



**7th World Congress on
Physical Medicine and
Rehabilitation**

May 18-19, 2018 Osaka, Japan

Posters

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Effect of oropharyngeal rehabilitation training for obstructive sleep apnea on inflammation expression of endothelial cell**Chih Ju Chang, Ching Hsia Hung and Hsin Yu Lin**
National Cheng Kung University, Taiwan

Introduction: Obstructive sleep apnea (OSA) is a prevalent sleep-related breathing disorder which might be caused by multiple pathogeneses primarily including upper airway (UA) anatomic impairment, ventilatory drive instability and oropharyngeal muscle dysfunction. However, the previous studies have demonstrated that most OSA population has been regarded as collapsible UA with poor oropharyngeal function. OSA is defined by repetitive events of complete and partial obstructions of the upper airway. The repetitive hypoxia and re-oxygenation increase the systemic inflammation and deteriorate the oxidative stress. Recently, OSA has been proven high comorbidity with cardiovascular diseases which inflammatory processes control the critical pathway. The prevalence of cardiovascular diseases among OSA compared to healthy population is higher. Therefore, we propose a comprehensive oropharyngeal rehabilitation program with 12 weeks intervention may attenuate the inflammation of OSA population.

Objectives: The purpose of this study is to investigate the biological effect of rehabilitation training for obstructive sleep apnea on the inflammatory expression of endothelial cells.

Methodology: We use RCT with participant single blinded design to explore the different inflammatory expression between pre and post intervention. The inflammation expression was used the flow cytometric analysis (FACScan) to detect the ICAM-1 and VCAM-1 of the endothelial cell surface in response to patient's serum.

Results: In our study, we recruited 6 moderate to severe OSA patients and they have divided into intervention group and control group. Patients in intervention group received rehabilitation training for 12 weeks and patients in control groups had no treatment. The result of intervention group on the expression of ICAM and VCAM difference between pre- and post-intervention were -2.57 ± 1.7 and -4.75 ± 8.6 , respectively and that of control group were -0.37 ± 1.6 in ICAM and 1.32 ± 4.8 in VCAM.

Conclusion: The clinical implication of our finding is that rehabilitation training may attenuate the inflammation expression of endothelial cell for OSA patients, which was caused by repetitive hypoxia and re-oxygenation.

Discussion: There was no significant difference in inflammation expression between two groups, but the preliminary result demonstrated that the expression of ICAM and VCAM decreased in the rehabilitation training intervention group.

Biography

Chih-Ju Chang is currently pursuing his Master's degree in the Department of Physical Therapy in National Cheng Kung University, Taiwan. She is a Physical Therapist with more than 3 years' clinical experiences. Her research is to examine the biological effect of rehabilitation training to improve patients with obstructive sleep apnea.

anne1990130@gmail.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

The fitness performance in patients with head and neck cancer receiving chemoradiotherapy and the therapeutic effects of exercise intervention

Hui Ching Cheng and Kun Ling Tsai
National Cheng Kung University, Taiwan

Head and neck cancer is the sixth most common type of cancer globally and over 6,50,000 people are diagnosed per year. Anti-cancer treatment includes radiotherapy, chemotherapy, target therapy and surgery. After accepting chemoradiotherapy, many head and neck cancer patients experience a wide range of cancer and treatment-related side effects including declining physical fitness. According to American College of Sports Medicine, four components of cancer-patient-physical fitness include muscle fitness, cardiovascular fitness, balance and flexibility. In addition, the benefits of exercise have increased in physical fitness. Therefore, the purpose of this study is to determine whether exercise training could improve the physical fitness of head and neck cancer patients. This study is a repeated measure within and between subject design and recruit 12 head and neck cancer patients dividing into an intervention group (Age: 39.7 ± 18) and control group (Age: 50 ± 9.6). Patients from intervention group received multi-model exercise for 8 weeks containing aerobic exercise, resistance training, balance training and flexibility training. Patients from control groups received general health education. The results of intervention group on the physical index of 3 minutes step test before exercise was 64.8 ± 6.3 and the control group was 78.1 ± 25.1 . After the intervention of 8 weeks, physical index of multi-model exercise in the intervention group was 67.4 ± 14.3 and the control group was 67.6 ± 19.8 . In this study, the preliminary result showed that the physical index in the intervention group was no significant difference but an upward trend. However, the control group showed a downward tendency, probably due to the small sample size. This finding suggested that exercise can promote physical fitness in head and neck cancer patients.

