therapists with a practical understanding of how to apply the CORE approach through diverse case narrative examples. The practical "how to" questions that guided the development of the case narratives can be used by occupational therapists and occupational therapy students in individual or group critical reflection to support development and application of socially inclusive and occupation-centred praxis. If occupational therapists are to claim expertise in enabling occupation and social inclusion, then using the CORE approach is vital to designing and implementing inclusive, occupation-centred interventions.

Title: A multifaceted continuing professional development intervention to move stroke rehabilitation guidelines into professional practice: A feasibility study.

Citation: Topics in stroke rehabilitation; Jan 2020 ; p. 1-41

Author(s): Luconi, Francesca; Rochette, Annie; Grad, Roland; Hallé, Marie-Christine; Chin, Diana; Habib, Bettina; Thomas, Aliki

Introduction: Rehabilitation post-stroke is critical for maximizing patient outcomes. This study assessed the feasibility of implementing and evaluating a continuing professional development (CPD) intervention aimed at increasing the uptake of stroke best practice guidelines among physiotherapists (PTs), occupational therapists (OTs) and speech-language pathologists (SLPs) in six university-affiliated stroke rehabilitation centers in Quebec, Canada.

Method: Twelve stroke best practice recommendations with reflective tools were sent weekly by e-mail. Participants' eligibility criteria included: a) profession; b) practicing more than 1 year in a stroke rehabilitation program; c) fluency in French or English; and d) basic computer literacy. Feasibility (operationalized via participation, satisfaction and relevance), cognitive impact, perceived application in practice and expected patient outcomes were measured over 24 weeks using three questionnaires and analyzed using descriptive statistics.

Results: The sample totaled 62 of 133 eligible (47%) clinicians. Satisfaction, relevance and cognitive impact of delivered information varied across disciplines and recommendations. Agreement with the recommendations was high across disciplines. On average, three-interdisciplinary recommendations (related to post-stroke depression, post-stroke fatigue and...
patients' and caregivers' learning needs) were rated as the most relevant for at least one patient. The majority of clinicians would use the recommendations for a specific patient and expected health benefits by applying those recommendations.

Conclusion: This study demonstrated the feasibility of assessing the impact of a CPD intervention in stroke rehabilitation uptake and informed the design of a research program aimed at increasing the use of stroke evidence-based rehabilitation interventions.

Title: Unpacking the application of Q methodology for use in occupational therapy research.

Citation: Scandinavian journal of occupational therapy; Jan 2020 ; p. 1-6
Author(s): Garbellini, Simon; Randall, Melinda; Steele, Michael; Elliott, Catherine; Imms, Christine

Background: Occupational therapy research has not fully utilized available research methods when exploring occupational therapists' views on specific interventions and service provision nor when exploring consumer priorities and the impact of occupational therapy services. Q methodology, a quantitative method for the systematic assessment of qualitative data, is an approach that can be used to examine viewpoints related to occupational therapy practice.

Purpose: This paper adds experiential knowledge to guide researchers new to navigating Q methodology and encourages occupational therapy researchers to consider the application of Q methodology when exploring viewpoints pertinent to practice and research.

Key issues: This paper provides a more detailed reflection on each stage of Q methodology than is currently available in the literature, with a focus on the factor analysis stage, to support the successful implementation of this method.

Implications: Sharing experience in implementing Q methodology may inform and encourage researchers in its use as one approach to combine qualitative methods and quantitative data analysis techniques. The rigour of the method's processes may add credibility to identified viewpoints and how they could inform occupational therapy practice.

Key messages: Q methodology can be used in occupational therapy research to explore consumer and therapist viewpoints regarding interventions, service provision, priorities and the profession itself. Q methodology employs a specific, repeatable process within each stage of the research process to ensure rigour. Q methodology provides an approach to combining qualitative research methods with quantitative analysis techniques to understand the viewpoints of interest.

Title: The Economic and Clinical Impact of an Early Mobility Program in the Trauma Intensive Care Unit: A Quality Improvement Project.

Citation: Journal of trauma nursing : the official journal of the Society of Trauma Nurses; ; vol. 27 (no. 1); p. 29-36
Author(s): Falkenstein, Beth A; Skalkowski, Chelsea K; Lodise, Kathleen D; Moore, Marian; Olkowski, Brian F; Rojavin, Yuri

Abstract: Traumatic injury survivors often face a difficult recovery. Surgical and invasive procedures, prolonged monitoring in the intensive care unit (ICU), and constant preventive vigilance by medical staff guide standards of care to promote positive outcomes. Recently,
patients with traumatic injuries have benefited from early mobilization, a multidisciplinary approach to increasing participation in upright activity and walking. The purpose of this project was to determine the impact of an early mobility program in the trauma ICU on length of stay (LOS), ventilator days, cost, functional milestones, and rehabilitation utilization. A quality improvement project compared outcomes and cost before and after the implementation of an early mobility program. The trauma team assigned daily mobility levels to trauma ICU patients. Nursing and rehabilitation staff collaborated to set daily goals and provide mobility-based interventions. Forty-four patients were included in the preintervention group and 43 patients in the early mobility group. Physical therapy and occupational therapy were initiated earlier in the early mobilization group (p = .044 and p = .026, respectively). Improvements in LOS, duration of mechanical ventilation, time to out-of-bed activity and walking, and discharge disposition were not significant. There were no adverse events related to the early mobility initiative. Activity intolerance resulted in termination of 7.1% of mobility sessions. The development and initiation of a trauma-specific early mobility program proved to be safe and reduce patient care costs. In addition, the program facilitated earlier initiation of physician and occupational therapies. Although not statistically significant, retrospective data abstraction provides evidence of fewer ICU and total hospital days, earlier extubations, and greater proactive participation in functional activities.

