

School of Health and Rehabilitation Sciences
12 December 2024



CREATE CHANGE

2024 Postgraduate Research Conference



Contents

Acknowledgements	3
Staff from the School of Health and Rehabilitation Sciences and Faculty of Health and Behavioural Sciences.....	3
The Early and Mid-Career Academics Committee.....	3
Conference Venue	4
Parking.....	4
Allergen Statement.....	6
Conference program	7
Early Career Researcher Rising Star Award	1
Abstracts	1
Stream: Neurorehabilitation and Ageing	1
Sebastian Gallegos-Berrios.....	1
Melinda Toomey.....	2
Josephine Mabin.....	1
Helen Gurteen.....	2
Lana Wilson.....	3
Md Mahmudul Hasan Sagar.....	4
Stream: Knowledge Translation and Professional Education	5
Luo Cheng Zhang.....	5
Karina O’Leary.....	6
Eng Yee Lim.....	7
Mahfuzur Rahman.....	8
Tania Islam.....	9
Lachlan Tran.....	10
Stream: Paediatrics: Healthy Start to Life	11
Mosharop Hossain.....	11
Charlotte Scott.....	12
Nora Pottathuparambil.....	13
Anjana Rajagopal.....	14
Christie Grunke.....	14
Karen Graham.....	16
Karen Graham.....	17
Joseph Vida.....	18
Nayomi Ranathunga.....	19
Wanyun Huang.....	20
Charlotte McCullough.....	21
Jessica Ruhle.....	22
Murray Mai.....	23
Caner Aglamis.....	24
Mengyuan Li.....	25
Raphael Ohms.....	26

Acknowledgements

The 2024 Postgraduate Research Conference Committee & Volunteers

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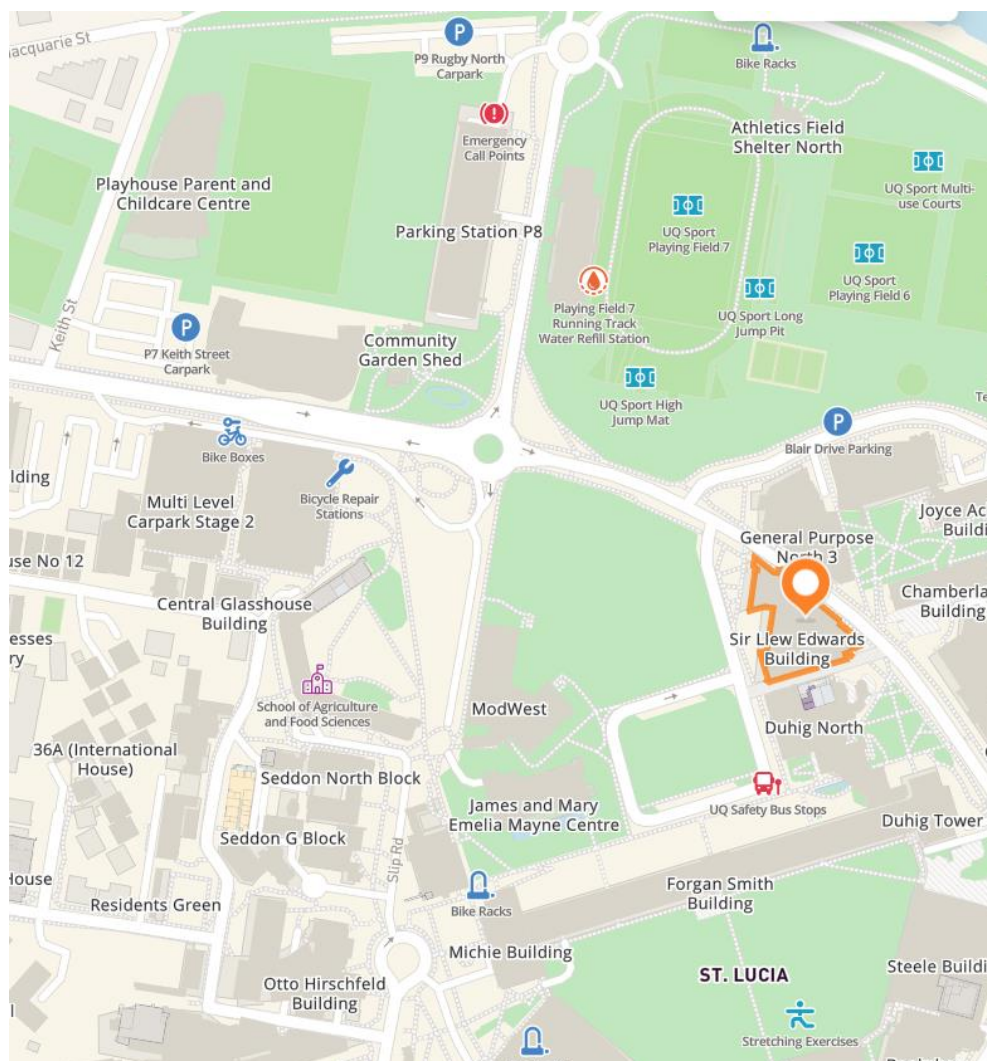
Ms Kylie Sharp

Dr David Klyne

The Early and Mid-Career Academics Committee

Conference Venue

Building 14 Sir Llew Edwards Building, Room 212
The University of Queensland, St Lucia, 4072



Link to the map: <https://link.mazemap.com/tYF454io>

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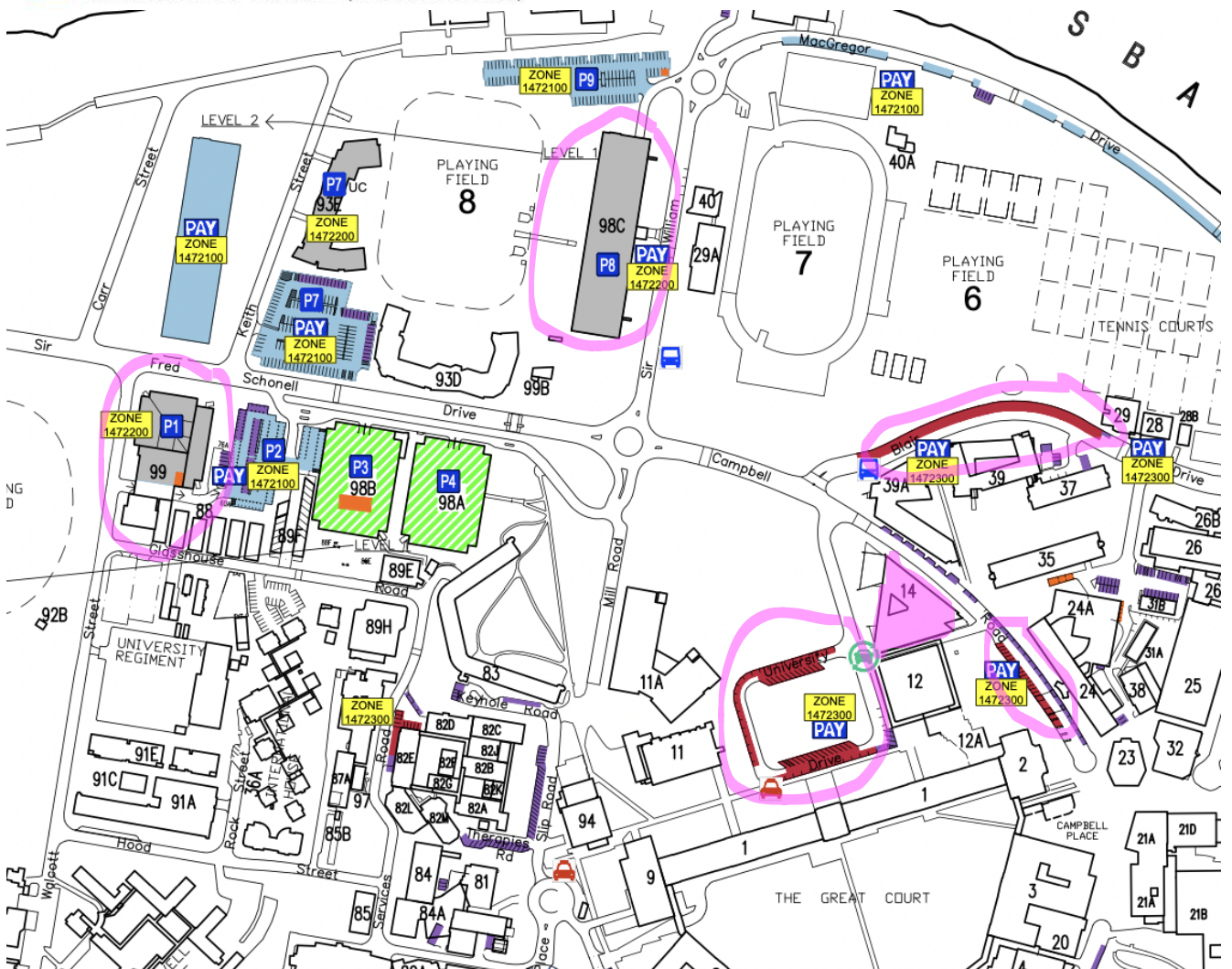