Biography

Hui Ching Cheng is a Master's degree student from the National Cheng Kung University in Taiwan. She is a Physical Therapist, specializing in Cardiopulmonary Physical Therapy. Her research is to examine the therapeutic effect of exercise training to improve physical fitness of head and neck cancer patients.

qaz200408@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

A multi-modal exercise program ameliorates cardiopulmonary responses in patients with head and neck cancer receiving concurrent chemoradiotherapy**Yan Jhen Lu and Kun Ling Tsai***National Cheng Kung University, Taiwan*

Background & Purpose: One of the 10 most frequent cancers is head and neck cancer (HNC). Many patients with HNC suffered from treatment-related side effects during and after concurrent chemotherapy (CCRT), including radiation-induced pulmonary problems that may impact their physical activity levels and causes of cardiac problems, which may impair cardiopulmonary fitness and cause cardiac events. Exercises are potentially beneficial to these side effects. The purpose of this randomized controlled trial was to prescribe a multi-modal exercise program during treatment and to investigate the effects on cardiopulmonary responses in patients with HNC.

Methods: 12 patients with HNC were randomized to either an 8-week multi-modal exercise program or the control group. Outcomes were measurement on the baseline, 5th week and immediately after the treatment session. The primary outcomes were 3-minute step test and the secondary outcomes were lung and respiratory function.

Results: After 5-week training, there were significantly influenced on exercise's group resting systolic blood pressure (SBP) (from 120 ± 12 to 109.3 ± 9.5) and SBP recovery (from 124.7 ± 14 to 114 ± 11.1). Moreover, the exercise group had significant improvements on inspiratory pressure (from -45 ± 24.9 to -53 ± 23.8). However, the exercise's group FEV1/FVC, MEF 25 and 50% showed the deterioration and the control group showed the improvements in resting and peak SpO₂.

Conclusion: The multi-modal exercise program significantly improved the cardiopulmonary exercise responses and respiratory function in patients with HNC receiving CCRT. Further researches should be done with larger sample size and long-term follow up are necessary to verify these findings.

Biography

Yan-Jhen Lu is currently a PhD student of the National Cheng Kung University in Taiwan.

mandy60227@yahoo.com.tw

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Physical fitness in children with developmental coordination disorder**Tzu Wei Chang, Ya Ju Ju and Rong Ju Cherng***National Cheng Kung University, Taiwan*

Developmental coordination disorder (DCD) is often described in a neurological developmental condition expected mental, medical or neurological disease. The impairments of motor performance and motor skill lead to decreased function of daily activities and physical activity. Physical activity is important for building up physical fitness. Children with DCD who have impaired motor skill and low physical activity may have low level of physical fitness. The aim of the study was to examine and compare the physical fitness between children with DCD and children with typical development (TD) at the age of 7-10-year-old. Children with DCD were diagnosed with the criteria of DSM-5. Two participants (one child with DCD and one child with TD) finished the data collection. Physical fitness was a complex dimension, including body composition, cardiorespiratory fitness, flexibility and muscle fitness. The body composition was presented with BMI. FEV1 and FVC were presented as cardiorespiratory fitness. Sit to reach test was used to evaluate the flexibility. The muscle strength and endurance were measured in knee push up-U/E for the upper extremity (U/E) and sit up-trunk at maximal speed to generate a maximal number of repetitions within 30 s. for trunk and a longest duration in a wall sit L/E at maximal speed to within 1 min for lower extremity (L/E). Each test was performed with 1 time. The preliminary results showed that there was no difference between children in body composition and L/E strength and endurance. However, the child with DCD showed lower cardiorespiratory fitness and lower U/E and trunk muscle strength and endurance than child with TD. Currently we emphasize the importance of muscle strength and endurance that may be related to the cardiorespiratory fitness.

Biography

Tzu Wei Chang is currently pursuing her graduation in the Department of Physical Therapy, National Cheng Kung University, Taiwan. She has participated in projects that focused on children with developmental coordination disorder and learned many great skills in interacting with children and understood her enthusiasm to be a physical therapist.

rjc5023@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

The bidirectional causal relationship between apathy and self-efficacy in home-care patients with Parkinson's disease: A structural equation modeling analysis**Hiroaki Morita and Kazuya Kannari***Aomori University of Health and Welfare, Japan*

