

DEPARTMENT OF PHYSICAL THERAPY
PHTH572 POSTER PRESENTATION RESEARCH SYMPOSIUM
LAB 204 FRIEDMAN BUILDING

- GROUP 1 Jessica Cheng, Evenna Liu, Sijia Lun, Davin Mackenzie, Nathan Santos
Aerobic exercise and serum BDNF: what is their role with neuroplasticity and motor learning?
- GROUP 2 Marcia Denhoed, Silvana Echeverri, Catherine Greenway, Christian Kubas, Stephanie McCann
Reliability and validity of cervical spine range of motion and muscle strength testing
- GROUP 3 Chelsea Digney, Erin Jang, Steve Labrosse, Tanya McLean, Erin Snelling
The Effect of Distance-based Exercise Interventions on Physical Activity Levels in Breast Cancer Survivors
- GROUP 4 Kaitlyn Casper, Eric Ginter, Jared Hromika, Jason Luce, Larissa Vassos
Sex-Based Differences in Respiratory Muscle Recruitment Patterns in a Healthy Population during Heavy Exercise
- GROUP 5 Lauren Daniels, Amanda Frayne, Shauna Gould, Megan Tennant, Eric Tommasini
Test-retest reliability of the two-minute walk test in patients with prediabetes: is there a learning effect?
- GROUP 6 Lauren Giles, Nicole Mackay, Amanda Stoodley, Andreea Toma, Tiger Ye
An Investigation Into Global Posture As Measured By Centre Of Pressure In Patients With Temporomandibular Joint Disorder
- GROUP 7 Mandeep Hayer, Mandi Lamanes, Terence, Low, Kathleen Schmit, Melanie Soer
The Six Minute Walk Test for People with Neuromuscular and Musculoskeletal Conditions: A Systematic Review of Methodological Standardization
- GROUP 8 William Barichello, Matthew Boudreau, Jenna Homer, Trevor Potts
Application and reporting of exercise principles in RCTs of resistance training for tendinopathy: A systematic review
- GROUP 9 Tyler Lawson, Adam Morrison, Stephan Blaxland, Matthew Wenman, Curtis Schmidt
Centre of Pressure Measurement of Postural Control with Individuals with Osteoarthritis of the Knee: A Systematic Review
- GROUP 10 Katherine Anderson, Martina Feldmann, Evgenia Karukes, Emilie Whittemore
Roles within Primary Health Care in Rural British Columbia: Perceptions of Physical Therapists and Occupational Therapists
- GROUP 11 Kayla Comstock, Lauren Courtice, Kira Frew, Monica Jochlin, Mallory White
Focus group analysis of the AECOPD clinical decision-making tool for safe and effective exercise prescription; assessing clinical feasibility prior to implementation
- GROUP 12 Lacey Forsyth, Hayley Huculak, Shannon Riverin, Andrew Lunka, Victoria Arca
Effectiveness of social network-based interventions on physical activity participation in individuals diagnosed with arthritis, osteoporosis and chronic low back pain

GROUP 13 David Ridgewell, Jeffrey Rolland, Kealy Thomson, Justin Wilson, Thomas Zhou
A comparison of active and passive strategies to improve cardiovascular patients' adherence to prescribed exercise treatment: A Systematic Review

GROUP 14 Carmen Bedard-Gautrais, Andrea Gris, Tara Kramer, Maegan Mak, Jacqueline St Martin
An Evaluation of Patient-Centered Care Elements that Influence Patient Satisfaction in Physiotherapy Practice: A Systematic Review

GROUP 15 Danielle Boyd, Charlene Copeland, Alisha Hahn, Kailen Houle
Exercise as a Possible Treatment for Cognitive Decline in Older Adults with Diabetes: A Systematic Review

GROUP 16 Alison Chan, Victor Cheung, Fahim Kara, Janelle Lum-Tong, Sol Yoon
Relationship between physical function and social integration in stroke patients

GROUP 17 Sarah Hawke, Rebecca Obedkoff, Kaley Strachan, Angela White
Knowledge Translation in Stroke Rehabilitation: A Systematic Review

PHTH572 POSTER PRESENTATION TIMES
AUGUST 18, 2014

09:25-09:30 Welcome and Opening, Gillian Hatfield, PhD, PT

09:30-10:00 Group 1

Title: How does exercise and variations on the BDNF gene influence neuroplasticity and motor learning?