Parking

The closest parking for visitors is available along Blair Drive, University Drive and Campbell Road (hourly rate \$3.25, capped at \$25.00).

Covered parking is available slightly further away in Parking Lot 98C and 99 (hourly rate \$2.50, capped at \$9.10).

-  STAFF (PERMIT)
-  DAILY - GREEN (STAFF EV CHARGING)
-  14 P DAILY - BLUE (CASUAL)
-  14 P HOURLY - RED (CASUAL)
-  14 P HOURLY - GREY (CASUAL UNDERCOVER)
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Allergen Statement



ADVISORY STATEMENT REGARDING ALLERGENS & INGREDIENTS IN FOOD

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- Details of the ingredients of a product or food, if we have such information -
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We are unable to guarantee that the food produced or served at this facility is free of Allergenic material.

Please be aware that at this facility we prepare, cook and serve food that may include (without limitation) the following common allergens:

- Cereals containing Gluten and their products
- Egg and egg products
- Milk and milk products
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- Peanuts and peanut products
- Tree nuts and their products
- Sesame seeds and sesame seed products
- Soybeans and soybean products
- Lupin
- added Sulphites in concentrations of 10mg/kg or more

Any questions regarding the ingredients of any food produced or served, please contact one of our staff members.

Conference program

Opening Plenary Session (Room 212)	
8:30	Conference Opening- Professor Sandy Brauer
8:40	Early Career Researcher Rising Star Award- Dr Wei Qi Koh
9:05	Oral presentations: Neurorehabilitation and Ageing (Room 216)
9:10	Exploring the professional practice of Chilean OT with people post-ABI: Comprehensive survey <i>Sebastian Gallegos-Berrios</i>
9:20	Exploring hearing and vision support care needs of older adults in home care settings <i>Melinda Toomey</i>
9:30	No longer lost in translation: A scoping review of multilingual aphasia interventions <i>Josephine Mabin</i>
9:40	Adapting a sensory support intervention for older adults with sensory impairment for the Australian home care setting <i>Helen Gurteen</i>
9:50	The Australian home care study: prevalence, recognition and treatment of hearing, vision and cognitive impairment among vulnerable older Australians <i>Lana Wilson</i>
10:00	Sports experience and health and wellbeing among children and adolescents in Australia <i>Md Mahmudul Hasan Sagar</i>
10:15	Morning Tea

10:45	Oral presentations: Paediatrics: Healthy start to life (Room 216)	Oral presentations: Musculoskeletal and Communication (Room 217)
10:50	24-hour movement behaviours compliance matter and physical functioning in Australian children and adolescents: A causal analysis <i>Mosharon Hossian</i>	Small nerve fibre pathology in non-neuropathic chronic pain conditions: A systematic review with meta-analysis <i>Nayomi Ranathunga</i>
11:00	Activating parents in early childhood intervention <i>Charlotte Scott</i>	Association between pre-injury health and outcomes <i>Wanyun Huang</i>
11:10	Sports focussed intervention for children with JIA: A study on participant and staff feedback <i>Nora Pottathuparambil</i>	The clinical implementation of Comprehensive, High-dose Aphasia Treatment into clinical practice: A process evaluation <i>Charlotte McCullough</i>
11:20	Joint associations of screen time and physical activity with health-related quality of life in Australian children: Child Health CheckPoint Study <i>Anjana Rajagopal</i>	Understanding the experiences of young adults following participation in an early intervention program for hearing loss: A qualitative study <i>Jessica Ruhle</i>
11:30	Identifying paediatric populations with increased risk for oropharyngeal dysphagia in acute and critical care settings: A scoping review <i>Christie Grunke</i>	Addressing the digital divide for people with aphasia: An evaluation of web accessibility of Australian health and government websites <i>Murray Mai</i>
11:40	Experiences of rehabilitation and swimming professionals working with children with disabilities in Australia <i>Karen Graham*</i>	Exploring participation in everyday conversation for adults with acquired hearing loss with and without hearing aids <i>Caner Aglamis</i>
11:50	Swimming and water safety skills for children with disabilities: A systematic review <i>Karen Graham*</i>	Association between solid cooking fuel use and dementia in older Chinese adults: The mediating effect of depression <i>Mengyuan Li</i>
12:00	Shaping sport-related care for children with disabilities: openings and tensions created by the Australian Physical Literacy Framework <i>Joseph Vida</i>	Effectiveness of stepped care versus other models of mental health service delivery: A systematic review <i>Raphael Ohms</i>
12.15	Closing Plenary Session (Room 212)	
12.15	Awards & Conference Close	
12:30	Lunch	
13:00	Making a Start in Research with Aboriginal and Torres Strait Islander Peoples (separate registration required)	

Early Career Researcher Rising Star Award

Dr Wei Qi Koh



Wei Qi Koh is a Lecturer in Occupational Therapy who has a rapidly developing research profile in implementation science specific in dementia care. In 2024 Wei made a hugely valuable contribution to knowledge translation capacity building, presenting her research to both the SHRS Knowledge Translation and Impact Research Engagement Theme and UQ's Implementation Science Community of Practice, developing knowledge around the application of implementation research methodologies.

As part of her Marie-Sklodowska Curie Fellowship from 2019-2022, she worked within DISTINCT (Dementia: Intersectoral Strategy for Training and Innovation Network for Current Technology), a consortium of multidisciplinary dementia researchers from 12 organisations across 8 countries. She was seconded to the VU Medical Centre Amsterdam in 2021, and to Vrije Universiteit Brussel/University of Ghent in 2022. Her work focused on evaluating the impacts of low-cost pet robots and developing strategies to support the implementation of pet robots in dementia care. In recognition of Wei's important work in her field, she was awarded two seed grants in 2024 to continue working with consumers and to maximise her research impact: the Australian Association of Gerontology RM Gibson Program grant, and the HaBS CCI and Knowledge Translation Accelerator grant.

Abstracts

Stream: Neurorehabilitation and Ageing

Sebastian Gallegos-Berrios

Exploring the professional practice of Chilean OT with people post-ABI:
Comprehensive survey

Authors: Mr Sebastian Gallegos-Berrios^{1,2}, Dr Freyr Patterson¹, Prof. Jodie Copley¹, Mr Cristobal Catalan³, Ms Nataly Cornejo⁴, Dr Jennifer Garcia¹, Ms Macarena Inzunza¹, Ms Rommy Saavedra⁵, Mr Ignacio Pezoa⁶, Miss Barbara Sotomayor⁷

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Introduction

The increasing prevalence of acquired brain injury (ABI) in Chile presents significant challenges for occupational therapists (OTs), who are responsible for managing complex rehabilitation cases. Despite the crucial role OTs play in the recovery process, there is a paucity of detailed studies exploring current practice of Chilean OTs including their clinical decision-making processes, particularly in the Chilean context.