Title: The Role of Physical Therapists in Fighting the Type 2 Diabetes Epidemic.

Citation: Journal of Orthopaedic & Sports Physical Therapy; Jan 2020; vol. 50 (no. 1); p. 5-16

Author(s): Harris-Hayes, Marcie; Schootman, Mario; Schootman, Jeffrey C.; Hastings, Mary K.

Background: In 2014, the total prevalence of diabetes was estimated to be 422 million people worldwide. Due to the aging population and continued increase in obesity rates, the prevalence is expected to rise to 592 million by 2035. Diabetes can lead to several complications, including cardiovascular disease, stroke, peripheral arterial disease, nephropathy, neuropathy, retinopathy, lower extremity amputation, and musculoskeletal impairments.

Clinical Question: Up to 80% of patients referred for outpatient physical therapy have diabetes or are at risk for diabetes, providing an opportunity for physical therapists to intervene. Therefore, we asked, "What is the role of physical therapists in fighting the diabetes epidemic?"

Key Results: Physical therapists commonly prescribe physical activity for the treatment of diabetes and other chronic diseases, such as cardiovascular disease and osteoarthritis. Physical therapists may also screen for risk factors for diabetes and diabetes-related complications and modify traditional musculoskeletal exercise prescription accordingly. Physical therapists must advocate for regular physical activity as a key component of the treatment of chronic diseases in all patient interactions.

Clinical Application: This commentary (1) describes the diabetes epidemic and the health impact of diabetes and diabetes-related complications, (2) highlights the physical therapist's role as front-line provider, and (3) provides recommendations for physical therapists in screening for diabetes risk factors and diabetes-related complications and considerations for patient management. We focus on type 2 diabetes.
Title: Sex Differences In The Effects Of Exercise On Cognition Poststroke: Secondary Analysis Of A Randomized Controlled Trial.

Citation: Journal of Rehabilitation Medicine (Stiftelsen Rehabiliteringsinformation); Jan 2020; vol. 52 (no. 1); p. 1-8

Author(s): Khattab, Shereen; Eng, Janice J.; Liu-Ambrose, Teresa; Richardson, Julie; Macdermid, Joy; Tang, Ada

Objective: To determine whether there are differences in exercise-associated changes in cognitive function between males and females living with stroke.

Design: Secondary analysis of data from a prospective assessor-blinded randomized controlled trial.

Participants: Fifty participants (50-80 years, > 1 year post-stroke, able to walk ≥ 5 m).

Methods: Participants were allocated into a 6-month aerobic exercise programme (14 males, 11 females) or balance and flexibility programme (15 males, 10 females). Working memory (Verbal Digit Span Backwards Test), selective attention and conflict resolution (Stroop Colour-Word Test), and set shifting/cognitive flexibility (Trail-Making Test B) were assessed before and after the programmes.

Results: There was a group x time interaction in females (effect size 0.28, p = 0.03), which was not observed in males (effect size 0.01, p = 0.62). Females demonstrated a Stroop Colour-Word Interference test change of -2.3 s, whereas males demonstrated a change of +5.5 s following aerobic exercise. There were no differences between exercise groups in either sex for any of the other outcomes (working memory and set-shifting/cognitive flexibility).

Conclusion: Females living with stroke may demonstrate a greater response to exercise on selective attention and conflict resolution compared with males with stroke. These findings suggest that there may be sex-specific effects of exercise on cognitive function in individuals with stroke.

Title: Exploratory Randomized Double-Blind Placebo-Controlled Trial of Botulinum Therapy on Grasp Release After Stroke (PrOMBiS).

Citation: Neurorehabilitation & Neural Repair; Jan 2020; vol. 34 (no. 1); p. 51-60

Author(s): Wallace, Amanda Claire; Talelli, Penelope; Crook, Lucinda; Austin, Duncan; Farrell, Rachel; Hoad, Damon; O'Keeffe, Aidan G.; Marsden, Jonathan F.; Fitzpatrick, Richard; Greenwood, Richard; Rothwell, John C.; Werring, David J.

Background: OnabotulinumtoxinA injections improve upper-limb spasticity after stroke, but their effect on arm function remains uncertain.

Objective: To determine whether a single treatment with onabotulinumtoxinA injections combined with upper-limb physiotherapy improves grasp release compared with physiotherapy alone after stroke.

