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Abstracts  ❖  Résumés  
Poster Presentations  
Présentations par affiches  
PhD Students, Candidates and Postdoctoral Fellows  
Étudiants et candidats au PhD, stagiaires postdoctoraux  

PhD Students Rehabilitation Research Committee  
University of Ottawa  
Université d’Ottawa
1st Annual Research Symposium (2015)
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Abstracts  ❖ Résumés

Poster Presentations
Présentations par affiches

PhD Students, Candidates and Postdoctoral Fellows
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PhD Students Rehabilitation Research Committee
University of Ottawa  Université d’Ottawa

Jon Avery (co-chair) (co-président)
Catrine Demers (co-chair) (co-présidente)

Patrick Duong
Viviane Grandpierre
Katrine Sauvé-Schenk
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Influence of pleasant touch stimulation on motor excitability and tactile performance in young and older adults
Yekta Ansari and François Tremblay

In human, many physical and social interactions are mediated through the sense of touch, which could either serve a primary discriminative function or more affective function (McGlone 2014). In recent years, the importance of touch for human interactions has been highlighted with the description of a population of thin afferent fibers in the skin that respond primarily to gentle touch. This population of fibers “C-Tactile afferents”, which are found in the hairy skin and are activated by slow, stroking stimulation of the skin, are considered to mediate the soothing and calming effect of gentle touch and caress. In the present study, we want to investigate how pleasant touch can modulate cortical excitability and motor performance in the aging population. The changes in cortical excitability in the brain will be examined using non-invasive magnetic brain stimulation techniques in groups of healthy young adults (18-35 years) and seniors (55-85 years). The findings of this study could provide new insights into identification and development of novel therapeutic strategies in physiotherapy and occupational therapy to improve sensory and motor performance in the aging population.

Cancer rehabilitation and empowerment: A grounded theory study
Jonathan Avery, Roanne Thomas, Doris Howell, and Claire-Jehanne Dubouloz Wilner

Cancer is perceived as an illness where people lose a sense of control and autonomy over their health and life. This loss has created post-treatment concerns related to self-management, rehabilitation and empowering survivors to re-establish control. The idea of re-establishing control (i.e. empowerment) has become a trendy approach in post-treatment cancer rehabilitation. Despite the increasing number of people surviving cancer, the post-treatment period is characterized by a decrease of professional and social support requiring survivors to “empower” themselves by becoming more engaged, autonomous and in control.

However, the idea of empowerment is problematic. First, this approach is often criticized for shifting the locus of responsibility away from the institution to the individual, who is now seen as the “driver” of quality care. Second, the use of the concept is rather ambiguous. Empowerment can mean different things to different people. Yet, these meanings have not been explored and its processes (how people re-establish control) unknown.

Is empowerment a phenomenon that cancer survivors’ experience, or is it a phenomenon contrived to address the gaps in post-treatment care? The purpose of this poster is to present a doctoral study that will explore these questions. The literature is reviewed and a model of empowerment is proposed as a sensitizing exercise to explore this phenomenon using a qualitative constructivist grounded theory design.

Re-conceptualizing capacity: A participatory visual ethnography with supported decision makers
Josée Boulanger

In the early 1990s, family-led organizations in B.C. fought to change laws surrounding capacity, consent and guardianship. These advocates were concerned that substitute decision making and legal guardianship put people with cognitive disabilities in a vulnerable position and perpetuated the belief that they were incapable of making decisions. Supported decision making (SDM) was presented as an alternative approach that respected people’s right to autonomy and their right to decide. SDM involved providing the necessary supports for people to decide for themselves. Since then, SDM has made considerable gains. It is recognized in the UN Convention on the Rights of People with Disabilities and in national and provincial jurisdictions. As SDM replaces substitute decision making, many wonder “What do we know about the practice of SDM?” I argue that unless “the underground of the unspoken underpinnings” (Zizek, S., 2008, p. 168) of capacity and competence are queried, we risk creating an illusion of SDM masking a practice of substitute decision making. I propose to conduct a participatory visual ethnography with supported decision makers and their supporters to explore the practice of
SDM in everyday life situations. Thus, my research will contribute to theorizing SDM with the active involvement of the people who are engaged in its practice. By exploring the shifting boundaries of capacity through practice, this study will contribute to the clarification of the theoretical underpinnings of SDM and our role in the co-construction of competence.

