



Conference Programme

Society for Research in Rehabilitation Winter Conference
Rehabilitation in life-limiting conditions:
Supporting people to live well.

29 April 2024

Cicely Saunders Institute, King's College London
Hosted by Dr Stephen Ashford

Venue Information

Cicely Saunders Institute, King's College London
Part of the Denmark Hill Campus
Bessemer Road,
London
SE5 9PJ

Local stations -Denmark Hill & Loughborough Junction

Accommodation options if needed

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The Sponsors have provided funding to support the organisation of this meeting but have had no involvement in the organisation of this meeting including the development of agenda, inviting delegates or the choice of speakers.

Guest Speakers



Prof. Heather Richardson

Philip Nichols Lecture - “Alchemy and its place in advancing palliative care”

This lecture considers how change is best realised in the field of palliative care. With a lens on rehabilitative palliative care and through a series of personal and professional reflections, Heather will make a case for a blended approach to advancing the art and science of care and support for people

facing the end of life. She will argue for a rich mix of effort focused on research and practice; for public and professional engagement; for personal, organisation and system wide intention and an unrelenting commitment to a different world in which the experience and outcomes of people who are dying or grieving are transformed. She will conclude by considering how such alchemy is best created and sustained.

Heather Richardson is the Director of Academic Learning and Action at St Christopher's Hospice with leadership responsibilities related to education, research and policy. She previously worked as Joint Chief Executive, then CEO of St Christopher's for a period of eight years. In the past she has held the role of National Clinical Lead for Hospice UK, and worked as Clinical Director, then Strategy Advisor to St. Joseph's Hospice in East London. She is a general and mental health nurse and has a PhD focused on user experience of hospice care. She currently serves as an honorary professor in palliative care at Lancaster University and a senior research fellow at Harris Manchester College in Oxford. She is a member of the London Clinical Senate and a trustee of Hospice Care Kenya. In the past she has received the International Palliative Nurse of the Year award issued by the International Journal of Palliative Nursing and other awards related to her role in innovation in healthcare.



Dr. Stephen Ashford (Host)

Dr Stephen Ashford is Reader in Rehabilitation, King's College London and a Consultant Physiotherapist, London North West University Healthcare NHS Trust. He delivers and leads the regional specialised outreach service for North West London and surrounding counties, including the management of spasticity and complex physical management encompassing management for those with a Prolonged Disorders of Consciousness. He has developed with local, national, and international colleagues a programme of research, which builds strongly on his clinical expertise in management of spasticity and the physical aspects of neurological rehabilitation.

Guest Speakers



Prof. Matthew Maddocks

Matthew is Professor of Health Services Research and Rehabilitation at King's College London and physiotherapist in palliative and end of life care. He leads a team under taking applied clinical and health services research that advances rehabilitation and palliative care for people with serious illness, through improved management of complex symptoms including breathlessness, fatigue, weakness, and syndromes including cachexia, sarcopenia and frailty.



Dr. Joanne Bayly

Jo is currently a post-doctoral Research Fellow and the Scientific Project Manager for the EU Horizon funded project 'INSPIRE Palliative rehabilitation to improve quality of life for individuals with incurable cancer' at the Cicely Saunders Institute of Palliative Care, Policy and Rehabilitation, King's College London (KCL). She is also seconded from KCL to St Barnabas Hospices in Worthing, West Sussex as Research Lead.

She joined the Cicely Saunders Institute, KCL, in June 2016 to conduct her NIHR Clinical Doctoral Research Fellowship, developing and feasibility testing the model of short-term palliative rehabilitation currently being tested for effectiveness in the INSPIRE project.

Jo qualified from the Leeds School of Physiotherapy (1987), has a Masters of Research in Health Sciences from the University of Liverpool (2011) and a PhD from KCL (2020). She was a specialist physiotherapist at the Woodlands Hospice in Liverpool from 1996-2015, and this clinical experience informs her research interests, which include models of care for people living with advanced disease and multi-morbidity with a focus on rehabilitation in palliative care.



Dr. Sabrina Bajwah

Dr Sabrina Bajwah is a Clinical Senior Lecturer in the Department of Palliative Care, Policy & Rehabilitation (King's College London). Dr Bajwah works clinically within the palliative care team at King's College NHS Foundation Trust and the Interstitial Lung Disease team at Guys and St Thomas' NHS Foundation trust. Her research interests include Interstitial Lung Disease and interventions to manage breathlessness.



Dr. Charles Reilly

Dr Charles Reilly is a NIHR Advanced Clinical Academic Fellow, Consultant Physiotherapist in Chronic Respiratory Disease at King's College Hospital and Adjunct Senior Lecturer within the Cicely Saunders Institute of Palliative Care, Policy & Rehabilitation, King's College London. Dr Reilly's clinical and research expertise focuses on the pathophysiology and non-pharmacological self - management interventions for chronic breathlessness in advanced respiratory disease.

Programme

Time	Title	Name
08.30-09.15	Registration, poster and exhibition viewing	
09.15-09.20	Welcome	Prof. Richard Harding
09.20-10.40	Symposium 1: Rehabilitation in frailty and palliative care	
09.20-09.50	Palliative rehabilitation- what matters to people	Dr. Jo Bayly
09.50-10.20	Frailty-attuned' rehabilitation services for people with chronic respiratory disease	Prof. Matthew Maddocks
10.20-10.40	Physical and postural management in prolonged disorders of consciousness	Dr. Stephen Ashford
10.40-11.00	Refreshments, poster and exhibition viewing	
11.00-12.00	Free paper session	
11.00-11.15	Embodied-cognition intervention for numerical deficits (acalculia) after a stroke/ brain-injury	Yael Benn
11.15-11.30	The impact of delays in transfer to specialist rehabilitation on outcomes in patients with acquired brain injury	Lloyd Bradley
11.30-11.45	Employers' needs when supporting stroke survivors returning to work: a mixed-methods study	Kristelle Craven
11.45-12.00	Barriers and facilitators to implementing rehabilitation prescriptions for people admitted to UK major trauma centres: A qualitative study	Jade Kettlewell
12.00-13.30	AGM (SRR), lunch, exhibitors and poster viewing	
13.30-14.00	Philip Nichols Lecture: <i>"Alchemy and its place in advancing palliative care"</i>	Prof. Heather Richardson
14.00-15.00	Symposium 2: Management of breathlessness for activity and quality of life	
14.00-14.30	SELF-BREATHE for Chronic Breathlessness in advanced disease	Dr. Charles Reilly
14.30-15.00	Breathlessness management in Interstitial Lung Disease (ILD)	Dr. Sabrina Bajwah
15.00-15.30	Refreshments, poster and exhibition viewing	
15.30-16.30	Free paper session	
15.30-15.45	Optimising independence and quality of life in palliative care: A consensus study adapting the Action Falls Multifactorial Falls Prevention Programme for hospices	Frances Allen
15.45-16.00	Improving clinician's treatment specification through adoption of the Rehabilitation Treatment Specification System (RTSS)	Jamie Gibson
16.00-16.15	Effectiveness of conservative non-pharmacological interventions in people with muscular dystrophies: a systematic review and meta-analysis	Enza Leone
16.15-16.30	Vestibular disorders give rise to communication difficulties in adults: results of a UK wide survey	Sylvia Taylor-Goh
16.30-16.55	Panel discussion: <i>Models of rehab delivery - managing deterioration</i>	All invited speakers
16.55-17.00	Prizes Close of conference	



Abstract Booklet

(Arranged in alphabetical order by presenting author surname, by presentation type)

Free Paper Oral Presentations, pages 6 - 14

Research Poster Presentations 1 (Dinwoodie 1 & 2), pages 16 - 23

Research Poster Presentations 2 (Multifunction Room), pages 24 - 29

Work in Progress Posters, pages 31-38

Embodied-cognition intervention for numerical deficits (acalculia) after a stroke/ brain-injury

Yael Benn¹, Berzan Cetinkaya², Maryam Hussain², Verena Christin Pavel¹, George Kountouriotis¹, Tam Dibley¹, Mark Jayes¹, Paul Conroy³

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Name of Submitter

Yael Benn

Abstract

Background: Acalculia is an acquired deficit in numerical skills affecting 30-65% of stroke/brain-injury survivors. The condition negatively impacts independence (e.g. traveling, managing money, counting medications) and wellbeing.