Methods: A total of 28 patients, at least 1 month poststroke, were randomized to receive either onabotulinumtoxinA or placebo injections to the affected upper limb followed by standardized upper-limb physiotherapy (10 sessions over 4 weeks). The primary outcome was time to release grasp during a functionally relevant standardized task. Secondary outcomes included measures of wrist and finger spasticity and strength using a customized servomotor, clinical assessments of stiffness (modified Ashworth Scale), arm function
(Action Research Arm Test [ARAT], Nine Hole Peg Test), arm use (Arm Measure of Activity), Goal Attainment Scale, and quality of life (EQ5D).

**Results:** There was no significant difference between treatment groups in grasp release time 5 weeks post injection (placebo median = 3.0 s, treatment median = 2.0 s; t (24) = 1.20; P = .24; treatment effect = −0.44, 95% CI = −1.19 to 0.31). None of the secondary measures passed significance after correcting for multiple comparisons. Both groups achieved their treatment goals (placebo = 65%; treatment = 71%), and made improvements on the ARAT (placebo +3, treatment +5) and in active wrist extension (placebo +9°, treatment +11°).

**Conclusions:** In this group of stroke patients with mild to moderate spastic hemiparesis, a single treatment with onabotulinumtoxinA did not augment the improvements seen in grasp release time after a standardized upper-limb physiotherapy program.

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**Title:** Early Mobilization of Mild-Moderate Intracerebral Hemorrhage Patients in a Stroke Center: A Randomized Controlled Trial.

**Citation:** Neurorehabilitation & Neural Repair; Jan 2020; vol. 34 (no. 1); p. 72-81

**Author(s):** Yen, Hsiao-Ching; Jeng, Jiann-Shing; Chen, Wen-Shiang; Pan, Guan-Shuo; Chuang, PT, BS, Wen-Ying; Lee, Ya-Yun; Teng, Ting

**Background:** Few studies have addressed early out-of-bed mobilization specifically in acute intracerebral hemorrhage (ICH) patients. Patient benefit in such cases is unclear, with early intervention timing and duration identical to those in standard care. Objective. We investigated the efficacy of an early mobilization (EM) protocol, administered within 24 to 72 hours of stroke onset, for early functional independence in mild-moderate ICH patients.

**Methods:** Sixty patients admitted to a stroke center within 24 hours of ICH were randomly assigned to early mobilization (EM) or standard early rehabilitation (SER). The EM group underwent an early out-of-bed mobilization protocol, while the SER group underwent a standard protocol focusing on in-bed training in the stroke center. Intervention in both groups lasted 30 minutes per session, once a day, 5 days a week. Motor subscales of the Functional Independence Measure (FIM-motor; primary outcome), Postural Assessment Scale for Stroke Patients, and Functional Ambulation Category (FAC) were evaluated (assessor-blinded) at baseline, and at 2 weeks, 4 weeks, and 3 months after stroke. Length of stay in the stroke center was also recorded.

**Results:** The EM group showed significant improvement in FIM-motor score at all evaluated time points (P = .004) and in FAC outcomes at 2 weeks (P = .033) and 4 weeks (P = .011) after stroke. Length of stay in the stroke center was significantly shorter for the EM group (P = .004).

**Conclusion:** Early out-of-bed mobilization via rehabilitation in a stroke center, within 24 to 72 hours of ICH, may improve early functional independence compared with standard early rehabilitation. Clinical Trial Registration: NCT03292211.

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**Title:** Combining aquatic physiotherapy with usual care physiotherapy for people with neurological conditions: A systematic review.

**Citation:** Physiotherapy Research International; Jan 2020; vol. 25 (no. 1)

**Author(s):** Moritz, Tamara A.; Snowdon, David A.; Peiris, Casey L.

**Objective:** The objective of this review was to determine whether the combination of aquatic physiotherapy with usual care and results in greater improvements in activity limitations and
neurological-related impairments in individuals with neurological conditions than usual care physiotherapy alone.

Methods: A systematic review of controlled trials was utilized to compare usual care physiotherapy with usual care physiotherapy combined with aquatic physiotherapy for adults with any neurological condition. Standardized mean differences and 95% confidence intervals were calculated from postintervention means and standard deviations.

Results: Ten trials with a total of 490 participants met the inclusion criteria. Of the included trials, combined aquatic and usual care physiotherapy was evaluated in people with stroke in eight trials and in people with Parkinson's disease in two trials. Trial and outcome heterogeneity prevented the completion of meta-analyses. Data from five trials (n = 259) in people with stroke suggest that aquatic physiotherapy improves measures of balance, walking, mobility, and activities of daily living. No significant differences were detected in measures of activity limitation for people with Parkinson's disease nor measures of impairment for people with stroke or Parkinson's disease.

Conclusion: This review provides preliminary evidence that the combination of aquatic physiotherapy with usual care physiotherapy may improve activity limitations in people with stroke. This review found no evidence to support the combination of aquatic physiotherapy with usual care physiotherapy to improve activity limitations in Parkinson's disease or other neurological populations. These results should be interpreted with caution due to the mixed quality of the included trials.

Title: Predictors of unplanned readmission to acute care from inpatient brain injury rehabilitation.

