Rehabilitation

Current Awareness Bulletin

February 2016

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Jason Ovens
Head of Library & Knowledge Services
Title: Validity of the Michigan Hand Outcomes Questionnaire in Patients With Stroke.

Citation: Archives of physical medicine and rehabilitation, Feb 2016, vol. 97, no. 2, p. 238-244 (February 2016)
Author(s): Arwert, Henk J, Keizer, Saskia, Kromme, Cornelis H, Vliet Vlieland, Thea P, Meesters, Jorit J

Abstract: To investigate the measurement properties of the Dutch version of the Michigan Hand Outcomes Questionnaire (MHQ) in patients with stroke. Validation study. Outpatient rehabilitation clinic. Consecutive patients with stroke (N=51; mean age, 60±11y; 16 women [31%]). Patients were asked to complete the MHQ (57 items) and Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36). Additional assessments included the Barthel Index and performance tests for hand function (Action Research Arm Test, Nine Hole Peg Test, Frenchay Arm Test, Motricity Index). Associations between the MHQ and other outcome measures were determined using Spearman correlation coefficients and the internal consistency of the MHQ using Cronbach α. Floor or ceiling effects were present if >15% of the patients scored minimal or maximal scores, respectively. Test-retest reliability was established by the intraclass correlation coefficient. The mean MHQ total score was 70.0±22.4, with Cronbach α being .97. The MHQ total score correlated significantly with the physical component summary of the SF-36, the Barthel Index, and all hand function performance tests (P<.01). The MHQ total score showed no floor or ceiling effects. The test-retest intraclass correlation coefficient was .97. This study provides preliminary evidence that the MHQ is an internally consistent, valid, and reliable hand function questionnaire in outpatients after stroke, although these results need to be further confirmed. Copyright © 2016 American Congress of Rehabilitation Medicine. Published by Elsevier Inc. All rights reserved.

Title: Measuring Patients' Experience of Rehabilitation Services Across the Care Continuum. Part I: A Systematic Review of the Literature.

Citation: Archives of physical medicine and rehabilitation, Jan 2016, vol. 97, no. 1, p. 104-120 (January 2016)
Author(s): McMurray, Josephine, McNeil, Heather, Lafortune, Claire, Black, Samantha, Prorok, Jeanette, Stolee, Paul

Abstract: To identify empirically tested survey instruments designed to measure patient experience across a rehabilitative care system. A comprehensive search was conducted of the MEDLINE (PubMed), CINAHL (EBSCO), and PsycINFO (APA PsycNET) databases from 2004 to 2014. Further searches were conducted in relevant journals and the reference lists of the final accepted articles. Of 2472 articles identified, 33 were selected for inclusion and analysis. Articles were excluded if they were unrelated to rehabilitative care, were anecdotal or descriptive reports, or had a veterinary, mental health, palliative care, dental, or pediatric focus. Four reviewers performed the screening process. Interrater reliability was confirmed through 2 rounds of title review (30 articles each) and 1 round of abstract review (10 articles), with an average k score of .69. Data were extracted related to the instrument, study setting, and patient characteristics, including treated disease, type of rehabilitation (eg, occupational or physical therapy), methodology, sample size, and level of evidence. There were 25 discrete measurement instruments identified in the 33 articles evaluated. Seven of the instruments originated outside of the rehabilitative care sector, and only 1 measured service experience across the care continuum. As providers move to integrate rehabilitative care across the continuum from hospital to home, patients experience a system of care. Research is required to develop psychometrically tested instruments that measure patients’ experience across a rehabilitative system. Copyright © 2016 American Congress of Rehabilitation Medicine. Published by Elsevier Inc. All rights reserved.
Title: The impact of transcranial direct current stimulation (tDCS) combined with modified constraint-induced movement therapy (mCIMT) on upper limb function in chronic stroke: a double-blind randomized controlled trial.

Citation: Disability and rehabilitation, Apr 2016, vol. 38, no. 7, p. 653-660 (April 2016)
Author(s): Rocha, Sérégio, Silva, Evelyn, Foerster, Águida, Wiesiolek, Carine, Chagas, Anna Paula, Machado, Giselle, Baltar, Adriana, Monte-Silva, Katia

