



School of Rehabilitation Science
MSc(PT) Program

Research & Evidence Based Practice
Abstracts

2015

**MSc Physiotherapy Program
Presentation Schedule for REBP Symposium
McMaster University, MIP Room 1 - Tuesday, July 21 2015**

	9:00 -9:10	WELCOME - with address by Dr. Patricia Solomon, Associate Dean, School of Rehabilitation Science
1	9:10-9:25	Patient education for neck pain: A review update Students: Adam Piccinin, Alec St. Pierre, Jordan Toscan, Danielle Turpin Supervisor: Anita Gross Co-investigator: Nadine Graham
2	9:25-9:40	Accuracy of the Fitbit One at measuring activity levels of stroke survivors Students: Nick Accettone, Tim Bao, Rick Heyden, Jonathan Hui Supervisors: Ada Tang, Julie Richardson, Catherine McBay
3	9:40-9:55	Hand therapists' perceptions of intimate partner violence in Canada and the United States Students: Lindsay Dimopoulos, Robyn Murray Supervisors: Tara Packham, Dr. Joy MacDermid; Co-investigators: Kim Madden, Sheri MacDonald
4	9:55-10:10	The role of physical activity and exercise in the assessment and treatment of people with post-concussion syndrome: A scoping review Students: Adam Blando, Amy Hondronicols, Dan Ogborn, Seth Whitley Supervisors: Dr. Jocelyn Harris, Dr. Norma MacIntyre
5	10:10-10:25	Examining the effectiveness and usability of a virtual learning environment to enhance physiotherapy students' performance on an acute pain physiology quiz Students: Domenic Oppedisano, Jacob Pfeiffer, Nick Pirrera Supervisors: Dr. Vickie Galea, Dr. Monique Muller, Dr. Ilana Bayer
	10:25-10:40	BREAK
6	10: 40-10:55	The effects of exercise on people with multiple myeloma: A systematic review Students: Anu Dhar, Caitlin McWhinnie, Kayla Ng Supervisors: Dr. Oren Chiefetz
7	10:55-11:10	Evaluating the relationship between self-reports of pain and evoked pain in people with chronic pain Students: Miriam Beatty, Katelyn Jones, Veronica Wong Supervisor: Jordan Miller
8	11:10-11:25	Interrater reliability of Dartfish movement analysis software for measurement of hip and knee angles in older adults with osteoporosis and osteopenia Students: Tyler Allen, Zach Hollingham, James MacWhirter, Mark Welsh Supervisor: Dr. Ahmed Ngem, Dr. Norma MacIntyre
9	11:25-11:40	Collaborative practice: Exploring the perspectives of therapists and support personnel Students: Ashley McNeil, Keira Stroyan (IPE OT Student Team Members: Robin Lui, Farah Mohamad) Supervisors: Lisa Brice-Leddy, Debbie Park