Despite the availability of several assessments, acalculia is not routinely screened for, and a recent systematic review identified only 15 English-language published interventions for acalculia, with a total of N=30 patients. All interventions were delivered individually (i.e., none utilised group settings), most were tailored to individual patients' deficits (only two reported 'standard' treatment), and interventions largely relied on old-fashioned 'drill' strategies.

Methods: A mixed-methods study examining the feasibility of a group-based acalculia intervention was developed using the principles of embodied-cognition (i.e., combining physical engagement with cognitive concepts). Patients (N=4) took part in six-weekly 45-minute group sessions involving games and activities with numbers, accompanied by congruent movements. Following a 4-week break, N=3 took part in three further sessions. Performance on number skills (theoretical: EC301 and functional: FNA) was collected before the intervention (T0), after six weeks (T1) and after further three weeks (T2). Qualitative data were collected 3-months post-intervention using semi-structured interviews with two patients.

Results/Findings: Substantial improvements were observed on all measures at both T1 and T2. Qualitative findings emphasised the importance of group-settings, and the positive impact of playful learning on cognition, engagement, learning, and confidence.

Discussion and conclusions: Playful group therapy integrating modern educational theories is feasible and can be effective for improving numerical skills and wellbeing. Future work should evaluate the impact of combining movement and cognitive rehabilitation to improve patients' outcomes.

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The impact of delays in transfer to specialist rehabilitation on outcomes in patients with acquired brain injury

Lloyd Bradley

Royal Hospital Neurodisability, London, United Kingdom

Name of Submitter

Lloyd Bradley

Abstract

Background

Inpatient specialist rehabilitation is both clinically and cost effective following acquired brain injury (ABI). There may be delays in transferring ABI patients from acute services to rehabilitation settings. The goal of this study was to establish the impact of these delays on patient outcomes.

Methods

A retrospective case series of 407 admissions to an ABI service comparing cohorts with moderate (≤ 100 days) and prolonged (> 100 days) waits for admission from the point of injury for their baseline status (tracheostomy, enteral feeding, prior surgical intervention, diagnostic category), complexity (PCAT), care needs (NPDS) and outcomes (change in FIMFAM, length of stay).

Results/Findings

Apart from age, there were no differences in baseline characteristics or prior interventions between moderate and long waiters. Although there was no difference in mean length of stay, moderate waiters made significantly greater functional improvements and experienced a greater reduction in their care needs than long waiters in terms of their change in mean FIMFAM (23 vs 14, $t=3.78$ $p=.00$) and NPDS (13 vs 8, $t=3.29$ $p=.00$) scores during admission.

Discussion

The similarity in baseline status suggests that the differences in outcomes between the 2 groups are not simply the result of the long waiters having already progressed and changed by the point of admission to rehabilitation. The differences in outcomes are not explained by pre-morbid interventions or medical/diagnostic status.

Conclusion

Prolonged waiting for admission to rehabilitation for patients with ABI has a negative impact on their outcome demonstrating the need to ensure rapid transfer from acute services to inpatient rehabilitation services.

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Employers' needs when supporting stroke survivors returning to work: a mixed-methods study

Kristelle Craven, Jade Kettlewell, Blanca De Dios Pérez, Caolan Senior, Katie Powers, Jain Holmes, Kathryn Radford
University of Nottingham, Nottingham, United Kingdom

Name of Submitter

Kristelle Craven

Abstract

Background

Nearly 40% of stroke survivors stop working post-stroke. Employers do not always have necessary knowledge/skills or guidance (e.g., from vocational rehabilitation [VR] providers) needed to support stroke survivors. Aim: Explore employers' needs for provision of post-stroke return-to-work (RTW) support.

Method

Participants recruited through voluntary response/purposive sampling. Quantitative survey of employers (n=50). Dependent variables included knowledge of stroke and RTW process, and perceived competency for supportive actions. Regression analyses explored relationships between demographic/contextual characteristics (e.g., age, organisation size) and total scores representing dependent variables. Interviews (n=7) with stroke survivors, employers, and occupational therapists explored factors influencing employers' RTW support for stroke survivors. Interview data were analysed using framework analysis. Findings were synthesised using the triangulation protocol.

Results/Findings

Employers' support was influenced by stroke survivors' decisions to disclose stroke-related limitations (e.g. fatigue), employers' knowledge regarding roles/responsibilities, employers' communication skills, and information provision through healthcare systems. Regression analyses demonstrated employers' knowledge of stroke and/or the RTW process was positively associated with Human Resources/Occupational Health support, working in large organisations, and/or post-stroke RTW experience. Experience was positively associated with perceived competency for supportive actions ($\beta=31.13$, $p<0.001$).

Discussion and Conclusion

Employers' RTW support for stroke survivors was influenced by personal- (e.g., stroke survivors' disclosure) and environmental-level factors (e.g., information via healthcare systems). Employers may benefit from education/guidance from VR providers or standalone resources regarding stroke, their roles/responsibilities, and appropriate ways of obtaining information on stroke survivors' rehabilitative progress/prognosis. Improving employers' RTW support could improve stroke survivors' employment rates worldwide.

Barriers and facilitators to implementing rehabilitation prescriptions for people admitted to UK major trauma centres: A qualitative study

Jade Kettlewell¹, Kate Radford¹, Stephen Timmons², Trevor Jones¹, Stephen Fallon¹, Susan White¹, Denise Kendrick¹

¹University of Nottingham, Nottingham, United Kingdom. ²Nottingham University Business School, Nottingham, United Kingdom

Name of Submitter

Jade Kettlewell

Abstract

Background: Major Trauma Centres (MTCs) have increased survival rates, however, more people are living with lasting effects of injury, requiring long-term rehabilitation. Rehabilitation Prescriptions (RPs) describe patients' needs, indicating how they should be addressed post-discharge, thus facilitating continuity of care. RPs are mandatory for major trauma patients with rehabilitation needs, incentivised by Best Practice Tariff (BPT) payment. However, RPs are not being implemented as intended. Aim: to explore barriers/facilitators to RP implementation.

Method: Semi-structured interviews and focus groups conducted with service providers (including therapists, rehabilitation consultants, lawyers) involved in RP completion, delivery of rehabilitation services or supporting trauma survivors. Interviews/focus groups were audio recorded, transcribed, then analysed thematically.

Results: 11 service providers were interviewed and 18 attended a focus group (n=2). Barriers included lack of time, differing IT systems across rehabilitation pathways preventing document transfer, rapid discharge preventing RPs being given to patients in person, RPs viewed as tick-box exercise for BPT, RPs not recognised outside MTCs. Facilitators included senior assessment of rehabilitation needs, RPs being used for referrals, concise summary of patient's injury/ongoing needs.

Discussion and Conclusion: RP completion and implementation is not standardised across MTCs. Each site has different processes, resulting in different barriers to RP completion – presenting a problem for improving UK-wide implementation. RPs are rarely used outside MTCs and neither inform ongoing rehabilitation, nor identify service provision gaps. RPs currently have little benefit for patients; many don't receive a copy, they are not 'prescribing' rehabilitation beyond MTCs or informing service development. We anticipate findings will inform national RP guidelines.