Students: Jessica Cheng, Evenna Liu, Sijia Lun, Davin Mackenzie, Nathan Santos

Supervisor: Dr. Lara Boyd, Cameron Mang

09:30-10:00 Group 2

Title: Reliability and validity of cervical spine range of motion and muscle strength testing

Students: Marcia Denhoed, Silvana Echeverri, Catherine Greenway, Christian Kubas, Stephanie McCann

Supervisor: Dr. Darlene Reid

09:30-10:00 Group 3

Title: The Effect of Distance-based Exercise Interventions on Physical Activity Levels in Breast Cancer Survivors

Students: Chelsea Digney, Erin Jang, Steve Labrosse, Tanya McLean, Erin Snelling

Supervisor: Dr. Kristin Campbell

10:00-10:30 Group 4

Title: Sex-Based Differences in Respiratory Muscle Recruitment Patterns in a Healthy Population during Heavy Exercise

Students: Kaitlyn Casper, Eric Ginter, Jared Hromika, Jason Luce, Larissa Vassos

Supervisor: Dr. Jordan Guenette

10:00-10:30 Group 5

Title: Test-retest reliability of the two-minute walk test in patients with prediabetes: is there a learning effect?

Students: Lauren Daniels, Amanda Frayne, Shauna Gould, Megan Tennant, Eric Tommasini

Supervisor: Dr. Diana Dawes

10:00-10:30 Group 6

Title: An Investigation Into Global Posture As Measured By Centre Of Pressure In Patients With Temporomandibular Joint Disorder

Students: Lauren Giles, Nicole Mackay, Amanda Stoodley, Andreea Toma, Tiger Ye

Supervisor: Dr. Naznin Virji-Babul, Dr. Cathy Russell, Dr. Michael Hunt

10:30-11:00 Group 7

Title: The Six Minute Walk Test for People with Neuromuscular and Musculoskeletal Conditions: A Systematic Review of Methodological Standardization

Students: Mandeep Hayer, Mandi Lamanes, Terence, Low, Kathleen Schmit, Melanie Soer

Supervisor: Dr. Elizabeth Dean

10:30-11:00 Group 8

Title: Application and reporting of exercise principles in RCTs of resistance training for tendinopathy: A systematic review

Students: William Barichello, Matthew Boudreau, Jenna Homer, Trevor Potts

Supervisor: Dr. Alex Scott

10:30-11:00 **Group 9**

Title: Centre of Pressure Measurement of Postural Control with Individuals with Osteoarthritis of the Knee: A Systematic Review

Students: Tyler Lawson, Adam Morrison, Stephan Blaxland, Matthew Wenman, Curtis Schmidt

Supervisor: Dr. Michael Hunt

11:00-11:30 **Group 10**

Title: Roles within Primary Health Care in Rural British Columbia: Perceptions of Physical Therapists and Occupational Therapists

Students: Katherine Anderson, Martina Feldmann, Evgenia Karukes, Emilie Whitemore

Supervisor: Dr. Robin Roots, Dr. Linda Li

11:00-11:30 **Group 11**

Title: Focus group analysis of the AECOPD clinical decision-making tool for safe and effective exercise prescription; assessing clinical feasibility prior to implementation

Students: Kayla Comstock, Lauren Courtice, Kira Frew, Monica Jochlin, Mallory White

Supervisor: Dr. Pat Camp, Alison Hoens

11:00-11:30 **Group 12**

Title: Effectiveness of social network-based interventions on physical activity participation in individuals diagnosed with arthritis, osteoporosis and chronic low back pain

Students: Lacey Forsyth, Hayley Huculak, Shannon Riverin, Andrew Lunka, Victoria Arca

Supervisor: Dr. Linda Li

11:30-12:00 **Group 13**

Title: A comparison of active and passive strategies to improve cardiovascular patients' adherence to prescribed exercise treatment: A Systematic Review

Students: David Ridgewell, Jeffrey Rolland, Kealy Thomson, Justin Wilson, Thomas Zhou

Supervisor: Dr. Darlene Redenbach

11:30-12:00 **Group 14**

Title: An Evaluation of Patient-Centered Care Elements that Influence Patient Satisfaction in Physiotherapy Practice: A Systematic Review

Students: Carmen Bedard-Gautrais, Andrea Gris, Tara Kramer, Maegan Mak, Jacqueline St Martin

Supervisor: Lesley Bainbridge, Dr. Alison Greig

11:30-12:00 **Group 15**

Title: Exercise as a Possible Treatment for Cognitive Decline in Older Adults with Diabetes: A Systematic Review