10	11:40-11:55	Idiopathic toe walking: A retrospective review Students: Sarah Klassen, Allyson Moore, Sean Raymond Supervisors: Marilyn Wright, Deana Mercier
	12:00-1:00	LUNCH
11	1:00-1:15	Multimodal knowledge translation interventions in elderly patients with stroke: A systematic review Students: Brett Alexander, Adam Holborn, Jan Lopez, Alison Wiggers Supervisors: Dr. Lina Santaguida
12	1:15-1:30	Knowledge translation in older adults with depression: A modified review of reviews Students: Marissa Constand, Rachel Ysinga, Jennifer Zuccolo Supervisor: Dr. Lina Santaguida
13	1:30-1:45	Knowledge translation interventions to increase physical activity in older adults with osteoarthritis Students: Sarah Combe, Jessica Doig, Mikaela Lui Supervisor: Dr. Lina Santaguida
14	1:45-2:00	Development of a community-based self-management program to decrease pain and disability associated with hand osteoarthritis Students: Tori Barraco, Rachel Consoli, Kaitlin Mackesy, Natalie Masoud, Kierstin Myers Supervisors: Dr. Norma MacIntyre Co-investigators: Dr. Julie Richardson, Dr. Sydney Brooks
15	2:00-2:15	Knowledge, practices, and perceptions of Canadian physiotherapists regarding the application of motor learning principles in neuro-rehabilitation - A survey study Students: Meghan Barker, Theodora Nasopoulos, Jennifer Noad Supervisors: Dr. Vince DePaul, Dr. Kara Patterson
	2:15-2:30	BREAK
16	2:30-2:45	Integration of the International Classification of Function as a framework during the goal-setting process: A scoping review Students: Mike Green, Marina MacDougall, Phillipa Tucker, Jacqueline Van Alstyne Supervisors: Denise Johnson, Bonnie Buchko, Dr. Pat Miller
17	2:45-3:00	Exploration of content and stability of patient-identified goals related to safe mobility and falls prevention in hospitalized older adults Students: Katie Benson, Alexandra Shimmell, Devonna Truong Supervisors: Magen Dunkley, Bev Cole, Dr. Vince DePaul
18	3:00-3:15	The role of self-efficacy in the decision to undergo total joint arthroplasty in individuals with knee and hip osteoarthritis Students: Jessica Carter, Jia Chen, Rebekah McGill, Laurel Patterson Supervisors: Angela Accettura and Stephen Patton
19	3:15-3:30	Validation of a prediction model determining who among triage patients with hip and knee osteoarthritis are not yet ready for total joint replacement Student: Katarina Green, Shalini Seneviratne, Jenny Telfer-Crum Supervisors: Sampa Samanta, Sherri Gavin, Dr. Norma MacIntyre
	3:30-5:30	CLOSING REMARKS and CELEBRATORY RECEPTION

1. Patient education for neck pain: A review update

Students: Adam Piccinin, Alec St. Pierre, Jordan Toscan, Danielle Turpin

Supervisor: Anita Gross

Abstract

Background

Neck disorders are common, disabling, and costly. The effectiveness of patient education strategies for neck disorders is unclear.

Objectives

To assess the short- to long-term effects of therapeutic patient education (TPE) strategies on pain, function, disability, quality of life, global perceived effect, patient satisfaction, knowledge transfer, or behaviour change in adults with neck pain.

Methods

We searched computerized databases for eligible randomized controlled trials (RCTs) investigating the effectiveness of TPE for neck pain. Paired independent review authors conducted selection, data abstraction, and 'Risk of Bias' assessment. We calculated risk ratios (RR) and standardized mean differences (SMD), and performed meta-analyses after assessing heterogeneity.

Main results

Of the 24 RCTs meeting selection, three TPE themes emerged: advice focusing on activation; advice focusing on pain & stress coping skills and workplace ergonomics; and cognitive behavioural components. There was moderate quality evidence that an educational video focusing on activation is beneficial for pain reduction (1 trial) and a cognitive behavioural approach was beneficial for improving function in patients with neck pain (5 trials, 2 meta-analyses).

Authors' conclusions

A cognitive behavioural educational approach may provide a small but beneficial improvement in function including fear avoidance beliefs for chronic neck pain and whiplash.

2. Accuracy of the Fitbit One at measuring activity levels of stroke survivors

Students: Jonathan Hui, Richard Heyden, Tim Bao, Nicholas Accettone

Supervisors: Catherine McBay, Julie Richardson, Ada Tang

Abstract

Background and Purpose

Examining community dwelling stroke survivors' activity levels and determining the Fitbit's accuracy. This study was designed to quantify steps, physical activity levels and examine agreement between the Fitbit® and Actical®.

Methods

Devices were placed on the ankle of 12 participants (age 62.6 ± 9.25 years) for three days. Correlation and variance analysis were conducted between steps, sedentary, light, moderate and vigorous activity levels. Subgroup analysis of steps was conducted using a 0.58 m/s walking speed cut-off.

Results

Mean step counts between devices were slightly correlated ($\rho=0.07$). There was a slight agreement of mean steps in those ambulating slower than 0.58m/s and no agreement in those ambulating faster ($\rho=0.07$, <0.01). Activity levels showed better correlation for time spent in sedentary and light activity levels ($\rho=0.71$, 0.06). Participants' self-selected gait speed (SSGS), Berg Balance Scale (BBS) and Montreal Cognitive Assessment (MOCA) scores best explained the variance in relative error between devices ($\rho=0.01$, 0.07 , 0.01).