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Optimising independence and quality of life in palliative care: A consensus study adapting the Action Falls Multifactorial Falls Prevention Programme for hospices

Trudi Cameron, Frances Allen, Pip Logan
University of Nottingham, Nottingham, United Kingdom

Name of Submitter

Trudi M Cameron

Abstract

Background

Falls among hospice patients pose significant challenges including loss of confidence, serious injury and reduced quality of life. The Action Falls programme, a Multifactorial Falls Prevention intervention developed in care homes, showed a reduction in falls by 43% in a clinical trial. This study built in this success and aimed to adapt the risks and actions checklist for the unique challenges presented in hospices.

Method

The RAND UCLA appropriateness consensus method, engaged a diverse expert panel. Three iterative rounds aimed to establish consensus on the appropriateness and necessity of each of six risk categories and 51 associated actions.

Survey one: risk categories of; history, behaviour, intake, intrinsic factors, mobility, and environment and the associated actions rated for appropriateness for inclusion in an adapted list. Descriptive statistics prioritised items for discussion in the subsequent focus group.

Focus group: explored variations in survey scores and differences between end-of-life care versus symptom control. Transcript analysis informed the construction of an amended checklist for the final survey.

Final survey: a final assessment and score of appropriateness and necessity of the amended items.

Results

Thirteen experts from four hospices in the UK participated between September-November 2023. Results indicated high agreement on mobility and environment categories, while intrinsic and intake categories presented challenges, particularly in differentiating care for patients in the last days of life versus those receiving symptom control.

Discussion and conclusion

This consensus study lays the groundwork for the adaptation and implementation of an Action Falls programme, specifically tailored for the hospice setting.

Improving clinician's treatment specification through adoption of the Rehabilitation Treatment Specification System (RTSS)

Jamie Gibson, Gareth Jones

Guy's & St Thomas' NHS Foundation Trust, London, United Kingdom

Name of Submitter

Jamie Gibson

Abstract

Background

Deficiency in the quality of clinicians' rehabilitation treatment specification impairs identification of the causative elements of treatment. The standardized treatment theory language of the rehabilitation treatment specification system (RTSS) is a promising countermeasure. To date though, the clinical practice effects of trained clinicians using the RTSS are unknown.

Method

Design: Observational cohort study.

Setting: UK acute-care hospital.

Participants: Inpatient physiotherapists ($n=26$; Elective Orthopaedics, Head and Neck Surgery, Older Persons Medicine).

Interventions: Ten, one-hour, weekly teaching including lectures and case-based learning. Lectures introduced RTSS constructs and its application to case examples as well as documentation workshops & e-learning.

Outcome Measure(s): Pre-intervention, post-intervention, and two-month follow-up assessments of RTSS Adoption using frequency-count of controlled-vocabulary in case-notes; Clinical Reasoning using the Self-Assessment of Clinical Reasoning and Reflection (SACRR) tool and a Clinical Reasoning Rubric to assess case-note quality.

Results/Findings

There were modest but significant increases in median total controlled-vocabulary observed in case-notes within all clinical teams. For all PTs there was significant improvement in median (IQR) total SACCR scores [pre-intervention (96.0 (93.8-101.3)), post (102.0 (96.8-104.0)), follow-up (102.0 (97.0-105.0))] [$\chi^2(2)=9.051$, $p=0.011$], but no significant change within any team. While there were no significant differences in clinical reasoning quality according to the rubric in the Orthopaedic or Older Persons teams' case-notes, there were in the Head and Neck Team for problem lists [$\chi^2(2)=13.148$, $p=0.001$] and treatment goals [$\chi^2(2)=6.593$, $p=0.037$].

Discussion and Conclusion

The 10-week teaching program demonstrated efficacy in improving adoption and clinical reasoning in three diverse PT rehabilitation specialisms.

Effectiveness of conservative non-pharmacological interventions in people with muscular dystrophies: a systematic review and meta-analysis

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Name of Submitter

Enza Leone

Abstract

Background:

Management of muscular dystrophies (MD) relies on conservative non-pharmacological treatments, but evidence of their effectiveness is limited and inconclusive. This systematic review and meta-analysis aimed to investigate the effectiveness of conservative non-pharmacological interventions for MD physical management.

Method:

This systematic review and meta-analysis followed PRISMA guidelines and searched MEDLINE, CINAHL, Embase, AMED and CENTRAL (inception to August 2022). Effect size (ES) and 95% confidence intervals quantified treatment effect.

Results:

Of 31,285 identified articles, 39 studies (957 participants), mostly at high risk of bias, were included. For children with Duchenne muscular dystrophy (DMD), trunk-oriented strength exercises and usual care were more effective than usual care alone in improving distal upper-limb function, sitting and dynamic reaching balance (ES range: 0.87 to 2.29). For adults with Facioscapulohumeral dystrophy (FSHD), Vibratory Proprioceptive Assistance and Neuromuscular Electrical Stimulation respectively improved maximum voluntary isometric contraction and reduced pain intensity (ES range: 1.58 to 2.33). For adults with FSHD, Limb-girdle muscular dystrophy (LGMD) and Becker muscular dystrophy (BMD), strength-training improved dynamic balance (sit-to-stand ability) and self-perceived physical condition (ES range: 0.83 to 1.00). A multicomponent program improved perceived exertion rate and gait in adults with Myotonic dystrophy type 1 (DM1) (ES range 0.92 to 3.83).

Discussion and Conclusion:

Low-quality evidence suggests that strength-training, with or without other exercise interventions, may improve perceived exertion, distal upper limb function, static and dynamic balance, gait and well-being in MD. Although more robust and larger studies are needed, current evidence supports the inclusion of strength-training in MD treatment, as it was found to be safe.

Vestibular disorders give rise to communication difficulties in adults: results of a UK wide survey

Sylvia Taylor-Goh

Sheffield Hallam University, Sheffield, United Kingdom. Relational Communication Practice Ltd, London, United Kingdom

Name of Submitter

Sylvia Taylor-Goh

Abstract

Background

The study explored how vestibular disorders affect day-to-day communication and the impact upon daily life. Despite anecdotal evidence that understanding, speaking, reading, and written communication can be affected, there is no published research in this area.

Method

A 35-item cross-sectional survey, employing both purposive and convenience sampling of UK adults with vestibular disorders. Administered electronically through Qualtrics software, the survey included closed and open items across six sections. Descriptive and correlation statistics were used to analyse the survey data.

Results

Of the 117 eligible responses, the majority were female (94/117, 80%), mean age was 54 years (SD=12.6). Among the respondents, 69/117 (54%) reported hearing loss. In terms of employment, 54/117 (45%) were working, while 37/117 (32%) were not working due to their medical condition.

Most respondents reported experiencing more than one vestibular disorder. Vestibular Migraine was the most frequent diagnosis (46/117, 39%), then Meniere's Disease (31/117, 27%), and PPPD (30/117, 26%). Concomitant medical conditions included Anxiety (34/117, 29%), Migraine (34/117, 29%), Depression (21/117, 18%), and Neurological Conditions (25/117, 20%). Only (5/117, 4%) had seen a speech and language therapist.

Communication difficulties were pervasive, affecting the majority of respondents (111/117, 95%). Specifically, 108/117 (97%) reported difficulties with understanding, 100/117 (90%) with talking, 81/117 (73%) with reading, and 71/117 (61%) with written communication. These difficulties significantly impacted daily life, affecting activities, social interactions, mood, and mental health for between 76% and 87% of the respondents.

Conclusion

Heightened awareness regarding the impact of vestibular disorders on communication and participation is crucial for both affected individuals and clinicians.

