Abstracts

Abstract ID: 1

Title: Exploring the effect of HABIT exercises, Proprioceptive training in ball pit for hand function in children with asymmetrical spastic cerebral palsy.

Authors: Dr. Aanchal Goyal,
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Abstract:
Introduction: Cerebral palsy (CP) denotes non-progressive brain anomalies leads to persistent neuromotor challenges. Proprioceptive training, crucial for motor control, is aimed at restoring motor function post-impairment. Paediatric ball pits serve as effective treatment settings for children with motor delays, neurological issues, and cases characterized by non-use of one-sided upper limbs. Aim: This study marks the first exploration of HABIT's efficacy in pediatric rehabilitation, coupled with proprioceptive ball pit exercises as an promising intervention for hand training pertaining to the age-appropriateness of of a 2 years old child with asymmetrical spastic Cerebral palsy and global developmental delay, impacting his functional activities of upper limb. Methodology: To use Hand-arm bimanual intensive training (HABIT) as a rehabilitation approach tailored to children with unilateral cerebral palsy, addressing upper extremity impairments. HABIT, Thus, emphasizes asymmetrical hand actions, leveraging motor learning principles (e.g., practice specificity, varied practice types, feedback) and neuroplasticity (i.e., brain changes from repetitive, complex movements, motivation, reward). Principle : It has been proposed that a crucial element of therapies training. It can train the implicit or unconscious sensorimotor area or the conscious perceptual proprioceptive sense. Results This individualized protocol, tailored to pretest assessments, yielded improved upper limb function post-intervention on the basis of Manual Ability Classification System. Conclusion(s) Ball Pit exercises, proprioceptive input for training motor control along with conventional exercise therapy protocol played crucial role in maintaining, improving range of motion, strength, and functionality of the non-used upper limb in asymmetrical spastic CP.

Abstract ID: 2

Title: Investigating Speech, Language and Cognitive impairments consequent to Basal Ganglia lesion: A single case report of Right Caudate involvement

Authors: Ms. Aishwarya Deshmukh, Satyam Hota (Postgraduate SLP student), Srabanti Khemka (Associate Professor)
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Abstract:
Introduction Subcortical areas such as the basal ganglia, are involved in language and speech processing (Ford et al., 2013). Cognitive and motor processing that takes place in the cerebral cortex are controlled by corresponding structures in the basal ganglia and are connected to the cortex by discrete neural circuits (Middleton and Strick, 2000). Studies proposed that caudate nucleus plays a crucial role in language and cognitive functions (Duffau et al., 2014). Aim The present study aimed to investigate speech, language and cognitive impairments consequent to basal ganglia lesion. Method A Hindi speaking 48-year-old female

presented with unclear speech following right basal ganglia lesion specifically a caudate bleed. Comprehensive assessment including differential diagnosis of speech, language and cognition was done using informal and formal diagnostic test batteries. Montreal Cognitive Assessment (MoCA) was used to assess cognition whereas Western Aphasia Battery Hindi version (WAB-H), Right Hemisphere Language Battery Hindi version (RHLB-H) and Clinical Dementia Rating Scale (CDR) examined the language skills. Perceptual assessment of speech functions was done using Frenchay Dysarthria Assessment (FDA), Maximum Phonation Duration (MPD), Diadochokinetic rate (DDK) and articulation test. Results The findings revealed a diagnostic impression of neurocognitive decline associated with mild dementia, dysarthria of speech and right hemisphere language disorder. The case exhibited mixed dysarthria of flaccid - spastic type on differential diagnosis. RHLB-H scores depicted marked deficits in metaphors and appreciation of humour. Conclusion The contribution of basal ganglia in controlling language and speech processing is well evidenced and should be considered while planning rehabilitation strategies.

Abstract ID: 4

Title: Assessment and Management of dyad functions of speech and swallowing in a case of Guillain–Barré syndrome with Bilateral Facial Palsy with bulbar involvement

Authors: Ms. Muskan Sharma, Deepansuli Jaswal (Postgraduate SLP student), Srabanti Khemka (Associate Professor)

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Abstract:

Introduction Guillain–Barré syndrome is a rapid-onset muscle weakness caused by the immune system damaging the peripheral nervous system (NIAMS, 2016). Bulbar neurons are responsible for speech and swallowing, and as they degenerate, the individual develops slurred speech and difficulty swallowing. Aim The present study aimed to assess speech and swallowing functions in a case of GBS and understand the efficacy of speech and swallowing intervention strategies. Methodology A 35-year-old right-handed female was admitted with bilateral facial palsy, slurring of speech, drooling, nasal regurgitation, and dysphagia with motor quadriparesis since last 3 days. Presence of GBS of pharyngeal-cervical-brachial variant was confirmed by medical professional based on neurological examination, MRI findings, NCV and CSF analysis. Assessment by speech language pathologist included cranial nerve assessment, Frenchay Dysarthria Assessment (FDA), Perceptual voice analysis, Speech Intelligibility rating, Gugging Swallowing Screening (GUSS) examination. Intensive speech and swallowing therapy was provided during 3 weeks of inpatient hospitalization. Result The case was alert and oriented but showed multiple cranial nerve involvements on examination. She exhibited bilateral symmetrical facial palsy with affected oral mechanism function and reduced gag reflex. FDA findings suggested of dysarthria of speech with marked decline in speech intelligibility. Voice was low-pitched with predominant breathy quality. GUSS results suggested of severe dysphagia of oropharyngeal type. Although dysphagia and dysarthria persisted at discharge there was reduction in severity of impairments. Conclusion Individuals with GBS should undergo early comprehensive assessment, to establish the diagnosis that will lead to appropriate medical treatment and supported speech and swallowing intervention.

Abstract ID: 5

Title: Perturbation-based balance training improves reactive balance and reduces falls in older people: A systematic review and meta-analysis.

Authors: Dr. Shivam Sharma, Shivam Sharma, Ildiko-Zsuzsa Szabo, Martin Jørgensen, Mathias Danielsen, Jens Norgaard, Stephen R. Lord, Yoshiro Okubo

Presenting Author Affiliation: Falls, Balance and Injury Research Centre, Neuroscience

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Abstract:
Aim: Falls among older adults are common and negatively impact their quality of life. Perturbation-based balance training (PBT) is a novel task-specific exercise aiming to improve reactive balance. This study aimed to systematically synthesize the evidence regarding the effects of PBT on falls and fall risk factors in community-dwelling older adults. Methodology: Electronic databases were systemically searched. We included randomized controlled trials that evaluated the effects of PBT on falls and fall risk factors (e.g. reactive balance assessed by perturbation-induced laboratory falls), among the community-dwelling older adults. Two independent reviewers performed study screening and data extraction. Further meta-anal. The results of each trial were combined in a meta-analysis using a random effects mode. Results: 25 studies were included. Meta-analyses of trials showed significant reductions in the rate of falls (rate ratio: 0.77, 95% confidence interval [CI]: 0.59 to 0.99, $p<0.0001$, $I2=0\%$), proportion

Abstract ID: 7
Title: Comprehensive assessment of Right Hemisphere Communication Disorder in an Adult subsequent to Acute Ischemic Stroke with Right Parietotemporal lesion
Authors: Ms. Shivani Arora, Sakshi (Postgraduate SLP student), Srabanti Khemka (Associate Professor), Garima Dixit (Associate Professor)
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Abstract:
Introduction Right hemisphere communication disorder (RHCD) is caused by a damage to the right hemisphere of the brain. Individuals with RHCD experience difficulties in their social communication (pragmatics) and cognitive functioning. Cognitive-communication deficits are estimated to occur in 50%–90% of all individuals with right hemisphere brain damage (ASHA, 2016). Aim The present case study aimed to assess Right Hemisphere Communication Disorder subsequent to acute ischemic stroke with right parietotemporal lesion. Method A Hindi speaking 69-year-old male was admitted with left limb weakness following acute ischemic stroke. Presence of stroke with right parietotemporal involvement was confirmed by medical professional based on MRI findings and neurological evaluations. Comprehensive assessment by speech language pathologist included Edinburgh Handedness Inventory (EHI), Montreal Cognitive Assessment (MoCA) to assess cognition followed by Clinical Dementia Rating Scale (CDR) whereas Western Aphasia Battery Hindi version (WAB-H) and Right Hemisphere Language Battery Hindi version (RHLB-H) examined the language skills. Result The results of MOCA-H and CDR suggested of mild neurocognitive deficit associated with mild dementia whereas WAB-H indicated no neurolinguistic deficit. The EHI findings confirmed the case to be right-handed. RHLB-H revealed semantic processing deficits evident by reduced scores for metaphoric picture naming task, appreciation of humor, lexical semantic test and discourse abilities suggesting a decline in right hemisphere communication functioning. Conclusion Deficits associated with RHCD have a significant impact of functional performance in social and vocational settings. Comprehensive assessment and appropriate intervention strategies can reduce the negative effects of the disorder.

Abstract ID: 8
Title: Motor speech profile in an adolescent consequent to Encephalomyelitis: A single Case Report
Authors: Ms. Priyanka Dubey, Shweta Sharma (B.ASLP Intern student), Pooja (Postgraduate SLP student) Kamalika Chowdhury (Associate Professor)
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Abstract:
Introduction: Encephalomyelitis, an inflammatory condition of the central nervous system, often leads to neurological impairments in adolescents presenting remarkable symptom of dysarthria are more likely to have abnormal speech characteristics (Rampello, 2016). Aim: The case study aimed to investigate the motor speech profile in an adolescent with encephalomyelitis. Methodology: A 16 years old male was admitted with slurring of speech, shortness of breath with change in voice quality since one-month post typhoid fever 3 months back. The medical diagnosis of encephalomyelitis was confirmed using neurological and radiological examination. Investigations included cognition, language, speech and swallowing domains. Evaluation included administration of Montreal Cognitive Assessment (MoCA) for neurocognitive profiling, the Western Aphasia Battery (WAB-HS) Hindi Screener to analyse language skills, cranial nerve examination , Frenchay Dysarthria Assessment (FDA), perceptual voice analysis and articulation test to delineate nature and type of dysarthria, Gugging Swallowing Screen (GUSS) to assess dysphagia correspondingly. Results: Findings of MoCA, WAB-HS and GUSS indicated no cognitive, linguistic and swallowing difficulty. Cranial Nerve Assessment suggested of affected glossopharyngeal, vagus, accessory, and hypoglossal nerve. FDA profile revealed breathy voice quality, reduced range of motion, speed, strength and accuracy of lingual, labial & laryngeal muscles coupled with marked reduction in speech intelligibility of continuous speech delineating a differential diagnosis of flaccid dysarthria. Conclusion: Encephalomyelitis has a varied range of neurologic presentations that leads to dysarthria as the primary deficit. To enhance the clinical course and long-term outcome, prompt diagnosis is essential to begin appropriate treatment in such cases.

Abstract ID: 10

Title: Assessing acquired cross-linguistic profile in the context of bilingual aphasia: A Case Report of Hindi-English bilingual speaker

Authors: Ms.Shreya Sharma, Anamika Asati (Postgraduate SLP student), Srabanti Khemka (Associate Professor), Priyanka Dubey (Assistant Professor)
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Abstract:
Introduction Bilinguals use more than one language on a regular basis (Grosjean, 2013). The languages spoken by individuals with bilingual aphasia show differential patterns of impairment i.e. in a similar way (parallel aphasia) or to a different extent for each language (dissociated aphasia). Hence it is not acceptable to assess aphasic individuals in one of their known languages. (Paradis, 2004; Weekes, 2010). Aim The present case study aimed to profile the linguistic performances of Hindi (L1) and English (L2) in an individual with bilingual aphasia. Methodology A Hindi speaking 21years old literate right-handed male reported one year post stroke with left MCA and fronto-parietal temporal lobe lesion. The participant reported of late bilingualism, Hindi being first language (L1) and learnt language English as L2. He reported of more difficulty communicating in English than Hindi. Bilingual language profile (BLP) and Bilingual Aphasia test (BAT) was administered. Results Participant depicted higher language usage and proficiency in Hindi than English based on BLP findings. BAT (English- Hindi) results indicated a better proficiency in speaking, reading and writing premorbidly in L1. Although the present case presented a nonfluent aphasia, linguistic profiling depicted a varied pattern of impairment for L1 and L2. Severe difficulties in translation and grammatical judgements from L1 to L2 and reverse was noted. Conclusion When assessing a bilingual aphasic, it is important to consider language assessment in both languages. BAT is designed to

measure residual linguistic competence in people with bilingual aphasia and this profiling helps to decide language of intervention.

Abstract ID: 13

Title: Effect of repetitive transcranial magnetic stimulation along with conventional physiotherapy treatment on sleep parameters using polysomnography – sleep study in individuals with sleep apnea- A single case study.

Authors: Ms.Rajni, Dr. Narkeesh Arumugam
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Abstract:
Purpose: To find the effectiveness of rTMS along with conventional physiotherapy on polysomnography (PSG) – sleep analysis in individuals with sleep apnea Relevance: The study attempts to widen the horizons of the physiotherapy profession in the field of sleep apnea. The improved quality of sleep may improve various domains of quality of life of affected individuals. Study design: A case report of an individual with sleep apnea Methods: A 45-year-old male was diagnosed with sleep apnea for 4 years and started using a CPAP device in the last 5 months. The patient had excessive daytime sleepiness, loud snoring, and difficulty in wearing a CPAP mask during the night. The physical examination showed obese (BMI – 25.5 kg/m2), inappropriate breathing pattern (more mouth breathing instead of nasal breathing), and tightness of accessory muscles of respiration (scalene, trapezius, pectoral, sternocleidomastoid) on palpation. Then the patient was intervened with rTMS along with conventional physiotherapy for 5 sessions a week for 3 weeks Analysis: Pre and post objective assessments were done using polysomnography and subjective assessment was done using the Pittsburgh Sleep Quality Index (PSQI) Results: A significant reduction in Apnea-Hypopnea index (AHI) was observed after the intervention. Sleep disturbance also decreased during the night and PSQI score also decreased from 8 to 6. Conclusion: The study concluded that rTMS along with conventional physiotherapy was found to be an effective treatment and can be used for the management of sleep apnea Keywords: Sleep apnea ; rTMS ; polysomnography; physiotherapy

Abstract ID: 14

Title: Validity and Reliability of Patient-Reported Outcome Measures for Post-Stroke Fatigue: A Systematic Review

Authors: Pt.Madhurika Kate, Dr. Shantha Kumar, Dr. Suresh Mani
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Abstract:
Background: Post-stroke fatigue (PSF) is a prevalent and debilitating sequela of stroke, with significant impacts on patients' recovery trajectories and quality of life. The assessment of PSF remains challenging due to the heterogeneity of Patient-Reported Outcome Measures (PROMs) employed across the literature. Methods: A comprehensive systematic search was conducted across five major databases: PubMed, MEDLINE, EMBASE, Cochrane Library, and Web of Science. Studies were screened for eligibility and were synthesized following PRISMA guidelines. Results: Six primary PROMs were evaluated: Fatigue Assessment Scale (FAS), Fatigue Severity Scale (FSS), Multidimensional Fatigue Inventory (MFI), Modified Fatigue Impact Scale (MFIS), Post-Stroke Fatigue Scale (PSFS), and Stroke-Specific Fatigue Scale (SSFS). The unidimensional FAS and FSS demonstrated robust reliability but limited content validity, failing to capture the multifaceted nature of PSF. Multidimensional MFI and MFIS provided a comprehensive assessment of physical, cognitive, and psychosocial fatigue, though this breadth may compromise domain-specific sensitivity. The PSFS exhibited strong content validity for post-stroke populations but faced limitations in cross-cultural adaptation. The SSFS targeted stroke-specific fatigue but lacked extensive psychometric evaluation. The FSS and

MFIS showed excellent internal consistency and test-retest reliability. However, the cultural adaptability of these measures remained a concern, as most validation studies were conducted in Western settings. Conclusion: This review highlights the need for the development and refinement of standardized, reliable, and culturally appropriate PROMs that can comprehensively capture the multidimensional nature of post-stroke fatigue. Future research should focus on addressing these gaps to enhance the assessment and management of this debilitating stroke sequela.

Abstract ID: 15
Title: Effect of Proprioceptive Neuromuscular Facilitation-Based Coordination Training on Trunk Control, Postural Balance, and Functional Ability in Individuals with Stroke
Authors: Ms.Shubhi Sharma, Garima Wadhwa, Shefali Walia and Stuti Khanna
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Abstract:
Introduction- This study investigated the effect of Proprioceptive Neuromuscular Facilitation- Based Coordination Training using sprinter and skater patterns on stroke individuals' trunk control, postural balance, and functional ability. Methods- A randomized controlled trial was conducted at ISIC-IRS, New Delhi. 24 subjects (>6 months post-stroke) were selected according to inclusion criteria and randomly divided into an Experimental group (12) and a control group (12). The experimental group was given proprioceptive neuromuscular facilitation-based coordination training using sprinter and skater patterns) and control group was given mat and truncal exercises. All subjects were treated 6 times per week for 3 weeks. The outcome measures used to assess pre- and post-scores were Trunk Impairment Scale (TIS), Postural Assessment Scale for Stroke (PASS), and Functional Independence Measure (FIM). Data was analyzed using SPSS version 24. Results- There was a statistically significant difference noted between the pre-test and post-test scores of the Experimental group in TIS and PASS, TIS t-value = 4.58 and $p < 0.05$ representing strong evidence, similarly T-value for PASS = 4.36 with $p < 0.05$. The control group also showed a significant difference in TIS but no difference was noted in PASS. Both groups did not show any improvement in FIM. Conclusion- Skater and Sprinter pattern exercises using PNF techniques demonstrated effectiveness in improving trunk control and postural balance. It suggests that PNF exercises can be incorporated into rehabilitation programs to specifically target trunk muscles. Keywords- stroke, trunk, trunk control, PNF, sprinter, skater, postural control

Abstract ID: 17
Title: Assessment of central fatigue in postpolio syndrome using bereitschaftspotential
Authors: Dr.Vishwas Kumar Anand, Dr Vishwas Kumar Anand, Deepali Rana, Dr Gita Handa, Dr Suman Jain, Dr Nand Kumar, Dr Shivam Pandey, Dr K P Kochhar, Dr S Wadhwa
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Abstract:
Introduction: Despite having a high prevalence of fatigue in Postpolio Syndrome (PPS), central fatigue is less studied. Studies have correlated Bereitschaftspotential (BsP) onset, amplitude, and area under the curve (AUC) with central fatigue. BsP is premotor potential detected in EEG 1-2 seconds before movement onset. Hence, this study was done to study BsP characteristics in PPS. Aims & Objectives: To compare Bereitschaftspotential (BsP) in PPS patients to healthy controls. Methods: This cross-sectional study included healthy controls (n=10) and PPS patients (n=17) between 18-80 years. PPS patients were diagnosed using EFNS criteria. C3, C4, and Cz EEG electrodes were recorded for total 150 right handgrip movements at less than 70% of MVC using a hand dynamometer. Results: Data was analysed using SPSS 25. Both the groups were comparable in age

(p= 0.15) and gender (Control: 9 male, 2 female; PPS: 9 male, 8 female; Fisher's exact = 0.226). On comparing the BsP, mean latency was significantly earlier in the PPS group in all three electrodes, being 1330ms (p= 0.03), 1335ms (p= 0.01), and 1314ms (p=0.04) at c4, cz, and c3 respectively compared to 1200ms, 1189 ms and 1198 ms in controls. The AUC is more in PPS, but significant only in cz (p=0.04). BsP amplitude is lower in PPS but the difference is nonsignificant. Conclusions: Earlier onset of Bsp and increased AUC denote that execution of motor activity requires longer and more extensive planning in PPS patients likely due to central fatigue

Abstract ID: 19

Title: Psychological benefits of Salat based on the International Classification of Functioning, Disability and Health (ICF)

Authors: Dr.Intan Sabrina Mohamad, Irma Ruslina Defi

Presenting Author Affiliation: Ministry of Health, Malaysia.

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Abstract:

Introduction Spirituality is the dimension of human life that relates to the way people experience, express and seek meaning and the way they connect to nature or the sacred. There is increased evidence to incorporate spirituality such as yoga, mindfulness or prayers to enhance psychological well-being and promote healing. Aims To review the health benefits of Salat (Muslim prayer) and to classify them based on the International Classification of Functioning, Disability and Health (ICF) domains. Methodology A scoping review was conducted from February to April 2023 using PubMed, EBSCO, and the Scopus Library databases. Articles published between 2012 and 2023 were retrieved using the following keywords: "impact" OR "effect" OR "health benefit" OR "functional outcome" AND "shalat" OR "Muslim prayer" OR "Salat". Inclusion criteria include full-text articles in English that explored the health effects of Salat. Exclusion criteria involved articles unrelated to the effect of Salat on health. Health benefits of Salat were subsequently categorised into five domains of the ICF. Results Thirty-one articles were included in the review. Salat is associated with positive coping mechanism (d2401), improved regulation of emotion and environmental mastery (b1521), reduced anxiety (b152) and depression (b126). The frequency and duration of Salat had positive associations with maintaining employment (d8451), increased life satisfaction (b1521), self-esteem (b1266) and optimism (b1265). Conclusions Salat is associated with positive effects on regulation of emotion and environment, maintaining employment and increased life satisfaction. ICF may be used as a framework to categorise health benefits systematically.

Abstract ID: 20

Title: Neurophysiological effects of Salat on the musculoskeletal system based on the International Classification of Functioning, Disability and Health (ICF)

Authors: Dr.Intan Sabrina Mohamad, Irma Ruslina Defi

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Abstract:

Introduction Yoga and prayers have been shown to enhance psychological and physical well-being and promote healing. Aims To review the neurophysiological effects of Salat (Muslim prayer) and to classify them based on the International Classification of Functioning, Disability and Health (ICF) domains. Methodology A scoping review was conducted from February to April 2023 using PubMed, EBSCO, and the Scopus Library databases. Articles published between 2012 and 2023 were retrieved using the following keywords: "impact" OR "effect" OR "health benefit" OR "functional outcome" AND "shalat" OR "Muslim prayer" OR "Salat". Inclusion criteria include full-text articles in English that explored the health effects of Salat. Exclusion criteria

involved articles unrelated to the effect of Salat on health. Health benefits of Salat were subsequently categorised into five domains of the ICF. Results Thirty-one articles were included in the review. Salat is a form of low to moderate intensity physical activity (d5701). Salat reduces muscle injury (s750) due to increased flexibility (b7101), stretching of muscle of trunk (b7355), strengthening of the neck muscles (b730), improved muscle tone of all limbs (b7354) and dynamic balance (b7600). Salat also prevents osteoporosis (s798) and reduces pain in osteoarthritis due to improved stability of the joint in osteoarthritis (b715) and reduced oxidative damage (high glutathione peroxidase activity and reduced malondialdehyde levels (s599)). Conclusions Salat is associated with positive effects on the musculoskeletal systems. ICF may be used to classify health benefits systematically.