An overview of rehabilitation interventions successfully implement at home by parents

Julie Capistran

The authors of Cognitive Orientation to daily Occupational Performance (CO-OP) approach believe that parent involvement is a key feature to promote generalisation and transfer of learning. They recommend that parents help their child complete homework tasks and also encourage their child to reuse strategies learned during the intervention sessions outside the clinical setting. My master research explored if CO-OP would improve performance of children untrained tasks. The anecdotal information leads to believe that the one who did not obtain statistically significant changes for their untrained task, were the children who did not reuse the strategies outside the intervention sessions. Besides two qualitative studies reported that parents experienced difficulties incorporating the CO-OP approach at home. This is why further research is needed to determine how we could facilitate the implementation of CO-OP outside intervention sessions. First phase of my doctoral thesis, this scoping review will provide an overview of other rehabilitation interventions for children with neurodevelopmental disorders who have been implement by parents at home, as well as the challenges and the enablers parents have encountered during implementation. To select relevant articles, an electronic search have been conduct using CINAHL, Medline, Embase, PsycInfo, ERIC, uO Research and Proquest Dissertation and Theses. Two reviewers will now evaluate and score (keep, don’t keep, not sure) each article using the inclusion criteria on titles/abstracts, then on full-text. In case of disagreement, a third reviewer will step in to reach a consensus. Finally, they will use a data-charting form to abstract data from included articles.

References:

Personal and environmental factors associated with leisure participation among children and adolescents with juvenile idiopathic arthritis

Sabrina Cavallo

Objective: To identify potential disease-related, personal and environmental factors associated with leisure in children and adolescents with juvenile idiopathic arthritis (JIA) according to the International Classification of Functioning, Disability and Health for Children and Youth framework.

Methods: One hundred and seven children and adolescents (8-17 years) diagnosed with JIA followed at the Montreal Children’s Hospital, McGill University Health Center completed the Children’s Assessment of Participation and Enjoyment (CAPE). The CAPE measures involvement in leisure (recreation, active physical, social, skill-based, self-improvement). The disease characteristics related to JIA were abstracted from the child’s medical file (JIA sub-type, active joint count, age of diagnosis), pain perception and functional status were obtained through self-report. Participants with JIA and their parents completed a series of questionnaires to gather information on the child’s mastery motivation, self-concept, activity preference, and perceived social support. Parents completed questionnaires on socio-demographic data, as well as on family function and environmental barriers. Hierarchical regression analysis was used to explore factors associated with leisure in children and adolescents with JIA.

Results: Personal (age, sex, preferences for activities, motivation for gross motor tasks) and environmental (cultural background, maternal education, median household neighborhood income) factors were important in explaining leisure participation for different types of
activities. Overall, included variables explained between 10.8% (self-improvement) and 29.7% (active physical) of the adjusted total variance.

Conclusions: Leisure participation in JIA is a complex phenomenon that may be explained by a multitude of factors related to the child, the family and the environment.

Developing instruments to evaluate the fidelity of response to intervention in Quebec French schools

Catrine Demers, Stéphane Poitras, and Pascal Lefebvre

Many students attending French schools in the province of Quebec have low reading and writing skills. Response to Intervention (RTI) is a data-informed decision-making process that aims, through early and effective interventions, to prevent reading and writing difficulties, and to improve these skills for all students. Over the past few years, a small number of French school boards in the province of Quebec have implemented RTI. The degree of fidelity, i.e. the degree with which the plan was executed as intended, can lead to differing student outcomes. Thus, without evaluating fidelity, any improvements or lack of improvements measured in student outcomes cannot be attributed to RTI. Further, data on fidelity could be useful in identifying specific school needs, which in turn, through support, could improve implementation of RTI. The Quebec school boards have therefore expressed an interest in evaluating fidelity of RTI in their schools. Instruments measuring fidelity are available from the United States, however, these are not adapted for the reality of francophones in Quebec. The aim of this research is to develop instruments to evaluate the fidelity of RTI that are adapted to the context of French schools in the province of Quebec. As a first step, a unified conceptual framework of fidelity will be established using the conceptual analysis technique. This conceptual framework will then be delimited for RTI using a literature review and a narrative synthesis as well as a nominal group technique. Lastly, instruments will be developed; these will be pretested using cognitive interviews.

