



**School of Rehabilitation Science
MSc(PT) Program**

**Research & Evidence Based Practice
Abstracts**

2016

MSc Physiotherapy Program
 Presentation Schedule for REBP Symposium
 McMaster University, MIP Room 1 - Tuesday, July 26 2016

	9:00 -9:10	WELCOME - with address by Dr. Patricia Solomon, Associate Dean, School of Rehabilitation Science
1	9:10-9:25	<i>Self-efficacy in Patients with Hip and Knee Osteoarthritis.</i> Supervisors: Angela Accettura, Susan Montgomery and Stephen Patton Students: Kaley Powers, Erin Streach and Jenna Zwambag
2	9:25-9:40	<i>A pilot study to establish methods to find and evaluate websites that provide health information regarding complementary and alternative therapies for patients with cancer.</i> Supervisor: Dr. Lina Santaguida Students: Krista Griffin, Kelsey Kempf, Jordan Millar and Meranda Termaat
3	9:40-9:55	<i>Orthoses for Neck Disorders: Systematic Review of the Literature.</i> Supervisor: Dr. Lina Santaguida Student: Jordan Fratoni, Nicholas Persadie, Adam Sunderland and Carley Tougas
4	9:55-10:10	<i>A scoping review of intensive care unit rehabilitation interventions.</i> Supervisors: Dr. Michelle Kho and Julie Reid Student: Janelle Unger
5	10:10-10:25	<i>Pelvic Girdle Pain in Perinatal Care: Understanding Clinical Decision Making</i> Supervisors: Dr. Sinéad Dufour and Sylvia Daniel Students: Deanna Meade, Ashley Patel and Veronica Rogovsky
	10:25-10:40	BREAK
6	10: 40-10:55	<i>Use of NFC and smartphone technology to track therapist-patient interactions in inpatient setting: a development and feasibility study.</i> Supervisors: Dr. Vince DePaul, Bashir Versi and Diana Hatzoglou Students: Chi Chung, Jon Wilson, Carson Wong and George Yuan
7	10:55-11:10	<i>Systematic Review: The Effectiveness of Circuit Based Exercise Training on Breast Cancer Survivors Who Have Undergone Surgery.</i> Supervisor: Dr. Jayaprakash Raman Students: Jasmyne Barredo, Bryan Keogh, Spruha Vaishnav and Gillian Warner
8	11:10-11:25	<i>Massage for Mechanical Neck Disorders: Update for Cochrane Systematic Review.</i> Supervisor: Anita Gross; Co-investigators: Nadine Graham, Kinjal Patel, COG Risk of Bias/Validity Assessment Team Students: Roland Dinney, Craig Dixon, Richard Huff and Alana Smith
9	11:25-11:40	<i>Botulinum toxin for subacute/chronic neck pain.</i> Supervisor: Anita Gross; Co-investigators: Dr. S.Burnie, M. Forget, Dr. C. Goldsmith, Nadine Graham, T.Haines, Dr. L. Hart, Harsha Shanthanna, Sanelly Szeto Students: Lana Kovacevic, Scott Lyall, Roberto Orefice and Stephen Wu