Abstract ID: 21

Title: Co-Designing a Pelvic Floor Rehabilitation in Stroke (PFloRiS) Program for the Management of Urinary Incontinence in Women with Stroke

Authors: Ms.Sanya Anklesaria, Dr John M. Solomon, Dr. Kari Bø, Dr. Aparna R. Pai, Dr. Chythra R. Rao, Dr. Shashikiran Umakanth, Dr. Preetha Ramachandra

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Abstract:

Introduction: Urinary Incontinence (UI) post-stroke increases disability and institutionalization. Despite this, there is a lack of a structured rehabilitation program for the management of UI in women stroke survivors which urges the need for the development of the same. As this program requires active participation of women stroke survivors, Co-design method will be an appropriate, innovative and efficient method to promote end-user well-being and satisfaction. Aims: To develop a Pelvic Floor Rehabilitation in Stroke (PFloRiS) program for the management of urinary incontinence in women stroke survivors using the Co-design method Methodology: A Pelvic Floor Rehabilitation in Stroke (PFloRiS) Program was developed via a detailed literature search and expert panel discussion. Following this, five women stroke survivors suffering from UI were approached to participate. The PFloRiS program was implemented on the Co-designers via face-to-face interaction through two workshops. Following this, a brainstorming interactive feedback session was conducted using a semi-structured interview. The feedback from the participants was recorded and an expert panel discussion was conducted following which the program was finalized. Results: Median age of the participants was 73 years. All the participants found the program feasible. Facilitators for the program were ease of understanding, willingness to participate and care-giver support. Barrier included lower self-motivation. Conclusion: The PFloRiS program is developed using the Co-design method and the components of the PFloRiS include Pelvic floor rehabilitation (awareness session, pelvic floor muscle training, breathing exercises, knack manoeuvre) and Bladder training. The final program will also address the above-mentioned barriers via adherence enhancement strategies.

Abstract ID: 22

Title: Advancement in Exoskeleton Technologies for Enhancing Neurorehabilitation Outcomes

Authors: Mr.Sushilkumar Dantala, Dr Dantala PS, Mehala Devi

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Abstract:

Exoskeleton technologies have emerged as a transformative tool in neurorehabilitation, offering significant potential for restoring mobility and enhancing quality of life in patients with neurological impairments. These wearable robotic systems provide support, strength, and controlled movement to individuals suffering from conditions such as spinal cord injuries, stroke, and neurodegenerative diseases. Recent advancements

focus on integrating artificial intelligence and adaptive control mechanisms, enabling exoskeletons to respond dynamically to the user's movement intentions and biomechanical needs. This study explores the design innovations, clinical applications, and therapeutic benefits of exoskeletons in neurorehabilitation. Key areas of focus include the role of sensors and real-time feedback in improving gait training, muscle activation, and motor learning. Additionally, the study evaluates the effectiveness of exoskeletons in enhancing neuroplasticity and promoting functional recovery. Challenges such as device affordability, user adaptability, and long-term efficacy are also discussed, emphasizing the need for interdisciplinary research to optimize these technologies. By leveraging advanced robotics and human-centered design, exoskeletons hold promise for redefining rehabilitation paradigms and empowering patients toward independence. This abstract aims to highlight the critical role of exoskeletons in bridging the gap between technology and human potential in neurorehabilitation.

Abstract ID: 24
Title: 'Art'fully 'Crafting' the Path of Rehabilitation in Dementia and Caregiving
Authors: Dr.VIDYA SHENOY,
Presenting Author Affiliation: Alzheimer's Related Disorders Society Of India- Mumbai Chapter
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Abstract:
Introduction: Globally over 55 million people with dementia (PwDem) in 2020, it is projected to reach 139 million in 2050 with India having 8.8 million. Aims Rehabilitation using customised, adjuvant, non-pharmaceutical interventions viz., art and craft to improve and rehabilitate quality of life and wellbeing of PwDem having impairment in memory and cognition that interferes with ADLs. . Methodology Art and craft therapy sessions were customised after discussions with the treating Team and family and, thereafter, deployed individually and in groups, in-person or through tele-rehab with caregiver support to people diagnosed with mild to moderate dementia . Duration and frequency were increased keeping in mind their capacity to sustain interest. Results Art and craft as rehabilitative tools were engaging, offered non-verbal self-expression, facilitated healing and social communication, strengthened interpersonal relationships between carers and cared for, improved flexibility and dexterity in gross and fine motor skills, reduced stress, inspired expressions through their choice of myriad colours and mediums. Interventional sessions opened cathartic routes for harmonising many domains to meet challenges of ADLs and caregiving. Post-therapy sessions, observations included lessened mood-swings, improved focus, increased confidence with social expressions of PwDem and also that of caregivers and families as articulated in support-session feedback. Conclusion Holistic craft therapy is an effective way to process mindfulness, is barrier-free, accessible, inexpensive, with no-risk, reduces anxiety, stress, cognitive decline, and, most importantly, often taps potential of creative abilities awarding a sense of accomplishment and fulfilment. Keywords- dementia, non-pharmaceutical interventions; art and craft; rehabilitation; caregiving; Quality of Life

Abstract ID: 25
Title: The study to evaluate the subclinical lower extremity muscle strength decrease in diabetic individuals and comparing with age matched healthy individuals influencing quality of life
Authors: Ms.RADHIKA .C.M, Meenatchi. N
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Abstract:
Introduction: Diabetes mellitus is a metabolic disorder of multiple etiologies characterized by chronic hyperglycemia resulting from defects in insulin secretion or insulin action. Muscle strength was influenced by insulin resistance, through higher plasma levels, and lipid content in the muscle, therefore it could be a marker for impaired

skeletal muscle. These structural and functional changes in the skeletal muscle caused by defective insulin action could be associated with muscle weakness and reduced endurance capacity. AIM: The aim is to evaluate the subclinical changes in muscle strength in diabetes and its functional performance comparing with age-matched healthy subjects. Methods: This observational study totally includes 80 male and female individuals, 40 of type 2 DM and another 40 of age matched healthy individuals without any difficulty in Activities of daily living were recruited above 60 years of age, and assessed with HHD and functional measure (FTSTS) and quality of life measure (SF 36) used. Results: Independent sample T test and Pearson correlation coefficient was used to analyze the difference and correlate among lower extremity muscle strength, FTSTS, and SF 36 in diabetic and healthy individuals; the data obtained were statistically significant, except SF 36 emotional limitation and physical limitation factor were non-significant. Pearson's coefficient found to have negative correlation in FTSTS and muscle strength. Conclusion: Type 2 diabetes mellitus has correlated with reduction in muscle strength particularly in lower limb which remains subtle and unidentified as the disease progresses the muscle weakness may become progressive and lead to immobility

Abstract ID: 26
Title: A Study to Analyse the Relationship between Visuospatial ability and Hand function Right side Dominant in Normal individuals.
Authors: Mr.Praveenkumar C R, Rajarajeswari A
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Abstract:
Abstract: Conditions like Stroke and cerebral palsy patients have disturbance of both hand function and visuospatial ability. The right hemisphere possesses superior visuospatial skills than the left in most people. Right side brain damage may result in deficits in prehension activities of ipsilateral hand. This study intends to analyse the relationship between visuospatial ability and hand function in right hand dominant based on the above background. The aim of this study is to analyze the relationship between the visuospatial ability and hand function in right hand dominant young individuals. Methodology: 100 subjects were participated with the age of 20-30 years and right side dominant individuals included. They have performed mirror drawing task with both hands and to ABILHAND questionnaire. Result: The data has been analyzed by the SPSS 22nd version software. The Nonparametric correlation test [Kendall's tau_b] was used for analyzing the derived data for time taken and errors committed in completing the visuospatial tasks and hand function. The right side error committed for completing visuospatial task decreases the right side hand function will increases it is statistically significant. The left side error committed for completing visuospatial task increased the left side hand function decreased but it is not staistically significant Conclusion: It has been concluded that Visuospatial ability has a more significant impact over right hand function in right side young dominant individuals. Visuospatial ability components should also be considered in various motor/ hand function impairment

Abstract ID: 27
Title: A Study To Analyze The Factors Of Non-Paretic Side On Sit To Stand Performance In Hemiplegic Patients
Authors: Mr.Parthiban Pichandi, Ms.Rajarajeswari
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Abstract:
BACKGROUND AND PURPOSE: Sit to stand movement is the bridge between static to dynamic body activity from the biomechanical view and defined as a transitional movement to the upright posture. Sit to stand movement involves a postural change from a seated position and is frequently performed in everyday life. Sit to stand performance is frequently affected in hemiplegic

patients. Treatment for the hemiplegic targeted only in the non-paretic side but there are many factors of non-paretic side that may influence sit to stand performance. Factors like voluntary control, sensation, trunk control, lower extremity muscle strength which may influence sit to stand performance. The purpose of the study to find out the major factor of the non-paretic side which may impact sit to stand performance. METHODS: This observational study included 40 subjects diagnosed as stroke with hemiplegia. Influence of motor impairment were assessed using Fugl meyer scale-motor subscore, sensory impairment were assessed by Nottingham sensory assessment , trunk control were evaluated by trunk impairment scale and lower extremity muscle strength were measured using Hand held dynamometer. All these score were analyzed with sitting to standing component of motor assessment scale to find out which factor is highly influencing sit to stand performance on hemiplegic patients. RESULTS: Highly influencing factor on sit to stand was trunk control followed by knee extensor and flexor muscle strength. CONCLUSION: Trunk control, knee extensor and flexor muscle strength can be given importance in training protocol used for improving sit to stand performance.

Abstract ID: 31

Title: Are Indian Physiotherapists Effectively Promoting Social Participation Among Stroke Survivors? A Cross-Sectional Survey

Authors: Dr.Lourembam Surbala Devi, Himani Dobariya

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Abstract:

Background: Stroke rehabilitation traditionally focuses on impairments and activity limitations, often neglecting social participation, which is critical for overall well-being and reintegration of stroke survivors into society. Understanding current rehabilitation practices in India is critical to identify gaps, improve interventions, and develop culturally appropriate strategies for enhancing social participation among stroke survivors. Objective: To assess the current practices of Indian physiotherapists in improving social participation among stroke survivors. Methods: A cross-sectional online survey was conducted among Indian physiotherapist. The questionnaire, included both closed and open-ended questions on intervention strategies, outcome measures, and guidelines, which was developed and validated through expert review and pilot testing. Responses were analysed using frequencies and percentages. Results: 227 responses were analysed. 89% respondents recognized social participation as an essential goal of stroke rehabilitation, and 78% implemented interventions to improve it. Interventions typically lasted 30-40 minutes, with 3 to 5 sessions/ week. 62% physiotherapists reported using outcome measures to assess social participation; only 8% identified the appropriate measures. Common strategies for promoting social participation included balance training (84%), outdoor walking (67%), and occupation-based training (65%). 57% of respondents reported not following any standardized guidelines for improving social participation among stroke survivors. Conclusions Social participation is widely acknowledged as a goal of stroke rehabilitation among Indian physiotherapists. However, potential gaps were identified, including limited knowledge of evidence-based strategies, outcome measures, and clinical practice guidelines. To address these gaps, there is a need to develop evidence-based, culturally appropriate guidelines for improving social participation in stroke rehabilitation.

Abstract ID: 36

Title: Effect of hand-arm bimanual intensive therapy (HABIT) versus Unilateral repetitive task training on hand functions in hemiplegic cerebral palsy children.

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Abstract:
Introduction : Cerebral palsy causes poor movement control, muscle length changes, and skeletal deformities, affecting hand function in hemiplegic children. Hand-arm bimanual intensive therapy (HABIT) is a treatment which uses both the hands and different child friendly tasks. Repetitive task training includes different tasks with repetition which is to enhance motor learning. Aim : To compare the effect of HABIT and Unilateral repetitive task training on hand functions in hemiplegic cerebral palsy children. Methodology : This experimental study included 30 children aged 6-12 years with hemiplegic cerebral palsy, randomly divided into two groups. Group A received Hand Arm Bimanual Intensive Therapy (HABIT) with conventional therapy, while Group B received unilateral repetitive task training with conventional therapy. Assessments were conducted using the Quality of Upper Extremity Skill Test and Box and Block Test before and after 4 weeks of intervention. Results : Results indicated that both Group A (HABIT) and Group B (Unilateral Repetitive Task Training) showed significant improvements in the Box and Block Test ($p<0.05$) and the Quality of Upper Extremity Skill Test (QUEST) ($p<0.05$) from pre- to post-intervention. A post-intervention comparison between groups revealed significant differences, with Group A showing more significant improvement than Group B. Conclusion : HABIT is more effective as compared to unilateral repetitive task training on improving hand functions in hemiplegic cerebral palsy children. Keywords : Cerebral palsy, HABIT, unilateral repetitive task training

Abstract ID: 38
Title: Title: Factors influencing readiness for physical activity among stroke survivors living in the community
Authors: Ms.Poorvi Shingatgeri, Dr. Senthil Kumaran D ,Dr. John Solomon M, Ms. Aparna Selvam
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Abstract:
Introduction: Physical Activity (PA) improves functionality, psychological aspects and quality of life (QOL) in patients with stroke. Education alone does not guarantee PA but the readiness towards it. Readiness is a state of preparedness and has physical and motivational components. Aim: To identify the factors influencing readiness for PA in stroke survivors living in the community. Methods: This is a qualitative study involving community dwelling stroke survivors aged 18-85, able to participate in conversation. An interview guide was developed with the objective of identifying the perception, facilitators, and barriers influencing readiness for PA in these patients. An in-depth interview was conducted among five participants (3 males and 2 females) and was transcribed and translated into English. Data was tabulated and a thematic analysis was performed. Results: 30 codes were categorized into three themes. The main themes found to influence PA readiness in community-dwelling stroke survivors are personal factors constituting willingness, focus, goals, habits, belief; physical and emotional well-being constituting enjoyment, strength, diet, hydration, impairment; Social and environmental factors constituting attitude, acceptance, motivation, social awkwardness, infrastructure, fear of fall and support. Conclusion: Several factors were identified to influence readiness towards PA of post-stroke patients which can be utilized by the therapists for enhancing readiness and adherence to PA. Further, therapists can use this information to formulate a tailor-made intervention for improvement in their QOL. Keywords: Physical Activity, Readiness, Stroke-survivors

Abstract ID: 39
Title: Added effect of Trunk and Pelvic Proprioceptive Neuromuscular Facilitation along with conventional physiotherapy on dynamic balance in chronic Stroke: A comparative Study
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Abstract:
Introduction- Trunk and pelvic control are crucial for maintaining upright posture and shifting weight in stroke survivors. Incorporating PNF techniques can enhance muscle strength, coordination, and proprioception, vital for dynamic balance. Despite growing research on PNF's effects on postural control and muscle strength, evidence on its efficacy for improving dynamic balance in hemiplegics remains limited. Aim - To evaluate the added effect of trunk and pelvic PNF on dynamic balance in chronic stroke using TUG and FRT. Methodology – 22 subjects were recruited and divided into two equal groups using stratified sampling. Pre rehab Timed Up and Go (TUG) and Functional Reach Test (FRT) were measured for both the groups. Both the groups were given conventional physiotherapy exercises. Additionally, trunk and pelvic PNF pattern exercises were given to experimental group. Post rehab TUG and FRT were measured for both groups. Each treatment session was of 30 minutes for 3 times per week for 4 weeks. Recorded data was analyzed and compared using 't' test for matched data and unpaired 't' test for comparing the two groups. Results – The overall results of the study suggests that the experimental group and control group both had significant improvement in dynamic balance at the end of 4 weeks. However, the experimental group showed significantly more improvement in dynamic balance measured by TUG and FRT. Conclusion - The results indicated that trunk and pelvic PNF combined with conventional physiotherapy was more effective for improving dynamic balance on chronic stroke.

Abstract ID: 40
Title: COMPARISON OF DUAL TASK PERFORMANCE IN INDIVIDUALS WITH TYPE 2 DIABETES MELLITUS v/s NORMAL INDIVIDUALS
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Abstract:
Introduction: Type 2 Diabetes Mellitus is a chronic progressive disease in which a wide range of cognitive functions appear to be affected. Dual task performance plays an important role in maintaining everyday physical mobility, it also enables the examination of cognitive-mobility relationship which is impaired in people with t2DM. Dual testing challenges attentional capacities by the simultaneous performance of two tasks, it can be tested using TUG-Cognitive and TUG-Manual. Aim: To compare between motor-motor and motor-cognitive dual task performance in type 2 diabetics v/s normal individuals using timed up and go-manual and time up and go-cognitive tests respectively. Methodology: Total 100 participants were recruited for the study. The participants with t2DM were matched control group consisting of healthy, normal individuals was appointed after assessing their Random BSL. The participants were asked to perform TUG-Cog and TUG-Man tests following a detailed explanation and trial for the same. One timed trial for each test was performed and time was recorded. Participants of the matched control group were tested following the forementioned procedure. Statistical analysis was done between experimental and control group using unpaired t test. Results: The experimental group's mean completion time for TUG-COG and TUG-MAN tests was 13.42 s and 11.40 s respectively while control group's time was 12.67 s and 11.04 s respectively. When these differences were compared a significance was established with motor-cognitive task being more compromised than motor-motor task. Conclusion: The TUG-Cog was more impaired than TUC-Man in T2DM when compared to control group.

Abstract ID: 41
Title: Comparison between mirror therapy and motor imagery on hand function in stroke patients.
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Abstract:
Introduction – Stroke is the sudden loss of neurological function caused by an interruption of the blood flow to the brain. MCA being the most common site of occlusion causes the spastic hemiparesis and sensory loss of the face, upper extremity. In motor imagery which internal reproduction of given motor task is extensively repeated with the intention of improving performance. Mirror therapy induces Illusory perceptions and helps in improving ROM and accuracy. Aim- To compare the effects of motor imagery and mirror therapy on hand function in ADL's in stroke patients. Methodology- This is an experimental study. 24 stroke individuals participated in the study, based on the inclusion criteria. 12 participants were allocated in each group receiving motor imagery and mirror therapy along with conventional therapy respectively. Hand function was assessed pre and post 4 weeks of treatment using Action research arm test (ARAT). Results- According to the statistical analysis the result was significant with p-value > 0.05 in both the groups. But the difference in the effect of MI and MT after 4 weeks of protocol is insignificant with p value of 0.7265(> 0.05). Conclusion- The results suggest that both the MI and MT are effective in improving the hand function in stroke patients but, the difference between effectiveness of both the interventions is insignificant. Keywords –Motor imagery, Mirror therapy.

Abstract ID: 42
Title: Title- Comparison between perceptual training along with conventional exercises versus conventional exercises only on manual ability of hand in hemiplegic cerebral palsy children using Box and Block Test: An Experimental Study.
Authors: Ms.Ekta Shinde, Ekta shinde . Dr Shamla Pazare.

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Abstract:
Introduction- Manual ability refers to the child's attempt to perform a particular activity. Children with hemiplegic CP frequently have significant hand involvement, including limited active wrist movements. Disturbances of somatosensory and visual function and developmental disregard contribute to difficulties with hand use. Aim- To study the effect of perceptual training (Tactile stimulation) and conventional exercises on manual ability of hand in hemiplegic cerebral palsy children using Box and Block Test. Methodology- It was an Experimental Study. 22 hemiplegic CP children aged 8 -12 years were screened according to the inclusion criteria. Subjects were assessed for pre values of box and block test and they received 6 weeks of perceptual training (tactile stimulation). Post intervention scores of the box and block test were taken and the data was assessed using statistical test. Results- Group A and Group B both showed a significant improvement in pre and post scores of box and block test having p values << 0.05. Comparison of the differences between pre and post test scores in both the groups showed significant statistical difference (p value 0.00000389) Conclusion- Both the treatment strategies improved hand function effectively but, perceptual training gave significantly better results for hand function in CP children Keywords – Perceptual training, hemiplegia.

Abstract ID: 43
Title: Prevalence & Co-occurrence of Communication & Swallowing Disorders following Stroke at a tertiary care centre of Central India, Madhya Pradesh
Authors: Mr.Jitesh Kumar, Kamalika Chowdhury, Himangshi

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Abstract:
Introduction: Communication and swallowing disorders are common complications in stroke survivors, affecting rehabilitation and quality of life. Understanding the prevalence and relationships of these disorders with stroke type and infarct location is essential for targeted interventions. Aim: This study aims to determine the prevalence and types of communication and swallowing disorders among in-patient stroke survivors and explore their associations with stroke type and infarct location. Methods: The study reviewed 306 patient files from SAIMS Medical College & Hospital, Indore, covering admissions from May 2021 to May 2023. Participants were selected based on age, first-time stroke occurrence, confirmed diagnosis, and pre-morbid Hindi competency. Data on communication and swallowing disorders were collected using standardized assessments. Demographic, clinical, and radiological data were analysed with descriptive statistics and the Chi-Square Test of Independence. Results: The study found that 73.2% of stroke patients had communication or swallowing difficulties. The most prevalent disorder was isolated dysarthria (20.6%), followed by isolated aphasia (3.3%) and dysphagia (0.3%). Co-occurrence of aphasia with neurocognitive disorders occurred in 5.6%, and dysarthria with neurocognitive disorders in 6.2%. Ischemic strokes were more common (74.5%) and linked to higher rates of dysphagia, while haemorrhagic strokes were associated with aphasia and dysarthria. Aphasia was linked to cortical areas, dysarthria to striatocapsular regions, and neurocognitive disorders to cortical and watershed areas. Conclusion: The study reveals a high prevalence and complexity of communication and swallowing disorders among stroke survivors, emphasizing the need for comprehensive evaluations and tailored rehabilitation strategies.

Abstract ID: 44
Title: Development of an Inventory to measure Dysphagia Handicap in Hindi (IMDH-H)
Authors: Ms.Chandni Taneja, Kamalika Chowdhury, Himangshi
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Abstract:
Introduction: The Inventory to Measure Dysphagia Handicap-Hindi (IMDH-H) is a self-reported quality of life (QoL) questionnaire with 25 items designed to assess the impact of oropharyngeal dysphagia on individuals' daily lives. Aim: The aim of this study was to develop the IMDH-H and evaluate its reliability and validity for use in Hindi-speaking individuals. Methodology: The IMDH-H was developed by translating the preliminary English version (IMDH-P) into Hindi through a five-step process. A total of 160 participants were divided into two groups: • Group 1 (Clinical Group): 80 participants with oropharyngeal dysphagia from six clinical subcategories. • Group 2 (Healthy Group): 80 healthy participants. Participants completed the IMDH-H and self-reported OD severity ratings. Reliability testing involved internal consistency analysis (Cronbach's alpha) and test-retest reliability with 15 participants over two weeks. Construct validity was assessed using Spearman's correlation between total scores, subsection scores, and severity ratings, along with severity-level comparisons using Dunnett C. Discriminant validity was evaluated by comparing clinical subgroups and the healthy group using Tukey's test for multiple comparisons. Results: IMDH-H demonstrated satisfactory reliability, with high internal consistency and strong test-retest reliability. Construct validity revealed moderate to high correlations (0.58 ? ? ? 0.94) between scores and severity ratings. Discriminant validity showed significant differences between clinical and healthy groups and among clinical subcategories ($p < 0.05$). Conclusion:The IMDH-H is a reliable and valid tool for assessing the QoL impact of oropharyngeal dysphagia, effectively capturing pathophysiology, activity limitations, and participation restrictions.

Abstract ID: 45
Title: Development of a protocol for treatment of Anomia-In Hindi (PTA-H)

Authors: Ms.Jasleen Kaur Bhatia, Kamalika Chowdhury
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Abstract:
Background: Anomia, a word-finding difficulty, is common in individuals with neurological disorders such as aphasia. Traditional treatments like semantic and phonological interventions, along with cueing hierarchies, are used, but there is a lack of evidence-based, language-specific resources for treating anomia in India. While commercial workbooks and protocols exist, these do not cater to Hindi-speaking populations. This study addresses this gap. Aim: This study aimed to develop a Treatment Protocol in Hindi for the Remediation of Anomia (PTA-H) in individuals with aphasia. Method: PTA-H was developed in six phases: selection of domains, creation of treatment and picture stimuli, outcome measurement protocol development, content validation, and field testing with four participants. Each participant underwent twelve therapy sessions, with evaluations at baseline (session 1), mid-therapy (session 6), and post-therapy (session 12). Descriptive and inferential statistical analyses assessed the intervention's impact. Results: Seven domains were finalized for PTA-H: auditory closure naming, generative naming (divergent and convergent), repetition naming, auditory responsive naming, confrontation naming, recognition naming, and rapid naming. A total of 486 stimuli were developed, including 286 pictures. Content validation showed a Cronbach's Alpha of 0.889, indicating high reliability and clinical acceptability. In field testing, participants showed improvement in treated domains, but poor performance in untreated domains. Conclusion: PTA-H is a reliable, evidence-based treatment protocol for anomia in Hindi-speaking populations. It provides clinicians with structured materials to treat anomia while systematically tracking client progress, offering a valuable resource for clinical use in the Indian context.