Abstract: This pilot double-blind sham-controlled randomized trial aimed to determine if the addition of anodal tDCS on the affected hemisphere or cathodal tDCS on unaffected hemisphere to modified constraint-induced movement therapy (mCIMT) would be superior to constraints therapy alone in improving upper limb function in chronic stroke patients. Twenty-one patients with chronic stroke were randomly assigned to receive 12 sessions of either (i) anodal, (ii) cathodal or (iii) sham tDCS combined with mCIMT. Fugl-Meyer assessment (FMA), motor activity log scale (MAL), and handgrip strength were analyzed before, immediately, and 1 month (follow-up) after the treatment. Minimal clinically important difference (mCID) was defined as an increase of $\geq 5.25$ in the upper limb FMA. An increase in the FMA scores between the baseline and post-intervention and follow-up for active tDCS group was observed, whereas no difference was observed in the sham group. At post-intervention and follow-up, when compared with the sham group, only the anodal tDCS group achieved an improvement in the FMA scores. ANOVA showed that all groups demonstrated similar improvement over time for MAL and handgrip strength. In the active tDCS groups, 7/7 (anodal tDCS) 5/7 (cathodal tDCS) of patients experienced mCID against 3/7 in the sham group. The results support the merit of association of mCIMT with brain stimulation to augment clinical gains in rehabilitation after stroke. However, the anodal tDCS seems to have greater impact than the cathodal tDCS in increasing the mCIMT effects on motor function of chronic stroke patients. Implications for Rehabilitation The association of mCIMT with brain stimulation improves clinical gains in rehabilitation after stroke. The improvement in motor recovery (assessed by Fugl-Meyer scale) was only observed after anodal tDCS. The modulation of damaged hemisphere demonstrated greater improvements than the modulation of unaffected hemispheres.

Title: Social context, art making processes and creative output: a qualitative study exploring how psychosocial benefits of art participation during stroke rehabilitation occur.

Citation: Disability and rehabilitation, Apr 2016, vol. 38, no. 7, p. 661-672 (April 2016)
Author(s): Morris, Jacqui, Toma, Madalina, Kelly, Chris, Joice, Sara, Kroll, Thilo, Mead, Gillian, Williams, Brian

Abstract: To explore stroke survivors' and artists' beliefs about participatory visual arts programme participation in in-patient rehabilitation to identify benefits and potential mechanisms of action. Qualitative design using semi-structured in-depth interviews with stroke survivors (n = 11) and artists (n = 3). Data were audio-recorded and transcribed. Framework approach was used to identify themes and develop conceptual schemes. The non-medical, social context of art facilitated social interaction, provided enjoyment and distraction from stroke and re-established social identity thereby improving mood. The processes of art making generated confidence and self-efficacy, setting and achievement of creative, communication and physical recovery goals that provided control over survivors' situation and hope for recovery. Creative output involved completion of artwork and display for viewing. This enhanced self-esteem and improved mood, providing survivors with new identities through positive appraisal of the work by others. Self-efficacy, hope and control appeared to mediate benefits. This study provides a model of intervention components, mechanisms of action and outcome mediators to explain how art participation may work. Findings suggest that art may influence important psychosocial outcomes that other rehabilitation approaches do not typically address. The study paves the way for a future effectiveness trial. Implications for Rehabilitation Participation in an art programme during rehabilitation appears to improve stroke survivors' mood, confidence and self-esteem and enhances perceptions of hope and control over recovery. Social interactions, the processes of art making and review and appraisal by others may be key intervention components from which benefits are derived. Benefits from art participation may enhance survivors' experiences of rehabilitation and appear to provide benefits that other rehabilitation interventions do not. Art participation should be considered as an important adjunct to traditional rehabilitation.
Title: Feasibility of a home-based program to improve handwriting after stroke: a pilot study.

Citation: Disability and rehabilitation, Apr 2016, vol. 38, no. 7, p. 673-682 (April 2016)
Author(s): Simpson, Bronwyn, McCluskey, Annie, Lannin, Natasha, Cordier, Reinie

Abstract: To test the feasibility of a handwriting retraining program with adults after stroke; specifically the feasibility of: (i) recruiting people with stroke to the study, (ii) delivering the handwriting retraining program and (iii) outcome measures of handwriting performance. A quasi-experimental pre-test post-test design was used. A four-week, home-based handwriting retraining program was delivered by an occupational therapist using task-specific practice. Legibility, speed, pen control and self-perception of handwriting were measured at baseline and completion of the program. Legibility was scored by a blinded rater. Seven adults with stroke were recruited (eligibility fraction 43% of those screened, and enrolment fraction 78% of those eligible). There were no dropouts. Although, recruitment was slow the intervention was feasible and acceptable to adults with stroke. No statistically or clinically significant changes in legibility were reported in this small sample, but a ceiling effect was evident for some outcome measures. The study was not powered to determine efficacy. Delivery of a four-week handwriting intervention with eight supervised sessions in the community was feasible; however, recruitment of an adequate sample size would require greater investment than the single site used in this pilot. Implications for Rehabilitation Handwriting difficulty is common following hemiparesis after stroke, however research addressing handwriting retraining for adults with stroke is lacking. A four-week home-based handwriting program using task-specific practice and feedback was feasible to deliver and appropriate for adults with stroke. Improving handwriting legibility and neatness across a range of tasks were important goals for adults with handwriting impairment.