Research Poster Presentations

Research Poster Presentations (Dinwoodie 1 & 2) pages 16 - 23

1. *A Scoping Review of Remote Group-Based Psychological Interventions for People after Stroke and Transient Ischemic Attack.* **Jade Kettlewell**
2. *Enhancing self-directed upper-limb (UL) exercise practice using GripAble gaming device and Lycra arm sleeve in people with stroke (PwS): An Evaluative Study.* **Praveen Kumar**
3. *Life after long COVID: Investigating EuroQol (EQ-5D) as a Candidate Patient Reported Outcome Measurement (PROM) Tool.* **Sarah Lake**
4. *Usability and content validity of five different non-immersive gamified home-based exercises for stroke survivors reported by expert physiotherapists.* **Hatem Youssef Mohammed Lazem**
5. *Speech and language therapy for persons aged 80 years and over: what can real-world data tell us?* **Kathryn Moyse**
6. *Anxiety, Depression and Health-Related Quality of Life among Breast Cancer Patients in Tertiary Hospitals in Rivers State, Nigeria.* **Temitope Esther Olamuyiwa**
7. *To investigate the biomechanical and physiological effects of Lycra sleeve on the upper limb in healthy adults.* **Adam Stokes**

Research Poster Presentations (Multifunction Room) pages 24 - 29

1. *Virtual Reality Current Use, Facilitators and Barriers to Implementation in Paediatric Physiotherapy: Online Survey of UK Paediatric Physiotherapists.* **Mohammed Alrashidi**
2. *Providing a more person-centred approach to neurorehabilitation: the value and impact of healthcare professionals who have heard life-altering medical news.* **Neil Bindermann**
3. *My A-T Pack: a qualitative exploration of the views and perspectives of families to coproduce a family-owned pack relevant to the lives of children and young people living with Ataxia telangiectasia.* **Munira Khan**
4. *Music.ALS: Music Therapy to Improve Breathing, Speech, Swallowing and Cough in Amyotrophic Lateral Sclerosis.* **Alisa T. Apreleva Kolomeytseva**
5. *Hand rehabilitation designs should consider people with poor hand function due to spasticity: An observational study.* **Chioma Wodu**
6. *Perceived low dose of hand rehabilitation in the early stages after a stroke: A Qualitative study.* **Chioma Wodu**

A Scoping Review of Remote Group-Based Psychological Interventions for People after Stroke and Transient Ischemic Attack

Jade Kettlewell¹, Eirini Kontou^{1,2}, Abigail Lee^{1,3}, Shirley Thomas¹, Naomi Thorpe², Dana Wong⁴

¹University of Nottingham, Nottingham, United Kingdom. ²Nottinghamshire Healthcare NHS Foundation Trust, Nottingham, United Kingdom. ³Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom. ⁴La Trobe University, Melbourne, Australia

Name of Submitter

Jade Kettlewell

Abstract

Background: Mental health and quality of life are often affected following stroke or Transient Ischemic Attack (TIA) diagnosis; however many people do not receive further support about the potential psychological impact when discharged. Evidence suggests psychological interventions can be successfully delivered remotely (e.g., via videoconferencing), however it is unclear whether these interventions are effective for people following TIA/stroke. Aim: to identify current evidence for remote group psychological interventions for people post-TIA and stroke.

Method: Four electronic databases (MEDLINE, Embase, PsycINFO, Scopus) were searched for articles on remote group psychological interventions for people after TIA/stroke. Two reviewers independently screened titles, abstracts and full-texts. Two authors extracted data for included studies. A bespoke data extraction form was used to describe interventions, informed by the TIDieR checklist.

Results: The search identified 1333 studies. Six were included in the review; four were feasibility studies, one was a randomised-controlled-trial and one was a non-randomised study. All interventions targeted stroke survivors, however no studies included people with TIA. Delivery methods varied, including videoconferencing, online platform (virtual multiuser world), teleconferencing and a hybrid approach using videoconferencing and face-to-face visits. Remote intervention components were delivered in participants' homes or in the community. All studies included a measure of mood. Improvement in mood and/or quality of life outcomes was reported across four studies.

Conclusion: More research is needed to identify and confirm the potential benefits of remote group-based psychological interventions following TIA/stroke. Further high-quality research and reporting of barriers and facilitators to implementation is required to determine effectiveness of remote interventions.

Enhancing self-directed upper-limb (UL) exercise practice using GripAble gaming device and Lycra arm sleeve in people with stroke (PwS): An Evaluative Study

Parveen Kumar¹, Alex Pearce¹, Virginia Ruiz Garate², Jason Welsby¹, Praminda Caleb-Solly³

¹University of the West of England, Bristol, United Kingdom. ²Mondragon Unibertsitatea, Bilbao, Spain. ³University of Nottingham, Nottingham, United Kingdom

Name of Submitter

Dr Praveen Kumar

Abstract

Background: GripAble™ (a self-directed exergaming device) has shown to increase repetitive practice in PwS. Previous studies have shown that a Lycra SDO® arm sleeve may encourage use of the affected arm by acting as a reminder through ascending neuromuscular activity. The aims of this study were to evaluate use of these technologies by PwS in the community, use of outcome measures and explore users' experience.

Method: Evaluative pilot study design. We recruited PwS through Bristol After Stroke. Participants were randomised into two groups and received intervention for 4 weeks: (1) GripAble™ devices alone; (2) GripAble™ device with Lycra sleeve. Outcome measures included: Action Research Arm Test (ARAT), Motor Activity Log (MAL), the Technology Acceptance Model questionnaire, wrist-worn bilateral accelerometers to monitor UL activity.

Results: Ten participants were recruited and seven fully completed the study. 75% (n=3) of group 1 and 100% (n=3) of group 2 participants met the goal of 300 repetitions per day that they engaged with GripAble™. Overall acceptability of GripAble™ was 71% however 62.5% (n=5) experienced problems with the device. Analysis of difference between groups could not be completed due to low sample size. Majority of patients had difficulty in completing the MAL.

Discussion/Conclusion: GripAble may facilitate independent UL rehabilitation for PwS within their home environment. However, there is a need for support and education while using technology-based interventions such as GripAble for PwS. It is not clear whether Lycra sleeves influenced rehab. A future study should investigate the accessibility and effectiveness of GripAble for PwS in the community.

Life after long COVID: Investigating EuroQol (EQ-5D) as a Candidate Patient Reported Outcome Measurement (PROM) Tool

Sarah Lake¹, Harsha Master², Dan Bowyer², Melissa Heightman³, Andrew Bateman¹

¹School of Health and Social Care, University of Essex, United Kingdom. ²Hertfordshire Community NHS Trust, Hertfordshire, United Kingdom. ³Long COVID program, NHS England, United Kingdom

Name of Submitter

Sarah Lake

Abstract

Background

Selection of assessment scales for long COVID has been complicated by the novelty of the condition. This has hindered the establishment of routine data collection by service providers. We examined data collected using the EQ-5D. We sought to establish baseline and discharge profiles and if it could be useful in long COVID clinics generally.

Method

A long COVID clinic in Hertfordshire implemented EQ-5D as a baseline and final assessment. Analyses as proposed by Devlin et al, including Health State Density Curves, profile frequency and index score calculations, enabled comparison to existing datasets from other conditions.

Results

Over three years, N=621 people were assessed on two assessment occasions. 'Usual activities' was identified as the dimension most affected by long COVID (M=2.76 at initial assessment). This domain showed the greatest improvement over the course of care, the percentage of people reporting minimal or no problem increasing from 34.2% to 68.5%. The health utility index mean score climbed from 0.615 to 0.735 indicating a general overall improvement in quality of life.

