2024 MSHS GRADUATE RESEARCHER COLLOQUIUM

October 31st | Melbourne Connect

INTEGRATIVE HEALTH ADVANCEMENTS

Bridging Expertise for Better Outcomes

2024 Abstract Brochure

Graduate Researcher Colloquium

Melbourne School of Health Sciences
October 31st, 2024

Brianna Afiat | Optometry & Vision Sciences

Authors
Brianna C Afiat (1), Da Zhao (1), Vickie HY Wong (1), Nirma D Perera (2), Brad J Turner (2), Christine TO Nguyen (1), Bang V Bui (1)

1. Department of Optometry and Vision Sciences, School of Health Sciences, Faculty of Medicine Dentistry and Health Sciences, University of Melbourne, Parkville, 3010, VIC, Australia
2. Florey Institute of Neuroscience and Mental Health, Parkville, 3010, VIC, Australia.

Abstract: Characterising autophagy changes in glia in the mouse retina following eye pressure elevation

Background & Aims: Healthy cells remove and recycle cellular debris, through an internal waste-processing pathway called autophagy. When autophagy is not functional, the accumulation of cellular waste can impede cell function and eventually lead to cell death. This is detrimental to cells that do not regenerate, like neurons. Recent studies suggest that the failure of autophagy in neurons and their glial support cells may contribute to neurodegenerative diseases. This includes glaucoma, an eye disease associated with high eye pressure (or intraocular pressure, IOP), that is one of the leading causes of irreversible blindness worldwide. However, autophagy changes in retinal glia have yet to be fully explored in glaucoma. In this study, we characterise regional changes in retinal autophagy expression, and compare glial responses (astrocytes, Müller cells and microglia) following IOP elevation using a novel CAG-RFP-EGFP-LC3 autophagy reporter mouse.

Methods: We induced acute (100 mmHg for 30 minutes) IOP elevation in 3-month-old transgenic CAG-RFP-EGFP-LC3 mice (n=7), via anterior eye cannulation in a randomly chosen eye with the other eye as a contralateral control. At 3 days post-injury, we stained the harvested retinae with glial markers and assessed intrinsic autophagic fluorescence in retinal cross-sections using confocal microscopy.

Interim results: In response to acute IOP elevation, expression of early- and late-stage autophagy in the inner retina was increased. This was associated with activation of astrocytes in the inner retina and the migration of microglia into the innermost retinal nerve fibre layer.

Conclusion: Further analysis is required to determine whether glial activation and retinal autophagy changes after IOP injury may be linked to poorer functional recovery.

Fadiyah Alshehri | Nursing

Authors
Fadiyah Alshehri (1, 2), Denise Harrison (1, 3, 4), Sophie Jones (1), Jawaher Jumah (5).

1. Department of Nursing, The University of Melbourne, Parkville, VIC, Australia.
2. Department of Nursing, Bisha University, Bisha, Saudi Arabia.
3. Murdoch Children's Research Institute, Parkville, VIC, Australia
4. School of Nursing, The University of Ottawa, ON, Canada
5. College of Nursing, King Saud University, Riyadh, Saudi Arabia

Abstract: The use of simulation in paediatric nursing education in Saudi Arabia
Background: Simulation is increasingly used in nursing education worldwide, but its use in paediatric nursing education, especially in non-Western countries such as Saudi Arabia (SA), is not well-known.

Aim: Exploring nursing educators' view of the current status of simulation in paediatric nursing education in SA. This includes types of simulation, pedagogical principles, educators' roles and responsibilities and facilitators and constraints.

Methods: A quantitative descriptive online survey was used. A preexisting survey was modified with permission from the original developer (Arthur et al., 2011) and pretested for its suitability to the SA context.

Preliminary Results: Out of 108 responses, four did not consent, 30 only provided demographic information, and 11 did not use simulation in paediatric nursing education, leaving 63 for the final analysis. Medium-fidelity simulation was the most utilised (58%), whereas actor/standardised simulators were the least employed (13%). Role-plays were primarily used for therapeutic communication (79%), cultural-awareness (68%), self-awareness (66%) clinical-reasoning skills (61%), teamwork (60%), emotional intelligence (54%), and knowledge acquisition (56%). High-fidelity simulations were favoured for clinical psychomotor skills (53%), while low-fidelity simulations were preferred for patient assessment (51%). About half of the respondents used a specific theoretical framework for simulation teaching (48%).

Conclusion: Simulation is widely used for paediatric nursing education in SA. Findings will help identify current gaps in simulation use in SA, guiding future research and highlighting areas for improvement to assist educators and universities in enhancing simulation in paediatric nursing education. The next step involves exploring nursing students' perceptions of simulation in paediatric nursing education.

Hayley Beer | Nursing

Authors
Hayley Beer (1), Lisa Guccione (4), Amit Khot (1,3), Simon Harrison (1,3) & Meinir Krishnasamy (2,4,5)

1. 1.Department of Haematology, Peter MacCallum Cancer Centre, Melbourne, VIC, Australia
2. Department of Nursing, School of Health Sciences, Faculty of Medicine, Dentistry and Health Sciences, The University of Melbourne, Parkville, VIC, Australia
3. Sir Peter MacCallum Department of Oncology, The University of Melbourne, Parkville, VIC, Australia
4. Department of Health Services Research and Implementation Science, Peter MacCallum Cancer Centre, Melbourne, VIC, Australia
5. Department of Research and Education, VCCC Alliance, Parkville, VIC, Australia

Abstract: Developing a national roadmap for nurse-enabled, subcutaneous therapy self-administration programs for myeloma patients
Background and Aims: Multiple myeloma (MM) has the greatest symptom burden of all haematological cancers and is the costliest to treat. Subcutaneous injections (SIs) are a growing mode of delivery for personalised MM therapy. Evidence suggests that self-administration SI programs reduce patient financial burden and health service utilisation. However, implementation of these programs has been problematic. This project sets out to identify barriers and enablers to implementation of nurse-enabled SI self-administration programs for MM patients.

Methods: Phase one of this two-phase MPhil project is a qualitative, descriptive study using the Consolidated Framework for Implementation Research (CFIR) to explore barriers and enablers to nurse-enabled SI self-administration programs. Data will be used to inform the second phase - the development of a national implementation roadmap.

Multidisciplinary health professionals, patients, carers and industry partners from across Australia (total n=36) will be recruited to take part in focus-groups and semi-structured interviews, to explore implementation factors that need to be considered, as informed by the CFIR. Audio-recorded data from the focus groups and semi-structured interviews will be entered into NVivo (a qualitative software program). A deductive approach will be used to code transcripts, organise and assign data according to the CFIR domains.

Conclusion: As more novel self-administration agents become available for MM patients, there is a system-level imperative to implement efficient models of care, and patient imperatives to optimise patient-centred care delivery. Our study is the first of its kind to explore and describe barriers and enablers to implementation success for nurse-enabled myeloma patient self-administration programs.

Ilana Berger | Social Work

Authors
Ilana Berger (1,2) Kate Thompson (1,2), Meinir Krishnasamy (3,4,5) & Lynette Joubert (2)

1. Victorian Adolescent & Young Adult Cancer Service, Peter MacCallum Cancer Centre, Melbourne, Australia.
2. Department of Social Work, Faculty of Medicine, Dentistry & Health Sciences, University of Melbourne, Melbourne, Australia.
3. Department of Nursing, Faculty of Medicine, Dentistry & Health Sciences, University of Melbourne.
4. Victorian Comprehensive Cancer Centre Alliance, Melbourne, Australia
5. Department of Health Services Research, Peter MacCallum Cancer Centre, Melbourne, Australia.

Abstract: Psychosocial issues and health service interventions of parents of adolescents and young adults with incurable cancer.
Background & Aims: Cancer affects approximately 1200 adolescents and young adults (AYA) aged 15-25 in Australia each year and is the leading cause of disease-related death amongst young people. Parental support is critical to providing optimal care, yet although parents of AYA with incurable cancer experience significant distress, little is known about the psychosocial challenges they encounter and the health service interventions available to promote their wellbeing. This clinical data mining research is part of a larger mixed methods study. It aims to describe the psychosocial issues and health service interventions provided to parents of AYA as documented in the medical record of one comprehensive cancer centre.

Methods: An audit tool was developed to retrospectively mine clinical data from a consecutive sample of AYA who died from cancer between 1/01/2010 and 30/04/2023. It gathered demographic information; disease, hospital admission and treatment data; parent initial contact with the centre's AYA service; parent psychosocial issues; health service interventions and recorded results of interactions with parent service users. Health provider verbatim case notes were extracted and recorded where relevant.

Results: Data were collected over ten months for 100 AYA from the time of diagnosis to death. Data describes AYA and parent profiles, parent psychosocial support needs and health service interventions targeting needs recorded. This presentation will report patient demographic, disease, hospital admission and treatment data, demographic data for parents, psychosocial issues experienced by parents and interventions documented by health providers. Emerging themes from health provider verbatim case notes, relating to parents' psychosocial issues and interventions will be presented.

Sarah Binks | Social Work

Authors
Sarah Binks (1), Lyndal Hickey (1), Airin Heath (2), Anna Bornemisza (1), Lauren Goulding (3) and Arno Parolini (1)

1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia
2. Independent Scholar, Melbourne, Victoria, Australia
3. School Social Worker and Independent Scholar, Peterborough, Ontario, Canada

Abstract: Social Workers' Perceived Barriers and Facilitators to Social Work Practice in Schools: A Scoping Review
Backgrounds & Aims: The aim of this scoping review was to establish the breadth of the academic literature regarding the barriers and facilitators to social work practice in schools as perceived by School Social Workers (SSWs).

Methods: Following the PRISMA-ScR Scoping Review Framework, 42 articles were identified as meeting the inclusion criteria. Five interrelated themes related to the barriers and facilitators to SSW practice were identified: (1) Inadequacy of service delivery infrastructure; (2) SSWs' role ambiguities and expectations; (3) SSWs' competency, knowledge and support; (4) School climate and context; and (5) Cultivating relationships and engagement.

Results: This scoping review found that social workers perceive far greater barriers than facilitators when delivering services in school settings, with limited evidence related to the facilitators that enhance School Social Work (SSW) practice.

Conclusion: Further research regarding the facilitators of SSW practice is needed, specifically in countries where research on this topic is emergent.

Genevieve Bloxsom | Social Work

Authors
Genevieve Bloxsom (1) , Gemma McKibbin (1), Cathy Humphreys (1), Jennifer Davidson (1), and Nick Halfpenny (2).

1. Department of Social Work, University of Melbourne, Victoria, Australia.
2. MacKillop Family Services, Victoria, Australia.

Abstract: Understanding Financial Coerced “self-produced” Child Sexual Exploitation Material: Insights from Professionals
Background & Aims: The increasing prevalence of reported financially coerced ""self-produced"" child sexual exploitation material (CSEM) poses significant challenges for professionals in child protection, education, and law enforcement. This study aims to explore how these professionals understand and respond to such cases, focusing on their perceptions, challenges, and strategies for prevention.

Methods: This qualitative study involved interviews (n= 21) and focus groups (n = 2) with 34 professionals, including educational staff in various roles (n= 13), Victoria Police (n=1), and Victorian child protection workers (n=20. Thematic analysis was used to identify key themes and patterns in the data.

Results: Preliminary findings indicate that Australian children whether in out-of-home care or with their family of origin, can be financially coerced to “self-produce” CSEM, and children as young as 7 are becoming victims. This exploitation may be identified by observing unexplained wealth in a child’s life, however perpetrators may conceal the exploitation using complex and covert methods. Professionals must navigate challenges when disrupting financially coerced CSEM, including poor technology regulation leaving children vulnerable to continued exploitation, difficulty co-ordinating timely multiagency responses, difficulty arresting international perpetrators, and victims facing lengthy wait times for therapeutic support. Prevention solutions identified involve transparent information regarding exploitation risks being available to families, and ensuring a child has all their needs safely.

Conclusion: The study explores the complexity of financially coerced “self-produced” CSEM and the critical role of professionals in reducing its occurrence. Future research should focus on understanding this phenomenon and the solutions to mitigate its occurrence, from the perspective of impacted children.

Kate Brady Kean | Social Work

Authors
Kate Brady Kean (1)
1. Department of Social Work, The University of Melbourne, Parkville, Vic, Australia

Abstract: Articulating the unspoken – trauma transference in organisations.
Background & Aims: Many non-government organisations (NGOs) are established to work with clients who have experienced traumatic life experiences. These include organisations that provide services after sexual assault and/or domestic and family violence. Evidence suggests that in many of these organisations, engaging in this work can have a wide variety of impacts on staff and can create unique interpersonal interactions and experiences. The aim of this research is to explore how working with trauma content impacts organisational workers and how the 'transfer' or 'transference' of this trauma content plays out in organisational life and adds to these unique interactions and experiences. This research aims to find ways to articulate this largely unconscious process and develop ways to manage the impacts for organisations and the individuals who work within them.

Methods: Using interviews with key stakeholders in Australian NGOs, a conceptual model for this process, developed from gaps in the literature, will be tested and refined ready to be used in the third phase of the research.

Conclusion: The intention is to advance a shared narrative of the impacts of this transfer of trauma and to support organisations to evolve their own approach to articulating the impacts as best suits their setting. This is with particular interest in how to support an organisation and its members to feel healthy, safe, and engaged. This presentation will provide an overview of the current literature, the proposed theoretical model and the findings from the key stakeholder interviews.

Van Callaly | Social Work

Authors
Van Callaly (1), Cathy Humphreys (1), Margaret Kertesz (1), Jennifer Davidson (1), Anne-Marie Laslett (2,3)

1. Department of Social Work, The University of Melbourne, Melbourne, Australia.
2. Centre for Alcohol Policy Research, La Trobe University, Bundoora, Australia.
3. Care Economy Research Institute, La Trobe University, Bundoora, Australia.

Abstract: Flows and bottlenecks: understanding collaboration between domestic violence and substance use sectors through metaphor analysis.
Background & Aims: Cross-sector collaboration is hailed as a way to improve health and social issues. While working across sectoral boundaries can enhance patient outcomes, collaborative practice can be fraught with challenges. This study identified areas of inquiry, which created collaborative flows and bottlenecks between domestic violence and substance use professionals.

Methods: Adopting an action research approach, an Australian Policy Stakeholder Group was formed. Over a two-year period, senior policy workers and managers across Australia convened to identify ways to reduce sectoral silos. Metaphor analysis was also used to identify areas of collaborative flow and bottlenecks.

Results: Three themes facilitated collaborative flow: increasing consensus that the causal link between substance use and domestic violence is complex; integrating substance use content into supportive interventions for victim-survivors; and the concept of substance use coercion. These facilitated open negotiations of contested worldviews among participants. Three themes led to collaborative bottlenecks: short-term funding cycles; the (de) gendering of domestic violence; and disputed notions of accountability for people who use violence. Metaphor analysis revealed that collaborative bottlenecks were topics that evoked silence and contributed to participants' apprehension in the collaborative project, indicative of a need for further attention to facilitate development in these areas.

Conclusion: Collaborative flows and bottlenecks between domestic violence and substance use sectors evolve over time. Professionals must be cognizant of context that influences collaborative dynamics, which can enhance the support provided to families affected by domestic violence and substance use.

John Carey | Physiotherapy

Authors
John Carey (1, 2), Christine Imms (2, 3), Alicia Spittle (1, 2), Nora Shields (3, 4), Margaret Wallen (5) Finn O'Keefe (1), Miriam Yates (1), Holly Skilbeck (1), Rachel Toovey (1, 2).