Discussion and Conclusion

The Fitbit® is not effective for counting steps in community dwelling stroke survivors. Participants spent the majority of their time in sedentary activity. The SSGS, BBS and MOCA represent a large portion of the variance of the error between devices. This study contributes to a growing body of evidence examining the effectiveness of activity monitors to track activity in survivors of strokes, providing clinicians with useful information on activity trackers and trends.

3. Hand therapists' perceptions of intimate partner violence in Canada and the United States

Students: Lindsay Dimopoulos, Robyn Murray

Supervisors: Tara Packham, Joy MacDermid

Co-Investigator: Kim Madden, PhD(c)

Abstract

Study design: Descriptive, cross sectional.

Introduction: Intimate partner violence (IPV) may involve physical, psychological, or sexual abuse. Health providers do not perform routine screens for IPV. Hand therapists are well positioned to screen for IPV. To date no research has been conducted in this area.

Purpose: The primary aim is to describe the attitudes and beliefs regarding batterers and victims of IPV among hand therapists in Canada and the United States.

Methods: 184 participants completed a survey investigating perceptions regarding addressing issues pertaining to IPV. Perceptions included self-efficacy, systemic support, victim blame, role responsibility, and safety.

Results: 63% of participants had some form of experience with IPV. Respondents were unsure of their confidence and available resources with addressing IPV in practice but viewed intervening as part of their professional role. Low perceptions of safety were also reported. Those with first hand IPV experience reported higher self-efficacy and perceived systemic support than those without first hand experience.

Discussion: Although hand therapists' view addressing IPV as part of their professional role, there is ambiguity surrounding confidence, resources, and safety. Continuing research should seek to identify the most effective tools to help identify victims of IPV in hand therapy.

Level of evidence: IV

4. The role of physical activity and exercise in the assessment and treatment of people with post-concussion syndrome: A scoping review

Students: Adam Blando, Amy Hondronicols, Dan Ogborn, Seth Whitley

Supervisors: Dr. Norma MacIntyre, Dr. Jocelyn Harris

Abstract

There is contention regarding the clinical definition of post-concussion syndrome (PCS) and consequently, the appropriate clinical course of action in the treatment of patients with PCS. While established guidelines recommend periods of physical and cognitive rest acutely following a concussion, less has been written regarding physical activity and exercise in patients with PCS. Due to the prolonged nature of recovery from PCS, it may be possible to introduce physical activity and exercise before symptoms are resolved at rest. A search of EMBASE, CINAHL, Pubmed, Sport Discus, PsychINFO was completed, and ten studies were identified. Thematic analysis established that aerobic exercise was the preferred mode of exercise, while patients also completed static stretching, and sport-specific coordination exercises. Universal exercise prescription parameters were not commonly provided, and prescriptions were often guided by symptom exacerbation during graded-exercise testing. Exercise occurred primarily in supervised clinical environments, and involved the monitoring of symptom exacerbation, ratings of perceived exertion, and heart rate. In conclusion, there is limited literature regarding the use of exercise in the rehabilitation of patients with PCS. Future research is required using appropriate experimental designs, to firmly establish both the safety and effectiveness of exercise in the recovery from PCS.

5. Examining the effectiveness and usability of a virtual learning environment to enhance physiotherapy students' performance on an acute pain physiology quiz

Students: Domenic Oppedisano, Jacob Pfeiffer, and Nick Pirrera

Supervisors: Dr. Ilana Bayer, Dr. Vickie Galea, Dr. Monique Muller

ABSTRACT

Purpose: The primary purpose of this study was to determine the effectiveness of a virtual learning environment (VLE) in enhancing physiotherapy (PT) students' performance on an acute pain physiology quiz. The secondary purpose was to determine the usability of the VLE.