Students: Danielle Boyd, Charlene Copeland, Alisha Hahn, Kailen Houle

Supervisor: Dr. Teresa Liu-Ambrose

12:00-12:30 **Group 16**

Title: Relationship between physical function and social integration in stroke patients

Students: Alison Chan, Victor Cheung, Fahim Kara, Janelle Lum-Tong, Sol Yoon

Supervisor: Dr. Jayne Garland, Dr. Kim Miller

12:00-12:30 **Group 17**

Title: Knowledge Translation in Stroke Rehabilitation: A Systematic Review

Students: Sarah Hawke, Rebecca Obedkoff, Kaley Strachan, Angela White

Supervisor: Dr. Janice Eng

12:30-12:35 Closing

Group 1: Aerobic exercise and serum BDNF: what is their role with neuroplasticity and motor learning?

Cheng J, Liu E, Lun S, Mackenzie D, Santos N

Purpose & Rationale: This study determined the influence of aerobic exercise on motor learning and long-term potentiation(LTP) in healthy individuals. In addition, it also examined associated changes in serum brain-derived neurotrophic factor (BDNF) levels.

Materials & Methods: This cross-sectional study involved 8 females and 8 males, mean age = 23.9. Following initial VO₂peak testing, each subject completed experimental sessions including an exercise bout and rest period preceding 1) Paired associative stimulation (PAS, outcome measure= Mmax), 2) motor learning task (continuous motor tracking task, outcome measure = root mean square error). Participants were also subject to blood draw before and after VO₂peak testing to determine serum BDNF levels.

Results: Statistical analysis of data showed that there was a significant increase in serum BDNF levels post-aerobic exercise in group averages ($p < 0.05$). In PAS trials, corticospinal excitability, measured by % change in MEP recruitment curves, was significantly greater following aerobic exercise compared to after rest ($p < 0.05$). This suggests a possible association between exercise and LTP-like mechanisms of motor learning. Finally, in the continuous tracking retention task, clinically significant results overall were not seen in either the temporal (time lag, $p > 0.05$) or spatial (shRMSE, $p > 0.05$) aspect of motor learning in response to aerobic exercise.

Conclusion: While results showing the role of aerobic exercise in motor learning retention was not conclusive, overall there is a clinically significant support for its effect on upregulating BDNF levels and increasing LTP-like corticospinal responses. This is important clinically for creating the most effective aerobic exercise therapies to promote neuroplastic changes and motor learning.

Group 2: Reliability and Validity of Cervical Range of Motion and Muscle Strength Testing

Denhoed M, Echeverri S, Greenway C, Kubas C, McCann S

Purpose & Rationale: More than half of Canadians have experienced neck pain over the last six months; consequently, it is important to assess neck range of motion (ROM) and strength. Wireless devices provide versatile means of quantifying these measurements. Therefore, the aim of this study is to determine intra-rater and inter-rater reliability and concurrent validity of the JTECH® wireless dual inclinometer and hand-held dynamometer for measurements of cervical ROM and muscle strength.

Relevance: Physiotherapists require valid and reliable means of assessing neck dysfunction. Measurements for cervical muscle strength and range of motion (ROM) are important clinically because they correlate highly with functional impairments and quality of life.

Materials & Methods: In this cross-sectional study, two testers measured the isometric strength and ROM of the neck on 20 subjects (28.7 +/- 7.8 years) with the JTECH® devices, in either 2 or 3 visits. The measurements were compared to devices that have previously established psychometric properties. The values obtained by the two testers and on the different visits were compared.

Analysis: Intra-class correlation coefficients (ICC) were used to investigate both intra- and inter-rater reliability, and concurrent validity.

Results: High intra and inter-rater reliability values were found for both ROM (ICC>0.94) and strength (ICC>0.89). Excellent validity was obtained for ROM (ICC>0.84) and strength (ICC>0.93). All values were significant to the 0.01 level.

Conclusions: The JTECH® devices were proven to be valid and reliable. With their ease of use, these instruments can be applied in clinical and research settings with confidence.

Group 3: The Effect of Distance-based Exercise Interventions on Physical Activity Levels in Breast Cancer Survivors

Digney C, Jang E, Labrosse S, McLean T, Snelling E

Purpose & Rationale: To systematically review the evidence pertaining to adherence to a distance-based physical activity intervention in breast cancer survivors both during adjuvant therapy (AT) and upon completion of adjuvant therapy (NAT). Distance-based modes included telephone, email and print mail.

Relevance: Effective distance-based physical therapy interventions would be beneficial to patients who are not able to partake in face-to-face physiotherapy treatment due to cost, geographical location or fatigue due to treatment.