1. Department of Physiotherapy, The University of Melbourne, Melbourne, Australia.
2. Murdoch Children's Research Institute, Melbourne, Australia.
3. Department of Paediatrics, The University of Melbourne, Melbourne, Australia.
4. Olga Tennison Autism Research Centre, School of Psychology and Public Health, La Trobe University, Melbourne, Australia.
5. Australian Catholic University (North Sydney Campus), Sydney, Australia.

Abstract: Researching co-design together: developing an experience-based co-design study protocol through co-production.
Introduction: Participatory methods, like experience-based co-design (EBCD), offer an innovative way to develop new interventions. We aimed to co-produce a study protocol for an experience-based co-design (EBCD) project focusing on cycling with disability.

Methods: Using co-production guidelines we formed a team of 11 researchers, including three co-researchers with lived experience of disability. Roles ranged from investigator to co-design consultant and evaluators. Co-production involved online meetings structured around the 6 stages of: i) initiating; ii) planning; iii) doing; iv) sense-making; v) sharing and vi) reflecting. Briefing documents, meeting minutes and reflective diaries formed a co-production audit trail.

Results: We adapted EBCD for our context by orientating the study in a strengths-based approach, using creative online methods, and focusing on cross-sector communities. Our co-researchers shared expertise in cycling, disability to impact the research design and relevance of materials. Choice and access were championed through tiered involvement options, a verbal consent process, inclusive resources, and evaluation tools.
We co-produced a two-part "CycLink Co-design Study" protocol. Part 1 proposed the use of EBCD to develop 'key principles' for a community cycling intervention (CycLink) with and for young people with disability. Part 2 outlined a mixed methods evaluation of our co-design process.

Conclusion: By co-producing a person-centred protocol, we could invite participants with diverse disabilities to participate in co-design research. Involvement of people with lived experience of disability impacted accessibility and relevance of the protocol and resources.

Sarah Cornish | Nursing

Authors
Sarah Cornish (1,2), Dianne Crellin (2,3,4) Jonathan Knott (5), Anne-Maree Kelly (5,6) and Marie Gerdtz (2).

1. Emergency Department Sunshine Hospital, Western Health, Melbourne, Australia
2. Department of Nursing, School of Medicine, Dentistry and Health Sciences, The University of Melbourne, Parkville, Australia.
3. Emergency Department, The Royal Children's Hospital, Melbourne, Australia
4. Murdoch Children's Research Institute, Melbourne, Australia
5. Department of Critical Care, The University of Melbourne, Parkville, Australia
6. Joseph Epstein Centre for Emergency Medicine Research, Western Health, Melbourne, Australia.

Abstract: Evaluation of emergency department mechanical ventilation tools and practices: a cross sectional survey
Background & Aims: Mechanical ventilation is commonly used in emergency departments (ED) but is associated with pulmonary complications including ventilator induced lung injury (VILI) and ventilator associated pneumonia (VAP). Use of clinical tools, such as ventilation settings protocols and VAP prevention bundles are associated with improved patient outcomes. Little is known about the characteristics, availability and use of these clinical tools in the Australian ED context.
This exploratory study will identify and characterise the tools used in EDs, describe the ventilation variables recorded and identify barriers and enablers to the delivery of ventilatory care that minimises risk of pulmonary complications.

Methods: This study will use a mixed methods design informed by the Consolidated Framework for Implementation Research. A national cross-sectional survey will be distributed to clinical leads at EDs that are accredited by the Australian College of Emergency Medicine for clinical training (n=134). Preliminary quantitative data will be reported using descriptive statistics, with thematic analysis of free text responses and document analysis of clinical tools provided.

Significance: Strategies for the initiation of ED ventilation are published within study protocols and in the grey literature, however a formal clinical practice guideline is lacking. Limited ED specific guidelines for VAP prevention exist, with no Australian guidelines or clinical studies identified. A gap exists on what tools or guidelines are being used to inform clinical decisions on initial ventilation settings and VAP prevention. An analysis of clinical tools and guidelines used in Australian EDs will provide insight into the use, availability, and content of these clinical resources. Identification of barriers and enablers to the delivery of clinical care that minimises the risk of pulmonary complications will be used to inform development of a set of key priorities for action.

Alysia Coventry | Nursing

Authors
Alysia Coventry (1,2,3), Marie Gerdtz (2), Elizabeth McInnes (3), Peter Hudson (1,2,4)

1. The Centre for Palliative Care, St Vincent's Hospital, Melbourne, Vic., Australia
2. Department of Nursing, Melbourne School of Health Sciences, The University of Melbourne, Carlton, Vic., Australia
3. Nursing Research Institute, St Vincent's Health Network Sydney, St Vincent's Hospital Melbourne & Australian Catholic University, Australia
4. Vrije University Brussels, Belgium

Abstract: A qualitative study exploring the views of family members' preparing for death in an Australian intensive care unit.
Background: Families of patients who die in an intensive care unit (ICU) are at increased risk of poor psychological outcomes in bereavement. The manner and forewarning of a death may influence families' ability to process and cope with grief. Understanding what factors influence preparedness for death will inform the development of new approaches to support families in their grief and minimise long-term impacts.

Aim: To explore bereaved family members' perspectives on preparing for death during end-of-life care in an adult ICU.

Methods: Exploratory qualitative inquiry using semi-structured interviews with family members of decedents who died in a level 3 public metropolitan ICU. Data were analysed using reflexive thematic analysis.

Results: Twelve bereaved family members participated in interviews that lasted from 23 to 76 minutes (average 45 minutes). Two themes and eight sub-themes were generated. (1) Communication and preparing for an approaching death described family members needs for timely information to address uncertainties, and empathic communication guided by family and patient values, beliefs, and preferences. (2) Tailored support at the end-of-life described care that supported family presence, resolving uncertainties, emotional preparedness, cultural traditions, saying goodbye, and to develop realistic expectations of dying.

Conclusion: Collaborative family-centred communication and tailored support that addressed family members' informational, emotional, and practical needs helped cultivate an environment in which they were best able to manage their uncertainties, expectations, and grief; this appeared to influence preparedness and decrease distress. Communication breakdowns, unanswered questions and feeling abandoned at the transition to end-of-life care may have hindered preparedness.

Kerrie Curtis | Nursing

Authors
Kerrie Curtis1,2,3*, Samantha Keogh4,5 Meinir Krishnasamy1,6,7,8 and Karla Gough6,7

1. Department of Nursing, University of Melbourne, Melbourne, Victoria, Australia.
2. Peter MacCallum Cancer Centre, Melbourne, Victoria, Australia.
3. Austin Health, Melbourne, Victoria, Australia.
4. Queensland University of Technology, Brisbane, Queensland, Australia
5. Royal Brisbane and Women's Hospital, Brisbane, Queensland Australia
6. Department of Health Services Research, Peter MacCallum Cancer Centre, Melbourne, Australia.
7. Sir Peter MacCallum Department of Oncology, University of Melbourne, Melbourne, Australia.
8. Victorian Comprehensive Cancer Centre Alliance, Melbourne, Australia.

Abstract: Central venous access device complications and premature removal in patients with haematological malignancies: a multi-site cohort study
Background & aims: Patients with haematological malignancies require urgent and reliable venous access for the administration of systemic anticancer therapies (SACTs) commonly via central venous access devices (CVADs). Disease pathophysiology and side effects of SACTS increase the risk of complications during the dwell time and premature removal. CVAD complications are associated with treatment disruption, increased morbidity, and mortality. This study aimed to comprehensively describe CVAD performance over a twelve-month period in patients with haematological malignancies.

Methods: A multi-site cohort study at four metropolitan hospitals using multidisciplinary data from patient health records and administrative datasets including patient, device, insertion, maintenance, complication, and removal data. Cases of interest were CVADs, provided by the insertion services.

Results: A total of 1078 CVADs were inserted in 673 patients between 1 September 2020 to 31 August 2021. Of the 1078 CVADs, 197 remained in situ, 881 (82%) were removed, and 369 (42%) were removed prematurely due to infection related (n=208, 57%) and non-infection related reasons (n=201, 54%). Most CVADs (n=919, 85%) had documented complications during their dwell time and the proportion of premature removals in these CVADs was over 2-fold higher than CVADs with no documented complications. Multivariable Cox regression results indicated that CVAD type, urgency of the procedure, concurrent CVADs and insertion technology were associated with an increased risk of premature removal. Clinical variations in insertion and management care throughout the life of a CVAD and current evidence were identified.

Conclusion: An unacceptably high proportion of CVADs had complications documented during their dwell time and were removed prematurely in patients with haematological malignancies. Inconsistencies in current evidence and clinical practice highlight opportunities to positively impact CVAD outcomes in this cohort.

Alisha Da Silva | Physiotherapy

Authors
Alisha A da Silva (1,2), Madeline Cavallaro (1), Mark Merolli (1, 3), Natalie Fini (1), Olivia Metcalfe (3), Catherine L Granger (1,2), Selina M Parry (1)

1. Department of Physiotherapy, School of Health Sciences, The University of Melbourne, Parkville, VIC, Australia
2. The Royal Melbourne Hospital, Parkville, Vic, Australia
3. Centre for Digital Transformation of Health, The University of Melbourne, Parkville, VIC, Australia

Abstract: Environmental scan of intensive care unit (ICU) and post-ICU digital health resources
Background and Aims: Although 90% of people survive intensive care unit (ICU) admission, ICU care delivery is complex, and recovery post-ICU can be confusing to navigate. Digital health resources such as websites, videos and mobile applications exist to help patients understand these concepts. However, they have not been systematically collated and assessed for their quality.
This study aims to use an environmental scan approach to 1) identify existing digital health resources for patients, families and/or clinicians which are focused on supporting ICU recovery (from in the ICU through to community), and 2) evaluate identified resources for content, trustworthiness, suitability, readability and visual aesthetics.

Methods: This environmental scan search will be conducted through the top three most utilised online search engines; GoogleTM, BingTM, YahooTM, the top video-hosting website; YouTubeTM and the top two largest mobile application (apps) stores; Google PlayTM, Apple App storeTM. The search strategy includes search terms from former patients, their families, and clinicians obtained through our prior study and information derived from GoogleTrendTM on search metrics. Resources will be included if they have information on ICU and/or post-ICU recovery. Extracted data will include resource type, country, target audience, content and user engagement statistics. Resources will be evaluated according to the JAMA criteria (trustworthiness), Suitability Assessment Measure (suitability), four readability frameworks and the Visual Aesthetics of Website Inventory (visual aesthetics).

Conclusion: Findings from this environmental scan will identify current resources for ICU and post-ICU and determine the level of quality of existing resources.

Ella Davine | Audiology & Speech Pathology

Authors
Ella C Davine (1), Peter A Busby (1), Sanne Peters (2), Jill J Francis (2), Julia Z Sarant (1)

1. Department of Audiology & Speech Pathology, The University of Melbourne, Carlton, VIC, Australia
2. School of Health Sciences, The University of Melbourne, Parkville, VIC, Australia

Abstract: Barriers and Enablers to Referral of Older Adults to Hearing Care: A Cross-Sectional Questionnaire Study of Australian General Practitioners

Background & Aim: Age-related hearing loss is associated with significant comorbidities and negative impacts on quality of life. Despite this, it is both under-diagnosed and undertreated, with older adults often delaying seeking help for many years. Many older adults will not independently seek hearing assessment. However, the majority visit their General Practitioner (GP) at least once per year, which makes GPs ideally placed to discuss hearing with their older patients. Despite this, rates of referral to hearing care among GPs are extremely low, and only 0.3% of appointments with this age group involve actions relating to hearing.
The aim of this study was to generate an overview of the key barriers and enablers affecting GP referral behaviour in a sample of Australian GPs.

Methods: A cross-sectional questionnaire was designed using the Theoretical Domains Framework and administered to a self-selected sample of 103 Australian (mostly Victorian) GPs.

Results: Environmental issues such as time constraints, costs associated with hearing care, and the availability of local resources were some of the most frequently cited barriers to referral. Identified enablers included positive beliefs regarding the consequences of hearing rehabilitation and having positive personal experience with hearing care and/or its outcomes. Content analysis of write-in responses to the questionnaire yielded some self-reported barriers and enablers which were previously not documented in the published literature.

Conclusion: GP sentiments towards hearing care, and the outcomes of hearing rehabilitation were positive, however logistical concerns and environmental constraints such as a lack of time in appointments were prominent barriers to hearing care referral.

Dilshan Delgama | Audiology & Speech Pathology

Authors
Dilshan Delgama (1), Karyn Galvin (1), Kathleen Gray (2), Jaime Leigh (3) & Karolina Kluk-De Kort (4)

1. Department of Audiology & Speech Pathology, The University of Melbourne, Parkville, VIC, Australia
2. Centre for Digital Transformation of Health, The University of Melbourne, Parkville, VIC, Australia
3. Cochlear Implant Clinic, Royal Victorian Eye and Ear Hospital, East Melbourne, VIC, Australia
4. Division of Psychology Communication and Human Neuroscience, The University of Manchester, Manchester, England

Abstract: Developing a digital technology to meet the support needs of parents of young cochlear implant candidates and recipients

Background & Aim: Approximately 34 million children worldwide experience a hearing loss of more than 35 decibels in at least one ear. Depending on various communication, audiological, and medical assessments, cochlear implants can be recommended for the child. This process poses significant challenges for parents of these children, both during the decision-making stage and in the stages following implantation. Thus, the overall aim of this project is to create a digital tool to support parents during these times.

Methods: Stage 1 involved completing a literature review about the experiences of and potential digital options for parents of children with cochlear implants. Stage 2 of this project involves administering a scoping survey to explore the experiences of parents of young children with cochlear implants and their preferences for a digital tool. Stages 3-5 of this project will involve creating prototypes and exploring parent perspectives, assessing usability, and evaluating the prototypes' applicability in different environments.

Results: Parental challenges during their child's cochlear implantation process include concerns about surgical complications, financial ramifications, potential speech outcomes, device management, and negative societal perceptions surrounding the device. During these times, parents primarily need information and peer support. Other parents caring for a child with a health condition have utilised digital tools to improve practical skills, gain knowledge, or receive peer support. Such tools involve online support groups, telemedicine or mobile apps.

Conclusion: Parents of young cochlear implant candidates and recipients face numerous challenges and require support during this period. Implementing a digital technology can improve their experience and provide the necessary assistance.

Yifu Ding | Optometry & Vision Sciences

Authors
Yifu Ding (1), Phillip Bedggood (1), Andrew Metha (1)

1. Department of Optometry and Vision Sciences, The University of Melbourne, Parkville, VIC, Australia"

Abstract: High-resolution imaging of red blood cell distribution at capillary junctions in the living human retina

Background & Aims: Capillary junctions in neural tissues fine-tune red blood cell (RBC) flow to meet local neurons' metabolic demands. However, the distribution of RBCs across these junctions and their morphological changes during this process remain unclear. This study aims to characterize RBC flow distribution at diverging and converging capillary junctions in the healthy human retina.

Methods: Sixty capillary junctions near the fovea were imaged in 6 adults using a flood-illumination adaptive-optics ophthalmoscope. Cellular flow velocity was computed using pixel intensity cross-correlation. Hematocrit, lumen diameter, intercellular spacing, and cell size estimates were obtained from 2D blood column images. An empirical model was developed to predict RBC flow distribution in minor branches based on blood flow and lumen diameters.

Results: No significant differences were found between converging and diverging junctions. Our empirical model, using fewer predictor variables, outperformed the established Pries model in predicting RBC flow distribution. RBC volume in the major branch of each junction was 7% higher than in the minor branches ($p < 10^{-5}$). This cell volume reduction in minor branches corresponded with a 2.0 ± 1.2 μm increase in intercellular spacing ($p < 0.01$) and a 3.2 ± 1.5% decrease in hematocrit ($p < 10^{-4}$), suggesting that RBCs in the feeding branch release water into the plasma when transitioning to narrower minor branches and reabsorb water as they enter the collecting branch.