Methods: A pretest-posttest research design was implemented. Twenty-three PT students were recruited for testing. Prior to administration of the VLE, participants completed the Physiology of Acute Pain Quiz (PAPQ), which comprised of questions regarding the physiology of acute pain. Upon completion of the VLE, the PAPQ was re-administered to evaluate changes in participants' performance. Participants then completed the VLE Usability Questionnaire (VLE-UQ) to evaluate the overall usability of the program.

Results: Eighteen participants completed the VLE. Analysis demonstrated a significant difference in PAPQ scores ($p = 0.002$). Mean overall scores and self-reported knowledge, between pre- and post-testing, improved by 10% and 14%, respectively. Additionally, 55.6% of the participants expressed satisfaction with the current VLE.

Conclusions: The use of this VLE was associated with improved performance on the PAPQ amongst PT students. With further development and research of this VLE, it may serve as an effective learning tool to educate healthcare professionals and patients about acute pain physiology.

6. The effects of exercise on people with multiple myeloma: A systematic review

Students: Anuradha Dhar, Caitlin McWhinnie, Kayla Ng

Supervisor: Oren Cheifetz

ABSTRACT

Purpose: Multiple myeloma (MM) is a hematological cancer of the plasma cells that damages bone, blood cells, kidneys, and the immune system. Research shows that exercise improves fatigue, hemoglobin concentration, immune function, and quality of life in patients with cancer. This systematic review aimed to investigate the available evidence on the effects of exercise in patients with MM.

Methods: Electronic databases (Ovid MEDLINE, PubMed, PubMed Central, CINAHL, Embase) were searched up to and including June 2015. Primary research articles that included participants with MM, interventions using any form of exercise alone or in combination with other treatments, and with full access in any language were included. Two reviewers independently selected the articles. Two other reviewers extracted data, assessed risk of bias, and critically appraised the included studies.

Results: Six articles met inclusion criteria. In all studies, patients with MM participated in aerobic and strength training. In patients that participated in an exercise program, there was a trend towards an improvement in aerobic capacity, strength, body composition, fatigue, mood, and sleep.

Conclusions: Exercise was found to be feasible and safe in patients with MM. However, results should be interpreted with caution as the available evidence included is of low methodological quality.

7. Evaluating the relationship between self-reports of pain and evoked pain in people with chronic pain

Students: Miriam Beatty, Katelyn Jones, Veronica Wong

Supervisor: Jordan Miller

Abstract:

The relationship between pain evoked during quantitative sensory testing (QST) and spontaneous pain is unclear. The purpose of this study was to estimate the correlation between QST [pressure pain threshold (PPT) and cold sensitivity (CS) at two standardized sites] and number of painful sites reported, as well as the correlation between QST (PPT or CS at the “most tender point”) and pain intensity using a numeric pain rating scale (NPRS). This was a secondary analysis of a randomized controlled trial including 102 participants experiencing chronic non-cancer related pain. QST, number of painful sites and NPRS were collected at baseline and 18-weeks. There was a low correlation between the mean PPT from the two standardized sites and number of painful sites at baseline ($\rho=-0.32$, $p<0.01$), but no correlation at 18-weeks ($\rho=-0.11$, $p=0.44$). There was a low correlation between QST at the tender site and NPRS at baseline (PPT: $\rho=-0.37$, $p<0.01$; CS: $\rho=0.22$, $p=0.03$) and 18-weeks (PPT: $\rho=-0.31$, $p=0.02$; CS: $\rho=0.30$, $p=0.03$). There was no correlation between changes in QST and changes in NPRS between time points. These results suggest QST, NPRS, and number of painful sites measure different constructs of an individual’s pain, which may mean they measure different pain mechanisms.