Return-to-work outcomes among stroke survivors following rehabilitation in Ontario (study protocol)

Patrick Duong and Mary Egan

Background: With the rising number of younger stroke survivors and people staying employed until older age, returning to work post-stroke is an increasingly important issue. For many stroke survivors, working again can be challenging as the result of functional limitations, but whether out of desire or necessity, returning to work is an achievement in overcoming disability and regaining independence. However, in Canada, little is known on the extent to which people who have had a stroke are resuming employment and, if so, in what capacity.

Objective: The aim of this study is to 1) estimate rates of return-to-work among stroke survivors discharged from inpatient rehabilitation in Ontario and 2) explore the sociodemographic characteristics and clinical outcomes of these stroke survivors.

Methods: This study will involve secondary analysis of a custom requested, longitudinal data set from the Canadian Institute for Health Information (CIHI) National Rehabilitation Reporting System (NRS). All stroke records with discharge information between 2011 and 2014 in Ontario will be requested (approximately 19,000). Data will be analyzed using univariate descriptive statistics. Vocational status at discharge and follow-up assessments will be compared with admission to estimate the number of stroke survivors who have resumed working. Return-to-work rates will be summarized with respect to sociodemographic characteristics and clinical outcomes.

Discussion: The findings will bring greater recognition of the vocational needs of stroke survivors. Limitations in data quality, including the coverage, accuracy, and completeness of the data set, will be addressed.
Moral distress: A relational experience between health care professionals and the public health care system
Richelle d'Entremont

Moral distress is a negative emotional response experienced by an individual in relationship with a context. It is manifested when an individual’s professional values and standards are compromised due to context related barriers, such as institutional ideology. This experience has been observed among health care professionals working within public health care systems increasingly influenced by neoliberal ideology. Unaddressed, moral distress may lead to disengagement, desensitization, or resignation from the job or profession. A more thorough understanding of how this phenomenon is addressed within public institutions is required in order to theorize potential interventions. The aim of this presentation is to present an initial conceptualization of experience of moral distress among health care professionals, the response of current public health care systems and the consequences for health professionals. Individualization of moral distress is proposed as a key mechanism for negative outcomes.

Children with mild bilateral and unilateral hearing loss: Parents’ reflections on experiences and outcomes
Elizabeth Fitzpatrick, Viviane Grandpierre, Andrée Durieux-Smith, Isabelle Gaboury, Doug Coyle, Eunjung Na, and Nusaiba Sallam

Background: Children with mild bilateral and unilateral hearing loss are now commonly identified early through newborn hearing screening initiatives. There remains considerable uncertainty about how to support parents and about which services to provide for children with mild bilateral and unilateral hearing loss.

Objective: The goal of this study was to learn about parents’ experiences and understand, from their perspectives, the impact of hearing loss in the mild range on the child’s functioning.

Methods: Parents of 20 children in Ontario, Canada, participated in the study. The median age of identification of hearing loss was 4.6 months. Individual semistructured interviews were conducted with parents and analyzed through content analysis.

Results: Parents appreciated learning early about hearing loss, but their experiences with the early process were mixed. Parents felt that professionals minimized the importance of milder hearing loss. There was substantial uncertainty about the need for hearing aids and the findings suggest that parents need specific guidance. Parents expressed concerns about the potential impact of hearing loss on their child’s development, particularly at later ages.

Discussion: This study is one of the first to examine specifically the perceptions of parents of children with early identified milder hearing loss. It is clear that parents appreciate knowing about their child’s hearing loss early. However, learning about hearing loss brings new questions and parents require clear guidance and support in the process of caring for their child to reap optimal benefits from society’s investments in early identification.

Muscle stabilisation strategies against injury inducing moments in healthy and ACL-injured participants
Teresa Flaxman, Tine Alkjær, Erik Simonsen, Michael Krogsgaard, and Daniel Benoit

This study evaluated differences in muscle activation strategies of anterior cruciate ligament (ACL) injured and healthy subjects.