Materials & Methods: Medline, CINAHL, EMBASE, Cochrane and PsycINFO databases were searched from 1993 - current. Papers were included if they were RCT's, had female participants aged 18-75 years with a history of breast cancer, used distance-based exercise interventions as the predominant method of intervention delivery, involved and recorded moderate to vigorous aerobic exercise, and were written in English. Studies were excluded if they included a mixed population of cancer survivors where data on breast cancer could not be separated.

Analysis: Data was interpreted qualitatively with all RCT's being evaluated using the PEDro quality assessment tool.

Results: We identified 637 papers and included 15 papers involving 12 studies. Statistically significant improvements in aerobic PA parameters in five out of the six NAT studies ($p < 0.05$). In AT studies, participants in the intervention group increased their PA levels as compared to baseline, with two out of the six trials showing a statistically significant improvement as compared to controls ($p < 0.05$).

Conclusions: Distance-based interventions can increase moderate aerobic PA and promote adherence to an exercise program ($>50\%$) in both NAT and AT breast cancer survivors.

Group 4: Sex-Based Differences in Respiratory Muscle Recruitment Patterns in a Healthy Population during Heavy Exercise

Casper K, Ginter E, Hromika J, Luce J, Vassos L

Purpose & Rationale: Despite having greater ventilatory limitations during exercise, the female diaphragm appears to be less susceptible to fatigue compared to males but the mechanisms for this difference are unknown. Accordingly, the purpose of this study was to examine sex differences in respiratory muscle activation patterns during exercise.

Relevance: Understanding sex-based differences in respiratory limitations may influence exercise rehabilitation and prescription in clinical populations and athletes.

Materials & Methods: Respiratory muscle activation patterns were measured in men ($n=9$) and women ($n=11$) during a constant work rate cycle test performed at 85% of a previously determined VO_2 max peak work rate. Electromyography of the sternocleidomastoid (EMGSCM) and scalene (EMGScalene) were measured using surface EMG whereas diaphragmatic EMG (EMGdi) was measured using a multi-pair esophageal electrode catheter.

Analysis: Comparisons for descriptive characteristics and exercise variables at standardized times were performed using unpaired t-tests. P-value < 0.05 was considered statistically significant.

Results: No significant sex differences in EMGdi were observed during exercise. However, EMGSCM at 2, 4, 6 minutes and peak exercise in females (17.3 ± 2.3 , 20.3 ± 2.4 , 22.7 ± 2.4 , 23.0 ± 1.9) was significantly greater than males (6.5 ± 1.0 , 10.7 ± 1.9 , 12.9 ± 1.7 , 14.1 ± 1.2). EMGScalene was significantly higher in females at 2 minutes (13.9 ± 1.1 vs 23.8 ± 3.1 , $P < 0.05$).

Conclusions: Our study has demonstrated that there are no major sex differences in diaphragmatic activity but that females have greater ventilation of respiratory muscles during exercise compared to males. The increased accessory muscle activity may act as a compensatory mechanism in an effort to prevent diaphragmatic fatigue in females.

Group 5: Test-retest reliability of the two-minute walk test in patients with prediabetes: is there a learning effect?

Daniels L, Frayne A, Gould S, Tennant M, Tommasini, E

Purpose & Rationale: The two-minute walk test (2MWT) is used to test exercise capacity in the prediabetic population, but the test-retest reliability is not known. Current recommendations are to perform two trials of this test to account for a possible learning effect. This study determined test-retest reliability of the 2MWT in this population, to evaluate if a learning effect exists.

Relevance: Physical therapists working with prediabetic individuals require an outcome measure for exercise capacity that can be efficiently administered in a clinical setting. Determining test-retest reliability of the 2MWT will establish if two trials of this test are required.

Materials and Methods: A cross sectional design assessed test-retest reliability of the 2MWT in adults (n=113, mean age range: 65-74 years, M=F) who tested for pre-diabetes within the past year (mean HbA1c: 5.91%). Participants were assessed on two trials of the 2MWT on the same day.

Analysis: Bland Altman method and intraclass correlation assessed agreement between two trials of the 2MWT. Post hoc power analysis determined statistical power.

Results: Bland Altman plot and scatterplot showed uniform variability. High agreement between trials was found (ICC=0.97). Retrospective post hoc power analysis yielded a power of 21% with required sample size at 335 participants.