8. Interrater reliability of Dartfish movement analysis software for measurement of hip and knee angles in older adults with osteoporosis and osteopenia

Students: Tyler Allen, Zach Hollingham, James MacWhirter, Mark Welsh

Supervisors: Ahmed Negm and Norma MacIntyre

ABSTRACT

Various methods are used to measure hip and knee joint angles, however their use is often limited by high cost or an inability to measure dynamic movements. The assessment of movement strategies is clinically useful in individuals with osteoporosis (OP) and osteopenia (OPe) through its potential to reduce fracture risk. This study evaluates the inter-rater reliability of using Dartfish 2-D Motion Analysis Software to measure hip and knee joint angles in individuals with OP or OPe while performing five tasks of the Safe Functional Motion test. Twelve participants were videotaped performing the pour, footwear, newspaper, sweep, and sit-to-floor tasks. Five raters used Dartfish software to analyze maximum and minimum hip and knee angles, and an ICC and SEM were calculated for each measurement. In all five tasks, ICC and SEM values ranged from 0.23 to 0.95, and 1.75 to 11.54 degrees, respectively, with maximum knee angles generally having higher ICC and lower SEM point estimates. The results indicate that Dartfish measurements of maximum knee flexion angles in uni-planar tasks are highly reliable in patients with OP and OPe. The clinical utility of these findings, and future research directions are discussed.

9. Collaborative practice: Exploring the perspectives of therapists and support personnel

Students: Ashley McNeil, Keira Stroyan, Farah Mohamad, Robin Lui

Supervisors: Lisa Brice-Leddy and Debbie Park

Abstract:

The purpose of this study was to explore the interprofessional collaboration and team functioning between the rehabilitation therapists and support personnel on the acute medicine floors at Trillium Health Partners in Mississauga. This tertiary care facility in South-Western Ontario introduced a new patient care model in 2012, whereby the occupational therapy/physiotherapy assistants (OTA/PTA) became the primary therapy providers for physiotherapy (PT) and occupational therapy (OT) services. The current study employed a phenomenological study design to explore collaboration within the allied health triad (PTs, OTs, and OTA/PTAs). Using the data from semi-structured interviews of 4 participants, an open coded method identified two main themes relevant to team function: communication, and role clarity. Communication was further broken down into the subthemes of transparency, receptiveness to feedback, and safety. The therapists and assistants unanimously expressed that the ability to be transparent in communication improved team organization and the ability to work cohesively. The subjects conveyed that the ability to receive feedback in a positive way and an openness to act on the information were an important aspect to team development. Feeling safe to approach superiors and discuss opinions and ideas was also an important quality for team functioning. Knowledge of roles and respect of roles were subthemes found under role clarity. The participants revealed that understanding the different roles on the team, respecting each team member's role and responsibility, and being competent in one's own role, are all essential components of role clarity, and in turn team functioning. This study provided important insight into aspects related to team functioning and collaboration of a rehabilitation triad within Trillium's collaborative care model. Future research should explore the experiences of physiotherapists, occupational therapists, and support personnel working under other collaborative models.

10. Idiopathic toe walking: A retrospective review

Students: Sarah Klassen, Allyson Moore, Sean Raymond

Supervisors: Marilyn Wright and Deana Mercier

ABSTRACT

Purpose: To identify clinical characteristics and treatments for children diagnosed with idiopathic toe walking (ITW) who were treated at a children's developmental rehabilitation centre in Hamilton, Ontario.

Methods: A retrospective chart review was conducted for children under the age of 18 who were treated for ITW at the Children's Developmental Rehabilitation Programme (CDRP) within Hamilton Health Sciences between January 2009 and December 2014. Data was collected by reviewing electronic charts within MediTech and Sovera Systems, as well as paper charts to identify clinical characteristics and treatment approaches for ITW.

Results: Data from 73 subjects were included. The study sample was heterogeneous in nature. Older subjects (≥ 3) experienced more pain than younger subjects (0-2) ($p = 0.003$). Younger subjects experienced a shorter wait time from referral to initial assessment compared to older subjects ($p < 0.001$).

Conclusions: Children treated at CDRP for ITW presented with variable clinical characteristics. It is recommended that therapists continue to perform thorough subjective and objective examinations of children presenting with ITW. The most effective treatment for ITW remains unclear. Therefore, a prospective cohort study design would be beneficial for this population.

11. Multimodal knowledge translation interventions in elderly patients with stroke: A systematic review

Students: Brett Alexander, Adam Holborn, Jan Lopez and Alison Wiggers

ABSTRACT

Introduction: Knowledge Translation (KT) is the process of transitioning information from research evidence into healthcare behaviours. It is unclear if this information is being translated into clinical practice and healthcare decision-making.