Citation: Journal of Clinical Nursing (John Wiley & Sons, Inc.); Feb 2020; vol. 29 (no. 3/4); p. 593-601

Author(s): McKechnie, Duncan; Fisher, Murray J.; Pryor, Julie; McKechnie, Rochelle

Aims and objectives: To identify the predictors of unplanned readmission to acute care (RTAC) from inpatient brain injury rehabilitation and to develop a risk prediction model. Background: RTAC from inpatient rehabilitation is not uncommon. Individual rehabilitation patient populations require their own body of evidence regarding predictors of RTAC.

Design: Retrospective cohort study.

Methods: Adult patients with new onset acquired brain injury admitted to a stand-alone rehabilitation facility between 1 January 2012–31 December 2018 were included in the study. The main measures were RTAC, sensitivity, specificity, the C-statistic and Youden's index. This paper is reported using the Strengthening the Reporting of Observational Studies in Epidemiology guidelines.

Results: Of 383 patients admitted for rehabilitation, 83 (22%) experienced a RTAC; 69 (18%) patients had at least one unplanned RTAC episode. Patients requiring unplanned RTAC were more likely to have lower Glasgow Coma Scale (GCS) and Functional Independence Measure (FIM) scores on rehabilitation admission, a higher burden of care on rehabilitation discharge and be discharged to a nonhome residence. Rehabilitation admission GCS and motor FIM were identified as the independent RTAC predictors in multivariate regression modelling. The combined C-statistic was 0.86. A GCS cut-off score of ≤14 and motor FIM cut-off score of ≤40 were identified as optimal, yielding a combined Youden's index of 0.56 (sensitivity = 0.72; specificity = 0.83).

Conclusion: Patients requiring an unplanned RTAC had a lower functional status on rehabilitation admission. A prediction model for unplanned RTAC has been developed using validated and readily available clinical measures. Relevance to clinical practice: The
developed RTAC risk prediction model is the first step in preventing unplanned RTAC from inpatient brain injury rehabilitation. Future research should focus on discrete interventions for preventing unplanned RTAC from inpatient brain injury rehabilitation.

Title: Exercise Programs Delivered According to Guidelines Improve Mobility in People With Stroke: A Systematic Review and Meta-analysis.

Citation: Archives of Physical Medicine & Rehabilitation; Jan 2020; vol. 101 (no. 1); p. 154-165
Author(s): Pogrebnoy, Dina; Dennett, Amy

Abstract: To determine if prescribing a combined aerobic and resistance training exercise program in accordance with American Stroke Association physical activity guidelines improves mobility and physical activity levels of people after stroke. Online database search from earliest available date to August 27, 2018. Randomized controlled trials evaluating the effectiveness of exercise programs prescribed in accordance with guidelines for improving mobility and physical activity levels in adults with subacute or chronic stroke. Two independent reviewers completed data extraction. Risk of bias was assessed using the Physiotherapy Evidence Database Scale, and overall quality of evidence was assessed using the Grades of Research, Assessment, Development, and Evaluation approach. Data was pooled from a total of 499 participants for meta-analysis. There was high-level evidence that exercise programs adhering to guidelines improve habitual walking speed (mean difference, 0.07m/s; 95% CI, −0.01 to 0.16) and walking endurance (mean difference, 39.2m, 95% CI, 17.2-61.2). A sensitivity analysis demonstrated high-level evidence of improvements in walking endurance (mean difference, 51.1m; 95% CI, 19.96-82.24) and moderate-level evidence of improvements on the Timed Up and Go test (standardized mean difference, 0.57; 95% CI, 0.16-0.99). No differences were detected for other mobility outcome measures or physical activity levels. Adherence was high and few adverse events were reported. A combined exercise program comprising aerobic and resistance training that adheres to the American Stroke Association guidelines is safe and should be prescribed in addition to usual care to improve mobility. Further research is needed to understand the relationship between exercise programs and behavior change requirements to improve long-term physical activity levels.

Title: Economic evaluation of transferring first-stroke survivors to rehabilitation wards: A 10-year longitudinal, population-based study.

Citation: Topics in Stroke Rehabilitation; Jan 2020; vol. 27 (no. 1); p. 8-14
Author(s): Chen, Chien-Min; Yang, Yao-Hsu; Lee, Meng; Chen, Kai-Hua; Huang, Shih-Shin

Background: Transferring stroke survivors to the rehabilitation ward for rehabilitation reduces long-term mortality; however, the long-term economic impact remains unknown. Objective: We aimed to assess the 10-year economic outcome of transferring first-stroke survivors to the rehabilitation ward.

