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MSC Abstracts 4: Oral Presentation

BALANCE TRAINING TO IMPROVE HAND FUNCTION IN STROKE: A SCOPING REVIEW

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ABSTRACT

Introduction: Stroke often results in impaired hand function while balance training is proven to be an effective intervention to improve mobility after stroke. However, limited evidence is available on the effects of balance training on upper limb function. A review on the effects of balance training to improve hand function after stroke needs to be explored to guide rehabilitation team in clinical decision making and practice. **Objectives:** The purpose of this review was to summarise recent scientific evidence on balance training to improve hand function among stroke survivors. **Methodology:** Literature search was performed via PubMed and Scopus with the following search terms: 'stroke' AND 'balance training' AND 'hand function'. All selected articles were published in English. Published randomised controlled trials between 2012 and 2021 that conducted balance training among adults aged 18 years and above with stroke were included. Review articles, case reports and dissertations were excluded. **Result:** The search yielded 232 results. From 27 eligible articles, nine were selected for the review. There were 141 and 139 participants in the intervention and control groups, respectively. Major types of balance training conducted included therapeutic core muscle exercises and adjunct interventions such as action observation, virtual reality, resistance training, as well as comparison with combination therapy (conventional and adjunct). Main outcome measures used for assessing hand function were FMA-UE and WFMT. Out of 9 selected studies, five studies showed significant improvement in hand function which used combination therapy. Between these studies, there were variations in training duration, intensity, and frequency with difficulties in standardising the interventions. **Conclusions:** Balance training in combination with adjunct intervention can improve hand function of stroke survivors. More methodological rigor studies should be implemented to evaluate accurately on the degree of improvements with various interventions as adjunct to balance training for enhancing upper limb outcomes after stroke.

CHALLENGES IN DELIVERING TELE-REHABILITATION FOR RURAL COMMUNITIES IN MALAYSIA

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ABSTRACT

Objectives: To describe the challenges in delivering tele-rehabilitation for rural communities in Negeri Sembilan, Malaysia. **Methodology:** An audit was performed on all patients who received tele-rehabilitation at the Rehabilitation Medicine clinic at Hospital Tuanku Ampuan Najihah, Kuala Pilah, Negeri Sembilan, Malaysia from March 2021 to December 2021. Tele-rehabilitation services comprised tele-consultation, tele-assessments, tele-therapy, and tele-education. Barriers and facilitators to tele-rehabilitation were documented and classified as: i) Patient factors ii) Healthcare provider factors iii) ICT issues. **Result:** Eighty-eight out of 366 patients (24%) received a spectrum of tele-rehabilitation services during the audit period. Barriers were poor network coverage, low smart phone and internet penetration, lack of awareness and/or expertise in telemedicine among healthcare providers and the community, preference for face-to-face consultation, lack of political will and competing health priorities. **Conclusions:** Healthcare providers need to adapt to the local culture and demands in order to improve uptake in tele-rehabilitation. More resources should be allocated to support ICT device ownership and training among clients and tele-rehabilitation providers.

Keywords: challenges, barriers, tele-rehabilitation, rural, communities, Malaysia

INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH AS PREDICTORS FOR PATIENT OUTCOME

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ABSTRACT

Introduction: The International Classification of Functioning, Disability and Health (ICF) is a conceptual framework introduced by the World Health Organisation (WHO) for goal setting and patient-management. Patients with co-morbidities face many challenges to participate in rehabilitation. **Objectives:** To identify factors contributing to patient mortality during intensive rehabilitation based on the ICF framework. **Methodology:** A cross-sectional study was conducted from 1st of July to the 30th of October 2021. All in-patients referred for intensive rehabilitation and died at Hospital Tuanku Ampuan Najihah, Kuala Pilah, Negeri Sembilan, Malaysia were included in the study. Patient demography, diagnoses, cause of death, outcome measures; barriers and facilitators to participate in rehabilitation were sub-categorised into the ICF framework. **Result:** Twenty (14.3%) out of the 140 patients died during the study period. The most common causes of death (body functions and structures) were aspiration pneumonia (35%), cardiac failure (30%) and septic shock (30%). All of them had required high level of nursing care for bladder and bowel care, and nasogastric tube feeding. None of them could participate in active rehabilitation or fulfil their previous roles in society. Personal factors include prolonged sick-role behaviour (100%), poor health-seeking behaviour (55%) and low motivation (75%). Environmental factors (barriers) were poor social support (66.7%), bariatric patients (25%) and communication difficulties (8.3%). **Conclusions:** Aspiration pneumonia and cardiac failure are the most common causes of death. Patients who are dependent and incontinent, have dysphagia and poor social support have higher mortality. The ICF can be used to predict patient outcomes.