Abstract ID: 46
Title: Fatigability Thresholds of Upper and Lower Extremity Muscles Across Stroke and Neuropathy: A Comparative Study

Authors: Mr.Soumalya Sen, Dr. Manikandan Natarajan
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Abstract:
Introduction Fatigue is prevalent among individuals with Stroke and Neuropathy, impacting functional recovery and quality of life. Maximum Voluntary Contraction (MVC), measured through surface EMG, offers objective data on muscle fatigue, enabling better therapeutic strategies. However, comparative data on fatigability across these conditions remain limited. Aim To evaluate time to task failure in selected muscles under varying levels of MVC (60%, 40%, and 20%) in Stroke and Neuropathy patients. Methodology A total of 31 participants aged 18–75 years were recruited using purposive sampling. Participants had muscle strength ? grade 3 on Manual Muscle Testing and Montreal Cognitive Assessment scores > 25. Hand-held dynamometer was used to record MVC peak amplitudes. Shoulder flexors, elbow flexors, and knee flexors/extensors of the weaker side were assessed for time to task failure across three MVC thresholds. Data were analyzed using descriptive statistics in JAMOVI 2.3.28. Results Of the participants, 21 had Stroke (mean age 54) and 10 had Neuropathy (mean age 42). At 60% MVC, shoulder flexors in Stroke patients withstood 20 seconds, while knee flexors in Neuropathy patients endured 22 seconds. At 20% MVC, elbow flexors showed the highest endurance, lasting 49 seconds in Stroke and 57 seconds in Neuropathy. Knee extensors exhibited endurance ranges of 24–47 seconds across all MVC levels in both groups. Conclusion Stroke patients demonstrated greater fatigability in shoulder and knee muscles, while Neuropathy patients showed similar trends in knee flexors. Elbow flexors were the least fatigable in

both conditions. Keywords: Fatigability, Surface EMG, Stroke, Neuropathy

Abstract ID: 47
Title: Standardized screening test - Universal Memory And Cognitive Exam for Early detection of Parkinson's Disease: An additional testing feature in UMACE
Authors: Dr.Mangal Kardile,
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Abstract:
Introduction UMACE-standardized-screening-test-2008-2013, 18+ ages, provides in-depth assessment encompassing all cognitive domains, developed-in-India, can assess persons-with any physical/neurological-disabilities without any-bias and cut-off criteria. Research samples included-illiterate-psychiatric-neurological-disorders (excluding dementia), Currently used in >13 Govt-&-Private-hospitals, Maharashtra-State. An additional Path-finding feature Path-1-&-Path-2 added in the main-UMACE-screening to detect early-signs-of-Parkinson's-Disease, otherwise diagnosed-as idiopathic-P-D-(no-score, specific-observations-recorded). Aims This study aims, screening-persons-with-Idiopathic-Parkinson's-disease-N= 20, M=12, F=08, in-neurology-clinic-using additional feature in UMACE-test that enables to detect Path-finding/cognitive-mapping-difficulties to comprehend early signs of-Parkinson's for-persons-without-clinical-history of sub-cortical deficit. Recognizing the need the author-developed additional feature-for Idiopathic-Parkinson's-disease by adding-Path-finding task-Simple-Path-1-& Complex-Path-2. Materials & Methods UMACE Path-finding-task-Path-1-&-Path-2 used for persons-suggestive-of Idiopathic-Parkinson's-disease (N=20, mean-age=61.2, SD 10.5) Based upon the-main-UMACE-test (Total Raw-score=40) responses and clinical-history, with/without MRI/CT scan-reports, Path-1–Simple-task, Path-2–Complex-Task were given. Those performed-better for-UMACE-main-test were given-Path-2 first-to-solve with proper-instructions, those-who-couldn't-attempt were given-Path-1. Observations recorded-for-each as time-to-complete the task-confusion, forgetting-instructions, behavioural-responses etc. Neuropsychological observations given along with main-UMACE-scores for further clinical interventions. Results Idiopathic-Parkinson's-disease (N=20, mean-age = 61.2, SD 10.5) populations in the neurology-clinic showed varied responses to detect cognitive-mapping deficit as a peculiar-function of sub-cortical-area, without known-clinical history. The Path-finding-task Path-2 could observe mild-to-moderate deficit as early detection for Parkinson's and those couldn't attempt were given Path-1 to detect moderate to severe deficit, both task-observations given along with the main-UMACE-test scores. Conclusion Those without obvious medical-reports showed mild to moderate deficit in Path-finding-tasks as early-detection for Parkinson's, were suggested further-clinical investigations. The UMACE additional Path-finding-task seemed to be helpful to detect early-signs-of-Parkinson's-disease, with better guidance to-segregate persons, suggestive of sub-cortical-dementia, for future-clinical-interventions.

Abstract ID: 48
Title: Highlighting the roles of SLP in assessment and management of post GBS: A single case study
Authors: Ms.Himangshi, Rashmi, Garima Dixit
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Abstract:
Introduction Guillain-Barre syndrome (GBS), is a rare autoimmune disease that affects the peripheral nerve system. Certain type of GBS is accompanied by deficits in speech and voice, associated with mild dysarthria. GBS is more frequent in adult males, however it can affect persons of all ages. Speech-language pathologists play a critical role in helping patients recover across treatment spectrum by addressing communication and swallowing

impairments. Aim The study aimed to demonstrate the role of SLP in assessing the impact of GBS on speech and language skills and to lay out rehabilitative insights. Methodology A 30-year-old male with Guillain-Barre syndrome (GBS), was admitted with slurred speech and lower limb weakness. Speech, language, cognition, and swallowing skills were clinically assessed using subjective assessment tools including Montreal Cognitive Assessment -Hindi (MOCA-H); Western Aphasia Battery (WAB-H); Frenchay Dysarthria Assessment (FDA); Yale water swallow test. The goals of the therapeutic plan were given by the SLP based on the obtained results of the comprehensive assessment. Results Subjective assessment reveals, MOCA-H suggestive of neurocognitive deficit; WAB -H suggested of no neurolinguistic deficit; FDA suggestive of dysarthria of speech (Ataxic type); and Yale water swallow test revealed signs of aspiration and change in voice. Speech therapy showed improvement in speech and cognitive skills and swallowing function. Conclusion: The rehabilitation of a patient with GBS requires a speech-language pathologist to work on cognitive, speech and swallowing function. The main factor contributing to this progress is thorough, methodical therapy that is modified for a patient.

Abstract ID: 49

Title: Factors Affecting Burden on Family / Caretaker of Stroke Survivor and Prevalence of Insomnia Related Beliefs - A City Based Survey

Authors: Mr. Dev Bhavesh Thakker, Vishvajit Suresh Waghmare, Nawaj Mehtab Pathan

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Abstract:

Background: Stroke imposes long-term challenges on patients and their caregivers, leading to significant emotional, physical, and economic burdens. Caregivers often experience stress, depression, and insomnia, which negatively affect their sleep quality and overall well-being. Methods: This observational study assessed the prevalence and severity of insomnia among 153 family members serving as primary caregivers for stroke patients. Participants completed the Insomnia Severity Index (ISI) and a self-administered scale. Data were collected through face-to-face interviews. Results: Among the caregivers analyzed, 68.6% were male (n=105), and 31.4% were female (n=48). The mean age was 31.92 years (SD = 8.21), with the largest age group being 21–30 years (45.1%, n=69), followed by 31–40 years (37.91%, n=58). Insomnia prevalence varied significantly. The self-administered scale indicated that 64.05% (n=98) had "Sub-Threshold Insomnia," 19.61% (n=30) had "Moderate Clinical Insomnia," and no participants reported "Severe Clinical Insomnia" (mean score = 31.61, SD = 9.74). The ISI revealed 41.17% (n=63) with "Sub-Threshold Insomnia," 23.52% (n=36) with "Moderate Clinical Insomnia," and 5.88% (n=9) with "Severe Clinical Insomnia" (mean score = 11.12, SD = 5.48). Conclusion: A significant proportion of caregivers, particularly younger adults (21–30 years) and males, experience "Sub-Threshold" or "Moderate Clinical Insomnia." These findings emphasize the need for targeted interventions to improve sleep health and mitigate caregiver burden. Tailored support programs addressing the specific needs of caregivers, especially young males, are essential. Further research should explore the broader health impacts of caregiving and develop effective strategies to alleviate these challenges.

Abstract ID: 50

Title: Stroke Induced by Video Gaming Addiction: Speech and Swallowing Impairments

Authors: Dr.RAJ KUMAR, Dr. Noorain Alam, Dr. Rahul Midha P.T, Dr. Amanjeet Singh

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Abstract:

Introduction: The prevalence of internet usage in India stands at approximately 52%, contributing to the rising incidence of internet addiction, including

online video gaming, classified as Internet Gaming Disorder (IGD) in the DSM-5. Prolonged immobility due to excessive computer use, both at work and home, increases the risk of venous thromboembolism (VTE), a phenomenon termed e-thrombosis.Aim:This study investigates the clinical findings in a case of stroke associated with excessive video gaming addiction.Methodology: A case study:14-year-old obese male (weight: 80 kg) admitted to a tertiary healthcare center in August 2022 with symptoms of vomiting and persistent headache for three days. The patient had a history of online video gaming addiction, playing for 3-4 hours daily. Upon admission to the Pediatric Intensive Care Unit (PICU), an MRI revealed Deep Vein Thrombosis (DVT) and Cerebral Venous Sinus Thrombosis (CVST) with bilateral thalamic infarction.On the third day, the patient experienced respiratory distress necessitating intubation. Subsequently, he was referred to the speech pathology deptt. for evaluation and management of speech and swallowing difficulties. Results andConclusion:Assessment revealed the presence of flaccid dysarthria, confirmed using the FDA test, and an oral and oropharyngeal type of dysphagia. Following regular speech and swallowing therapy, the patient demonstrated gradual improvement, regaining the ability to eat and drink slowly and communicate more intelligibly.This case highlights the potential vascular risks associated with excessive video gaming addiction. It underscores the necessity for public health initiatives to raise awareness about the detrimental effects of prolonged gaming and sedentary behavior on vascular and neurological health.

Abstract ID: 51

Title: Speech language pathologist's Role in assessment of communication and swallowing deficit in acute toxic leukoencephalopathy- A single case study

Authors: Ms.Shreya Pandey, Kunj (Postgraduate SLP student), Subhranil Mitra (Postgraduate SLP student), Priyanka Dubey (Assistant Professor)

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Abstract:

Introduction: Acute toxic leukoencephalopathy (ATL) indicates brain dysfunction representing variable clinical features, ranging from minor cognitive impairment to severe neurologic dysfunction that are abrupt in onset (Rimkus et al., 2014). Speech-language pathologist (SLP) role emphasize in identification then management of communication and swallowing difficulties in an individual with ATL. Aim: The present case study aimed to investigate the SLP role in the assessment of communication and swallowing deficits in a case with ATL. Methodology: A case aged 23 years, Hindi-speaking male reported to the speech and language department with the complaint of slur speech and difficulty in swallowing functions since 1 month. The clinical and radiological findings confirmed the case with acute toxic leukoencephalopathy. Investigations were done in cognition; speech, language, and swallowing domains by using standardized tests such as Montreal Cognitive Assessment (MoCA), Frenchay Dysarthria Assessment (FDA) along with cranial nerve examination, Western Aphasia Battery in Hindi (WAB-H) and the Gugging Swallowing Screening test (GUSS) respectively. Results: Assessment of communication and swallowing tests results based on SLP perspective accumulated and assisted in provisional and differential diagnosis. MoCA indicated neurocognitive decline. FDA, along with cranial nerve examination revealed the presence of flaccid dysarthria.WAB-H suggested neurolinguistic deficits while GUSS shown dysphagia with at risk of aspiration. On accumulating the evidences and result, the present case diagnosed with neurocognitive-linguistic deficits associated with flaccid dysarthria with dysphagia at risk of aspiration. Conclusion: ATL results in notable neurocognitive-linguistic, speech and swallowing difficulties in individuals. The comparable clinical findings highlight the significance of early investigations.

Abstract ID: 52
Title: QUANTITATIVE TOOLS FOR PROGRESS: EVALUATING OUTCOME MEASURES FOR FUNCTIONAL INDEPENDENCE IN STROKE REHABILITATION – A REVIEW OF LITERATURE
Authors: Ms.RIYA RAMESH DESHMUKH, AMISHA SISIR PATEL
Presenting Author Affiliation: SILVER OAK UNIVERSITY
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Abstract:
Evaluating functional independence is crucial in stroke rehabilitation for assessing patient outcomes and guiding therapeutic strategies. Numerous studies have highlighted the importance of the Barthel Index (BI) and Functional Independence Measure (FIM) as widely used tools for this purpose. The literature extensively reviewed their effectiveness and applicability in varying clinical contexts, underscoring the need for further exploration. This review draws on existing literature to compare the methodological quality, usage patterns, and clinical relevance of the BI and FIM in stroke rehabilitation research. Previous studies provide insights into their ability to address medical complexity, consider comorbidities, and detect incremental clinical changes. Building on these reviews, this study evaluates their methodological quality and usage, referencing PEDro scores. Reviews of studies from 1983 to 2008 highlight the BI and FIM's focus on capturing medical complexity and sensitivity to clinical improvements. Additionally, earlier research, such as the Kansas City Stroke Study, revealed strong correlations between ADL measures and global disability scales using correlation analysis, Kruskal-Wallis tests, and logistic regression. The BI and FIM are consistently recognized as reliable tools in stroke rehabilitation. Reviews indicate that while the BI is often used in high-quality studies, the FIM is more prevalent in North America. Studies highlight the FIM's effectiveness in addressing complex cases and the BI's strength in detecting significant improvements in older populations. The literature underscores the need for future research to refine these tools, enhancing their adaptability and relevance for diverse populations and healthcare settings.

Abstract ID: 54
Title: Development of a Screening Tool for Analysing the Risk of Acquiring Cognitive Decline Among Healthy Adults Aged from 40 to 60 Years: Face and Content Validation
Authors: Dr.AGRIMA AGGARWAL, Dr Neha Jain
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Abstract:
Introduction: Around 15.6% of the elderly population have developed signs of mild cognitive impairment with 46% developing dementia within three years. Multiple factors involving demographical variations, lifestyle choices, and physical and mental capacities influence neurodegeneration and impact cognitive functioning at varied thresholds. This study was an effort to develop a screening tool that assists in determining the probability of acquiring cognitive decline among healthy adults. Aims: To conduct the face and content validation of the developed tool. Methodology: The study was conducted in three stages. A scoping review was conducted for item generation, and the draft was emailed to experts for face and content validation. Panel experts were selected with a minimum education of Master's in Occupational Therapy with a minimum of 15 years of experience in the field. The content validity ratio (CVR) was established and the tool was revised based on the expert's opinion. Result: The generated tool underwent the face validation process by ten experts and was revised in terms of section headings, grammatical changes, and avoidance of repetitive questions. After revision, the tool was sent to other ten experts for content validation. Among 5 sections, 48 items were calculated for the CVR, of which 13 items revealed

a CVR of less than 0.8 which were omitted, and a new draft of the tool was prepared with 35 items. Conclusion: This study developed a screening tool for analyzing the risk of acquiring cognitive decline among adults and the face and content validity was established.

Abstract ID: 56
Title: Acceptability and Readiness of Tele-Rehabilitation among Stroke Survivors- A Cross-Sectional Study- Data from GUTTS (GroUp TelerehabilitaTion for Stroke Survivors) Study Phase 1
Authors: Dr.Mandeep, Dr. Dheeraj Khurana Dr. Ashok ,Dr. Sucharita Ray
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Abstract:
Background- Stroke is a leading cause of disability. Tele-rehabilitation (TR) could be a viable avenue to facilitate physical therapy (PT) management among stroke survivors. Success of such initiatives lies on the tenets of acceptability and readiness towards TR. Objective- Evaluate acceptability and readiness of Tele-Rehabilitation among stroke survivors. Methods- A cross-sectional study was conducted among 120 stroke survivors (mRS >2) at >1 month post-stroke to evaluate the acceptability and readiness of TR among stroke survivors. A questionnaire was drafted and validated using modified Delphi technique. Semi-structured interview schedule consisted Socio-Demographics, Readiness and Acceptability of TR among stroke survivors. An interview was conducted after obtaining written informed consent for each patient to evaluate the readiness and acceptability for Tele-rehabilitation. Descriptive statistics was used for statistical analysis using SPSS-22 software. Results- Mean age of participants was 57 years (range: 14-84 years). 68% were males, 63% belonged to rural locality. 13%, 43%, 35%, and 9% had Modified Rankin Scale (mRS) of 2, mRS 3, mRS 4, and mRS 5, respectively. All stroke survivors had knowledge about online platforms. 12% had watched online videos for stroke PT rehabilitation. All(100%)had smartphones with good internet connectivity and smartphones user-friendly. All were willing to opt TR sessions. 65% preferred recorded videos,16% preferred online sessions, 9% preferred both. 42% choose group therapy as a preferred mode for Tele-rehabilitation. Conclusions-All stroke survivors considered Tele-rehabilitation as good alternate mode for physical therapy and were ready to opt Tele-rehabilitation. So, Tele-rehabilitation may be an acceptable alternate to in-person physical therapy.

Abstract ID: 58
Title: Speech Automaticity-To detecting cognitive Aging
Authors: Ms.Prema Devi, Venkat Raman prusty, Y Netra, Atul Jatt
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Abstract:
Introduction: Speech serves as a screening tool for early detection of cognitively impairment in clinical and general population . The linguistic features are most common and acoustic features add on significant features to speech analysis. However, no studies yet determined the features and effectiveness, especially in the large aging population of India. Aim And Objectives : To compare the screening effectiveness of acoustic features, linguistic features, and their combination for screening cognitive Impairment. To develop diagnosis model using natural discourse data obtained from native speakers In India in many Regions. Methods: A total of 60 participants from communities of Chhattisgarh, India, completed MMSE and a picture description task based on the Cookie Theft along with BDAE-3R short form test with formal instructions. Participants also included AD (Alzheimer's), MCI (mild Cognitive impairment), and a healthy aging Group as the Control Group. Acoustic features on MDVP (CSL 4500) and linguistic features (BDAE-3R) were

recorded and compared. Results: The accuracy with linguistic features were higher than acoustic features in aging. The highest accuracy to differentiate Aging and AD is 80.77% achieved by speech features extracted from BDAE-3R data, while the highest accuracy to differentiate AD from MCI is 80.43% based the same on linguistic features. Acoustic significance on speech was evident only for AD group presenting Modularly changes in both frequency and intensity. Conclusion: Results suggest the utility and validity of linguistic and acoustic features in the diagnosis of cognitive impairment and validate the applicability of automatic speech in diagnosis for Indians.

Abstract ID: 59
Title: Challenges and Needs of Stroke Primary Caregivers: A Narrative Review
Authors: Dr.Virti Vipulkumar Punamiya, Dr. Mansi Soni
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Abstract:
Introduction: Stroke is a leading cause of physical disability in Low-middle income countries. After the hospitalization, the primary caregiver informally cares for patients which can lead to significant adjustments in the caregiver's life leading to a rise in the caregiver strain. There is a strong need to identify intervention strategies to reduce caregiver strain as it will adversely affect the quality of patient care. Objective: This review comments on the needs of the primary caregivers of stroke survivors and identifies areas to facilitate stroke rehabilitation. Method: This narrative review examines articles published from 2010 to the present date, generated from PubMed, Cochrane, CINAHL, and Google Scholar, including reviews, exploratory studies, and cross-sectional observational studies, while excluding the intervention study. Result: From the thirteen included studies, evidence suggests that there is a dire need for identifying an intervention, often for the family members or caretakers as they face challenges in caregiving such as physical health, handling patients, health information, mental health, stroke dependency, self-efficacy, juggling responsibilities, stress, poor sleep, depression, and quality of life. Conclusion: Stroke rehabilitation should also address the caregiver's difficulties and needs to take consideration regarding their practical training, counselling sessions as well and physical health by designing the structured intervention protocol to alleviate strain among primary caregivers of stroke survivors. Keywords: Stroke, Stroke rehabilitation, Caregivers, Caregiver strain.

Abstract ID: 60
Title: Post stroke return to work from healthcare perspective: A narrative review
Authors: Dr.Janviba Narendrasinh Gohil, Dr. Mansi Soni
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Abstract:
INTRODUCTION Stroke is increasingly affecting the young individuals who falls into working age group. An incomplete return to work post stroke entails negative consequences for stroke survivors and an economical burden for society. Successful return to work following a stroke improves both the financial situation and overall fulfillment. Returning to work after a stroke is a significant milestone, especially for sole breadwinners. However, many stroke survivors struggle to achieve this goal. OBJECTIVE To comment on the current status of post stroke return to work and challenges faced by stroke survivors in getting back to work. METHOD From 2000 to the present, searches were carried out utilizing keywords from the Cochrane, CINHAL, and PubMed databases. This review includes observational, exploratory, and cross-sectional studies. Interventional studies are excluded. RESULT The return to work rate varies widely, ranging from 29% to 74.7%. Ischemic stroke, male sex, professional or business

job, etc are found to be positive factors to reintegrate return to work. Cognition, older age, severe stroke, fatigue severity are negatively influencing factors for post stroke return to work, whereas coping skills and ethnicity were found to be non-significant. CONCLUSION Return to work rate after stroke is not in line with desired rehab outcomes and it contributes to increased financial burden. Various factors contribute to disproportionate rate of return to work among young and middle-aged stroke survivors. Thus there is strong need to plan active strategies to increase return to work. KEYWORDS : Stroke, Return to work

Abstract ID: 61
Title: The Efficacy of Virtual Reality Rehabilitation on Motor and Functional Outcomes in Patients of Parkinson's Disease: A Review
Authors: Ms.Hetvi Mota, Tejaswini
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Abstract:
Introduction: Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by motor and non-motor impairments, which in turn cause reduced quality of life. Traditional rehabilitation techniques often fall short of achieving optimal outcomes. Virtual reality-based interventions have been taken seriously for their potential to improve motor control, mobility, and functional independence through immersive and interactive training Virtual reality interventions are increasingly acknowledged for their efficacy in enhancing motor control, mobility, and functional independence. Aim: To review the efficacy of VR rehabilitation on improving motor control, balance, gait, and cardiopulmonary outcomes in patients with PD. Methods: This review analysed data from 10 randomized controlled trials (RCTs) involving 450 patients with PD. Key outcome measures included the Unified Parkinson's Disease Rating Scale (UPDRS-3), Berg Balance Scale (BBS), and functional outcomes. Data extraction was independently performed by two authors, data compilation was done by one author, and quality assessment by another. Results: The VR-based rehabilitation showed significant improvements in motor control (UPDRS-3), balance (BBS), and mobility. The VR interventions along with other techniques or alone had higher patient engagement and compliance compared to conventional rehabilitation techniques. The interactive and task-specific nature of VR contributed to better functional outcomes. Conclusion: VR-based rehabilitation is a promising alternative to traditional methods, with great potential to improve motor and functional outcomes in patients with PD. The engaging approach enhances patient compliance and, therefore, can be considered an important addition to the rehabilitation strategies. More studies are required to refine the protocols and establish long-term benefits.