Previous studies have suggested that apathy affects lowering of self-efficacy, while improving self-efficacy is useful for apathy improvement in home-care patients with Parkinson's disease (PD). However, there are no studies on the comparison of strength of impact and temporal precedence in this bidirectional causation. In this study, a bidirectional causal relationship model between self-efficacy and apathy in home-care patients with PD was created and it was used to examine the relationship based on structural equation modeling (SEM). Involving 122 home-care patients with PD (60 males and 62 females, mean age: 70.9±7.8 years old), psychological factors were measured using the Apathy Scale and Self-Efficacy Scale, for which Morita, et al. verified the reliability and validity in Japanese home-care patients with PD. This study was conducted with the approval of the Research Ethics Committee of the Aomori University of Health and Welfare. As a result of analyzing causal relationships using SEM, the causal coefficient from apathy to self-efficacy was -0.48 and that from self-efficacy to apathy was -0.41. The results showed that the level of influence from self-efficacy to apathy and that from apathy to self-efficacy were almost the same. Both self-efficacy and apathy can be improved by providing interventions. Consequently, even in home-care patients with PD who exhibit symptoms of apathy, increasing their self-efficacy in advance may help overcome apathy in rehabilitation for them. Furthermore, it is suggested that improving their apathy in advance may also contribute to increasing their self-efficacy in rehabilitation for them.

Biography

Hiroaki Morita has completed his Master's degree at Kobe University Graduate School. He is a Physical Therapist and an Assistant Professor at Department of Physical Therapy, Aomori University of Health and Welfare, Japan.

hr08mori608@auhw.ac.jp

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Influence of differences in assistance method on walking on lower leg muscle activity in paralyzed late stance in post-stroke: From kinematic mechanics and neurophysiological point of view**Yasutada Yamamoto***Takarazuka Rehabilitation Hospital, Japan*

It is possible to improve the function in walking exercises after stroke even in therapist assistance. We mainly used two ways of assistance and chose the way to make the patient walk in a better posture. The difference in these methods of assistance affects kinematic mechanics and muscle activity, but the influence on neurological aspects is not clear. The purpose of this study was to examine the influence of differences in assistive method on kinematic and neurophysiological factors on post-stroke requiring assistance for walking. Subject was one sub-acute stroke, lower limb BRS was α . The method was a method in which one physiotherapist unlocks the knee joint of the long limb orthosis and posterior assistance gait (posterior) in which walk assistance was conducted from behind and two physiotherapists provide walk assistance from the side during walking (lateral). We analyzed to compare the kinematics and neurophysiological factor using EMG coherence analysis in two conditions. Walking speed, number of steps, plantar-flexor torque, gastrocnemius activity (MG) and beta band frequency in MG showed high values in lateral side. On the other hand, there were no significant changes in the tibialis-anterior activity and theta band in MG during assistive walking. From these results, it was suggested that differences in neurological aspects such as corticospinal excitability, in addition to the influence on kinematic dynamics factors, due to differences in assistive methods.

Biography

Yasutada Yamamoto has obtained Physiotherapist License from Tokushima College of Medical Sciences and Welfare, Japan.

yasutada.yamamoto1210@ezweb.ne.jp

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Cortical excitability in rhythmic movements with auditory cues in Parkinson's disease**Pei Jung Kao, Hsiu Yun Chang and Jer Junn Luh***National Taiwan University, Taiwan*

Freezing of gait (FOG) is one of the disabling gait disturbances in patients with Parkinson's disease (PD). To alleviate the impaired gait performance, auditory cues are often used in clinical settings. However, it is still uncertain whether freezers and non-freezers can achieve equal favorable effects from auditory cues. The aim of this study was to explore the effects of auditory-cued step-in-place training (SIP) on neurophysiological changes through transcranial magnetic stimulation (TMS) and to compare if there were any differences between freezers and non-freezers. This is a cross-over study. 21 patients with PD were classified into freezer and non-freezer group according to the FOG questionnaire. Each patient executed two conditions including SIP training with AC and without NC the rhythmic auditory cues in random orders. There was a one-week wash-out period between two conditions. TMS recordings included resting motor threshold (RMT), motor evoked potential (MEP), cortical silent period (CSP), short intracortical inhibition (SICI) and intracortical facilitation (ICF). Assessments were done before and after motor training. Wilcoxon signed-rank test was used for within-group comparison and Mann-Whitney U-test was applied for between-group comparison. Results showed lengthened CSP duration ($p=0.005$) and decreased SICI ($p=0.001$) were noted only in AC condition. Enhanced inhibition of RMT and CSP duration was found in freezers but not in non-freezers. SICI and ICF were modulated in both groups under AC condition. Auditory-cued SIP training could modulate the cortical excitability for patients with PD. Freezers may achieve more benefits from this training than non-freezers.