Conclusions: In a prediabetic population, there is high agreement in distance walked between two trials of the 2MWT on the same day. This indicates high test-retest reliability, suggesting that a learning effect is not present and a single trial of the test may be sufficient in this population.

Group 6: An Investigation Into Global Posture As Measured By Centre Of Pressure In Patients With Temporomandibular Joint Disorder

Giles L, Mackay N, Stoodley A, Toma A, Ye T

Purpose & Rationale: TMD affects over 10 million Americans and has been tentatively linked to postural imbalances. The aim of this study was to use a force platform to measure the displacement in centre of pressure (COP) due to postural sway and see whether there is a difference in participants with TMD compared to a control group.

Relevance: Currently TMD diagnostic criteria as well as treatment procedures vary widely. Demonstrating a link between TMD and global postural imbalances could have important implications for the treatment of TMD.

Materials & Methods: In this case control study, participants were age & sex matched. N=10 per group, mean age +/- SD of 40.9 +/- 14.38 years for TMD and 40.40 +/- 12.44 years for controls. Each participant was measured on a force platform for three trials of bilateral and unilateral stance over 30 seconds. COP was measured and total path length, anterior-posterior range and mediolateral range were calculated, plus mean range and SD for each variable.

Analysis: Data from the TMD group and control group was compared using a two-tailed t-test. Alpha significance of 0.025 was used. The statistical analyses were completed using Excel®.

Results: There was no strong statistical significance for any outcome in either stance condition.

Conclusions: The results of this pilot study showed no association between TMD and global posture as measured by COP. Further studies with larger population sizes and improved research protocols are needed.

Group 7: The Six Minute Walk Test for People with Neuromuscular and Musculoskeletal Conditions: A Systematic Review of Methodological Standardization

Hayer M, Lamanes M, Low T, Schmit K, Soer M

Purpose & Rationale: To systematically review the application of the six-minute walk test (6MWT) to neuromuscular (NM) and musculoskeletal (MSK) populations. The primary objective was to determine if studies on NM and MSK populations use the 2002 American Thoracic Society (ATS) guidelines when administering the 6MWT and if not, the type of standardized procedure used.

Relevance: Physical therapists commonly use the 6MWT. Test variables can affect performance to the same magnitude that other studies claim as a result of a therapeutic intervention. The findings will help to identify concerns regarding standardization of the administration of the 6MWT that may be unique to MSK and NM conditions.

Materials & Methods: Medline, CINAHL, and EMBASE databases were searched from January 2010 through December 2013. Studies that used the 6MWT on adult NM or MSK populations were reviewed.

Analysis: The quality of each study was assessed with respect to application of the 6MWT using a checklist of evidence-informed methodological factors. Descriptive statistics, including frequencies and percentages, were used to summarize the methodological variables.

Results: The search strategy yielded 91 relevant studies, of which 18 studies reported following a protocol for the administration of the 6MWT. Thirteen of these stated following the ATS guidelines. Overall, information on pre-test status and test procedures were poorly reported and lacked detail.

Conclusion: Adherence to established criteria for the 6MWT should be cited for assurance of test quality control across clinical and research settings. Such a policy would be helpful to journal reviewers and readers in interpreting studies using the 6MWT and standardizing their clinical application.

Group 8: Application and reporting of exercise principles in RCTs of resistance training for tendinopathy: A systematic review

Barichello WR, Boudreau M, Homer J, Potts T

Purpose & Rationale: To examine the application of exercise training and FITT principles in the design and delivery of exercise interventions in tendinopathy randomized controlled trials (RCTs) and the reporting of participant adherence to these exercise interventions.

Materials & Methods: 4 databases were searched for RCTs investigating the effect of resistance training on tendinopathy. Data was abstracted regarding the application and reporting of exercise training and FITT principles in the design and delivery of exercise interventions, and the reporting of participant adherence to prescribed exercise interventions.

Results: 35 RCTs were included. No study applied all five principles of exercise training. Specificity, progression, overload, initial values, and reversibility were applied in 100%, 63%, 26%, 44%, and 69% of studies, respectively. All four FITT principles were applied and reported in only 14% of studies. Frequency, intensity, time, and type were reported in 91%, 60%, 17%, and 94% of studies, respectively. Participant adherence was reported in 51% of studies.

Conclusion: Application and reporting of exercise training and FITT principles in the design and delivery of exercise interventions in tendinopathy RCTs is inconsistent and reporting of participant adherence to prescribed exercise interventions is incomplete. Interpretation of the current literature is thus limited.