10	11:40-11:55	<i>Toddler ABCs: Accelerometry, BMI and Gross Motor Competence in Children Born Preterm</i> Supervisors: Marilyn Wright, Betty Yundt. Co-investigators: Brian Timmons, Joyce Obeid Students: Nicola Banger, Sara Buckham, Jessica Doody and Adrienne Nawrot
	12:00-1:00	LUNCH
11	1:00-1:15	<i>Assessing a Tri-Stage Interprofessional Learning Experience on Aging</i> Supervisors: Dr. Bonny Jung, Dr. Pat Miller Students: Amanda Pereira, Annie Mo and Alex Willox (OT students)
12	1:15-1:30	<i>Measuring free-living physical activity after stroke.</i> Supervisors: Dr. Ada Tang, Dr. Julie Richardson Students: Victoria Goodman, Jennifer Romano, Sara Sheridan and Frank Sorbara
13	1:30-1:45	<i>Validating measures of pre-clinical disability and pre-frailty in community dwelling older adults.</i> Supervisors: Dr. Ada Tang, Christina Nowak Students: Julie Gourlay, Kelsey Jack and Gabriela Rozanski
14	1:45-2:00	<i>The effects of bed rest in people with cancer: A scoping review.</i> Supervisor: Dr. Oren Cheifetz Students: Isabel Lam, Jessica Ly, Aaron Steevensz and Yi Yang
15	2:00-2:15	<i>Physiotherapy Relief Models in Acute Care Hospitals.</i> Supervisors: Jessica Pilon-Bignell, Allison Ethier, Bonnie Buchko and Dr. Oren Cheifetz Students: Alen Birac, Curtis Fahey, Matt Hounslow and Thirusan Thiruchelvam
	2:15-2:30	BREAK
16	2:30-2:45	<i>Evaluation of Student Performance in Problem-Based Learning Tutorials: A Tutor's Perspective.</i> Supervisors: Liliana Coman and Joan Southam Students: Andrew Englander, Kelly Leong, Ian Ritchie, Dan Sobczak, Jonathan Vandusen
17	2:45-3:00	<i>Professional values and behaviours: What do Canadian physiotherapists think?</i> Supervisors: Dr. Pat Miller and Dr. Vanina Dal Bello-Haas Students: Alana Boyczuk, James Deloyer, Kyle Ferrigan and Kevin Muncaster
18	3:00-3:15	<i>Shoulder Muscle Demand during Yoga Postures: Implications to Shoulder Pain Research</i> Supervisors: Dr. Jaclyn Hurley and Dr. Monica Maly Students: Brynn Thistle, Jessica Pollice, and Courtney Prophet
19	3:15-3:30	<i>Pilot study of the added value of written education material provided to patients after their Regional Joint Assessment Program visit.</i> Supervisors: Sherri Gavin and Sampa Samanta: Co-investigator: Dr. Pat Miller Students: Amanda Lucky, Amy Price, Lauren Quinn and Natalie St. Hilaire
	3:30-5:30	CLOSING REMARKS and CELEBRATORY RECEPTION

A Cross-Sectional Study on Self-Efficacy and Surgical Decision in Patients with Hip and Knee Osteoarthritis

Student Team: Kaley Powers, Erin Streach, Jenna Zwambag

Supervisors: Angela Accettura, Susie Montgomery, Stephen Patton

ABSTRACT

Purpose: To determine if self-efficacy differences exist in patients with hip or knee osteoarthritis (OA) who undergo total joint arthroplasty (TJA) compared to non-surgical patients (NS).

Method: Patients who attended the Regional Joint Assessment Program (RJAP) were mailed a modified 15-item version of the Arthritis Self-Efficacy Scale (ASES) ahead of their appointment. An advanced physiotherapy practitioner collected the ASES, demographic information, and surgical decision for each patient. Radiographs were assessed for OA severity using the Kellgren-Lawrence (KL) scale. Independent t-tests were used to determine differences in ASES scores by surgical decision, KL score, and demographic variables.

Results: Data was collected from 281 patients (369 joints total: 109 hips, 260 knees), with 120 joints deemed surgical. Patients with knee OA who underwent TJA had significantly lower ASES scores compared to NS, with a greater effect in patients with more severe OA. There were no significant differences in ASES scores between KL scores ≥ 3 and ≤ 2 .

Conclusions: Patients with knee OA undergoing TJA have lower self-efficacy than NS patients. Based on disease severity, self-efficacy does not differ. Self-efficacy may be an important factor in the surgical decision and a target construct for physiotherapists to promote conservative management.

A pilot study to establish methods to find and evaluate websites that provide health information regarding complementary and alternative therapies for patients with cancer

Student Team: Krista Griffin, Kelsey Kempf, Jordan Millar, Meranda Termaat

Supervisor: Dr. Lina Santaguida

ABSTRACT

Purpose: 1) To compare website evaluation tools and 2) to establish a consistent method for finding and evaluating websites that discuss complementary and alternative (CAM) therapies for patients with cancer and 3) to analyze the quality of information on a sub-set of websites recommended by experts.

Methods: A targeted search was performed to identify common tools used to evaluate website quality. The LIDA, PEMAT, and DISCERN were selected and compared. Each of these instruments were used to evaluate the quality of 48 websites for eight CAM therapies. The same evaluation process was applied to three expert recommended websites.