Conclusion: This study provides the first non-invasive in vivo RBC partitioning data at the capillary level. Changes in cell volume and intercellular distance as RBCs traverse capillary junctions may optimize metabolite exchange.

Francyne Finlayson | Physiotherapy

Authors
Francyne Finlayson (1,3), Professor Alicia Spittle (1,3), Dr Joy Olsen (2,3), Professor Louisa Remedios (1,4)

1. The University of Melbourne, 161 Barry St, Carlton, VIC, Australia
2. Murdoch Children's Research Institute, 50 Flemington Rd, Parkville, VIC, Australia
3. The Royal Women's Hospital, 20 Flemington Rd, Parkville, VIC, Australia
4. Federation University Australia, Building 5N, Gippsland Campus, VIC, Australia

Abstract: Maternal experiences of supporting their preterm infant's development in the first two years of life

Background and Aims: Children born very preterm, < 32 weeks' gestation, often require admission to NICU, which can be a stressful time for mothers. Previous research describes that mothers experience stress, anxiety, depression and grief which can impact parent-infant interactions. We aim to explore the mother's ability to support their child's development in the first two years of life.

Methods: A qualitative study using hermeneutic phenomenological methodology, reflexive thematic analysis as described by Braun and Clarke, employing semi-structured interviews.

Results: 9 mothers were interviewed from a previous early intervention for very preterm infants randomised controlled trial (Finlayson et al, 2020). 3 themes were established: 1) Internal systems with mothers, 2) External systems from healthcare setting, and 3) External systems from the community. Theme one had five subthemes: hypervigilance and responsibility, personal and professional backgrounds, emotional journey, optimism and reaching "normal". Theme two had three subthemes: importance of early intervention, reliance on healthcare professionals, and knowledge and resources available. Theme three had two subthemes: family, partner and siblings, and peers with shared lived experience.

Conclusion: The lived experience of mothers supporting their preterm infant's development is variable and can be influenced by emotional predispositions and choice of coping strategies, life experiences prior to NICU admission, social supports and support from healthcare professionals.

Reference

Francyne Finlayson, Joy Olsen, Stacey C. Dusing, Andrea Guzzetta, Abbey Eeles, Alicia Spittle (2020). Supporting Play, Exploration, and Early Development Intervention (SPEEDI) for preterm infants: A feasibility randomised controlled trial in an Australian context. Early Human Development, 151.

Sara Gallow | Physiotherapy

Authors
Sara Gallow (1,2), Jennifer McGinley (1), John Olver (2), Dean McKenzie (2) & Gavin Williams (1,2)

1. Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia
2. Department of Rehabilitation, Epworth HealthCare, Richmond, VIC, Australia

Abstract: Exercise-induced symptom exacerbation in moderate-to-extremely severe traumatic brain injury

Background & Aims: In contrast to concussion and mild traumatic brain injury (TBI), there are no explicit guidelines for safe resumption of cardiorespiratory fitness (CRF) or high-level mobility (HLM) in moderate-to-severe TBI. The incidence of exercise-induced symptom exacerbation and adverse events (AEs) in the early sub-acute phase of recovery (≤ 3 months post injury) in this population remains unclear. Hence, the aim of this study was to determine the incidence of exercise-induced symptom exacerbation and AEs during CRF and HLM in the early sub-acute phase of recovery following moderate-to-severe TBI.

Methods: Consecutive admissions to a TBI inpatient unit were screened for recruitment. One hundred fifty eligible and consenting participants undertook CRF assessment, HLM assessment or both for a total of 206 testing sessions. Symptom ratings were recorded pre/post assessment on a 22-item, seven-point Likert scale. A summed symptom severity score (SSS) was calculated, with an increase ≥ 10 points classified as symptom exacerbation.

Results: Exercise-induced symptom exacerbation occurred in two participants. One AE, a fall, occurred during a HLM testing session. Sixteen of 139 CRF sessions resulted in a SSS reduction ≥ 10 points. Nine of 67 HLM sessions resulted in a SSS reduction ≥ 10 points.

Conclusion: CRF and HLM assessment in the early sub-acute phase of recovery following moderate-to-severe TBI appears to be safe, with low rates of symptom exacerbation and AEs identified in this study. Participants were more likely to show a significant improvement in SSS post CRF and HLM assessment than an exacerbation of symptoms.

Sera Ganearachchi | Optometry & Vision Sciences

Authors
Sera N Ganearachchi (1), Vickie H Wong (1), Pei Ying Lee (1), Christine T Nguyen (1), Da Zhao (1) & Bang V Bui (1)

1. Department of Optometry & Vision Sciences, The University of Melbourne, Parkville, VIC, Australia.

Abstract: Optic nerve sheath pressure lowering exacerbates the effect of acute and chronic IOP elevation in rat.
Purpose: Low optic nerve sheath pressure (ONSp) may be a factor in the development of glaucoma. This study considers whether ONSp lowering via fenestration in a rat model affects in vivo tissue response to acute or chronic intraocular pressure (IOP) elevation.

Methods: Adult Long Evans rats underwent optic nerve sheath fenestration (n=6) in the acute study, where both fenestrated and control (naive and sham-operated, n=6/group) eyes underwent stepwise IOP elevation (10-80mmHg). In the chronic study, all animals (n=10/group) had circumlimbal suture (8/0) placement in one eye to induce ocular hypertension (OHT). The control ocular hypertension (C-OHT) group eye only underwent the suture placement, but the fenestrated and sham group eyes had the suture and underwent fenestration (F-OHT) or a sham-fenestration procedure (SF-OHT). IOP was measured weekly, and optical coherence tomography (OCT) and electroretinography (ERG) were conducted at weeks 4 and 8. Data (mean±SEM) were compared across groups in both studies using 2-way repeated measures ANOVA.

Results: In the acute study, all groups showed significant retinal compression with stepwise IOP elevation, an effect significantly greater in the fenestrated group ($P<0.01$). In the chronic study, the F-OHT group showed greater ($P<0.05$) retinal thinning compared to controls after 4 (controls -2.3±5.5% vs F-OHT -18.3±5.2%) and 8 weeks of IOP elevation (controls -3.3±5.1% vs F-OHT -24.8±6.9%). Fenestration resulted in significantly greater functional deficits with chronic IOP elevation (pSTR -61.8±10.4%, b-wave -29.6±3.6%, a-wave 26.2±4.8%).

Conclusions: These data provide evidence that low ONSp exaggerates the biomechanical impact of acute IOP elevation, and greater ganglion cell injury with chronic IOP elevation.

Elena Gerstman | Physiotherapy

Authors
Elena Gerstman (1,2,3), Jennifer Jones(1,2,3), Chris Michael(4), Sue Berney (1,2), Karin Thursky (2), David J Berlowitz (1,2,3)

1. Physiotherapy Department, Division of Allied Health, Austin Health, Heidelberg, Australia
2. University of Melbourne, Parkville, Australia
3. Institute of Breathing and Sleep, Heidelberg, Australia
4. Business Intelligence Unit, Austin Health, Heidelberg, Australia

Abstract: Exploring the characteristics, outcomes and clinician perspectives of complex general medicine patients – a cohort and survey

Background and Aims: Patients who are “complex” experience poorer outcomes for inpatient care, yet there is no objective means to identify this group. To address complexity at our health service, patients deemed to have complex allied health needs in general medicine are referred to a specialist transdisciplinary allied health pathway. We aimed to build an integrated clinical and digital picture of those patients clinically identified as complex by examining their characteristics and outcomes, and by developing a list of words that clinicians associate with allied health complexity.

Methods: Two studies were performed in general medicine at a quaternary hospital in Melbourne, Australia: 1) a cross-sectional survey of clinicians; 2) a retrospective observational cohort study of all patients admitted over a 10-month period. We compared the demographics, clinical features and outcomes of a complex and non-complex cohort of patients.

Results: In the general medicine cohort (n=3061), 328 (11%) were identified as complex and referred for the complex pathway. The complex cohort were frail, significantly older, more multimorbid and more likely to have cognitive impairment and multiple previous admissions than non-complex patients. Complex patients stayed longer in hospital and had increased mortality and re-admissions ($p<0.01$). Survey participants (n=80) including allied health (50%), medical (31%) and nursing (19%), generated a dictionary of 18/37 words that describe a complex patient in the progress notes.

Conclusion: Frailty, cognitive impairment, age and high hospital utilisation were associated with allied health complexity. Combining clinical and demographic data with natural language processing of “complexity descriptors” may provide for early algorithmic prediction of patients likely to benefit from complex care pathways.

Melissa Gibbs | Social Work

Authors
Melissa Gibbs, David Rose & Lou Harms

1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia
2. Faculty of Medicine, Dentistry and Health Sciences
3. The University of Melbourne, Victoria 3010 Australia

Abstract: Examining Millennial Wellbeing in Australian Workplaces
Background & Aims: Embracing diversity, including generation, is vital. Millennials, set to comprise 75% of the global workforce by 2025, have shifted workplace dynamics with their 'live to work' ideology and emphasis on wellbeing. Workplaces are essential for creating livelihood, purpose, and connection, significantly contributing to better health outcomes. Given the symbiotic relationship between organisational health and employee wellbeing, workplaces are critical for preventing and intervening in mental ill-health. This PhD research acknowledges the pervasive impact of mental ill-health, burnout, work-related stress, and psychological distress among employees. It aims to extend the current literature on promoting Millennials' workplace wellbeing, advocate for structural reform and further research.

Methods: A five-stage scoping review explored existing literature on promoting Millennial workplace wellbeing, identifying 12 articles and nine themes: positive relationships at work, positive emotions, manageable workload, autonomy, meaningful work, engagement, acceptance, leadership, and work-life balance. These themes informed an anonymous online survey targeting Millennial employees in Australia, covering demographics, mental health and wellbeing (using K10 and SWLS measures), work experiences, and recommendations for workplace wellbeing.

Results: N = 175 Millennials, predominantly female (68%), represented by various industries, with significant numbers in education (18%) and community health and social assistance (19%) participated. Preliminary analysis revealed detrimental effects of bullying and job insecurity, alongside barriers such as high job demands, low recognition, and poor leadership support. Conversely, a positive workplace culture, meaningful work, fair salaries, and supportive leadership enhanced wellbeing.

Conclusion: The findings underscore the need for multifaceted interventions within organisational contexts, prompting structural reforms and further research to benefit the broader workforce.

Renee Gill | Physiotherapy

Authors
Renée N Gill (1,2) Megan Banky (1,2), Zonghan Yang (2), Pablo Medina Mena (1), Chi Ching Angie Woo (1), Adam Bryant (2), John Olver (1,3), Elizabeth Moore (1) Gavin Williams (1,2)

1. Department of Physiotherapy, Epworth Rehabilitation, Epworth Healthcare, Melbourne, Australia.
2. Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia.
3. Department of Medicine, Monash University, Melbourne, Australia.

Abstract: The effect of Botulinum Neurotoxin-A (BoNT-A) on muscle strength in adult-onset neurological conditions with focal muscle spasticity. A Systematic Review.
Background and aims: Botulinum neurotoxin-A (BoNT-A) injections are a common and effective treatment modality for focal spasticity. However, the impact on muscle strength is not established. This study aimed to investigate the effect of BoNT-A injections on muscle strength in adults with neurological conditions.

Methods: A literature search of eight databases was completed in March 2024. The methodology and reporting of results were performed following PRISMA guidelines and registered with PROSPERO (CRD42022315241). Article quality was assessed using the modified Downs and Black checklist and PEDro scale. Pre/post-injection agonist, antagonist and global muscle strength outcomes at short, medium, and long-term time points were extracted for analysis.

Results: The search identified 8,536 studies (duplicates removed); 54 met the inclusion criteria and were rated as fair-quality evidence. Only 21 studies were included in the analysis as they reported muscle strength specific to the muscle injected. Most study results (≥74%) demonstrated no change in agonist muscle strength after BoNT-A injection. Meta-analysis was precluded due to the heterogeneity of studies and outcome measures. The most common outcome measure was the Medical Research Council scale. Most studies reported outcomes within six weeks post-injection, with few reporting long-term results (i.e., > three months).

Conclusion: Overall, the impact of BoNT-A on muscle strength remains inconclusive.

Bhaj Grewal | Optometry & Vision Sciences

Authors
Bhajandeep K. Grewal (1, 3), Lauren N. Ayton (1, 2, 3), Alexis Ceecee Britten-Jones (1, 2, 3), Andrew B. Metha (1), Phillip A. Bedggood (1).

1. Department of Optometry and Vision Sciences, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Parkville, VIC, Australia
2. Department of Surgery (Ophthalmology), Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Parkville, VIC, Australia
3. Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia

Abstract: Adaptive Optics as a Clinical Trial Endpoint for PRPF31 Mutation Associated Retinitis Pigmentosa
Background: Inherited retinal disease (IRD) is a term that encompasses a heterogeneous group of retinal diseases which can cause progressive vision loss. With advancements in treatments for IRDs, there is a growing need for accurate and effective outcome measures to assess treatment success. Adaptive optics scanning laser ophthalmoscopy (AOSLO) offers an objective, cellular-level outcome measure. At the University of Melbourne, a custom-built AOSLO with capabilities to image various channels and depths of the retina using confocal and non-confocal imaging techniques provides detailed information on the integrity of cone cell outer and inner segments respectively.

Aims: We aim to identify novel clinical outcome measures using AOSLO. The study will measure the rate of disease progression using cone density metrics and investigate potential differences in cone density and spacing between outer and inner segments of cones. Demonstrating the presence of inner segments despite the absence of waveguiding outer segments will indicate residual cell activity. These images will be co-registered with functional tests like visual field testing to evaluate the viability of the remaining inner cone segments.

Methods: A longitudinal study will be conducted on five participants with PRPF31 mutation-associated retinitis pigmentosa using a custom-built AOSLO at the University of Melbourne. Cone metrics, such as cone density, will be used to track changes over time. AOSLO images will be co-registered with microperimetry data.

Results: One participant with PRPF31 mutation-associated retinitis pigmentosa has been successfully imaged with AOSLO.

Alisha Isaac Gudkar | Audiology & Speech Pathology

Authors
Alisha Isaac Gudkar (1,2), Xuehan Zhou (1,2), A/Prof Dani Tomlin (1), Dr Antje Heinrich (2), Dr Grace Nixon (1), Dr Helen Gurteen (3), Dr Kelly Burgoyne (2), Prof Harvey Dillon (2,4)

1. Department of Audiology & Speech Pathology, The University of Melbourne, Parkville, VIC, Australia
2. Manchester Centre for Audiology and Deafness (ManCAD), The University of Manchester, UK
3. University of Queensland, QLD, Australia
4. Macquarie University, NSW, Australia

Abstract: The relationship between auditory processing, speech, language, and cognition in children with Listening Difficulties.
Background: Children are referred to Audiology clinics for various reasons, including suspected auditory processing disorder and "listening difficulties". Listening difficulty is an umbrella term describing atypical difficulty in sound recognition or speech understanding, potentially caused by deficits in auditory processing, speech, language, cognitive, and/or hearing ability. This study aims to examine the relationship between these abilities in children with reported listening difficulties and determine how to appropriately differentiate and diagnose contributing factors, allowing for relevant management to improve overall learning and listening outcomes.

Methods: The study included children aged 6.00 to 12.99 years with suspected listening difficulties, presenting challenges such as speech understanding in noisy environments and auditory processing deficits. Normal hearing thresholds were established using Pure Tone Audiometry. Participants underwent assessments for auditory processing, language, speech, cognition, and reading skills using newly developed and existing tests. Parents completed the Auditory Processing Domains Questionnaire.