Title: Family members facilitating community re-integration and return to productivity following traumatic brain injury - motivations, roles and challenges.

Citation: Disability and rehabilitation, Mar 2016, vol. 38, no. 5, p. 433-441 (March 2016)
Author(s): Gagnon, Alicia, Lin, Jenny, Stergiou-Kita, Mary

Abstract: This study explores the experiences of family members in supporting community re-integration and return to productive occupations of the traumatic brain injury (TBI) survivor in order to: (i) describe family members’ supportive roles, (ii) determine challenges family members experience in supporting the TBI survivor; and (iii) identify supports that family members require to maintain and enhance their roles. This qualitative descriptive study involved 14 interviews with immediate family members of TBI survivors. Data was analyzed using thematic analysis. Family members expressed strong motivation and engaged in six key roles to support TBI survivors: researcher, case manager, advocate, coach, activities of daily living (ADL)/instrumental ADLs and emotional supporter. Personal and family stressors and challenges navigating the health care system were perceived as challenges in meeting demands of their supportive roles. Stigma also presented a barrier to successful community and vocational re-integration. Subsequently, family members desired more education related to the functional implications of TBI, to be connected to health care and community resources, and sought a greater family-centred care approach. Family members require on-going counseling and community supports to prevent burnout and allow for their continued engagement in their supportive roles. Further education on how to navigate the health care system, access community programs and rights to workplace accommodation is also warranted. Implications for Rehabilitation Family members are strongly motivated to support survivors’ return to productive occupation following a traumatic brain injury, but require counseling and community support to enable their on-going engagement and prevent burnout. Family members can be further empowered through the implementation of family-centred care. Family members requested further education on the long-term functional implications of TBI, how to navigate the health care system, how to access community programs and workers’ rights to workplace accommodations.

Title: Job stability in skilled work and communication ability after moderate-severe traumatic brain injury.

Citation: Disability and rehabilitation, Mar 2016, vol. 38, no. 5, p. 452-461 (March 2016)
Author(s): Meulenbroek, Peter, Turkstra, Lyn S
Abstract: Communication deficits may play a critical role in maintaining employment after traumatic brain injury (TBI), but links between specific communication deficits and employment outcomes have not been determined. This study identified communication measures that distinguished stably employed versus unstably employed adults with TBI. Participants were 31 adults with moderate-severe TBI who were employed full-time for at least 12 consecutive months before injury in skilled jobs and had attempted return to skilled jobs after injury. Sixteen had achieved stable employment (SE) post-injury, defined as full-time employment for ≥12 consecutive months; and 15 had unstable employment (UE). Participants completed a battery of communication tests identified in a prior qualitative study of communication skills required for skilled work. Measures of spoken language comprehension, verbal reasoning, social inference, reading and politeness in spoken discourse significantly discriminated between SE and UE groups. Two nested models were completed and compared. The first model excluded discourse data because of missing data for two UE and one SE participant. This model revealed that measures of verbal reasoning speed (β = -0.18, p = 0.05) and social inference (β = 0.19, p = 0.05) were predictive independent of the overall model. The second model included discourse politeness data and was a better overall predictor of group membership (Likelihood ratio test, Model 1: 3.824, Model 2: 2.865). Communication measures were positively associated with SE in skilled jobs after TBI. Clinicians should include assessment of communication for adults attempting return to work after TBI, paying specific attention to social inference and speed of verbal reasoning skills. Implications for Rehabilitation Traumatic brain injury (TBI) often results in communication impairments associated with the cognitive skills underlying interpersonal skills. Communication impairment after TBI has been anecdotally associated with job instability. This research associate communication functioning with work stability after TBI in skilled jobs. These findings indicate that communication impairment should be assessed in persons with TBI returning to skilled employment after injury.

Title: Employment and Community Living Issues for People with Multiple Sclerosis.

Citation: Work, 2015, vol./is. 52/4(723-724), 10519815

Title: Multiple sclerosis: Etiology, symptoms, incidence and prevalence, and implications for community living and employment.

Citation: Work, 2015, vol./is. 52/4(725-734), 10519815

Title: Aphasia: When speaking is hard.

Citation: Aphasia: When speaking is hard., 2015, vol./is. 10/12(3-3), 19305583

Title: Foot and ankle impairments affect balance and mobility in stroke (FAiMiS): the views and experiences of people with stroke.