Results: Each evaluation tool has different domains that represent "quality." The tool used does not appear to influence the website rating. The exercise intervention scored higher than other interventions. The Flesch-Kincaid reading grade level was high on the majority of websites and did not parallel with the website rating. Commercially sponsored websites rated lowest. Expert recommended websites performed better than websites produced by the search strategy across all tools.

Conclusions: On average the websites were rated moderate quality regardless of the tool or intervention. Clinicians should provide patient education on important characteristics of "quality" to be considered when reading websites.

The Effectiveness of Kinesiotaping on Pain and Disability in Patients with Acute and Chronic Neck Disorders: A Systematic Review

Student Team: Jordan Fratoni, Nick Persadie, Carley Tougas, Adam Sunderland

Supervisor: Dr. Lina Santaguida

ABSTRACT

Purpose: To determine the effects of Kinesiotape (KT) on pain and disability among adults with neck pain (NP).

Methods: For this systematic review, eight databases (CENTRAL, AMED, MEDLINE, EMBASE, MANTIS, CINAHL, LILACS, and ICL) were searched from root until March 2016. Randomized controlled trials (RCTs) without language restrictions that compared KT versus a comparison group in adults with acute, subacute, or chronic specific/non-specific NP were included. Quality of evidence was assessed using the Grading of Recommendations Assessment Development and Evaluation (GRADE) approach.

Results: Five trials met our inclusion criteria however, data was only extractable for three, which looked at two populations (acute Whiplash Associated Disorder [WAD] and chronic Mechanical Neck Disorder [MND]) utilizing three unique KT interventions. This heterogeneity in the populations, tape application, dosage, and outcomes limited GRADE analyses to single studies. GRADE analyses displayed very low quality evidence for the effectiveness of KT for improving NP and disability.

Conclusions: The lack of high quality evidence for the effect of KT on NP and disability precludes the formation of recommendations regarding its use in clinical practice. Further high quality studies with larger sample sizes are required.

Key Words: KT, neck pain, disability, WAD, MND, GRADE, PT, systematic review

A scoping review of intensive care unit rehabilitation interventions: Preliminary results

Student: Unger, J. BSc Kin (Hon), MScPT candidate^a

Supervisors: Reid, J. MScPT^a, McCaskell, D^b., Kho, ME^a. PT, PhD

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ABSTRACT

Objective: To conduct a scoping review of research on rehabilitation interventions occurring in the intensive care unit (ICU) and summarize the quality of reporting of these studies.

Data Sources: Searches were conducted in 5 medical databases from inception to May 2016.

Study Selection: We included original, prospective research reporting physical rehabilitation interventions initiated in the ICU, with at least part of the population receiving mechanical ventilation. Two reviewers screened all articles and disagreements were resolved by consensus.

Data Extraction: The study characteristics and participant demographics were collected. We assessed quality of reporting for all studies and risk of bias in randomized controlled trials (RCTs).

Data Synthesis: Of 58,837 citations, 1,284 full texts were screened, and 22 studies were included, representing 3,933 patients. We identified 11 RCTs, 7 observational research, 2 non-randomized studies, and 2 quality improvement projects. Interventions included mobility, electrical stimulation, and chest physiotherapy. Our main finding was deficiencies in reporting, especially in randomization allocation and concealment and sample size calculations.

Conclusion: The recent research in this field has low quality of reporting, which could cause challenges for clinicians when implementing evidence based practice.

Pregnancy-Related Pelvic Girdle Pain: Understanding Clinical Decision-Making

Student Team: Deanna Meade, Ashley Patel, Veronica Rogovsky

Supervisors: Dr. Sinead Dufour, Sylvia Daniel

ABSTRACT

Purpose: To explore how physiotherapists in Ontario are guiding clinical decision-making in the assessment and treatment of pregnancy related pelvic girdle pain (PRPGP).

Methods: Subjects: Ontario physiotherapists with experience working with patients with PRPGP in tertiary or primary care. Design: Cross-sectional study. Procedure: Participants were interviewed using an evidence-based data collection tool to identify clinical decision-making and treatment related to PRPGP.