Objectives

To explore and understand current practice including clinical decision-making processes of Chilean OTs in the care of people after ABI, identifying the main considerations, tools and strategies employed during assessment and intervention.

Methods

A mixed-approach online survey was distributed to Chilean OTs working after ABI. The survey, which included both quantitative and qualitative components, collected data from 205 participants in various regions and practice settings. Quantitative data were analysed with descriptive statistics, while qualitative data were analysed using content analysis to identify key aspects of current practice.

Results

The findings revealed a variety of assessment tools and intervention strategies, with a predominant focus on functional and cognitive rehabilitation. The study also highlighted significant regional disparities in the availability of specialised services, which were concentrated in urban areas. Findings underscore the importance of developing evidence-based practices relevant to the local cultural context to improve quality of care.

Conclusion

This study provides a beginning understanding of the professional practices of Chilean OTs working after ABI, offering valuable insights into their clinical decision-making processes. The findings may inform future training programmes and policy initiatives aimed at improving rehabilitation services for people after ABI in Chile.

Melinda Toomey

Exploring hearing and vision support care needs of older adults in home care settings

Authors: Melinda Toomey¹, Helen Gurteen¹, Bronwyn Franco¹, Lana Wilson¹, Dayna Cenin², Melanie Ferguson³, Yuanyuan Gu⁴, Chyrisse Heine⁵, Lisa Keay⁶, Sheela Kumaran⁶, Sabrina Lenzen⁷, Iracema Leroi⁸, Judy Lowthian⁹, Carly Meyer⁹, Leander Mitchell¹⁰, John Newall¹¹, Nancy Pachana¹², Marianne Piano^{13,14}, Smriti Raichand⁴, Emma Scanlan¹⁵, Hamid Sohrabi¹⁶, Piers Dawes¹

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Introduction

Vision and hearing impairments significantly impact wellbeing of older Australians with over 70% of home care recipients experiencing sensory impairments, making hearing and vision support a critical component of care. The sensory care needs of older adults in home care settings and whether these needs were met or unmet were explored.

Methods

Semi-structured interviews were conducted with 13 home care recipients (mean age 81.8±6.9 years, three with hearing impairment, four with vision impairment, and six with dual sensory impairment) and three supporting family members. The Adapted Support Care Needs survey guided discussions on psychological and emotional needs, health information about the condition, physical and daily living, care and support, and interpersonal relationships. Results were thematically analysed.

Results

Emergent themes were:

1. Personalised Pathways to Sensory Well-being: Understanding the individual needs, abilities, emotions, and aspirations is fundamental to personalising sensory care pathways.
2. Collective Responsibility in Support Networks: Conceptualising the individual's support network to enhance their care.
3. Enhancing Device Use and Communication: Improving the use of sensory devices and communication strategies.
4. Facilitating Connection: Strengthening their connection to home, community and the world.

Conclusion

These findings underscore the multifaceted needs of older adults in home care settings regarding sensory care, highlighting the importance of individualised care, robust support networks, effective sensory device use, and fostering connections to enhance sensory well-being.

Insights gained from this study will guide the co-design of targeted interventions, fostering a resilient healthcare system that supports the sensory wellbeing of older adults.

Josephine Mabin

No longer lost in translation: A scoping review of multilingual aphasia interventions

Introduction

Aphasia, a language disorder caused by brain damage, impacts an individual's ability to comprehend or express written, verbal, or gestured language. Global trends in migration and aging have cultivated a cohort of older multilingual adults with neurorehabilitation needs. However, little research has been published regarding multilingual aphasia rehabilitation. Clinicians across international contexts frequently report that the limited evidence base is a barrier to therapy for these populations, perpetuating health inequality faced by various cultural and linguistic minority groups.

Methods

A team including multilingual aphasia researchers was assembled. A search strategy consisting of English search terms was developed, and a two-step back translation process informed the development of an additional search strategy with search terms in 13 non-English languages. 25% of titles and abstracts and full texts were independently dual screened. Machine translation facilitated screening for authors who were not proficient in a study's publication language. Data was independently dual extracted for 25% of included studies.

Results

73 studies across three languages (English, Spanish, French) were included in the review. Preliminary analysis revealed an evidence base characterised by small sample sizes and methodologies consistent with emerging research (e.g. case series). Included articles were generally impairment-focussed, mostly targeting language deficits and European languages.

Conclusion

This synthesis of literature may empower future researchers and clinicians to use novel techniques in developing and implementing multilingual aphasia rehabilitation approaches. Multilingual team members, comprehensive search strategies, and machine translation may enable future multilingualism research (including that outside the field of speech pathology) to integrate publications published in any language.

Helen Gurteen

Adapting a sensory support intervention for older adults with sensory impairment for the Australian home care setting

Authors: Dr Helen Gurteen¹, Dr Melinda Toomey¹, Ms Bronwyn Franco¹, Dr Dayna Cenin², Dr Melanie Ferguson³, Assoc Prof Yuanyuan Gu⁴, Dr Chyrisse Heine⁵, Dr Lisa Keay⁶, Dr Sheela Kumaran⁶, Dr Sabrina Lenzen⁷, Prof Iracema Leroi⁸, Prof Judy Lowthian⁹, Dr Carly Meyer⁹, Dr Leander Mitchell¹⁰, Dr John Newall¹¹, Prof Nancy Pachana¹⁰, Dr Marianne Piano¹², Dr Smriti Raichand⁴, Ms Emma Scanlan¹³, Prof Hamid Sohrabi¹⁴, Prof Piers Dawes¹

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Introduction

The Sense-Cog Sensory Support Intervention (SSI) addresses the sensory needs of older Europeans with dementia and hearing/vision impairment. Delivered at home by a Sensory Therapist, it includes assessments, device-based corrections, training, and support. As the success of an intervention is impacted by both the intervention design and the delivery context, this study aimed to adapt the SSI for older Australians with hearing/vision impairment receiving home care.

Methods

Using a 12month iterative co-design process, 7 professionals (4 audiologists, 2 vision care professionals, 1 home care worker), and a multidisciplinary research team, (1) adapted the SSI to Australian home-care settings, and (2) refined the intervention. Participants were purposively sampled for diverse expertise and perspectives. Two workshops with professionals assessed the intervention's suitability and suggested modifications based on identified needs. Findings were analysed and used to adapt the intervention, which was further refined through Consumer and Community Involvement.

Results

Workshops confirmed the intervention broadly met areas of identified need for the target population. Thematic analysis identified key modification areas as; (1) mindset and engagement strategies, (2) tailored services and support, (3) holistic approach to independence, (4) information and resource provision, and (5) extended training. A comprehensive training program for Sensory Therapists and online repository for resources were proposed

Conclusion

The adapted Sense-Cog SSI shows potential for meeting sensory support needs of older Australians with hearing/vision impairment in home-care settings. The modifications are expected to enhance the intervention's effectiveness.