Methods: Thirteen ACL deficient and 13 matched controls (CON) completed a standing force matching protocol [1]. Subjects stood staggered with their foot fixed to a force platform. Surface electromyography (EMG) of lower limb muscles, kinetics and kinematics were recorded while subjects generated various ground reaction forces (GRFs), while exposing equal body weight to each leg. Data was processed and ensemble averaged into group means for each loading direction. Muscle activation patterns were displayed in EMG polar plots and were quantified with two-dimensional analyses.

Results: CON generated significantly greater magnitudes of GRF in all loading directions than ACL. CON had greater peak adduction-abduction and internal-external rotational moments compared to ACL. Both groups displayed similar
Culturally sensitive research practices in healthcare: A preliminary report of a literature review

Viviane Grandpierre, Lindsey Sikora, Elizabeth Fitzpatrick, Roanne Thomas, and Beth Potter

Aim: The goal of this project was to conduct a literature review on culturally sensitive research practices in healthcare in order to summarize scientific observations, perspectives, and recommendations.

Method: A search strategy was developed in consultation with a librarian to identify relevant articles published from inception of databases until March 2015 in Medline, PubMed, Embase, PsychINFO, and CINAHL. Subject headings and keywords related to culturally sensitive research methods in healthcare were searched. Titles and abstracts were screened by a reviewer according to specific inclusion criteria. Eligible full text articles were then screened. Uncertainty was resolved by a second reviewer. Key study characteristics, observations, perspectives, and recommendations were abstracted by the first reviewer and findings were verified by the second reviewer.

Results: An initial scope of the literature provided suggestions regarding conducting literature reviews, interviews, and surveys in a culturally sensitive manner. Results were organized according to fields (e.g. disciplines), observations, perspectives, and recommendations for each methodology.

Conclusions: Culturally sensitive research practices should occur in the design, data collection, analysis, and interpretation of study findings. Preliminary analysis revealed that a better understanding of cultural differences can help reduce ‘unicultural’ research and increase representativeness and generalizability. Researchers using literature views as a method of inquiry can highlight findings informed by diverse stakeholders or researchers who share the same cultural background as their participants. Researchers conducting interviews and distributing surveys to diverse participants should be mindful of how cultural variation can interfere with sample selection, question comprehension, data collection, analysis and interpretation.

The many faces of healing: Indigenous perspectives from an arts-based study of cancer survivorship

Chad Hammond

First Nations, Inuit, and Metis peoples are strongly affected by increases in many forms of cancer within their communities. For many communities, cancer is a subject of uncertainty and fear, and is often responded to with silence. However, cancer is interpreted a wide range of ways owing to the rich diversity and multiple social locations of contemporary Indigenous populations. We report preliminary findings on the perspectives of 20 Indigenous men and women around healing from cancer, based upon a national qualitative research study involving focus groups, individual interviews, and creative activities such as journaling and photography. Their narratives of healing meandered through mainstream, alternative, and sometimes controversial approaches; they often involved standard oncology treatments (radiation, surgery, and
chemotherapy); herbal remedies passed on from local, traditional knowledges; spiritual healing modalities (e.g., sweatlodges, prayer, dreams); a form of ‘silent treatment’ (speaking is seen to invite cancer in); emotional regulation regimes including the maintenance of positivity; and popular lifestyle-oriented approaches including intensive dietary and/or physical fitness reform. We situate these complex narratives within the call for more person-centred approaches to cancer care, and recommend a framework of collaborative care informed by interdisciplinary perspectives on healing.

**Development of a mobility assistive devices self-selection tool for seniors**

*Alhadi Jahan*

Canada has an aging population with a growing number of seniors who need support and care. Research shows that the use of mobility assistive technology devices (MTDs) increases with age. A lack of validated decision-making tools in MTDs selection makes it difficult for seniors to distinguish among the variety of high and low quality device options that are available. As a result, overall quality of life of seniors and their participation in social and cultural activities may be affected. In my research, I seek to address the decision-making process by developing a new tool to be used in MTD selection that addresses the perspective of end-users. I expect that my research will improve our understanding of non-medical factors such as cultural and social components that have direct or indirect impact on seniors’ decision making. Firstly, I will conduct a qualitative study with seniors and their caregivers to identify influential cultural and social factors on the selection process. Then, I will develop a conceptual framework for decision-making for seniors which integrates all of the influential factors identified from the previous stage. Finally, I will conduct a mixed methods study to evaluate the conceptual framework with groups of seniors and caregivers. My research will be generalizable to embrace seniors’ needs for MTDs in different life situations. This tool could change home care practices in Canada, since it gives seniors access to a preventive paradigm at very early stages of functional decline.