Biography

Pei Jung Kao has graduated from National Yang-Ming University and a Major in Physical Therapy. Presently, she is pursuing Master's degree at the School and Graduate Institute of Physical Therapy, National Taiwan University and specializes in Neuronal Physiotherapy.

lisakao100@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Lower limb support ability of the affected leg during stepping is importance for ability relating to well-controlled walking in ambulatory patients with stroke**Sirisuda Phonthee¹, Sugalya Amatachaya¹, Arunee Chanapisit^{1, 2}, Thanat Sooknuan^{1, 3}, Pisit Netsan^{1, 3}, Kanok Nualsutha^{1, 3}, Pipatana Amatachaya^{1, 3} and Lugkana Mato¹**¹Khon Kaen University, Thailand²Siam International Physiotherapy Clinic, Thailand³Rajamangala University of Technology, Thailand

Patients with stroke likely suffer from the unilateral sensorimotor impairments that reduce their lower limb support ability (LLSA) of the affected limb. However, previous studies have assessed the LLSA in various double stance postures and have verified its association with some variables related to walking ability. This study investigated the amount and duration of the LLSA of the affected leg during stepping and their correlation to variables related to the ability of well-controlled walking in 37 ambulatory patients with stroke. Subjects were interviewed and randomly assessed for the ability related to well-controlled walking, including walking speed, dynamic balance ability, walking endurance and symmetrical ratio during walking. An average LLSA on the affected limb during stepping of the subjects was approximately 82% of their body-weight. The LLSA, particularly the amount, was moderately correlated to the variables related to the ability of well-controlled walking in the subjects. The LLSA during stepping was obviously lower than that of healthy individuals (approximately 95% of their body-weight). The findings emphasized the importance of both the amount and duration of the LLSA during stepping for the ability related to well-controlled walking in ambulatory stroke patients.

Biography

Sirisuda Phonthee is a currently pursuing PhD in the Human Movement Sciences Program, Faculty of Associated Medical Sciences, Khon Kaen University, Thailand. She is a Physiotherapist and interested in patients with neurological conditions.

siriphonthee@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Responsiveness of static and dynamic balance tests in elderly with risk of fall

Roongnapa Intaruk, Chonticha Kaewjoho, Sugalya Amatachaya, Jittima Saengsuwan and Thiwabhorn Thaweewannakij
Khon Kaen University, Thailand

Balance impairment often induces risk of fall in the elderly. Thus, balance assessments are crucial in these individuals. The evidences support that the tandem stand test (TS) and timed up and go test (TUG) are reported as reliable static and dynamic balance tests. Furthermore, gait speed is commonly used as a standard method to indicate functional mobility using the 10 meter walk test (10 MWT). However, these tests have not been reported the responsiveness to reflect accurate changes in elderly with risk of fall. Therefore, the study aimed to investigate the responsiveness of these balance tests in this group. The prospective study was conducted in elderly who aged at least 65 years with a body mass index between 18.5-29.9 kg/m². They were screened fall risk using the scores of Thai falls risk assessment tool (Thai-FRAT) at least 4 out of 11 scores. Subjects were assessed 10 MWT, TS and TUG before and after three week fall exercise. Then responsiveness of test was determined by the standardize response mean (SRM). There were eighteen subjects aged 72.85±5.08 years (12 female and 6 male) with risk of fall (Thai-FRAT 4.67±0.84 scores). The SRM of 10 MWT, TS and TUG were 0.85, 1.19 and 0.65 that indicated moderate effect size (10 MWT and TUG) and large effect size (TS) after three week fall exercise. The findings support that TS and TUG are responsive to assess balance ability in elderly with risk of fall. It is useful for guiding the health officers to select the appropriate tests and interventions in this group.

Biography

Roongnapa Intaruk is pursuing her Masters in the Physical Therapy program from School of Physical Therapy, Khon Kaen University, Thailand. She is a Physiotherapist and interested in physical therapy in elderly.

roongnapaintaruk@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Exercise on a soft surface could significantly improve functional ability of community-dwelling elderly within three weeks**Chonticha Kaewjoho, Sugalya Amatachaya, Thiwabhorn Thaweewannakij, Lugkana Mato and Saowanee Nakmaroeng**
Khon Kaen University, Thailand