Lana Wilson

The Australian home care study: Prevalence, recognition and treatment of hearing, vision and cognitive impairment among vulnerable older Australians

Authors: Lana Wilson¹, Melinda Toomey¹, Helen Gurteen¹, Bronwyn Franco¹, Nancy Pachana², Rebecca Bennett¹, Dayna Cenin³, Melanie Ferguson⁴, Yuanyuan Gu⁵, Chyrisse Heine⁶, Lisa Keay⁷, Sheela Kumaran⁷, Sabrina Lenzen⁸, Iracema Leroi⁹, Carrie Lidscombe¹⁰, Judy Lowthian¹¹, Carly Meyer¹¹, Tiffany Militano¹², Leander Mitchell², John Newall¹³, Marianne Piano¹⁴, Smriti Raichand¹⁵, Emma Scanlan¹⁶, Hamid Sohrabi¹⁷, Piers Dawes¹

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Introduction

Older Australians prefer to receive home care over residential aged care. Due to multi-morbidity and mobility limitations, their hearing and vision needs may go unaddressed. Establishing the prevalence and effects of hearing, vision, and cognitive impairments is crucial to understanding needs of older Australians. This study estimates these impairments in Australia's home care population and models the impact of sensory and cognitive impairments on quality of life, mental wellbeing, and functional ability.

Methods

A cross-sectional survey (n=369). Hearing was assessed using the HearX hearTest, visual acuity with Peek Acuity, contrast sensitivity with Spaeth/Richman Contrast Sensitivity test and cognitive function using the Montreal Cognitive Assessment (normal, hearing and vision impaired versions).

Results

Initial data for 88 participants showed that 94.5% (CI 95% 90, 99) of participants had hearing loss in at least one ear. 48.9% reported having a hearing aid. 27.5% (CI 95% 18, 37) had difficulties with visual acuity in at least one eye and 56.0% (CI 95% 46, 66) had difficulties with contrast sensitivity in at least one eye. 92% reported wearing glasses. 61.5% (CI 95%, 52, 72) failed the cognitive screening.

Conclusion

Hearing, vision and cognitive impairments are common among Australia's home care population and can often go underdiagnosed and undertreated. Healthcare services need to consider the high chance of comorbidities when addressing this population and tailor their services accordingly.

Md Mahmudul Hasan Sagar

Sports experience and health and wellbeing among children and adolescents in Australia

Authors: Md. Mahmudul Hasan Sagar^{1,2,3}, George Thomas², John Cairney², Asaduzzaman Khan¹

¹*School of Health and Rehabilitation Sciences, The University of Queensland, Australia;* ²*Health and Wellbeing Centre for Research Innovation (HWCRI), School of Human Movement and Nutrition Sciences, The University of Queensland, Australia;* ³*Department of Arts and Sciences, Ahsanullah University of Science and Technology, Bangladesh*

Introduction

Sports promote physical activity which is crucial for health and wellbeing of children and adolescents. Research link sports participation to favourable outcomes, such as life skill development, cardiovascular fitness, and improved quality of life. However, some studies associate it with detrimental outcomes like alcohol use, delinquency, and mental health challenges. Systematic reviews and meta-analyses have identified three factors contributing to these inconclusive outcomes: (1) measurement of sports participation (2) underlying mechanisms, and (3) characteristics of sports. Nevertheless, researchers repeatedly emphasize the need for comprehensive assessment tools, since simplistic measurement overlook the salient experiences that occur through sports participation. This PhD project aims to better understand the relationship between sports experiences and health and wellbeing using the comprehensive 'Sports Experience Measure for Children and Youth (SEM:CY)'. Specifically, it will:

1. analyse the psychometric properties of SEM:CY
2. examine the correlates of sports experience using SEM:CY, and
3. explore the association between sports experience and health and wellbeing outcomes.

Methods

Data will be collected through an online survey of approximately 1000 Australian children and adolescents (aged 12 to 18) from various sports contexts.

Results

This research will validate SEM:CY in Australian context and generate insights informing interventions, helping parents, coaches, and policymakers promote health and wellbeing through positive sports experiences.

Conclusion

This PhD project will have both theoretical and practical implications through validating SEM:CY, exploring correlates of sports experiences, and their association with health and wellbeing.

Stream: Knowledge Translation and Professional Education

Luo Cheng Zhang

Understanding simulation-based learning for health professions students from culturally and linguistically diverse backgrounds: A scoping review.

Introduction

Simulation-based learning (SBL) is an essential component of health professions education, providing preparation or a substitute for clinical placements. While SBL's benefits are widely recognised, students from culturally and linguistically diverse (CALD) backgrounds may not achieve the same learning outcomes as their local peers due to various challenges. Supporting students from CALD backgrounds in SBL is crucial to optimising their learning experiences and ensuring inclusivity in health education. This scoping review aims to (1) map the evidence on how SBL impacts the learning outcomes of health professions students from CALD backgrounds; and (2) understand how these students perceive their SBL experiences.

Methods

Using the Arksey and O'Malley framework and the Joanna Briggs Institute methodology, a search was conducted in January 2024 across PubMed, Embase, CINAHL, Scopus, PsycINFO, and ERIC. Ten studies met the inclusion criteria.

Results

This review highlighted three themes (1) diverse learning outcomes of SBL; (2) facing linguistic and cultural challenges that are inherent to SBL; and (3) preparation, reflection, and support to actively participate in SBL activities.

Conclusion

While SBL has potential for improving outcomes for health professional students from CALD backgrounds, specifically tailored activities addressing their needs are lacking. Broader health professions research is required to ensure SBL is inclusive and effective.

Karina O'Leary

Enhancing interprofessional practice in healthcare

Authors: Karina T O'Leary^{1,2}, Neil Cottrell³, Rebecca Olson⁴, Joanna Mollison⁵, Nadine E Foster^{1,3}

¹*School of Health and Rehabilitation Sciences, The University of Queensland;* ²*STARS Education and Research Alliance, Surgical, Treatment and Rehabilitation Service (STARS), The University of Queensland and Metro North Health;* ³*Faculty of Health and Behavioural Sciences, The University of Queensland;* ⁴*Faculty of Humanities, Arts and Social Sciences, The University of Queensland;* ⁵*Royal Brisbane and Women's Hospital, Metro North Health*

Introduction

Healthcare is facing challenges with a growing and aging population, increasing co-morbidities and workforce shortages. Interprofessional teams delivering patient-centred care are considered the panacea to these challenges, driving a need for effective interventions to improve interprofessional practice. A crucial initial step is identifying the characteristics of successful interventions.

Methods

We searched Pubmed, Embase, CINAHL, Cochrane and Web of Science databases in January 2023, for full-text peer reviewed research. Acknowledging that self-reporting and objective measures of behaviour changes do not always align, only studies reporting positive outcomes from objective measures of interprofessional practice were included. Full-text articles were reviewed by two reviewers with agreement recorded. We included studies testing interventions targeting existing healthcare teams in hospital settings. Data extraction included intervention characteristics, team composition, setting, outcome measures and reported effects.

Results

This review found a range of successful interventions categorised as training, tools or organisational change. Interventions were implemented over many months, most frequently measuring communication. Heterogeneity of outcome measures precluded development of aggregate data of intervention effectiveness. Few studies have invested time to understand the local context nor engaged all stakeholders in intervention co-design.

Conclusion

Findings indicate interventions can improve interprofessional practice within hospital teams. However, interventions informed by an understanding of local context and involving all relevant stakeholders could potentially yield more effective outcomes.

Eng Yee Lim

Exploring resilience among international health science students who speak English as an additional language: What keeps them going?

Authors: Eng Yee Lim, Tomomi McAuliffe, Merrill Turpin

Occupational Therapy, School of Health and Rehabilitation Sciences, University of Queensland

Introduction

International allied health students experience culture shock, loss of social support and communication barriers, throughout their university experience. Given the range of challenges, one could expect international students to experience poorer outcomes. Yet, international students have a higher degree completion rate and similar psychological distress levels when compared to their domestic peers. How international students have built resilience to cope with challenges has not been explored. This paper aims to explore the experiences of international allied health students and understand their journey to building resilience throughout their university degree.

Methods

A qualitative study using an Interpretive Phenomenological Approach and Students as Partners approach was conducted with 10 allied health (occupational therapy, physiotherapy and speech therapy) undergraduate international students who speak English as a second language. Semi-structured interviews were conducted, and the data was analysed inductively.