**Findings from a pilot randomized controlled trial of Occupational Performance Coaching for stroke survivors**

*Dorothy Kessler*

**Background:** The majority of stroke survivors experience challenges re-engaging in previously valued activities. These participation restrictions impact on emotional well-being and quality of life. Occupational Performance Coaching for stroke survivors (OPC-Stroke) is a time-limited intervention that combines provision of emotional support, individualized education and goal-focused problem-solving to develop knowledge, skills, and self-efficacy to achieve current and future participation goals.

**Methods:** A pilot randomized controlled trial with a qualitative component was conducted to explore the potential efficacy of OPC-Stroke. Twenty-one stroke survivors were randomized to receive OPC-Stroke or standard care following discharge. Outcomes of participation, goal performance and satisfaction, goal self-efficacy, emotional well-being and cognition were evaluated at baseline, post intervention and six months later. Qualitative interviews were conducted with the intervention group post intervention.

**Results:** Participants receiving OPC-Stroke showed a moderate effect favoring the OPC-Stroke group for goal performance and satisfaction. Participation scores improved for both groups but the trajectory between groups seemed to be different. Goal self-efficacy remained stable and emotional well-being declined in both groups. A large effect size favoring the OPC-Stroke group was noted for cognition. Qualitative findings highlighted the importance of the therapeutic relationship for facilitating engagement in goal setting and problem solving to achieve goals. Having highly valued goals, emotional support, information sharing related to specialized strategies and experiencing success promoted goal pursuit and persistence.

**Conclusions:** OPC-Stroke shows promise for promoting participation following stroke. Preliminary findings support further testing in a larger trial.
Relevant determinants influencing walking adherence among older individuals with knee osteoarthrits: Participant Exercise Preference (PEP) pilot randomised clinical trial

Laurianne Loew, Lucie Brosseau, Glen P. Kenny, Natalie Durand-Bush, Stéphane Poitras, George A. Wells, and Gino De Angelis

Objective: Osteoarthritis is the most common disabling disorder affecting joints, such as the knees (Klippel et al. 2008). The main objective of this pilot RCT was to evaluate the potential influencing factors that would determine adherence to an effective aerobic walking program after 3 months, among people diagnosed with knee OA.

Methods: This is a single blind RCT, based on a patient treatment preferences model (Cahill et al. 1996). The selected 69 participants were randomized to one of two groups: a 9-month supervised community-based walking program, or a 9-month self-directed unsupervised walking program.

Results: Data analysis was oriented towards the interaction between different factors, selected as more important to predict the adherence of elderly diagnosed with knee OA following a proven walking program.

Conclusion: It is necessary to act on modifiable factors in enabling individuals with osteoarthritis, in order for them to benefit optimally from the positive effects of walking. It addresses questions of clinical and scientific importance to identify the main strategies to promote the long-term adherence of community-based walking program. Preference for improving adherence is an innovative approach that addresses a new knowledge gap.

Virtual reality (VR) training improves dynamic standing balance in rehabilitating stroke inpatients

Daniel McEwen, Stephanie Bennett, Rafik Goubran, Martin Bilodeau, Hillel Finestone, and Heidi Sveistrup

Impaired posture control significantly impacts activities of daily living, is one of the best predictors of independence and shows a high correlation with perceived disability following rehabilitation. In this randomized controlled study, in-patient stroke rehabilitation patients completed between ten to twelve 40-min sessions of standing (experimental group, n=30) or seated (control group, n=29) virtual reality (VR)balance exercise training with the Interactive Rehabilitation Exercise Software (IREX, GestureTek). Both groups were undergoing standard inpatient stroke rehabilitation therapies. Prior to and immediately following the VR training intervention, participants completed a static and a dynamic balance (posturography) test. Participants stood on a pressure mat (from which centre of pressure (COP) data was extracted. Static posturography consisted of 60s of quiet standing. Dynamic balance was assessed during 60s of a conveyer game that required participants to move virtual boxes from one side of a virtual environment across the body to the other side. Maximum COP range (cm) and velocity (cm/s), maximum weight bearing and asymmetry were analyzed for changes resulting from the intervention. Differences between groups were most visible in the conveyer task game with the standing subjects showing larger increases in COP velocity and decreases in stance asymmetry. These data support clinical outcomes from the same trial where we reported greater improvements in the standing participants for the Timed Up and Go and the Two Minute Walk Test. The combined results suggest that early stroke inpatient rehabilitation can be augmented with the implementation of a short, intensive virtual reality training program targeting balance.