Results: Significant associations were found between auditory closure abilities, short-term memory capacity, and performance on the ToLD-U test. Higher performance on AudiCloze and DigiSpan Forward tasks correlated with higher ToLD-U scores, indicating that superior auditory closure abilities and short-term memory capacity may contribute to better speech understanding in noisy environments.

Discussion: Findings align with existing literature, indicating that auditory processing deficits may contribute to listening comprehension challenges. The study offers valuable insights for both clinical assessment and intervention strategies. Assessing auditory closure abilities and short-term memory capacity can provide insights into the underlying cognitive processes contributing to listening difficulties in children.

Conclusion: The study highlights the interplay between auditory and cognitive abilities in children with suspected listening difficulties. By identifying significant associations between these abilities and performance on speech understanding in noise tests, this research emphasizes the importance of comprehensive assessments in evaluating and managing listening difficulties. Integrating such assessments into clinical practice can enhance the development of targeted intervention strategies, ultimately improving outcomes for children struggling with listening challenges.

Claire Hackett | Physiotherapy

Authors
Claire Hackett (1,2), Linda Denehy (2,3), Peter Kruger (1,4), Ianthe Boden (2,5,6)

1. Princess Alexandra Hospital, Brisbane, QLD, Australia
2. Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia
3. Peter MacCallum Cancer Centre, Melbourne, VIC, Australia
4. University of Queensland, Brisbane, QLD, Australia
5. University of Tasmania, Launceston, TAS, Australia
6. Launceston General Hospital, Launceston, TAS, Australia

Abstract: PHYSIO+++: Physio-led non-invasive ventilation for hypoxaemia following abdominal surgery: a pilot randomised trial.
Background and Aims: Minimal research is available to guide the physiotherapy management of patients who develop hypoxaemia following abdominal surgery. This study aimed to assess the feasibility and safety of physiotherapist-led non-invasive ventilation (NIV).

Methods: Adults who developed hypoxaemia (blood oxygen <90%) following major abdominal surgery were randomised with concealed allocation to a parallel-group, assessor-blinded, pilot, feasibility, randomised trial. Participants received either, (i) usual care physiotherapy of a single education session, daily walking of 10-15 minutes and four sessions of coached deep breathing and coughing, or, (ii) usual care physiotherapy plus four 30-minute sessions of physiotherapist-led NIV delivered over two days. Primary outcomes included recruitment rate, total NIV time delivered, adverse events and acceptability of receiving NIV to participants. Secondary outcomes included Intensive Care Unit (ICU) re/admission and mortality.

Results: 50 participants were recruited (control=25 intervention=25) with a mean age of 62 (SD 10), 51% male, with 30 (61%) having a postoperative pulmonary complication diagnosis on enrolment. 49 were analysed using intention to treat. Trial recruitment rate was 1.7 participants per week. Total mean NIV time delivered was 78 (SD 54) minutes. NIV was rated acceptable by 20 (91%) participants. Transient physiological events occurred in two (3%) NIV sessions. ICU re/admission did not differ between groups (4%). Mortality occurred in one participant (2%).

Conclusion: A trial of physiotherapist-led NIV in this hypoxaemic surgical cohort was feasible, safe, and acceptable. These results are a crucial step towards future trial design to test the effectiveness of physiotherapy interventions to reverse postoperative hypoxaemia.

Isha Hariname | Audiology & Speech Pathology

Authors
Isha Hariname (1), Dani Tomlin (1), Kelley Graydon (1), Grace Nixon (1)

1. Department of Audiology and Speech Pathology, The University of Melbourne, Parkville, VIC, Australia

Abstract: Impostor Phenomenon: Prevalence, Impact and Intervention
Background: The impostor phenomenon (IP) is characterized by feelings of intellectual fraudulence despite clear evidence of success. Individuals with IP fear being exposed as “frauds” and often attribute their achievements to luck. These feelings are more prevalent among individuals belonging to underrepresented gender and ethnic groups. Prolonged experiences of IP are linked to negative outcomes like fatigue, burnout, anxiety and depression. These feelings intensify during major life transitions such as moving from undergraduate to graduate studies. Recent studies have reported that approximately 40% of graduate healthcare students experience IP, particularly during clinical placements and examinations. IP in university students can impact learning experience, self-efficacy skills, personal wellness and increase dropout rates. Therefore, assessing its prevalence and providing interventions to reduce IP is imperative.

Aims:

- To assess the IP prevalence in health science students.
- To evaluate the relation between IP and student self-efficacy.
- To compare levels of IP between international and domestic students.
- To develop and implement an interactive workshop to mitigate IP.

Methods: All currently enrolled health science students will be invited to complete a 15-minute online survey derived from Clance Impostor Phenomenon Scale (CIPS) and the Employable Skills Self-Efficacy Scale (ESSE) to measure levels of IP and self-efficacy of employable skills. After which Masters of Clinical Audiology students will be invited to participate in a non-compulsory workshop, which will include a brief didactic on IP, its impact and strategies to address it. A post-workshop evaluation will also be conducted.

Results & Conclusion: Survey results will be analysed to determine the prevalence of IP among health science students and potential differences between domestic and international students. The study will also evaluate the impact of IP on self-efficacy skills, as well as measure any changes in the survey responses after the workshop.

Sofia Hatzipashalis | Social Work

Authors
Sophie Hatzipashalis (1), Professor Louise Harms (2), Dr Lauren Kosta (1), Professor Peter Hudson (3, 1)

1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia
2. The University of Melbourne, Parkville, VIC, Australia
3. Director Centre for Palliative Care.

Abstract: Examining Health Care Workers Perspectives of Suffering in Non-English Speaking Patients Living With Advanced Cancer.
Background & Aims: Palliative care aims to relieve suffering and improve the quality of life for individuals diagnosed with a life-threatening illness. In Australia, cancer is one of the leading causes of death in the country. The experience of cancer can lead to physical, psychological, social or spiritual forms of suffering. Individuals from culturally and linguistically diverse backgrounds (CALD), who have limited English proficiency, face additional challenges. This includes significant language and communication issues. To date there has been limited research focusing on the experiences of this population group and the health care workers (HCWs) looking after them. This research is part of a larger study that will also explore the experiences of suffering from non-English speaking (NES) patients themselves. Aim- To examine HCW's perspectives of suffering for non-English speaking patients living with advanced cancer.

Methods: This study employs a qualitative research design. A purposive sampling strategy was used to recruit 17 HCWs working on a specialised palliative care ward in Metropolitan Melbourne. HCWs came from a background of either dietetics, medical, nursing, social work, spiritual care or physiotherapy. Data were collected via semi structured interviews, transcribed and thematically analysed to address three

Research Questions: 1.How do healthcare workers describe the suffering they see? 2. What perceived impact does language have on the suffering of NES patients? What suggestions are identified as helping to relieve this suffering? Significance-Findings from this research will help inform clinical practice via recommendations to key stakeholders on service improvement.

Meredith Heily | Nursing

Authors
Meredith Heily (1,2), Marie Gerdtz (2), Rebecca Jarden (2,3), Celene Yen Yap (2), Rinaldo Bellomo AO, (1,3,4)

1. Intensive Care Unit, The Royal Melbourne Hospital, Parkville, VIC, Australia
2. Department of Nursing, MSHS, University of Melbourne, Carlton, VIC, Australia
3. Department of Nursing Research, Austin Hospital, Heidelberg, VIC, Australia
4. Department of Critical Care, University of Melbourne, Carlton, VIC, Australia

Abstract: Anaesthetic emergence agitation after adult cardiac surgery: a single-centre longitudinal observational study
Background: Anaesthetic emergence agitation is a serious complication in the non-cardiac surgery population. It had not been reported or described for adults in the Intensive Care Unit (ICU) emerging from general anaesthetic after invasive cardiac surgery.

Aims: Identify, characterise and quantify anaesthetic emergence agitation after adult cardiac surgery.

Methods: Anaesthetic emergence in the ICU was defined as the timeframe between cessation of anaesthetic until the patient was alert and safely extubated. Emergence agitation was benchmarked as a Richmond Agitation Sedation Scale of > +2. The Phase One pilot study, February 2021, directly observed patients as they underwent anaesthetic emergence. Phase Two utilised and refined the resulting variables to review medical records for patients admitted from March 2021 – December 2023.

Results: Phase One: 24/50 patients (48%) developed emergence agitation. Outcomes included associated unstable clinical features ($p < .001$). Phase Two: 204/700 (29%) of patients developed emergence agitation (95% CI .559 - .722 $p < .001$). Compared to patients with non-agitated emergence, emergence agitation was associated with increased mechanical ventilation (median difference seven hours; HR .506, 95% CI .427-.599, $p < .001$), longer ICU stay (median difference 22 hours; HR .684, 95% CI .580-.806, $p <.001$) and higher risk of postoperative complications (144/204, 70.6%), compared to 263/496 (53%), OR 2.126, 95% CI 1.500 – 3.014, $p < .001$.

Conclusions: Patients who developed emergence agitation had a higher risk of longer ventilation, ICU stay and more complications. This impacted on postoperative clinical workforce requirements and patient flow through ICU.

Sarah Horton | Audiology & Speech Pathology

Authors
Sarah E Horton (1,2), Daisy A Shepherd (1,3), Stephanie Siemers (1), Ingrid E Scheffer (1,3,5,6), Adam P Vogel (2,7) & Angela T Morgan (1,2,4)

1. Murdoch Children's Research Institute, Parkville, VIC, Australia
2. Department of Audiology and Speech Pathology, The University of Melbourne, Parkville, VIC, Australia
3. Department of Paediatrics, The University of Melbourne, Parkville, VIC, Australia
4. Royal Children's Hospital, Melbourne, Australia
5. Epilepsy Research Centre, Department of Medicine, The University of Melbourne, Austin Health, Heidelberg, VIC, Australia
6. Florey Institute of Neuroscience and Mental Health, Parkville, VIC, Australia
7. Redenlab Inc. Melbourne, VIC, Australia

Abstract: Variability of stuttering: implications for clinical outcome measurement
Background and Aims: Stuttering varies across speaking tasks and situations. Although people who stutter cite stuttering variability as one of the most frustrating aspects of the condition, it has rarely been recorded directly. We aimed to: measure stuttering variability across a single day and over 4 weeks; investigate the impact of variability on experience of stuttering; and investigate the influence of fatigue and speaking task on stuttering.

Methods: 70 people who stutter (45 male; 10–85 years) completed 9 speech recordings and an impact of stuttering survey. Recordings 1–5 took place across one day, and recordings 6–9 took place over 4 weeks. Participants rated fatigue and stuttering severity at each recording. Speech pathologists rated stuttering severity and calculated coefficients of variation to evaluate individual variability.

Results: For most participants (>85%), stuttering severity varied between 0–4 points (median=2) on the 10-point stuttering severity scale across a single day, and 0–3 points (median=1) over 4 weeks. Fewer participants (<15%) varied up to 7 points in one day, and 6 points over 4 weeks. Associations were found between individual variability and negative impact of stuttering, as well as self-reported fatigue and stuttering severity.

Conclusion: Some participants' stuttering ranged from "mild" to "severe," even when speaking task and time of day were held constant. Speech pathologists should be careful not to over- or under-state the efficacy of stuttering interventions solely based on change in individual stuttering severity. Speech pathologists should also consider support for clients negatively impacted by stuttering variability.

Tegan Howell | Audiology & Speech Pathology

Authors
Tegan Howell (1,2), Libby Smith (1), A/Prof Shani Dettman (2), A/Prof Valerie Sung (1,3,4)

1. Murdoch Children's Research Institute, Centre for Community Child Health, 3052, Parkville, Australia
2. University of Melbourne, Department of Speech and Audiology, 3052, Parkville, Australia
3. University of Melbourne, Department of Paediatrics, 3052, Parkville, Australia
4. Murdoch Children's Research Institute, Royal Children's Hospital, 3052, Parkville, Australia

Abstract: Information and communication options provided to families during the diagnostic journey

Background: Hearing loss can limit a child's exposure to spoken language, leading to language deprivation and lifelong consequences. Despite EHDI guidelines, deaf and hard of hearing (DHH) children's language outcomes fall below their hearing peers, with no guarantee they can access spoken language. Early adoption of sign language can address this, but research shows a low uptake of Auslan, even after changes to funding and access to services. Past research indicates that there is a lack of consistent and sufficient information available to assist parents in making decisions.

Aim: To determine the type and delivery of communication information provided to families of DHH children at the time of diagnosis.

Methods: This is a cross-sectional study of participants from the Victorian Childhood Hearing Longitudinal Databank (VicCHILD), a statewide database of DHH children with permanent hearing loss.
The VicCHILD participants were sent an online REDCap survey, which asked them about their demographic information, including child and parent factors, communication information they received, and their experiences with the health professionals. They were also asked about the communication approaches their DHH child uses now or has used in the past.

Conclusion: The preliminary results show that families received different types of communication information during the diagnostic journey. Some were discouraged from using sign language, despite current evidence to the contrary. The information given to families varied depending on factors such as the parents' hearing status. Further research is necessary to understand how these factors influence parents' decisions for their DHH child.

Jasmin Isobe | Social Work

Authors
Jasmin Isobe (1), Gemma McKibbin (1), Cathy Humphreys (1), Georgina Heydon (2)

1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia
2. School of Global, Urban and Social Studies, RMIT University, Melbourne, Victoria, Australia

Abstract: Accountabilities in (inter)action: A critical interpretive synthesis of intimate partner violence discursive practices

Background and Aims: The need for consistent messaging regarding accountability for intimate partner violence has been highlighted across health, human service, and criminal justice systems. Linguistic and discursive practices constructing accountability have not been closely examined across these systems at individual and organisational levels. This study aims to contribute to this gap by exploring linguistic and discursive practices used by practitioners and people with lived experience of violence in health service and criminal justice settings.

Methods: Critical Interpretive Synthesis methodology was used to conduct a review of research literature. A structured search of eight databases was complemented by manual searching and reference chaining. Forty-three articles were reviewed using a dialogic framework of subjectivity, languages and practice towards the development of a synthesising argument: accountabilities in (interaction).

Results: Practices used by practitioners and people with lived experience primarily focused on lack of or avoidance of accountability for violence. However, evidence of strategies to disrupt harmful constructions of intimate partner violence was also found. These findings point towards opportunities for intentional, gender- and violence-informed use of language to better uphold accountability of both people using violence and the systems set up to address violence.

Conclusion: Findings from this review provide signposts for service sectors addressing intimate partner violence at individual, organisational, and sector levels. They also provide insight into interactional aspects of practice with a potential for reflection and positive collaborative development.

Sara Issak | Physiotherapy

Authors
Sara Issak (1,2), Gavin Williams (1,2), Richard A. Kanaan (3), Natalie A. Fini (2), Glenn Nielsen (4)

1. Department of Physiotherapy, Epworth Healthcare, Melbourne, Australia;
2. Department of Physiotherapy, Melbourne School of Health Sciences, The University of Melbourne, Victoria, Australia;
3. Department of Psychiatry, University of Melbourne, Austin Health, Victoria, Australia;
4. Neurosciences Research Centre, Molecular & Clinical Sciences Research Institute, St George's, University of London, London, UK.

Abstract: The stability of Functional Gait Disorders over time: A longitudinal observational study.
Background: Functional neurological disorder (FND) is a debilitating condition which causes neurological symptoms due to altered nervous system signaling. A common problem in FND is altered walking, often termed a functional gait disorder (FGD). People with FGD also experience co-occurring motor and non-motor symptoms, such as tremor, dystonia, pain or fatigue. It is unclear if people with FGD experience relapses or remissions, in both their gait limitations and these co-occurring symptoms.

Aims: The aim of this study was to explore the stability of gait limitations in people with FGD over a 12-month period.

Methods: An online survey of eligible participants with a formal diagnosis of FND and altered walking was completed. Respondents repeated surveys at baseline, 3, 6- and 12-month time points.