Discussion and conclusion

The results showcase the adaptability of EQ-5D within long COVID clinic settings by demonstrating ability to provide insights into effects of the condition as well changes while under the care of a clinic. This dispels initial uncertainties regarding its effectiveness as it didn't exhibit any floor or ceiling effects and was consistent with published datasets. Disruption in "Usual Activities" provides a focal point for future rehabilitative efforts, especially considering the observation of improvement in this dimension. Future research into subgroups and demographics will follow

Usability and content validity of five different non-immersive gamified home-based exercises for stroke survivors reported by expert physiotherapists

Hatem Lazem^{1,2}, Abi Hall¹, David Harris³, Maedeh Mansoubi¹, Sallie Lamb¹, Carlos Bandeira de Mello Monteiro⁴, Helen Dawes¹

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Name of Submitter

hatem youssef mohammed lazem

Abstract

Background: Gamified exercises can be effective in telerehabilitation. This study explores the potential of repurposing established gaming systems, by evaluating with neurological physiotherapists, the usability and content validity of five gamified exercise platforms for stroke rehabilitation.

Method: Eleven physiotherapists from five countries experienced in neurorehabilitation participated online. They evaluated five non-immersive games, previously assessed in non-stroke populations, to improve upper limb functions and trunk control after stroke. Usability was assessed using the System Usability Scale (SUS). Content validity and suitability were evaluated through a bespoke state evaluation questionnaire against eight criteria using a Likert scale with open-ended questions and analysed using average content validity index (CVI-AVE), item content validity index (I-CVI), and qualitative content analysis.

Results/Findings: Physiotherapists perceived the usability of three games as good to excellent, median SUS=80%, and poor for two games SUS<68%. Three of the five games were suitable and valid to be part of stroke telerehabilitation CVI-AVE>0.8. Item analysis demonstrated that safety of exercises, suitability for balance training from a standing position, and suitability for upper limb training were valued highest in the five games, (mean I-CVI=0.96, 0.83, 0.90 respectively). Items suggested for improvement were clear instruction, accuracy of movement detection and hand recognition, exercise safety, movement quality, virtual features, and designing variety of exercise scenarios with automated progression to keep the patient motivated and adherent to their home rehabilitation program.

Discussion and Conclusion: Games developed for other conditions can be adapted and repurposed for use after stroke. Physiotherapists can use and deliver most of the games as stroke telerehabilitation tools.

3

Speech and language therapy for persons aged 80 years and over: what can real-world data tell us?

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¹RCSLT, London, United Kingdom. ²University of Sheffield, Sheffield, United Kingdom

Name of Submitter

Kathryn Moyse

Abstract

Background

The NHS Long Term Plan makes commitments to supporting older people living with frailty and multiple long-term conditions.

One way to explore rehabilitation provision to these patients is the collection of real-world data (RWD).

The Royal College Speech and Language Therapists Online Outcome Tool (ROOT) supports speech and language therapy (SLT) services to collect data on individuals receiving services. This RWD provides evidence about usage, variation and potential benefits of service provision.

Method

Datasets for persons aged 80 years and older were extracted from the ROOT and descriptively analysed.

Results/Findings

The ROOT contains data on over 77,000 people, 1561 of whom are aged 80 years or older. The findings show that:

- The primary focus of SLT rehabilitation for most people was dysphagia (73.5%).
- 60.3% of people had at least two medical diagnoses recorded.
- Stroke was the most common primary medical diagnosis (17.5%), followed by 'unspecified dementia' (11.3%) and Parkinson Disease (6.2%).
- 81.1% of people improved in one or more domains of the Therapy Outcome Measure (impairment, activity, participation or well-being).

Discussion

RWD from the ROOT indicate that:

- This population is complex, with high levels of multimorbidity.
- Primarily, SLT rehabilitation is focused on managing eating, drinking and swallowing needs.
- SLT input can have a positive impact on at least one of the four TOM domains.

There are implications for education and training of the workforce, and the design and delivery of services.

Conclusion

The ROOT enables the SLT profession to examine the profile and outcomes of non-selected patients, thereby complementing the research evidence.

Anxiety, Depression and Health-Related Quality of Life among Breast Cancer Patients in Tertiary Hospitals in Rivers State, Nigeria

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Name of Submitter

Temitope Esther Olamuyiwa

Abstract

Background: Depression and anxiety are common among people with life-limiting illnesses; when symptoms are undiagnosed, they are likely to suffer poor quality of life. This study assessed the relationship between the level of anxiety, depression, HRQOL among women with breast cancer. **Methods:** This was a descriptive longitudinal study, conducted over a period of 8 months among 254 breast cancer patients in tertiary hospitals in Rivers State, Nigeria. They were assessed at diagnosis, 4 months, 8 months using HADS subscales and the EORTC QLQ-C30 and QLQ-BR23 Questionnaire. p-value was set at ≤ 0.05 . **Results:** HADS Subscales scores were relatively high. The level and mean of anxiety (67.3%, 8.93 ± 3.85), (68.9%, 9.02 ± 3.81), (66.4%, 8.87 ± 3.87) at baseline, 4 months, 8 months respectively. The level and mean of depression (60.2 %, 7.44 ± 3.91), (63.0%, 7.83 ± 4.19) and (60.3%, 7.64 ± 4.20) at baseline, 4 months, 8 months respectively; the mean HRQOL 4.39 ± 0.88 , 4.33 ± 0.89 and 5.45 ± 0.50 respectively. There was a statistically significant difference in mean anxiety between 4 months and 8 months and in the mean level of depression over time. There was a negative relationship between HRQOL and anxiety at baseline and 4 months ($r = -.334$, .316, $p = 0.001$) and depression ($r = -.458$, .391, .259, $p = .0001$), indicating patients with anxiety and depression had lower health-related QOL. **Discussion and Conclusion:** It is imperative to include an assessment of anxiety and depression at diagnosis and during management which will necessitate inclusion of basic interventions to reduce mental health problems among breast cancer patients with a view to improving their QOL.

To investigate the biomechanical and physiological effects of Lycra sleeve on the upper limb in healthy adults.

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Name of Submitter

Adam Stokes

Abstract

Background

Previous studies have shown beneficial effects of a Lycra arm sleeve on people with stroke, however, the mechanism of these effects is unclear. The aim was to investigate the effects of a Lycra arm sleeve on pressure, temperature, range of movement, and muscle activity using a prototype measurement system on the upper limb in healthy adults prior to testing on people with stroke (PwS).

Method

This was a cross-sectional crossover study. A convenience sample of healthy adults was recruited from the students and staff of UWE following an email invitation by central administration. Data was collected on Grip Strength (GripAble), muscle activity in shoulder muscles (Electromyography- EMG), proprioception (during UL reaching task), temperature sense (BOJACK TMP36 3 Pin Temperature Sensor) and pressure (a custom-built cuff with two pneumatic pouches and sensors) with and without a lycra sleeve.

Results

Sixteen healthy individuals (M=7, F=9) with a mean age of 25 ± 7 years were recruited into the study. Without sleeve, the mean EMG activity, temperature, grip strength, and joint position sense were 1.155 volts (± 0.058), 32.5°C (± 5.9), 20.8kg (± 9.6) and 58.1mm (± 31.5). Corresponding values with 'sleeve on' were 1.213V (± 0.178), 34°C (± 5.3), 21.1kg (± 9) and 50.8mm (± 29).

Discussion and Conclusion

Changes were recorded with 'sleeve on' in the majority of biomechanical and physiological parameters tested in young healthy people. The developed prototype provided insight into the mechanisms that underpin the effects of a lycra arm sleeve. The prototype needs refinement and should be tested in PwS in future studies.