Abstract ID: 63
Title: Barriers and Enablers for the Development of a Robotic Hand Assessment Battery: Clinician and Engineering Perspectives
Authors: Ms.Nistara Singh Chawla, Sivakumar Balasubramanian, Manikandan N, John Solomon M.
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Abstract:
Introduction Robotic technology offers a promising solution to overcome the limitations of conventional hand function assessments, which often rely on subjective measures. By leveraging robotics, precision and reliability in stroke rehabilitation assessment can be significantly enhanced. This study examines the barriers and enablers for developing a robotic hand assessment battery, integrating insights from clinicians and engineers. Aim To identify barriers and enablers in the development of a robotic hand assessment battery. Methodology A qualitative focus group discussion (FGD) approach was conducted with neurologists, physiotherapists, occupational

therapists, and bioengineers. Discussions revolved around limitations of existing hand assessment methods, practical and technical challenges in designing robotic systems, key enablers to facilitate adoption and usability and thematic analysis identified recurring barriers and enablers. Results The participants (mean age: 31±6 years; mean experience: 7±2 years) highlighted critical issues. Clinicians pointed to cost and time constraints as primary barriers, while engineers emphasized challenges in degrees of freedom and hardware modifications for patient safety. Key enablers identified included the integration of sensors and haptics to measure parameters like force scaling, velocity, smoothness, and motor learning. Conclusion Robotic systems hold the potential to revolutionize hand function assessments by providing objective, reliable metrics. Addressing technical and practical barriers, especially in resource-limited settings, will be crucial for successful implementation and widespread adoption. Keywords Robotic assessment, Stroke rehabilitation, Sensor integration, Motor learning

Abstract ID: 66
Title: Added Effect Of Rhythmic Auditory Stimulation (Ras) Using Metronome Application On Gait Speed, Cadence And Postural Stability During Walking In Children With Down Syndrome - A Comparative Study.
Authors: Dr.Sumitra Sakhawalkar, Dr Hiral Gujarathi , Dr Sayli Paldhikar
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Abstract:
INTRODUCTION: Children with Down Syndrome demonstrate difficulty while walking on gait parameters like speed and cadence and postural stability. To improve these deficits specific feedback paradigms like (RAS) are needed to facilitate movement, via cerebellum, thalamus, basal ganglia, and cortical motor areas. AIM & OBJECTIVE: To study the Added effect of Rhythmic Auditory Stimulation with Conventional Gait Training on gait speed and cadence using the 10 Meter Walk Test and postural stability while walking using the Pediatric Modified Dynamic Gait Index in children with Down Syndrome. METHODOLOGY: 26 children with Down Syndrome in the age group of 5 to 12 were selected for this study based on the inclusion criteria. The informed consent and assent were taken from children and their parents. 13 children in the control group were given conventional gait training and 13 children in the experimental group were given RAS using Metronome application along conventional gait training for 30 minutes per session with 3 sessions per week for 4 weeks. RESULTS: Intragroup data analysis for Experimental group using Paired t test was statistically significant in gait speed with a p value of 0.0063, and in cadence with a p value of 0.0102 and Postural Stability with a p value of 0.0003. Intergroup data analysis using Unpaired t test showed statistical significance in cadence, other variables were clinically significant. CONCLUSION: Rhythmic Auditory Stimulation along with Conventional Gait Training significantly improves gait speed, cadence, and postural stability during walking in children with Down Syndrome.

Abstract ID: 67
Title: Correlation between level of Cognition and 3 different types of Reaction time (Simple, Choice and Recognition) in patients with Parkinson's Disease – A Pilot Study
Authors: Dr.Tanpreet Kaur Mehta, Dr.Chandani Sanghavi, Dr. Sayli Paldhikar
Presenting Author Affiliation: MAEERS MIT PUNE'S PHYSIOTHERAPY COLLEGE TALEGAON DABHADE
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Abstract:
Intro: Cognitive decline is one of the debilitating manifestations of Disease in Parkinson's disease and is a key determinant of a Patient's Quality of Life and independence. Amount of time needed in order to respond to a stimulus or a number of stimuli depends highly on integration of cognitive

functions. Characteristics of the relationship between response latency and cognitive complexity called as cognitive analytical deficit indicate constant proportional slowing in cognitive speed. Objectives-To assess the level of cognition in Parkinson's patients using Montreal Cognitive Assessment Scale , Simple Reaction time using Visual Reaction time test, Choice Reaction time using Trail Making test (Part B),Recognition Reaction time using Go/No-go Visual Reaction time test and to correlate Cognition with all the three types of Reaction time in Parkinson's patients Method: Cognition of patients was assessed by MOCA. Simple Reaction time was assessed by Visual Reaction time test, Choice reaction time by Trail Making Part B and Recognition reaction time by Go/ No-go test. After this data, each reaction time was correlated with cognition to assess the extent of the deficit. Result: 20 Parkinson's patients were included, Statistical Analysis showed values of categories of cognition with each type of reaction time respectively with their type and strength of correlation. Conclusion: study helps us Knowing which type of Reaction time is affected, in which category of cognition, so this forms the rationale for their treatment. It can prevent the Parkinson's Disease Dementia (PDD) if cognition and Reaction time are managed simultaneously.

Abstract ID: 69
Title: "Reviving Mobility: 'The Impact of activity-Based Rehabilitation on Motor Function in a child with SMA Type 2 after Gene Therapy' – A Case Study"
Authors: Ms.Anmol Bhatia, Megha Chaudhary Khanna
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Abstract:
Introduction Spinal Muscular Atrophy (SMA) Type 2 is a genetic disorder characterized by progressive muscle weakness and atrophy. Recently, gene therapy has emerged as a promising treatment option, targeting the underlying cause of the disease. Early intervention through rehabilitation, particularly activity-based therapies, is essential for optimizing motor function outcomes in children diagnosed with SMA Type 2. This case study evaluates the impact of activity-based rehabilitation on the motor function of a child with SMA Type 2 who has received gene therapy. Aim To assess the effects of activity-based rehabilitation on motor function in a 3-year-old child with SMA Type 2 following gene therapy. Methodology A 3-year-old child with SMA Type 2 received gene therapy, followed by a structured activity-based rehabilitation program focusing on functional motor tasks. Motor function was assessed using the Hammersmith Functional Motor Scale-Expanded (HFMSE) and CHOP INTEND the Children's Hospital of Philadelphia Infant Test of Neuromuscular Disorders. Results significant improvements were observed in motor abilities, including enhanced trunk control, head control, and independent sitting and walking, as reflected by improved scores of HFMSE and CHOP INTEND assessments. Conclusion: This case study underscores the potential benefits of combining activity-based rehabilitation with gene therapy for children with SMA Type 2. The findings indicate that early and intensive rehabilitation can lead to substantial improvements in motor function and overall quality of life, even after the onset of symptoms.

Abstract ID: 71
Title: Boosting Motor Recovery in Children with Stroke: The Impact of Bilateral Arm Training
Authors: Dr .Hitav Someshwar, Nirmal Surya, Janvi Someshwar
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Abstract:
Stroke in children often results in substantial motor impairments, particularly in upper limb function, impacting their ability to perform daily activities independently. Bilateral arm training (BAT) has

emerged as a promising approach to enhance motor recovery by promoting coordination and synchronization between both upper limbs. However, limited evidence exists regarding its efficacy in pediatric stroke populations. This randomized controlled trial investigated the effects of BAT on motor function and daily living activities in children aged 6–16 years who experienced a stroke. Participants were randomly assigned to a BAT group or a control group. The BAT group engaged in structured bilateral exercises, coordination tasks, and functional activities aimed at fostering symmetrical movement patterns. The control group received conventional therapy focusing on unilateral exercises. Outcome measures included the Pediatric Motor Activity Log (PMAL), Box and Block Test (BBT), and Pediatric Evaluation of Disability Inventory (PEDI), assessed at baseline, post-intervention, and follow-up. The BAT group showed significantly greater improvements in motor function (PMAL, $p < 0.05$), manual dexterity (BBT, $p < 0.01$), and activities of daily living (PEDI self-care and mobility subscales, $p < 0.05$) compared to the control group. These benefits were sustained at follow-up, underscoring the durability of the intervention's effects. BAT offers a viable and effective intervention for improving motor function and independence in children with stroke. Incorporating BAT into rehabilitation programs can enhance recovery outcomes, though further research is needed to optimize its application in pediatric settings.

Abstract ID: 72

Title: Quality of Life of Primary Caregiver of Stroke Patients and their Need of Intervention- An Exploratory Study

Authors: Dr..Mansi Soni, Honey Bakawala, Khushi Patel, Ishika Patidar

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Abstract:

BACKGROUND: Stroke is one of the leading causes of death and disability worldwide. Stroke patients face a huge burden due to the chronic disability that ensues. Stroke is a common condition that requires complex caregiving. Caregiving entails multiple tasks of varying intensity, complexity and proficiency, especially for more medically inclined tasks. In caregivers of stroke patients, significant stress was reported which often interfere with their own health. Hence, there is a need for identification of their heath related need. OBJECTIVE: Exploring the Quality of life of stroke patient's primary caregiver & their Need for Intervention. METHOD: In this cross-sectional study total 40 stroke caregivers were screened based on eligibility criteria. The purpose and procedure of study was explained & informed consent were obtained. Demographic details of Stroke patients and their Caregivers were obtained. SF-36 was used to assess QOL and Need for Intervention was assessed through Caregiver Need Questionnaire. RESULT: Overall mean of SF-36 of all 40 caregivers is 60.87. Domains like role limitations due to physical health (38.75) and emotional problems (37.48) of SF-36 suggest weaker areas requiring attention. Most caregivers report needing help in areas like requiring additional support in absence (77.5%), identify & manage stroke complications (68%), sensitization of family members (68%). CONCLUSION: Quality of life (QOL) was affected in the stroke caregiver & majority of caregiver reported need for Intervention. However, affection & need for intervention was not matching in physical domain of requirement but it was matching with emotional domain of requirement.

Abstract ID: 73

Title: Linguistic deficits subsequent to acquired Acute Cerebellar Stroke: A Case of Left Cerebellar involvement

Authors: Ms.Shreya Shukla, Sherya Kumari (Postgraduate SLP student), Pratham Tirthani (BASLP Intern), Srabanti Khemka (Associate Professor).

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Abstract:
Introduction Cerebellum is involved in broad range of functions, that include different types of speech and language impairments (Leggio et al., 2020). Crossed cerebello-cerebral diaschisis, reflecting reduced input via cerebello-cortical pathways, representing the neuropathological mechanism responsible for language deficits associated with cerebellar pathology. Although it has been proposed that language is lateralized to the right cerebellar hemisphere recent clinical and neuroimaging studies suggest that the left cerebellar hemisphere also contributes to the mediation of language via ipsilateral cerebello-cortical pathways (Murdoch and Mai whelan, 2007). Aim The case study aimed to evaluate the components of language in an individual with acquired left cerebellar stroke. Method A Hindi speaking 58 years old female reported with unclear speech and reduced verbal fluency following acute cerebellar stroke. Linguistic profile was determined on examination of verbal fluency, content, repetition, auditory comprehension and naming using Western Aphasia Battery Hindi version (WAB-H). Additionally semantic fluency and phonemic word fluency was assessed based on the F-A-S test guidelines. Word retrieval abilities were evaluated through confrontation, recognition, responsive, rapid and generative naming. Results The WAB-H findings revealed presence of cerebellar aphasia depicting lesser scores for verbal fluency, content and naming. Phonemic word fluency exhibited reduced outcomes than semantic fluency. Naming tasks indicated a significantly slower response time. Responsive naming scored the least followed by recognition and rapid naming. Conclusion Cerebellum plays an important influence on language function at several modalities and linguistic levels. Language deficits inversely influence patients' social and professional life and hence a comprehensive assessment is crucial.

Abstract ID: 74

Title: Oral and written language treatment outcomes in Broca's aphasia following acute ischemic stroke: A single case study from SLP's perspective

Authors: Ms.Sushmita Dutta, Anjali Kala (Postgraduate SLP student), Srabanti Khemka (Associate Professor), S. Santhi (Assistant Professor)
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Abstract:
Introduction Aphasia alters the individual's capacity of understanding and/or producing spoken and written language, occurs in about one-third of the patients with acute stroke (Ardila, 2014). Studies concluded that in acute ischemic stroke, frequency of Broca's aphasia is 10 to 15% (Zeki and Hillis, 2016). Speech-language pathologists (SLPs) play a crucial role in aphasia rehabilitation by providing language impairment-based treatment that attempts to restore language and modify impairments (Byng et al., 2000). Aim The present study aimed to examine treatment outcomes of oral and written language following acute ischemic stroke from SLP perspective. Method A 62 years Hindi speaking male reported to speech and language department with inability to speak for 9 months post-stroke. MRI reports coupled with Western Aphasia Battery-Hindi version (WAB-H) confirmed aphasia of Broca's type. Individualized therapy for 15 sessions, each 45 minutes by SLP focused on language impairment-based approach. The therapeutic goals directed towards facilitating fluency and content in responsive speech with Melodic intonation therapy (MIT) and word retrieval cueing strategies, reading skills using Oral Reading for Language in Aphasia (ORLA) treatment and written language with phoneme-grapheme retraining, copy and recall treatment (CART) intervention methods. Results Post therapeutic progress revealed improvement in oral and reading skills whereas a marked development was noted in written language skills. The changes

achieved on the selected goals were documented post-therapeutically using WAB-H. Conclusion Role of SLPs for aphasia treatment is designed to restore, strengthen and compensate language abilities for communication that is used to fulfil needs and achieve specific goals.

Abstract ID: 75
Title: Efficiency of Speech and Language therapy in Adult Neurogenic Communication Disorder: A Case study on managing Communication Challenges post Stroke
Authors: Ms.Shalmali Das, Vidushi Verma (Postgraduate SLP student), Srabanti Khemka (Associate Professor), Kamalika Chowdhury (Associate Professor)
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Abstract:
Introduction Neurological disorders present major challenges to communication for adults, affecting speech, language and cognition. These communication barriers can impact daily interactions, social relationships and quality of life. Speech and language therapy plays a crucial role in treating communication disorders by addressing specific communication deficits and improving functional communication abilities (Cramb, 2024). Aim This case study aimed to investigate efficacy of speech and language therapy in managing communication challenges in adult neurogenic communication disorder (ANCD). Method A 63year old Hindi speaking female reported with ANCD, and on examination was provisionally diagnosed as Broca's aphasia associated with dysarthria and oral apraxia following stroke. Individualized speech and language therapy for 15 sessions, each 30 minutes focused on goals directed towards facilitating verbal fluency and naming using Melody Intonation Therapy (MIT) and Semantic feature analysis (SFA), reducing agrammatism through Verb Network Strengthening Treatment (VNeST) method, improving voice quality with vocal exercises and breath control techniques and enhancing oromotor functions by enabling oro-muscular strengthening exercises. Results The participant demonstrated marked improvements in verbal fluency and word retrieval skills. Agrammatism was reduced by the significant enhancement of functional words and limited use of inflectional morphemes. The maximum phonation duration improved with appropriate use of pitch inflections in longer utterances. The rate and range of motion of oromotor functions was increased at syllable and word level making a wholistic progress in speech intelligibility. Conclusion Speech and language therapy supports adults facing communication challenges due to neurological conditions through evidence-based interventions and support them lead fulfilling lives.

Abstract ID: 76
Title: Effect of Treadmill Training for Children with Cerebral Palsy – A Single Group Study
Authors: Dr.Hitav Pankaj Someshwar, Nirmal Surya, Janvi Someshwar
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Abstract:
Background: Children with cerebral palsy (CP) often experience gait abnormalities due to motor impairments. Treadmill training has emerged as a promising intervention to improve gait function. This study evaluates the effects of treadmill training on gait parameters in children with CP. Objective: To assess the effectiveness of treadmill training on improving gait patterns, balance, and functional mobility in children with CP. Methods: A single-group pre-post experimental design was employed. Ten children with spastic CP (mean age: 12.3 years, GMFCS Level II-III) participated in a 6-week treadmill training program. Training sessions were conducted 3 times per week, incorporating progressive speed and duration adjustments. Outcome measures included gait speed, stride length, balance (assessed by the

Pediatric Balance Scale), and Gross Motor Function Measure (GMFM-66). Baseline and post-training assessments were conducted. Results: Post-training, significant improvements were observed in gait speed (mean increase of 4.9 cm/s, $p < 0.05$), stride length (mean increase of 2.9 cm, $p < 0.05$), and balance scores ($p < 0.05$). GMFM-66 scores showed a moderate improvement (mean increase of 8%, $p < 0.05$), reflecting enhanced functional mobility. No adverse effects were reported. Conclusion: Treadmill training is a feasible and effective intervention for improving gait parameters, balance, and functional mobility in children with CP. Further studies with larger sample sizes and control groups are recommended to validate these findings.

Abstract ID: 77
Title: A qualitative investigation into speech-language pathologists' viewpoints regarding the preservation of therapeutic benefits in aphasia
Authors: Mr.Ravi Patel, Sahajiya F Chanda
Presenting Author Affiliation: Amity University Haryana
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Abstract:
Background: For therapy to be deemed successful, long-term maintenance of therapeutic gains is required. However, there hasn't been much research on this subject in aphasia rehabilitation. Unfortunately, retaining the progress made in therapy can be challenging for some individuals with chronic aphasia, and many eventually see a decline in their ability to communicate. It's critical to comprehend how speech-language pathologists (SLPs) view maintenance. Their perspectives are essential for comprehending present practice, identifying service gaps, and guiding future research on the preservation of therapy gains because they are important players in aphasia therapy. The AIM of this study was to investigate the views of speech-language pathologists regarding the maintenance of therapeutic improvements in chronic aphasia and to learn about their opinions on the elements that affect the maintenance of improvements achieved during aphasia rehabilitation. Methods & Procedures: Ten SLPs who dealt with individuals who had chronic aphasia participated in in-depth semi-structured interviews. Outcomes & Results: Ten themes that reflected SLPs' views on maintenance and what they believed were crucial for maintaining therapeutic gains in aphasia rehabilitation were found. They were: 1) Constant communication with the patients; 2) person centered goals; 3) Tailored made approach; 4) The availability of resources and individual capabilities; 5) Family support 6) Services, 7) Motivation 8) Barriers 9) Facilitators and Coping strategies. The findings highlight the intricacy and interaction of variables that might help or impede the maintenance of therapeutic improvements. Conclusions: To maximize the preservation of therapeutic benefits, SLPs in this study feel that aphasia rehabilitation

Abstract ID: 78
Title: Speech, Language, and swallowing profiling of MERRF syndrome - A case study
Authors: Ms.Manali Kela, Ms. Gayatri Hattiangadi, Ms. Priyanka Dagale, Ms. Sharmishtha Chavan.
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Abstract:
An 18-year-old girl presented with Myoclonic Epilepsy with Ragged Red Fibres (MERRF) with Encephalopathy. It is a rare mitochondrial disorder affecting multiple systems, characterized by progressive myoclonus, seizures, cerebellar ataxia, and muscular dystrophy. It results from mitochondrial DNA mutations, impairing the mitochondrial respiratory chain and Encephalopathy is a condition causing brain dysfunction which occurs as a secondary effect of MERRF. Due to its rarity, epidemiological data is limited, but it predominantly affects children and adolescents. This study profiles the speech, language, and swallowing characteristics of this patient. She was presented with speech and

swallowing difficulties following seizures, abnormal gait, and paroxysmal events. A comprehensive assessment was conducted, including Montreal Cognitive Assessment scores suggested severe cognitive impairment, Western Aphasia Battery revealed impairment in Spontaneous speech, Auditory verbal comprehension, Naming and Repetition, Oral Peripheral Mechanism Examination which revealed misaligned teeth, reduced tongue, lip, and jaw strength, inadequate intraoral pressure, Frenchay dysarthria Assessment revealed impairments in swallowing, respiration, and laryngeal function, leading to reduced speech intelligibility with slow, irregular diadochokinetic rates, reduced Maximum Phonation Duration with mono pitch, mono loudness, and prosodic deficits while Nair Hospital Bedside Swallow Assessment showed dysfunction in the oral preparatory phase of swallowing. The findings highlight the significant impact of MERRF on communication and swallowing functions, emphasizing the need for early identification and targeted intervention by speech-language pathologists. This case study provides insight into the clinical manifestations of MERRF and underscores the importance of multidisciplinary management to improve the patient's quality of life.

Abstract ID: 81

Title: Development of a mHealth Based Application for Physical Rehabilitation of people with Multiple Sclerosis in India: A Mixed-Method study

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Abstract:

Background and Objective: Limited access to specialized MS rehabilitation in India and limitations of existing mHealth applications necessitate tailored solutions. We aimed to identify key features for developing a mobile application for people with Multiple Sclerosis (pwMS) rehabilitation based on neurological dysfunction, rehabilitation practices, and lived experiences of pwMS. Methods: Sequential explanatory mixed-method design was employed, combining a quantitative cross-sectional study of 90 RRMS patients with a qualitative phenomenological study of 15 RRMS patients summarized and analyzed through descriptive statistics and thematic analysis respectively. Results: In the Quantitative study, mean age of 33.76 ± 8.57 years, 63.3% females were observed. Median EDSS was 3.5 (2.0 – 4.5). Cerebral dysfunction (72.2%), pyramidal dysfunction (58.9%), and cerebellar dysfunction (46.7%) were the most prevalent. Fatigue (74.5%), paralysis (56.7%), and spasticity (51.1%) were reported as the most severe symptoms. Physiotherapy consultation was sought by 87.8% with variable adherence. Qualitative analysis population had mean age of 37.46 ± 9.88 years, with 53.3% female, median EDSS score was 4.5 (2.0 – 5.0). Five main themes emerged: highlighting traumatic diagnoses, daily life impacts of symptoms, mobility and sleep issues. Conclusion: Based on the study findings, a mHealth application for rehabilitation for pwMS should include personalized approach with strategies to address symptoms related to fatigue, motor, autonomic and cognitive dysfunction and adherence related strategies in form motivational elements /reminders and on demand professional support. Keywords: Relapsing-Remitting Multiple Sclerosis, mHealth, Rehabilitation, Neurological dysfunction, Mixed-Method Research, Patient Experience

Abstract ID: 84

Title: Impact of Early Non-Invasive Ventilation on Survival and Well-being in ALS: ALSCAS Patient Group Experience

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Abstract:
Amyotrophic Lateral Sclerosis (ALS) is characterized by progressive respiratory muscle weakness, leading to hypoventilation, CO? retention, and sleep disturbances, which significantly impact patients' quality of life. Early initiation of Non-Invasive Ventilation (NIV), particularly using Bi-level Positive Airway Pressure (BiPAP) and Volume-Assured Ventilation, helps to alleviate these symptoms by supporting breathing, reducing respiratory muscle strain, and improving both survival and well-being. This study investigates the impact of early NIV intervention in ALS patients, focusing on its effects on ventilation, survival, and quality of life, while also identifying the challenges faced, especially in those with bulbar dysfunction. Methodology This is collective learnings from approximately 250 People Living with ALS (PALS) associated with the ALS Care and Support Foundation. The study explored: Types of NIV used (BiPAP, Volume-Assured Ventilation). The timing of NIV initiation for optimal benefits. Challenges faced, particularly by patients with bulbar dysfunction. The role of cough assist devices and secretion management in NIV efficacy. Results NIV significantly reduced morning headaches, daytime fatigue, and dyspnea, improving ventilation. Early NIV initiation extended survival and improved sleep quality, cognitive alertness, and overall well-being. However, patients with bulbar dysfunction faced challenges with mask intolerance, secretion management, and adherence. Conclusion Early NIV is crucial for improving ventilation, survival, and quality of life in ALS patients, though bulbar dysfunction presents challenges requiring further research to optimize treatment protocols.