Potential objective measurements of tinnitus using the novel Gap-In-Noise Auditory Brainstem Response Test (GIN-ABR) among simulated and clinical cases of tinnitus

Victoria Milloy, Amineh Koravand, Daniel Benoit, and Ken Campbell

Tinnitus is a significant burden on the healthcare system as it affects 10% of the general population and up to a third of adults above 50 years of age (1-3). Clinical assessments of tinnitus involve using questionnaires and subjective matching techniques (4) but no objective methods have yet been established. A gap paradigm has been recently proposed as a behavioural method of objectively detecting tinnitus in animal models. Using this model rats with noise or
chemical induced tinnitus, have demonstrated higher gap detection thresholds than controls (5-15).

We believe this gap paradigm may be applied to the auditory brainstem response test (ABR) by using a gapped narrowband noise centered at the tinnitus frequency percept. It is our objective to explore whether this data replicates in pure-tone masked humans and individuals with tinnitus. We expect to find higher gap detection thresholds in normal hearing participants when tested at frequency bands similar to a pure tone masking noise and similar effects in a clinical population when the tested frequency band is similar to the pitch of the tinnitus percept. These results will provide an idea of whether tinnitus perception impairs gap detection and whether the novel gap-in-noise auditory brainstem response test (GIN ABR) is a viable method for objectively detecting tinnitus.

References

Family occupational balance: The meaning in the lived experience of families with school-aged children

Marie-Christine Ranger and Rose Martini

Since the 70s and the second wave of feminism, society has changed in such a way that in most families, work monopolizes a large portion of parents’ time and energy. Parents share their time between professional and family tasks. Concurrently, children are increasingly enrolled in a range of after-school activities. This results in family schedules being busier than ever which may lead to stress-related problems. Time is divided among each family member’s activities and the time spent as a family. Occupational science recognizes that the way we « occupy » our time influences our health. Occupational balance is more than the simple allocation of time on various activities. It is a complex phenomenon influenced by both individual and environmental factors. The concept of occupational balance has been studied from an individual perspective but to date, no study has looked into the occupational balance of families. This phenomenological study aims to answer the following question: What is the meaning of family occupational balance in families with school-aged children? The results from this study will provide a deeper understanding of the family environment within which occupational therapy home programs and general health related recommendations are to be implemented. Such findings could strengthen the evidence in support of occupation as a health determinant. This research project is in its inception. The poster presentation will define key concepts, explore the potential research methods and identify the steps of this research process.
Prevalence of sarcopenia in the world: A systematic review

Paulo Nascimento, Stéphane Poitras, and Martin Bilodeau

Musculoskeletal disorders are the most common cause of physical disability in different populations, and can lead to premature death in older adults. Because sarcopenia is a geriatric syndrome affecting the musculoskeletal system, it is important to document its presence in the general population of older adults. The specific aim of the current study is to perform a systematic review of the prevalence of sarcopenia.

Two independent evaluators conducted an electronic search using the databases Medline, EMBASE, CINAHL, SPORTDISCUS, LILACS, and SCIELO; looking for articles reporting the prevalence of sarcopenia in community dwelling older adults. The search strategy retrieved 1852 articles and 56 were considered eligible, with 37 of them having been published after the publication of the “sarcopenia consensus” definition. However, methods utilized to define sarcopenia varied, and only 21 studies used the “sarcopenia consensus” definition.

Prevalence estimates varied according to different sarcopenia definitions and methods used to assess participant’s muscle mass, strength and performance. Studies that used the consensus definition, reported prevalence rates between 1.2-29.2% in men younger than 80 years old, and up to 7-59.4% in men older than 80 years old. For women, the values varied from 0-26.1% to 1.6-44.9% in those younger and older than 80 years old, respectively.