Virtual Reality Current Use, Facilitators and Barriers to Implementation in Paediatric Physiotherapy: Online Survey of UK Paediatric Physiotherapists

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Name of Submitter

Mohammed Alrashidi

Abstract

Background: Virtual reality (VR) is rapidly becoming a part of the UK clinical ecosystem, but little is known about its integration into clinical practice. Due to the growing interest toward using VR in healthcare, the aims of this survey were to explore its current use by paediatric physiotherapists in clinical practice in the UK, identify the facilitators and barriers to VR implementation in clinical practice and investigate the factors that will enhance intentions to use it in the future.

Methods: An online survey using Assessing Determinants of Prospective Take-Up of Virtual Reality (ADOPT-VR2) was distributed to UK paediatric physiotherapists through the Association of Paediatric Chartered Physiotherapists. Descriptive statistics and regression analysis were conducted.

Results: Out of 128 responses, 81 UK-based paediatric physiotherapists completed the full survey. The therapists worked in the National Health Service, in the private sector and education. Only 7% of respondents reported using VR, with the majority not using VR in clinical practice ($n = 75$; 93%). Attitudes toward VR, compatibility, and the peer influence constructs of ADOPT-VR2 all significantly predicted the behavioural intention to use VR ($R^2 = 0.612$, $p = <0.001$).

Conclusions: The findings of this study show that the current use of VR is limited in a clinical paediatric physiotherapy context. The findings from this study indicate that multiple factors need to be reconciled to enhance VR implementation. Specifically, therapists need to be provided with time, appropriate training, and financial and technical support. Stakeholders may need to consider developing practical manuals to ensure therapists are implementing VR consistently and correctly.

Providing a more person-centred approach to neurorehabilitation: the value and impact of healthcare professionals who have heard life-altering medical news.

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Person-Centred Neuroscience Society, London, United Kingdom

Name of Submitter

Neil Bindemann

Abstract

Background

Receiving a diagnosis of a life-altering medical condition or experiencing a physical trauma can lead to adverse effects on a person's wellbeing. Addressing a person's wellbeing is a fundamental aspect of a rehabilitation service. Wellbeing is unique to individuals, as is the experience of a neurological change regardless of the diagnosis of nature of the physical trauma. Therefore, we could hypothesize it is likely that the same diagnosis or injury will affect people differently. Furthermore, it is argued that giving a life-altering diagnosis is a traumatic experience, not only for the person receiving the news but also for the person giving the news. Such hypotheses suggest the need of a more person-centred care approach when breaking bad news. To explore this further a group of healthcare professionals (HCPs) who had received a diagnosis of a neurological condition were interviewed about their experience. Being HCPs meant they also could reflect on their experience of breaking difficult news, making this research unique.

Method

HCPs, diagnosed with a neurological condition, were invited to a "Zoom roundtable". A qualitative interview approach was utilised, and the transcript was analysed for themes.

Results

Themes raised during discussion were: False Optimism: Hope, Language, Honesty, Shared Responsibility, Preparation, Empower, Safe, Realistic, Time, Individualistic, Engaged, Empathy. These occurred in both the experience of receiving and in giving a diagnosis/prognosis.

Various practical steps in providing more person-centred rehab services were generated.

Conclusion

The results from this research acknowledges the significance of learning from people who have experiences of receiving and hearing life-altering medical news.

My A-T Pack: a qualitative exploration of the views and perspectives of families to coproduce a family-owned pack relevant to the lives of children and young people living with Ataxia telangiectasia.

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Name of Submitter

Munira Khan

Abstract

Background: Ataxia Telangiectasia (A-T) is a rare genetic condition, primarily affecting the neurological, immunological, and pulmonary systems. In the absence of a cure, people living with A-T require coordinated multidisciplinary care to manage their complex needs. This often leads to families working with a range of different professionals, and feeling burdened by the amount of information and coordination of care that they have to manage. With the aim to coproduce a family-owned healthcare pack to promote person-centered care and self-management, this study explored the views of families to coproduce 'My A-T Pack'.

Methods: A qualitative research study design was employed, using focus groups with two children and eight parents of children and young people with A-T. Data was analysed using the Framework Method. The final themes and subthemes were inferred by reviewing the data matrix framework and connecting conceptually related ideas and categories.

Results: Three themes (and 21 subthemes) were generated: 1) accessing, managing, organising, and sharing information with others, 2) pack content, and 3) design features; offering an insight to families' needs and views.

Conclusion: This study gathered views and perspectives of children with A-T and their families for the development of a healthcare pack. This study supports the idea that the pack has potential as an information sharing and record keeping resource, and as a means to support communication between families and professionals for coordinated care. This study is an important contribution to the current understanding of families' experiences of managing care and the need for a more robust and organised system of management.

Music.ALS: Music Therapy to Improve Breathing, Speech, Swallowing and Cough in Amyotrophic Lateral Sclerosis

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Name of Submitter

Alisa T. Apreleva Kolomeytseva

Abstract

Background

Respiratory dysfunction and bulbar dysfunction, such as dystussia (disordered cough), dysphagia (difficulty swallowing) and dysarthria (motor speech disorder), have a major impact on mental health, quality of life and longevity in amyotrophic lateral sclerosis (ALS). Non-invasive ventilation, gastrostomy feeding and medications such as riluzole, edaravone and relyvrio, are the only methods to decrease the rate of functional decline. In the absence of a curative treatment, a wider range of rehabilitative options has to be considered, increasing quality of life and slowing the disease progression.

Method

Music therapy (MT) is the clinical application of music and its elements to improve human health. The innovative home-based music therapy protocol was designed to sustain bulbar and respiratory functions of persons with early and mid-stage onset ALS. It was delivered to seven participants twice-weekly for six weeks as a part of a 16-week ABA mixed methods study. Feasibility data (recruitment, retention, adherence, tolerability, self-motivation and personal impressions) and 34 biomedical outcome parameters for bulbar and respiratory changes were assessed.

Findings

The data analysis suggests that the protocol was safe to use in early- and mid-stage ALS. Mean trends for most biomedical outcome parameters demonstrate that the participants' bulbar and respiratory functions were sustained or improved during the treatment period.

Discussion and conclusion

The study protocol was feasible, though minor modifications of the recruitment criteria and biomedical outcome measures can be recommended. A pilot study utilising the modified protocol is called for, followed by a randomised controlled trial to assess the clinical effectiveness of the innovative MT treatment.

Hand rehabilitation designs should consider people with poor hand function due to spasticity: An observational study

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Name of Submitter

Chioma Wodu

Abstract

Background

The functional use of the hand is affected in 75% of those who suffer a stroke as a result of lingering mobility impairment. There are several rehabilitation technologies that aim to improve the functions of the hand in stroke survivors. In this study, we observed how stroke survivors with poor hand function interacted with some of these hand technologies.

Method

Twenty-nine (29) participants included in this study engaged in an eight-week rehabilitation intervention at a technology-enriched rehabilitation gym. The participants spent 50 to 60 minutes of the two-hour session in the upper limb gym at least twice a week. Each participant communicated their rehabilitation goals, and an action research arm test (ARAT) was used to categorize their levels of hand impairment (poor, moderate, and, good). Participants with poor hand function were observed interacting with three rehabilitation devices focusing on hand function; Gripable™, Neuroball™, and Peg board.

Results

Of the twenty-nine ((n=29) participants, 10/29 (34%) had poor hand function, 17/29 (59%) had moderate hand function, and 2/29 (7%) had good hand function. Of the 10 with poor hand function, 8/10 (80%) could not interact with any of the hand-based technologies. This was either due to the presence of muscle tone/stiffness or weakness.

Conclusions

Not all stroke survivors with impairments in their hands can make use of the available hand rehabilitation technologies. With spasticity observed as impeding the usage of hand rehabilitation technologies, there is a need for hand rehabilitation device designs to consider people with poor hand function as a result of spasticity.