Abstract ID: 85
Title: Motor Imagery or Motor Attempt? A Systematic Review and Meta-Analysis of Brain Computer Interface Coupled Therapy for Upper Limb Motor Recovery in Post Stroke Hemiplegics

Authors: Ms.Neetika Katiyar, Prof. Dheeraj Khurana, Amit kumar
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Abstract:
Abstract Background: Brain-computer interface (BCI) therapy is an emerging approach for upper limb motor recovery in post-stroke hemiplegia. However, the effectiveness of different BCI strategies, particularly motor imagery (MI) versus Motor Attempt (MA) (intentional movement), remains unclear. This systematic review and meta-analysis aim to compare these approaches for upper limb function recovery in post-stroke hemiplegic patients. Methods: A comprehensive search of electronic databases was conducted to identify randomized controlled trials (RCTs) and controlled studies assessing BCI therapy for upper limb rehabilitation in post-stroke hemiplegic patients. Studies comparing MI and IM approaches were included. Data were pooled using a random-effects model to calculate standardized mean differences (SMD) with 95% confidence intervals (CI). Subgroup analysis was performed based on BCI approach. Heterogeneity was assessed using the I^2 statistic. Results: A total of 236 articles were screened, and 14 studies involving 342 participants (194 cases, 148 controls) met the inclusion criteria. The overall analysis showed no significant association between BCI therapy and upper limb motor recovery (SMD = 0.21, 95% CI: -0.29 to 0.71). Subgroup analysis revealed a non-significant effect for MI (SMD = -0.03, 95% CI: -0.66 to 0.60) but a significant association for IM (SMD = 0.83, 95% CI: 0.39 to 1.27). However, substantial heterogeneity was observed (I^2 = 75.6%). Conclusion: While BCI therapy demonstrates potential for post-stroke upper limb recovery, motor attempt/intentional movement appears to be more effective than motor imagery. Further high-quality, standardized studies are needed to confirm

these findings. Keywords: Brain-computer interface, motor imagery, motor attempt, post-stroke rehabilitation,

Abstract ID: 87
Title: Improving Secretion Clearance in ALS Patients: The Use of Normal Saline and AMBU before Tracheal Suction
Authors: Ms.Satvinder Kaur, Rozina khatun
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Abstract:
For patients with Amyotrophic Lateral Sclerosis (ALS) with tracheostomies, clearing mucus from the airways is a persistent challenge. As ALS progresses, due to weak cough reflex, difficulty in clearing secretions from the lungs can lead to, infection, airway blockages, breathing discomfort, and even life-threatening complications. This study evaluates the effectiveness of a technique administering normal saline (NS) and performing AMBU before tracheal suctioning to improve mucus clearance and breathing comfort. The aim is to assess whether this method offers better relief compared to traditional suctioning. Methodology The study involved two groups of ALS patients with tracheostomies: • Method 1 (Standard Suctioning): Patients received traditional suctioning without additional measures. • Method 2 (NS + AMBU Technique): 2-3 ml of normal saline was instilled into the trachea to loosen thick mucus, followed by 6-10 slow AMBU strokes to help dislodge deep mucus. Afterward, suctioning was performed to clear the loosened secretions. The effectiveness of both methods was compared in terms of mucus clearance and patient comfort. Results The NS + AMBU technique proved significantly more effective in clearing mucus than standard suctioning. Patients after practicing method 2 reported more secretion removal in suction and improved comfort, The combination of NS and AMBU before suctioning also helped prevent complications such as mucus plugs and tracheal injury due to less aggressive suctioning. Conclusion-The NS + AMBU technique enhances airway clearance, improves mucus removal and patient comfort, and reduces complications in ALS patients with tracheostomies. This simple method should be widely adopted in clinical practice.

Abstract ID: 88
Title: Caregivers' Perspectives on Technology-Based Interventions for Children with Disabilities: A Scoping Review of Qualitative Studies Using the F-Words for Child Development
Authors: Ms.Jeevitha Rajanna, Daniel Peter Jomy, Shamitha, Shubha Nayak, Selvam Ramachandran, Marie Brien, Deepalaxami Paresh Poojari
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Abstract:
Introduction: Technology-based interventions are an emerging form of therapy for children with disabilities. Caregivers' perceptions regarding therapy influence their understanding of its feasibility, efficacy and acceptability for successful implementation. Aim: This scoping review aimed to summarize the literature on the perspectives and expectations of caregivers of children with disabilities on technology-based interventions. Methodology: The review was conducted using the Arksey and O'Malley framework. Search was conducted on PubMed, Scopus and Embase and eligible studies were reviewed by two independent reviewers and conflict resolved by a third investigator. Thematic data extraction and analysis were performed and reported using the PRISMA-ScR guidelines. Results: Out of 220 articles retrieved, 6 were included. Studies were conducted majorly in high-income countries. The qualitative data were summarized according to the F-Words for Child Development and the International Classification for Functioning, Disability, and Health (ICF) framework: (1) Fitness (Body Structures and Functions)- improved balance, individual physical training, manual dexterity, (2) Function (Activity)- improved independence in ADLs, mobility, and bimanual task abilities, (3)

Family and Friends (Environmental Factors and Participation)- facilitated social interactions, school schedules and load-influenced participation, enhanced computers skills, reduced caregiver load, (4) Fun (Personal Factors)- sustained interest and motivation, presence of initial fear and anxiety, and (5) Future- customizing technology, age-appropriate games, regularly updating protocol, goal-specific and home-based training. Conclusion: Caregivers viewed technology-based interventions for children with disabilities positively, highlighting benefits in all ICF domains and F-Word categories. Our findings underscore clinical implications of using technology as a holistic approach to promoting child development.

Abstract ID: 89

Title: Tele assessment of Communicative effectiveness among persons with Parkinson's disease

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Abstract:
Purpose: Individuals with Parkinson's disease present with a number of neuro-communication disorders which influence the quality of life related to communication. The current study aimed to investigate tele assessment of communicative effectiveness among individuals with mild and moderate Parkinson's disease and matched controls. Method: This cross-sectional study comprised of 20 Marathi-speaking individuals with Parkinson's disease (mild = 10 & moderate = 10) and 20 age matched healthy controls who fulfilled the inclusion criteria. All participants were administered the Clinical Dementia Rating Scale, Montreal Cognitive Assessment in Marathi (MoCA-M), motor -speech subsection of MDS-Unified Parkinson's Disease Rating Scale (MDS-UPDRS), speech intelligibility subsection of Frenchay Dysarthria Assessment-2 (FDA-2) and Instrument to Assess Communicative Effectiveness (IACE) using virtual tele platforms. Results: Statistical analysis revealed a significant difference ($p < 0.05$) across individuals with Parkinson's disease (mild, moderate) and control groups on the communicative domains (IACE) assessed via telemode. Across severity levels, performance in verbal comprehension and expression, reading, and writing was observed to be impacted. Tele assessment was helpful in identifying communicative morbidity and facilitate accessibility among PD patients who face disabiling physical challenges to avail SLP services. Conclusion: The communicative capabilities were seen to decline with an increase in severity of Parkinson's disease.Tele [practice can help identify and deliver timely intervention to improve communication QoL in PD. Both the mild and moderate Parkinson's disease groups demonstrated significant impairments in various domains of IACE such as expression gestural, reading, writing, verbal comprehension and expression, which had a direct impact on their overall QoL.

Abstract ID: 91

Title: Effectiveness of Therapeutic Alliance extended into the community to increase awareness about Stroke Rehabilitation

Authors: Prof.Suvarna Ganvir, Suvarna Ganvir,1 Maheshwari Harishchandre,2 Prachi Bhagat, Shyam Ganvir ,
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Abstract:
Objective: Therapeutic Alliance is a collaboration between a patient and their therapist that enables them to accomplish goals through predetermined duties. Objective of this study was to assess the effectiveness of Stroke awareness module delivered by Stroke survivor as an ambassador of Stroke Rehabilitation in the general public. Materials and Methods: A structured module for increasing awareness about Stroke Rehabilitation was prepared in the local language. It consisted of

description of the team involved in the care of Stroke survivor, with the tasks performed by them from acute to Chronic stage. Consent was obtained from the native Stroke survivor for his inclusion as an instructor for delivering the content of module, for the specific village around the hospital. Patient was trained to administer this module in the community of his village under the guidance of therapist team. A self-developed and validated questionnaire to measure awareness was administered before(X1), immediately(X2) and 1 month(X3) after the intervention. Results: 9 villages around the tertiary care hospital were visited, with 9 with Stroke survivor as an ambassador. Paired t test [t= 0.03, $p<0.05$(X1-X2) and t=0.006, $p<0.05$ (X2-X3)] revealed a positive impact of this intervention with an improved score on awareness questionnaire. Additionally, it was observed that, villagers were more inclined to hear about his personal experiences Conclusions: Having a face one among the community as an instructor supported by Therapist resulted in better awareness with retention of information after a month.

Abstract ID: 92

Title: Coping skills and disabilities among elderly with chronic neurological disorders ;A pilot study from NICHE Advocacy Foundation

Authors: Dr.Poornima Gauri, Gauri Paranjape, Saiprasad Ramgirwar

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Abstract:

Understanding the interplay between significant contributing factors, common neurological conditions, and coping mechanisms across patients is essential for developing targeted interventions to improve health outcomes and caregiver resilience. There is need to examine whether healthy and unhealthy practices among Indian patients and caregivers Aim & objectives of the study : Present study attempted to explore coping skills across persons with neurological disorders and their caregivers. Further maladaptive vs healthy coping skills were explored across gender, socioeconomic status individualistic pattern in this pilot study in qualitative manner. Methods : Total 30 outpatient persons with neurological disorders [8 chronic stroke , 5 Parkinson's disease, 2 Alzhiemer's disease (10 males;5 females; >3<5.5 years of disease onset; mean age 72 years; mean education 17 years)] and their significant others (mean age 58;mean education 14 years) were included in this pilot study . Both patients as well as their caregivers were administered BRIEF COPE ( ) and WHODAS to get detailed history on coping skills , attitude , perception and individualistic patterns. Results : This preliminary study demonstrated quite clinically heterogeneous patterns of coping skills among PND and their significant others . Better positive coping skills reflected better quality of life , less emotional disabling in patients as well as caregivers. Around 38% of male patients reported inadequate family support, distress over irreversible disabling outcomes were observed. Conclusion: Findings of this research will help build neural resilience and effective coping strategies to be implemented across neurorehabilitation programs and further policy guidelines.

Abstract ID: 93

Title: Determination of Manual Ability and Its Relationship with Gross Motor Function and Upper Limb Skills in Spastic Diplegia.

Authors: Dr.Jenifer Nadar, Dr. Shamla Pazare

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Abstract:

Introduction: Despite of having less spasticity in upper limbs, spastic diplegic children show limitations in manual ability which may affect their self-care, school and play activities. Hence learning more about the sources of limitations in manual ability in spastic diplegic children may give them access to better life. Aim: To study manual ability and find out its relationship with gross motor function and upper limb skills in spastic diplegic

children aged 4 to 8 years. Methodology: The study included 30 spastic diplegic children, aged 4-8 years, excluding those with congenital deformities, poor sitting balance, prior upper limb surgery, or recent BOTOX treatment. Participants were assessed using Manual ability classification system (MACS), Gross motor function classification system (GMFCS), and Quality of upper extremity skills test (QUEST). Grip strength was measured with an aneroid manometer and pediatric cuff over three trials with one-minute rest intervals. Data were analyzed using SPSS 16.0, and the correlation of MACS with other variables was assessed using Spearman's Rank Correlation Coefficient. Results: MACS levels showed poor correlation with GMFCS levels. Also, a significant negative correlation was observed between MACS and dissociated movement, grasp, and grip strength of the dominant hand, with a p-value of 0.05. Conclusion: The study found that spastic diplegic children have limited manual abilities, which reflects on dissociation, grasp, and grip strength. MACS and GMFCS levels are independent, emphasizing the separate nature of fine and gross motor abilities in spastic diplegia. Keywords: Spastic Diplegia, Manual Ability, MACS, GMFCS, QUEST, Hand grip

Abstract ID: 95

Title: Experiences of caregivers for positioning of preterm infants in first six months of life: A qualitative study

Authors: Ms.Parikh Kinnari Monesh, Indira D B Naidu Boddapati, Deepalaxmi Poojary, Bhamini Krishna Rao

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Abstract:

Introduction: Preterm infants face several difficulties that impact both short-term and long-term development. Caregivers play a vital role in supporting growth and well-being of preterm infants, with positioning being a key to their comfort Purpose of this study was to understand the experience of caregivers on positioning of preterm infants so that it provides insights on challenges they face and also helping healthcare workers to create better interventions to support both infants and caregivers. Aims: To explore caregivers' experience in positioning of preterm infants in the first six months of life. Methodology: 5 caregivers of premature infants participated in this qualitative study. Face-to-face semi-structured interviews were recorded. Translation and transcription of the interviews was done. Thematic mapping of categories and themes was done to explore the relationships about caregiver's experience on positioning preterm infants. Results: The qualitative findings revealed key themes such as emotional impact, importance of education and practical challenges. Caregivers felt anxious about the preterm child as well as risks of incorrect positioning. Caregivers reported gaps in positioning education provided by healthcare workers. Practical challenges included balancing comfort and safety along with the trial-and-error nature of adjusting positions. Conclusion: The study underscores the need for continuous support and culturally sensitive education to improve outcomes for both caregivers and preterm infants. By addressing the identified themes, healthcare workers can better support caregivers in navigating the process of caring for preterm infants, improving outcomes for both infants and families.

Abstract ID: 96

Title: Perceptual and Objective assessment of Speech characteristics in Dysarthria following Acute Ischemic stroke: A Case Study

Authors: Ms.Srabanti Khemka, Subhranil Mitra, Akanshu Kumar

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Abstract:

Introduction Dysarthria is a neurologic motor speech impairment causing the speech musculature to be slow, weak and/or imprecise (Duffy, 2013). Dysarthria is a common symptom persisting

sequela to stroke (Sumaka et al., 2022). Due to the high incidence of dysarthria post-stroke (Flowers, 2013) it is critical to identify the speech characteristics to facilitate type of dysarthria and encourage appropriate intervention. Aim The present case study aimed at perceptual and objective investigation of speech characteristics in dysarthria following acute ischemic stroke. Methodology A Hindi speaking 54 years old male reported to Speech language pathology department with a primary complaint of unclear speech and reduced fluency following acute ischemic stroke. Presence of stroke was confirmed by medical professional based on MRI findings, cranial nerve examination and clinical evaluations. Perceptual assessment of speech was carried out using Frenchay Dysarthria Assessment (FDA), Diagnostic articulation test, Buffalo III voice profile to assess and classify dysarthria type based on Mayo clinic system. This was followed by swallowing assessment using GUSS and EAT10. Objective investigations of voice and speech was done using Multidimensional Voice Program (MDVP) and Motor Speech Profile (MSP). Results Imprecise articulation, slow speaking rate, breathy voice quality, hypernasality, reduced speech intelligibility were the speech characteristics presented by the case indicative of flaccid dysarthria type. There was also association of slight oro-pharyngeal dysphagia. Conclusion The perceptual and objective evaluation of impaired speech subsystems and characteristics, with the classification of the type of dysarthria can be helpful to plan intervention following the acute post-stroke phase.

Abstract ID: 97

Title: Survey and focus group based study to identify unmet needs and avenues for enhancing therapist-led support to stroke survivors and their caregivers

Authors: Ms.Mrunal Gokhale, Karandikar, Neha; Limaye, Manik; Ranade, Archana; Raghavan, Charumati

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Abstract:

Aim: To explore stroke survivors' and caregivers' experience with managing stroke related sequelae and identify suggestions to aid caregivers in addressing challenges with patient care. Methods: An online survey to identify stroke survivors' needs facilitated by Stroke Support India was completed by 22 stroke survivors and 6 caregivers in June 2023. This was followed by a focus group with 8 caregivers in August 2024 facilitated by Team Physiotherapy and Rehabilitation services, Pune to discuss suggestions to address caregivers' challenges. Informed consent was obtained from each participant. Results: Descriptive data from the survey revealed incidence of physical (89%), speech (68%), cognitive (89%) and psychological (89%) sequelae were high. Physiotherapy (93%), speech (50%), occupational therapy (50%) were more commonly availed, while neuropsychological therapy was less common (11%) primarily due to lack of awareness (64%). Qualitative analysis from the focus group identified the following themes applicable to all therapies: need for education and hands-on training to caregivers regarding individualised techniques, need for creating collaborative resource database, increased communication between caregivers and therapists, need for explaining complex therapeutic terms in everyday life terms to caregivers, need for routine referrals to neuropsychologists by clinicians, and need for an active support group for caregivers. Conclusion: Cognitive and psychological sequelae were underserved despite high incidence in the sample. Need for increasing awareness and referrals to neuropsychological services, therapist-led hands-on training to caregivers in individualised techniques across all services, enhanced communication, shared resource database and need for active caregivers' support group, were the key takeaways from this study.

Abstract ID: 99

Title: Effect of short foot exercise for fall prevention in elderly community dwelling

individuals an experimental study.
Authors: Dr.Pragati Subhash Kale, Dr. Nikhil Patil , Dr. Abhishek Panchal
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Abstract:
Introduction: Fall is an unaccepted loss of balance that leads to failure of postural stability or it is a sudden and unexpected change in position which leads to landing on floor. The risk of fall and related injuries increases with age due to loss of agility, visual acuity, etc. The human foot is a highly complex structure and it contributes to postural stability in most static and dynamic activities. Aim: To study the effect of short foot exercise on fall prevention in elderly community dwelling individuals. Methodology: An experimental study was conducted among 26 elderly individuals aged 60 & above. subjects were included by convenient sampling based on inclusion criteria. Participants were assessed for risk of fall and fear of fall by using time up and go test (TUG), falls efficacy scale (FES). Participants performed SFE with 3 sets of 15 repetitions in sitting & standing for 4 weeks. Pre & post intervention outcome were recorded. The data was analysed using instant. Result: The pre & post mean and SD for TUG test was 17.46 + 6.2, 16.7 + 5.9, indicating statistically significant improvement in duration of TUG test with P value < 0.05, similarly the pre & post mean and SD for FES was 56.7 + 12.7, 53.4 +12.8 indicating there is statistically significant improvement in FES score. Conclusion: The present study concludes that 4 weeks of short foot exercise (SFE) program is effective in reducing risk of fall and fear of fall among community dwelling elderly individuals.

Abstract ID: 101
Title: Translation and Equivalence of the Dysphagia Quality of Life Questionnaire in Hindi (DQOL-QH)
Authors: Mr.Appas Saha, Dr. Aarti Waknis
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Abstract:
Introduction: Dysphagia is a condition where an individual fails to swallow safely and efficiently due to neurological, structural or idiopathic deficits. As a result of the poor swallowing efficiency, the patients experience a marked impact on their overall quality of life. There are several tools available to determine these changes, but few tools are available in Indian languages. Dysphagia Quality of life Questionnaire in Marathi (DQOL-QM) (Kothari & Chand Mall, 2014) is one such tool with established psychometric properties. Aim: Hence this study aims to translate the DQOL-QM to Hindi language and determine its equivalence with the original tool. Method: A cross-sectional study design was implemented. DQOL-QM comprising of the Functional, Eating, Psychosocial and Physical section was translated in Hindi, and back-translated using the Eremenco protocol (Eremenco, 2005). 30 Marathi- Hindi bilingual- biliterate participants diagnosed with dysphagia due to neurological or structural conditions participated in the study. DQOL-QM and the translated tool DQOL-QH were self-administered to each participant within a time interval of 48-72 hours and the scores were compared. The order of administration was randomized across the participants. Results and Conclusion: Since the data was normally distributed ($p>0.05$) on Shapiro Wilk Test, paired t-test was used for comparison of the scores. Results indicated no significant difference in scores across functional ($p=0.698$), eating ($p=0.527$), psychosocial ($p=0.297$) and physical ($p=0.616$) domains as well as total score ($p=0.229$), indicating equivalence of the translated and original tool. Thus, DQOL-QH can be used to determine the quality-of-life of Hindi speaking patients with dysphagia.

Abstract ID: 102
Title: Correlation Between Handgrip Strength and Cognition in Postmenopausal Women of Age- 45-

60 Years: A Cross-Sectional Study
Authors: Dr.Deepashree Kulkarni, Dr Ankita Shejwadkar Assistant Professor, Dr Asmita Karajgi Dean,Dr Sayli Paldhikar HOD and Professor
Presenting Author Affiliation: MAEER'S PHYSIOTHERAPY COLLEGE
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Abstract:
Introduction- Dynapenia is the term used for age related loss in muscle strength and this changes are frequently observed in women following menopause due to hormonal imbalance. Conversely, cognitive decline is one of the most frequent complaints of women undergoing the menopausal transition owing to the effect of estrogen reduction. Aim- This study aimed to investigate the correlation between handgrip strength (HGS) and different components of cognition in postmenopausal women of age 45-60 years. Methods- Forty consenting women presenting with amenorrhea for a period of 12 months or more were selected in the study using purposive sampling method. They were assessed for handgrip strength using a handheld dynamometer on the dominant side with three trials and average was considered as a Mean handgrip score. Cognition was assessed through ACEIII Scale which includes the following components: Attention (/18), Memory (/26), Language (/26), Verbal fluency (/14) and Visuospatial abilities (/16). ACE III scale was scored out of a total of 100 points. Each participant's scores were documented and correlation was analysed using Spearmen correlation coefficient. Results- On analysis, mean HGS was 29±7.84 lbs and mean cognition score was 86.5±7.37. Correlation of HGS with Attention was 0.40 (p value<0.05), with Memory was 0.31 (p value<0.05), with Language was -0.29 (p value>0.05), with Verbal fluency was 0.13 (p value>0.05) and with Visuospatial abilities was 0.06 (p value>0.05); analysed using Spearman correlation coefficient test. Conclusion- The study concluded that HGS showed statistically significant moderate positive correlation with Memory and attention.