Purpose: To examine current evidence involving multimodal KT interventions targeting elderly patients with stroke.

Methods: A systematic review and two levels of screening were performed using the Distiller SR database. Inclusion criteria includes: elderly populations (65+); cardiovascular conditions; utilization of KT interventions; systematic reviews, meta-analyses, RCT/CCT/CT/CRT; articles from 2009-2015. Data extraction and clinical mapping were performed to focus on multimodal KT interventions directed at elderly patients with stroke.

Results: Nine articles met inclusion criteria. Low quality evidence suggests that KT interventions are effective at improving physical function, medication adherence and depression. Moderate quality evidence suggests stroke knowledge is not significantly improved by KT interventions, and high quality evidence found no significant difference between KT intervention and control for stroke preparedness. The evidence for the use of KT interventions in risk factor management is overall very low quality and showed mixed results.

Conclusion: Future high quality studies regarding KT Interventions are indicated and can highlight new avenues to deliver care in elderly patients with stroke.

12. Knowledge translation in older adults with depression: A modified review of reviews

Students: Marissa Constand, Rachel Ysinga, Jennifer Zuccolo

Supervisor: Dr. P. Lina Santaguida

Abstract

Purpose: Identify knowledge translation interventions employed in the clinical care of older adults with mental health disorders.

Methods: *Design* Modified review of reviews *Procedure* A key term search strategy was employed to identify articles relating to knowledge translation interventions applied to adults over the age of 65 with a mental health condition. Inclusion criteria were further narrowed to identify articles pertaining only to the mental health condition of depression. Data was synthesized based on intervention, target population of the intervention, and study outcomes. Knowledge translation interventions were categorized according to the traditional approach and the Behaviour Change Technique Taxonomy.

Results: The search yielded 2170 non-duplicate articles and five met the inclusion criteria relating to depression in older adults. Using the traditional categorization approach, education was the most frequent intervention applied to elicit change in depressive symptoms in individuals with depression. The Behaviour Change Technique Taxonomy identified active behaviour change components within the broader categorization of knowledge translation.

Conclusions: Knowledge translation is applied in the care of older adults with depression. Further research is required to confirm the active components of behaviour change. The physiotherapeutic relationship has the potential to facilitate this future research.

13. Knowledge translation interventions to increase physical activity in older adults with osteoarthritis

Students: Sarah Combe, Jessica Doig, Mikaela Lui

Supervisor: P. Lina Santaguida

ABSTRACT

Purpose and Objective: To evaluate the effectiveness of knowledge translation (KT) interventions for the promotion of physical activity in older adults (≥ 65 years) with osteoarthritis (OA). This review focuses on the outcomes of adherence, self-efficacy, mobility, self-reported disability, and physical activity.

Method and Design: Publications from 2009 to January 2015 were searched in 5 electronic databases. Five relevant randomized control trials (RCTs) were identified and included in this systematic review.

Results: A taxonomy was used to categorize KT interventions into specific behaviour change techniques (BCTs). The most common BCTs were “Shaping Knowledge” and “Natural Consequences.” KT interventions had a significant positive effect on adherence to exercise programs. Results were mixed for self-efficacy and mobility. KT interventions had no significant effect on disability or physical activity.

Conclusions: The existing literature in this field is low-moderate quality. There appears to be a positive effect of KT interventions for improving adherence, and a trend towards improvement in self-efficacy and mobility. Physiotherapists commonly utilize exercise prescription as a treatment strategy and should consider implementing specific KT interventions. Large, well-conducted RCTs are needed to determine specific BCTs that are the most effective at promoting uptake of physical activity in older adults with OA.

14. Development of a community-based self-management program to decrease pain and disability associated with hand osteoarthritis

Students: Tori Barraco, Rachel Consoli, Kaitlyn Mackesy, Natalie Masound, and Kierstin Myers

Supervisors: Dr. Norma MacIntrye, Dr. Julie Richardson

Abstract

Purpose: To develop an accessible online self-management program targeted at reducing pain and physical disability in individuals suffering from hand osteoarthritis.