Methods: In this population-based, retrospective study, we examined the incremental costs per life year gained (ICLYG) for stroke survivors who were transferred to the rehabilitation ward (TR) as compared to that for those who underwent rehabilitation without being transferred to the rehabilitation ward (R) and those who did not undergo rehabilitation (NR). The differences in the daily medical expenditures among the three groups during the 10-year post-stroke period were examined.
Results: After balancing characteristics of the three groups, the data of 14,544 first-stroke survivors between 1999 and 2003 were collected. The medical expenditure of index hospitalization was the lowest and the survival period was the longest in the TR group. The ICLYG of TR vs. NR (reference) was $-388.5$ (95% CI $-396.2$, $-380.8$) USD/year and that of TR vs. R (reference) was $-121.5$ (95% CI $-130.4$, $-112.6$) USD/year. The daily medical expenditure of the post-stroke survival period was significantly lower in the TR group (median 11.0, IQR 5.7–22.5 USD) than in the R (median 14.2, IQR 6.4–41.4 USD) and NR (median 19.5, IQR 6.4–88.2 USD) groups.

Conclusions: The 10-year post-stroke follow-up showed that transferring patients to the rehabilitation ward is more cost effective than rehabilitation without transfer to the rehabilitation ward and no rehabilitation.

Title: Daytime physical activity at admission is associated with improvement of gait independence 1 month later in people with subacute stroke: a longitudinal study.

Citation: Topics in Stroke Rehabilitation; Jan 2020; vol. 27 (no. 1); p. 25-32

Author(s): Shimizu, Natsuki; Hashidate, Hiroyuki; Ota, Tomohiro; Yatsunami, Mitsunobu

Background: Little is known about the benefits of daytime physical activity on gait ability in subacute stroke. Objectives: We investigated association between daytime physical activity at hospital admission and improvement of gait independence 1 month later in subacute stroke.

Methods: Thirty-four participants with subacute stroke who could not walk independently were assessed. An accelerometer (HJA 350-IT, OMRON) was used to record the mean duration of light-intensity physical activity (LIPA) and moderate-to-vigorous-intensity physical activity (MVPA). LIPA and MVPA were recorded for 12 h per day for 7 consecutive days, and at three different time periods (daytime, therapy time, non-therapy time) at rehabilitation hospital admission (baseline). Gait independence was assessed by the functional ambulation category (FAC) at baseline and 1 month later. Participants were categorized into two groups based on the change of gait independence, as follows: the improved group, in which the FAC increased by ≥1; the non-improved group, in which the FAC did not increase.

Results: Compared with the non-improved group, the improved group demonstrated significantly higher values of all physical activity variables, except for non-therapy time MVPA (p <.05). Logistic regression analysis showed that higher daytime LIPA was significantly associated with FAC improvement (OR = 1.068, 95% CI 1.009 to 1.140). In particular, higher non-therapy time LIPA was closely associated with FAC improvement (OR = 1.253, 95% CI 1.002 to 1.568).

Conclusions: To promote recovery of gait independence in first month from admission, increasing daytime physical activity, especially LIPA during daytime or non-therapy time, is an important treatment target in subacute stroke.

Title: Factors associated with successful home discharge after inpatient rehabilitation in frail older stroke patients.

Citation: BMC geriatrics; Jan 2020; vol. 20 (no. 1); p. 25

Author(s): Vluggen, Tom P M M; van Haastregt, Jolanda C M; Tan, Frans E S; Kempen, Gertrudis I J M; Schols, Jos M G A; Verbunt, Jeanine A
Background: Stroke is a highly prevalent disease among older people and can have a major impact on daily functioning and quality of life. When community-dwelling older people are hospitalized due to stroke, discharge to an intermediate care facility for geriatric rehabilitation is indicated when return to the previous living situation is expected but not yet possible. However, a substantial proportion is still unable to return home after discharge and has to be admitted to a residential care setting. This study aims to identify which factors are associated with home discharge after inpatient rehabilitation among frail and multimorbid older stroke patients.

Methods: This study is a longitudinal cohort study among 92 community-dwelling stroke patients aged 65 years or over. All patients were admitted to one of eight participating intermediate care facilities for geriatric rehabilitation, under the expectation to return home after rehabilitation. We examined whether 16 potentially relevant factors (age; sex; household situation before admission; stroke history; cardiovascular disorders; diabetes mellitus; multimorbidity; cognitive disability; neglect; apraxia; dysphagia; urinary and bowel incontinence; emotional problems; sitting balance; daily activity level; and independence in activities of daily living) measured at admission were associated with discharge to the former living situation. Logistic regression analysis was used for statistical analysis.

Results: Mean age of the patients was 79.0 years (SD 6.4) and 51.1% was female. A total of 71 patients (77.1%) were discharged to the former living situation within 6 months after the start of geriatric rehabilitation. Of the 16 factors analysed, only a higher level of independence in activities of daily living at admission was significantly associated with home discharge.

Conclusions: Our study shows that the vast majority of previously identified factors predicting home discharge among stroke patients, could not predict home discharge among a group of frail and multimorbid older persons admitted to geriatric rehabilitation. Only a higher level of independence in activities of daily living at admission was significantly associated with home discharge. Additional insight in other factors that might predict home discharge after geriatric rehabilitation among this specific group of frail older stroke patients, is needed.

Trial Registration: ISRCTN ISRCTN62286281. Registered 19-3-2010.

Title: The impact of a patient-directed activity program on functional outcomes and activity participation after stroke during inpatient rehabilitation-a randomized controlled trial.