Results

Four themes were generated, describing how international students overcome challenges. (1) creating a new identity, (2) learning as I go, (3) repaying my parent's investments, and (4) building the supports I need.

Conclusion

This study contributes to research by (1) highlighting the importance but complexity of creating bicultural identity, balancing cultural integration and capital, (2) bringing the conversation about resilience back to the individual and challenging how institution-led programs are implemented and (3) exploring the differing relationships international students form.

Mahfuzur Rahman

Drivers of access to and utilisation of services across the continuum of care for type 2 diabetes among people with culturally and linguistically diverse backgrounds: A systematic review

Authors: Mahfuzur Rahman*¹, Resham B. Khatri², Sjaan Gomersall^{1,3}, Mosharop Hossian¹, Asaduzzaman Khan¹

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Introduction

Healthcare services utilisation for type 2 diabetes (T2D) is suboptimal among people from culturally and linguistically diverse (CALD) backgrounds. Limited synthesised evidence exists on drivers influencing their healthcare access and utilisation across the continuum of care (CoC). This study synthesised barriers and facilitators of their accessing and utilising healthcare services across the CoC.

Methods

We conducted a systematic review of literature published until 15 November 2023 in Scopus, PubMed, Web of Science, CINAHL and PsycINFO addressing four key concepts: barriers and facilitators, CoC, T2D and CALD. We used CoC framework-guided thematic analysis for qualitative findings and narrative synthesis for quantitative findings.

Results

We included a total of 35 studies for review. Language and cultural barriers were predominantly expressed by most people with T2D and their healthcare providers, especially at the monitoring and adherence stage of CoC. Psychosocial (e.g., fear of treatment) and sociocultural barriers (e.g., stigma) were encountered at diagnosis and initiation of treatment stages. Trusted relationships with healthcare providers and cultural competency of the healthcare providers were facilitators of continuing monitoring and adherence and long-term care and management stages. Evidence lacks barriers and facilitators in decision-making to enter the healthcare systems, screening, and first point of contact aspects of the CoC.

Conclusion

This review identified sociocultural, financial, legal and infrastructural barriers and facilitators in the CoC for T2D among people from CALD backgrounds. Further investigation is needed focusing on decision-making stages to enter the healthcare systems, screening, and first point of contact stages of CoC for T2D among these groups.

Tania Islam

Genome-wide association study reveals causal genes and biological mechanisms shared between type 2 diabetes and stroke

Authors: Tania Islam¹, Asaduzzaman Khan¹, Mohammad Ali Moni¹, Jian Zeng²

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Introduction

An epidemiological association between type 2 diabetes (T2D) and stroke is widely recognised, however, the genetic relationships and biological mechanisms underlying T2D and stroke remain unknown. This study aims to explore the shared genetic architecture and pathways underlying T2D and stroke using genome-wide association study (GWAS) datasets.

Methods

We assessed shared genetic relationships using SNP effect concordance analysis (SECA), linkage disequilibrium score regression analysis (LDSC), and cross-trait GWAS meta-analysis. Summary-based mendelian randomisation (SMR) was applied to integrate cis-expression quantitative loci (cis-eQTLs) with GWAS data for stroke and T2D, heterogeneity in dependent instruments (HEIDI) test was used to distinguish pleiotropy from linkage.

Results

Our analysis demonstrated significant genetic overlap and correlation between T2D and stroke. A cross-trait meta-analysis uncovered 19 independent lead SNPs with P-value < 5.8×10^{-8} . SMR analyses and HEIDI test revealed 109 causal genes for T2D and 25 causal genes for stroke after multiple correction (Bonferroni P-value < 5.23×10^{-6} ; PHEIDI > 0.01), with seven causal genes shared between T2D and stroke, while five causal genes, namely SREBF1, LTBP3, FAM234A, PABPC4, and RMC1, were novel stroke genes. Pathway analyses revealed important pathways shared between T2D and stroke, including, "Positive regulation of cholesterol biosynthetic process", "autophagy regulation", "phosphatidylinositol 3-kinase signaling pathway".

Conclusion

Our findings reveal novel genetic loci, causal genes, and pathways shared by T2D and stroke, providing insights into molecular targets that could facilitate joint therapeutic approaches.

Lachlan Tran

Navigating self-awareness and power dynamics: Physiotherapy students' journeys in learning critical reflexivity in the classroom

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Introduction

Despite a commitment to equitable care, healthcare professionals' implicit bias and stereotypes continue to contribute to health disparities. Introducing ideas of power, introspective reflection and equity, in the form of critical reflexivity early into physiotherapy education may offer a promising approach to address these disparities. Therefore, our study aimed to explore the experiences of physiotherapy students learning critical reflexivity in the classroom.

Methods

A qualitative study design was employed where first year physiotherapy students completed three identical online surveys following three different tutorials addressing topics related to 'humanistic care' in the form of various physiotherapy scenarios and privilege activities. The survey questions prompted physiotherapy students to reflect on self-biases, assumptions, and emotional reactions experienced.

Results

44 responses from a cohort of 168 physiotherapy students between three surveys were received. Four themes were generated regarding participant experiences: 1. Critical reflexivity evokes emotional reactions, 2. Challenging assumptions and fostering change, 3. Critical reflexivity involves empathy, 4. Guided, realistic practical activities are paramount in creating critically reflexive students. Learning critical reflexivity may be an intertwined process with feelings of sadness and guilt, and empathy but also confronting participant assumptions and biases encouraging ideas of self-change.

Conclusion

Critical reflexivity may be key in educating physiotherapy students to recognise and address implicit bias. Understanding student experiences in learning this concept may support the need for physiotherapy students to be aware of power dynamics, assumptions and bias in creating culturally safe and addressing health disparities in their role as future health professionals.

Stream: Paediatrics: Healthy Start to Life

Mosharop Hossian

24-hour movement behaviours compliance matter and physical functioning in Australian children and adolescents: A causal analysis

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Introduction

Compliance with 24-hour movement behaviours (24-h MB)—including physical activity, sedentary time, and sleep—may play a crucial role in the health-related quality of life (HRQoL) of children and adolescents. This study examined whether adherence to 24-h MB guidelines predicts subsequent physical functioning HRQoL in Australian children and adolescents.

Methods

Data were drawn from the Longitudinal Study of Australian Children (LSAC), with 3,368 to 4,113 participants across five waves (ages 6–17). Compliance was assessed based on adherence to all three 24-h MB recommendations. Physical functioning HRQoL was measured using the Paediatric Quality of Life Inventory physical functioning scale. Structural Nested Mean Models with g-estimation were employed to address time-varying confounders and estimate the impact of compliance.

Results

Compliance with all three 24-h MB recommendations predicted higher HRQoL scores in the physical functioning domain over time. Participants compliant at one wave, with physical functioning measured at the next, had a 2.28-unit higher HRQoL score compared to non-compliant peers (Confidence Interval [CI]: 1.05, 3.46). When physical functioning was measured two waves later, compliant individuals showed a 1.52-unit higher HRQoL score (CI: 0.08, 2.85). However, physical functioning measurements taken three waves later did not indicate a significant difference between compliant and non-compliant individuals.

Conclusion

Adherence to 24-h MB guidelines predicts short-term improvements in the physical functioning HRQoL among children and adolescents, but these benefits diminish over time. Regular and ongoing engagement in healthy movement behaviours may be necessary to support and maintain better physical functioning HRQoL.