Abstract ID: 103
Title: Age-Related Decline in Cognition: A Comparative Study of Memory, Executive Function, and Speed of Processing Across Geriatric Age Groups"
Authors: Dr.Sayli Paldhikar, Rutuja Ghag
Presenting Author Affiliation: MAEER MIT Pune's Physiotherapy college Talegaon Dabhade Pune
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Abstract:
Introduction: Aging is a natural universal process that leads to morphophysiological changes in body systems, including cognitive decline, which significantly affects normal functioning. Key cognitive domains, including memory, speed of processing, and executive function, are essential in maintaining overall well-being in the elderly. Understanding how these domains change across different age groups can inform targeted cognitive rehabilitation strategies. Aim: This study aims to compare three specific cognitive domains—speed of processing, executive function, and working memory—across three age groups of elderly individuals Methodology: An analytical cross-sectional study was conducted with a sample of 72 elderly participants, divided into three age groups: young old (60-69 years), middle old (70-79 years), and old old (80+ years). The participants were assessed using the Memory Impairment Scale and the Trail Making Test (A and B) to evaluate memory, speed of processing, and executive function. Results: All three age groups exhibited statistically significant declines in the three cognitive domains. The "old old" group showed the most significant decline, followed by the "middle old" group, with the "young old" group showing the least impairment. Among the cognitive domains, executive function was the most significantly affected, followed by speed of processing, and memory was the least impacted. Conclusion: Executive function, a higher-order cognitive

process, is critical for adapting to novel situations and optimizing problem-solving approaches. The pronounced decline in executive function with aging suggests that it is particularly vulnerable in the elderly. Given its crucial role in overall cognitive performance, it should be an important aspect of rehabilitation

Abstract ID: 104
Title: Comparison of visual reaction time between upper limb and lower limb in healthy young old population.
Authors: Dr.Tanvi Kanhekar, Dr. Jui Dave, Dr. Sayali
Presenting Author Affiliation: MAEER Physiotherapy College Pune
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Abstract:
Introduction: Reaction is a purposeful voluntary response to an external stimulus.Reaction time is one of the important physiological parameters which gives information how fast and quickly person responses. It is usually expressed in milliseconds.It reflects the speed of the flow of neurophysiological, cognitive, and information processes which are created by the action of stimulus on the person's sensory system.Visual choice reaction time (VCRT) is the time it takes to respond to a visual signal and make a choice. Aim- To compare the choice visual reaction time between upper limb and lower limb in healthy young old population. Method - 50 samples were taken. A web application was used where the screen shows red and green color.Green color is for normal response and red color is for error.Meanwhile, pressing the spacebar key ,the app records the reaction time and errors simultaneously.10 trials are taken for measuring the reaction time.Mean reaction time of upper limb and lower limb was calculated.It was then compared and statistically analysed by using paired T test in Microsoft excel. Result- The mean time taken to complete the test for the upper limb is 0.71s and for the lower limb is 0.84s.The subjects took approximately 20% more time to complete the test using the lower limb compared to upper limb. Conclusion - The Study indicates that the visual reaction time of lower limb is significantly higher than upper limb in healthy young old population which could be because of difference in nerve conduction velocity andmovement time.This indicates ability

Abstract ID: 106
Title: Title: Association of Trunk Muscle Strength and Endurance with Trunk Control in Children with Spastic Diplegic Cerebral Palsy.
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Presenting Author Affiliation: Maeer's physiotherapy college
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Abstract:
Background: Trunk stability is crucial for maintaining static postures and relies heavily on the strength and endurance of trunk muscles. In children with spastic diplegic cerebral palsy, trunk control is often compromised. While trunk muscle strength is frequently assessed, studies exploring the role of endurance in trunk control remain limited. Understanding this relationship can guide targeted interventions. Objective: To assess the strength and endurance of trunk muscles and their association with trunk control in children with spastic diplegic cerebral palsy. Methodology: This cross-sectional study included 15 children aged 5-18 years with GMFCS levels I-II, who could sit independently on a bench. Trunk strength was evaluated using pressure biofeedback, while endurance was measured through static and dynamic tests, including the repetitive arch-up test. Trunk control was assessed using the Trunk Control Measurement Scale (TCMS). Chi-square analysis was used to determine associations. Results: The median TCMS score was 28. Mean endurance times for static flexors and extensors were 6.5s and 12.2s, respectively, while dynamic flexors and extensors averaged 14.9s and 11.2s. Conclusion: Significant associations were observed between trunk muscle strength,

endurance, and trunk control, emphasizing the need for comprehensive assessment and targeted training to enhance functional performance in children with spastic diplegic cerebral palsy.

Abstract ID: 107

Title: Correlation Between Selective Voluntary Motor Control And Functional Mobility In Children With Spastic Diplegic Cerebral Palsy

Authors: Dr.Rhea Rajendra Walawalkar, Dr. Hitesh Sable(PT), Dr. Priya Chitre(PT), Dr. Sayali Paldhikar(PT)

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Abstract:

Introduction-Cerebral palsy children have multiple impairments like tightness, weakness, contractures, poor trunk control, poor voluntary control.There are various studies which finds the correlation between impaired selective voluntary motor control and balance of children with spastic diplegic cerebral palsy. Despite these clinical findings, the role of SVMC has not been explored extensively as a factor that can affect functional mobility, hence this study. Aim- To find correlation between selective voluntary motor control and functional mobility in children with spastic diplegic CP. Method- Children With Spastic Diplegic CP, above the age of 2 years and who can maintain Standing For 2 mins are selected. Their lower limb Voluntary Control is checked with selective control Assessment of lower extremity (SCALE) and functional mobility is checked with GMFM(D & E) and M-TUG. The data is analyzed and correlation between components is calculated using spearman's coefficient test. Result- Participant with high SCALE score of Hip joint,Knee joint, Ankle joint subtalar joint and toes shows positive correlation with GMFM (D&E) subscale Hip (r=0.29447)Knee (r=0.2540) Ankle(r=0.01099) Subtalar(r=0.3319) Toes(r=0.10364). Participant with high SCALE score of Hip joint,Knee joint,Ankle joint subtalar joint and toes shows negative correlation with m-TUG scores Hip(r=0.0927)Knee(r=-0.232164) Ankle(r=-0.3079) Subtalar(r=-0.5945) Toes(r=-0.0624) Conclusion- Participants with high SCALE scores show positive correlation with GMFM (D&E) and a negative Correlation with m-TUG Score.

Abstract ID: 108

Title: Assessment Of Cognitive Impairment In Hypertensive Patients And Its Correlation With Age Of Onset And Duration Of Hypertension.

Authors: Dr.Saburi Santosh Goliwar, Dr. Drashti Bhalani, Dr. Sumitra Sakhwalkar ,Dr. Sayli Paldhikar

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Abstract:

INTRODUCTION: Hypertension is highly prevalent condition which has been established as a risk factor for cardiovascular and cerebrovascular disease. Hypertension is defined as persistent elevation of systolic arterial blood pressure above 140mmHg or diastolic blood pressure above 90 mmHg. Vascular dementia is a general term describing problems with reasoning, planning, judgment, memory and thought process caused by brain damage from impaired blood flow to your brain. AIM: To assess cognitive impairment in hypertensive patients and its correlation with age of onset and duration of hypertension METHODOLOGY: 86 subjects with hypertension will be evaluated using MMSE scale for cognitive decline. In this survey subjects are selected including Patient with HTN with history of at least 1 year and age ? 18 years of age. Subjects are excluded if patient presents confirmed dementia, Alzheimer disease, recent cardiovascular event (within previous 6 months), stroke, malignant tumors. Data was collected and qualitative analysis was done. RESULTS : In the above study, the results and statistical analysis was done using Pearson's correlation coefficient, we found that out of 86 subjects with hypertension, the maximum cognition affection was found in 30-49 years old.

16 subjects with age 30-49years, 26 subjects with age 50-69years, and 25 subjects with age over 70years had cognitive impairment, while 19 subjects didn't have cognitive impairment. Furthermore, we even found that there is negative correlation between age of onset , duration of hypertension and MMSE scoring. CONCLUSION: We can conclude that it is necessary to check for cognitive function after a person

Abstract ID: 109

Title: Comparing the immediate effect of facilitatory vs inhibitory kinesiotaping technique on object release in children with cerebral palsy.

Authors: Dr.Janhavi Satish Jadhav, Kalindi D Thakral

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Abstract:

Introduction: Cerebral palsy is a non-progressive disorder which affects motor skills. It can impact the hand and its components.More than 60% of children with CP have impaired hand function. Nine hole peg test is an effective test which measures fine dexterity similarly, the Box and Block test (BBT) is a test that measures gross manual dexterity. Taping can be used as an adjunct during the rehabilitation program for the patient to enhance functional recovery. Aim: To compare the immediate effect of facilitatory vs inhibitory kinesiotaping techniques on object release in children with cerebral palsy. Methodology: This Quasi Experimental study included 10 children with cerebral palsy, aged 5-15 years, participated in the study. Assessment was done prior to application of Kinesiotape which included Spasticity assessment with Modified Ashworth scale, Zancolli's classification. Pre and Post tests were conducted using 9-hole peg test and Box and Block test. Results : On analysis for pre-test and post-test facilitatory and Inhibitory kinesiotaping on wrist extensors and wrist flexor was done using paired t test. Paired t-test results Pre and post-facilitatory block test: 0.0042 Pre and post-facilitatory peg test: 0.9 Pre and post-inhibitory block test: 0.002 Pre and post-inhibitory peg test: 0.49 Unpaired t-test Results Post facilitatory and post inhibitory for box and block test: 0.028 Post facilitatory and post inhibitory for 9 hole peg test: 0.476 Conclusion: Thus both the facilitatory and the inhibitory technique of kinesiotaping show that they are statistically significant, the facilitatory technique of kinesiotaping is highly significant for improving prehensile grip.

Abstract ID: 110

Title: Evaluating the efficacy of caregiver training and tele-rehabilitation to facilitate home-based cognitive rehabilitation for a chronic stroke patient

Authors: Ms.Jain Srishti, Raghavan Charumati

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Abstract:

Introduction: In India, brain injury patients often lack access to cognitive rehabilitation services, necessitating the exploration of innovative approaches to improve accessibility. Aim: To evaluate the feasibility of caregiver training and tele-rehabilitation to facilitate home-based cognitive rehabilitation using a case study approach. Methodology: A 51-year-old male presented for cognitive rehabilitation in February 2024, two years after treatment for ruptured ACA aneurysm with subarachnoid haemorrhage and hydrocephalus. Cognitive screening using Montreal Cognitive Assessment (MoCA) and caregiver (wife)-reported functional difficulties were recorded. Goals for rehabilitation were set using Bangor Goal Setting Interview (BGI). Nine in-person sessions focused on improving orientation, conversational fluency, followed by six tele-rehabilitation sessions once the patient returned home, focused on re-learning to use phone alarms and Whatsapp. For both in-person and tele-rehabilitation, caregiver was educated about the rehabilitation technique, allowed to record videos of the session, practice tasks with the therapist, and given homework sheets to facilitate home-based

rehabilitation in between therapy sessions. Results: Following in-person sessions, MoCA scores improved from 8/30 in February to 16/30 in May 2024. Therapy intensity averaged 2 sessions/month in-person, dropping to 1 session/month via tele-rehabilitation. In-person sessions with greater caregiver-led homework facilitated 100% goal attainment, while tele-rehabilitation-based goals achieved 50% attainment, primarily due to reduced caregiver availability upon returning home. Conclusion: Cognitive rehabilitation can be useful with chronic stroke patients. While tele-rehabilitation can be useful in sustaining cognitive rehabilitation after patient's return home, efforts to reduce caregiver burden by training more than one family member or locally-based therapists, need further exploration.

Abstract ID: 111

Title: Awareness of Foot Care Among Type 2 Diabetes Mellitus Patients in Maval Taluka: A Descriptive Study.

Authors: Dr.Aanchal Santosh Agrawal, Manali Pandav,Dr.Sumitra Sakhwalkar,Dr.Sayli Paldhikar

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Abstract:

Background: Diabetic foot complications, including ulcers and amputations, can be prevented through patient education, regular foot examinations, annual surveillance, and a team-based approach to care. Knowledge of proper foot care is essential to avoid these complications in patients with Type 2 Diabetes Mellitus. Aim: This study aimed to assess the knowledge, attitudes, and practices related to foot care among patients with Type 2 Diabetes Mellitus in Maval Taluka. Methodology: A descriptive study was conducted with 140 subjects selected using purposive sampling. Inclusion criteria were patients above 18 years of age, diagnosed with Type 2 Diabetes Mellitus (either newly diagnosed or previously diagnosed), and on insulin or oral anti-diabetic medications. Patients with foot ulcers, diabetic foot, or amputations were excluded. A self-structured questionnaire was administered to participants in both English and Marathi, following WHO guidelines. The questionnaire contains demographic information, knowledge, attitudes, and practices related to foot care. Data was analysed using descriptive statistics, and results were presented in pie charts and clustered column charts. Results: The study found that while the overall knowledge of foot care among participants was fair, a significant number were unaware of important conditions such as diabetic foot ulcers, diabetic neuropathy, and gangrene. This lack of knowledge may increase the risk of developing serious foot complications. Conclusion: The findings suggest that the level of awareness regarding foot care is low among patients with Type 2 Diabetes Mellitus in Maval Taluka. Enhancing patient education, regular foot examinations, and preventive practices are crucial in reducing the risk of diabetic foot complications and improving patient outcomes.

Abstract ID: 112

Title: Barriers affecting patients participation in outpatient stroke physiotherapy rehabilitation in maval taluka - a cross sectional survey

Authors: Dr. Rituja Malkhede, Vaishnavi Sakhare, Dr. Sumitra Sakhwalkar, Dr. Sayli Paldhikar

Presenting Author Affiliation: Maeers Physiotherapy College Talegaon Dabhade Pune

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Abstract:

Introduction: Stroke is one of the leading cause of acquired complex disability in adults deteriorating the quality. Regular physiotherapy exercise gives immense benefit to stroke survivors by augmenting arm recovery and function, ambulation, increased self-efficacy levels, reduced fatiguability and improved cardiovascular fitness. This following study is conducted to understand why previously hospitalised post stroke patients are not able to participate in outpatient stroke physiotherapy rehabilitation in maval taluka.Thus identifying and

taking care of these barriers may help healthcare givers to better provide advice and treatment ,on how to engage in and achieve maximum benefits of physiotherapy treatment. Aims: To find the barriers affecting patient's participation in outpatient stroke physiotherapy rehabilitation in maval taluka Method : A cross sectional survey was conducted among 47 post stroke survivors through a self-made questionnaire via interview-based manner.The data analysis is done with the help SPSS software. Result : Out of the 46 participants participated in the study, 3 were excluded due to refusal to give informed consent and or incomplete data leaving a total number of 43 stroke survivors (65.22% males and 34.79% females) who were included in the statistical analysis. The majority participants (53.2%) were between the age group of 51-70 years. Conclusion : Stroke survivors indicated high perceived barriers to participation in the out patient stroke physiotherapy rehabilitation. Visiting Urban and Rural health care centers, conducting quarterly camps, street plays to create awareness grading the importance of physiotherapy and need to improve quality of life.

Abstract ID: 113

Title: Comparison of balance and audio reaction time in normal and congenitally blind children aged 5-15 years- Experimental study.

Authors: Dr.Kareena Prakash Lalwani, Dr. Abhishek Panchal

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Abstract:

Introduction: Postural control relies on motor and sensory processes, including visual, vestibular, and proprioception systems, crucial for maintaining balance. As postural control system requires information from visual, vestibular and proprioceptive system lack of visual input influences the ability to maintain balance. In everyday life blind humans rely more on auditory and tactile senses to recognize people, localize events and to perform visual task. So, purpose of study is to elucidate the comparison of balance and audio reaction time in normal and congenitally blind children aged 5-15 years. Aim: To compare balance and audio reaction time in normal and congenitally blind children aged 5-15 years. Methodology: An experimental study consists of 29 normal and 29 congenitally blind children aged 5-15 years. Mentally retarded child, children with neurological disorder were excluded. Balance was assessed by using pediatric balance scale and audio reaction time was measured using modified drop ruler test. Result: A quantitative data was analyzed by InStat software. The unpaired t-test was used as the two groups were independent. According to the statistical analysis the results were extremely significant for balance with p-value < 0.0001 and very significant for ART with p-value < 0.0029. Conclusion: The study concluded that congenitally blind children have faster auditory reaction time compared to sighted children, due to enhanced auditory processing and compensatory neural adaptation. However, balance is more affected by the lack of visual input, highlights the importance of multisensory integration for postural control.

Abstract ID: 114

Title: Feasibility of Surface Electromyography(sEMG) for recording muscle activity in people with severe motor impairment in the acute phase of stroke

Authors: Ms.Farah, Dr. Senthil Kumaran, Dr. John Solomon M

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Abstract:

Introduction- Stroke causes different levels of impairment, and it can be difficult for clinicians to monitor muscle activity when there is little to no movement. Surface Electromyography (sEMG), a non-invasive window into the neurological system, can therefore be used to track muscle activity. Aim-

To identify the feasibility of using electromyography for recording muscle activity in people with severe motor impairment after stroke in both upper and lower limb Methodology- Patients with first-ever ACA and MCA stroke between the age group of 18-80 with shoulder abduction and finger extension (SAFE) scores less than 5 and Knee extensor strength less than 3 were recruited by 3rd day of stroke for the study. Within the first week of stroke onset, the participants were asked to try to make a maximal contraction of five upper limb muscles such as wrist extensors, elbow flexors, elbow extensors, shoulder abductors, and shoulder flexors, and four lower limb muscles such as quadriceps, dorsiflexors, hamstrings, and plantar flexors in lying position according to SENIAM guidelines. The muscle activation was recorded through a wireless EMG system. Results- Three acute stroke patients (2 female & 1 male) demonstrated the peak and mean root mean square (RMS) value of upper limb and lower limb muscles at the time of maximal voluntary contraction (MVC). For example, the anterior deltoid showed mean RMS and peak RMS values of 0.008318 and 0.008971 respectively. Conclusion- Surface electromyography (sEMG) can capture muscle activity even in patients who have upper and lower limb muscle strength less than 1.

Abstract ID: 115

Title: Reliability of 2-Dimensional Video-Based Assessment of Upper Extremity Reach-To-Grasp-To-Mouth Task in Persons with Stroke

Authors: Ms.Nidhi Misalankar, Dr. Senthil Kumaran D, Dr. John Solomon M.

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Abstract:

Introduction: Post-stroke upper limb movement assessment is vital for tracking motor recovery. 3D movement analysis is considered the “gold standard” for kinematic analysis. However, its high cost makes it inaccessible for many, especially in developing countries. Thus, an affordable and accurate system is crucial for low and middle-income regions. Aim: To evaluate the test-retest and inter-rater reliability of 2D video-based kinematic assessment of upper extremity reach-to-grasp-to-mouth task in persons with stroke. Methodology: We included adults with unilateral stroke with functional vision, MoCA >26 and Brunnstrom stage 3 or above. Individuals with preexisting upper limb complications like shoulder subluxation/pain, cardiac pacemakers and metal implants were excluded. The participant was instructed to reach for a target placed on a table at arm's length, bring it to their mouth, and return it to its original position, with reflective markers placed on bony landmarks. Two smartphones on tripods recorded sagittal and frontal views. Twenty trials were recorded in continuous mode. Kinovea software was used to analyse shoulder, elbow and trunk angles during the task. Results: We analyzed 5 patients capturing 1200 video frames for test-retest and inter-rater reliability. The shoulder, elbow and trunk displacement angles were assessed in five positions and shoulder abduction angle was assessed in the frontal plane. Data collection is ongoing and results of ICC for reliability are awaited. Conclusion: This study will establish the potential of 2D video-based kinematic assessment as a reliable method for quantitative analysis of upper limb movement in persons with stroke—keywords: stroke, kinematic assessment, video-based assessment.

Abstract ID: 116

Title: Speech, Language and Oromotor Exiguity in Cerebral Palsy with Focal Epilepsy: A Case Study

Authors: Ms. Grishma Mahajan, Mrs. Garima Dixit Garge

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Abstract:

Introduction: Cerebral palsy describes a group of permanent disorders of the development of

movement and posture causing activity limitation that is attributed to nonprogressive disturbances that occur in the developing fetal and infant brain. The current study confined itself to CP primarily due to periventricular leukomalacia with the intervention trajectory of a speech-language pathologist to develop speech, language, and communication in the child. Aim: The study aims to assess and manage the effects of focal epilepsy on the speech, language, and Oro-motor structures of a child and to lay out rehabilitative insights. Methodology: In this study, a three-year-old child with a postnatal history of epilepsy with recurrent episodes was selected as the subject. The neuropediatrician diagnosed the child with focal epilepsy. Followed by, a speech and language evaluation was performed by an SLP and targeted therapeutic intervention was implemented. Result: The intervention was majorly focused on oro-motor skills, improving functioning of the structures for speech, feeding and language. The intervention resulted in notable progress in oro-motor skills, feeding and language in the child. Conclusion: The rehabilitation of a child with cerebral palsy requires a speech-language pathologist to work on building communication skills. The major role in this improvement is played by systematic and comprehensive motor rehabilitation, individually tailored to the patient. Keywords: Cerebral palsy, Oro-motor skills, Focal epilepsy, Speech, Language.

Abstract ID: 117

Title: Effect of trunk Proprioceptive Neuromuscular Facilitation exercise and trunk Neurodevelopmental technique along with conventional therapy on gait and functional performance in Stroke Patients: A Comparative study.

Authors: Dr.Shriya Sahastrabuddhe, Dr. Sushil Arora.
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Abstract:
Introduction: Stroke is one of the major causes of morbidity, leading to long-term disability and causing impairments like muscle weakness, poor balance, spasticity, and reduced mobility. A strong trunk activity is necessary to balance the body against gravity and to shift weight to free the limb for functional movement. Trunk rehabilitation should be incorporated to improve trunk control and gait after stroke. Aim: To compare the effect of trunk proprioceptive neuromuscular facilitation exercise and trunk neurodevelopmental technique along with conventional therapy on gait and functional performance in stroke patients. Methodology: A comparative study was conducted among 30 subjects with an age group of 35-65 years with subacute stroke based on inclusion criteria, which were randomly divided by the chit method into two groups. Group A received neurodevelopmental technique for trunk along with conventional therapy, while group B received proprioceptive neuromuscular facilitation for trunk along with conventional therapy. Assessment was done using the Wisconsin Gait Scale, dynamic gait index, and Stroke Self-Efficacy Questionnaire pre and post 4 weeks of intervention. Result: Both groups do not show significant improvement in the Wisconsin Gait Scale ($p = 0.403$) and Stroke Self-Efficacy Questionnaire ($p = 0.145$). Both groups show significant improvement in dynamic gate index, but group B performed significantly better than group A ($p<0.05$). Conclusion: This study concludes that both neurodevelopmental technique and proprioceptive neuromuscular facilitation for trunk are equally effective. However, Proprioceptive Neuromuscular Facilitation was better in improving dynamic balance than Neurodevelopmental technique in Stroke Patient

Abstract ID: 120

Title: "Bridging Gaps: A Comparative Analysis of Physiotherapy Practices for Traumatic Brain Injuries in India and the Global Landscape"

Authors: Dr.Amarjot Singh Gill, Dr, Sukham Preet Kaur, Dr Sandeep Singh Saini
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Abstract:
Abstract Traumatic brain injuries (TBIs) are a leading cause of disability worldwide, requiring effective physiotherapy interventions for recovery. This meta-analysis compares physiotherapy systems and practices for TBI management in India and globally across all stages of recovery. Introduction: Physiotherapy is pivotal in enhancing motor, cognitive, and psychosocial outcomes post-TBI, yet regional disparities exist in practice and accessibility. Aims: To evaluate differences in intervention types, accessibility, and outcomes between India and the global context, providing actionable insights for improving care standards. Methodology: Data from 65 studies (25 from India, 40 globally) published between 2000 and 2024 were analysed. A random-effects model was used to calculate pooled effect sizes, and heterogeneity was assessed using I^2 statistics. Outcome measures included the Functional Independence Measure (FIM), quality of life scores, hospital stay duration, rates of hospital-acquired infections, and psychological impacts. Results: Indian practices predominantly rely on basic exercise regimens, showing improvements primarily in motor function (SMD: 1.2; 95% CI: 0.8-1.6), while global practices integrate advanced technologies, yielding comprehensive improvements (SMD: 1.8; 95% CI: 1.4-2.2). Indian patients experienced longer hospital stays (15 days vs. 10 days globally) and higher infection rates (18% vs. 10%) compared to global counterparts. Psychological outcomes, such as depression and anxiety, were less addressed in Indian studies (40% vs. 75%). Conclusion: This study highlights significant disparities in physiotherapy systems for TBI management between India and global practices. Enhanced adoption of advanced technologies, tele-rehabilitation, and evidence-based interventions in India could bridge these gaps and improve outcomes.