PREDICTORS OF POST STROKE UNFAVORABLE FUNCTIONAL OUTCOMES AMONG PATIENTS WITH HYPERGLYCEMIA DURING ACUTE ISCHEMIC STROKE

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ABSTRACT

Introduction: Hyperglycaemia (HG) during acute ischemic stroke (AIS) has been associated with worse outcomes including unfavourable functional outcomes. Early stratification of the potentially risk factors of HG and poor outcomes associated with it during AIS would help to provide guidance for acute stroke management. This study assessed HG patte within 72hr after stroke, determined the predictors of HG during AIS and its impact on post stroke unfavourable functional outcomes (modified Rankin Scale (mRS) >2). **Methodology:** This was a retrospective cohort study included patients with AIS admitted to Hospital Sultanah Nur Zahirah, Kuala Terengganu, Malaysia, from January 2017 to December 2020. HG was defined as blood glucose level > 140 mg/dl within 72 hr after admission. Patients with HG were subdivided into early, late, and persistent HG. Logistic regression and Cox regression were performed by using SPSS version 22. **Result:** Of total 412, 169 (41.02%) patients had persistent normoglycemia, 243 (58.98%) had HG within 72hr of admission. Pre-stroke diabetes and leucocytosis upon admission were significantly associated with HG during AIS with aOR of 22.94 (95%CI; 12.35-42.61), and 2.71 (95%CI 1.47-4.97), respectively. The persistent HG during AIS significantly predict post stroke unfavourable functional outcome with HR of 1.89 (95%CI; 1.06-3.39) as compared to the peers with early HG during AIS. **Conclusions:** Pre-stroke diabetes is a significant independent predictor of HG during AIS while persistent HG during AIS increase risk of unfavourable functional outcome after discharge. Future study is required to personalise an optimal insulin dosing during AIS depending on pre-stroke DM status.

THERAPIST'S ROLE IN THERAPEUTIC ALLIANCE FOR THE PATIENTS' ENGAGEMENT IN STROKE REHABILITATION

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ABSTRACT

Introduction: There is growing acknowledgment of stroke rehabilitation for stroke survivors. Stroke rehabilitation services aim to be person-centered care where patients play a central role in their rehabilitation plan. However, there is still limited knowledge of factors that affect patients' engagement in stroke rehabilitation including the therapist's role in the therapeutic alliance. **Objectives:** To explore the therapist's role in the therapeutic alliance which influences the patients' engagement in stroke rehabilitation. **Methodology:** A literature search was conducted in MEDLINE, CINAHL, Embase, PsychINFO, and AMED databases for the articles published from January 2000 to December 2021 with the search term; stroke rehabilitation, patients' engagement, therapist's role, and therapeutic alliance. Included articles were in English with qualitative study. The quantitative studies, review articles, case reports, and dissertations were excluded. **Result:** The electronic search resulted in 49 articles. Eight studies met the inclusion and exclusion criteria. Patients experienced that the therapeutic alliance between them with health professionals could influence their stroke rehabilitation engagement. This included health professionals' communication skills, staff's voice tone, behaviors and attentiveness, support and feedback given by the therapists, continuity of care, and collaboration among staff and patients. **Conclusions:** The therapist's role in therapeutic alliance strongly influences the patients' engagement in stroke rehabilitation. It is crucial for the therapists to use their personal attributes therapeutically and professional skills flexibly to establish a therapeutic alliance throughout the rehabilitation program for patients' engagement in stroke rehabilitation.

COVID-19 VACCINATION, INFECTION, AND RISK OF STROKE IN MALAYSIA

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ABSTRACT

Objectives: To determine the risk of stroke among recipients of COVID-19 vaccines and people infected with COVID-19 in Malaysia. **Methodology:** Observational cohort study was conducted using secondary data for the period between 1 February 2021 and 28 February 2022. Individual-level data on COVID-19 vaccination records and confirmed cases of COVID-19 were linked to admission data from public hospitals. Exposure was defined as receiving at least one dose of COVID-19 vaccine or testing positive for COVID-19. Outcome was hospital admission for stroke. **Result:** During the observation period, we identified 3883 ischaemic strokes (IS) and 819 haemorrhagic strokes (HS) that occurred within 28-day of exposure. After the first and second doses of BNT162b2, the absolute risk of IS were 5.42 (95% CI 5.04-5.83) and 6.96 (6.52-7.42) per 100,000 persons vaccinated. The risk of IS following CoronaVac vaccination were 5.26 (4.82-5.73) and 6.46 (5.96-6.98) after the first and second dose, respectively. The risk of IS after first dose of ChAdOx1 was 3.77 (2.98-4.72) and 3.36 (2.61-4.26) after the second dose. For HS, the risk following vaccination with BNT162b2 were 1.44 (1.24-1.65) (first dose) and 1.51 (1.31-1.73) (second dose) per 100,000 persons vaccinated. Among CoronaVac recipients, the risk of HS after the first and second doses were 1.28 (1.06-1.52) and 1.59 (1.35-1.86). The risk of HS was 1.13 (0.71-1.69) and 0.98 (0.60-1.53) after the first and second dose of ChAdOx1 vaccine. In the COVID-19 infection cohort, the risk of IS and HS was 33.16 (31.09-35.38) and 3.50 (2.87-4.28) per 100,00 persons infected. **Conclusions:** Our data showed that the absolute risk of stroke after vaccination in Malaysia was low, whereas the risk of stroke after COVID-19 infection was higher compared with postvaccination.