Charlotte Scott

Activating parents in early childhood intervention: Evaluating goal attainment of children and families receiving family-centred, relationally-based early intervention at The Benevolent Society

Introduction

Sensitive and responsive parent-child interactions are crucial for optimal child development. However, children with developmental concerns face additional risks that can impact the parent-child relationship, potentially leading to insecure attachment. Research suggests that strengthening parent sensitivity and responsiveness may enhance child development, yet this is typically not a core focus of early childhood interventions. In response, The Benevolent Society (TBS) in Australia piloted a family-centred, relationally-based approach within its Early Supports program. This approach aimed to enhance parent-child interactions and ultimately facilitate goal attainment.

Methods

Using a cross-sectional approach, parents of young children aged 0-6 years with developmental concerns completed the Parent Efficacy and Empowerment Measure (PEEM) and a modified fidelity measure online. Responses were paired with their child's goal attainment information (GAS-Light and Goal Tracking Form scores). Practitioners completed a differently modified fidelity measure that investigated their perspectives and adherence to the principles of family-centred, relationally-based approaches in practice. Descriptive, inferential, and correlational analyses were performed.

Results

Seventeen parents (child: mean age 3.3 ± 1.5 years; 82.4% male) completed the parent survey. Mann-Whitney U-testing revealed a statistically significant improvement ($p \leq .001$) in GTF score change. This was also reflected in GAS-Light scores, which showed a mean goal improvement of 0.29 ± 0.99 . 18% of parents were identified as having high parental self-efficacy (PSE). Parents and practitioners reported high fidelity to the therapeutic approaches, with average responses of 4.3/5 ($n = 17$) and 3.9/5 ($n = 16$), respectively.

Conclusions

The use of the family-centred, relationally-based approach demonstrated significant improvements in GTF score change. These findings suggest that the approach, when integrated within short-term early childhood interventions, effectively supports goal attainment. However, further research is needed to explore how this approach compares to others, and how it may support strengthening parent capacity.

Nora Pottathuparambil

Sports focussed intervention for children with JIA: A study on participant and staff feedback

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Introduction

Children with Juvenile Idiopathic Arthritis (JIA) experience significant pain and fatigue and hence, many of them do not meet the recommended physical activity guidelines. While barriers and facilitators for physical activity have been previously explored for this population, there is no current literature on sport interventions to improve participation in long-term community sport. This qualitative study aimed to determine the feasibility of a practitioner-led, peer-group sport intervention called Sports Stars, as a randomised-controlled trial, and its' acceptability by children with JIA, their families and health practitioners.

Methods

7–12-year-old children in the vicinity of the QCH were recruited to partake in a cluster-randomised waitlist-controlled trial of Sports Stars. Online surveys and interviews were conducted with participants, parents and staff to evaluate the feasibility of the intervention through thematic analysis.

Results

Nine surveys were completed by participants and parents after participating in Sports Stars JIA. Nine semi-structured interviews were conducted with participants, parents, and staff, to develop four themes (and 12 subthemes): barriers to participation, disease awareness, engagement, and social effects.

Conclusion

Sports Stars JIA is a beneficial intervention however the wide geographical distribution of this population, and the unsuitable mode of delivery limits its feasibility as a randomised-controlled trial. With significant modifications to the methodology and study design, Sports Stars JIA has the potential to be a feasible and successful intervention in future.

Anjana Rajagopal

Joint associations of screen time and physical activity with health-related quality of life in Australian children: Child Health CheckPoint Study

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Introduction

Health-related quality of life (QoL) reflects overall well-being, including physical, emotional, and social dimensions. Prolonged screen time (ST) and insufficient physical activity (PA) can negatively impact children's QoL, but few studies have examined the sex-specific joint associations between ST, PA, and QoL in Australian children.

Methods

Using the Child Health CheckPoint dataset, a one-off physical health assessment in the Longitudinal Study of Australian Children, this cross-sectional joint analysis included accelerometry-measured moderate-to-vigorous PA and self-reported ST from time-use diaries. The outcome, Pediatric QoL Inventory total score, was analyzed using generalized additive models adjusted for age, sex, socio-economic status, pubertal status, geography, BMI z-scores, parental MVPA, and sleep time.

Results

Sample included 1024 children ($M_{age} = 11.5$ years, 50.1% boys). Boys had a mean QoL score of 79.17, while girls mean score was 80.39. Average ST/day was 3.36 hr, and PA was 1.06 hr. ST was negatively associated with QoL for both boys and girls when exceeding 4 hr/day and 2 hr/day respectively, while PA had positive effects on QoL. Joint ST-PA associations revealed QoL decreased with increased ST, especially among those who did not meet recommended MVPA (>1hr) and ST (<2hr) guidelines, with girls faring better.

Conclusion

This study found that higher ST and lower PA were associated with reduced QoL, with sex-specific differences. These associations suggest that encouraging Australian children to be more active, limit recreational ST and adhering to guidelines may support better QoL. Further, longitudinal research is needed to explore the causal nature of the findings.

Christie Grunke

Identifying paediatric populations with increased risk for oropharyngeal dysphagia in acute and critical care settings: A scoping review

Introduction

Oropharyngeal dysphagia is commonly observed in hospitalised children. Despite this, clarity regarding its prevalence is required to direct service needs in these settings.

Methods

Five electronic databases (EMBASE, Cinahl, Cochrane, PubMed, Scopus) were searched for oropharyngeal dysphagia prevalence in children admitted to acute and/or critical care wards, following an acute illness, medical or surgical intervention. Studies identified for inclusion involved children (0-16 years) in acute or critical care settings where prevalence data for new onset or worsening oropharyngeal dysphagia was reported. Peer reviewed journal articles including systematic reviews were included. Data was extracted and synthesised using a purpose-designed extraction tool.

Results

A total of 7,522 studies were screened after duplicate removal and 67 studies met criteria. The most researched populations included congenital heart disease surgeries, posterior fossa tumour resections, stroke, and post-extubation dysphagia. Populations with the highest documented oropharyngeal dysphagia prevalence were children after posterior fossa tumour resection with a new tracheostomy, children using nasal continuous positive airway pressure, and children following ischemic stroke. Characteristics significantly associated with oropharyngeal dysphagia were younger age, lower weight, longer intubation, upper/middle airway dysfunction (e.g., vocal fold paresis), and presence of additional comorbidities.

Conclusions

This review presents synthesised prevalence data for children in acute and critical care settings with new onset or worsening oropharyngeal dysphagia. It highlights the broad nature of oropharyngeal dysphagia in hospitalised children and the need for more rigorous research into characteristics associated with increased risk to better support screening and early identification of oropharyngeal dysphagia in these settings.

Karen Graham

Experiences of rehabilitation and swimming professionals working with children with disabilities in Australia

Authors: Karen Graham, Katarina Ostojic, Leanne Johnston, Iain Dutia, Lizzy Barnes-Keoghan & Georgina Clutterbuck

Introduction

Physical activity participation is a protective health factor for children with disabilities. Swimming is the most popular sport for children in Australia, and a common goal for these children. This study explored swimming and rehabilitation professionals' perceptions of swimming for Australian children with disabilities.

Methods

An online survey exploring swimming for children with disabilities was completed by rehabilitation and swimming professionals with recent experience. Quantitative data from binary and Likert-scale questions were analysed descriptively. Qualitative data was evaluated using reflexive thematic analysis and mapped to the family of Participation-Related Constructs (fPRC).

Results

Ninety-one swimming and 55 rehabilitation professionals (n=146) were surveyed. Most reported being confident supporting children with disabilities with swimming goals (rehabilitation=71.6%, swimming=73.8%), but had neutral-very low knowledge of para-swimming eligibility and classification (rehabilitation=75%, swimming=77.7%). Thirty-four sub-themes were mapped to all core fPRC constructs. Barriers/facilitators included pool accessibility (physical and sensory); program availability, affordability, acceptability (of content and culture) and accommodating professionals and programs. Professionals reported programs should develop confidence while addressing water-safety, swimming skills and fitness. Swimming professionals reported requiring inter-disciplinary support to create acceptable and accommodating programs.