Methods: The development of the hand osteoarthritis self-management program was divided into six stages: a needs assessment, creation of a screening checklist, self-management booklet, and exercise videos, implementation and evaluation. Through a comprehensive literature search and feedback from community partners, the most relevant and evidence based information was included.

Results: A screening tool was created in order for individuals with hand OA to self-determine if the program would be beneficial to reduce individual symptoms. The self-management workbook developed included the following components: hand OA education, pain management, joint protection strategies, goal setting/action plan, an activity log, and hand osteoarthritis exercises. The exercise videos were divided into three different stages based on the severity of osteoarthritic symptoms. The appropriate exercise prescription, progressions, and equipment needed were outlined for each stage.

Conclusion: The creation of an online self-management program will reduce the personal and economical burden of hand osteoarthritis, while improving accessibility to health care services for individuals who are unwilling or unable attend inpatient programs.

15. Knowledge, practices, and perceptions of Canadian physiotherapists regarding the application of motor learning principles in neuro-rehabilitation - A survey study

Students: Meghan Barker, Theodora Nasopoulos, Jennifer Noad

Supervisors: Dr. Vince DePaul and Dr. Kara Patterson

ABSTRACT

Purpose: To identify and understand physiotherapists' knowledge, perceptions, and use of Motor Learning Principles (MLPs) within neurorehabilitation.

Methods: A Web-based survey was conducted in 2015. Participants were recruited through the NeuroScience Division (NSD) of the Canadian Physiotherapy Association (CPA) via electronic communication. The survey was developed based on the current literature regarding MLPs.

Results: A total of 116 participants completed the survey. Participants had an average score of 11/14 on the knowledge assessment section of the survey. Discrepancies in answers were observed with questions surrounding focus of attention and delayed/frequency of feedback. Frequency of application of MLPs was variable and dependent on the specific MLP in question. Text responses with regards to rationale and barriers to application of MLPs were variable and specific to each MLP.

Conclusions: Physiotherapists' knowledge of MLPs was high, indicating that this is not a barrier to use of MLPs in practice. However, environmental and administrative factors represent barriers to application of MLPs, indicating that the practice setting may not be conducive to the consistent and appropriate use of MLPs. There is an unmet need for continuing education courses surrounding MLPs, and physiotherapists stated that they prefer an e-learning module format for continuing education.

16. Integration of the International Classification of Function as a framework during the goal-setting process: A scoping review

Students: Marina MacDougall, Michael Green, Phillipa Tucker, Jacqueline Van Alstyne

Supervisors: Bonnie Buchko, Denise Johnson, Patricia Miller

ABSTRACT

Background: A scoping review was conducted to identify the literature that integrated the World Health Organization's International Classification of Functioning, Disability, and Health (ICF) framework with goal setting processes.

Methods: Medline, Embase, and CINAHL were searched and full text data extraction categories were determined prospectively.

Results: An initial 409 articles were identified, 34 of which underwent data extraction. Of these articles, 26 were original research. Patient conditions were frequently neurological, with an equal number of adult and pediatric populations. Seven common themes were identified: Involvement of patients/families in goal setting (n=27); goal setting conducted by interprofessional teams (n=17) compared to individual professions (n=10); user satisfaction with the application of ICF (n=6); enhanced communication (n=10); integration of the Goal Attainment Scale and ICF (n=8); systems benefits and challenges (n=8); and recommendations for implementation of the ICF (n=13).

Conclusions: Integration of the ICF into rehabilitation practice appears to be beneficial for providing patient-centered care that encompasses all aspects of patient needs when setting goals. The ICF provides healthcare teams and patients with a common language to identify needs and realistic outcomes. Further research should measure relevant outcomes to determine the patient value and the cost-effectiveness of implementing the ICF into rehabilitation settings.

Key terms: International Classification of Functioning, Disability and Health; Rehabilitation; Goals; Brain Injuries.