Citation: Disability and rehabilitation, Mar 2016, vol. 38, no. 6, p. 589-596 (March 2016)

Author(s): Gorst, Terry, Lyddon, Alison, Marsden, Jon, Paton, Joanne, Morrison, Stewart C, Cramp, Mary, Freeman, Jenny

Abstract: To explore the nature and impact of foot and ankle impairments on mobility and balance in community-dwelling, chronic stroke survivors. A qualitative research design using face to face semi-structured, audio recorded interviews. Thirteen community-dwelling stroke survivors, all of whom had self-reported foot and ankle impairments, were interviewed (female n = 6, mean age = 67 years, SD = 12 years, mean time since stroke = 4 years, SD = 6 years, right stroke n = 7, left stroke n = 6). A framework analysis approach was used to analyse and interpret transcribed interviews. Three themes emerged: (1) Impact. The influence of foot and ankle impairments on mobility and balance. (2) Standing out. How participants felt they "stood out" because of their impairments and wanted to be normal. (3) Help. The specific help and advice participants received in managing their problems. Foot and ankle impairments such as pain, altered somatosensory input and weakness significantly contribute to problems with community ambulation,
balance and fear of falling in people with chronic stroke. Specific foot and ankle impairments may also negatively contribute to perceptions of physical appearance and self-esteem. Therapeutic management approaches within clinical practice appear to focus mostly on the gross performance of the lower limb with little emphasis on the specific assessment or treatment of the foot or ankle. Implications for Rehabilitation Foot pain, sensory impairments and muscle weakness in the foot and ankle can impact on community ambulation, balance and fear of falling following stroke. Foot and ankle function post-stroke should be routinely assessed and monitored. Clinicians should be aware of the potentially distressing negative perceptions associated with altered gait patterns, footwear and orthotic use.

Title: Rehabilitation of Older Adults with Dementia After Hip Fracture.

Citation: Journal of the American Geriatrics Society, Jan 2016, vol. 64, no. 1, p. 47-54 (January 2016)

Author(s): Seitz, Dallas P, Gill, Sudeep S, Austin, Peter C, Bell, Chaim M, Anderson, Geoffrey M, Gruneir, Andrea, Rochon, Paula A

Abstract: To evaluate the effects of postoperative rehabilitation on the outcomes of older adults with dementia who experienced hip fracture. Retrospective cohort study. Ontario, Canada. Community-dwelling adults with dementia who underwent hip fracture surgery between 2003 and 2011. Participants were categorized as no rehabilitation, complex continuing care (CCC), home-care based rehabilitation (HCR), and inpatient rehabilitation (IPR). Time to long-term care (LTC) placement, mortality, and risk of repeat hip fracture and falls. Of 11,200 individuals with dementia who experienced a hip fracture during the study period, 4,494 (40.1%) received no rehabilitation, 2,474 (22.1%) were admitted to CCC, 1,157 (10.3%) received HCR, and 3,075 (27.4%) received IPR. HCR and IPR were associated with less risk of LTC admission after discharge from hospital than no rehabilitation. All three forms of rehabilitation were associated with lower risk of mortality than no rehabilitation, with the greatest effect observed with IPR. HCR was associated with a higher risk of falls than no rehabilitation (P = .03); there were no other significant between-group differences in risk of falls or repeat fractures (P > .05). Postfracture rehabilitation for older adults with dementia is associated with lower risk of LTC placement and mortality. Improving access to rehabilitation services for this vulnerable population may improve postfracture outcomes. © 2016, Copyright the Authors Journal compilation © 2016, The American Geriatrics Society.

Full Text: Available from Wiley in Journal of the American Geriatrics Society

Title: Determining client cognitive status following mild traumatic brain injury.

Citation: Scandinavian journal of occupational therapy, Mar 2016, vol. 23, no. 2, p. 138-146 (March 2016)

Author(s): Hobson, Elizabeth, Lannin, Natasha A, Taylor, Amelia, Farquhar, Michelle, Morarty, Jacqui, Unsworth, Carolyn