Conclusion

Rehabilitation and swimming professionals should review programs to ensure they meet the needs of children with disabilities. Further research (including collating perspectives of people with lived experience of childhood-onset disability) is needed to create an action plan to improve swimming participation for Australian children with disabilities.

Karen Graham

Swimming and water safety skills for children with disabilities: A systematic review

Authors: Karen Graham, Leanne Johnston, Katarina Ostojic & Georgina Clutterbuck

Purpose

To evaluate the evidence for swimming interventions for children with disabilities.

Methods

Seven databases were searched using terms for population (children with disabilities), intervention content (swimming, i.e., not hydrotherapy) and outcomes (swimming and/or water safety) for full-text, original, peer-reviewed studies, without language/date restrictions. Evidence level and conduct were examined by two raters, using GRADE. Results were reported according to PRISMA guidelines.

Results

Forty-seven studies (four randomized controlled, five non-randomized controlled, 38 uncontrolled) met criteria. Studies included children with Autism (n=25), cerebral palsy (n=11), Developmental Coordination Disorder (n=2), Down Syndrome (n=2), Intellectual Disability (n=2), Neuromuscular Disorders (n=1), visual impairment (n=1), or varied diagnoses (n=3). Programs were led by swimming teachers (n=25), physiotherapists (n=10), specialist educators (n=5), multi-disciplinary teams (n=5), and occupational therapists (n=2). Programs included swimming training (n=40), water safety development (n=37), strengthening (n=10), breathing techniques (n=7), and sensory strategies (n=5). Swimming skills were measured by custom tools (n=22), standardised swimming scales (Water Orientation Test Alyn n=11, Humphries Assessment of Aquatic Readiness n=6, Swimming Classification Scale n=3, Stochl Scale n=2), or speed/distance (n=3). All but one study reported improved swimming skills, and while level of evidence quality was variable, GRADE of studies provides moderate positive evidence overall.

Conclusion

There is moderate evidence to support a range of swimming interventions for children with disabilities. Robust study design using standardised outcome measures is needed to strengthen evidence, determine essential elements and optimal dose.

Joseph Vida

Shaping sport-related care for children with disabilities: Openings and tensions created by the Australian Physical Literacy Framework.

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Introduction

Physiotherapists have a role in enabling sport participation for children with disabilities. Physical literacy concepts have informed sport-focused interventions, however physical literacy approaches to goal setting have not been investigated. This matters because different goal setting practices may result in contrasting interventions and care experiences. Our questions: How might the Australian Physical Literacy Framework affect parents' sport-related goal setting, and what are the potential implications for physiotherapists?

Methods

Eighteen parents of children with disabilities (3-16 years old) completed an online quality improvement survey (Toowoomba, Australia). The goal setting component included: (i) creating sport-related goals for a practitioner-led, peer-group sports intervention; (ii) brainstorming, prompted by definitions from the Australian Physical Literacy Framework; and (iii) revising sport-related goals. Our theoretical orientation towards the written data emerged during postqualitative analysis.

Results

Three discussion topics were generated. First, "non-physical therapy" highlighted the importance of non-physical domains, and tensions that might arise when the physical domain is low or absent priority. Second, "the participation paradox" flagged the scarcity of participation goals, conflicting with the purpose of transition-focused sport interventions. Third, "beyond the body" invited an alternative target for physiotherapy: environments and inclusion practices, rather than impaired bodies.

Conclusion

Physical literacy-based goal setting may transform how physiotherapists shape sport-related care for children with disabilities. Each discussion topic offers new directions for inquiry.

Nayomi Ranathunga

Small nerve fibre pathology in non-neuropathic chronic pain conditions: A systematic review with meta-analysis

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Introduction

Small nerve fibre pathology (SFP) has been observed in several chronic pain conditions not typically classified as neuropathic (e.g., fibromyalgia). This systematic review compared the morphology of small nerve fibres in people with non-neuropathic chronic pain conditions to pain-free controls.

Methods

Non-neuropathic chronic pain conditions were defined using ICD-11 diagnostic classifications. Five databases were searched (MEDLINE, EMBASE, Cochrane, Web of Science, CINAHL). Two independent reviewers performed screening, risk of bias (RoB) assessment and data extraction. Outcomes of interest were intra-epidermal nerve fibre density (IENFD) and corneal confocal microscopy (CCM) derived metrics, compared by random effects meta-analysis. Quality of evidence was assessed using the GRADE approach.

Results

Fifty-eight studies were included, examining fibromyalgia (N=28), complex regional pain syndrome type-I (N=5), migraine (N=4), and other conditions (N=21). IENFD was assessed in 47 studies, CCM in 12 studies. RoB was low in 26, moderate in 30 and high in 2 studies. Meta-analysis revealed lower IENFD (fibres/mm) at the distal leg (MD: -2.92 [95%CI -3.65, -2.18]; I²=75%; 17 studies, 1153 participants) and thigh (MD: -3.77 [-5.10, -2.43]; I²=86%; 12 studies, 896 participants) and reduced corneal nerve fibre density (SMD: -0.81 [-1.34, -0.29], I²=91%; 10 studies, 878 participants) in participants with pain compared to controls. Quality of evidence was high for each meta-analysis comparison.

Conclusion

There is morphological evidence of SFP in non-neuropathic chronic pain conditions.

Wanyun Huang

Association between pre-injury health and outcomes following minor to moderate motor vehicle crash injuries: A systematic review and meta-analysis

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Introduction

Around 50% of individuals with minor-to-moderate motor vehicle crash (MVC) injuries experience poor outcomes up to two years post-injury, but the influence of pre-injury health is unclear. This systematic review and meta-analysis aimed to synthesize evidence on associations between pre-injury health factors and post-injury outcomes.

Methods

We searched six databases (Sep 2024) for cohort studies of minor-to-moderate MVC injuries, assessing pre-injury health and post-injury outcomes. Risk of bias was assessed using QUIPS. Random-effects meta-analyses were performed where possible, with results reported as odds ratios (ORs) and 95% confidence intervals (CIs). Evidence quality was evaluated for results of meta-analyses.

Results

Fifty-eight articles (n=33,902) were included in the review. Meta-analyses (included 11 studies, n=10,356) provided moderate-quality evidence that pre-injury pain increased the risk of post-injury acute/sub-acute pain (OR [95%CI]=2.02[1.21-3.36]), chronic pain (2.41[1.51-3.83]), work disability (2.62[1.65-4.16]), and perceived poor recovery (1.42[1.18-1.71]). We found no significant associations between pre-injury poor general health and later chronic pain (1.37[0.93-2.01]), or between pre-injury mental health conditions and later work disability (1.58[0.82-3.04]) (low-quality evidence). Descriptive synthesis showed consistent associations between pre-injury mental health conditions and post-injury PTSD, depression and reduced quality of life. Associations between pre-injury physical health, sleep, traumatic events and later outcomes were inconclusive.

Conclusion

Pre-injury pain is associated with acute and chronic outcomes after the injury. Pre-injury mental health warrants attention, but further research is needed to clarify its association with post-injury outcomes.

Charlotte McCullough

The clinical implementation of comprehensive, high-dose aphasia treatment into clinical practice: A process evaluation

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Introduction

The Comprehensive High-dose Aphasia Treatment (CHAT) program is a modified Intensive Comprehensive Aphasia Program (mICAP) incorporating best-practice principles for aphasia rehabilitation. The implementation of CHAT in an Australian metropolitan hospital aims to improve access to evidence-based speech pathology services for individuals with post-stroke aphasia. Identifying barriers and facilitators to implementation is essential to understand how to successfully embed CHAT in clinical services more broadly. Therefore, this study sought to determine the reasons why the implementation of CHAT did or did not work within the context of an Australian clinical service and provide recommendations on how to optimise the implementation of CHAT.