Results: Of the 53 tertiary care physiotherapists formally invited, 7 (13%) participated. Of the 14 primary care physiotherapists that were formally invited, 9 (64%) participated. Twelve percent of participants were aware of guidelines for PRPGP. The most common assessment tests were the posterior pelvic pain provocation test (53%), Patrick's FABER test (71%) and palpation of the long dorsal SIJ ligament and Gaenslen's Test (18%). Many therapists would not use diagnostic imaging (47%). Main management strategies included stabilization exercises (94%), massage (35%), acupuncture (47%), and manipulation/joint mobilizations (35%).

Conclusions: It appears that physiotherapists are not making clinical decisions in PRPGP based on clinical practice guidelines (CPGs) and are not aware of them. Physiotherapists tend to be positive towards the use CPGs, but awareness and access are barriers to use.

Perceptions of clinicians around current methods of tracking patient-therapist interactions and a proposed NFC-smartphone system

Student Team: Chi Chung, Jon Wilson, Carson Wong, George Yuan

Supervisors: Dr. Vince DePaul, Bashir Versi and Diana Hatzoglou

ABSTRACT

Purpose: To explore the perceptions of therapists regarding current methods of tracking patient-therapist interactions and their thoughts regarding a NFC and smartphone technology to quantify direct patient-therapist interactions in an inpatient hospital setting.

Method: A qualitative approach was used to extract therapist perspectives. Two focus groups were held at a teaching hospital in Hamilton. 13 participants from allied healthcare from various wards were included in the study: 6 physiotherapists, 1 occupational therapist, 2 speech language pathologists, and 4 physical therapy/occupational therapy assistants. Data from the focus group transcripts, demographics surveys, and observational notes were collected, familiarized, coded, and analyzed. Themes and subthemes were also reciprocally generated from the data and codes were highlighted and interpreted to express key findings.

Results: 4 major themes were generated from the data: 1) current workload statistics are inaccurate, 2) feasibility of a NFC smartphone system, 3) possible benefits of the proposed NFC system, and 4) possible changes to the proposed NFC system.

Conclusions: Clinicians perceived that current methods to track workload statistics are inaccurate. This study highlighted several issues that could guide changes to the proposed NFC-smartphone system and help steer future pilot testing.

Effectiveness of Circuit-Based Training on Quality of Life in Breast Cancer Survivors After Surgery: A Systematic Review

Student Team: Jasmyne Barredo, Bryan Keogh, Spruha Vaishnav, Gillian Warner

Supervisor: Dr. Jayaprakash Raman

ABSTRACT

Introduction: Breast cancer therapies can have lasting negative effects on several domains of quality of life in survivors. Systematic reviews have identified exercise as effective for improving quality of life in breast cancer survivors but have not studied the effects of circuit-based training in survivors who have undergone surgery.

Purpose: The purpose of this systematic review was to investigate the effects of circuit-based exercise on the quality of life of female breast cancer survivors who have undergone surgery.

Methods: Computerized bibliographic databases (1996-2016) were searched using relevant keywords. Of the 230 abstracts identified, 29 articles were included for full-text review. Seventeen articles met the inclusion criteria and were randomly allocated to five reviewers.

Results: The majority of the studies (11 out of 17) were rated as moderate quality. Evidence in favour of circuit-based exercise was found for quality of life, fatigue, pain and physiological adaptations. Improvements in psychological well-being were not strongly favoured in this review.

Conclusion: Circuit-based exercise implemented in breast cancer survivors who have undergone surgery improves quality of life, physiological adaptations, fatigue, and pain. Future research should identify optimal exercise dosage for this population.

Massage for mechanical neck disorders

Student Team: Dinney RR, Dixon CT, Huff RA, Smith AM

Supervisor: Anita Gross

Co-investigators: Nadine Graham, Kinjal Patel, COG Risk of Bias/Validity Assessment Team

ABSTRACT

Background: Neck pain places a high burden on society with massage being a common treatment. However, the effectiveness of massage still remains unclear.

Objectives: To assess the effects of massage on pain, function, patient satisfaction, global perceived effect, adverse effects and cost of care in adults with neck pain versus any comparison at any follow-up.

Methods: We searched CENTRAL, MEDLINE, EMBASE, MANTIS, CINAHL, and ICL databases inclusive to August 2015.