Group 9: Centre of Pressure Measurement of Postural Control with Individuals with Osteoarthritis of the Knee: A Systematic Review

Lawson T, Morrison A, Blaxland S, Wenman M, Schmidt C

Purpose & Rationale: Summarize available centre of pressure (COP) data for individuals with KOA, summarize available data that compares KOA to healthy controls, as well as between KOA groups, and describe the COP testing procedures most commonly reported in this population.

Relevance: The review will help practitioners interpret their findings to more accurately predict falls risk and evaluate treatment in the KOA population.

Materials & Methods: Medline (OvidSP and Pubmed), Embase, CINAHL, and Web of Science were searched from 1994 to May 25 2014. Papers in English, on humans, solely with radiographically diagnosed KOA, and containing a quantifiable measure of standing balance used in at least three studies were included.

Analysis: Methodological quality was assessed using a modified 17-item Downs & Black quality index. Studies scoring <50% were eliminated.

Results: The search strategy yielded 1519 papers, 20 met all inclusion and quality assessment criteria. The variables measured in three or more of the 20 papers were AP sway velocity, ML sway velocity, mean COP velocity, AP range of COP, ML range of COP, AP SD, ML SD, COP path length, COP sway area, Biodex AP score, Biodex ML score, and overall Biodex score.

Conclusions: Efforts should be made to standardize COP measurement protocols as a lack of consistent methodology impairs generalizability of results. Increased postural control impairments in the KOA population over healthy aged matched controls was confirmed; however, no conclusions could be made on the differences between radiographic severities.

Group 10: Roles within Primary Health Care in Rural British Columbia: Perceptions of Physical Therapists and Occupational Therapists

Anderson K, Feldmann M, Karukes E, Whittmore E

Purpose and Rationale: Physical therapists (PTs) and occupational therapists (OTs) are critical in the delivery of Primary Health Care (PHC). Little is known about how they view their role within this context in British Columbia (BC). Looking at the PHC concept and factors that influence it, the primary objective of this study was to examine how rural PTs and OTs perceived their role in PHC model.

Methods: A secondary analysis was performed based on the data in Northern BC in 2011. Individual interviews were conducted with thirteen PTs and six OTs in fifteen rural communities. An interpretive phenomenological approach guided the analysis, which included coding, developing themes and categories, and mapping the transcripts.

Results: PTs and OTs in rural BC have limited understanding of the complete PHC model. Participants recognized themselves as generalists in their diverse practice. Many factors including resources, geography and interprofessional structure influenced perceptions of care delivery.

Conclusion: More education on the PHC model is needed for its implementation in rural BC. Future research is recommended to investigate avenues of delivering education on the PHC model to HCP within both the public and private sectors.

Group 11: Focus group analysis of the AECOPD clinical decision-making tool for safe and effective exercise prescription; assessing clinical feasibility prior to implementation

Comstock K, Courtice L, Frew K, Jochlin M, White M.

Purpose & Rationale: Acute Exacerbations of Chronic Obstructive Pulmonary Disease (AECOPD) are the number one cause of hospitalizations in Canada. Early mobilization of acutely ill patients has been shown to decrease morbidity, length of hospital stay and hospital readmission. There are currently no tools available to guide the safe and effective mobilization of these patients. Interdisciplinary focus groups were used to gather feedback on the feasibility and comprehensiveness of the draft AECOPD Clinical Decision-making Tool prior to implementation in clinical practice.

Relevance: Physical therapists working with patients with AECOPD need a tool to guide clinical decision-making for their safe and effective mobilization.

Materials & Methods: Four focus groups were conducted, each at a different hospital in the Lower Mainland, from two health authorities. Focus groups were comprised of 19 experienced healthcare providers, including respiratory therapists, physical therapists and registered nurses. Focus groups were audio-recorded, transcribed and thematically analyzed. A survey and a demographic questionnaire were completed by each participant.

Analysis: Quantitative data was analyzed using Microsoft excel while quotes from transcribed focus group scripts were coded, categorized and grouped into seven themes. Content of these themes determined the feasibility and usability of the AECOPD tool and will be used to guide subsequent revision.

Results: Healthcare providers identified the tool as filling a need in clinical practice. New grads, students and experienced therapists new to the acute care setting were identified as the population most likely to benefit from the tool.

Conclusion: The AECOPD Tool is an effective adjunct to clinical decision-making.