Perceived low dose of hand rehabilitation in the early stages after a stroke: A Qualitative study

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Name of Submitter

Chioma Wodu

Abstract

Introduction

One aspect that is impaired in stroke survivors is the functional mobility of their upper limb/hand. This study is aimed at examining if stroke survivors are provided with adequate opportunities for upper-limb/hand rehabilitation in the early stages after stroke.

Method

This qualitative study used a one-on-one semi-structured interview method. A total of 9 Rehabilitation Professionals (RP) (physiotherapist n=6, occupational therapist n=3), mostly recruited from the distribution list of the Scottish Stroke Allied Health Professional Forum (SSAHPF) participated. Interviews were held either in person or via videoconferencing, recorded, and recordings transcribed verbatim. Interview questions were approved by the Department Ethics Committee. All transcribed data were analyzed using thematic analysis, with an inductive approach where themes were determined based on the data.

Results

The 9 RP with an average length of practice years of 24.7 ± 9.8 and 16.44 ± 9.19 experience in stroke/neurological rehabilitation, when asked about the availability of adequate opportunities for hand rehabilitation, noted that priority is not given to hand rehabilitation. The reasons for the low dose of hand rehabilitation in the earlier days after a stroke in an In-Patient setting were associated with rehabilitation goals/ priorities of stroke survivors, RP or rehabilitation clinic, inadequate resources, increase in stroke prevalence. In the outpatient settings, it was attributed to the cost of private rehabilitation and poor knowledge of relevant rehabilitation devices.

Conclusion

Hand rehabilitation during the early days after a stroke should be prioritized and stroke survivors be educated on the relevant rehabilitation devices they can use to support self-rehabilitation before discharge



Work in Progress Posters

Work in Progress Posters pages 31 - 38

1. *Pilot study to evaluate MUSic therapy In Complex Specialist neuro-rehabilitation (MUSICS).*

Sara Ajina

2. *Examining the Feasibility of Immersive Virtual Reality to Measure Upper Limb Motor Performance in Children and Young People with Cerebral Palsy.* **Mohammed Alrashidi**

3. *Improving the Discharge Process and Transition between Inpatient Hospital Setting and the Community for Adults on a Level 1 Neuro-rehabilitation Unit.* **Lisa Klautke**

4. *Unlocking Rehabilitation Insights: Discussing the Data Dashboard for Quantitative Analysis.* **Sarah Lake**

5. *Testing the validity and reliability of field tests of exercise capacity in a population with and without Chronic Obstructive Pulmonary Disease (COPD).* **Rhona Martin-Smith**

6. *Communication between families and health care professionals in the preparation for discharge of adults post acquired brain injury – A mixed methods case study.* **Kirsty Simpson**

7. *Working with the 'Life Thread' approach to support families after traumatic brain injury: WIP.* **Charlie Whiffin**

8. *Acceptability of an online support group to improve physical activity for people with Huntington's disease: a qualitative study.* **Shu Xiaoyi**

Pilot study to evaluate MUSic therapy In Complex Specialist neuro-rehabilitation (MUSICS).

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Name of Submitter

Sara Ajina

Abstract

Background: Evidence suggests music interventions can enhance neuroplasticity and wellbeing after brain injury as well as return of speech, motor skills, and cognition. While music interventions are identified as important by patient and carer groups, they are rarely commissioned due to lack of clinical/cost effectiveness evidence.

Primary objective: What is the impact of addition of music therapy compared to usual care during specialist inpatient rehabilitation on: Primary Outcome: Functional independence (FIM_FAM), care costs; Secondary Outcome: Quality of life, well-being, social interaction, psychological distress, pain, communication confidence.

Secondary Objective: To explore how patients engage with and experience music therapy on their rehabilitation journeys, and how it can retain its “ripple effect” in the context of a clinical trial.

Method: Two-year mixed methods Randomised Control Trial comparing 15 hours ‘Music Therapy’ to non-music ‘Control Therapy’ (usual care). 75 patients with severe neurological injury identified on admission to NRU. Randomisation post-baseline FIM_FAM, matched for age, gender, diagnosis, time since neurological injury, baseline level of function.

Quantitative study: Pre and post-intervention primary and secondary outcome measures.

Qualitative sub-study: Audio and video recordings of music therapy sessions, field and clinical notes, semi-structured interviews, focus groups with patients, carers, and staff.

Preliminary finding: Data collection is in-progress, however preliminary qualitative research findings will be available in January 2024, with an indication of emerging themes in relation to Secondary Objective.

Discussion/Conclusion: ANCOVA (general linear model) will be used to analyse quantitative data for a difference in outcome measures. These findings hope to inform future provision of music therapy in specialist neurorehabilitation.

Examining the Feasibility of Immersive Virtual Reality to Measure Upper Limb Motor Performance in Children and Young People with Cerebral Palsy

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Name of Submitter

Mohammed Alrashidi

Abstract

Background: Cerebral palsy (CP) is the most common motor disability affecting children. In recent years, there has been growing interest in using virtual reality (VR) in CP rehabilitation. Previous research reports that immersive virtual reality (iVR) could be a promising motivational tool for children with CP. However, previous research did not evaluate the degree to which iVR can be used as a diagnostic tool to quantify children's upper-limb motor performance. Therefore, the aims of this study are to examine the feasibility of iVR to assess upper-limb function in children with CP and to identify any adverse effects of using iVR in this clinical population.

Methods: Thirty children and young people between 10 and 17 years of age with CP will be recruited. Participants will be required to draw circles – an established and validated test of upper-limb function, using a custom-built virtual environment with a Meta-Quest-2 headset. Outcomes are the System Usability Scale (SUS), Box and Block Test (BBT) score, Durouze Hand Index (DHI), and three metrics of circle drawing performance (movement time, mean velocity, and circle roundness) recorded by the VR system.

Likely value of findings\Conclusion: This study will examine the feasibility of a new objective method for paediatric physiotherapists to quantify upper-limb movement in a repeatable and engaging way. The iVR task used in this study could offer useful insights into the spatiotemporal dimensions of movement quality pre- and post-intervention or physiotherapeutic exercises.

Improving the Discharge Process and Transition between Inpatient Hospital Setting and the Community for Adults on a Level 1 Neuro-rehabilitation Unit

Hannah Li, Celine Lakra, Lisa Klautke, Orlando Swayne
Neurorehabilitation Unit (NRU), University College London NHS Foundation Trust, London,
United Kingdom

Name of Submitter

Hannah Li

Abstract

Background: Individually tailored discharge planning coordinated by multi-disciplinary teams has been found to improve patient outcomes with respect to length of stay, hospital readmissions and patient and caregiver satisfaction. Currently, patients discharged from the neurorehabilitation unit are seen 3-6 months post-discharge. Acknowledging feedback from the team and patients/carers, we are exploring the benefits of early contact with our service, 2 weeks following discharge.

This service evaluation aims to: 1) Initiate a 2-week post discharge 'wellbeing check' for patients, 2) evaluate whether this improves the patient and/or carer experience of discharge, 3) collect information on the potential issues which arise in the immediate transition to the community to inform our future practice.

Methods: We are in the process of collecting data from 10 patients through a proforma designed as a 2-week post discharge wellbeing check phone call. A second proforma has been designed to evaluate the experience of patients and/or carers 3 months post-discharge. The same 10 patients will be contacted, as well as 10 patients who did not receive the well-being check phone call prior to its implementation.

Findings: Preliminary findings have identified recurring themes including, difficulties navigating community services, handover of bladder and bowel management to carers, dissatisfaction with the change in intensity of therapy sessions, lack of understanding of the indications for medication, and a lack of awareness of available support groups through voluntary organisations.