Results: One hundred and fifty-six respondents completed the baseline survey with n = 71 completing one follow-up survey at either 3,6 or 12month timepoints, n= 40 completing surveys at 2 time-points, and n = 38 completed surveys at 3 time-points. No respondents completed all 4 time-points (i.e. baseline and 3,6,12 months). Analysis of self-reported gait limitations at 3- and 6-month timepoints (n=49) showed that 36.7% reported worsening, 36.7% reported no change, and 26.5% reported improvement. At 12-months (n=56), 41.4% reported worsening, 30.3% no change and 28.5% reported improvements. Further analyses of the stability of co-occurring motor and non-motor symptoms are underway.

Conclusion: This longitudinal study found that a large portion of people with FGD experience gait deterioration, which may indicate a relapsing nature to the condition.

Negin Jalilinejad | School of Physics, Faculty of Science

Authors
Negin Jalilinejad (1), Bryony Nayagam (2), Steven Prawer (1), Yair David Joseph Prawer (3) & Wei Tong (1)

1. Department of Physics, The University of Melbourne, Parkville, VIC, Australia
2. Department of Audiology & Speech Pathology, The University of Melbourne, Parkville,VIC, Australia
3. Department of Anatomy and Physiology, The University of Melbourne, Parkville, VIC, Australia

Abstract: An in vitro co-culture model for advancing the testing of potential glial scarring of neural implants

Background & Aims: Despite decades of extensive research, developing electrode arrays still faces a critical hurdle—limited functional lifetime. A barrier-like glial scar encapsulates the implant over time, affecting its ability to record and generate signals. Therefore, understanding the mechanism, variability, and regulation of cell-mediated responses is vital. While in vivo models provide extensive insights, developing reliable in vitro models remains a priority for advancing brain implant testing.

Methods: As the resident immune cells, microglia immediately react to the presence of a foreign body and activate non-neuronal glial cells. Peripheral blood cells, such as macrophages, are also recruited and contribute to the tissue response. Here, an in vitro model was investigated by combining a neuron-glia culture model with iPSC-derived macrophages. First, primary rat cortical cells were cultured and gradually adapted to the co-culture media. The cells were then co-cultured with mature macrophages. Pieces of platinum wire were also introduced to the cultures. Cells were visualized by anti-GFAP and anti-IBA1 immunostaining. To compare the cells' responses, the intensity profile of the scar around the wire was measured.

Results: The co-culture group was compared with cortical cells cultured alone as a control. Moreover, to study the effect of co-culture media separately, cortical cells were also cultured in the co-culture media. Interestingly, the results from the co-culture group showed a significantly ($p < 0.01$) higher scar index and scar thickness around the wire.

Conclusion: This in vitro model of the co-culture could potentially mimic in vivo glial scarring. Therefore, such co-cultures could be used to further study the glial scarring process.

Cecilia Judge | Social Work

Authors
Cecilia Judge (1,2), Lyndal Hickey (2), Nicola Wylie (1,2) & Lou Harm
1. Social Work Department, The Royal Women's Hospital, Parkville, VIC, Australia
2. Social Work Department, The University of Melbourne, Parkville, VIC, Australia

Abstract: Experience of maternity care for people pregnant after previous pregnancy loss
Background: Parents who lose their baby due to late term stillbirth, medical termination or neonatal death need to navigate a significant life-event that is shrouded in stigma and isolation. Many of these parents will re-conceive another pregnancy within 12-18 months. Evidence suggests that this cohort can experience significant distress in subsequent pregnancies including higher rates of anxiety, depression, post-traumatic stress syndrome and delayed attachment. Additionally, aspects of antenatal care can trigger distress or provoke conflicting emotional responses. However, there is little in the way of clinical guidelines or recommendations to guide appropriate psychosocial care for those pregnant after loss. This study aims to explore and analyse the care experiences of patients who received care at The Royal Women's Hospital, Melbourne (RWH), for pregnancies subsequent to a late-term reproductive loss or neonatal death.

Methods: It is a qualitative study using a phenomenological framework and thematic analysis. 15 patients who have previously experienced a late term reproductive loss at 20 weeks gestation or later, or neonatal death, within the last 10 years and had their maternity care for a subsequent pregnancy at RWH will be recruited for semi-structured interviews. Those who are under 18years of age, non-English speaking or unable to give informed will be excluded from the study.

Results: Data collection is ongoing and is hoped to conclude in late 2024.

Conclusion: Findings will help to inform clinical care, improve the healthcare experience for this patient group, build evidence-based practice and inform the development of the new Pregnancy After Loss Clinic Antenatal Clinic at RWH.

Sam Kayll | Physiotherapy

Authors
Samual A Kayll (1), Rana Hinman (1), Adam Bryant (1), Kim Bennell (1), Patrick Rowe (1) & Kade Paterson (1)

1. Centre for Health, Exercise and Sports Medicine, Department of Physiotherapy, School of Health Sciences, Faculty of Medicine Dentistry & Health Sciences, The University of Melbourne, Melbourne, Victoria, Australia

Abstract: Can we go wrong telling adolescents with kneecap pain to get strong? A cross-sectional study comparing isometric strength between adolescents with and without kneecap pain.
Background and Aims: One in three adolescents will be diagnosed with patellofemoral pain (PFP) (i.e., kneecap pain). Strength training of the muscles that surround the kneecap is recommended as first line treatment in clinical practice guidelines. However, there is limited research investigating the differences in strength between adolescents with and without patellofemoral pain. We aimed to determine whether adolescents with patellofemoral pain have reduced lower limb strength compared to pain-free controls.

Methods: Thirty-five adolescents with patellofemoral pain (age = 16.8, F = 16) and thirty-five age and sex matched controls participated in this study. Isometric strength of the knee extensors and flexors and the ankle plantar and dorsi flexors was evaluated using an isokinetic dynamometer. Independent t-tests were used to evaluate the differences in strength between the two groups.

Results: Adolescents with kneecap pain had significantly lower knee extensor strength (PFP = 2.27 Nm/Kg, Controls = 2.60 Nm/Kg; p = .02). However, no differences were found for knee flexion, ankle dorsi or plantar flexion.

Conclusion: Adolescents with kneecap pain have reduced knee extensor strength when compared to age and sex matched controls. Clinicians aiming to treat patellofemoral pain in adolescents should aim to improve the strength of the knee extensors.

Claire Laurie | Physiotherapy

Authors
Claire Laurie (1, 2), Catherine Granger (1), Tara FitzGerald (1, 2), Alicia Spittle (1, 2), David Eisenstat (2, 3), Leo Donnan (2, 3)

1. Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia
2. Murdoch Children's Research Institute, Parkville, Vic, Australia
3. Department of Paediatrics, The University of Melbourne, Parkville, VIC, Australia

Abstract: Using Magnetic Resonance Imaging to predict outcomes in childhood sarcoma
Background: Musculoskeletal sarcoma poses significant challenges in paediatric oncology, with treatment often involving aggressive surgical interventions. The impact of pre-surgery chemotherapy on muscle mass and quality in children with sarcoma remains poorly quantified, potentially affecting their recovery post-surgery and long-term quality of life.

Aims: This study aims to investigate the relationship between changes in muscle mass and quality during early cancer treatment in children diagnosed with musculoskeletal sarcoma and their physical outcomes post-surgery.

Method: Using Magnetic Resonance Imaging (MRI) technology, this study will assess muscle mass and quality in 80 paediatric patients with musculoskeletal sarcoma. MRI measurements will be conducted at specific landmarks on affected and non-affected sides to determine cross-sectional muscle area. Muscle changes over the treatment course will be analysed, considering factors such as age, sex, and tumour location. Additional data on nutritional status, functional outcomes, and postoperative complications will be collected from electronic medical records.

Results: Preliminary findings suggest significant variations in muscle mass and quality during pre-surgery chemotherapy. Further exploratory analysis intends to provide a comprehensive insight into the relationship between muscle changes and functional outcomes (data analysis currently underway).

Conclusion: This study underscores the importance of evaluating muscle changes during early sarcoma treatment. The results of this study will improve clinical decision-making, aid allocation of allied health resources, and ultimately optimize long-term outcomes and quality of life for children undergoing treatment for musculoskeletal sarcoma.

Lea Lim | Optometry & Vision Sciences

Authors
Lea M Lim (1,2)

1. Department of Optometry and Vision Sciences, The University of Melbourne, Parkville, VIC, Australia
2. The Centre for Eye Research Australia, East Melbourne, VIC, Australia

Abstract: Applications of the full-field stimulus test in inherited retinal diseases to improve outcome measures in clinical trials

Background: Inherited retinal diseases (IRDs) are one of the leading causes of vision loss and are associated with over 270 known genes. People with IRDs often experience progressive vision loss and eventually blindness. Many individuals with IRDs are involved in clinical trials involving therapeutics that aim to restore vision or halt the progression of vision loss. However, severe vision loss in late-stage IRD participants poses a great challenge for detecting small changes in visual function. Current tests are not suitable for people with IRDs since these tests either require a certain degree of residual vision or require visual fixation which is not possible for some people with IRDs. Recently, the full-field stimulus test (FST) has been used in clinical trials as a sensitive, psychophysical outcome measure of visual function by detecting the luminance threshold of participants. However, knowledge of this test is still limited with variability in testing methodology hindering standardization and its applications in clinical trials.

Aim: To address the current challenges in measuring visual function in late stage inherited retinal diseases to provide a more comprehensive understanding of disease pathogenesis and facilitate the development of functional vision outcomes in clinical trials.

Methods: Individuals with IRDs with different classes of disease mechanism will be compared and age matched controls will be recruited. The full-field stimulus test will be used to measure scotopic thresholds at 0-, 20- and 45-minutes after a standardised pre-bleaching flash.

Conclusion: Further understanding of IRD pathogenesis can help inform the development of functional vision outcomes in clinical trials for emerging treatments.

Rachel Vanessa Lim | Optometry & Vision Sciences, Medical Education

Authors
Rachael Lim 1 , Brett Vaughan 1 , Robyn Woodward-Kron 1 , Kwang Cham 2

1. Department of Medical Education, University of Melbourne, Melbourne, Australia
2. Department of Optometry and Vision Sciences, University of Melbourne, Melbourne, Australia

Abstract: Teaching methodologies and reflective practice in optometry education: a scoping review
Background and Aims: Reflective practice is seen as necessary in health professional education for promoting ongoing learning and critical thinking. There is an increased expectation for optometrists to actively reflect on their practice as part of professional development. This study aims to explore how reflective practice is taught in pre-professional optometry education.

Methods: A scoping review was conducted in accordance with the Johanna Briggs Institute methodology. As teaching reflective practice may not be a primary learning outcome in optometry education, six databases were first searched for any published literature on teaching methodologies in pre-professional optometry education. The identification of reflective practice methodologies was then scoped through content analysis. Database searches were from inception to November 1 st , 2023.

Results: Of 3495 publications, 120 full text articles were reviewed, with 37 including reflective activities in optometry education. The publications primarily addressed professional skills development, curricular planning, and technical knowledge. The relevant reflective practice activities commonly featured in the publications included focus group discussions, interviews, portfolio and reflective writing, open-ended questionnaires, and activities designed to prompt reflect-in-action responses. The effectiveness of how reflection had transformed and improved student learning was discussed in eight articles.

Conclusion: Our findings suggest reflective practice is not explicitly discussed in the published optometry literature. Despite the evidence of reflective activities, the lack of discussion about its effectiveness of reflective thinking suggests that students may be unaware that they are being trained for this skillset. While there are growing interests in reflective practice within optometry education, further research into its applications is needed.

Ray Lobo | Physiotherapy

Authors
Ray C Lobo (1,2), Simon Mills (3), Cassie McDonald (1,2), Natalie Fini (1,2) & Gavin Williams (1,4)

1. Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia
2. Alfred Health, Melbourne, VIC, Australia
3. South Australian Brain Injury Rehabilitation Services, Daw Park, SA, Australia
4. Epworth Healthcare, Richmond, VIC, Australia

Abstract: Identifying modifiable injury-related factors associated with the ability to walk following moderate to severe TBI
Background & Aims: The ability to walk is an important goal for individuals post moderate to severe Traumatic Brain Injury (msTBI) and is closely tied with their overall health-related quality of life. The modifiable injury-related factors that can influence the recovery of walking following msTBI remain undetermined. This study aimed to identify the key modifiable injury-related factors which may influence recovery of walking during the first twelve-months following msTBI.

Methods: An international group of twenty-six experienced multi-disciplinary healthcare professionals were asked to identify modifiable injury-related factors that may influence walking recovery in adults following msTBI. A mixed methods item generation process was utilised which included Nominal Group Technique (NGT) principles for factor generation and a Modified Delphi process for identification of critically important factors.

Results: Forty-three modifiable injury-related factors were identified following the NGT meetings. Through the subsequent Delphi process, twenty-one modifiable injury-related factors were rated as critically important. These critically important factors represented various domains of The International Classification of Functioning, Disability and Health (ICF) framework.

Conclusion: A comprehensive list of modifiable injury-related factors associated with the recovery of walking was generated. The significance of these factors will now be evaluated in individuals following msTBI at a leading trauma hospital in Melbourne.

Natasha Machado | Physiotherapy

Authors
Natasha Machado (1,2), Gavin Williams (1,2), John Olver (1,2,3), & Liam Johnson (1,2,4)

1. Rehabilitation, Epworth Healthcare, Richmond, Victoria, Australia
2. Physiotherapy Department, Faculty of Medicine, Dentistry and Health Science, University of Melbourne, Parkville, Victoria, Australia
3. Department of Medicine, Monash University, Clayton, Victoria, Australia
4. Faculty of Exercise Science, School of Behavioural and Health Sciences, Australian Catholic University, Melbourne, Victoria, Australia

Abstract: A timed sit-to-stand test and prediction equation over predicts cardiorespiratory fitness in people with stroke

Background and Aim: A pre-exercise evaluation of fitness is recommended prior to beginning cardiorespiratory fitness (CRF) training. While graded exercise testing is a safe, feasible, and valid method to estimate CRF in people with stroke, it is not routinely clinically available. A test of repeated sit-to-stands, based on the Ruffier squat test validated in healthy controls, may be an alternative assessment of CRF for people with stroke. The aim of this study was to investigate the preliminary validity of a 45-second sit-to-stand test to predict CRF in people with stroke.

Methods: Adults (>18-years) with ischaemic stroke admitted to Epworth HealthCare were screened for eligibility and invited to participate. Participants completed two tests of CRF: 1) a 45-second sit-to-stand test, and 2) a graded maximal oxygen uptake [VO2max] test with measurement of gas exchange. Participants heart rate response during and after the sit-to-stand test was input into a prediction equation to obtain predicted VO2max. Concurrent validity was determined by calculating Lin's concordance correlation coefficients (CCC).

Results: A total of 30 people with stroke (males n= 23, mean± standard deviation age 67.1±9.9 years) were recruited a median time of 93 days post-stroke. Mean predicted VO2max based on the sit-to-stand test was 36.2ml.kg-1.min-1, while the graded VO2max test average was 28.0ml.kg-1.min-1. There was poor agreement between the two fitness tests (CCC 0.11, 95% CIs -0.07 - 0.28).

Conclusion: Predicted VO2max based on a 45-second sit-to-stand test overestimated VO2max and does not appear to be a valid test of CRF in people with stroke.