Current methods for functional improvement and fall reduction for elderly commonly involve various types of exercises on hard surfaces. Several studies reported challenging effects of unstable soft surfaces, without clear evidence on the incorporation of soft surfaces to improve functional ability in elderly. This study compared effects of three week exercises on a soft surface on function ability relating to levels of independence in 14 elderly causing a quasi-experimental design. The participants were trained using a Thai dancing program on a soft surface for 50 minutes/session, three times/week over three weeks. Before and after the program, participants were assessed using the 10 meter walk test, five times sit-to-stand test, timed up and go test and six minute walk test (6 MinWT). The dependent samples t-test was used to compare the findings before and after training with the level of statistical significance at p value < 0.05 . The results indicated significant improvement in all functional tests, except the 6 MinWT. The findings may confirm a high demand of unstable and soft surface that could significantly improve walking, balance and lower limb muscle strength of the participants within three weeks. However, the training period may be insufficient to clearly improve endurance of the participants. Therefore, apart from various types of exercise, a soft surface may be applied to promote levels of independence for elderly. However, the effects found in this study were a combination between Thai-dancing and soft surface. Therefore, a further randomized controlled trial is needed to clearly confirm effects of surface and exercise used in the study.

Biography

Chonticha Kaewjoho is currently pursuing her PhD in the Human Movement Sciences program, Faculty of Associated Medical Sciences, Khon Kaen University, Khon Kaen, Thailand. She is a Physiotherapist and interested physical therapy in elderly.

Chontich@kkumail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Dual and single task obstacle crossing training could similarly improve functional ability in ambulatory patients with spinal cord injuryKitiyawadee Srisim^{1, 2}, Sugalya Amatachaya¹, Pipatana Amatachaya^{1, 3}, Preeda Arrayawichanon¹, Thiwabhorn Thaweewannakij¹ and Lugkana Mato¹¹Khon Kaen University, Thailand²Thailand Research Fund, Thailand³Rajamangala University of Technology, Thailand

Ambulatory patients with spinal cord injury (SCI) face with a high risk of falls due to stumble over a small obstacle. Common walking rehabilitation for these patients likely involves single-task over-ground training, but the effects cannot ensure their functional walking and risk of fall of the patients. Dual-task training has been widely used in patients with cognitive impairments. However, little evidence is known for patients with SCI who had intact brain functions but suffer from sensorimotor deteriorations. Therefore, this study investigated immediate effects of single-task and dual-task obstacle crossing training (STOC and DTOC) in twenty-two ambulatory subjects with SCI. Subjects were randomly assigned to train using STOC or DTOC training for 30 minutes, with two-day washout period. The findings showed significant improvement in single-task and dual-task 10-meter walk test, timed up and go test (TUGT), and five time sit-to-stand test following both training programs ($P < 0.05$). However, the levels of changes were not significantly different between the training programs ($P > 0.05$), except for the TUGT that had a tendency toward significant differences between the programs ($P = 0.06$). The findings may suggest benefit of STOC and DTOC for ambulatory individuals with SCI. However, the nearly significant improvement in the TUGT may suggest the benefit of DTOC on the improvement of a complex functional task test needed in daily activity. However, outcomes were immediately assessed; a further intervention study in subjects with various SCI characteristics would confirm the effectiveness of STOC and DTOC training for these individuals.

Biography

Kitiyawadee Srisim is currently pursuing her PhD in the Human Movement Sciences program, Faculty of Associated Medical Sciences, Khon Kaen University, Khon Kaen, Thailand. She is a Physiotherapist and interested in patients with neurological disorders.

kitis_hp@hotmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

A simple method of the 7th cervical vertebra wall distance could indicate a risk of functional decline in elderly**Patcharawan Suwannarat^{1, 2}, Sugalya Amatachaya¹, Pipatana Amatachaya^{1, 2}, Thiwabhorn Thaweewannakij¹, Thanat Sooknuan^{1, 3}, Nuttaset Manimmanakorn¹, Lugkana Mato¹ and Sininat Wilaichit⁴**¹Khon Kaen University, Thailand²Research and Researcher for Industries (RRI), Thailand³Rajamangala University of Technology, Thailand⁴Damnoen Saduak Hospital, Thailand

Advancing age attributes obvious effects of functional decline that can reduce levels of independence of elderly. The body systems decline due to age advancement also increases a risk of thoracic kyphosis that further affects levels of independence in elderly. Therefore, a simple and practical tool to indicate a risk of thoracic kyphosis may be able to detect a risk of functional decline of these individuals. This study evaluated an appropriate cut-off point of the 7th cervical vertebra wall distance (C7WD), a simple and practical kyphosis measure, to determine the risk of thoracic kyphosis and functional decline in 104 community-dwelling elderly, age at least 60 years who had different severity of kyphosis. The participants were assessed for their C7WD using two rulers and functional ability using timed up and go test, five times sit-to-stand test, 10 meter walk test and 6 minute walk test. Within seven days, all participants were at a hospital to complete a lateral plain radiograph (Cobb's method) which was used as a standard method to indicate thoracic kyphosis (Cobb angle >40 degrees). The findings indicated that the C7WD of at least 7.5 cm and 7.8 cm. had the best diagnostic properties to determine the risk of thoracic kyphosis and functional decline, respectively. The finding confirms the clinical utility of C7WD for clinical screening and monitoring thoracic kyphosis and functional decline in elderly.