Results: Twenty-eight trials met the inclusion criteria. Study quality ranged from very low to moderate GRADE. Certain massage techniques may have been more effective than no treatment or sham for improving pain. Massage was equivalent to other interventions. An ideal massage technique was not identified. Massage was beneficial as an adjunct therapy. Massage effects were greatest when dosage exceeded 120 minutes weekly. Reported side effects included: post-treatment pain, discomfort, and soreness.

Conclusion: We are not confident in making recommendations for practice because the effectiveness of massage for neck pain remains uncertain. Future research with intermediate and long-term follow-up is needed to determine an ideal technique and dosage of massage.

Botulinum toxin for subacute/chronic neck pain: a review update

Student Team: L. Kovacevic, S. Lyall, R. Orefice, S. Wu

Supervisor: Anita Gross

Co-investigators: Dr. S. Burnie, M. Forget, Dr. C. Goldsmith, Nadine Graham, T. Haines, Dr. L. Hart, Harsha Shanthanna, Sanely Szeto

ABSTRACT

Background: Botulinum toxin type A (BoNT-A) intramuscular injections are often used with the intention of treating non-specific neck pain.

Objective: To systematically evaluate the literature on the effectiveness of BoNT-A on neck pain, disability, function, quality of life, global perceived effect, and rate of adverse events in adults with non-specific neck pain without cervical radiculopathy.

Search methods: We searched computerized databases from their origin to June 2016 for randomized controlled trials and quasi-randomized controlled trials investigating the effectiveness of BoNT-A on subacute/chronic neck pain.

Main results: We selected 17 trials (899 participants). Low quality evidence indicated BoNT-A was better than saline at short-term (closest to four weeks) for reduction of chronic neck pain [SMD -0.31(-0.47 to -0.15)]. One study reported a significant improvement in global perceived effect (SMD 1.12(0.36 to 1.89)). No significant benefit of BoNT-A was found for disability, function, or quality of life. We determined a significantly higher rate of adverse events following BoNT-A injection versus saline [risk ratio 1.57(1.14, 2.15)].

Authors' conclusions: Low quality evidence indicates that BoNT-A is beneficial in the short term for chronic neck pain. Further studies of higher quality are very likely to strengthen our conclusions.

Toddler ABCs: Accelerometry, BMI and Gross Motor Competence in Children Born Preterm

Student Team: Nicola Banger, Sara Buckham, Jessica Doody, Adrienne Nawrot

Supervisors: Marilyn Wright, Betty Yundt.

Co-investigators: Brian Timmons, Joyce Obeid

ABSTRACT

Purpose: This study explores physical activity (PA) in toddlers born very preterm and/or very low birthweight (VLBW) and the relationships between PA, body mass index (BMI), and gross motor competencies.

Methods: This cross-sectional, observational pilot study involved ten 2-3 year-old children, and commenced with BMI measurements. Motor competencies were measured using Bayley Scales of Infant and Toddler Development (BSITD3). PA levels were based on accelerometry and parental report using the Habitual Activity Estimation Scale (HAES).

Results: Children spent 199.25 ± 53.89 min/day engaged in PA. Eight children met or exceeded the Canadian PA guidelines on at least one day, and a single child met the Canadian PA guidelines every day of the study period. There was no statistically significant correlation between PA and gross motor competencies or BMI, or between HAES and accelerometry. Parents underestimated their children's sedentary time (ST) by 35.00-42.37%, and over-estimated time spent in PA by 35.00-43.00%.

Conclusion: Findings highlight a lack of adequate PA in toddlers born preterm, and a disconnect between parents' perceptions of the amount of ST their child engages in each day. More information is needed to help guide early PA in toddlers born preterm.

Keywords: toddler, pediatric, accelerometer, physical activity, physical activity guidelines

Evaluation of the Tri-stage Interprofessional Learning Experience on Aging (TILEA)

Student Team: Amanda Pereira, Annie Mo, Alexandra Willox, Tricia Woo, Anju Joshi

Supervisors: Dr. Pat Miller and Dr. Bonny Jung.

ABSTRACT

Purpose: Evaluate the first two stages of a tri-stage interprofessional learning experience on aging, measured as students' changes in attitudes towards older adults.