Sarah Martin | Social Work

Authors
Sarah Martin (1,2), Professor Louise Harms (1) & Dr Lyndal Hickey (1)

1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia
2. Department of Social Work, The Royal Children's Hospital, Melbourne, Australia

Abstract: The concept of post-traumatic growth within paediatric hospital social work: An opportunity for strengths-based practice

Background & Aims: Post-traumatic growth refers to the potential for positive change to occur following highly stressful life events. Since the concept was formally identified by psychologists in the mid-1990's, there has been significant research on the topic, including in the context of healthcare. However, research to date has largely focused on an adult population, resulting in knowledge from a paediatric perspective remaining in its infancy. Social workers are well placed to incorporate knowledge of post-traumatic growth into their practice, as the profession is committed to upholding a strengths-based perspective. Within a tertiary paediatric healthcare team, social workers are paramount in helping children and their families adjust to their health condition, whether chronic, life-limiting, or life-threatening. Life-changing diagnoses place families under extremely high levels of stress, and knowledge pertaining to post-traumatic growth is integral for the development and delivery of evidence-based practice in this context. The aim is to present the current knowledge base around post-traumatic growth in the context of paediatric healthcare, and subsequently within the hospital social work role. This literature is informing my doctoral study on this topic.

Methods: A comprehensive literature review will be conducted by systematically searching databases Medline, PsycINFO, CINAHL, ASSIA and Emcare.

Results: Data will be collated, thematically analysed, and presented to highlight what is known.

Conclusion: Discussion will consider how knowledge pertaining to post-traumatic growth in a paediatric setting might be implemented into hospital social work practice and existing models of care. It will also discuss how the proposed doctoral study will further contribute to this knowledge base.

Lottie Morison | Audiology & Speech Pathology

Authors
Lottie D. Morison (1,2), Ineka Whiteman (3,4), Adam P. Vogel (2,5), Lisa Tilbrook (3,6), Michael C. Fahey (7,8), Ruth Braden (1,2), Joanna Bredebusch (2), Michael Hildebrand (9,10), Ingrid E. Scheffer (9,10,11,12), Angela T. Morgan (1,2,13)

1. Speech and Language, Murdoch Children's Research Institute, Parkville, Australia.
2. Department of Audiology and Speech Pathology, The University of Melbourne, Parkville, Australia.
3. Batten Disease Support and Research Association, Shelley Beach, Australia.
4. Batten Disease Support and Research Association, Ohio, United States.
5. Redenlab Pty Ltd, Melbourne, Australia.
6. Thrive Health Care, Port Pirie, Australia.
7. Department of Paediatrics, Monash University, Clayton, Australia.
8. Clinical Sciences, Monash Health, Clayton, Australia.
9. Department of Paediatrics, The University of Melbourne, Parkville, Australia.
10. Austin Health, Heidelberg, Australia.
11. Epilepsy Research Centre, Department of Medicine, The University of Melbourne, Heidelberg, Australia
12. The Florey Institute of Neuroscience and Mental Health, Heidelberg, Australia.
13. Department of Paediatrics, Royal Children's Hospital, Parkville, Australia.

Abstract; Speech, language, and feeding in CLN2 and CLN3 Batten disease
Background & Aims: CLN2 and CLN3 forms of Batten disease are childhood dementias causing progressive loss of speech, language and feeding skills. Limited data on speech, language and feeding limits prognostic guidance, application of targeted therapies and use of specific outcomes to measure response to treatments, such as enzyme replacement therapy (ERT).

Methods: Here we delineate speech, language, non-verbal communication and feeding phenotypes in 33 individuals: 16 with CLN2 (n=2 atypical CLN2 disease, n=3 pre-symptomatic ERT, n=2 deceased) and 17 with CLN3 disease (total median age 9.5 years, range 3-28 years, 19 females), including novel variants causing atypical CLN2 (c.508+4A>G, c.837C>G) and CLN3 disease (c.566G>C).

Results: Speech and language impairments pre-genetic diagnosis were evident in CLN2 (8/15, 53%) and CLN3 disease (6/17, 35%). Dysarthria was common (CLN2: 8/8, 100%; CLN3: 13/15, 87%). Neurogenic stuttering was also present in CLN3 disease (5/15, 33%). Speech, language, adaptive behaviour, and oral feeding skills declined with age. Expressive language abilities were stronger than receptive skills (p=0.024). An individual with CLN2 disease with early pre-symptomatic ERT had average language skills. In both groups, minimally verbal individuals demonstrated a relative strength in their ability to refuse. Challenging behaviours were more common in CLN3 (11/17, 65%) than CLN2 disease (4/16, 25%).

Conclusion: Complex support needs and caregiver emphasis on communication strategies support the use of environmental adaptations and communication partner training, alongside adaptable communication aids and tailored speech and language therapy to maintain skills for as long as possible and prepare individuals and their families for the future.

Nicolas Mosso Tupper | Social Work

Authors
Nicolas Mosso Tupper (1,2), David Denborough (2), David Gallant (1) & David Rose (1)

1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia
2. Dulwich Centre, Adelaide, SA, Australia

Abstract: Resisting Violence: Lessons from Children's Testimonies of Chilean Police Brutality
Background & Aims: During a summer day in 1974 in Chile, Lieutenant Contador explained to Jaime Herrera, a 17-year-old student, how they planned to torture him the next day. ""What do you want us to do for you tomorrow, mate? (...) Choose, here's the menu."" Jaime remembers replying, ""Alright, I'll be waiting for you tomorrow, what time are you coming?"" In that situation, the only power he had was to challenge the lieutenant, Jaime explains.On November 15, 2019, in Chile, Oliver, who was 16 at the time, joined a rally where he was shot with a tear gas canister from a grenade launcher. ""I tried to think that I was going to be okay, that I was going to get to my house, (…) but I saw the wound and said, 'no, I'm not going to get home this time.""
Jaime, like many other young people, suffered under Augusto Pinochet's military dictatorship (1973-1990). Oliver was born after the dictatorship had ended, yet still suffered the consequences of the lack of accountability the Chilean armed forces have enjoyed since 1973.

Methods: This article focuses on the testimonies of children who experienced police violence during the 2019 social uprising in Chile, as well as the testimonies of adults who experienced police violence as children during the military dictatorship.

Conclusion: Particular emphasis is placed on the responses young people had to the violence they endured, and an initial exploration is made regarding what can be learned for the therapeutic work with children and adults who suffered this particular form of violence.

Pooja Nandagopal | Optometry & Vision Sciences

Authors
Pooja Nandagopal (1), Allison McKendrick (1)(2), Andrew Anderson (3)

1. Department of Optometry and Vision Sciences, The University of Melbourne, Parkville, VIC, Australia
2. University of Western Australia and Lions Eye Institute, Nedlands, Perth, Australia

Abstract: Impact of Ageing and Visual Field Location on Visual Motion Segmentation and Background Suppression

Background: Segmenting a moving foreground object from a moving background (motion segmentation) is crucial for daily activities. It relies on the brain's ability to suppress the background's visibility, termed spatial suppression of motion. This suppression varies with visual field location, being stronger in central vision (when looking straight ahead) and weaker in peripheral (side) vision. In healthy aging, suppression strength weakens centrally and strengthens peripherally, suggesting differential effects of aging on central vs. peripheral vision. We hypothesize that older adults will be better at segmenting moving objects in peripheral vision compared to younger adults due to stronger suppression in the periphery.

Methods: We measured motion segmentation and spatial suppression in 30 younger (19-35 years) and 30 older adults (60-80 years) at central (0°) and peripheral (10°) vision using computerized tests. For motion segmentation, two motion-defined shapes moved in opposite directions: a large circular background and a small central ellipse. Participants identified the tilt of the ellipse. To estimate suppression strength, participants identified the direction of the background patch's movement. The required stimulus exposure duration to perform the task (duration threshold) was recorded.

Results: There was no interaction between age and visual field location in spatial suppression strength ($F(1, 232) = 2.478$, $p = 0.117$, $\eta^2 = 0.011$) and motion segmentation ($F(1,232) = 0.008$, $p=0.931$, $\eta^2 = 0.000$).

Conclusion: Our results did not replicate the previously observed increase in peripheral spatial suppression in older adults, hence older adults did not segment moving objects better in the peripheral vision. Further experiments are needed to determine if methodological differences between studies account for this discrepancy.

Hanh Tu Duc Nguyen | Social Work

Authors
Hanh Tu Duc Nguyen (1), Louise Harms (1), Kath Sellick (1)
1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia

Abstract: Course Experiences Impacting International Student Wellbeing in Social Work Education: An Australian Survey
Background and Aims: There has been an increasing recognition of the need to understand and promote student wellbeing, along with psychological distress and mental ill-health in higher education. Previous research has identified course experiences that predict student wellbeing; however, this research has not examined wellbeing experiences in entry-to-practice professional degrees with a substantial field placement component. Furthermore, previous research has primarily focused on a general student population rather than international students specifically. This study aims to examine the course experiences that impact international student wellbeing in Australian entry-to-practice social work courses. This includes experiences of classroom-based coursework subjects as well as the required 1000 hours of unpaid placement.

Methods: An online survey was conducted with international students currently enrolled in an entry-to-practice social work course (e.g., Bachelor or Master of Social Work) in Australia. The survey includes questions on wellbeing, psychological distress, assessment stress, teacher autonomy support, sense of belonging, social connection, peer learning support, work overload, autonomous motivation, discrimination, and secondary stressors of placement.

Results: Preliminary results from a hierarchical multiple regression analysis highlight the experiences in coursework and placement that impact international students' experience of wellbeing in social work. Qualitative data from open-ended questions provide further insight into how the course is perceived and experienced by diverse students.

Conclusion: The study's findings contribute to an increased understanding of the international student experience through a strengths-based lens; and have implications for pedagogical practices that promote international student wellbeing in social work courses throughout Australia.

Fleur O'Hare | Optometry & Vision Sciences

Authors
Fleur O'Hare (1, 2), Sujani Thrimawithana (1, 2), Tessa Saunders (3) and Lauren Ayton (1, 2).

1. Centre for Eye Research Australia, Melbourne, VIC, Australia.
2. Department of Optometry and Vision Sciences, The University of Melbourne, VIC, Australia.
3. Evaluation and Implementation Science Unit, The University of Melbourne, VIC, Australia.

Abstract: Strategies to enhance inclusion in consent practice for people with vision, hearing or dual sensory impairment: a systematic literature review.
Background & Aims: Providing accessible communications and information in informed consent practice is critical to promoting autonomy and self-determination. Researchers need to be aware of the strategies that they can employ to tailor their consent practice. This would ensure it meets the needs of people with various information access needs including those with vision, hearing, or combined vision-hearing impairment. Thus, the aims of this systematic review were to identify the barriers and enablers to delivering an accessible informed consent process for clinical research, to better understand how this can be made more equitable and inclusive.

Methods: A systematic review of electronic databases will be performed. Databases searched were MEDLINE, Embase, SCOPUS, Web of Science and CINAHL. Additional articles were obtained from Google Scholar and ancestral searching. The quality of each study was assessed using the GRADE and QualStar approaches. Content analysis using implementation science frameworks was performed.

Results: The main findings across studies will be presented along with a rating on the strength of the recommendation. Findings will be reported with exemplary examples of optimal inclusive engagement.

Conclusions: To facilitate the uptake of accessibility practices within the informed consent process by researchers, this systematic review collated a range of strategies to address information access challenges. Key recommendations for engaging with people with sensory needs were made. This review supports evidence for the positive impact of intentional accessible and inclusive consent practice.

Ayobami Olanrewaju | Physiotherapy

Authors
Ayobami Esther Olanrewaju (1,2), Sam Kayll (1), Fiona Dobson (1), William G Dixon (2), Emily Cross (3), Kim Bennell (1), Stephanie Filbay (2).

1. Department of Physiotherapy, Melbourne School of Health Sciences, the University of Melbourne, Parkville, Victoria 3000, Australia
2. Division of Informatics, Imaging and Data Sciences, School of Health Sciences, University of Manchester, Manchester, M13 9PT, United Kingdom.
3. Physiotherapy orthopaedic department, the Royal Melbourne Hospital, Parkville, Victoria 3050, Australia

Abstract: Measurement properties of physical activity devices in use in people with knee arthritis and knee replacement
Background & Aims: Physical activity is important for health. However, the measurement properties of devices used for measuring activity in people with knee osteoarthritis and total knee replacements remain unclear. This systematic review aims to determine the measurement properties of accelerometers and wearable devices used to assess physical activity in people with knee osteoarthritis and total knee replacements.

Methods: This study will adhere to the COSMIN, GRADE and PRISMA principles. The search strategy will consider construct, population, instrument and measurement properties, performed on six electronic databases: Medline (Ovid), Web of Science, Scopus, Embase, SPORTDiscus, and CINAHL. Eligible studies must assess at least one of these measurement properties: reliability, measurement error, criterion validity, construct validity or responsiveness for physical activity (e.g step count, MVPA) from an objective activity monitor in the study population. Reference lists of included articles will be hand-searched for additional articles. Two reviewers will independently extract the study data using an electronic data extraction sheet, rate the measurement properties for each instrument using COSMIN and GRADE principles, and assess each study's risk of bias using the COSMIN risk of bias tool. The results will include summary tables of measurement properties for each physical activity device, and GRADE's quality of evidence for each device. The summary tables will help identify devices that have sufficient, limited or insufficient evidence of measurement properties for evaluating specific activity metrics. These findings will inform recommendations for the best device(s) to use to measure physical activity in people with knee osteoarthritis and total knee replacement.

Rukku Paramkulangara Thomas | Social Work

Authors
Rukku Paramkulangara Thomas (1), William Abur (1), Lynette Joubert (1),
1. The University of Melbourne

Abstract: Understanding the concept of wellbeing among elderly Indian immigrants living in the regional outer suburbs of Melbourne.
Background & Aims: Elderly migrants are found to face unique hurdles associated with their migration into a new country, including language barriers, cultural differences, lack of same culture social groups which means lack of social and financial support. The living environment can influence the physical as well as the mental health of the individual. social integration of the elderly migrants and the host country largely depends on each other's acceptance. For a better social support, the host country and the migrant community should have positive attitude and acceptance towards each other.

Methods: Therefore, a study into the enablers and the barriers of these elderly Indian immigrants in Melbourne, Australia, where South Asians constitute more than one third of the population (ABS 2021) to access social support and wellbeing is very much crucial. While aging brings in a lot of challenges for the elderly people, such challenges are found high in the case of elderly for Culturally and Linguistically Diverse groups.

Results: Although migration provides opportunities for growth, it can also negatively impact the wellbeing of the older community. However, low English proficiency was found be the main reason for loneliness and social isolation in old age while migrating to a new country.

Research Question: What are the enablers and barriers required for the elderly Indians living in the regional areas of Melbourne in getting access to the social support system to promote their wellbeing.

Rajni Rajan | Optometry & Vision Sciences

Authors
Rajni Rajan (1), Holly R Chinnery (1), Mengliang Wu (1), Senuri Karunaratne (1), Ji-hyun (Anna) Lee (1), Phillip Bedggood (1), Laura E Downie (1)

1. Department of Optometry and Vision Sciences, University of Melbourne, Parkville, Victoria 3010, Australia

Abstract: Investigating changes to motile corneal immune cells in response to an acute, pro-inflammatory hyper-osmotic stimulus

Background and aims: Corneal immune cells are involved in corneal inflammation, a key pathogenic factor in ocular surface diseases. The behaviour of immune cells in response to acute inflammatory stimuli in living human eyes has not yet been comprehensively studied. The aim was to investigate changes to motile corneal epithelial immune cell (T cell) dynamics following corneal exposure to topical hyper-osmolar stimuli in humans.

Methods: This study involved a randomised, controlled, two-arm, cross-over clinical trial. Right corneas of eligible participants were imaged using Functional in vivo confocal microscopy (Fun-IVCM, Heidelberg HRT-3 with Rostock Corneal Module), before and after repeated application of a randomised order of 1500 mOsm/L or 300 mOsm/L saline drops to the cornea, over two visits, one week apart. The density and dynamic behaviours of corneal epithelial T cells were analysed using ImageJ in the corneal whorl and peripheral cornea.