Biography

Patcharawan Suwannarat is currently pursuing her PhD in the Human Movement Sciences program, Faculty of Associated Medical Sciences, Khon Kaen University, Khon Kaen, Thailand. As a Physiotherapist, she is interested in elderly patients with neurological conditions.

patcharasuwannarat@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Lower-limb loading during sit-to-stand obviously related to functional ability in ambulatory patients with spinal cord injuryWilairat Saensook¹, Sugalya Amatachaya¹, Lugkana Mato¹, Nuttaset Manimmanakorn¹, Thanat Sooknuan^{1, 2} and Pipatana Amatachaya^{1, 2}¹Khon Kaen University, Thailand²Research and Researcher for Industries (RRI), Thailand³Rajamangala University of Technology, Thailand

Sit-to-stand is an important ability in daily living. The task is very demanding, thus it is commonly incorporated in rehabilitation training for ambulatory patients with spinal cord injury (SCI). However, with sensorimotor impairments, they may need contribution of the upper extremities to complete the task that may reduce effectiveness of the task on rehabilitation outcomes. Thus this study assessed the relationship between lower limb loading during sit-to-stand (LLL-STS) and functional ability relating to independent walking in 42 ambulatory participants with SCI. The participants were interviewed and assessed for their demographics, LLL-STS and functional ability including 10-meter walk test, timed up and go test, five time sit-to-stand test and 6 minute walk test. The findings indicated that the LLL-STS of the participants showed moderate to high correlation to the functional tests ($p < 0.01$). The findings confirm the importance of LLL-STS for functional ability in ambulatory individuals with SCI. Thus the rehabilitation programs to promote LLL-STS ability may benefit functional ability of these individuals.

Biography

Wilairat Saensook is currently pursuing her PhD in the Human Movement Sciences program, Faculty of Associated Medical Sciences, Khon Kaen University, Thailand. She is a Physiotherapist and interested in patients with neurological disorders.

psaensook@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Effect of weight loss and strength training on pain, discomfort, stability, ROM and isokinetic moments in basketball player with experienced a knee injury

Joo Heon Jee

Hanseu University, Republic of Korea

Basketball requires abrupt stop and go and cutting maneuvers which can put the ligaments of the knee joint at risk. Basketball had a higher injury rate because player-player contact was the most common medically disqualifying injury mechanism. However, although it is also thought to be associated with body weight or myofunction around knee joint, there are so lacking evidences related to above the theory. All the subjects complaining of knee pain/discomfort for more than 3 months were not need to take a surgery. And they were collegiate students who did play basketball regularly for over 6 months. Additionally, they were also included if they had not taken any treatment for weight loss or any medication known to affect body composition, had not undergone any major surgery in past year. Of the 40 participants who completed the survey, seven subjects were disqualified. Five of them took part in a weight loss program during the study, another refused to participate, and the other had personal reasons. The remaining 33 participants were allocated to each group according to randomized criteria. Finally, twenty-five participants became the subjects for this study after 8 participants were disqualified due to a failure of receiving assessments or discontinuing the study. All subjects (mean age 21.95 ± 2.38 years) were randomly classified into control group (CON; n=8), weight loss group (WLG; n=8), and weight loss + strengthening group (WLSG; n=9) after a 4-week baseline period. One week later, the subjects returned to the laboratory to complete baseline measurements, including pain or discomfort degrees, instability balance test, ROM, and isokinetic strength test. The CON did not receive any intervention except for pre and post-measurements, whereas the WLG conducted a 500-calorie dietary restriction per day and walking for 200 calories per day. The inclination of the treadmill was set to 0% and the speed was set to 50% of the HRR. HRR was confirmed by Polar Watch by an expert. This weight loss program was prescribed by a dietitian and was designed to perform five days a week to consume 3,500 calories per a week. In other words, the goal of weight loss was to reduce 2 kg for 4 weeks. Meanwhile, WLSG's program was the same as that of WLG, but added a strength program. Strength program was performed only on Q-set and semi-squat. The Q-set exercise consisted of 10 seconds of muscle contraction and 10 seconds of rest. The semi-squat was performed in the same manner as the Q-set exercise by weight-bearing exercise. Results are as follows; First, although the muscle mass among groups was not significantly different in baseline, it was significantly ($P<0.01$) increased in WLSG compared with WLG and CON after 4 weeks. Fat masses of WLG and WLSG were decreased, whereas this of CON were increased after 4 weeks. Specifically, fat mass of WLSG was lower ($P<0.05$) than that of WLG. Second, although the pain and discomfort levels in baseline were not significantly different among groups, only the discomfort level was significantly ($P<0.01$) different after 4 weeks. The discomfort of WLSG was lower than those of both group after experiment. In detail, the discomfort level before the experiment was 5.25 ± 1.39 , but it was significantly decreased by 2.75 ± 1.16 after 4 weeks. Third, although the stability and ROM levels were not significantly different among groups in baseline, only ROM level was significantly ($P<0.01$) different after 4 weeks. Other words, the ROM of WLSG was higher than those of both group after experiment. In detail, although the ROM level before the experiment was $112.00 \pm 9.86^\circ$, it was significantly increased by $130.88 \pm 3.48^\circ$ after 4 weeks. Fourth, although all of the peak torques in baseline were not significantly different among groups, only the peak torque of quadriceps muscle in an involved leg of WLSG was significantly ($P<0.05$) increased after 4 weeks. Specifically, the deficit ratios of quadriceps and hamstrings in both legs of WLSG were significantly returned to normal ranges, respectively. As conclusion, this study confirmed that the weight loss and strength training program can improve body composition, reduce discomfort level, increase ROM and quadriceps muscle in basketball player with experienced a knee injury.