Method: Students were recruited from healthcare programs at McMaster University. Stage 1: half-day communication workshop, students interviewed health mentors. Stage 2: full day clinical skills workshops relating to geriatrics. A mixed methods design using repeated measures; quantitative changes measured by Polizzi's Aging Semantic Differential and the Geriatric Attitudes Scale (GAS); qualitative changes via focus groups and feedback forms.

Results: Statistically significant changes in the Polizzi for both Stages 1 and 2 ($p < 0.05$); GAS showed a positive trend towards change for Stage 1 ($p = 0.08$), Stage 2 ($p = 0.42$). Students appreciated the opportunity to hear the older adult perspective from the health mentors, and were surprised at how open they were to speaking of concepts relating to aging. Health mentors felt valued and were optimistic about being able to contribute to the education of healthcare students.

Conclusions: A holistic view of the data indicates a positive change in the students' attitudes towards older adults. The use of health mentors in interprofessional experiential learning is an effective means in bridging education to clinical practice.

Measuring free-living physical activity after stroke

Student Team: Victoria Goodman, Jennifer Romano, Sara Sheridan, Frank Sorbara

Supervisors: Dr. Ada Tang, Dr. Julie Richardson

ABSTRACT

Background and Purpose: The purpose of this case series was to describe the physical activity profiles, daily step counts, and time spent in sedentary, moderate, and vigorous physical activity levels of community-dwelling persons with chronic stroke.

Methods: Participants with chronic stroke (n=6) living in the community (3 male, 3 female) were categorized based on baseline gait speed (limited community ambulator: 0.4-0.8 m/s; unlimited community ambulator: 0.8-1.14 m/s; safe community ambulator: >1.14 m/s). Each participant wore an ActiCal accelerometer on their unaffected ankle over a three-day period at baseline, 12 weeks, and 24 weeks. Outcome measures of interest included total activity counts, daily step counts, and time spent in sedentary and moderate-to-vigorous activity levels.

Results: All three female participants' activity and step counts increased from baseline to 24 weeks. Safe-M's activity and step counts remained stable between baseline and 24 weeks. Both Limited-M and Unlimited-M's activity and step counts decreased from baseline to 24 weeks. All six participants spent more than 735 minutes per day being sedentary at all time points, with only one participant (Safe-M) consistently achieving recommended targets for moderate-to-vigorous physical activity.

Conclusion: Gait speed does not appear to be related to activity levels, step counts per day, or time spent in moderate-to-vigorous physical activity as measured using accelerometry in community-dwelling individuals living with stroke. In this case series, community-dwelling adults living with stroke spent more than 12 hours per day being sedentary and most did not meet physical activity guidelines. Keywords: Cardiovascular Accident, physical activity, free-living.

Validating the Clinical Frailty Scale and Exploring Pre-Frailty in Community-Dwelling Older Adults with Pre-Clinical Disability

Student Team: Gabriela M Rozanski, Julie A Gourlay, Kelsey A Jack

Supervisor: Dr. Ada Tang, Christina Nowak

ABSTRACT

Objectives: The objective of this study was twofold: to examine the construct validity of the CFS, an assessment tool with potential clinical utility to identify individuals who are pre-frail; and, to elucidate the relationship between pre-frailty and pre-clinical disability by exploring the interaction between Fried's Frailty Phenotype (FFP) and the Pre-clinical Disability and Mobility Scale.

Methods: Twenty-three participants with pre-clinical disability were assessed for frailty using both FFP and CFS, concurrently. Physical performance measures including the Six-Minute Walk Test, grip strength, knee extensor strength, and the Short Physical Performance Battery encompassing the Four-metre Walk Test for gait speed and Five Times Sit to Stand test were also administered.

Results: CFS scores did not discriminate between robust and pre-frail individuals (Mann-Whitney U test $p=0.17$). Both CFS and FFP scores significantly correlated with gait speed ($\rho=-0.52$, $p=0.02$ and $\rho=-0.76$, $p<0.001$, respectively). Fifteen (65%) participants were identified as having both pre-clinical disability and pre-frailty.

