



ABSTRACT E-BOOK

Rehabilitation: Inclusivity and Innovation
For Individuals, Institutions and Communities

Organised By



Co-located with
The Medical Consumables &
Medical Equipment Exhibition

FOREWORD

The CaREhab 2019 organising team has received more than 50 quality submissions from the medical community in preparation for the oral and poster presentation. The organisers would like to take this opportunity to thank all participants who have dedicated their time to showcase their latest research at the conference.

The organisers would also like to express their special gratitude to the esteemed judges who have dedicated their precious time in evaluating the research and deciding the winners for this session.

Professor Namjong Paik (Seoul National University, South Korea)
Professor Reynaldo Rey-Matias (St Luke Medical Center, Philippines)
Professor Khin Myo Hla (Yangon General Hospital, Myanmar) and
Dr Saari Mohammad Yatim (Hospital Serdang, Malaysia)

We would also like to express our heartfelt congratulations to the following winners:

1. **Best Oral Presenter – Mr Christopher Kuah**

Submission: Post-Stroke Outpatient and Home Tele-rehabilitation With Jintronix System: A Feasibility Study.

Christopher Wee Keong Kuah¹, Suharti Hussain Abdullah Huin¹, Chwee Yin Ng¹, Seng Kwee Wee^{1,2}, Yong Joo Loh^{1,3}, Karen Sui Geok Chua^{1,3}

¹Centre for Advanced Rehabilitation Therapeutics, Tan Tock Seng Hospital, Singapore; ²Singapore Institute of Technology; ³Department of Rehabilitation Medicine, Tan Tock Seng Hospital, Singapore

2. **Best Poster Presentation- Mr Mohammad Tariqul Islam**

Submission: A Comparative Study Of Intralesional Platelet Rich Plasma And Corticosteroid Injection In Patients With Lateral Epicondylitis Of Elbow.

Mohammad Tariqul Islam¹, Mohammad Abdus Shakoor¹, Md Ali Emran¹, Badrunnesa Ahmed¹, Afsana Mahjabin², Abul Khair Mohammad Salek¹, Taslim Uddin¹

¹Bangabandhu Sheikh Mujib Medical university, Bangladesh, People's Republic of; ²Delta Medical College, Mirpur, Dhaka, Bangladesh, People's Republic of

We look forward to meeting you again next year.

Sincerely,

CaREhab 2019 Organising Team

ID: 104 / Oral Presentations: 8

Scientific Abstract

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Topics: Geriatric Rehabilitation

Keywords: Frailty, Resistance Exercise, Elderly, Novel

The “Pail For The Frail” Programme – A Novel Exercise Intervention For Frailty

Jeffrey Jiang Song'en, Gan Jing Tap, Lim Huai Yang

St. Luke's Hospital, Singapore

Objectives:

To evaluate the safety and feasibility of a novel exercise programme aimed at reversing frailty among the community dwelling elderly aged 65 and above. The programme utilises a pail that can be progressively filled with weights to perform resistance exercises. The 12-week programme based on evidence and established exercise protocols, has 3 stages of progressive intensity, consisting of 9 exercises each.

Methods & Materials:

The 14 participants recruited had to complete 9 prescribed exercises each with an appropriate weight sufficient to cause fatigue by 15-20 repetitions. A written survey was conducted to assess participants' perspectives on a) safety profile (injuries, falls risks, and risks for cardiovascular events), b) appropriateness (intensity of exercise, fatigability, pace, achieved targeting of appropriate muscle groups) and c) acceptability (perceived effectiveness and willingness to participate).

Results & Conclusion:

There were 0 incidences of cardiovascular events, falls or injuries. 9 perceived no risk of falls, while 5 felt there might be a risk if participants had difficulties in balancing, coordination, or if the weights were too heavy. 5 were concerned with dropping of the pail. None of the participants felt the exercises would be inappropriate or too challenging for seniors aged 60 years and above. 13 reported no pain throughout the session. 14 felt the exercises managed to target the appropriate muscles groups and had potential to build strength. 13 were willing to participate in the exercise in a public area. Thus, this potentially cost-effective programme has a low-medium safety and a high acceptability profile.

ID: 108

Scientific Abstract

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Topics: Pain Rehabilitation, Technology/Informatics

Keywords: Smartphone, neck pain, cervical ROM, stretching, postural modification.

**Analysis Of the Relationship Between Smartphone Users and Neck Disability Treatment Programs:
A Quasi – Experimental Study**

Ilayaraja Alagiathiruveenkadam

UNIVERSITI TUNKU ABDUL RAHMAN, SUNGAILONG CAMPUS, KAJANG, MALAYSIA.

objective: The continuous of using a smartphone for a long time can cause various musculoskeletal problems. Incorrect postures such as a hunched or neck bending postures which strain the neck. Malaysia Communications and Multimedia reported that smartphone users were dominated by young adults, from the age group of 20 – 24 with 18.8%. A college student at age of 20 – 24 years old have been found to have the risk of neck pain resulting from the addition of using a smartphone. The objective of this study was to analyze the effectiveness of basic neck disability treatment programs (stretching and postural modification against stretching alone) in smartphone users among students of University in Malaysia.

Materials and Methods: The study design was a quasi-experimental study. Minimum of 30 participants was selected for those who met the inclusion criteria. Participants were allocated to Group 1 (Stretching and Postural Modification) and Group 2 (Stretching), 15 each. Pain intensity and cervical range of motion were evaluated before interventions and after 4 weeks of interventions.

Result: The results in this study indicated that both stretching and postural modification versus stretching alone were equally effective in reducing neck pain and improving cervical range of motion of smartphone users, however, there was no significant difference found between the groups. Thus, the null hypothesis was accepted and rejected the alternate hypothesis.

Conclusion: After 4 weeks of intervention, participants in Group 1 were significantly improved than participants in Group 2.

ID: 110

Scientific Abstract

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Topics: Geriatric Rehabilitation

Keywords: frailty, elderly, prehabilitation, home technology, integration

Bringing Frail, Hope: A Protocol That Delivers Wanted Care

Yijun Loy¹, Wee Kee Hew¹, Wan Chin Lim²

¹National University Hospital, Singapore; ²National University of Singapore

Background

Frailty compounds the risk for poor health outcomes in the older adults. This has immense implications on healthcare utilization and containment of medical costs. While benefits of prehabilitation have been demonstrated, uptake of programs have traditionally been poor due to non-adherence issues. Gaps in understanding the barriers and the dynamic needs profile of the seniors needs to be addressed.

Objectives

We propose that a holistic program which integrates good health practices in daily routines within a high risk population will influence functional and health outcomes. The integration of smart technology will allow early recognition of risk and timely activation of appropriate medical and community services and also aims to provide other societal benefits such as equipping care givers.

Methods & Materials

The proposal aims at

- (i) tackling compliance issues by shifting care from hospital to community and home. Crucial health parameters will be monitored by individuals and their carers at home. Smart technology will be able to provide support in performing and progressing prehabilitation from home.
- (ii) collecting data that will help in the development of an effective home-based physical conditioning programme that focuses on the challenges faced by an ageing Asian population.
- (iii) trialling the use of tele health technologies to deliver part of the care to establish the feasibility and acceptability of using such technologies in the elderly Asian population.

Conclusion

This protocol aims to improve health outcomes in the elderly frail population through the inclusion of integrated technology, developed based on identifiable medical and social needs.

ID: 111

Scientific Abstract

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Topics: Clinical Practice

Keywords: scoliosis, AIS, adolescent, exercise, alignment, cobb's angle

The Role of Scoliosis-Specific Exercise In Improving Vertebral Alignment In Patients With Adolescent Idiopathic Scoliosis : A Systematic Review

Tesa Takwarif¹, Febrian Mulya Santausa¹, Satyanaya Widyaningrum¹, Fitri Anestherita²

¹Medical Resident at PM&R Department University of Indonesia/Cipto Mangunkusumo Hospital, Indonesia; ²Staff at PM&R Department University of Indonesia/Cipto Mangunkusumo Hospital, Indonesia

Background and Objective

Adolescent Idiopathic Scoliosis (AIS) is the most common type of scoliosis, affecting 2-4% of adolescents worldwide. Some studies previously mentioned the effectiveness of exercise in delaying curve progression. However, we had not found substantial evidence on whether exercise could improve vertebral alignment in patients with AIS. Therefore, we conducted a systematic review to better understand the effects of exercise on vertebral alignment in AIS patients.

Methods

The article search was conducted on PubMed® and Cochrane Library®. The articles consist of 4 randomized clinical trials (RCT), 1 controlled trial, 3 prospective studies (with and without control), and 1 case series. Each article was appraised by 3 reviewers based on the criteria from PEDro scale.

Results

Five studies were marked as high-quality studies, the rest were of fair-quality. Generally, we found that a statistically significant improvement in Cobb's angle could be achieved by a scoliosis-specific exercise performed 40-60 minutes for 3-5 times a week lasting a minimum of 10 weeks. One study reported that the group therapy had better results than the individual one.

Conclusion

Exercise can improve vertebral alignment in AIS patients. Further study is recommended in order to evaluate whether improvement in vertebral alignment from scoliosis specific exercise depends on the scoliosis type.