Results: A total of 601 T cells were analysed from 14 healthy participants (3/11 male/female; mean ± standard deviation, age: 29.4 ± 7.1 years). T cell instantaneous speed was significantly higher after exposure to hyper-osmolar saline drops, relative to the iso-osmolar condition in the corneal whorl region (1.57 ± 0.66 µm/min vs 1.26 ± 0.49 µm/min; p=0.011). T cell density and other dynamic parameters were not significantly altered from baseline values following exposure to either osmotic stimulus in both corneal regions.

Conclusion: Acute, ocular surface exposure to a pro-inflammatory hyperosmotic stimulus rapidly altered the patrolling characteristics of human corneal T cells, indicating the dynamic responsivity of these cells to changes in the local microenvironment.

Kate Rawnsley | Physiotherapy

Authors

Kate L. Rawnsley (1,2), Jeanie L.Y. Cheong (1,3,4,5), Diana Zannino (6), Alicia J Spittle (1,2)

1. Clinical Sciences, Murdoch Children's Research Institute, Melbourne, Australia.
2. Department of Physiotherapy, University of Melbourne, Melbourne, Australia.
3. Newborn Research, Royal Women's Hospital, Parkville, Victoria, Australia.
4. Department of Obstetrics, Gynaecology and Newborn Health, University of Melbourne, Melbourne, Australia.
5. Department of Paediatrics, University of Melbourne, Melbourne, Australia.
6. Clinical Epidemiology and Biostatistics Unit, Murdoch Children's Research Institute, Melbourne, Australia.

Abstract: Agreement of the Alberta Infant Motor Scale delivered via telehealth compared with face-to-face assessment

Background & Aims: The Alberta Infant Motor Scale (AIMS) is an observational assessment for gross motor development of children from birth until independent walking, widely used by health professionals. The scale has excellent psychometric properties and clinical utility when used face-to-face. Agreement between synchronous telehealth and face-to-face administration of the English version of the AIMS has not been established. This study aims to determine the agreement between the AIMS assessment when delivered via synchronous telehealth compared with face-to-face AIMS assessment.

Methods: 123 term and preterm infants (Gestational age: mean 38.82 weeks (SD 1.86); range 31-42 weeks) were recruited. Infants were assessed at 4, 8 or 12 months old with two AIMS assessments: face-to-face and via synchronous telehealth. The agreement between the assessments were examined using Intraclass correlation and the Bland Altman method with 95% limits of agreement.

Results: Agreement between AIMS assessments administered face-to-face and via synchronous telehealth was excellent (ICC 0.99 (95% confidence interval 0.98, 0.99). The average difference between assessment scores was -0.24 (SD 2.23). Bland Altman analysis showed 95% limits of agreement of -4.39, 4.34. When analysed by age group, ICCs were 0.72 (95% CI 0.59, 0.86), 0.97 (95% CI 0.96, 0.99), and 0.98 (95% CI 0.96, 0.995) for 4-, 8-, and 12-month-olds respectively.

Conclusion: The AIMS assessment delivered via telehealth shows excellent agreement with face-to-face assessment. Telehealth is a good alternative to face-to-face AIMS assessment, particularly for older infants. Family preferences, access and confidence with technology should be considered when selecting face-to-face or telehealth-based AIMS assessment.

Thomas Rollinson | Physiotherapy

Authors
Thomas C. Rollinson (1,2), Sophie Zaloumis (3), Sue Berney (1,2) & David J. Berlowitz (1,2)

1. Department of Physiotherapy, Division of Allied Health, Austin Health, Heidelberg, VIC, Australia
2. Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia
3. Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, The University of Melbourne, Parkville, VIC, Australia

Abstract: The Urea:Creatinine Ratio as a biomarker of muscle wasting and predictor of Persistent Critical Illness

Background & Aims: Muscle wasting and resultant weakness occurs early in patients with persistent critical illness (PerCI), defined as requiring intensive care for more than 10 days, due to a net catabolic state and is associated with increased ureagenesis and reduced creatinine production. We aimed to investigate the relationship of the Urea:Creatinine Ratio (UCR) with the development of PerCI.

Method: Single-centre, retrospective, observational study. We analysed a cohort of adults with critical illness admitted to a single-centre in a 12-month period. Routinely collected baseline demographic characteristics were recorded. Clinical data, including urea and creatinine were collected throughout the hospital admission. Non-compartmental analysis was used to determine the peak UCR, time to peak UCR and area under the curve (AUC) of UCR.

Results: We included 1,941 patients (mean age □sd 60□17, 42% female) between January 1st 2022 and December 31st 2022. Of these, 433 (22%) developed PerCI. Peak UCR was higher in those with PerCI (median 194 [148, 249] vs. 110 [81, 148] without PerCI). Time to peak UCR was prolonged in those with PerCI (median 252 [130, 397] vs. 32 [1, 78] without PerCI). Area under the curve of UCR over the first ten days was higher in those with PerCI (63033 [35453, 119466] vs. 7554 [3713, 14381] without PerCI).

Conclusions: Patients with PerCI demonstrated higher peak UCR, longer time to peak UCR and greater exposure to elevated UCR than those without. These findings may assist in rehabilitation trial design in critical illness.

Lucy Shiels | Audiology & Speech Pathology

Authors
Lucy Shiels (1), Dani Tomlin(1), & Gary Rance (1)

1. Department of Audiology and Speech Pathology, The University of Melbourne, Parkville, VIC, Australia

Abstract: The attention benefits of remote microphone technology for children with listening difficulties

Objectives: Children often present with listening difficulties (LiD) but with normal sound detection thresholds. These children are susceptible to learning challenges, and struggle with the suboptimal acoustics of standard classrooms. Remote microphone technology (RMT) is one way to improve the listening environment. The aim of this study was to determine the assistive potential of RMT for attention skills in children with LiD, and to investigate whether the benefits obtained by these children were greater than for those with no listening concerns.

Design: A total of 28 children with LiD and 10 control participants with no listening concerns aged 6 to 12 years were included in this study. Children attended two laboratory-based testing sessions, where their attention skills were behaviorally assessed with and without the use of RMT.

Results: There were significant improvements in speech identification and attention skills when RMT was used. Auditory attention scores improved from being poorer than controls without RMT to comparable to control performance with device assistance.

Conclusion: Use of RMT was found to have a positive effect on both speech intelligibility and attention. RMT should be considered a viable option for addressing common behavioral symptoms of LiD, including for the many children that present with concerns of inattentiveness.

Alveena Siddiqui | Audiology & Speech Pathology

Authors
Alveena Siddiqui (1)

1. Department of Audiology and Speech Pathology, The University of Melbourne, Parkville, VIC, Australia

Abstract: Exploring the relationship between objective markers of speech and language and underlying pathology in dementia
Early diagnosis and treatment of Alzheimer's disease (AD) as well as efficient participant screening for such diseases pose significant challenges in healthcare. The diagnostic delays due to complicated, non-extensible, invasive, and time-consuming biomarkers increase the stress for both patient and caregiver as well as the associated cost. Also, the efficient participant screening is vital for neuroscience research to mitigate the costs and improve trial efficiency. Speech and language characteristics like prosody, articulation, coherence, and complexity of language can be a potential indicator of diseases associated with cognitive decline. Leveraging advancements in natural language processing and machine learning, researchers have developed algorithms to analyse speech patterns and identify subtle changes indicative of AD pathology. This research will cover digital analysis of speech and language parameters that have potential as early markers for the Alzheimer's disease and their association with various other clinical and biological markers like p-tau and Neurofilament light chain (NfL).

Evie Sloan | Physiotherapy

Authors
Evelyn Sloan (1,2), Selina Parry (1,2), Alisha da Silva (1,2), Catherine L. Granger (1,2), Zoe Fehlberg (3), Owen Gustafson (4), Catherine Voutier (5), Camille Short (1), Marlena Klaic (3)

1. Department of Physiotherapy, School of Health Sciences, The University of Melbourne, Parkville, VIC, Australia
2. Department of Physiotherapy, The Royal Melbourne Hospital, Parkville, VIC, Australia
3. School of Health Sciences, The University of Melbourne, Parkville, VIC, Australia
4. Oxford University Hospital NHS Foundation Trust, Oxford, United Kingdom
5. The Royal Melbourne Hospital, Parkville, VIC, Australia

Abstract: Methods used to inform the development and evaluation of post-hospital interventions for ICU survivors: a systematic review
Background: Intensive care unit (ICU) survivors can experience physical, mental, and cognitive impairments, limiting daily activities and societal participation. Limited evidence supports the effectiveness of post-hospital rehabilitation interventions. Understanding how these interventions were developed and evaluated may provide insight about factors influencing clinician adoption and patient outcomes.

Aims: 1) explore the methods informing the development and/or evaluation of post-hospital interventions for ICU survivors; and 2) explore if and how acceptability, fidelity, feasibility and efficacy have been considered in the development and evaluation of these interventions.

Methods: Studies were included if they developed and/or evaluated a structured post-hospital intervention aimed at improving recovery outcomes including quality of life for ICU survivors. Single time-point, ICU follow-up clinics and ICU diaries were excluded. MEDLINE, Embase, PsychINFO, CINAHL and PEDro were searched from inception to 4th June 2024. Extracted data included: intervention development processes; intervention description; if/how acceptability/satisfaction, fidelity feasibility and efficacy were evaluated. Deductive analysis were undertaken using the International Association for Public Participation Spectrum, Template for Intervention Description and Reporting (TIDieR) and the National Institute of Health's Treatment Fidelity Framework.

Preliminary results: Fifty-seven papers were included. Nine (18%) [DSA1] utilised development frameworks; 19 (38%) engaged stakeholders; and 18 (36%) assessed acceptability/satisfaction. Mean TIDieR and fidelity scores were 16.7/24 and 7.9/21, respectively.

Conclusion: Relatively few interventions were developed with stakeholders or evaluated important critical constructs including acceptability and fidelity. Future studies should consider applying implementation science theories and methods to develop and evaluate post-ICU interventions.

Lisa Spriggens | Social Work

Authors
Lisa Spriggens (1, 2), Nicole Hill (1), Louise Harms (1)

1. Department of Social Work, School of Health Sciences, The University of Melbourne, Parkville, VIC, Australia
2. School of Counselling, Laidlaw College, Auckland, New Zealand

Abstract: Stories of self & stories of care: the relational context of self-care
Background & Aims: Self-care is highlighted in practice and literature as critical to ensure ongoing safe counsellor and therapeutic practice, with research focussing on identifying self-care practice, and how it is undertaken. Exploring the relationship a practitioner has with self-care, through the medium of story, can make visible a more nuanced and potentially richer understanding of how counsellors are sustained in their work. This research investigated stories of self-care shared by trauma counsellors, attending to the nature of the relationship counsellors experience with self-care.

Methods: Narrative interviews were conducted with trauma counsellors and therapists (n=22) and using thematic analysis identified elements of story, such as character, setting, and plot. Through these elements, stories of self-care and counsellor relationships with self-care are examined.

Results: Analysis of the interviews identified two distinctive themes: ‘stories of self’ and ‘stories of care’. These two themes reveal that the participant themselves, rather than the actual activities of self-care, played a critical role in understanding self-care. As well as the key relationship between self and care, these stories also showed that context and others, whether personal or professional relationships, are influential in self-care.

Conclusion: The recognition of the relational and contextual influence on a counsellor’s relationship with self-care introduces new considerations for practitioners, educators, and researchers in this field. This research invites consideration of how counsellors might be sustained in their work.

Sara Taha | Social Work

Authors
Sara Taha (1), Lynette Joubert(1,2), Kate Thompson(1,2)

1. Department of Social Work, The University of Melbourne, Parkville, VIC, Australia.
2. Peter MacCallum Cancer Centre, 305 Grattan St, Melbourne VIC 3000

Abstract: The barriers hindering the participation of Muslim migrant women in gynecological cancer screening programs.
Background: Gynecological cancer screening is a crucial preventive measure for women., Muslim migrant women exhibit lower rates of participation in such screenings due to various factors, including language barriers, cultural differences, religious beliefs. Understanding their beliefs is vital to enhancing their participation in such screening. This study aims to explore the challenges faced by Muslim migrant women in engagement in gynecological cancer screening programs.

Methods: A Scoping Review methodology was adopted identifying Arabic and English relevant articles published since 2000 onwards.

Results: 90 full-text articles were extracted with 9 studies. Four primary themes were identified i.e Muslim women's engagement in screening, determinants influencing participation decisions, the influence of religious convictions, and the landscape of healthcare services in the host country.

Conclusion: The paucity of research in this domain underscores a substantial knowledge gap. Furthermore, it is noteworthy that all studies focused solely on cervical cancer examination, highlighting a lack of research into other gynecological malignancies. Understanding the challenges faced by Muslim women is crucial for developing effective programs accommodating their cultural and religious beliefs.

John Thompson | Nursing

Authors
John Thompson (1), Dianne Crellin (1,2,3), Sharon Kinney (1,2), Marie Gerdtz (1).

1. Department of Nursing. The University of Melbourne. Parkville, VIC, Australia
2. Royal Children's Hospital. 50 Flemington Road, Parkville, VIC, Australia
3. Murdoch Children's Research Institute. 50 Flemington Rd, Parkville, VIC, Australia

Abstract: Metrics used by Nurse Practitioners to Evaluate the Impact of their role: A Scoping Review

Background: The impact of different nurse practitioner roles is well known. Yet the contribution the NP profession brings to healthcare is lacking and desperately needed. The link between the care provided by the NP profession, and its impact on patient outcomes is not clear.
Aim: To identify what metrics are currently being collected by nurse practitioners to evaluate their practice.
Design: A scoping review using Joanna Briggs Institute methodology.

Methods: The population, concept, and context framework was used to guide keyword and index terms used for search criteria and data extraction. The metrics used to evaluate nurse practitioner practice and methods used in quantitative and qualitative studies, published in English between 2017 and 2022, were included in this review. A content analysis was performed to assist with data synthesis and identify the metrics common to all nurse practitioners. Nurse practitioner specialties were defined according to the Australian nurse practitioner metaspecialty taxonomy. These metrics were then aligned with Donabedian's structure, process, and outcomes quality framework.

Results: Of the 3555 articles identified, 36 met the aim of this review. Most publications originated from the United States (n=20). No included studies indicated consumer involvement in study design or selection of the metrics to be collected. The content analysis of the 165 metrics identified 17 themes. All metrics were sourced from organisationally captured data. All themes were aligned to Donabedian's categories of structure (n=2), process (n=9), and outcome (n=6). Four themes were common to all metaspecialties (pharmacological therapeutic management, non-pharmacological management, patient disposition, and unintended adverse outcomes) and all themes (n = 17) were only identified within the emergency and acute care metaspecialty.

Conclusions: Nurse practitioners are evaluating their specialty practice using a variety of metrics via observational design where the comparator is medicine. Most of the metrics used related to service indicators targeting process and outcome measures. A lack of consumer involvement in practice evaluation was noted in this review. Quality of care metrics, co-designed with consumers, that measure nurse practitioner practice regardless of specialty is lacking throughout the literature and is desperately needed.