Conclusions: The use of the CFS to identify individuals who are pre-frail is not supported by the current study; however, gait speed appears to have potential as an objective screening tool. Further investigation as to how pre-clinical disability and pre-frailty are related is warranted.

The effects of bed rest in people with cancer: a scoping review

Student Team: Isabel Lam, Jessica Ly, Aaron Steevensz, Yi Yang

Supervisor: Dr. Oren Cheifetz

ABSTRACT

Purpose: This study aims to evaluate current information pertaining to the effects of bed rest in patients with cancer.

Methods: A scoping review was conducted and the literature was searched through MEDLINE, Embase, CINAHL, and the Cochrane Library. Two pairs of investigators screened titles and abstracts and full-texts were included in the review if: the sample population had a diagnosis of any type of active cancer, the study specifically addressed the outcomes of bed rest or immobility, and full-texts were available in English.

Results: A total of 6 citations met the eligibility criteria and was included in this scoping review. A variety of cancer types were investigated in these studies and negative effects of bed rest in patients with cancer included tissue morphology changes, wound complications, fatal pulmonary embolism, and an increased risk of depression.

Conclusions: This scoping review identified limited evidence for the effects of bed rest in patients with cancer. No firm recommendations can be made and future research is needed to improve the knowledge in this area, however, physiotherapists are encouraged to help patients avoid unnecessary immobilization to reduce possible complications.

Weekday Physiotherapy Coverage Across a Large Hospital Network in Ontario

Student Team: Birac A, Fahey C, Hounslow M, Thiruchelvam T

Supervisors and Co-Investigators: Cheifetz O, Ethier A, Pilon-Bignell J

ABSTRACT

Purpose: The purpose of this study is to explore the impact of weekday physiotherapy coverage on clinical caseloads across a large hospital network.

Methods: A longitudinal survey was distributed to 33 inpatient wards across the hospital network. Participating wards collected caseload data for one month. Quantitative data was analyzed for trends while qualitative data was explored thematically.

Results: Generally, when physiotherapists were absent and uncovered, fewer patients were seen, more patients received suboptimal care, and fewer new referrals were seen. The average number of new referrals on days following a weekend was higher than on other weekdays across all sites, and this observation was more evident on wards with a high patient turnover rate. Three main themes appeared to impact the ability of wards to provide optimal care: size of caseload, complexity of patient population, and non-patient care activities. To achieve optimal patient care, some physiotherapists reported staying late and relying on students.

Conclusion: When physiotherapists are absent and uncovered on weekdays, the remaining therapists are unable to adequately cover for their colleagues and patient care may suffer as a result. Future research is needed to establish the optimal models of weekday physiotherapy coverage services.

Evaluation of Student Performance in Problem-Based Learning Tutorials: A Tutor's Perspective

Student Team: Andrew Englander, Jonathan Vandusen, Daniel Sobczak, Kelly Leong, Ian Ritchie

Supervisors: Liliana Coman, Joan Southam

ABSTRACT

Purpose: Explore the perception and experience of two groups of tutors (novice and experienced) in relation to the 4 domains of the tutorial performance evaluation tool in the McMaster Physiotherapy Program. A secondary objective was to explore any differences identified based on experience level of tutors.

Methods: Twelve tutors (6 novice, 6 experienced) were interviewed using a semi-structured interview process. Audio recordings were transcribed verbatim and data was independently extracted by student investigators. Content analysis was performed and interview data was analyzed to identify their meaning in relation to the purpose of the study.

Results: There was a large amount of heterogeneity in the tutors' descriptions of what students should be evaluated on in tutorial. A major concept identified by tutors was that student should be held to a high standard of professionalism throughout the entirety of the program. All tutors considered that the current domains of evaluation were appropriate for capturing the breadth of evaluation requirements.

Conclusions: Both novice and experienced tutors are satisfied with the current evaluation form provided by the program. Tutors felt that current domains were comprehensive and covered important aspects of evaluation and the unsatisfactory/satisfactory system of evaluation maintained the simplicity of the evaluation process.

Professional Values and Behaviours: What do Canadian Physiotherapists Think?