Despite the increase in the number of studies reporting the prevalence of sarcopenia, and their general good quality, our review showed a lack of standardization for the diagnosis of the condition, which makes comparisons between studies difficult.

References

Effect of measurement time and physical activity level on subjective knee joint function in ACL deficient populations

Kevin Romanick, Teresa Flaxman, Daniel Benoit

Patient-related outcome measures (PROMs) are often used to assess knee function in ACL-deficient populations; however, there lacks a universal gold standard knee scoring system. Comparing the widely used PROM scores may enable the generalizability of the questionnaires. The purpose of this study was to (1) compare scores of four PROMs completed by an ACL-deficient population and to (2) determine relationships between activity level and time since injury on each PROM.

Forty-two participants with an ACL-deficiency completed the Knee Osteoarthritis Outcome Score (KOOS), Lysholm Score (Lys), Knee Numeric Entity Evaluation Score (KNEES), and Tegner-Activity Scale. Scores were normalized to 100, 100 as the highest level of function. Pearson correlations and one-way ANOVA evaluated differences across PROMs. Multiple linear-regressions determined the effect of physical activity level and time since injury on outcome scores.
No significant differences in mean PROM scores were observed. KOOS, KNEES, and IKDC had strong correlations \((r>0.79)\) while Lys had moderate-strong correlations with the other PROMs \((r=0.62-0.74)\). Pre-injury activity level and time since injury \((18.21\pm25.05)\) did not significantly predict any of the outcome scores \((p>0.05)\). Post-injury activity level best-predicted PROM scores in KOOS, KNEES, and IKDC. KOOS, KNEES, and IKDC yielded strong correlations indicating the generalizability of their results to one another is valid. Post-injury activity levels predicted up to 33% of variance observed in the perceived knee function, suggesting a benefit of improving physical activity and rehabilitative intervention after injury. Limited population size in this study provides grounds for further investigation into the predictive influences on subjective function.

References:

A comparison between first auditory brainstem response and behavioral thresholds in infants with mild-profound hearing loss

Mina Salamatmanesh, Eunjung Na, Elizabeth Fitzpatrick, Marie Pigeon, and Joanne Whittingham

Introduction: Infants are usually referred to audiology consultation because they failed in hearing screening tests or because they have been identified as being at risk for hearing loss (HL).

There are few recent studies that have compared the use of two measures: auditory brainstem response (ABR) and behavioural audiometry (Visual Reinforcement Audiometry [VRA]). Yet, clinical decisions such as hearing aid fittings in infants are based on the ABR measures. It is therefore important to examine the correlation between objective and behavioural measures. We undertook a pilot study to compare ABR and VRA thresholds in young children.

Method: Our sample consists of 12 infants in the age range (birth-24 months) with mild to profound HL. We extracted, from the clinical chart, all thresholds from VRA and ABR tests obtained in the first two years following diagnosis of hearing loss. We also documented type and degree of HL and tympanometry results. We will analyze the data using SPSS.

Conclusion: The results from this preliminary work showed high correlation between tone pip ABR thresholds and behavioural results in young children. However, these results were limited to infants whose results were ‘straightforward’ and who had no other known complex medical or developmental disabilities. We will expand our work to examine a larger sample of children diagnosed at CHEO.

A tale of two stroke survivors: The influence of low-income on rehabilitation

Katrine Sauvé-Schenk, Sarah Bernard, and Mary Egan

Background: Research has shown associations between lower socio-economic status and poorer stroke outcomes. The mechanisms of these associations are, however, not well understood. The objective of this study is to begin to explore how living in a low-income situation influences post-stroke rehabilitation.

Methods: A descriptive multiple-case study approach was used. The two participants were low-income stroke survivors undergoing rehabilitation treatment. Data was collected through interviews with the stroke survivors, with a family member, as well as with their rehabilitation team. Medical charts were also reviewed, specifically to extract information related to income, needs, and rehabilitation outcomes. All data was read and re-read, then coded and grouped it into larger categories. These larger categories were then analyzed to determine their fit with the theoretical proposition.

Results: The low-income stroke survivors experienced challenges accessing products, equipment, treatment, services, medication, transportation, and housing. Rehabilitation was further impacted by the addition of other vulnerability factors such as the characteristics of their social network, their age, their language, and their knowledge about the health system. Participants reported that difficulties accessing medication, housing and funding assistance, caused them to experience stress.