Group 12: Effectiveness of social network-based interventions on physical activity participation in individuals diagnosed with arthritis, osteoporosis and chronic low back pain

Forsyth L, Huculak H, Riverin S, Lunka A, Arca V

Purpose & Rationale: To systematically review literature on social network-based interventions in the management of chronic musculoskeletal conditions. Social networking is an important tool for self-managing chronic disease. More research is needed to examine the ways in which social network-based interventions can be used to increase physical activity participation in individuals diagnosed with arthritis, osteoporosis and chronic low back pain.

Relevance: Physical therapists are primary health care practitioners and social network-based interventions are another tool for the management of chronic musculoskeletal conditions.

Materials & Methods: Medline, Cochrane Central, Cochrane Database of Systematic Reviews and Embase were searched from 1946 to March 2014. Randomized Controlled Trials in English discussing social network-based interventions on physical activity participation levels in individuals diagnosed with arthritis, osteoporosis and chronic low back pain were included.

Analysis: A qualitative literature synthesis was performed and the quality of the included articles was assessed using PEDro. A risk of bias assessment was performed.

Results: The initial search yielded 212 articles while 8 articles were included in the detailed analysis. Seven of eight studies were high quality papers according to PEDro criteria. Of the included articles, 5 studied arthritis, 3 studied chronic low back pain and no articles investigating osteoporosis met the inclusion criteria.

Conclusions: This qualitative literature synthesis suggests social network-based interventions may be as effective as usual care in the management of arthritis and chronic low back pain. There was no evidence suggesting social network-based interventions are harmful or negatively affect physical activity levels, pain, quality of life, range of motion or strength.

Group 13: A comparison of active and passive strategies to improve cardiovascular patients' adherence to prescribed exercise treatment: A Systematic Review

Ridgewell D, Rolland J, Thomson K, Wilson J, Zhou T

Purpose & Rationale: To test the efficacy of passive vs. active adherence strategies using cardiac rehabilitation (CR) programs. There is a range of patient involvement in adherence strategies, from passive to active.

Relevance: CR programs are provided post cardiac event. Evidence has shown the process and outcome of a health intervention is highly correlated with adherence to a rehabilitation program. Physiotherapists working in CR can improve patient outcomes with the use of effective adherence strategies.

Materials & Methods: A systematic review from 1990-2013 was conducted from; MEDLINE, CINAHL, EMBASE, and Cochrane databases. Articles were screened for quality using the PEDro Scale. This yielded ten included articles, all RCTs. They were compared on their range of active to passive interventions for effectiveness to improve adherence.

Analysis: Ten included RCTs were compared at a qualitative level on their patient demographics, main outcomes, intervention quality, active or passive strategies, and intervention successes.

Results: All studies used an adherence strategy that could be plotted on a continuum from passive to active. Except for one, they all demonstrated a significantly effective strategy in promoting adherence.

Conclusions: Adherence is not well defined in the literature. Studies use one or more adherence strategies, but few test their efficacy directly. No standard measure exists to make this comparison. Future research needs to directly compare effectiveness of the adherence strategy itself. Clear and consistent outcomes to measure adherence are required to more accurately assess the benefits of adherence strategies.

Group 14: An Evaluation of Patient-Centered Care Elements that Influence Patient Satisfaction in Physiotherapy Practice: A Systematic Review

Bedard-Gautrais C, Gris A, Kramer T, Mak M, St. Martin J.

Purpose and Rationale: To systematically review common elements of patient-centered care (PCC) currently used across physiotherapy settings measured by patient satisfaction. Various studies use different feedback measures such as quality of life; however, patient satisfaction is the most consistent term or indicator associated with PCC.

Relevance: PCC elements being used in physiotherapy practice are currently unclear. Summarizing specific elements of PCC effective in terms of patient satisfaction can impact the way PCC is taught to physiotherapists. This education will have a direct impact on the implementation of client care.

Materials & Methods: Medline, CINAHL, Embase, PsycINFO, Cochrane Central Register of Controlled Trails, and Cochrane Database of Systematic Reviews from 1993 to May 2014. Studies in English, adults (18 +), all study designs, and use of a patient satisfaction outcome measure were included.

Analysis: Quality assessment tools used were Pedro for randomized control trials and modified Qualitative Appraisal Skills Program for qualitative studies. Levels of evidence were obtained using the Oxford Centre for Evidence-based Medicine Levels of Evidence.

Results: Search returned 168 citations, of which ten met the inclusion criteria. Eight of ten studies were high quality and included patient interviews, a cohort study, and a randomized control trial. The two low quality studies comprised a cohort and a survey study. Six common PCC elements emerged including listening, friendliness, empathy, clear explanation at appropriate level, answering patients' questions, and instructions about self-help/exercise/giving alternate options.