Abstract ID: 121
Title: Vibration-Based Wearable Device based Rehabilitation for Freezing of Gait in Parkinson's Disease: A Pilot Study
Authors: Prof. Summaiya Zareen, Desai, A., Bansal, B., Khanduri, K.
Presenting Author Affiliation: Associate Professor, The SIA College of Physiotherapy, Thane, Maharashtra
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Abstract:
Background: Parkinson's Disease(PD) leads to gait disturbances, disrupted balance and freezing of gait(FOG) among other symptoms, leading to debilitating falls and injuries. We present a novel wearable device(WALK) which delivers vibration based neuromodulatory stimulus to alleviate freezing and other gait impairments through modulation of spinal excitability. In this pilot study, we test the device in a number of scenarios known to provoke freezing of gait. Methods: 15 idiopathic-PD with FOG, without dementia(MoCA>22) were included in a prospective, cross-sectional study. Along with clinical history, autonomic symptoms and anxiety were assessed at baseline. Subjects were assessed for FoG at baseline and then with the 'WALK' device worn on the lower thigh. Subjects were assessed in 6 activities with & without arithmetic-dual-task. Results: Mean age(n=15) was 65.7 ± 10 years(5 Females,10 Males). Paired t-test reveals FOG score of 15 samples at baseline and in active phase with device has a mean difference of 9.26 ± 5.81 at 95% C.I. The result was statistically significant($p=0.0059$). 14 out of 15 individuals showed improvement in FOG. FOG was reduced by an average of 64% and instances of freezing reduced by 65.27%. Most subjects showed major improvement in the 360/540 degree turns, navigating cluttered areas and in dual tasks for the same. No adverse events were observed. Conclusion: Vibration-based neuromodulatory intervention targeting spinal excitability can improve FoG. Improvements are seen in cluttered space walking, dual tasking and turning.
Keywords: Parkinson disease, freezing of gait, neuromodulatory, wearable sensors, vibration.

Abstract ID: 126
Title: Correlation of cognitive flexibility and dynamic balance in adults with anxiety
Authors: Prof. Dr..Grishma Shah, Ms Bhagyashree, Ms Shyama, Ms Nyasa
Presenting Author Affiliation: Ashok and Rita Patel Institute of Physiotherapy
Presenting Author Email ID: grishmashah.phy@charusat.ac.in

Abstract:
Introduction Anxiety disorders are among the most common mental health issues affecting young adults, often leading to significant impairments in both cognitive and physical functioning. Cognitive flexibility, defined as the ability to adapt one's thinking to new and changing situations, plays a crucial role in managing anxiety. Similarly, dynamic balance, the ability to maintain stability while in motion, is essential for daily activities and overall quality of life. Despite the established impacts of anxiety on these domains, the interplay between cognitive flexibility and dynamic balance in anxious individuals remains poorly understood. Aim This study aims to investigate the correlation between cognitive flexibility and dynamic balance in young adults diagnosed with anxiety. Methodology A cross-sectional study was conducted, involving 138 young adults having moderate to severe anxiety. After fulfilling inclusion and exclusion criteria, Participants underwent assessments to evaluate their cognitive flexibility using CFS and dynamic balance through the Y-Balance test. Further spearman correlation test was done to find correlation between them. Results The findings indicate that anxiety is prevalent among the study population. The results revealed a significant negative correlation(r=-0.113) between cognitive flexibility(CFS) and difference of composite score of Y balance test, additionally average composite score of y balance test has negligible correlation(r=0.03) with CFS scores. Conclusion Cognitive flexibility and Y Balance Test performance show a weak negative correlation. As the cognitive flexibility increases, the dynamic balance also increases slightly.

Keywords Anxiety, Cognitive flexibility, dynamic balance, young adults

Abstract ID: 129
Title: Leveraging Wearable Devices to Predict Fall Risk in Parkinson's Disease: A Comprehensive Literature Review
Authors: Ms.Geetanjali Vaishnav, Disha Patel
Presenting Author Affiliation: Silver Oak College of Physiotherapy Silver Oak University
Presenting Author Email ID: geetanjalivaishnav262@gmail.com

Abstract:
Introduction: Parkinson's disease (PD), a neurodegenerative condition significantly increasing the risk of falls, is characterized by two primary motor symptoms: bradykinesia and postural instability. Frequent falls in individuals with PD can lead to serious consequences and reduced quality of life. Wearable devices that continuously monitor gait, balance, and other fall-related health metrics show great potential for improving fall prevention strategies. AIM: The Aim of the study is to investigate the role of wearable devices in detection of fall risks among individual with Parkinson's Disease. Methodology: A thorough study was conducted using various research search engines with key terms like "Wearable Devices," "Fall Risks," and "Parkinson's Disease." The following types of papers were taken into consideration: systematic reviews, reviews, observational studies, and cohort studies, all published between 2017 and 2022. Out of 17 papers, 7 were included in the study: one observational study, one cohort study, three reviews, and two systematic reviews. The other 10 did not meet the inclusion criteria. Result: Wearable Devices examines integration of accelerometer, gyroscope and other bio-sensors in Parkinson's Disease patients enabling real-time monitoring of instability, balance, gait and posture. Conclusion: Wearable devices play significant role in enhancing patient's safety and mobility by providing timely alert and feedback. However, further research is needed to improve the accuracy

and reliability of wearable devices for detection and Prediction algorithm.

Abstract ID: 131
Title: Review of Nervous System Response to Rolling and Effects of Vibrating Foam Roller on Stroke Patients
Authors: Mr.Krish Acharya,
Presenting Author Affiliation: Silver Oak University
Presenting Author Email ID: krishacharya0272@gmail.com

Abstract:
Introduction This study investigated the immediate effects of vibration foam rolling on dorsiflexion range of motion, balance, and gait in stroke patients. Stroke survivors often experience hemiplegia, which causes muscle weakness and restricted ROM on one side of the body. Vibration-based rehabilitation is a key intervention for stroke recovery. While vibrating foam rollers are known to enhance hamstring flexibility, their effects on other areas like flexibility, balance, and gait in stroke patients remain underexplored. This study aimed to address these gaps. Aims The study aimed to assess the immediate effects of vibration foam rolling on dorsiflexion ROM, balance, and gait in stroke patients. Methods Thirty acute stroke patients undergoing inpatient rehabilitation participated. Eligibility criteria included a Mini-Mental State Examination score of ?24 and the ability to walk 10 meters independently. Participants were randomly divided into a vibrating foam roller group and a non-vibrating foam roller group. Baseline assessments of dorsiflexion ROM, balance, and gait were conducted, followed by a single intervention session. Results The vibration foam roller group showed significant improvements in dorsiflexion ROM and gait post-intervention, while the non-vibrating foam roller group improved only in dorsiflexion ROM ($P<0.05$). Conclusion A single session of vibrating foam rolling enhances dorsiflexion ROM and gait in stroke patients. Vibrating foam rollers are cost-effective rehabilitation tools, promoting proprioception, reducing spasticity, and improving motor coordination. Further research is recommended.

Abstract ID: 134
Title: Acoustic analysis of voice: An anal for differential diagnosis of speech disorder in a case of Atypical Parkinsonism
Authors: Ms.Prema Devi, Venkat Raman prusty, Hrishabh Banjare,Y Netra
Presenting Author Affiliation: Rehabilitation Council Of INDIA
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Abstract:
Introduction: Speech, a typical clinical manifestation in patients with Parkinson's disease and in atypical parkinsonian syndromes which may occur before the onset of the symptoms of neuropathology. Due to many overlapping features, the differentiation of voice and speech disorder is challenging for clinicians to detect the early stage of the disease. Aim and objectives : To establish Diagnostic guidelines for detection of Neurophysiologic changes in terms of Acoustic Vocal measures in Parkinson's disorder. Methodology: Speech samples as phonation of /a/, /i/ and /u/ obtained from 6 subjects from OPD presenting voice issues as phonoaestesia. The subjects were diagnosed as Parkinson's disease(2), progressive supranuclear palsy (1), multiple system atrophy (3), and control group of 20 MSW(Medico social worker) volunteers were administered on perceptual scale VHI, followed with FDA(frenchy Dysarthria scale) and acoustic analysis, MDVP in CSL-4500. Results: Results presented significant differences in the distribution of acoustic parameters as mixed type of dysarthria with a combination of hypokinetic, spastic, and ataxic features has been found in patients with atypical Parkinsonism and in multiple system atrophy, ataxic components of dysarthria were observed. Patients with PD presented pure hypokinetic dysarthria. Acoustic parameters marked as variation in HNR, variations in Frequency were significant for the clinical diagnosis for onset of PD. Conclusion: Acoustic analysis of Voice is a

sensitive and noninvasive tool for objective assessment of different speech components, which provides a quantitative data relating to the vocal issues in different physiological measures. To improve diagnostic process, acoustic measurements must be implemented for differential

Abstract ID: 138
Title: Famous face recognition and retrieval abilities among healthy aging Indian population using adapted Famous People Protocol
Authors: Ms.Pooja Yadav, Sonal Vijay Chitnis
Presenting Author Affiliation: Bharati Vidyapeeth Deemed to be university School of Audiology Speech language Pathology Pune India and Amplifon Max Hospital SLP Delhi
Presenting Author Email ID: poojaaslp18@gmail.com

Abstract:
Background : Cognitive aging affects face naming and narrative abilities more than object naming on response latency, recognition & episodic memory attributes. Aphasic, amnestic variant neurocognitive disorders often exhibit difficulty in face naming and episodic memory recall. Aim and Objectives : The study aimed to investigate famous face-related memory, retrieval, and related discourse in healthy aging using the adapted Famous People Protocol for the Indian population (FPP, Holland, et al., 2013). Methods: FPP was administered on 90 (mean age ~56 years, education ~ 12 years) cognitively and neurologically healthy aging participants. The scoring of FPP is based on recognition, the naming of famous people, and responses with and without cues. Results: A significant effect of age but not gender on face recognition and naming abilities was observed. Heterogenous results were obtained for education across participants. Conclusion : FPP adapted for indian population demosnrtated good reliability and validity. This tool has wider application and with good clinical utility across neurocognitive communication disorders as a therapeutic tool to build face recognition, retrieval, and communication building in healthy and pathological aging. Keywords: FPP (Famous People Protocol), Face naming, Narrative ability, Neuro-Communication Disorder.

Abstract ID: 139
Title: Effects Of Blocked Vision And Backward Treadmill Training On Balance And Gait Speed In A Patient With Thalamic Stroke: A Case Study
Authors: Mr. Dev Bhavesh Thakker, Nawaj Mehtab Pathan
Presenting Author Affiliation: MGM's Institute of Physiotherapy
Presenting Author Email ID: thakkerdev10@gmail.com

Abstract:
Background: This case report explores the effectiveness of backward treadmill training with blocked vision in treating gait and balance impairments in a 48-year-old female with thalamic bleed, a variant of lacunar stroke known for causing movement and sensory issues due to lesions in the deeper CNS regions, particularly the thalamus. The patient displayed characteristic symptoms such as atypical facial expressions, left-sided weakness, and impaired sensations on the left side, indicating sensory and motor deficits. Methodology: The patient underwent backward treadmill training three times a week for two weeks, alongside conventional physical therapy interventions. Each session of backward treadmill training lasted 15 minutes with closed eyes, targeting improvements in gait pattern, proprioception, and balance. Additionally, the therapy regimen included stretching, strengthening, and proprioceptive exercises. Results: Following the intervention period, the patient exhibited significant enhancements in standing balance, weight shifting abilities, and mobility, as evidenced by improved scores on the Berg Balance Scale (BBS) and reduced completion time on the Timed Up & Go Test (TUG). These findings suggest that combining backward treadmill training with conventional physical therapy effectively addressed the gait and balance impairments associated with thalamic bleed. Conclusions: Early detection and

management of balance and gait impairments in thalamic bleed patients are crucial for optimizing functional outcomes and reducing dependency on caretakers. This case emphasizes the importance of a holistic approach in physiotherapy interventions, showcasing the potential of backward treadmill training with blocked vision as a promising intervention. Further research and clinical trials are needed to validate these findings and establish standardized rehabilitation protocols for thalamic bleed patients.

Abstract ID: 140

Title: Clinical Presentation and Rehabilitation Outcome in a Case of Spastic Ataxic Syndrome Post-COVID-19 Infection

Authors: Dr.Anurag Ranga, Gourav Sannyasi, Meeka Khanna, Anupam Gupta, Navin B. Prakash

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Abstract:

Introduction During the COVID-19 pandemic, rare neurological disorders including para-infectious or post-infectious movement disorders, predominately cerebellar ataxia and myoclonus, are becoming more evident. Here, we describe the clinical presentation, hospital course and rehabilitation outcome of a middle-aged male who presented with spastic ataxic syndrome post-COVID-19 infection. Case Report One week after the COVID-19 infection a 54-year-old male, started experiencing imbalance while walking, followed by weakness in bilateral lower limbs for the next 2 weeks and was unable to ambulate independently and was required to hold onto something to walk. He also reported clumsiness of hands while eating food in the form of spilling, frequent smearing of food over his face, and slurring of speech. In the next 3 months, he become bedbound and developed difficulty in swallowing liquids. A history of transient blurring of vision was also present. He also had intention tremors. The outcome measures were recorded at baseline (on the day of admission) and at the time of discharge. A Customised rehabilitation program included medical management, physiotherapy, occupational therapy and psychosocial counselling sessions. The total duration of inpatient rehabilitation was 30 days. Results We observed a change in outcome measures where the Barthel index score improved from 70 to 90 and Expanded disability status scale scores reduced from 7 to 6 (admission and discharge, respectively) signifying holistic recovery with multi-disciplinary rehabilitation. Conclusion Our case report highlights the need for early rehabilitation along with medical treatment in spastic ataxic syndrome post-COVID-19 infection.

Abstract ID: 141

Title: Relationship between pain threshold and muscle strength in older adults residing in long-term care settings: a cross-sectional study

Authors: Mr.Jashandeep Singh, Dr. Girish N, Mrs. Sidhiprada Mohapatra

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Abstract:

Background: Aging is associated with significant anatomical and physiological changes. Evidence suggests that pain perception is altered in older adults and may be modulated by muscle strength. The relationship between pain threshold and muscle strength in this population remains poorly understood and warrants further investigation. Objective: To determine the relationship between pain threshold and muscle strength among older adults residing in long-term care settings (LTCS). Methodology: A cross-sectional study was conducted in seven LTCS in Udupi, Karnataka. Older adults aged ? 55 years were recruited through convenience sampling and those who were bed or wheelchair-bound or with any acute illness were excluded. The pain threshold was measured using an algometer applied to radial styloid process, tip of index finger and upper trapezius fibers and mean

of these three sites were considered for the analysis. Muscle strength of the dominant hand was assessed using a Jamar dynamometer. Linear regression analysis was carried out to find relationship between the variables. Results: A total of n= 47 residents of LTCS with mean age of 69.4 ± 9.11 participated in this study. A moderate positive correlation of r= 0.403; p= 0.005; CI= 0.292, 1.54 was found between pain threshold and muscle strength. Conclusion: Pain threshold has a moderate positive correlation with muscle strength in older adults residing in LTCS. Implications of this research: Insights from this research may help design rehabilitation programs that integrate strength training to modulate pain perception and enhance functional independence. Keywords: Older adults, Pain threshold, Muscle strength, Long-term care settings.

Abstract ID: 144
Title: Social engagement from the perspective of Person with aphasia in North Indian Context
Authors: Mr.Ravi Patel, Sahajiya Farhani Chanda
Presenting Author Affiliation: Amity University Haryana
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Abstract:
Background- The perception of social involvement and the elements that influence it by individuals with aphasia are poorly understood. AIM: To examine contributing factors and the perceptions of aphasics regarding social involvement. Procedures & Methods: Nine aphasics and Nine primary caregivers participated in this qualitative study by keeping a pre-structured journal for two weeks, which was followed by a semi-structured interview. Two researchers independently analysed the verbatim transcriptions of the interviews and diaries utilizing inductive codes, categories, and core themes. Results & Outcomes: Participants' perceptions of their involvement in social activities are more significant than the quantity and type of social activities. Although they desire to feel included, people with aphasia feel alone. They want to operate normally since they feel like a burden to others. Although it can be challenging to glean information from talks, they are curious about what is happening. They often want to make other contributions to the community because they are unable to work. The following individual characteristics are mentioned: communication abilities, physical and mental health, and motivation. The role of the primary caregiver and the traits of the communication partner or partners—specifically, their willingness, abilities, and knowledge—are the social aspects. The peacefulness and familiarity of the home where the aphasic individual resides are considered environmental influences. Conclusions: People with aphasia do not use the theoretical concept of social engagement. Rather, they talk of feeling involved, engaged, and like they belong. The quality of activities, or the extent of participation in social life.

Abstract ID: 145
Title: Intra Interviewer Reliability of the Indian Stroke Scale in Patients with Stroke.
Authors: Dr.Dhruti Modi, Prakash V PhD Professor at MGM Institute of Physiotherapy Maharastra
Presenting Author Affiliation: Assistant Professor at Ashok and Rita Patel Institute of Physiotherapy CHARUSAT changa Gujarat.
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Abstract:
Introduction Outcome measures track changes in a patient's functionality, performance over time. As a patient-reported outcome measure for assessing poststroke ADLs in India, the Indian Stroke Scale(ISS) has shown early evidence. Minimal measurement errors are required when using the ISS in India because they can affect actual changes in the scores. Aim The aim of this study was to investigate Intra Interviewer Reliability of the ISS at two different intervals and to estimate Minimal Detectable Change(MDC) of the ISS. Methodology A Cross-Sectional study was conducted and 114 participants recruited in this study from physiotherapy OPDs based on the

eligibility criteria by convenient sampling. First author administered Gujarati version of the ISS and repeat again after one day within a week. Reliability calculation done by using Reliability coefficients(ICC). Standard error of measurement and minimal detectable change were calculated by using the formula. Bland Altman(BA) plot was constructed to check agreement. Results Total score of ICC was 0.98 accounting for an excellent intra interviewer reliability of Indian stroke scale at 95% CI. SEM for the total score was 3.2; the MDC for the total score was 6.27. BA plot suggested that rater have good agreement between two measurements. Conclusion The study finding suggested that excellent Intra Interviewer Reliability of the ISS in patients with stroke. The scale has good clinical value for both clinicians and researchers since the minimal detectable change of 6 indicates a lower measurement error and it is applicable to the sociocultural situations in India and other similar cultures.

Abstract ID: 147
Title: Assessment of Caregiver Burden in Caregivers of Persons with Parkinson's Disease
Authors: Ms.Anushka Kulkarni, Ms. Gayatri Hattiangadi
Presenting Author Affiliation: TNMC and B.Y.L. Nair Ch. Hospital
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Abstract:
Background: This study investigates caregiver burden in caregivers of persons with Parkinson's Disease (PwPD) using the Zarit Burden Interview (ZBI). It also explores associations between caregiver burden and various factors, including age, gender, education, occupation, mode of nutrition, and communication. Methods: A cohort of 50 caregivers was assessed using the ZBI to determine the extent of caregiver burden and found correlations between burden scores and speech intelligibility and age of caregivers. Results: Key findings reveal that 46% of caregivers experienced a mild to moderate burden, while 24% reported moderate to severe burden, and only 6% faced severe burden. A moderate positive correlation (r=0.31) was found between speech intelligibility and ZBI scores, indicating worsening speech clarity in PwPD increases caregiver burden. However, no significant associations were observed between caregiver burden and the mode of nutrition or communication, suggesting that caregivers adapt effectively to these responsibilities over time. A moderate negative correlation (r= -0.42) was found between the age of caregivers and caregiver burden indicating that younger caregivers reported higher perceived burdens due to work-related stress, caregiving inexperience, and balancing career demands. Older caregivers benefited from flexible schedules and accumulated caregiving experience. No statistically significant differences were noted in ZBI scores based on the gender or age of PwPD, indicating that disease symptoms, rather than demographics, primarily impact caregiver burden. Conclusion: The study provides a foundation for future research and interventions aimed at enhancing the quality of life for both caregivers and PwPD.

Abstract ID: 148
Title: MACHINE LEARNING AND COGNITION: A REVIEW
Authors: Dr.CHAND RANI, DR. NALINA GUPTA
Presenting Author Affiliation: CHITKARA UNIVERSITY RAJPURA
Presenting Author Email ID: chand.rani@chitkara.edu.in

Abstract:
Background: Increasing life expectancy presents a paradox, potentially contributing to a rise in neurological conditions. Since cognition—including learning, memory, and decision-making forms the foundation of human intelligence, effective tools to study these processes are essential. Machine learning, with its ability to analyze complex datasets, offers significant potential to detect subtle cognitive changes, enabling timely intervention and improved disease management. Objective: This review explores the

intersection of cognition and ML, focusing on its applications in cognitive modeling, challenges, and future research directions. Methodology: A comprehensive analysis of peer-reviewed literature from 2010 to 2025 was conducted using PubMed and Google Scholar. Studies relevant to ML applications in cognitive functions were selected, with key themes such as ML model effectiveness, data quality challenges, and applications in neurological conditions identified. Result and Findings: Deep learning models, particularly neural networks, show promise in modeling cognitive functions. Reinforcement learning excels in decision-making and adaptive behavior. ML models demonstrate potential in early diagnosis and monitoring of cognitive impairments, though challenges like data variability and model generalization persist. Conclusion: ML offers significant promise for advancing cognitive research and clinical applications. Refining models and improving clinical translation, particularly for early detection and management of cognitive diseases, is crucial. A multidisciplinary approach integrating AI, machine learning and cognition will help unlock new possibilities for understanding and managing cognitive impairments.

Abstract ID: 149

Title: Sleep Quality and its associated factors in Indian University going students

Authors: Mr.Ravi Patel, Rittika Sharma, Aditi Rathore

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Abstract:

Background: Younger populations frequently have sleep disturbances, which have been linked to detrimental health consequences. Aim: To look at the elements linked to poor sleep quality among university students. Method: This cross-sectional study evaluated the relationship between university students' perceived sleep quality and lifestyle and psychological factors. In 2024, a cross-sectional study using random sampling was carried out. The Mini Sleep Questionnaire (MSQ) was used to gather information about sleep. Sociodemographic, behavioural, academic, and psychological health characteristics were among the independent variables. Poisson regression was used to produce adjusted analyses. 126 undergraduate students in all took part in the study. Results: 27.6% of the sample had poor sleep quality, with the percentages varying from 16.4% for those who were not concerned about neighbourhood violence to 36.5% for those who had less social support. In the adjusted analysis, poor sleep quality was linked to lower social support and income, psychological distress, and food insecurity, female sex 1.89; worry about neighbourhood violence 3.6; and discrimination at university 1.48. Discussion: The findings show how socioeconomic and mental health issues impact sleep quality and the need for introspection and interventions that can reduce this issue. In a large sample of Indian university students, smoking, being more evening-oriented, having more depressive symptoms, and using less of the emotion control technique "putting into perspective" were all independently linked to lower subjective sleep quality.

Abstract ID: 153

Title: Normative Data of Sensory and Motor Nerve Conduction Parameters: Gender-Based Differences and Effect of Age and Height in Healthy Subjects

Authors: Dr.Rupali Parlewar, Ms Madhu bala, Dr Prashant K Saini, Dr Priti Bhanderi, Dr Hitesh Jani, Dr Punam Verma, Dr Bhoopendra Patel, Dr Harshali Rankhambe, Dr Navdeep Ahuja.