Biography

Joo Heon Jee is a PhD student at Physiotherapy Department, Hanseo University.

jhhuns1116@naver.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Effects of rhythmic auditory cueing on stepping in place in patients with Parkinson's disease**Hsiu Yun Chang***National Taiwan University, Taiwan*

Patients suffered from PD demonstrate internal rhythm dysfunction, thus lead to difficulty and irregularity in rhythmic movements such as ambulation. In the clinical setting, auditory cues are often used to alleviate the rhythmic movement symptoms. Stepping in place (SIP) is an alternative exercise program for the patients who do not have sufficient space or lack of enough balance ability to perform ambulation training. However, few studies discussed the effects of SIP movement and the differential effects on patients with or without freezing of gait. In this cross-over study, 21 patients with PD were recruited. Each participant received two experiments: (1) Stepping in place with concurrent auditory cues (AC condition), (2) Stepping in place without any auditory cue (NC condition). In each experiment, subjects were asked to step 50 steps per session, totally 10 sessions. The rhythmic auditory cue was set at 110% of step frequency. Assessments consisted of stepping in place test and walking. Wilcoxon signed-rank test was applied for within group comparison and Mann-Whitney U test was used for between-group comparison. The results demonstrated that the stepping variability decreased significantly (AC: $p=0.033$, NC: $p=0.009$) and the walking cadence increased (AC: $p=0.019$, NC: $p=0.0023$) no matter there were auditory cues or not. The freezers further showed decreased walking variability in both conditions. Therefore, SIP training may be beneficial to patients with PD, especially the freezers. The dosage of auditory cueing SIP training should be further investigated.

Biography

Hsiu Yun Chang has completed her Master's degree from National Taiwan University, Taiwan. She is specialized in Neurological Physical Therapy, especially the ambulation problems and auditory cueing in PD. She is currently a Research Assistant in National Taiwan University and In-Charge of the study about transcranial direct current stimulation.

conniechang0712@gmail.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Plantar flexor muscle activity during assistance gait is strongly influences the difference of therapist: Assistive gait characteristics affecting ankle plantar flexor muscle activity**Naomichi Mizuta***Medical Corporation Syowakai, Japan*

In walking exercise of stroke, severe dysfunction patients depend on walking exercises by assisting therapists because independent walking is difficult. Therefore, the lower limb muscle activity during the assistance walking is greatly influenced by the therapist's skill, which may affect the training effect. The purpose of this study was to analyze the influence of therapist assistive walking characteristics on kinematics and muscle activity for one stroke patient. Affective factors for plantar flexor muscle activity in terminal stance (TSt) were examined. One sub-acute stroke with severely motor paralysis of the lower extremity was considered. It's characteristics that decrease in the lower limb extension angle (TLA: Trailing Limb Angle) in TSt. 10 healthy adults who carried out walking assistance were assisted walking with one enrollment each. We investigated gait and therapist characteristics affecting plantar flexor muscle activity in TSt. Walking characteristics among therapists did not show similar results in all items and the walking performance was different depending on therapist. Plantar flexor muscle activity was significantly correlated with TLA ($r=0.80$, $p=0.005$). On the other hand, the relationship between the therapist's characteristics and walking characteristics was not recognized. From these results, it was suggested that promoting TLA expansion in posterior assistance walking with the main objective of improving physical function is important for increasing plantar flexor muscle activity in TSt.