ID: 112

Scientific Abstract

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Topics: Spinal Cord Injury

Keywords: Spinal Cord Injury, Paraplegia, Social experience, Bangladesh

Social Experience of Men with Paraplegic Spinal Cord Injury in Bangladesh

Md. Habibur Rahman, Shipra Mandal

Centre for the Rehabilitation of the Paralysed (CRP), Bangladesh, People's Republic of

Introduction:

Social inclusion is a foremost and requisite of community reintegration for people with disabilities to experiences the sense of social being. Effective social participation is an indicator of successful rehabilitation. Participation in social activities after spinal cord injury is an ongoing process which influences rehabilitation and it depends on personal attributes, family and social support, available services and rights enjoyment.

Objective: The objective of the study was to explore the social experiences of Men with paraplegic SCI.

Methodology: The study followed interactive approach of qualitative design to search impact of modified home environment. In-depth face to face interview were preceded for the participants. Qualitative Content analysis was used to analyze data.

Result:

The consequences were presented by performing the content analysis the data and four themes were produced outcome. In this research, 09 (nine) participants the mean age of participants 18-65. According to selected inclusion and exclusion criteria, 70% samples were recruited from different villages and 30% from urban. On the basis on multiple responses, all participants seem to face various problems such as poor accessibility, negative outlook, and lack of assistance from their family members, relatives and community people and negligence that leads to withdrawal tendency from social engagement

Conclusion:

Proper rehabilitation service (including services, right establishment, awareness, education, and encouragement), family member, and community people supports can facilitate social inclusion for people with SCI. It also ensures the successful community participation that drives individuals being more resilient to cope and learn across a range of different environments.

ID: 113 / Oral Presentations: 7

Scientific Abstract

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Topics: Geriatric Rehabilitation

Keywords: social interdependence, older people, quality of life, interpretative phenomenological analysis

Social Interdependence among Malay Older People in the Institutions: An Interpretative Phenomenological Analysis

Tengku Mohd Asri Tengku Makhtar^{1,2}, Akehsan Dahlan²

¹Occupational Therapy Unit, Putrajaya Health Clinic, MINISTRY OF HEALTH MALAYSIA, Malaysia;

²Occupational Therapy Department, Faculty of Health Sciences, UNIVERSITI TEKNOLOGI MARA (UiTM)

Malaysia will become an ageing country by the year 2025. The development of the country, economic circumstances, advancement in health care, coupled with declining birth rate and longer life expectancy has changed social-fabric characteristics of the society. Many people have moved from the rural areas to the urban areas to seek a better lives, economic opportunities and higher standard of living. Thus many ageing parents find themselves living on their own in the villagers, with lack of social support, financial resources and deteriorating health conditions. Ageing parents in the urban areas are also affected because their children are busy pursuing career and their own family welfare, leaving their aged parents to fend for themselves or sent to old folk's homes. **Objective:** The aim of this study is to explore the social interdependence among Malay older people in the institutions. **Method:** This study identifies the social interdependency of the aged Malays staying in institutions via in-depth semi-structured interview methodology. The twenty elderlies from four *Rumah Seri Kenangan* (RSK) namely RSK Cheras, RSK Cheng, RSK Kemunin and RSK Bedong were interviewed and the results were analysed employing the six stages of Interpretative Phenomenological Analysis (IPA). **Results:** Results show that there are elements of social interdependency among Malay older people through (1) meaningful relationship among residents and people in the institution and (2) engagement in activities of occupation. **Conclusion:** An occupational therapist may consider facilitating the process of interdependency among the older people by promoting socialisation and enhancing the establishment of meaningful relationship.

ID: 114

Scientific Abstract

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Topics: Pain Rehabilitation, Health Policy, International Policy

Keywords: Musculoskeletal Pain, Coping, Filipino Migrant Workers, Malaysia

Correlates of Coping Among Filipino Migrant Workers in Malaysia with Musculoskeletal Pain

Hernan Labao

INTI International University, Malaysia

Background & Purpose: Musculoskeletal pain is associated with anxiety and depression which is correlated with severe pain behavior. Therefore, this study aims to determine the factors related with coping among Filipino migrant workers in Malaysia with musculoskeletal pain.

Materials and Method: This study utilized a quantitative, non-experimental, correlational research design. A total of 90 subjects were randomly selected who were asked to answer Nordic Musculoskeletal Questionnaire (NMQ) to determine various regions in the body having musculoskeletal pain. Coping Strategies Questionnaire (CSQ) - 24 was used to gather the subject's coping strategies and overall coping.

Results: Filipino migrant workers mostly complain of pain in the Shoulders (63.3%) and Low Back region (55.6%) in the last 12 months. Majority of the subjects use strategies such as Diversion (51.26 ± 27.44) and Cognitive Coping (48.92 ± 30.40), with moderate overall Coping Score (57.22 ± 21.93). A statistically significant strong positive correlation is noted between Cognitive Coping Strategy ($r=0.704$, p -value=0.000) and Diversion Strategy ($r=0.654$, p -value=0.000) to Overall Coping Score.

Conclusions: Results imply that there is high prevalence of shoulder and lower back pain in the last 12 months. Those who utilized Diversion and Cognitive Coping strategies have better coping over pain. Interventions focusing on positive coping and education about early recognition of musculoskeletal disorders is recommended. Further studies should consider psychosocial aspects pain among migrant workers.

ID: 115 / Oral Presentations: 9

Scientific Abstract

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Topics: Clinical Practice, Measurement

Keywords: Femoral Anteversion, Q-Angle, Foot Pronation, Lower Limb Injuries, University Students

The Association of Femoral Anteversion, Q-Angle, and Foot Pronation on Lower Limb Injuries among University Students

Vivienne Wei Lynn Ong, Hernan Labao

INTI International University, Malaysia

Background of Study: Lower limb injuries are the most common injuries in young adults and athletes affecting performance and daily functions. However, some factors related to these injuries are not fully known. Therefore, this study aims to determine the association of femoral anteversion, Q angle and foot pronation on lower limb injuries among university students.

Materials and Method: This study utilized a quantitative, cross-sectional, correlational research design. One hundred and four university students were recruited in a local university in Malaysia. BMI, Craig's test, Q-angle and navicular drop test were measured and collected from each participant.

Results: The prevalence of ankle injuries (43.3%) is high followed by knee (26.9%) and hip injuries (4.8%). Results imply that there is no significant associations of femoral anteversion, Q angle and foot pronation on lower limb injuries among university students. However, a significant association is found between race and knee injuries ($p=0.015$), sex with femoral anteversion ($p=0.044$), and Q angle ($p=0.000$) and foot pronation ($p=0.002$).

Conclusion: There is no association of femoral anteversion, Q angle and foot pronation on lower limb injuries among university students. The prevalence of ankle injuries is high followed by knee and hip injuries among university students. Other factors associated with lower limb injuries should be considered when designing a more comprehensive assessment and treatment plan.

ID: 116

Scientific Abstract

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Topics: Geriatric Rehabilitation

Keywords: Elderly, Levels of Physical Activity, Barriers to Physical Activity, Motivation

Elderly on the Move: Levels, Barriers, and Motivation to Physical Activity

Jing Wen Kew, Hernan Labao

INTI International University, Malaysia

Background of Study: Physical inactivity is associated with many chronic diseases, impaired cognitive health and increased mortality rate among older adults. Therefore, it is important to understand the level of physical activity, the underlying motivations, and barriers to physical activity among older adults.

Materials and Method: This quantitative, descriptive survey involved 34 older adults aged 65 and above from Johor Bahru, Malaysia. Respondents were asked to complete questionnaires about levels of physical activity over the last seven days, barriers, and motivations to physical activity.

Results: Results imply that majority of elderly adults (50%) have a moderate level of physical activity. Lack of skills (90.58 ± 12.04), fear of injury (90.29 ± 9.36), and lack of energy (89.70 ± 11.41) were the major barriers in participating to physical activity. In addition, intrinsic motivation (18.42 ± 9.53) and identified regulation (18.35 ± 9.48) represents the main types of motivation that encourage older adults to engage in physical activity.

Conclusion: The findings of this research provide an insight that can be used for developing interventions that promote higher level of participation and address barriers of physical activity among older adults

ID: 117

Educational Abstract

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Topics: Geriatric Rehabilitation

Keywords: DRC, AR, MBI, 6MWT, TUG, SPPB

Retrospective Analysis of Active Rehabilitation Program in Day Rehabilitation Centre

Sridevi Karuppusamy, Yoon Thaw Tar Htet, Pritika Monisha Loganathan

St Luke ElderCare Limited, Singapore

Learning Objectives

1. Review the effectiveness of Active Rehabilitation Program in Day Rehabilitation Centre (DRC) from Oct 2017 to Oct 2018
2. Strategies to improve or sustain the overall Rehab service

Background

St Luke ElderCare in Singapore offers community rehabilitation in 22 DRCs as centre-based service to the needy elders. DRC offers an Active Rehabilitation (AR) and Maintenance Rehabilitation (MR) programs. AR aims to improve functional status whereas MR aims to minimize functional decline in beneficiaries. New DRC was opened in Oct 2017 in Keat Hong estate. We have done a retrospective analysis of AR program between Oct'17 and Oct'18.

Findings and Procedure Details

Total 99 clients have been admitted for AR, and 79 of them were aged 60 and above. 34 of them have been diagnosed with stroke and 24 have fallen and some were associated fractures especially at hip. 16 of them have been diagnosed with dementia and osteoporosis and > 80 of them have other comorbidities such as diabetes, hypertension and high cholesterol. 64% improved in Modified Barthel Index, 68% have improved in 6 Minute Walk Test, 55% have improved in Timed Up and Go test, and 62% shown improvement in Short Physical performance Battery test. Clients' average duration in receiving AR has been 3 to 6 months.