17. Exploration of content and stability of patient-identified goals related to safe mobility and falls prevention in hospitalized older adults

Students: Alex Shimmell, Devonna Truong, Katie Benson

Supervisors: Magen Dunkley, Vince DePaul, Bev Cole

ABSTRACT

Purpose: The study explores the development of functional goals related to safe mobility and falls prevention set by older adults in the hospital, and determines whether in-hospital patient goals change upon returning home.

Methods: Participants (N=6) were inpatients on a short-stay rehabilitation unit at St. Joseph's Healthcare. Data was obtained through health record reviews, in-hospital semi-structured interviews, and follow-up interviews post-discharge. The interviews reviewed patient perspectives on goals, activity, falls, fear of falling, and patient education. Data was analyzed using content and descriptive analysis in accordance with the ICF and SMART frameworks to determine relevant themes.

Results: Physiotherapist documented goals tended to focus on the BSF and Activity domains of the ICF model, and lack full SMART goal components. Patient-identified goals in-hospital were similar and required investigator prompting to be Participation-focused. At 2 weeks post-discharge, only 1/13 patient-identified goals had changed. Patients were able to create Participation goals with greater ease post-discharge.

Conclusions: Both physiotherapists and patients tend to develop goals that fulfill the BSF and Activity domains of the ICF model, and lack SMART components. Participation domain goals are infrequently developed in practice despite their importance. The value of creating Participation goals in physiotherapy practice should not be underestimated.

18. The role of self-efficacy in the decision to undergo total joint arthroplasty in individuals with knee and hip osteoarthritis

Students: Jessica Carter, Jia Chen, Rebekah McGill, Laurel Patterson

Supervisors: Angela Accettura, Stephen Patton

ABSTRACT

Purpose: Radiographic findings are commonly used as a measure of osteoarthritis (OA) severity. The relationship between radiographic severity and patient-reported symptoms is inconsistent, suggesting that other factors affect outcomes in individuals with OA. The purpose of this pilot study was to investigate the role of self-efficacy in predicting the decision to undergo total joint arthroplasty (TJA).

Methods: A retrospective chart review was conducted using the medical charts of consecutive patients with knee and/or hip OA assessed for TJA. Patients completed the Arthritis Self-Efficacy Scale (ASES) as an adjunct to the assessment. Data were analyzed using Spearman's rank order correlation and binary logistic regression.

Results: Descriptive statistics were collected from 130 patients (82 females; mean age = 64). Kellgren-Lawrence (KL) score was the only significant predictor of decision to undergo TJA. Lower ASES total scores and Function subscale scores were found to be significantly correlated with the decision to undergo surgery. Descriptive statistics showed significant trends towards lower ASES scores in patients who decided to undergo TJA.

Conclusion: Trends in data suggest that lower self-efficacy scores are associated with decision to undergo TJA. This finding is of clinical interest because self-efficacy can be improved with conservative treatment strategies.

19. Validation of a prediction model determining who among triage patients with hip and knee osteoarthritis are not yet ready for total joint replacement

Students: Katarina Green, Shalini Seneviratne, Jenny Telfer-Crum

Supervisors: Norma MacIntyre, Sherri Gavin, Sampa Samanta

ABSTRACT

Background: MacIntyre et al. presents the only evidence-based criteria to guide healthcare practitioners in selecting people with hip or knee osteoarthritis (OA) who may not be suitable for total joint replacement (TJR).

Purpose: To validate this prediction model in a different cohort.

Methods: A retrospective chart review was performed of patients who attended the Local Health Integration Network 4 Hamilton Health Sciences Regional Joint Assessment Program for an initial consult. Data was collected for 16 potential predictor variables. Stepwise forward and backward logistic regression analyses were used to analyze these variables to determine which of them would contribute to the prediction of a patient obtaining the “not yet ready for TJR” status.

Results: 218 charts were included for review. The following variables were used in the final prediction model: age, conservative management, OA severity, Lower Extremity Functional Scale (LEFS) score, and Range of Motion (ROM). OA severity and LEFS score were the only predictor variables shared between both models.

Conclusions: The results of this study do not support McIntyre *et al.*'s previous prediction model in a different cohort. Lower clinician-determined OA severity and higher functional status may be consistent relevant variables in predicting who is not yet ready for TJR.