Conclusion: Healthcare professionals should work to moderate the potential influence of low-income on post-stroke rehabilitation, and be aware of the additional impact of other vulnerability factors on the rehabilitation process.
Physical activity recommendations for patients with gynecological cancer: Early stages of research project development

Shirin M. Shallwani, Lucie Brosseau, and Roanne Thomas

**Background:** Cancer and its treatments can have debilitating effects on patients and their wellbeing. Patients with gynecological cancers face specific issues related to fatigue, lymphedema, decreased physical function and poor quality of life. Evidence suggests that physical activity (PA) can help mitigate some of the side effects of the disease and its treatments. However, little is known on PA in patients with gynecological cancer.

**Objectives:** The general objective of this research project is to develop evidence-based clinical recommendations on PA for patients with gynecological cancer. Specific objectives are: 1) to explore PA programs and their effects in patients with gynecological cancer; 2) to understand PA preferences, facilitators and barriers in patients with gynecological cancer; 3) to develop and review evidence-based clinical recommendations on safe and appropriate PA programs for patients with gynecological cancer; 4) to disseminate information on PA recommendations to patients, caregivers, health professionals and other key stakeholders.

**Poster overview:** The poster presentation will briefly review the current literature on PA in patients with gynecological cancer and will discuss the development of this research project within a theoretical and methodological framework.

Implementing a randomized clinical trial of virtual reality training on an inpatient ward: Lessons learned

Lisa Sheehy, Anne Taillon-Hobson, Hillel Finestone, Martom Bilodeau, and Heidi Sveistrup

Virtual reality training (VRT) holds promise as an adjunct therapy for rehabilitation of stroke. We are performing a randomized clinical trial (RCT) of the addition of VRT to regular inpatient rehabilitation for the recovery of sitting balance post-stroke. Along the way we have learned many lessons which may be useful to others planning RCTs of therapeutic interventions for inpatient rehabilitation populations. They fall into four categories.

1) Patient-specific issues revolve around each participant’s stroke and their rehabilitation experience. Pain, fatigue, motivation, engagement, comfort level with technology and learning new things, and the severity of physical disability need to be accommodated for in a consistent and sensitive manner.

2) Staffing is critical, to ensure that a rigorous division between assessment and treatment is maintained throughout the study. A positive relationship must be maintained with the primary care team. Volunteer assistance is essential to provide help with assessments and treatment.

3) Scheduling is also important. Increased rehabilitation intensity on stroke rehabilitation units is beneficial to patients but requires creative scheduling for adjunct therapies like VRT. Timely pre-, post- and 1-month post-assessments are important in order to isolate the effect of the VRT.

4) The VRT system must be easy to use and ensure consistent treatment protocols. Consistent internet coverage is essential for the chosen VRT system. A novel application of pressure mat technology is being successfully implemented to monitor sitting balance during VRT.

Solutions to these challenges, faced during the implementation of this RCT, will be offered.

The decision to discontinue the use of Speech Recognition Software (SRS), a narrative description of the experiences of adolescent students with physical disabilities

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It has been documented that there is an elevated rate of discontinuance of speech recognition software (SRS) by adolescents, with physical disabilities, who have been prescribed these devices for writing purposes. Through the application of a Narrative Inquiry, this study sought to describe the experiences of adolescents who have decided to discontinue using SRS for writing purposes as well as to provide insight for practice. To triangulate the
description, the students’ parents were also interviewed about their children’s experience of discontinuance of SRS. The sample was recruited from a local Augmentative Communications Clinic. Participants believed their Therapists did not adequately educate them about the possible frustrations involved with using SRS. Participants expressed frustrations related to the use of SRS including: the time consuming training of the word bank, having to modify their intonation and rate of speech for the SRS. Conclusively the students found that the SRS was not an appropriate fit for their needs or their specific disabilities. Due to this discrepancy, they felt compelled to choose a less frustrating method of writing, (most often modified typing was preferred). The implications for practice include: the assessment of the person, task, technology fit as well as collaborative, thorough, honest communication and feedback between Therapist and Client, throughout the process of prescription and intervention.