Conclusion

Clients who receive AR in DRC have greatly benefited and > 60% have shown significant improvement in 3 to 6 months at the average frequency of 2 physiotherapy sessions per week at 1 to 1.5 hours each time.

ID: 118 / Oral Presentations: 5

Educational Abstract

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Topics: Measurement

Keywords: DRC, Space utilization

Increase Space Utilization in Day Rehabilitation Centre (DRC)

Sridevi Karuppusamy, Jagaraj Pillai Periasamy

St Luke Eldercare Limited, Singapore

Learning Objectives

1. Better manage the existing DRC's space
2. Increase space utilization in DRC.

Background

Many St Luke ElderCare, DRCs are experiencing overcrowding issues due to layout and equipment placement. An example, Jurong East Centre was renovated in 2017 and projected to accommodate around 39 clients a day but it was unable to take-in > 25 clients a day due to overcrowding issue. Poor client flow, excessively unwanted and disorganised equipment and storage space were identified issues. To tackle these issues and better manage the existing space, the team and cluster lead have reviewed the space and equipment utilization in Feb 2018.

Finding and Procedure Details

Upon observing space and equipment utilization, and obtaining feedback from clients, family and staff members, cluster lead started to review the issues in phases. Firstly, usage of circuit training was reduced to 15 minutes from 20-30 minutes followed by number of circuit exercises was cut down to 2 to 3 based on the need. The team has monitored equipment utilization closely.

Based on the utilization, the team has removed 2 arm ergometers and 2 leg pedals. These equipment were placed in a proper storage area and used when necessary. Couple of broken items have been disposed to clear space in storage. Foldable table that Occupational Therapist uses for cognitive training has been folded and used when needed compare to being unfolded before.

Conclusion

Increased space utilization from 51% in Dec 2017 to 62% in Apr 2018

Team to aim for >65% by 31 Dec 2018.

ID: 119

Educational Abstract

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Topics: Stroke Rehabilitation

Keywords: Alien hand syndrome, Neuroimaging, Stroke rehabilitation

Alien Hand Syndrome: A peculiar challenge in stroke rehabilitation

Vishnodaya Mohan, Rou Chen Jee, Be Kim Leong

Rehabilitation Medicine Department, Sarawak General Hospital

Learning Objective: Alien hand syndrome is a commonly missed phenomenon that occurs infrequently after stroke. We describe the different signs and symptoms of alien hand syndrome and try to correlate them with different locations of the stroke lesions.

Background: The alien hand sign is defined as a feeling when the affected hand feels foreign or "has a will of its own" *together* with observable autonomous motor activity.

Findings: We report three stroke patients who presented with alien hand signs, all three resulting from anterior circulation infarcts. In the first case our patient could not control his right hand and wouldn't let go of his son's hand even when the child try to shake his hand off. In our second case the patient displayed bimanual conflict as the affected left hand would turn off the tap immediately after he turns it on with his right hand. In the third case our patient felt that his hand had 'a mind of its own' and would compulsively stir any cup with a spoon in it. Patients with the frontal variant exhibited grasping or utilization behaviour whereas the callosal variant demonstrated features of diagnostic dyspraxia. Through neuroimaging we identified the described symptoms were due to infarcts at the supplementary motor area, cingulate cortex and the corpus callosum. All three patients progressed favourably in terms of ADL at 6 months post stroke.

Conclusion: Early diagnosis and prompt multi-disciplinary rehabilitation intervention allows significant functional improvement in patients with alien hand syndrome.

ID: 120 / Oral Presentations: 2

Scientific Abstract

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Topics: Pain Rehabilitation

Keywords: Lateral Epicondylitis, Intralesional, Platelet Rich Plasma, Corticosteroids.

A Comparative Study Of Intralesional Platelet Rich Plasma And Corticosteroid Injection In Patients With Lateral Epicondylitis Of Elbow.

Mohammad Tariqul Islam¹, Mohammad Abdus Shakoor¹, Md Ali Emran¹, Badrunnesa Ahmed¹, Afsana Mahjabin², Abul Khair Mohammad Salek¹, Taslim Uddin¹

¹Bangabandhu Sheikh Mujib Medical university, Bangladesh, People's Republic of; ²Delta Medical College, Mirpur, Dhaka, Bangladesh, People's Republic of

Objectives: To explore the efficacy of Platelet Rich Plasma (PRP) and its comparison with intralesional corticosteroid injections.

Materials and Methods: A total of 30 patients with lateral epicondylitis were included for the study with specific selection criteria. They were divided into two groups. In Group A, 15 patients were treated with intralesional PRP, ADL (Activity of daily living) instructions and Paracetamol and in Group B, 15 patients were treated with intralesional corticosteroid, ADL instructions and Paracetamol. Patients were assessed every 14 days interval. Interventions either PRP or corticosteroids was given in first (W1) and forth (W7) treatment visits, however space between two injections are forty-five days. Each visit patients were assessed by Visual analogue scale (VAS), Mayo elbow performance score (MEPS) and Patient rated tennis elbow evaluation (PRTEE). Statistical analysis was performed by Statistical Packages for Social Sciences (SPSS-21). The numerical data was analyzed statistically. P value <0.05 was considered as statistically significant.

Results: In comparison between two groups, treatment response according to VAS, MEPS and PRTEE, more improvement was found in Group A than Group B at end of treatment where P value <0.05 in all the tools used in the study.

Conclusion: Intralesional PRP showed better improvement than corticosteroids injections.

ID: 121

Scientific Abstract

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Topics: Clinical Practice

Keywords: dynamic, balance, stabilization, trunk, exercises

Scientific Abstract

Haripriya S¹, Bhaskara Bhandary², Cyanna Joseph D'souza¹

¹Laxmi Memorial College of Physiotherapy, India; ²A J Institute of Medical Sciences, India

COMPARISON OF THE IMMEDIATE EFFECT OF TWO DIFFERENT TYPES OF TRUNK EXERCISES ON DYNAMIC BALANCE AMONG TRAINED FOOTBALL PLAYERS – A PILOT STUDY

Objective: Trunk exercises, such as trunk stabilization exercises (SE) and conventional trunk exercises (CE) are performed to improve static or dynamic balance and are often used as part of warm-up programs. A few studies have demonstrated the immediate effects of SE and CE on static balance. However, there is a dearth of research on its immediate effect on dynamic balance. Hence, the purpose of this study was to compare the immediate effect of SE with that of CE on the Y Balance Test (YBT).

Methodology: 23 male soccer players (24.43±1.34 years) participated in this crossover study, wherein each participant completed three kinds of testing sessions: SE, CE, and non-exercise (NE), each consisting of three steps: pretest, intervention and posttest, over three weeks. To assess dynamic balance, the YBT score in the anterior, posteromedial, and posterolateral directions, normalized with leg length, was measured before and 5 minutes after each intervention program.

Results & Conclusion: The YBT composite score was significantly improved after SE ($p<0.05$) as compared to CE and NE ($p<0.05$). Furthermore, in SE condition, YBT scores of the posterolateral and posteromedial directions significantly improved at the post-test ($p<0.05$). This study demonstrated the immediate improvements in the posteromedial and posterolateral directions of the YBT after the SE. This result suggests that SE can be effective in immediately improving dynamic balance

ID: 122

Scientific Abstract

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Topics: Clinical Practice

Keywords: stretching, dynamic, static, hamstrings

Scientific Abstract

Samuel S. E¹, Shridhar Shetty², Dipendra Pratap Rana¹

¹Laxmi Memorial College of Physiotherapy, India; ²AJ Institute of Medical Sciences, India

IMMEDIATE EFFECT OF STATIC STRETCHING VERSUS DYNAMIC STRETCHING OF THE HAMSTRING MUSCLE ON AGILITY AMONG RECREATIONAL COLLEGE ATHLETES – A PILOT STUDY

Objective: Traditionally, static-stretching exercises have been a prominent feature of warm up routines. However, support for a dynamic warm up has grown in recent years, because several investigations have shown the potential for acute, static stretching to degrade performance on short sprints, speed and reaction time. Hence, the objective of this study was to compare the effectiveness Static Stretching (SS) and Dynamic Stretching (DS) of the hamstring in acutely improving agility among recreational college athletes.

Methodology: 25 recreational athletes were randomly assigned to one of two groups – 30 seconds SS or DS through a full range of motion. All athletes had limited hamstring flexibility, defined as a 20° loss of knee extension measured using the 90-90 test. T-test for agility and 90-90 test were recorded before and after stretching.

Results & Conclusion: Student's paired t-test indicated that agility gains in DS group (1.26 secs) were significantly greater than SS group (0.27 secs) ($p < 0.001$). Also a significant difference in hamstring flexibility was indicated between SS group (3.60°) and DS group (8.12°) ($p < 0.001$). Hence, indicating that one session of DS through a full range of motion improved hamstring flexibility and in turn agility, better than the SS group.