Citation: Clinical rehabilitation; Jan 2020 ; p. 269215519901153

Author(s): Swank, Chad; Trammell, Molly; Callender, Librada; Bennett, Monica; Patterson, Kara; Gillespie, Jaime; Kapoor, Priyanka; Driver, Simon

Objective: Individuals post stroke are inactive, even during rehabilitation, contributing to ongoing disability and risk of secondary health conditions. Our aims were to (1) conduct a randomized controlled trial to examine the efficacy of a "Patient-Directed Activity Program" on functional outcomes in people post stroke during inpatient rehabilitation and (2) examine differences three months post inpatient rehabilitation discharge.

Design: Randomized control trial.

Setting: Inpatient rehabilitation facility.

Subjects: Patients admitted to inpatient rehabilitation post stroke.

Interventions: Patient-Directed Activity Program (PDAP) or control (usual care only). Both groups underwent control (three hours of therapy/day), while PDAP participants were prescribed two additional 30-minute activity sessions/day.
Main Measures: Outcomes (Stroke Rehabilitation Assessment of Movement Measure, Functional Independence Measure, balance, physical activity, Stroke Impact Scale) were collected at admission and discharge from inpatient rehabilitation and three-month follow-up.

Results: Seventy-three patients (PDAP (n = 37); control (n = 36)) were included in the primary analysis. Patients in PDAP completed a total of 23.1 ± 16.5 sessions (10.7 ± 8.5 upper extremity; 12.4 ± 8.6 lower extremity) during inpatient rehabilitation. No differences were observed between groups at discharge in functional measures. PDAP completed significantly more steps/day (PDAP = 657.70 ± 655.82, control = 396.17 ± 419.65; P = 0.022). The Stroke Impact Scale showed significantly better memory and thinking (PDAP = 86.2 ± 11.4, control = 80.8 ± 16.7; P = 0.049), communication (PDAP = 93.6 ± 8.3, control = 89.6 ± 12.4; P = 0.042), mobility (PDAP = 62.2 ± 22.5, control = 53.8 ± 21.8; P = 0.038), and overall recovery from stroke (PDAP = 62.1 ± 19.1, control = 52.2 ± 18.7; P = 0.038) for PDAP compared to control. At three months post discharge, PDAP (n = 11) completed significantly greater physical activity (P = 0.014; 3586.5 ± 3468.5 steps/day) compared to control (n = 10; 1760.9 ± 2346.3 steps/day).

Conclusion: Functional outcome improvement was comparable between groups; however, PDAP participants completed more steps and perceived greater recovery.

Title: Sitting Balance Exercise Performed Using Virtual Reality Training on a Stroke Rehabilitation Inpatient Service: A Randomized Controlled Study.

Citation: PM & R : the journal of injury, function, and rehabilitation; Jan 2020

Author(s): Lisa, Sheehy; Anne, Taillon-Hobson; Heidi, Sveistrup; Martin, Bilodeau; Christine, Yang; Hillel, Finestone

Introduction: Virtual reality training (VRT) is engaging and may enhance rehabilitation intensity. Only one previous study has looked at its use to improve sitting balance after stroke.

Objective: To determine if supplemental sitting balance exercises, administered via VRT, improve control of sitting balance and upper extremity function in stroke rehabilitation inpatients.

Design: Assessor-blinded, placebo-controlled randomized controlled trial.

Setting: Stroke inpatient rehabilitation unit.

Participants: Seventy-six participants (out of 130 approached) with sub-acute stroke who could not stand independently were randomized to experimental and control groups. Sixty-nine completed the study.

Interventions: The experimental group did VRT that required leaning and reaching, while the control group had their trunk restrained and performed VRT which only involved small upper extremity movements, to minimize trunk movement. Both groups performed 10-12 sessions of 30-45 minutes. Participants were assessed pre-, post and one-month post the sessions by a blinded examiner.

Outcome Measures: Function in Sitting Test (FIST, primary outcome measure); Ottawa Sitting Scale; Reaching Performance Scale; Wolf Motor Function Test (WMFT).

Results: Thirty-three participants completed the experimental intervention and 36 the control. Pre/post differences for FIST were 3.4 [confidence interval (CI) 0.5;6.3] for the experimental group and 5.3 (2.9;7.7) for the control group. There was a significant improvement over time (adjusted for multiple comparisons, p0.006).

Conclusions: Sitting balance outcomes were similar for both groups; therefore this study does not support the use of sitting balance exercises provided via VRT for the rehabilitation
of sitting balance after stroke. However, because it is only the second study to investigate VRT for sitting balance and upper extremity function, more research, using more challenging exercises and a greater treatment intensity, is required before definitive conclusions are made. This article is protected by copyright. All rights reserved.