Conclusion: Patient satisfaction with physiotherapy care is more determined by therapist interactions and the process of care rather than by the outcome of treatment.

Group 15: Exercise as a Possible Treatment for Cognitive Decline in Older Adults with Diabetes: A Systematic Review

Boyd D, Copeland C, Hahn A, Houle K

Purpose & Rationale: To systematically review evidence examining the effect of exercise on older adults with Diabetes (DM). DM is linked to cognitive decline in older adults. Exercise has been shown to have beneficial effects on cognition. It is important to know the impact exercise has on cognition in the diabetic population.

Relevance: Physiotherapists are the primary practitioners prescribing exercise, and therefore it is important to develop exercise guidelines which may impact cognition in this population.

Materials & Methods: Medline, CINAHL, EMBASE, and PsycINFO databases were searched from 1946 to October 2013. Papers in English, with evaluation of physical activity in older adults with DM and outcomes of cognition were included.

Analysis: The strength of the evidence was evaluated using the Downs and Black checklist for non-randomized studies including external validity, internal validity (bias), internal validity (confounding bias), and power (Downs and Black, 1998). Study quality was ranked as excellent (26-28), good (20-25), fair (15-19), and poor (<14).

Results: The search strategy yielded 10 articles. Seven out of 10 papers showed significant effect in at least one cognitive domain, however comparison between studies within each domain remains inconclusive.

Conclusions: No conclusions in regards to the effect of exercise on cognition in older adults with DM can be drawn due to inconsistency of study design, outcome measure, and exercise protocols, and lack of research.

Group 16: Relationship between physical function and social integration in stroke patients

Chan A, Cheung V, Kara F, Lum-Tong J, Yoon S

Purpose & Rationale: To examine the relationship between Timed Up-and-Go (TUG), Berg Balance Scale (BBS), Community Balance & Mobility Scale (CB&M), and 6-Minute Walk Test (6MWT) performance and Subjective Index of Physical and Social Outcome (SIPSO) in stroke patients. Secondary aim was to examine the relationship between the physical function measures and physical and social subscales of SIPSO.

Relevance: Physical therapists should understand the role of physical interventions on social integration in stroke patients. The results provide evidence regarding the relationships between objective measures of physical function and social integration in stroke survivors.

Materials & Methods: Data was collected from a longitudinal study observing stroke survivors. Patients were assessed at baseline, 6, and 12 months post-discharge using: (1) TUG, (2) BBS, (3) CB&M, (4) 6MWT, (5) SIPSO.

Analysis: Pearson and Spearman correlations and variance were calculated to determine the relationship between outcome measures.

Results: Significant, moderate correlation was found between TUG, BBS, CB&M, 6MWT and SIPSO, ($r=-.525, .566, .567, .580$; $p<0.01$, respectively; $r^2=.276-.336$). All physical function outcome measures correlated higher with physical subscale of SIPSO.

Conclusions: Although physical function is moderately correlated with social integration in stroke survivors, stroke rehabilitation should also address psychosocial and emotional domains.

Group 17: Knowledge Translation in Stroke Rehabilitation: A Systematic Review

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Purpose & Rationale: In Canada, there are 50,000 strokes costing \$2.7 billion annually. Generally, only 14% of health research is translated to practice. Therefore it is important to determine which methods of translating research into practice (knowledge translation [KT]) effect change on clinician behavior and patient outcomes in stroke rehabilitation.

Relevance: Healthcare Practitioners (HCPs) are the driving force behind stroke rehabilitation and improvements to KT will improve their evidence based practice.

Materials & Methods: Medline, EMBASE and CINAHL databases were searched from 1980-April 2014. Papers included were in English, studied HCPs in the continuum of stroke care, and included a KT intervention with patient outcomes and/or a change in clinician behaviour.

Analysis: The evidence quality was assessed with the Effective Public Health Practice Project Quality Assessment Tool for Quantitative Studies. Quality was scored strong, moderate or weak based on: selection bias, study design, confounders, blinding, data collection, drop-outs, intervention integrity, and analysis. Papers were grouped among common themes: patient outcomes, clinician skills and knowledge, and outcome measure use by clinicians.

Results: The search strategy yielded 16 papers with an average quality evidence of “weak”. All studies included education as part of the KT strategy. Successful strategies include use of opinion leaders, interdisciplinary teams, reminders and e-resources.

Conclusions: More high quality research must be done to determine the most effective KT strategies to improve evidence-based patient care along the stroke rehabilitation continuum.