ID: 123

Scientific Abstract

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Topics: Geriatric Rehabilitation

Keywords: Socioeconomic status, Community dwelling, Physical Functioning, Kuppuswamy scale, Short Physical Performance Battery

Influence Of Socioeconomic Status On The Association Between Physical Activity And Physical Functioning In An Urban Community Dwelling Older Adults In South India

Dr Sanjay Eapen Samuel¹, Brg{Dr}.Hemanth Kumar², Anukshaya Bangera¹

¹Laxmi Memorial College Of Physiotherapy, India; ²AJ Institute of Medical Sciences, India

OBJECTIVES: Physical inactivity is identified as the fourth leading risk factor for global mortality. Physical activity appears to have a favourable impact on the dynamics of physical functioning in older adults. There are several studies which suggest that there is positive association between physical activity and household income. The objectives of the study were to determine the association between physical activity and physical functioning; and whether socioeconomic status has an influence on the association between physical activity and physical functioning in community dwelling older adults. **MATERIALS AND METHODS:** 30 community dwelling older adults from an urban community in South India aged ≥ 55 years of both genders were selected by convenient sampling for the study. Participants were evaluated using International Physical Activity Questionnaires (IPAQ) short form to measure physical activity, Short Physical Performance Battery (SPPB) to measure physical functioning and Modified Kuppuswamy Scale 2018 to measure socioeconomic status. **RESULTS AND CONCLUSION:** - Chi-Square test showed statistically very high significant association between physical activity and physical functioning ($p \leq 0.001$). Socio-economic status did not show any influence on the physical activity and physical functioning in urban community dwelling older adults in South India.

ID: 124

Scientific Abstract

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Topics: Geriatric Rehabilitation

Keywords: cognition, dual task performance, elderly, depression, MOCA

Influence Of Depression On Cognition And Dual Task Performance in Elderly-A Pilot Study

Roshan Padmanabhan S.B¹, Kiran Kumar P.K², Harsha Bhagwan Ramrakhiani¹

¹Laxmi Memorial College of Physiotherapy, India; ²A.J Institute of Medical Sciences, India

INFLUENCE OF DEPRESSION ON COGNITION AND DUAL TASK PERFORMANCE IN ELDERLY - A PILOT STUDY

*Padmanabhan S. B. R. *, Kiran Kumar P K**, Harsha B.R****

Assistant Professor, *PG Student (Presenting Author)*

Laxmi Memorial College of Physiotherapy, Mangalore, India

***Professor, Department of Psychiatry.*

AJ Institute of Medical Sciences, Mangalore, India

Objective: According to WHO, with aging, the risk of developing psychological and cognitive disorders, like depression and mild cognitive impairment increases. Also, it has been observed that the ability to attend and perform two tasks at the same time (dual-task performance) declines in elderly people. The objective of the present study is to assess the relationship between dual task performance and cognition in elderly people with depression.

Methodology: 30 randomly selected elderly people were divided into two groups, using the Geriatric Depression Scale, one group with depression and one without. Cognition and dual task performance were assessed in both the groups using Montreal Cognitive Assessment scale (MOCA), Timed up and go test (TUG), TUG (cognitive) and TUG (manual) and the scores and subjected to statistical analysis.

Results & Conclusion: When analysed using the student unpaired t- test, the TUG, TUG (cognitive), TUG (manual) scores did not show any significant difference between the groups ($p \geq 0.05$), whereas the MOCA scores showed a significant difference between the groups ($p \leq 0.05$), those without depression having better cognitive status than with those with depression. It was concluded that depression had an effect on cognition and dual task performance in elderly people.

Presenting & Corresponding Author:

Harsha.B. Ramrakhiani

E-mail (Presenting Author): harsharamrakhiani92@gmail.com

Contact no: +919408344746

ID: 126 / Oral Presentations: 3

Scientific Abstract

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Topics: Clinical Practice

Keywords: COPD Care Pathway

A pilot study of Chronic Obstructive Pulmonary Disease (COPD) Care Pathway in facilitating better home rehabilitation

LI Wai Han

Kowloon Hospital, Hong Kong S.A.R. (China)

Abstract) A pilot study of Chronic Obstructive Pulmonary Disease (COPD) Care Pathway in facilitating better home rehabilitation

LI WH, CHEUNG CY, TANG YM, HO KF, Community Nursing Service (CNS), Kowloon Hospital, Hong Kong

Objective

COPD is characterized with persistent airflow obstruction which is progressive and associated with chronic inflammation in the airways (GOLD, 2017). Patients suffer from recurrent exacerbation, cause frequently hospitalizations, influence their life and also burden to health care system. Therefore, a structure care pathway for COPD patient with evidence based practice is formulated to meet the needs in home rehabilitation.

Methodology

Recruited COPD patients with care support and AMT>6 from medical unit of acute hospitals, Mild to Severe as defined by GOLD guideline. Care Pathway Package has been introduced to them in community.

Result & Outcome

A pilot study had been conducted from September 2017 to January 2018. Four male patients were recruited. Their quality of life and self-management skills were enhanced in CAT score, inhaler score and empowerment score. The hospital admission rate and length of stay in 28 days before and after recruitment were improved. Thus, COPD Care Pathway is a road map for patient and community nurse to support an effective patient-centered care.

Conclusion

The COPD Care Pathway not only provides a seamless care from hospital to community, but also a service of self-disease management skills at home setting. Hence, through the care pathway, COPD patients are more confident and competent in handling their own disease. The hospital utilization rate has been decreased.

ID: 127

Scientific Abstract

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Topics: Stroke Rehabilitation

Keywords: Stroke, questionnaire, physical activity, validity

Development And Preliminary Validation Of Stroke Physical Activity Questionnaire

Thunyakamon Phusuttatam, Jittima Saengsuwan, Pajeemas Kittipanyangam

Faculty of medicine Khon Kaen university, Thailand

Development and preliminary validation of stroke physical activity questionnaire

Thunyakamon Phusuttatam, Jittima Saengsuwan, Pajeemas Kittipanyangam

Department of Rehabilitation Medicine, Faculty of Medicine, KhonKaen University, Khon Kaen, Thailand

Background No questionnaire was specifically designed to assess physical activity in stroke patients. The aim of this study was to develop and to determine preliminary validity of stroke physical activity questionnaire (SPAQ).

Methods This cross-sectional study was done in 92 chronic stroke patients who were ambulatory. The study was divided into two main phases: phase I was to develop SPAQ and determined content validity index (CVI); phase II was to determine concurrent validity of SPAQ compared to International Physical Activity Questionnaire-Short Form (IPAQ-SF). The convergent validity was determined using SPAQ versus six-minute walk test (6-MWT), timed up and go test (TUG), motricity index, National Institute of Health Stroke Scale (NIHSS), Modified Rankin Scale (MRS). Discriminant validity was determined using the data from SPAQ versus Montreal Cognitive Assessment (MoCA).

Results SPAQ has 11 items within 3 main components which were low (7 items), moderate (3 items) and vigorous (2 items) physical activity. The SPAQ had CVI of 0.93 and the concurrent validity of SPAQ vs IPAQ-SF using Spearman's correlation coefficient was moderate ($r_s = 0.53$, p value < 0.001). Regarding convergent validity, the SPAQ had low to moderate correlation with 6-MWT, MI, NIHSS, FAC, TUG and MRS (p value < 0.05). Regarding discriminant validity, the SPAQ did not show relationship with MoCA $r_s 0.061$ (p value $= 0.68$) as expected from theory.

Conclusion SPAQ can practically assess physical activity in chronic stroke patients and has comparable psychometric property to other standard physical activity questionnaires. Further study to validate SPAQ with accelerometer is warranted.

ID: 128 / Oral Presentations: 4

Scientific Abstract

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Topics: Stroke Rehabilitation

Keywords: Return-to-work, Rehabilitation, Stroke, Singapore

Factors Influencing Long-Term Return-to-Work for Stroke Patients Enrolled in an Early Supported Discharge Program in Singapore: A Five-Year Follow-Up

Sock Hong Teo^{1,2}, Kenneth N.K. Fong², ZhenZhen Chen¹, Raymund C.K. Chung²

¹National University Hospital; ²Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong SAR

Objective: This study aimed to investigate the factors that influenced long-term return –to-work (RTW) for patients enrolled into an Early Supported Discharge (ESD) program in Singapore at five years post-stroke.

Methods: Sixty-nine patients who were enrolled into the ESD program between 1st January 2012 to 31st December 2014, aged 18-60 years old, and were employed at the time of hospitalisation were included. A questionnaire was designed to obtain details on patients' RTW and administered via phone call. A prospective cohort design was adopted to examine the relationships between the various factors - demographic, functional, psychosocial and work-related factors, and RTW at five-year follow-up. Time to RTW at five-year follow-up were analysed using cox regression and predictors of RTW were analysed using forward logistic regression.

Results: 60% of the participants (n=49) with a mean age of 50±7.4 years participated in the research study. A lack of social support is a negative predictor for RTW (OR: 0.02; 95% CI: 0.00-0.22) while being the breadwinner is a positive predictor for RTW (OR: 13.79; 95% CI: 2.46-77.52). The same factors were also significant in the time to RTW at five-year follow-up with hazard ratio of 0.09 and 4.07 respectively.

Conclusion: Being the breadwinner and having positive social support increase the likelihood of RTW at five years post-stroke. Early identification of the characteristics of patients with the potential to RTW is important to facilitate successful RTW.