**Title:** Design and Development of a Wearable Exoskeleton System for Stroke Rehabilitation.

**Citation:** Healthcare (Basel, Switzerland); Jan 2020; vol. 8 (no. 1)

**Author(s):** Ou, Yang-Kun; Wang, Yu-Lin; Chang, Hua-Cheng; Chen, Chun-Chih

**Abstract:** For more than a decade, many countries have been actively developing robotic assistive devices to assist in the rehabilitation of individuals with limb disability to regain function in the extremities. The exoskeleton assistive device in this study has been designed primarily for hemiplegic stroke patients to aid in the extension of fingers to open up the palm to simulate the effects of rehabilitation. This exoskeleton was designed as an anterior-support type to achieve palmar extension and acts as a robotic assistive device for rehabilitation in bilateral upper limb task training. Testing results show that this wearable exoskeleton assistive device with human factor consideration using percentile dimensions can provide comfortable wear on patients as well as adequate torque to pull individual fingers into flexion towards the palm for rehabilitation. We hope this exoskeleton device can help stroke patients with loss of function in the upper extremities to resume motor activities in order to maintain activities of daily living.

**Title:** Eligibility, Enrollment, and Completion of Exercise-Based Cardiac Rehabilitation Following Stroke Rehabilitation: What Are the Barriers?

**Citation:** Physical therapy; Jan 2020; vol. 100 (no. 1); p. 44-56

**Author(s):** Marzolini, Susan; Fong, Karen; Jagroop, David; Neirinckx, Jennifer; Liu, Jean; Reyes, Rina; Grace, Sherry L; Oh, Paul; Colella, Tracey J F

**Background:** People after stroke benefit from comprehensive secondary prevention programs including cardiac rehabilitation (CR), yet there is little understanding of eligibility for exercise and barriers to use.

**Objective:** The aim of this study was to examine eligibility for CR; enrollment, adherence, and completion; and factors affecting use.

**Design:** This was a prospective study of 116 consecutive people enrolled in a single outpatient stroke rehabilitation (OSR) program located in Toronto, Ontario, Canada.

**Methods:** Questionnaires were completed by treating physical therapists for consecutive participants receiving OSR and included reasons for CR ineligibility, reasons for declining participation, demographics, and functional level. CR eligibility criteria included the ability to walk ≥100 m (no time restriction) and the ability to exercise at home independently or with assistance. People with or without hemiplegic gait were eligible for adapted or traditional CR, respectively. Logistic regression analyses were used to examine factors associated with use indicators.

**Results:** Of 116 participants receiving OSR, 82 (70.7%) were eligible for CR; 2 became eligible later. Sixty (71.4%) enrolled in CR and 49 (81.7%) completed CR, attending 87.1% (SD = 16.6%) of prescribed sessions. The primary reasons for ineligibility included being nonambulatory or having poor ambulation (52.9%; 18/34 patients) and having severe
cognitive deficits and no home exercise support (20.6%; 7/34). Frequently cited reasons for declining CR were moving or travel out of country (17.2%; 5/29 reasons), lack of interest (13.8%; 4/29), transportation issues (10.3%; 3/29), and desiring a break from therapy (10.3%; 3/29). In a multivariate analysis, people who declined CR were more likely to be women, have poorer attendance at OSR, and not diabetic. Compared with traditional CR, stroke-adapted CR resulted in superior attendance (66.1% [SD = 22.9%] vs 87.1% [SD = 16.6%], respectively) and completion (66.7% vs 89.7%, respectively). The primary reasons for dropping out were medical (45%) and moving (27%).

**Limitations:** Generalizability to other programs is limited, and other, unmeasured factors may have affected outcomes.

**Conclusions:** An OSR-CR partnership provided an effective continuum of care, with approximately 75% of eligible people participating and more than 80% completing. However, just over 1 of 4 eligible people declined participation; therefore, strategies should target lack of interest, transportation, women, and people without diabetes. An alternative program model is needed for people who have severe ambulatory or cognitive deficits and no home exercise support.

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**Title:** Cognitive training in an everyday-like virtual reality enhances visual-spatial memory capacities in stroke survivors with visual field defects.

**Citation:** Topics in stroke rehabilitation; Jan 2020 ; p. 1-11

**Author(s):** Dehn, Lorenz B; Piefke, Martina; Toepper, Max; Kohsik, Agnes; Rogalewski, Andreas; Dyck, Eugen; Botsch, Mario; Schäbitz, Wolf-Rüdiger

**Objectives:** Visual field defects due to hemi- or quadrantanopia after stroke represent an under-recognized neurological symptom with inefficient instruments for neurorehabilitation to date. We here examined the effects of training in a virtual reality (VR) supermarket on cognitive functions, depressive symptoms, and subjective cognitive complaints in patients with hemianopia/quadrantanopia and healthy controls.

**Methods:** During a 14-day rehabilitation program, 20 patients and 20 healthy controls accomplished a real-life-like shopping task in a VR supermarket. A comparison between pre- and post-training standard neuropsychological measures, depressive symptoms, and subjective memory complaints allowed us to assess a putative transfer of rehabilitation effects from the training tasks to specific cognitive functions.

**Results:** The results indicate that VR training may improve performance not only in the trained task but also in specific neuropsychological functions. After the training, both patients and controls showed improved performances in visual scanning, mental rotation, visuoconstruction, and cognitive flexibility. Moreover, depressive symptoms were attenuated in both groups. In the patient group compared to the control group, the training particularly resulted in improved visual memory retrieval and reduced memory complaints.