Methods

This qualitative process evaluation was conducted over two years with data collection occurring at six-month intervals. Seven focus groups and four individual interviews were conducted to explore the experiences and perspectives of speech pathologists (n=10) and allied health assistants (n=5). The Framework Method was utilised to analyse the data and identify themes according to the Medical Research Council framework.

Results

Participant experiences of implementing CHAT were identified as belonging to three broad themes: (1) the CHAT service structure, (2) workforce mix, and (3) transition to the business-as-usual model.

Conclusion

Findings from this study advance understanding of the contextual factors, implementation strategies and mechanisms of impact influencing the implementation of CHAT and provide key considerations to support the uptake of ICAPs into routine clinical care.

Jessica Ruhle

Understanding the experiences of young adults following participation in an early intervention program for hearing loss: A qualitative study

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Introduction

Access to early intervention has led to improved outcomes for individuals with hearing loss. However, the way that young adults with hearing loss perceive their current life is largely unknown. Therefore, this study aimed to explore the experiences of young adults living with hearing loss after participation in an early intervention and to better understand how these individuals could be supported following throughout their lifetime.

Methods

Semi-structured interviews were conducted with eight young adults who had received an average of 4.5 years of early intervention and used cochlear implants or hearing aids. Interviews were analysed using inductive thematic analysis and content analysis.

Results

Five themes were developed describing the experiences of young adults with hearing loss: (1) I like being oral, but I have considered learning Auslan; (2) Technology to support my hearing has a big impact on my life; (3) My hearing loss makes listening difficult and exhausting, but I have strategies to help; (4) Hearing loss has impacted my life participation, but the availability of supports has helped overcome barriers; (5) Hearing loss has impacted my sense of belonging and identity. Content analysis indicated additional needs in several areas such as more access to social groups and support opportunities.

Conclusion

Findings from this study suggest that young adults with hearing loss share unique experiences and require ongoing support to reach their full potential. This study contributes novel insights into the lived experience of young adults with hearing loss and identifies specific ways in which hearing services may better support these individuals.

Murray Mai

Addressing the digital divide for people with aphasia: An evaluation of web accessibility of Australian health and government websites

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Introduction

The evolution of the digital age has provided opportunities for Australians in accessing healthcare and information. However, challenges emerge in mitigating the digital divide and ensuring digital inclusion for all. This study aimed to investigate the accessibility of high-use Australian health and government websites and determine if the selected websites (1) meet minimum web accessibility standards (i.e., WCAG 2.2 Level AA standards), (2) meet WCAG 2.2 Level AAA standards, and (3) meet custom standards relevant to people with aphasia (a communication disability).

Methods

Eleven frequently visited healthcare and government websites were selected and their homepages and one internal webpage were evaluated using WebRAMP, a website analysis tool. The evaluation process occurred in two phases, focusing on compliance with WCAG 2.2 Level AA and Level AAA. Additionally, the authors developed a custom guideline of standards relevant to people with aphasia, to analyse the results from the second phase and ensure relevance to people with aphasia.

Results

The analysis showed that 7 out of 11 homepages and 8 out of 11 internal webpages did not meet the WCAG 2.2 Level AA minimum compliance. At Level AAA and with the custom guideline, 10 homepages and 11 internal webpages pages demonstrated violations, emphasising challenges for web accessibility among people with aphasia.

Conclusion

Overall, of the high-use Australian health and government websites investigated, a significant proportion presented accessibility challenges for people with aphasia, emphasising the need for greater inclusive practices, stricter regulation adherence, and higher standards.

Caner Aglamis

Exploring participation in everyday conversation for adults with acquired hearing loss with and without hearing aids

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Introduction

Participation in everyday conversation is imperative for social connectedness. However, little is known about how acquired hearing loss (HL) affects participation in real-life everyday conversations and the real-life outcomes with hearing aids (HAs) for participation in everyday conversations.

Objective

This project examines video-recorded, everyday conversations between adults with HL and their communication partners (CPs) to explore how adults with HL participate in everyday social interaction and gain insight into the real-life social benefits of HAs.

Research Design

Longitudinal mixed-method design at three time points (baseline, 3- and 6-month follow-up).

Methods

Participants include adults with HL (aged 50+) and their CPs. Adults with HL will be divided into two groups: those who adopt a HA or not. Video-data of naturally occurring everyday conversations will be collected between adults with HL and their CPs in various everyday settings. Real-life participation in everyday conversation for adults with HL will be examined both quantitatively (through measurement of talk-time) and qualitatively (using Conversation Analysis).

Conclusion

The findings of this project may direct future rehabilitation strategies to facilitate participation in everyday conversations, enhance social connectedness in adults with HL, and consequently promote health and well-being in this population.

Mengyuan Li

Association between solid cooking fuel use and dementia in older Chinese adults: The mediating effect of depression

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Introduction

Dementia is becoming a life-threatening disease with increasing prevalence in elders. The effect of indoor air pollution on the prevalence of dementia and the mechanisms underlying this association remain unclear. This study aimed to explore the association between household solid cooking fuel use and dementia prevalence and the mediating effect of depression on this association.

Methods

A total of 3404 (2018) and 1379 (2015 to 2018) older participants (≥ 65) from the China Health and Retirement Longitudinal Study (CHARLS) were enrolled in the cross-sectional and retrospective longitudinal analyses, respectively. Logistic regression and SEM models were used in analysis.

Results

The results showed that solid cooking fuel use was associated with an increased dementia prevalence (adjusted OR = 1.44) from 2015 to 2018. The indirect effect of depression on this association explained 7.14% and 13.11% variances in the cross-sectional and longitudinal mediating model, respectively.

Conclusion

Household solid cooking fuel use is a risk factor for the development of dementia, and depressive symptoms partially accounted for this association. The use of improved cookstoves and clean fuel in households and air cleaners and early intervention in depression may reduce the incidence of dementia

Raphael Ohms

Effectiveness of stepped care versus other models of mental health service delivery: A systematic review

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Introduction

Stepped care models provide a sequential approach in the treatment of mental health conditions, with the level of care prescribed varying in intensity according to the severity of mental health concern for the individual. The primary objective of this systematic review is to evaluate the clinical effectiveness of stepped care models compared with usual care for mental health conditions. Secondary outcomes include quality of life, cost-effectiveness, process outcomes and satisfaction with stepped care models.

Methods

A systematic search was conducted in eight electronic databases from inception to February 2024. Papers were eligible if they were randomised controlled trials of participants with a diagnosed mental health condition. Medication-only and prevention-based treatments were excluded. Two authors independently reviewed title and abstracts against eligibility criteria, and completed full-text review, data extraction and quality appraisal. Standardised mean differences (SMDs) and 95% confidence intervals (CIs) were calculated using a random effects model to compare treatment effects from baseline to follow-up between stepped care and usual care models. Effect sizes were interpreted using Cohen's *d*, with $d < 0.5$ considered small, $0.5 < d < 1.2$ medium and $d > 1.2$ large.

Results

A total of 41 eligible studies were included and 25 studies were used in the meta-analysis. The meta-analysis for post-traumatic stress disorder demonstrated a large and significant effect in favour of usual care (SMD [95% CI] 1.44 [0.29 to 2.59]). For depression and anxiety, meta-analyses demonstrated moderate, but not statistically significant differences between stepped care and usual care in favour of usual care (SMD [95% CI] 0.73 [-0.26 to 1.72] and 0.60 [-0.64 to 1.84] respectively). For cost-effectiveness, there were large and significant effects in favour of stepped-care (SMD [95% CI] -1.99 [-3.65 to -0.33]).

Conclusion

The results suggest that stepped care is more cost-effective, but clinical outcomes do not favour stepped care. The data show considerable heterogeneity, suggesting that more research is needed to compare stepped care with usual care.

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