ID: 129

Scientific Abstract

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Topics: Stroke Rehabilitation

Keywords: Stroke, employment, return-to-work, caregiver, Singapore

Returning To Work After Stroke And The Impact Of Caregiver Presence: A Pilot Survey Study

Mohamad Nizar Bin Zainal¹, Kalya Marisa Kee¹, Gerald Koh¹, Merrill Turpin², Yee Sien Ng³, Peck Tiang Joanna Yeo¹, Felicity Yeo¹, Yu Xin Julia Ng¹, Rebecca Raszewski⁴, Miho Asano¹

¹Saw Swee Hock School of Public Health, National University of Singapore and National University Health System, Singapore; ²School of Health and Rehabilitation Sciences, The University of Queensland, Australia; ³Department of Rehabilitation Medicine, Singapore General Hospital, SingHealth, Singapore; ⁴Library for the Health Sciences, The University of Illinois at Chicago, United States of America

Stroke is the third leading cause of disability worldwide. In Singapore, the median age of hospitalization due to stroke is decreasing, suggesting that more stroke survivors may seek re-employment. Caregiver support is considered a significant facilitator for return-to-work among stroke survivors. In this pilot study, we surveyed a group of stroke survivors in Singapore to explore the impact of caregiver presence on their re-employment status. We recruited 87 stroke survivors using our existing research database. All participants completed one telephone survey. In addition to demographic data, we collected information on pre- and post-stroke employment using an employment questionnaire. We performed multiple logistic regression analysis to estimate the association between caregiver presence and re-employment status. Sixty-three participants were gainfully employed prior to stroke onset. Of these, 75% (n=47) returned to work. Among participants who returned to work, 68% (n=32) reported not having a primary caregiver, compared to 13% (n=2) of participants who did not return to work. We found that participants with no caregivers were more likely to return to work (OR=20.0, CI=3.4 – 115.9) compared to those who reported having a caregiver. We discovered a higher proportion of stroke survivors returning to work compared to previous Singaporean reports. The absence of caregivers may indicate greater functional independence among our participants, enhancing successful re-employment post-stroke. More research is needed to better understand the nature and impact of caregiver presence on stroke survivors returning to work.

ID: 130

Scientific Abstract

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Topics: Clinical Practice, Measurement

Keywords: Occupational therapy, cognitive rehabilitation, Assessment of Motor and Process Skills, Functional Independence Measure

Comparing the Sensitivity of the Assessment of Motor and Process Skills and the Functional Independence Measure in Detecting Change in an Occupational Therapy Cognitive Rehabilitation Programme: A Pilot Study

Zhenzhen Chen

National University Hospital, Singapore

Objective: This study aimed to compare the sensitivity of the Assessment of Motor and Process Skills (AMPS) and the Functional Independence Measure (FIM) in detecting change in an occupational therapy (OT) cognitive rehabilitation programme.

Methods: Consecutive patients referred to our outpatient OT cognitive rehabilitation programme were recruited. The AMPS and the FIM were conducted at the first and last session of the cognitive rehabilitation programme. To determine the responsiveness of the two outcome measures, effect sizes were calculated for each of their four subscales.

Results: Data from 10 participants recruited from March 2016 to May 2017 were analysed. All were males, with a mean age of 31 ± 13.1 years. The AMPS measured statistically and clinically significant changes in the motor and process abilities of the participants after the cognitive rehabilitation programme. Both the motor and process scales of the AMPS were found to be responsive to change, as compared to only the cognitive scale of the FIM.

Conclusion: The AMPS is a sensitive and responsive outcome measure that can be used to detect changes that may not be detected through the use of the FIM in clients receiving cognitive rehabilitation. As clients with cognitive deficits often require long-term follow-up, this study has shown that the AMPS is able to detect changes over a long duration of intervention and is useful for occupational therapists providing cognitive rehabilitation.

ID: 131 / Oral Presentations: 10

Scientific Abstract

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Topics: Stroke Rehabilitation

Keywords: Stroke, Cerebral Infarction, Intracerebral haemorrhage, Functional Independence Measure (FIM), Comparative

Who Does Better After Inpatient Rehabilitation? A Comparative Study Of Functional Predictors And Outcomes Between Ischaemic And Haemorrhagic Strokes After Inpatient Stroke Rehabilitation

Edgar Quan Yi Yeo¹, Rathi Ratha Krishnan², Karen Sui Geok Chua²

¹Lee Kong Chian School of Medicine, Singapore; ²Department of Rehabilitation Medicine, Tan Tock Seng Hospital (TTSH)

Introduction/Objectives

Mixed functional outcomes have been reported following stroke inpatient rehabilitation when comparing cerebral infarctions (CI) and intracerebral haemorrhages (ICH). The aims of this study were to compare rehabilitation outcomes between CI and ICH patients and ascertain factors associated with discharge functional outcomes.

Materials and Methods

A retrospective analysis of stroke patients who underwent inpatient rehabilitation at a tertiary rehabilitation centre (n = 280) was conducted. Primary outcome measures included discharge Functional Independence Measure (FIM), FIM gain and FIM efficiency. Demographic information, stroke characteristics, motor impairments (Fugl Meyer Assessment-FMA score) and complications were collected as functional predictors.

Results

There were significant improvements in pre/post-rehabilitation score such as FIM, FIM gain, and FMA ($P < 0.001$). While ICH patients had significantly lower admission FIM compared to CI (74 CI vs 67 ICH, $P = 0.006$), there were no significant differences in discharge FIM scores between the 2 groups (99 CI vs 94 ICH, $P = 0.259$). ICH patients tended to achieve higher FIM gains (27 vs 21, $P = 0.05$) with similar FIM efficiency (0.86 vs 0.83, $P = 0.517$). Using linear regression, admission FIM, Trunk impairment scale and ICH subtype were positive predictors of discharge FIM, while age, unemployment and female gender were negative predictors ($R^2 = 0.760$, $P < 0.001$).

Conclusion

Although admission FIM is a major predictor of post-rehabilitation discharge outcome, stroke subtype is also important. Despite a significantly lower admission FIM of 7 points and higher complexity, ICH patients achieved better discharge FIM, hence they should not be denied inpatient rehabilitation.

ID: 132 / Oral Presentations: 6

Scientific Abstract

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Topics: Neurodegenerative Disease

Keywords: Deep Brain Stimulation, Bilateral Subthalamic Nucleus, idiopathic Parkinson's Disease

Physiotherapy Regime Post Bilateral Subthalamic Nucleus (Deep Brain) Stimulation in Parkinsonism Patients

Ridhima J Negandhi¹, Ridhima Chopra²

¹WALTON REHABILITATION & PHYSIOTHERAPY, India; ²KOVAI MEDICAL CENTER & HOSPITAL, India

Background : PD is a progressive condition due to loss of dopamine causing degeneration of both motor & non-motor basal ganglia circuitry. The literature suggests Level I evidence for physiotherapy management of PD patients suggests that comprehensive client centered approach should be based on compensatory strategies to bypass the defective basal ganglia. DBS is an effective therapy for medication refractory symptoms of PD. It is indicated for movement disorders such as tremors, rigidity, bradykinesia, dyskinesia, dystonia, hallucinations & depression although Physiotherapy regime post surgery is still lacking.

Objective : To study the effect of DBS on motor symptoms & design a physiotherapy regime for post surgery recovery.

Methods & Materials : A case series of 3 patients with idiopathic PD were scored on UPDRS & MoCA in the ON-STATE of medication 2 days before & 6 months post surgery. Three patients of mean age 73.6 yrs, Stage - III underwent DBS of B/L STN satisfying the respective inclusion criteria. Patients were also scored on S&E scale for ADL's.

Results : Significant difference was seen before and after the surgery in tremors, bradykinesia & cognition ($p < .05$), not much significant difference was observed in postural instability & rigidity ($p > .10$).

Conclusion : This study supports the evidence that DBS is an advanced surgical procedure with minimal side effects & reduces medication refractory symptoms although there is a decline in cognition, increased freezing, postural instability & bulbar dysfunction. Hence there's a need for physiotherapy regime that has been designed for the purpose of post DBS.

ID: 133

Educational Abstract

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Topics: Clinical Practice, Measurement, Geriatric Rehabilitation

Keywords: MMSE, MBI, nursing home, occupational therapy, interprofessional training

A Pilot Interprofessional Training Programme for Nurses in the Use of Mini-Mental State Examination (MMSE) and Modified Barthel Index (MBI) in Nursing Home

Yoke Chuan Lee

Econ Healthcare, Singapore

Learning Objectives: The goal of developing the training programme is to standardise the way of administration and scoring of MMSE and MBI for nursing home residents. The objective is to increase the skills, knowledge and self-confidence of participants in the use of them.

Background: MMSE is a screening tool used for cognitive impairment and dementia. MBI is used to assess overall functioning in the home and to identify individual needs for long term care. Each resident is continually assessed 6-monthly by Occupational Therapist and nurse to evaluate the effectiveness of the care plan. There was no structured training provided to nurses in Econ Healthcare to administer MMSE and MBI.

Findings & Procedure Details: A Train-the-trainers workshop was developed and conducted by Occupational Therapist to 20 centre managers and staff nurses. The curriculum includes administration, scoring and results interpretation guidelines of MMSE and MBI with case studies and quiz. The participants each completed pre- and post-workshop self-rating questionnaire (skills/knowledge and self-confidence to administer MMSE and MBI) and participant feedback survey. The average scores of post-workshop self-rating in skills/knowledge increased by 75%, self-confidence increased by 74%, and all participants had their expectations met for the training content.

Conclusion: This workshop can potentially equip healthcare professionals with the skills and knowledge to use MMSE and MBI, and to provide standardised training to junior staff. Further development includes continuous programme evaluation and extending the training to other staff.