**Conclusions:** The results of the current study suggest that VR training can improve particularly visual-spatial skills in patients with hemianopia or quadrantanopia. Our study thus introduces an interesting novel treatment approach to improve cognitive functions relevant to daily life in stroke patients with visual field defects.

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**Title:** A systematic review of the efficiency of recruitment to stroke rehabilitation randomised controlled trials.

**Source:** Trials; Jan 2020; vol. 21 (no. 1); p. 68
Author(s): McGill, Kris; Sackley, Catherine M; Godwin, Jon; McGarry, Jodie; Brady, Marian C

Introduction: Randomised controlled trials (RCTs) that fail to meet their recruitment target risk increasing research waste. Acute stroke RCTs experience notable recruitment issues. The efficiency of recruitment to stroke rehabilitation RCTs has not been explored.

Aims and Objectives: To explore recruitment efficiency and the trial features associated with efficient recruitment to stroke rehabilitation RCTs.

Methods: A systematic review of stroke rehabilitation RCTs published between 2005 and 2015 identified in a search of the Cochrane Stroke Group (CSG) Trials Register from 35 electronic databases (e.g. Medline, CINAHL; EMBASE), clinical trial registers, and hand-searching. Inclusion criteria are stroke rehabilitation intervention, delivered by a member of the rehabilitation team, and clinically relevant environment. We extracted data on recruitment efficiency and trial features.

Results: We screened 12,939 titles, 1270 abstracts and 788 full texts, before extracting data from 512 included RCTs (n = 28,804 stroke survivor participants). This is the largest systematic review of recruitment to date. A third of stroke survivors screened consented to participate (median 34% (IQR 14-61), on average sites recruited 1.5 participants per site per month (IQR 0.71-3.22), and one in twenty (6% (IQR 0-13) dropped out during the RCT. Almost half (48%) of those screened in the community were recruited compared to hospital settings (27%). Similarly, almost half (47%) those screened at least 6 months after stroke participated, compared to 23% of stroke survivors screened within a month of stroke. When one recruiter screened multiple sites, a median of one stroke survivor was recruited every 2 months compared to more than two per month when there was a dedicated recruiter per site. RCT recruitment was significantly faster per site, with fewer dropouts, for trials conducted in Asia (almost three stroke survivors monthly; 2% dropout) compared to European trials (approximately one stroke survivor monthly; 7% dropout).

Conclusions: One third of stroke survivors screened were randomised to rehabilitation RCTs at a rate of between one and two per month, per site. One in twenty did not complete the trial. Our findings will inform recruitment plans of future stroke rehabilitation RCTs. Limited reporting of recruitment details restricted the subgroup analysis performed.

Trial Registration: Prospective Register of Systematic Reviews, registration number CRD42016033067.

Title: Mindfulness in allied health and social care professional education: a scoping review.

Citation: Disability & Rehabilitation; Jan 2020; vol. 42 (no. 2); p. 283-295

Author(s): Kinsella, Elizabeth Anne; Smith, Kirsten; Bhanji, Saara; Shepley, Rachelle; Modor, Andreja; Bertrim, Andrew

Background: Investigations into the use of mindfulness with allied health and social care students, many of whom ultimately work in rehabilitation settings, is in the nascent stages and no systematic mapping of the literature has occurred. The purpose of this scoping review was to identify, summarise, and describe the current state of knowledge on mindfulness in allied health and social care professional education.

Methods: Arksey and O'Malley's scoping review methodology was adopted. Five data bases were searched; inclusion and exclusion criteria were applied; and 50 papers were identified for inclusion in the study. Results: Quantitative studies depicted mindfulness interventions as contributing to: improved capacities for mindfulness; decreases in stress,
anxiety, and depression; improvements in academic skills, quality of life and well-being, and empathy; improved physiological measures and emotional regulation; and mixed effects on burn-out.

**Qualitative studies highlighted:** 1) mindfulness and self-care, 2) mindfulness within professional practice placements, 3) mindfulness in the classroom, and 4) the cultivation of mindful qualities.

**Conclusions:** The study has important implications for the education of future rehabilitation professions and suggests that learning about mindfulness may be useful in assisting students to: manage academic stress, anxiety, and depression; cultivate a physical and mental state of calm; be more present and empathetic with clients; and be more focused and attentive in professional practice settings. Further exploration of mindfulness as a promising educational intervention for the professional preparation of future rehabilitation practitioners in allied health and social care fields is recommended. Education and research about mindfulness and its potential opportunities for students in terms of the mediation of stress, anxiety, depression, and the cultivation of empathy, academic skills, quality of life, and resilience are recommended. Education and research about mindfulness and its potential for the cultivation of beneficial qualities of mind such as attention, self-awareness, compassion, non-judgment, and acceptance are recommended. Education and research about mindfulness as a potential means to develop capacities related to self-care, professional practice placements, and classroom performance in students is recommended.

**Sources Used:**

The following databases are used in the creation of this bulletin: Amed, Cinahl & Medline.

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