Discussion: We hope that our findings will highlight weaknesses in our current discharge processes, indicating potential changes to improve the transition from neurorehabilitation to the community.

Unlocking Rehabilitation Insights: Discussing the Data Dashboard for Quantitative Analysis

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Name of Submitter

Sarah Lake

Abstract

Background

A lack of accessible quantitative data in rehabilitation means that professionals working with a patient do not always have access to shared information, creating a disjointed foundation of knowledge surrounding best-practice. Analysis made possible by that data has become staple practice in other fields. A software application (Goal Manager®) designed to organise routinely collected data was the subject of a recent Innovation award fund to establish potential data needs and use cases for a Data Dashboard.

Method

Focus group discussions were held with 13 rehabilitation professionals to establish data needs and potential use cases for the Data Dashboard.

Findings

Preliminary thematic analysis of meeting transcripts identified six main themes: 1) The fundamental nature of outcome tracking, 2) Standardisation of therapeutic dosage and accountability, 3) Intuitive treatment plans, 4) The contextual importance of holistic care, 5) The individualistic nature of reporting needs, and 6) Attitudes towards technology. Participants indicated that analysis of rehabilitation processes had many potential applications, including service-wide monitoring, obtaining funding support, and legal considerations.

Discussion and conclusion

Discussions demonstrated potential use of the Data Dashboard in rehabilitation contexts, providing the necessary accessibility to comprehensive data currently lacking within the discipline. Subsequently, the development of the Dashboard will be aligned with the data requirements identified by rehabilitation professionals. Regarding the resource-constrained nature of many service environments currently, the Dashboard was recognised as having potential to save time and money. There was endorsement for the potential of the Dashboard in research, considering the need for more real-world research to guide the future delivery of services.

Testing the validity and reliability of field tests of exercise capacity in a population with and without Chronic Obstructive Pulmonary Disease (COPD)

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Name of Submitter

Rhona Martin-Smith

Abstract

BACKGROUND: Chronic obstructive pulmonary disease (COPD) affects millions of people in the UK. Since the COVID-19 pandemic, there has been a demand for alternative Pulmonary Rehabilitation (PR). Digital innovations are enabling PR to be delivered in residential settings using teleconferencing and wearable sensors. To enable more effective home-based PR it is important to develop exercise capacity. The aim of this research is to test the validity and reliability of field tests of exercise capacity using wearable sensors in a population with and without COPD.

METHOD: 50 healthy and 50 individuals with COPD are being recruited to take part in an exercise testing session to assess exercise capacity. Participants will undergo a selection of lab-based and field/home-based test including; 6minute walk test (6MWT), incremental shuttle walk test (ISWT), 6minute step test (6MST), 5-rep sit to stand (5REP STS), 1minute STS, 1minute Squat test (1minST), 1minute walk on the spot (1minWOTS), 1minute bent leg raises (1minBLR) and 4meter gait speed test (4MGST). Participants will have measures of heart rate and blood oxygen saturation taken throughout using a wearable sensor on their upper arm (Waire Health Cdetect) and a pulse oximeter on their finger (Masimo) and perceived exertion (Borg scale). Participants will have lung function measured using spirometry (NDD EasyOne PC) to classify severity of COPD.

RESULTS: 40/50 healthy participants have been tested to date.

DISCUSSION/CONCLUSION: Results will determine which home-based tests are most strongly correlated with lab-based tests. This will assist with testing exercise capacity in home environments for the design of home-based PR using teleconferencing.

8

Communication between families and health care professionals in the preparation for discharge of adults post acquired brain injury - A mixed methods case study

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University of Derby, Derby, United Kingdom

Name of Submitter

Kirsty Simpson

Abstract

Background

Effective communication prior to discharge is known to improve outcomes such as treatment adherence, lower hospital readmissions, and higher patient satisfaction, however there is a dearth of research on communication prior to discharge after ABI.

Research in discharge communication in populations of elderly adults and family caregivers is more abundant with this populations care duties often mirroring that of those with an ABI. This body of research emphasises the importance of family caregiver inclusion in discharge planning and the families own personal needs at point of discharge with a direct correlation between patient and family satisfaction with discharge planning and positive health outcomes.

It is therefore important to understand the discharge communication for family members of patients with an ABI. A comprehensive overview of current processes would give insight into where practices are effective and where they can be improved.

Method

This ethnographic instrumental case study will take place at Nottingham University Hospital Neurosurgical wards and will employ mixed methods including observations, interviews, and surveys. It will commence with ward observations, then interviews with HCPS and FMs. Findings from the observations and interviews will inform a survey which will help in assessing aspects that impact effective HCP communication.

Results/Findings

N/A.

Discussion/conclusion

Findings will increase our understanding of the facilitators and barriers to effective communication with FMs of a patient with an ABI. The views of FMs and HCPs will inform recommendations for future practice and the development of appropriate protocol and training to support this health care communication after an ABI.

2

Working with the 'Life Thread' approach to support families after traumatic brain injury: WIP

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Name of Submitter

Charlie Whiffin

Abstract

- Background

When a traumatic brain injury (TBI) is sustained by a close relative, families are pulled into a frightening world of trauma, loss and negative change. These losses are felt acutely, and family members have little to relieve their trauma, resolve their grief or prevent their suffering. This study aims to identify the promise of the 'Life Threads' approach in supporting family member well-being and adjustment post-TBI.

- Methods

An exploratory qualitative study using focus groups and individual unstructured interviews. Participants will have the opportunity to work with the 'Life Thread' materials and use this to reflect on their own experiences since their relative's TBI. We will use a non-random purposive variation sample of 20 family members of relatives with any severity TBI, sustained at least two years prior, age at injury 18 years or older.

- Results/Findings

Ethical approval has been obtained.

- Discussion

This study will tell us about the clinical potential of supporting family members to tell their story through the 'Life Threads' approach and if this is beneficial for their wellbeing and adjustment post-injury. If appropriate we will then be able to design a larger feasibility trial to determine if and how the 'Life Threads' approach could be integrated into professional practice.

- Conclusion

Given the emerging evidence advocating the use of narrative approaches with people who have sustained TBIs we predict that attending to the narrative changes felt and experienced by family members will create opportunities to work in more positive ways to support them post-injury.

Acceptability of an online support group to improve physical activity for people with Huntington's disease: a qualitative study

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Abstract

Background: Huntington's disease (HD) is a progressive degenerative neurological condition. Sustaining physical activities for individuals with HD poses multiple difficulties around physical and psychological engagement. To address this, the Chinese Huntington's Disease Association implemented a social media-based activity log intervention, achieving 200-400 sign-ins monthly over two years. This study aims to assess acceptability of the intervention by conducting focus groups.

Method: This study is being conducted and reported in accordance with the Consolidated Criteria for Reporting Qualitative Research. Electronically signed informed consent is being obtained from all participants.

Participants are people from HD families who either have had a positive genetic test for HD (premanifest or manifest), or who have a family member for whom they provide physical, psychological or practical support. People with or supporting someone with juvenile HD were excluded. We aim to interview 15 individuals in 4-5 groups. The interview guide is designed based on Sekhon's Theoretical Framework of Acceptability, consisting of seven domains.

Audio-recorded interviews will be transcribed verbatim, anonymised and imported to qualitative data management software (NVivo). Five-step Framework Analysis adapted from Ritchie and Spencer (1994) will be applied for qualitative data analysis. Data will be collected and initially analysed in Mandarin. The analytical framework with indexed data will be translated to English. Data charting, mapping and describing will be completed in English.

Conclusion: The findings of focus group interviews will provide perspectives on the strengths and barriers of current interventions as well as opportunities to integrate other aspects of healthy lifestyle for individuals with HD in China.