ID: 134

Scientific Abstract

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Topics: Paediatric Rehabilitation, Measurement

Keywords: Spinal Muscular Atrophy, WeeFIM, SF-36

Association of Functional Independence Level with The Quality of Life of Caregivers in Spinal Muscular Atrophy Patients

Rendra Sanjaya Yofa Zebua, Vitriana Biben, Rachmat Zulkarnain Goesasi

Faculty of Medicine Padjadjaran University/ Hasan Sadikin General Hospital, Bandung, West Java, Indonesia, Indonesia

Objective: To investigate the association level of functional independence of Spinal Muscular Atrophy (SMA) children to the quality of life of their caregivers. **Methods and Materials:** Cross sectional study was done to ten children (7.7 ± 2.83 years old) with SMA Type II and III and their caregivers in West Java Province, Indonesia. The functional independence level was evaluated using The Functional Independence Measure for children (WeeFIM), and Short Form-36 (SF-36) was used to assessed the Quality of life of their mother. **Results:** The average total scores for WeeFIM were 76 ± 18.62 (35-97). SF-36 scores for Functional Status, Wellbeing, Overall Evaluation of Health subcategories and its total scores were 76.83 ± 20.25 , 72.34 ± 12.19 , 67.75 ± 17.70 , and 74.01 ± 15.03 respectively. There was a significant strong association between WeeFIM total score with SF-36 in wellbeing subcategory ($r_s = 0.70$, $p = 0.02$), but there was not any significant association between WeeFIM score with others SF-36 subcategory [Functional Status ($r_s = 0.52$, $p = 0.11$), Overall Evaluation of Health ($r_s = 0.15$, $p = 0.68$)] and its total score ($r_s = 0.49$, $p = 0.14$). **Conclusion:** The functional independence level of SMA children was strongly associated with the wellbeing of their mother as a caregiver.

ID: 135

Scientific Abstract

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Topics: Geriatric Rehabilitation

Keywords: Quality of life, elderly, pain, mobility, self care

"Life Quality Assessment Using EQ-5D in Eldery Treated at Rehabilitation Unit and Joining Klub Jantung Sehat Islam Hospital Jakarta Cempaka Putih"

Verial Attamimy, Umi Sjarqiah

RS Islam Cempaka Putih, Indonesia

Objective

European Quality of Life-5 Dimensions (EQ-5D) is a well-known standardized generic instrument from England measuring quality of life in different diseases, it includes 5 dimensions (mobility, self-care, daily activities, pain/discomfort, anxiety/depression). This instrument used in many countries, including Indonesia where reliability and validity of the form EQ-5D in life quality have been done in Hospital Cipto Mangunkusumo Jakarta.

Islamic Hospital did this research in cardiac patients at 2017 and the biggest problem about self-care. The aim of this study was to know the quality of life of elderly patients who were treated at the rehabilitation unit and joined the Klub Jantung Sehat in Islam Hospital Jakarta in 2018.

Methods and Materials

Fourteen elderly ≥ 60 years had therapy at the rehabilitation unit of Islam Hospital Jakarta who met the study criteria. Quality of life was assessed with European Quality of Life-5 Dimensions (EQ-5D).

Results and Conclusion

Quality of life in 35.7% of subjects had a problem in mobility, self-care, usual activity, pain, and anxiety. Level of education: 50% of subjects are Senior High School with a median age of 69 years. 85.7% of subjects were female and 42.9% were retired. 21.4% of subjects had the highest score.

Quality of life of subjects was mostly not good with a lot of problems in pain.

ID: 136

Scientific Abstract

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Topics: Health Policy, Clinical Practice

Keywords: sexual function, general practitioner

General Practitioner's Perspective regarding Value of Sexual Function in Patient's Quality of Life

Felix Leo, Melinda Harini, Herdiman Bernard Purba

Physical Medicine and Rehabilitation Department, Cipto Mangunkusumo Hospital, Jakarta, Indonesia

Objectives

General practitioner (GP), the first line on health care system, should obtain a complete health history from patients, including sexual history. Sexual issues constitute only a small portion (0.68%) in Indonesian guideline of doctor's professional competence. Low exposure of this topic will affect GP's perspective towards sexual problems. GPs' perspective regarding value of sexual function is an important factor that will determine their willingness to be open to discussions about sexuality with patients.

Materials and Methods

Cross-sectional study using questionnaire was used to measure GPs' attitudes towards their response when discussing sexual problems, necessity of knowledge about sexual function, and view of interpersonal relationship.

Results

Ninety-nine GPs, 71.7% female and 28.3% male with mean age 29.71 ± 5.78 years old, participated in this study. Forty-nine respondents are unable to give any medical advice or treatment about sexual health problems. Around 85.9% GPs were interested in acquiring knowledge about initial management of sexual dysfunction. Most GPs (31.3%) placed interpersonal relationship on the second order in mental dimension of quality of life. Only 9.1% showed it as the most important element.

Conclusion

The results showed high need in improving knowledge regarding sexual dysfunctions. GPs perceived the value of sexual function, a part of interpersonal relationship, as an important mental aspect of quality of life. It is recommended to provide continuous training to upgrade GP's knowledge about sexual problems. Competences concerning sexual issues should be stated more specifically in the guideline.

ID: 137

Scientific Abstract

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Topics: Neurodegenerative Disease, Geriatric Rehabilitation

Keywords: Parkinson's disease, fall, rehabilitation

Fall-Related Injury Due to Advancing Age in Parkinson's Disease

Sagung Adi Sresti Mahayana, Melinda Harini, Siti Annisa Nuhonni

Physical Medicine and Rehabilitation Department, Cipto Mangunkusumo Hospital, Jakarta, Indonesia

Objectives

Falls have a significant negative impact on quality of life of people with Parkinson's disease. Parkinson's disease patients who have experienced prior falls tend to develop a fear of falling, further develop recurrent falls and suffer for fall-related injuries. Severe injuries such as fractures and head trauma may lead to immobilization and increased mortality in Parkinson's disease. Identifying factors that contribute to fall-related injury in Parkinson's disease is compulsory.

Materials and Methods

This is a cross-sectional study using questionnaire to assess demography characteristic, frequency of falls, fall-related injuries, and fear of falling tendency of people with Parkinson's disease in Indonesia.

Results

Thirty-three participants, 20 male (60.6%) and 13 (39.4%) female with mean age 67.45 ± 9.27 years old were screened consecutively. Eighteen participants (54.5%) experienced falls in recent year and ten among them are recurrent fallers (55.5%). Eleven out of eighteen participants reported fall-related injuries (61.1%). Fear of falling occurred in 30 participants (90.9%). Data showed that fall-related injuries increase with advancing age ($p=0.04$).

Conclusion

Advancing age was a contributing factor to fall-related injury. Fall-related injuries increase hospitalization and further sequels, thereby predispose recurrent falls and delay rehabilitation target especially lower extremities function. Monitoring of elderly people with Parkinson's disease who have experienced fall is paramount. The result of this study can be used as data for fall rehabilitation program for Parkinson's disease.

ID: 138

Scientific Abstract

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Topics: Clinical Practice, Measurement

Keywords: muscle strength, physical function, systemic lupus erythematosus

Muscle Strength and Physical Function In Women With Systemic Lupus Erythematosus : A Case Control Study

Zayadi Zainuddin¹, Marina Moeliono¹, Novitri S¹, Laniyati Hamijoyo^{2,3}

¹Physical Medicine and Rehabilitation Departement, Medical Faculty of Universitas Padjajaran, Bandung, Indonesia; ²Rheumatology Division, Internal Medicine Departement, Medical Faculty of Universitas Padjajaran, Bandung, Indonesia; ³Lupus Study Group, Immunology Study Centre, Medical Faculty of Universitas Padjajaran, Bandung, Indonesia

Objective : Aim of study was to determine whether or not there were differences in muscle strength and physical function between *Systemic Lupus Erythematosus* (SLE) and healthy women.

Methods & Materials: Case-control design was used to compare SLE and healthy women aged 20-50 years and normal body mass index (BMI). Assessment of upper limb (handgrip) muscle strength used *Jamar Hydraulic Hand Dynamometer* and lower limb (quadriceps) used *Baseline Hydraulic Push Pull Dynamometer*. Physical function is assesed by *Short Physical Performance Baterry* (SPPB).

Result: Twenty SLE women aged 31.85 ± 2.53 and BMI 22.37 ± 2.56 compared to twenty healthy women aged 30.51 ± 2.64 and BMI 21.79 ± 2.19 . The case group showed handgrip strength 12.37 ± 4.09 kg, quadriceps strength 7.11 ± 1.91 kg, and physical function score 11.40 ± 0.75 . The control group showed handgrip strength 17.37 ± 4.81 kg, quadriceps strength 10.12 ± 2.41 kg, and physical function score 11.95 ± 0.22 . The result showed a significant difference in muscle strength of upper limb ($p=0.001$), lower limb ($p=0.000$), and physical function ($p=0.002$) between two groups.

Conclusions: Muscle strength and physical function in SLE women significantly lower than healthy women. These results suggest future studies regarding exercise intervention in SLE women.

ID: 139

Scientific Abstract

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Topics: Paediatric Rehabilitation

Keywords: Spinal Muscular Atrophy, peak cough flow, respiratory tract infection, hospitalization

Respiratory Tract Infection Frequency in Pediatric Spinal Muscular Atrophy Type 2 Patients based on Cough Ability Measurement

Chandrawati Gultom¹, Irma Ruslina Defi¹, Farida Arisanti¹, Dian Marta Sari²

¹Physical Medicine and Rehabilitation Departement; ²Hasan Sadikin General Hospital

Abstract

Objective: Obtaining the frequency of respiratory tract infection (RTI) in pediatric Spinal Muscular Atrophy (SMA) type II patients related to cough ability test as one of simple bed side test.