EFFECTIVENESS OF VOCATIONAL REHABILITATION AUGMENTED WITH COGNITIVE REMEDIATION THERAPY FOR STROKE SURVIVORS WITH COGNITIVE IMPAIRMENTS IN IMPROVING WORK READINESS: A RANDOMISED CONTROLLED TRIAL

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ABSTRACT

Introduction: Finding a job is a top priority for most people but this goal remains unattainable for most post-stroke survivors with cognitive impairments who are still receiving benefits or are unemployed. Vocational rehabilitation aims to successfully retu people with any conditions or limitations to retu to work; however, they still have a significant amount of post-stroke survivors with cognitive impairment who are still unemployed. Cognitive impairments are common in stroke and may have a strong association with poor outcomes. Fortunately, the impairments are manageable to rehabilitation approach with cognitive remediation therapy (CRT) significantly improves cognition for people with mental illness. Vocational rehabilitation (VR) combined with cognitive remediation therapy significantly increases the chances of people with mental illness getting work and retaining work. However, in Malaysia, the availability of CRT is still limited in many cases and setting. **Objectives:** To explore the efficacy and how vocational rehabilitation augmented with cognitive remediation therapy can improve the work readiness among post-stroke survivors with cognitive impairments. **Methodology:** This research will be conducted at SOCSO Rehabilitation Centre, Malacca and two other rehabilitation centres in Klang Valley. This study design will be an experimental study and the participants (SOCSO contributors) will go through a procedure of randomized control trials (RCT) in the division of participants into an experimental group (vocational rehabilitation augmented group) or control group (best standard intervention) with a 1:1 ratio. Consolidated Standards of Reporting Trials (CONSORT) guidelines will be followed. **Result:** Results will include demographic data, a comparison of the level of work readiness and the level of psychosocial functioning before and after VR, the relationship between work readiness and level of psychosocial functioning, the functional relationship of the variables, and the predictors influencing the level of work readiness.

DEVELOPING A MALAY LANGUAGE EXECUTIVE FUNCTION ASSESSMENT: A SURVEY WITH SPEECH-LANGUAGE PATHOLOGISTS IN MALAYSIA

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ABSTRACT

Introduction: Recent robust evidence indicates that executive function (EF) is an important cognitive process in mediating language function and as an effective prognostic indicator of treatment gains in people with aphasia (PWA) (Murray 2017; Mohapatra & Marshall, 2020). While there is a need to measure EF in PWA, linguistic and cultural diversity has become a major challenge faced by speech-language pathologists (SLPs) when conducting assessment for PWA in Malaysia. (Hassan et al., 2020; Noorsham et al., 2020). Studies have also reported that the lack of appropriate, standardised Malay assessment tools and resources for the diagnosis and management of aphasia is a big obstacle faced by clinicians (Ahmad et al., 2013; Hassan et al., 2020). Together, (a) the need to assess EF in aphasia management and (b) the growing need for lingua-culturally standardised assessment tools set the stage for the current research. **Objectives:** The present study was designed to (i) identify current practices among SLPs in conducting EF assessment for PWA (ii) obtain professional opinions on using a Malay EF test battery and (iii) understand the need for remote EF assessment in Malaysia's clinical settings. **Methodology:** An online questionnaire was designed to gather information on the current practices in evaluating EF assessment for PWA and distributed to SLPs involved in the management of aphasia. **Result:** SLPs (n=10) expressed the need for a standardised Malay EF Test Battery. Furthermore, the responses indicated several factors to be considered for the development of a Malay EF test battery such as culturally appropriate items and sensitivity to dialectal variation. Additionally, it was revealed that telehealth practices surrounding aphasia management are novel and not widely used across Malaysia. These professional perspectives will form part of the evidence in the development of a linguistically and culturally appropriate EF test battery for Malay speakers in Malaysia.