Student Team: Alana Boyczuk, James Deloyer, Kyle Ferrigan, Kevin Muncaster

Supervisors: Dr. Vanina Dal Bello-Haas, Dr. Pat Miller

ABSTRACT

Purpose: Physiotherapists in Canada currently do not have an agreed upon list of professional values. The purpose of this study was to preliminarily identify core professional values and associated behaviours according to Canadian physiotherapists.

Method: A two-pronged approach was utilized: 1) a comprehensive review of the primary and grey literature, and 2) an initial survey of Canadian physiotherapists in attendance at the 2016 Canadian Physiotherapy Association Congress. Literature searches were conducted using Ovid MEDLINE, Ovid EMBASE, CINAHL, and Google. Participants completing the survey were to list two professional values that guide their practice. Both thematic and content analysis was used to analyze results.

Results: Twenty-three websites and 10 primary articles were retained from the search. A total of 88 physiotherapists provided 175 value responses. Nineteen values were extracted from the literature and 20 from survey respondents. Thirteen values identified by survey participants aligned with those in the literature, including: accountability, altruism, caring, compassion, equity, collaborative practice, excellence, honesty, patient-centered care, integrity, respect, innovative practice, and social responsibility.

Conclusions: This study has begun to identify the core professional values important to Canadian physiotherapists. While many values identified in this study aligned with published values, some were unique and require further investigation.

Shoulder Muscle Demands During Yoga Exercises: Implications to Shoulder Pain Research

Student Team: Brynn Thistle, Courtney Prophet, Jessica Pollice

Supervisors: Dr. Jaclyn Hurley, Dr. Monica Maly

ABSTRACT

Study Design: Experimental cross-sectional study.

Background: Despite the growing popularity of yoga, little is known about the muscle demands of the rotator cuff and scapular stabilizers during yoga exercises. Even less is known about the impact of yoga exercises on rotator cuff rehabilitation.

Objectives: The aim of this study was to examine rotator cuff and scapular stabilizer muscle activation during fifteen yoga exercises. The secondary aim was to examine the relationship between shoulder range of motion and rotator cuff muscle activation.

Methods: Twenty women with yoga experience and no shoulder pain or injury were included. Maximum shoulder range of motion was measured using a hand-held goniometer. Electromyography was used to record muscle activity from six upper limb muscles bilaterally during fifteen yoga exercises.

Results: Muscle activity of the rotator cuff varied considerably between yoga exercises (7% - 33.5% maximum voluntary contraction). Exercises were stratified into four different groupings based on their rotator cuff muscle activation (<10%, 10-15%, 15-20% and >20% maximum voluntary contraction). A negative correlation was observed between shoulder range of motion and shoulder muscle activation ($r = -0.4587$ to -0.6202 , $p < 0.05$).

Conclusions: The selected yoga exercises demonstrated a range in the muscle demands of the rotator cuff. As well, the negative correlation between shoulder range of motion and rotator cuff activity suggests that range of motion should be restored, prior to initiating more challenging exercises. Further studies should examine yoga prescription for shoulder rehabilitation in clinical practice.

Investigation of the added value of written education material provided to patients with osteoarthritis: a pilot qualitative study

Student Team: Amanda Lucky, Amy Price, Lauren Quinn, Natalie St. Hilaire

Supervisors: Sherri Gavin, Sampa Samanta

Co-investigator: Dr. Patricia Miller

ABSTRACT

Purpose: To investigate the added value of written education material in the form of a booklet created by the Arthritis Society to supplement patient visits with a healthcare provider at an osteoarthritis (OA) joint assessment program.

Methods: A qualitative design was utilized with semi-structured interviews of patients with osteoarthritis at the Regional Joint Assessment Program (RJAP). Qualitative thematic analysis of transcriptions was completed to identify common themes and subthemes.

Results: From the 23 completed interviews, there were 2 central themes identified. Firstly, it was found that participants liked the booklet, which included the subthemes of findings it easy to read, informative, and would recommend it to others with OA. Secondly, the booklet was found to induce changes in attitudes and behaviours. This included realizing the importance of exercise, gaining new knowledge about options for management, and increasing motivation to lose weight.

Conclusions: The study's findings support the usefulness of the booklet to supplement a patient's visit with their healthcare provider. Individuals with OA enjoyed the booklet and found that it induced changes in their attitudes and/or behaviours.