Methods and Material: Ten pediatric SMA type II outpatient, 4-10 years old were assessed by peak cough flow to measure coughing ability. The frequency of RTI in a year that need antibiotic and any hospitalization caused by RTI was obtained by interview.

Results: Among 10 subjects, 7 subject (70%) had peak cough flow below 160 L/min which 71.5% of them got hospitalized due to RTI and the average rate of RTI that need antibiotic was 4.7 ± 0.8 . Three subjects (30%) had peak cough flow above 160 L/min which had the average rate of RTI that need antibiotic 2.3 ± 0.8 and one of them got hospitalization due to RTI.

Conclusion: Patient SMA type II who have peak cough flow below 160L/min are more frequent to have RTI that need antibiotic and hospitalization. Peak cough flow is a simple bed side test that should be routinely done to predict RTI and hospitalization. The patient who had peak cough flow below 160 L/min was recommended to have assisted cough twice a day and postural drainage.

ID: 140

Scientific Abstract

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Topics: Paediatric Rehabilitation

Keywords: Spinal Muscular Atrophy, Functional Motor Scale, Hammersmith Motor Scale

Functional Motor in Spinal Muscular Atrophy Patients

Dini Fitriani, Marietta Shanti, Arnengsih Nazir

Physical Medicine and Rehabilitation Departement Faculty of Medicine Padjajaran University/Hasan Sadikin General Hospital, Bandung, West Java Indonesia, Indonesia

Functional Motor

in Spinal Muscular Atrophy Patients

Dini Fitriani, Marietta Shanti, Arnengsih Nazir

Physical Medicine & Rehabilitation Department

Padjajaran University Faculty of Medicine/ Hasan Sadikin General Hospital, Bandung, West Java, Indonesia

Abstract

Objective: To assess motor capabilities in Spinal Muscular Atrophy (SMA) children.

Methods and Materials: Cross sectional study was done to ten children ($7,9 \pm 2,7$ years old, range 4-12 years old) with SMA Type II in West Java Province, Indonesia. The study conducted by observing them using Hammersmith Functional Motor Scale (HFMS) to assessed the functional motor scale.

Results: Seventy percent patients could $\frac{1}{2}$ roll from supine, 40% could roll prone to supine and prone, 10% could lift head from prone and supine, 50% could prop on forearms-head up, 20% could prop on extended arms-head up, 10% could lay to sit, 20 % could four-point kneel-head up, 10% could crawl, 80% could sit without hand supports, 40% could touch their head with one or two hands, 50% could lay from sit safely, and no patient could stand holding on one hand, stand independently, and take steps unaided.

Conclusion: Patient with SMA type II in West Java mostly still able to sit without hand support but only a few patient could prop on extended arms-head up, four-point kneel-head up, crawl, lay to sit, and lift their head from prone and supine due to weakness in proximal muscles. Rehabilitation is aimed to promote function and mobility in these motor function capacity.

ID: 141

Educational Abstract

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Topics: Pain Rehabilitation, Clinical Practice

Keywords: Rehabilitation, MSK Injury, High Laser Intensity, Pain, Meniscal Tear

Rehabilitation Of Post Partial Meniscal Tear Non Operative : A Case Report

Andi Dala Intan

Physiatrist-Medical Rehabilitation Installation, Tadjuddin Chalid National Hospital, South Celebes, Indonesia

Learning Objectives : To know conservative therapy on a patient post partial meniscal tear in order to optimize the functional activities. Case report, pre and post interventional. Subject from Rehabilitation Outpatient Clinic Tadjuddin Chalid National Hospital, South Celebes, Indonesia.

Background : Many musculoskeletal injury that we found in Outpatients Rehabilitation Clinic, especially for meniscal injury makes disability in patient Activity Daily Living (ADL) and occupational.

Finding and Procedure Details : Patient (Male) 43 years old came to Rehabilitation Outpatient Clinic in June 2018 with chief complaint knee pain and not flexible aggravating since 1 month ago. He can not do proper praying movements, squatting, smooth upstairing, and long walk. History of sport injury at 3 months before came in clinic. He routine doing volley ball once a week, after smash, he landed with pivot position and knee extension. From physical examination we found VAS 4-6, edema, flexion (-5°)-(130°). On MSK Sonography, we found minimal disruption of Right Medial Meniscal, thickening of Right MCL and ACL. We treat with High Intensity Laser (BTL®), total doses 80 J/25 cm² biostimulation. Three times per week in 4 weeks and 30 minutes bicycle 5 times per week as a home program.

Conclusion : Improvement in pain, flexibility, edema, hypotonus, locking knee. On MSK Sonography was improving on MCL and ACL thickening was release, hypoechoic was negative. Further research is expected to give better treatment and short period to recover with getting rehabilitation and prevent sport injury.

ID: 142

Scientific Abstract

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Topics: Measurement, Geriatric Rehabilitation

Keywords: Rehabilitation, Mobility Impairment, Geriatric.

Characteristics of Mobility Impairment on Tajuddin Chalid National Hospital, Celebes, Indonesia, 2018

Muliati Mustafa, Andi Dala Intan, Muhajirah Dahlan, Rumaisah Hasan, Tenrisanna Devi, I Gusti Lanang

tajuddin chalid hospital, indonesia, Indonesia

Objectives : To describe details of characteristic mobility impairment that make a ADL problem.

Materials and Methods : Descriptive study. All patients had mobility impairment. Data was taken from Rehabilitation Outpatient Clinic Tajuddin Chalid National Hospital, from January 2018 – June 2018. Analyzed into several groups ages of adults and Medical Diagnosis.

Results : From 585 subjects with mobility impairment problem, 179 subjects (30.6%) men, and 406 (69.4%) women. 208 subjects (35.6%) 61-70 years old, 199 subjects (34 %) 51-60 years old, and 115 subjects (19.7%) 41-50 years old, 34 subjects (5.8%) > 70 years old, 20 subjects (3.4%) 31-40 years old, and 9 subjects (1.5%) 20-30 years old. According to the Medical Diagnosis, 255 subjects (43.6%) had Low Back Pain and 84 subjects (14.4%) had Knee Osteoarthritis. 131 subjects (22.4%) had Hemiparetic, 74 subjects (13.7%) with Shoulder problem. 41 subjects (7%) leg pain. We found significant difference between Medical Diagnosis and Sex ($p=0,01$) with women has Odds ratio (OR) > 0,3 risk.

Conclusion : We found more mobility impairment on elder patients. Women have high risk than men. Preventive Rehabilitation Strategies can be tailor-made. We need advanced screening for mobility dysfunction.

ID: 143

Educational Abstract

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Topics: Paediatric Rehabilitation, Clinical Practice

Keywords: Delayed Speech, Paediatric Rehabilitation, Speech therapy, Occupational therapy

Delayed Speech Rehabilitation Management : A Case Report

Ira Kartini Asis, Nunik Wahyuningsih, Muliati Mustafa, Andi Dala Intan, Tenrisanna Devi, I Gusti Lanang

Tadjuddin Chalid Hospital, South Celebes, Indonesia, Indonesia

Learning Objectives : The purpose is to describe patient improvement within speech and occupational therapy practices and to explain the progress after therapy to increase speech ability for his daily living according to his age.

Background : Delayed speech refers to children who cannot be able to start talking at the expected age. Some caused by deprivation environmental, brain damage (such Cerebral Palsy), paralysis of articulation organs or neurological diseases.

Finding and Procedure Details : Three years old a Boy with Delayed Speech caused by environmental deprivation and lack of parents attention. From April-November 2018 getting speech and occupational therapy such as oromotor exercise, motoric articulation, speaking practice (gradually), behavior therapy, sensory integration 2-3 times per weeks. Evaluation was done by early detection of impaired communication skills and assessment in motoric, sensoric, language, phonation, voice, breathing, behavior, respective and attention. After 28 times therapy in 32 weeks, there is a significant improvement in respective, attention, oral and motoric skill. More better in understanding a picture & shape, part of body, playing a car, basic hand skill, follow instruction, naming object and using pronouns. He has producing sound such as /ma/ta/ and /la/, the chewing food better and breathing ability become strength to make good voice.

Conclusion : Improvement in motoric, understanding and oral ability. This methods is effective. We recommend patient to obey therapy to make more improvement in speech ability for his daily living. Collaboration of rehabilitation team and simultan therapy can give significant results.

ID: 145

Educational Abstract

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Topics: Technology/Informatics, Clinical Practice, Geriatric Rehabilitation

Keywords: Innovation, technology, falls, elderly patients

Innovation Practice And Technology Stopping Falls By Elderly Patients In Hospital

Teck Mee Tan

St Vincent Hospital, Melbourne, Victoria, 3000, Australia

Objectives: to share knowledge learnt from my workplace innovation of nursing practice with nursing colleagues around the world, the importance of the utilization of technology in preventing falls in elderly patients in hospital with innovation.

Background: Approximate 10 cases of serious harm from falls had occurred in my ward in 2015 and 2016 despite the utilization of technology, in our case, the use of falls risk assessment tools and increased utilization of the proximate alarms in alerting nursing staff that patient has moved from a resting position. A team of multidisciplinary healthcare professions including nurses, physiotherapists, occupational therapists, quality and risk officers, allied health assistant and podiatrists met together to formulate strategies for enhancing interventions to prevent the falls, and minimizing the harm from falls.