Dominic Truong | Physiotherapy

Authors
Dominic Truong (1), Marlena Klaic (2), Sunita Mathur (3), Catherine Granger (1,4), Shaza Abo (1,5), Lee-anne Chapple (6), Kate Lambell (7), George Ntoumenopoulos (8), Aarti Sarwal (9), Kirby Mayer (10), Felipe González-Seguel (10,11), Sabrina Eggmann (12,13), Owen Gustafson (14), Chris Burtin (15), Danielle E. Bear (16,17,18), Abraham Samuel Babu (19,20), Vinicius Maldaner (21), Selina Parry (1)

1. Department of Physiotherapy, The University of Melbourne, Melbourne, Australia
2. School of Health Sciences, The University of Melbourne, Melbourne, Australia
3. School of Rehabilitation Therapy, Queen's University, Kingston, Canada
4. Department of Physiotherapy, The Royal Melbourne Hospital, Parkville, Melbourne, Australia
5. Department of Physiotherapy, Peter MacCallum Cancer Centre, Melbourne, Australia
6. Adelaide Medical School, University of Adelaide, Adelaide, Australia
7. Dietetics and Nutrition Department, Alfred Health, Melbourne, Australia
8. Department of Physiotherapy, Royal Perth Hospital, Perth, Australia
9. Department of Neurology, Wake Forest School of Medicine, Winston-Salem, NC, USA
10. Department of Physical Therapy, College of Health Sciences, University of Kentucky, Lexington, KY, USA
11. School of Physical Therapy, Faculty of Medicine, Clínica Alemana Universidad del Desarrollo, Santiago, Chile
12. Department of Physiotherapy, Inselspital, Bern University Hospital, Bern, Switzerland
13. The Australian and New Zealand Intensive Care Research Centre, School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia
14. Therapies Clinical Service Unit, Oxford University Hospitals NHS Foundation Trust, Oxford, UK
15. REVAL Rehabilitation Center, BIOMED Biomedical Research Institute, Hasselt University, Belgium
16. Department of Nutrition and Dietetics, Guy's and St Thomas' NHS Foundation Trust, London UK
17. Department of Critical Care, Guy's and St Thomas' NHS Foundation Trust, London UK
18. Department of Nutritional Sciences, King's College London, London, UK
19. Department of Physiotherapy, Manipal College of Health Professions, Manipal Academy of Higher Education, Manipal, India
20. Department of Cardiology, Austin Health, Melbourne, Australia
21. Department of Physiotherapy, University of Brasilia, Brasilia, Brazil

Abstract: The clinical utility, barriers, and facilitators of skeletal and respiratory muscle ultrasound: an international survey
Background: Despite the growing use and evidence of skeletal and respiratory muscle ultrasound within clinical research, little is known about how it is being used internationally by health professionals working in acute adult hospitals. Additionally, barriers and facilitators have been previously explored in some regions, however, not within the international context.

Aim: To explore the clinical utility, barriers, and facilitators of skeletal and respiratory muscle ultrasound by health professionals internationally working in acute adult hospitals.

Methods: An international online survey via Qualtrics was shared by targeting relevant organisational and professional groups/networks, corresponding authors of relevant peer-reviewed publications, social media and snowballing. Key questions were based on the Theoretical Domains Framework.

Results: Out of 891 responses, 642 responses (72%) were eligible and analysed, including completed (n=547/642, 85%) and partial responses (n=95/642, 15%). There were responses from 45 countries across 7 regions, with respondents mostly physiotherapists (n=330, 51%). Most respondents were not using but interested in skeletal and respiratory muscle ultrasound (n=350, 55% and n=370, 58% respectively). Key barrier identified for both skeletal and respiratory muscle ultrasound was access to a supervisor/mentor. Key facilitator identified for both skeletal and respiratory muscle ultrasound was evidence/literature surrounding its clinical utility.

Conclusion: Many professionals do not use skeletal and respiratory ultrasound in clinical practice. To address the key barrier of access to a supervisor/mentor, the development of opportunities and the

provision of training and mentorship programs may further facilitate use of skeletal and respiratory muscle ultrasound within the acute care setting. Future exploration will be conducted via semi-structured interviews/focus groups.

Marlies Wanasili | Physiotherapy

Authors
Marlies Wanasili (1, 2), Marlena Klaic (1), Danielle Hitch, (2,3), Catherine M Said (1,2,4). Vincent Crocker (1)

1. The University of Melbourne, Parkville, VIC, Australia
2. Western Health, St. Albans, VIC, Australia
3. Deakin University, Geelong, VIC, Australia
4. Australian Institute of Musculoskeletal Sciences, St. Albans, Australia

Abstract: Use of gaming as an occupation in adults with upper limb impairment: A scoping review
Background and Aims: The introduction of gaming devices has grown exponentially in the last two decades with a surge in implementation for upper limb rehabilitation. However, little is known regarding gaming devices from an occupational perspective and whether they can influence occupational engagement in adults with upper limb impairment.

Method/Approach: This review applied PRISMA-ScR and Arksey and O'Malley framework using the Joanna Briggs Institute template. Studies published in English from 2000 onwards were sourced from Medline, CINHAL, Embase and IEEE Explore databases. Inclusion criteria included adults with upper limb impairment; operation of an electronic gaming device; outcome measures evaluating function e.g. Barthel Index; and/or occupational engagement measures such as Canadian Occupational Performance Measure (COPM); and qualitative studies exploring occupational engagement. Three independent reviewers screened studies in Covidence using the inclusion and exclusion criteria. A fourth reviewer resolved conflicts.

Results: A total of 234 articles were included. Preliminary results have found most studies used gaming for stroke populations in a hospital context. Common devices include the Nintendo Wii and high-cost devices e.g. Armeo Power. A total of 37 outcome measures evaluating activity and participation were used. The Activity Card Sort and Canadian Occupational Performance Measure were the only outcomes that evaluated occupational engagement.

Conclusions: This review has the potential to inform clinicians regarding the application of gaming from an occupational lens to promote activity, participation and occupational engagement, as opposed to an intervention strategy. Additionally, the broad scope of the review has highlighted the lack of outcome measures that evaluate occupational engagement, activity and participation.

Melissa Warren | Nursing

Authors
Melissa Warren (1)

1. Department of Nursing, Faculty of Medicine, Dentistry and Health Sciences, The University of Melbourne

Abstract: An explanatory, sequential, mixed-methods study to better understand routes to diagnosis for colorectal cancer in one urban and one rural hospital in Central New Zealand
Background and Aims: Around a third of New Zealanders with colorectal cancer (CRC) are diagnosed as emergency presentations (EP). People diagnosed as an EP typically have poorer clinical outcomes than people identified through screening, or a non-emergency route. This study aims to better understand routes to diagnosis for CRC and factors that lead to presentation along one of three main pre-diagnostic routes: 1) GP routine referral, 2) emergency presentation, and 3) other outpatient.

Methods: An explanatory, sequential, mixed-methods study design, conducted in three separate but inter-related stages. This ePoster will report on data from the second stage of this study, an explanatory multiple case study undertaken to explain factors related to and characteristics of people on the three main routes to a diagnosis of CRC. Quantitative data (patient demographics, hospital and GP administrative resources, and a series of 4 Patient Reported Outcome Measures (PROMs) were analysed using descriptive statistics and qualitative data from in-depth interviews using interpretative description.

Results: Data from the interviews with 30 patients (15 men, 15 women, mean age 69, Māori 3, non-Māori 27, on each of the three routes to diagnosis) generated nine overarching themes: 1) Initial self-appraisal of symptoms, 2) Symptom attributions, 3) Self-management / monitoring of symptoms, 4) Re-appraisal of symptoms, 5) Factors influencing help-seeking, 6) Use of healthcare, 7) Discussing changes / symptoms with a HCP, 8) Cues to diagnosis and 9) Receiving a cancer diagnosis. PROMs data will be reported on the ePoster.

Conclusion: This ePoster presents the findings for stage 2, an explanatory multiple-case study. Building on stage 1 and stage 2, stage 3 will consist of a scoping review focused on public awareness campaigns that have been carried out to improve awareness and early health seeking for signs and symptoms of CRC.

Krista Watts | Social Work

Authors
Krista Watts (1,2), Savannah Rowland (1), Alison Abboud (3), Justin Denholm (2,3), Lynette Joubert (1)

1. Department of Social Work, University of Melbourne
2. Victorian Tuberculosis Program, Royal Melbourne Hospital
3. Department of Infectious Diseases, University of Melbourne Health

Abstract: Understanding The Alliance Between Tuberculosis and Socio-economics for Public Health Advancement

Background & Aims: Causing illness, death, and suffering wherever humans gather, tuberculosis (TB) is an ancient airborne infection that has recently reclaimed its place as the world's deadliest infectious disease. The infection is preventable and treatable. In addition to the conventional public health measures of reduced mortality and incidence, The End TB Strategy calls for no TB-affected persons or households to face catastrophic costs due to TB; recognition of the significance of the relationship between poverty and tuberculosis. This has resulted in efforts to measure and mitigate.

Methods: Literature synthesis using JBI protocols demonstrates that global commitment, advances in knowledge, subsequent implementation, and community action have seen reductions in TB morbidity and mortality over the decades. Millions of lives have been saved where catastrophic cost analysis has led to the implementation of social protection, in particular TB treatment free of out-of-pocket expenses. The literature evidences a focus on programmatic goals, spotlights high TB incidence settings, and emphasises intervention for TB outcome-based measures. Yet the elimination of TB remains elusive, globally.

Interim results: Australian TB prevalence rates have been stable for half a century. TB incidence and the number of deaths are low. The spiralling relationship between poverty and TB is observed despite well-established social protections like ‘free’ TB care.

Conclusion: Realising TB elimination requires that the social aspects of the disease are tackled globally. This requires understanding the costs and possible correlates with TB public health response within and across the micro-epidemics that make TB the oldest and deadliest pandemic.

Georgina Whish-Wilson | Physiotherapy

Authors
Georgina A Whish-Wilson1, Lara Edbrooke1,2, Vinicius Cavalheri3,4,5, Zoe T Calulo Rivera1,7, Madeline Cavallaro1, Daniel Seller6, Catherine L Granger1,7* & Selina M Parry1,7*

1. Department of Physiotherapy, School of Health Sciences, The University of Melbourne, Melbourne, VIC 3010, Australia
2. Department of Health Services Research, Peter MacCallum Cancer Centre, Melbourne, VIC 3000, Australia
3. Curtin School of Allied Health, Curtin University, Perth, WA 6845, Australia
4. Curtin enAble Institute, Faculty of Health Sciences, Curtin University, Perth, WA 6845, Australia
5. Allied Health, South Metropolitan Health Service, Perth, WA 6009, Australia
6. Physiotherapy, ORA Therapies, Capital & Coast District Health Board, Wellington 6242, New Zealand
7. Department of Physiotherapy, The Royal Melbourne Hospital, Melbourne, VIC 3050, Australia

*Denotes joint senior author

Abstract: Recovering Together: Innovating Rehabilitation for Operable Lung Cancer Patients
Background: Despite positive benefits to symptoms and recovery, very few rehabilitation services exist for lung cancer patients. This study aimed to explore participants' experiences of lung cancer surgery, the barriers and facilitators to recovery, and to co-design a rehabilitation program prototype to support future patients.

Methods: An Australian experience-based co-design study involving patients, caregivers, clinicians, consumer advocates and researchers. Two rounds of workshops were conducted, underpinned by the COM-B Model and Theoretical Domains Framework. Qualitative data were thematically analysed by two independent researchers. Barriers and facilitators were mapped to the Behaviour Change Wheel. The final intervention prototype was mapped to the Template for Intervention Description and Replication (TIDieR).

Results: Twelve patients (55% female, mean age 66.4 (SD 9.3) years) and 16 professionals (physiotherapists, nurses, respiratory physicians, a thoracic surgeon, consumer advocates and researchers) participated. There was high retention across the workshop rounds (86%). Nineteen major themes were identified from the first round of workshops, including the significant unmet needs of patients and caregivers across the continuum of operable lung cancer care, including education, rehabilitation, and mental health needs; and the challenges associated with unexpectedly persistent symptoms. Identified core intervention principles included flexibility, individualisation and continuity, and essential intervention components included screening/assessment, education, exercise, and mental health support. These requirements informed the development of our prototype intervention, which was further refined during the second round of workshops.

Conclusion: The co-design process successfully engaged key stakeholders in complex intervention design. The intervention prototype will be piloted and evaluated for acceptability and feasibility in future projects.

Matt Wingfield | Physiotherapy

Authors
Matt Wingfield (1,2), Kevin English (1), Sarah Newton (1,3), Ruth Barker (4), Amy Brodtmann (5), Gavin Williams (1,2), Natalie Fini (1), Kate Hayward (1,6)

1. Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia
2. Department of Physiotherapy, Epworth Healthcare, Richmond, VIC, Australia
3. Department of Occupational Therapy, Austin Health, Heidelberg, VIC, Australia
4. Department of Rehabilitation, Jame Cook University, Townsville, QLD, Australia
5. Department of Medicine, Monash University, Clayton, VIC, Australia
6. Department of Medicine (RMH), University of Melbourne, Parkville, VIC, Australia

Abstract: Co-design of the engagement element of a post stroke upper limb behavioural intervention

Background: Integrated knowledge translation is an approach to co-designing post-stroke behavioural interventions that optimises their real-world application. Post-stroke behavioural interventions contain multiple elements that can be manipulated to enhance their effect: dose, content, therapist and engagement. The stroke recovery field has not fully explored how optimise engagement of the stroke survivor with a behavioural intervention.

Aims: To co-design the engagement element of a post stroke upper limb behavioural intervention.

Methods: A co-designed four stage process utilising an integrated knowledge translation approach to co-design. Phase one assembles a research team with broad knowledge of the intervention's end use. Phase two uses workshops to consult with experts with specific and relevant knowledge. The knowledge groups relevant to this project are: 1. Science of engagement; 2. Intervention delivery (clinicians); 3. Intervention user (stroke survivors). Phase three combines knowledge of the research team and those consulted in phase two to design the engagement element of a post stroke upper limb behavioural intervention. Phase four consults with experts to refine the engagement element for optimal implementation.

Results: This research will produce an upper limb stroke recovery behavioural intervention that is optimised for stroke survivors to engage with.

Shiyi Julia Zhu | Physiotherapy

Authors
Shiyi (Julia) Zhu (1), Kim Bennell (1), Rana Hinman (1), Jenny Harrison (2), Alex Kimp (1), Rachel Nelligan (1)

1. Centre for Health, Exercise and Sports Medicine, Department of Physiotherapy, The University of Melbourne, Parkville, VIC, Australia
2. Rising Moon Tai Chi school, Mt Martha, VIC, Australia

Abstract: Development of a 12-week unsupervised online Tai Chi program for people with osteoarthritis – A mixed-methods study
Background: Knee osteoarthritis (OA) is a leading contributor to global disability. While evidence supports the effectiveness of Tai Chi for improving symptoms for individuals with OA, access to in-person Tai Chi classes may be difficult for many people due to logistical constraints and cost. To overcome accessibility barriers, a self-directed online Tai Chi intervention for OA is needed.

Methods: A self-directed online Tai Chi intervention for OA was developed iteratively. First a panel of Tai Chi instructors and consumers with OA was assembled. A survey was then completed by the panel and additional Tai Chi instructors to rate 33 Tai Chi movements on their appropriateness, safety, and practicality for the program. The second survey, using conjoint analysis methodology, asked participants to prioritize Tai Chi movements through pairwise comparisons. Based on the results and a panel group discussion, a Tai Chi program was developed and rated by the panel. The program was housed within a customized “MyJoint Tai Chi” website with its usability assessed through online think-aloud sessions with OA participants.

Results: The first two surveys (n=35, n=27 respectively) identified a ranked list of 24 Tai Chi movements for potential inclusion. The Yang style 10 forms, with modifications, received 92% agreement from the final panel survey (n=13) and was used as the core of the final program. The ""MyJoint Tai Chi"" website prototype was refined based on user feedback (n=5).

Conclusion: This study presents the development of a self-directed online Tai Chi intervention (“MyJoint Tai Chi”). Its effectiveness will be evaluated in a planned two-arm, parallel-design, superiority pragmatic randomised control trial on self-reported pain during walking and physical function.