Abstract: Background People with mild traumatic brain injury (mTBI) commonly experience cognitive impairments. Occupational therapists working in acute general hospitals in Australia routinely access client Glasgow Coma Scale (GCS) scores, and assess cognitive status using standardized tools and by observing basic activity of daily living (ADL) performance. However, limited evidence exists to identify the best assessment(s) to determine client cognitive status. Aim/objectives To determine whether cognitive status assessed by GCS score and the Cognistat are predictive of basic ADL performance among clients with mTBI in an acute general hospital and make inferences concerning the clinical utility of these assessment tools. Material and methods Retrospective analysis of medical record data on demographics, Cognistat, GCS, and modified Barthel Index (MBI) using descriptive statistics, chi-square tests and linear regression. Results Data analysis of 166 participants demonstrated that no associations exist between GCS and Cognistat scores, or Cognistat scores and MBI dependency level. The presence of co-morbid multi-trauma injuries and length of stay were the only variables that significantly predicted MBI dependency level. Conclusion and significance While the MBI scores are of value in identifying clients with difficulty in basic ADLs, Cognistat and GCS scores are of limited use in differentiating client levels of cognitive impairment and the authors caution against the routine administration of the Cognistat following mTBI. Further research is required to identify more suitable assessments for use with a mTBI population.
Title: Sentinel Events During the Transition From Hospital to Home: A Longitudinal Study of Women With Traumatic Brain Injury.

Citation: Archives of physical medicine and rehabilitation, Feb 2016, vol. 97, no. 2 Suppl, p. S46. (February 2016)

Author(s): Nalder, Emily, Fleming, Jennifer, Cornwell, Petrea, Foster, Michele, Skidmore, Elizabeth, Bottari, Carolina, Dawson, Deirdre R

Abstract: To describe the occurrence of sentinel events and their influence on community integration of women with traumatic brain injury (TBI) transitioning from hospital to home. A longitudinal study was completed with data collected before and at 1, 3, and 6 months after hospital discharge. Brain injury rehabilitation unit and acute neuroscience ward. Women (N=25) with severe TBI (aged between 17 and 50 years; duration of posttraumatic amnesia ranged from 1 to 123d). Sixteen family caregivers also participated. Not applicable. Community integration was measured using the Mayo-Portland Adaptability Inventory. Depression, anxiety, and stress were measured using the Depression Anxiety Stress Scale. The Sentinel Events Questionnaire was used to record life events that potentially influence the transition process. Most women (>16 at each time point) experienced mild to moderate impairments in psychosocial integration. A third of the sample reported symptoms of depression (n=8), anxiety (n=9), and stress (n=7) that exceeded clinical cutoff levels on at least 1 occasion. At 6 months, 3 women reported clinically significant depression and anxiety (12%) and 2 reported significant stress levels (8%). Positive sentinel events such as return to meaningful occupation were common (n=14). Negative sentinel events were also quite common. For example, reduced access to therapy, reported by 10 women, was associated with poorer participation levels. These findings suggest that the presence of sentinel events influences the transition experiences of women with TBI in this sample. Rehabilitation should consider the occurrence and impact of sentinel events because this may facilitate successful transitions. Copyright © 2016 American Congress of Rehabilitation Medicine. Published by Elsevier Inc. All rights reserved.

Title: Development of a patient-centred, patient-reported outcome measure (PROM) for post-stroke cognitive rehabilitation: qualitative interviews with stroke survivors to inform design and content.

Citation: Health expectations : an international journal of public participation in health care and health policy, Dec 2015, vol. 18, no. 6, p. 3213-3224 (December 2015)

Author(s): Patchick, Emma L, Horne, Maria, Woodward-Nutt, Kate, Vail, Andy, Bowen, Audrey

Abstract: Improving cognition is service users' top research priority for life after stroke, and future research should include outcomes that they deem important. Patient perspectives on outcomes are collected using patient-reported outcome measures (PROMs). There is currently no patient-centred PROM specific for cognitive rehabilitation trials. Inform PROM development by exploring stroke survivor perspectives on the important, measurable impacts of persisting post-stroke cognitive problems. Qualitative semi-structured interviews in participants' homes. Purposive sample of 16 cognitively impaired stroke survivors at least six months post-stroke. Interviews used a schedule and communication aids developed through patient consultation. Interviews were transcribed verbatim with non-verbal communication recorded using field notes. Data were analysed using a framework approach to find commonalities to shape the focus and content of an outcome measure. Participants identified important impacts of their 'invisible' cognitive problems, outside of other stroke-related impairments. Cognitive problems exacerbated emotional issues and vice versa. Changes in self-identity and social participation were prominent. Impact was not spoken about in terms of frequency but rather in terms of the negative affect associated with problems; terms like 'bothered' and 'frustration' were often used. The results support the development of a PROM specifically designed to address the impact of cognitive problems. It should: include items addressing a comprehensive range of cognitive skills; ask questions about mood, self-identity and social participation; use accessible wording that respondents understand and endorse; measure impact rather than frequency; and explore perceived impact on carers. © 2014 John Wiley & Sons Ltd.
Sources Used:
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