Findings and Procedure Details: The multidisciplinary team was led by the nurse unit manager, who operated regular weekly meeting or fortnightly to look into issues that causes the increasing number of falls and to seek countermeasures that could minimize the harm from the falls. The results were incredibly successful and the average rate of the falls reduced in 2017 and in 2018 and the best results revealed no serious harm since the project has started.

Conclusion: Innovation in nursing practice is an essential part of best patient care which meet the standard of quality, particularly patient safety.

ID: 146

Scientific Abstract

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Topics: Measurement

Keywords: respiratory muscle strength, maximal inspiratory pressure, maximal expiratory pressure, systemic lupus erythematosus, low level disease activity score

Respiratory Muscle Strength in Systemic Lupus Erythematosus Women with Low Level Disease Activity Scale

Irsan Agung Ramdhani¹, Sunaryo Sastradimaja¹, Dian Marta Sari¹, Laniyati Hamijoyo^{2,3}

¹Physical Medicine and Rehabilitation Departement, Medical Faculty of Padjadjaran University, Indonesia; ²Rheumatology Division, Internal Medicine Departement, Medical Faculty of Padjadjaran University, Indonesia; ³Lupus Study Group, Immunology Study Centre, Medical Faculty of Padjadjaran University, Indonesia

Objectives: Patients with Systemic Lupus Erythematosus (SLE) often experience decrease in respiratory muscle strength result in low cardiopulmonary endurance and physical fitness that will affect quality of life and exercise capacity due to autoimmune pathophysiology. The purpose of this study is to assess respiratory muscle strength score in SLE women with Low Level Disease Activity Score (LLDAS).

Methods and Materials: Cross sectional study was done in ten women aged 20-50 years old and normal Body Mass Index (BMI) with SLE that categorized LLDAS in West Java Province, Indonesia. Respiratory muscle strength was measured by Maximal Inspiratory Pressure (MIP) and Maximal Expiratory Pressure (MEP) using MicroRPM⁰ (Respiratory Pressure Meter).

Results: Ten SLE women aged 33±9.44 years old and BMI 21.97±2.37 kg/m² showed MIP score 64.5±25.43 cmH₂O and MEP score 49±16.87 cmH₂O.

Conclusion: Women with SLE that categorized in LLDAS have lower score of Maximal Inspiratory Pressure and Maximal Expiratory Pressure than normal person according to European Respiratory Society Annual Congress 2013.

ID: 147

Scientific Abstract

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Topics: Paediatric Rehabilitation

Keywords: Low Back Pain, Caregiver, Spinal Muscular Atrophy, Age, BMI

Association Of Low Back Pain In Caregivers Of Spinal Muscular Atrophy Patients With Patient's Age and BMI

Rian Dewi Auriani¹, Tertianto Prabowo², Ellyana Sungkar²

¹Padjadjaran University, Indonesia; ²Hasan Sadikin General Hospital

Background and Aims

Spinal Muscular Atrophy is a genetic disease that will affect functional ability progressively and most likely caregiver-dependent for rest of their life. This study investigates the incidence of low back pain in caregivers of Spinal Muscular Atrophy (SMA) type II children and its association with children's age and Body Mass Index (BMI).

Methods

A cross-sectional study was done to caregivers (36.7 ± 4.62 years old) of eleven children (8.45 ± 2.98 years old) with SMA Type II in West Java Province, Indonesia. The measurement was evaluated by using the Standardised Nordic Questionnaire. Data were taken between December 2018 to January 2019.

Results

The incidence of low back pain among these caregivers is 54,54% (6 of 11). Average of children's age and BMI is (8.45 ± 2.98 years old) and (16.91 ± 3.94 kg/m²) respectively. There was no significant association between incidence of low back pain and children's age (f -ratio value = 0.41681, p -value = 0.53), nor their BMI (chi-square 0.24, p -value = 0.62).

Conclusions

The incidence of low back pain in caregivers SMA patients is about 54,54% and there is statistically no significant association with age and BMI of their children.

ID: 148

Scientific Abstract

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Topics: Stroke Rehabilitation

Keywords: telerehabilitation, stroke, home rehabilitation, virtual reality

Post-Stroke Outpatient and Home Tele-rehabilitation With Jintronix System: A Feasibility Study.

Christopher Wee Keong Kuah¹, Suharti Hussain Abdullah Huin¹, Chwee Yin Ng¹, Seng Kwee Wee^{1,2}, Yong Joo Loh^{1,3}, Karen Sui Geok Chua^{1,3}

¹Centre for Advanced Rehabilitation Therapeutics, Tan Tock Seng Hospital, Singapore; ²Singapore Institute of Technology; ³Department of Rehabilitation Medicine, Tan Tock Seng Hospital, Singapore

Objectives

Feasibility study of a stroke outpatient program comprising of clinic-based and caregiver-supervised home-based telerehabilitation training using the Jintronix system.

Method and Materials

Medically stable participants of ≥ 3 months post-stroke, require \leq than minimal assistance were recruited. Participants and caregivers were clinic trained 9 times (3 times weekly) in Phase 1, followed by Phase 2 caregiver-supervised home-based training for 20 sessions (5 times weekly) with telemonitoring, by therapist. Outcomes measurement at T0: pre-Phase 1, T1: post-Phase 1, T2: post-Phase 2, and T3: 1 month follow-up, and included Fugl-Meyer Upper Limb Motor Assessment (FMAUL), Berg Balance Scale (BBS), 6-minute Walk Test (6minWT), 10-metre Walk Test (10mWT), pain, Stroke Self-Efficacy Questionnaire (SSEQ) and user feedback.

Results

35 participants of mean(SD) age: 55.91 years (11.36) and median(IQR) post-stroke duration of 311.00 days (633.00) were recruited, with 3 drop-outs due to non-related reasons. Mean(SD) FMAUL was T0: 36.52(16.55), T1: 38.48(16.55), T2: 39.17(16.20), T3: 40.00(16.70); mean(SD) BBS was T0: 43.34(9.99), T1: 47.17(8.64), T2: 47.59(9.53), T3: 48.59(8.97); mean(SD) 6minWT was T0: 206.23(129.38), T1: 227.67(144.46), T2: 239.83(148.56), T3: 250.78(158.95); mean(SD) 10mWT was T0: 0.70(0.42), T1: 0.70(0.49), T2: 0.72(0.53), T3: 0.73(0.54); and mean(SD) SSEQ was T0: 80.79(19.30), T2: 91.79(20.11), T3: 93.59 (20.49). Gains were all statistically significant ($p < 0.05$) except 10mWT. User feedback showed $>80\%$ agreement for user-friendliness and satisfaction. Nil adverse events were reported.

Conclusion

Complementary caregiver-supervised home training with Jintronix supported by clinic-based telemonitoring was found to be feasible and effective for post-stroke users.

ID: 149

Scientific Abstract

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Topics: Health Policy

Keywords: Physiotherapy, Home-Based

Home-based Physiotherapy in Home Care Unit Sardjito General Hospital Yogyakarta: The Indonesian Physiotherapy experiences in community services

Tri Wibowo

Sardjito Hospital, Indonesia

Introduction: Sardjito General Hospital(SGH) is the biggest of public hospitals in Jogjakarta, Indonesia. It is located in Jogjakarta Special Region culture and heritage city of Indonesia. Homecare Unit delivered physiotherapy services for patient who need assessment and treatment in their home. Patient may be referred by the doctor-in-charge during their regular medical follow-up in hospital, by family doctors and doctors in the polyclinics or may self-refer. Patients who will benefit from therapy include those with: neurological problem like stroke, traumatic brain–spinal injury may require longer term rehabilitation, decreased mobility and deconditioning due to prolonged hospitalization, post surgical condition and also other orthopaedic-musculoskeletal problem
Objectives: promoting home healthcare physiotherapy services in community to explain the cost effectiveness and time effectiveness of home-based physiotherapy services in National healthcare service

Methods: This study uses a description analysis with qualitative and quantitative mix-methods. We administrated 20 patients in homecare unit in March to April 2016 giving treatment physiotherapy two days per week. We surveyed patients and family about home care services.
Results: Over 75 % patient have high satisfaction about home-based physiotherapy care services. It improves overall physical wellbeing, enhanced social functioning, ensure routine monitoring and reduces the rate of rehospitalization. The program helps ensure continuity of care and facilitate the transition from hospital to home. Impact of patient experience, home-based physiotherapy increase independence, teaches self-management and promotes empowerment. Patient satisfaction is higher for home-based physiotherapy program, and it reduces health care cost by keeping people independent in their homes, prevent falls and providing safe environment within the home.

ABOUT CaREhab

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The 2nd edition of CaREhab took place at Singapore on 22-23 Feb 2019. This heavily subsidised educational, multi-disciplinary conference covered the continuum of care from physicians, therapists to caregivers. This meeting saw great local and international support of over 600 Physical Medicine & Rehabilitation (PM&R) & Physiatrist, Physical therapists (PT), Occupational therapists (OT), Allied health professionals to hear from over 80 carefully selected invited speakers on the most important rehabilitation trends and application in SEA and ANZ.

Positioning itself as one of the most impactful rehabilitation conference in the region, CaREhab 2020 will return next February to bring back yet another insightful learning for practitioners. Some of the key attendee profiles to expect include PM&R, physical therapists, occupational therapists, specialists (geriatricians, neurologists, paediatrician etc.), General practitioner (GP) and more.

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