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Abstract:

Nerve conduction studies are common clinical investigation for evaluating peripheral nerve abnormalities. Varoius set of normal value exist, ideally each laboratory should establish its own set of normal value. Aim Develop normative data of NCS studies for upper and lower limb. Materials and Methods Nerve conduction studies were

performed in the upper and lower limbs of carefully screened, healthy individuals of either sex, aged 20 to 60 years, among Himachal and Punjab population using Synergy on Nicolet TM EDX EMG/NCV/EP System. Velocities were calculated by onset latencies and amplitudes were measured from baseline to negative peak. Descriptive statistics were computed. ANOVA and regression were used to evaluate the effect of gender, age and height. Results Study population include 27 males and 38 females. The age, height, weight and body mass index (BMI) of male and female were 168.4 ±6.66cm, 156 (155,160.75) cm, 73±13.35, 60 (52.75, 65.5)Kgs and 25.84 ± 5.25, 22.95 (22.07, 25.95) Kg/m2, respectively. Proximal motor latency (R&L Median and Ulnar, R tibial, R Peroneal), Distal motor latency (L median, peroneal) and F latency (R&L Ulnar) were significantly longer in males. Motor NCV (L Median, R Ulnar, R&L Tibial and Peroneal), CMAP Amplitude (R&L Median, Tibial, Peroneal and R ulnar), Sensory NCV (R Median, L Ulnar), SNAP amplitude (R&L median and ulnar) was significantly decreasing with age. Conclusion This study established normative conduction parameters of commonly tested nerves of upper and lower limbs. investigated the effects of age, gender and height for our clinical neurophysiology laboratory.

Abstract ID: 154

Title: A pediatric Case of Polyarteritis Nodosa Presenting with neural involvement : A Case Report

Authors: Dr.Usha Rani, Vikarn Vishwajeet*, Aasma Nalwa*, Aliza Mittal

Presenting Author Affiliation: Assistant professor

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Abstract:

Introduction-Polyarteritis nodosa (PAN) is a multisystem affecting medium vessel vasculitis. In PAN there is transmural segmental necrotizing inflammation associated with fibrinoid necrosis. It commonly affects medium-sized muscular arteries and typically involves coronary, mesenteric and renal vessels, but not pulmonary arteries. Case report-We herein presents a case report of a 9-year-old female child, 3rd born in non-consanguineous marriage presented with complaints of severe pain of bilateral lower limb, associated with tenderness, blackish discolouration of limbs and intermittent diffuse abdominal pain. She is hypertensive with a blood pressure of 117/92(>95 percentile). Her lab investigation are Hb – 4.6 g/dL, TLC- 25000, PLC-8.25 lakh, CRP – 84 mg/L, ESR- 55 mm/1 hour, S.creatinine-0.34mg/dl, serum urea -15mg/dl, 24hr proteinuria -40mg. On USG Lower limb Doppler there was decreased blood flow in bilateral ATA, PTA, and DPA with no evidence of thrombi in vessels. Usg doppler Abdomen- Hepatomegaly, enlarged Right kidney with few ill-defined hypoenhancing areas within the right renal cortex. Skin biopsy was non-contributory as no fibrinoid necrosis and definite evidence of vasculitis are noted. A targeted renal biopsy done revealed One medium-sized artery showed evidence of vasculitis in the form of fibrinoid necrosis of vessel wall leukocytoclastic and occasional margination of leukocytes. The fibrinoid necrosis is highlighted as fuschinophillic material on the MT stain. On DSA -Microaneurysms detected in right renal arteries. Conclusion- Systemic vasculitis especially PAN should be thought of in the differential diagnosis of a young patient with features of multisystem involvement. Full detailed workups are needed for patients.

Abstract ID: 155

Title: Ultrasound Guided Stellate Ganglion Block in Persistent Ventricular Tachycardia – A Case Series

Authors: Dr.Shubham, Dr Aakhil Nabuhan Dr Navita Purohit Vyas

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Abstract:

This case series investigates the efficacy and safety of stellate ganglion block (SGB) as an adjunctive treatment for patients with refractory ventricular

tachycardia (VT). Conventional treatments for VT, such as antiarrhythmic medications and catheter ablation, can be ineffective or carry significant side effects. In this series, three patients with drug-resistant VT, despite optimal therapy, required ultrasound-guided left SGB. Post-procedural outcomes showed a significant reduction in VT episodes, along with improved hemodynamic stability, with no major complications reported. Although the duration of VT suppression varied among patients, SGB demonstrated considerable potential in reducing arrhythmic burden. These findings suggest that SGB is a promising and safe adjunctive therapy for managing refractory VT, particularly when conventional interventions have been unsuccessful. Further prospective studies are necessary to confirm these results and determine the long-term efficacy of SGB in VT management.

Abstract ID: 158

Title: Breaking communication Barriers: Telehealth services in Global Aphasia Recovery

Authors: Ms.Duggu Padma Priya, G. Keerthana, Divesh Kumar Shah, Nenavath Aravind Babu

Presenting Author Affiliation: Lecturer in Speech and Hearing

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Abstract:

Introduction Telerehabilitation is used in the evaluation and treatment of speech and language disorders (Molini-Avejonas et al,2015 and Whitehead et al,2012). Aside from the wider and more affordable availability of technology, aphasia telerehabilitation development has been facilitated by the advantages of supporting independent practice and increasing the frequency of therapy (Wade et al,2003). Aim To provide and measure the efficacy of speech therapy through telerehabilitation in Global aphasia client. Method A female client aged 40 years with post vehicular accident diagnosed as post left FTP decompressive craniotomy was recruited in the study. Western Aphasia Battery was administered and she was diagnosed as having Global Aphasia. The client was enrolled for therapy through online mode using Google meet for about 6 months, 7 days a week and one hour per day. Post online therapy sessions, she is able to follow commands mostly simple sentences. She responds to spontaneous speech frequently. Naming is present for fruits, vegetables, family members, breakfast items, colors, numbers, action words and body parts. Semantic paraphasias are evident occasionally. Client is attempting to narrate the past events using both one word speech and some gestures. Although there was jargon speech, when the client is doing such attempts. Repetition is better. She is able to repeat 4 word sentences with the help of the clinician upon 2-3 repetitions. Conclusion Use of telerehabilitation as a viable service delivery model in speech-language pathology for adults could be a helpful in improving the quality of life in individuals with aphasia.

Abstract ID: 159

Title: Cross-cultural adaptation and content validation of Knowledge of Preterm Infant Behavior (KPIB) Questionnaire

Authors: Ms.Minal Dharmapurikar, Mrs. Manasa Raghupathy, Dr. Selvam Ramachandran, Dr. Bhamini Krishna Rao

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Abstract:

Introduction: Behavioral cues in preterm infants are non-verbal indicators that express their needs, emotions, and reactions . Understanding and interpreting these cues are crucial for fostering mother-infant interactions, promoting socio-emotional, cognitive, and regulatory development. The Knowledge of Preterm Infant Behavior (KPIB) questionnaire assesses parents' awareness and interpretation of these cues. Given its current availability only in English and reliance on parent reporting, it is essential to adapt and validate the questionnaire in culturally and linguistically appropriate forms for better accessibility. Aims: To cross-culturally adapt, validate the content of Knowledge of Preterm Infant Behavior

questionnaire Methodology: Ethical and research committee approvals were obtained, along with the author's consent to adapt and validate the KPIB questionnaire. Six experts with experience in neonatal and pediatric care revised the questionnaire, simplifying complex terms in English language for non-medical parents without altering their meaning. Validation was conducted with six English-literate parents of preterm infants, who evaluated its understandability, readability, simplicity, and clarity using a 5-point Likert scale, followed by CVI calculation. Results: The overall Scale-Content Validity Index (S-CVI) for understandability, clarity, simplicity, and readability is 0.99. The individual S-CVI values for each domain are as follows: understandability (0.93), clarity (0.97), simplicity (0.95), and readability (0.96). Conclusion: The cross-culturally adapted KPIB questionnaire shows excellent expert agreement, with all items rated highly relevant, ensuring excellent content validity for assessing parental knowledge of preterm infant behavioral cues.

Abstract ID: 161
Title: Effectiveness of Ultrasound Guided Botulinum Toxin Injection in Upper Esophageal Sphincter Spasm-A Case series
Authors: Dr.Disna Dixon, Dr Navita Purohit Vyas,Dr Aakhil Nabhuhan A,Dr Abhishek Srivastava
Presenting Author Affiliation: Kokilaben Dhirubhai Ambani Hospital
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Abstract:
Severe Upper Esophageal Sphincter (UES) spasm commonly seen after posterior circulation stroke, can cause significant dysphagia and impaired quality of life. Local botulinum toxin injection in the UES has been shown to provide relief and improved swallow. Traditionally, these injections are performed under endoscopic or fluoroscopic guidance. However, ultrasound guidance offers a non-invasive, radiation-free alternative for precise localization of the UES. This case series evaluates the efficacy and safety of ultrasound-guided botulinum toxin injections for severe UES spasm in 3 patients with persistent dysphagia post neurological insult. We present a case series of 3 patients diagnosed with severe UES spasm based on clinical evaluation and videofluoroscopic swallow study (VFSS). All patients underwent ultrasound-guided botulinum toxin injections in the UES. The procedure was performed using a high-frequency linear transducer to visualize the cricopharyngeus muscle. Patients were assessed for improvement in dysphagia scores, swallowing function, and adverse events. All patients demonstrated significant improvement in dysphagia symptoms, with improvement in PAS scores on VFSS. No significant complications or adverse events were reported. Ultrasound guidance allowed for clear visualization of the UES and accurate botulinum toxin delivery in all cases. Ultrasound-guided botulinum toxin injection is a safe, effective, and non-invasive alternative for treating severe UES spasm. It provides real-time visualization, avoids radiation exposure, and can be performed in an outpatient setting.

Abstract ID: 162
Title: NIHSS as a predictor of Dysphagia: A Stroke Rehabilitation Perspective
Authors: Mr.Duggu Padma Priya, G. Keerthana, Divesh Kumar Shah, Nenavath Aravind Babu
Presenting Author Affiliation: Lecturer in Speech and Hearing
Presenting Author Email ID: priya.duggu91@gmail.com

Abstract:
Introduction NIHSS (National Institutes of Health Stroke Scale) score is a tool used to assess the severity of a stroke and its effects on various neurological functions. It evaluates different aspects of neurological function such as consciousness, vision, motor skills, language, and sensation. Dysphagia, which refers to difficulty swallowing, can be linked to the NIHSS score, as certain stroke characteristics assessed by the scale can directly affect swallowing function. Aim To find out the patients at risk of developing dysphagia

based on their NIHSS score that aids in early detection and intervention. Method A systematic review was done on databases to identify publications from January 2021 to January 2025 that assesses the link between NIHSS score and dysphagia. Title and abstract review found 180 potential studies. Full-text review resulted in 30 publications that met the study's inclusion criteria. Results From the review it was estimated that NIHSS score holds a positive correlation for Dysphagia severity. Higher the NIHSS score, greater was the Dysphagia severity and longer was the persistence. Conclusion There is a strong link between a higher NIHSS score and the likelihood of dysphagia. Severe neurological deficits, particularly those involving motor function, cranial nerve control, and coordination, can impair swallowing. Therefore, assessing the NIHSS score can help predict the risk and severity of dysphagia in stroke patients, guiding appropriate intervention and care.

Abstract ID: 163
Title: A Comparative Study of Confrontational Naming and Working Memory in Normals and in People with Dementia of Alzheimer's type
Authors: Ms.Preshi Yadav, Mrs. Alpana Pagare
Presenting Author Affiliation: Speech language Pathologist
Presenting Author Email ID: preshiyadav587@gmail.com

Abstract:
Introduction: Aging affects brain structure, metabolic activity, and cell function. Cognitive changes, including memory, attention, and language, influence speech perception. Age-related changes in the prefrontal, temporal, and occipital regions impact naming ability and working memory, both of which are vulnerable in neurodegenerative conditions such as Alzheimer's disease (AD). Aim: The study aimed to compare the performance of individuals with dementia of Alzheimer's type and a control group of age and gender-matched individuals on task assessing semantic memory and working memory. Methodology: Two groups in the age range of 56–75 years were included, group I included individuals with dementia of Alzheimer's type and group II included normal healthy elderly. The severity of cognitive difficulty was assessed, further naming and working memory abilities were assessed. Results: Statistically significant differences ($p < 0.001$) were observed between groups for semantic and working memory tasks. The average time taken and scores obtained by group I for semantic memory were significantly impaired as compared to group II. In the working memory task group I found longer interference scores and time taken, therefore indicating impaired working memory. Alongside the working memory task, within group I (mild vs. moderate AD), the differences were less pronounced with no significant differences, thus indicating closer performance levels despite varying severity. Conclusion: These findings highlight the clinical importance of working memory assessment in early stages of AD related cognitive decline. Early identification of semantic and working memory impairments may aid in timely intervention and cognitive rehabilitation strategies.

Abstract ID: 166
Title: INCIDENCE OF AUTONOMIC DYFUNCTION IN ACUTE STROKE SURVIVORS
Authors: Dr.Disha SanjeevKumar Shah PT, Dr. Shweta parikh Dr. R. Harihra Parkash Dr. Vyoma B. Dani Dr. Nirav P. Vagela
Presenting Author Affiliation: Ashok and Rita Patel Institute of physiotherapy Charotar university of science and technology
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Abstract:
Post stroke, Autonomic Dysfunction (AD) is one of unavoidable complication. For evaluation of AD, Tilt Table Testing (TTT) is a simple, non-invasive method apart from other methods. This study was aim to determine AD with use of TTT and to observe occurrence of orthostatic intolerance in acute stroke survivors. 39 Patients with stroke were recruited according to inclusion and exclusion

criteria of the study. Before conducting TTT, baseline vital parameters (Heart Rate (HR), Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP) respiratory rate, and oxygen saturation) were observed after 10 min of rest to patients. At each inclination of TTT vital parameters were measured immediately and after 3 min of inclination. The test was terminated when any signs of intolerance occurred to the Patients. Upon completion of TTT, all vital parameters were measured after 2min up to 6min. 25.6% had incidence of AD in acute stroke survivors, with the use of paired T-test significant drop in SBP after 3 min of inclination (45º, 60º, 70º, and 80º) and no significant dropping in DBP. Statistically significant increase in HR was noted after 3 min of each inclination. The study concludes the incidence of AD in acute stroke survivors was 25.6% and significant dropping in SBP was noted after 3 min of inclination. Additionally, TTT is effective, safe and an economical method to evaluate AD in patient with acute stroke survivors. Key words: Acute stroke, Autonomic Dysfunction, Orthostatic intolerance, Tilt table testing

Abstract ID: 168
Title: Rehabilitation including End Effector-Based Robotic Gait Training Helps to Reduce Secondary Complications in a Case of Lumbar Stenosis: A Case Study
Authors: Dr.Shiwani Nitin Redij, Dr. Gaurish Kenkre, Dr. Amruta Paranjape
Presenting Author Affiliation: Clinical lead-Atharv Ability
Presenting Author Email ID: shiwaniredij1@lupin.com

Abstract:
Introduction: This case study investigates combining effect of End Effector-Based Robotic Gait Training (ERGT) and physiotherapy on secondary complications of lumbar stenosis, specifically hamstrings and plantar flexor tightness. A 14-year-old female was evaluated post-decompression surgery at L5-S1 level. The surgery addressed lumbar canal stenosis, grade1 Listhesis, causing chronic tightness in hamstrings and plantar flexors, causing persistent toe walking. Post-surgery, the patient was advised 12 weeks of rehabilitation to address residual tightness. If stagnation persisted despite rehabilitation Gastro-soleus release was required. Methodology: The participant underwent 36 one-hour sessions of ERGT, included assistive feedback training encouraging heel strike with longer steps to actively stretch the plantar flexors. Physiotherapy included weight bearing exercises on different surfaces. Rehabilitation was conducted thrice a week for 12 weeks. Outcomes included ankle dorsiflexion range, Edinburgh Visual Gait Score (EVGS), muscle strength, gait parameters. Results: The participant showed significant improvement in all outcomes. Calf tightness improved from 8° of plantarflexion to 11° of dorsiflexion on the right, from 4° to 17° dorsiflexion on the left. The EVGS improved from 15/26- 19/26 bilaterally. Muscle strength, gait velocity, cadence showed marked enhancement. The patient could now stand for 30 minutes, run 1km, engage in recreational activities. Tendon release surgery was no longer required. Conclusion: Combining ERGT and physiotherapy effectively reduces tightness in plantar flexors and hamstrings, improves muscle strength, gait parameters, and enhances functional outcomes post-lumbar canal stenosis. Addition of ERGT to regular physiotherapy protocol should be further evaluated in larger populations using more rigorous research protocols.

Abstract ID: 169
Title: Effect of Function Electrical Stimulation on Upper Limb post stroke: A pre-post analysis
Authors: Dr.Dhaval Pawani, Dr. Poonam Bajaj, Dr. Aashish Contractor
Presenting Author Affiliation: Sir H.N. Reliance Foundation Hospital
Presenting Author Email ID: dhpawani@gmail.com

Abstract:
Introduction: Stroke can cause considerable impairment in upper limb function, making it difficult to carry out activities of daily living (ADLs). Functional electrical stimulation (FES)

delivers electrical pulses to motor neurons, triggering muscle contractions that facilitate or strengthen movement at a joint. This study aims to evaluate the impact of FES on upper limb symmetry during arm ergometry in stroke patients using the RT300 bike. Methodology: A pre-post study design was implemented, involving stroke patients undergoing FES-assisted cycling therapy. Upper limb asymmetry was measured before and after the intervention using data from the RT300 bike. Participants received 30 mins of FES cycling which was 15 mins of forward and 15 mins of backward cycling along with 2 mins of warm up and cool down each. Changes in asymmetry of both limbs which were displayed by the RT-300 bike between both limbs serve as the primary outcome measure. Results: Data analysis is currently in progress. Preliminary observations suggest variations in upper limb engagement, with FES potentially influencing muscle activation patterns. There has also been a decreasing trend towards reduction in asymmetry between the two limbs. Statistical findings will determine the extent of improvement across participants. Conclusion: This study seeks to provide insights into the role of FES in improving upper limb symmetry during functional tasks in stroke rehabilitation. Findings will contribute to understanding the effectiveness of FES-assisted cycling and inform future rehabilitation strategies for optimizing motor recovery post-stroke.

Abstract ID: 170

Title: Investigating the use of treadmill training for children with cerebral palsy among paediatric physiotherapist.

Authors: Dr.Riddhi Shah, Dr Jennifer McCahill
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Abstract:
BACKGROUND: Cerebral palsy (CP) is the leading childhood neurological disorder affecting sensorimotor development. Task-based intervention, like treadmill training (TT) has vast literature on its effectiveness for children with CP. However, it was unknown whether this evidence is transferred in clinical practice. METHODS: A cross-sectional mixed-methods survey was conducted online for five weeks. The survey reviewed the use of TT and enquired demographics of the physiotherapists using TT. Further, it investigated the use and explored the training needs, barriers, reasons and perceived benefits to use TT. Quantitative data was analysed using descriptive statistics and non-parametric tests based on the type of variables. The qualitative data was analysed using thematic analysis. RESULTS: A total of 149 responses were included, of which 24.42% of respondents using TT. No statistical association was found between TT use and the demographics of the physiotherapists. Treadmill was most commonly used for spastic (97.3%), diplegic (100%) CP with GMFCS level I-III for age group 5-12 years (94.59%). The main goal of TT use was for improving fitness/endurance (97.3%) using observational gait analysis parameters. Barriers like cost and availability were significantly different between users and non-users, and between respondents from NHS-funded and independently-funded workplaces. Physiotherapists indicated that their primary training need was an update on the latest evidence regarding TT. TT was favored because it is easy to use, and fun and motivational for children. CONCLUSIONS: Despite the evidence supporting TT, it is not widely adopted in clinical practice in the UK. Cost and availability of a treadmill seem

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Title: Quality of Life and Mood Disorders in Mild to Moderate Stroke Survivors in Acute Post Stroke Condition: A Cross-Sectional Study

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Abstract:
Introduction: Stroke affects Quality of Life(QoL)

of patients owing to its related cognitive, physical and functional consequences, such as restricted mobility, language impairment and depression. Objective: Assessing QoL besides physical impairment is also important to analyse the post-stroke disability fully. In this study, we evaluated the clinical and psychosocial factors impacting the Post-stroke QoL and assessed their relationship with poor psychological adaptation. Methods: In this prospective, cross-sectional study, 30 patients of mild-moderate stroke within 7 days of onset were subjected to the Stroke Specific-Quality of Life(SS-QOL), Generalised Anxiety Disorder(GAD-7), Hospital Anxiety and Depression(HADS), Sleep Quality Scale(SQS), Barthel Index(BI), NIHSS and mRS scoring. Results: The participants reported mean SS-QOL of 112.37(IQR=86.75-131.50), SQS of 36.33(IQR=29.00-44.00) and BI of 20.33(IQR=0.00-30.00). 60% patients(n=18) had moderate-severe anxiety while 83.33%(n=25) had depression (GAD>10). SSQOL significantly correlated with NIHSS(p=0.018), mRS(p=0.001) and the ICH scale(p=0.022). More severe anxiety was seen in Ischemic as compared to Haemorrhagic stroke(p=0.04); especially with higher NIHSS(p=0.025). Patients with poor sleep(SQS>39) had higher odds of developing anxiety(OR=17.286) and poor QOL(OR=13). Males had lower odds of developing anxiety(OR=0.127). The presence of atrial fibrillation(p=0.038), higher mRS score(p=0.002), being dependent(p=0.028) and incontinent(p=0.028) was significantly associated with development of depression. The development of mood disorders was strongly correlated with poor SS-QOL(p<0.0001). Conclusions: The above results emphasise that a significant number of immediate post-stroke patients suffer from mood disorders. Hence, their treatment should also be addressed along with the standard treatment of care and rehabilitation for stroke to improve the QOL of the survivor and ensure their optimal recovery.

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Title: Neurorehabilitation in Neurocritical Care: Ensuring Continuity of Care

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Abstract:
Aims: The role of neurorehabilitation in neurocritical care, emphasizes its importance in bridging acute/ emergency treatment with long-term recovery strategies. It highlights a multidisciplinary approach to optimizing functional outcomes and improving the quality of life for patients with acute neurological injuries or disorders requiring specialized continued care. Materials: This review incorporates findings from clinical studies, empirical studies on rehabilitation protocols, and emerging technologies in neurorehabilitation. It evaluates interventions such as early mobilization, cognitive stimulation, and multidisciplinary collaboration in neurocritical care settings. Method: A literature review from peer-reviewed journals and clinical guidelines was conducted. The analysis focused on neurorehabilitation strategies, their implementation in emergency and critical care settings, and their impact on neurological and functional recovery. Results: Neurorehabilitation is crucial in minimizing secondary complications, enhancing neuroplasticity, and promoting functional recovery. Early interventions, including mobilization and cognitive support, have been associated with improved neurological outcomes. Family-centered care and transition planning contribute to better continuity of care post-discharge. Challenges such as resource limitations and individualized patient needs were identified, but technological advancement presents promising solutions. Conclusion: Neurorehabilitation is an essential component of neurocritical care, requiring evidence-based practices and interdisciplinary collaboration to optimize patient outcomes. Future research should focus on integrating innovative technologies and personalized rehabilitation approaches to enhance recovery and long-term

quality of life for patients with acute neurological conditions.

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