Biography

Naomichi Mizuta has completed his Master's degree and PhD degree from Kio University, Japan.

peace.pt1028@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

The relationship between apathy and depression in care recipients in healthcare facilities for the elderlyHiroaki Morita¹, Tomoko Kakizaki², Rumi Ichinohe³, Humio Watanabe³ and Junichi Hashimoto¹¹Aomori University of Health and Welfare, Japan

Background & Aim: Apathy and depression are psychological characteristics that prevent effective rehabilitation of care recipients of healthcare facilities for the elderly. The relationship between the two psychological factors remains to be elucidated. This study aimed to identify the relationship of apathy with a depressed mood, low energy and lack of positive emotions, which are the symptoms of depression, in care recipients of healthcare facilities for the elderly.

Method: This study involves 105 care recipients of healthcare facilities for the elderly (mean-age: 77.1±8.5 years; 40 males and 65 females), a personal interview was conducted using questionnaires and we measured scores on the Apathy Scale developed by Morita, et al. for care recipients of healthcare facilities for the elderly and those on geriatric depression scale 15 (GDS). The partial correlation coefficient with age and sex as an adjustment factor was used for analysis on the relation between depressed mood, low energy, lack of positive emotions which are 3 GDS sub-scales and apathy scale score. This study was conducted with the approval of the Research Ethics Committee of the Aomori University of Health and Welfare.

Result: The partial correlation coefficient between the Apathy Scale and depressed mood/low energy/lack of positive emotions was 0.40, 0.39 and 0.37, respectively, at the 0.01 significance level.

Conclusion & Implication: Apathy can be modified by providing appropriate rehabilitation interventions. The results showed that in care recipients, improving apathy by providing interventions may contribute to improving a depressed mood and low energy levels and increasing positive emotions.

Biography

Hiroaki Morita has completed his graduation in Health Sciences from Kobe University, Japan. He is a Physical Therapist and an Assistant Professor at Department of Physical Therapy, Aomori University of Health and Welfare, Japan.

hr08mori608@auhw.ac.jp

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Effects of cervical setting exercise on pain intensity, cervical range of motion, and craniocervical angle in patients with neck pain: a preliminary studySeungMin Kim^a, PT, MSc, Minseock Kim^a, PT, MSc, TaeYeong Kim^a, PT, MSc, BumChul Yoon^{a,b}, PT, OT, PhD^aMajor in Rehabilitation Science, College of Health Science, Korea University Graduate School^bDepartment of Physical Therapy, College of Health Science, Korea University

Background: Cervical setting exercise (CSE), an isometric setting exercise with ceiling-mounted sling to strengthen the deep flexor muscle in the cervical spine, is prescribed to decrease pain intensity and improve the range of motion in patients with neck pain. Although many clinicians have utilized CSE to treat patients with neck pain, clinical evidence of the effectiveness of CSE is not sufficient for clinical application.

Objective: This study aimed at providing clinical evidence of the effectiveness of CSE in comparison to that of a combination of CSE and craniocervical exercise (CCFE) in patients with neck pain, on the basis of the visual analog scale (VAS) score, cervical range of motion (CROM), and craniovertebral angle (CVA).

Methods: This study was a single-blind, randomized, comparative trial. Twenty patients were allocated into either the CSE or the CCFE group. Before and after the intervention, we measured pain intensity, CROM, and CVA in the sitting and standing positions. Mann-Whitney and Wilcoxon's signed-rank tests were used to analyze our data.

Results: Both groups showed significant improvements in the VAS score, cervical right lateral flexion, and CVA in the standing position (both, $p < 0.05$). However, only the CSE group showed significant improvements in cervical extension ($z = -2.69$; $p < 0.05$), cervical left lateral flexion ($z = -2.54$; $p < 0.05$), cervical right rotation ($z = -2.54$; $p < 0.05$), and cervical left rotation ($z = -2.64$; $p < 0.05$). The improvement in the VAS score was significantly higher in the CSE group ($z = -2.30$; $p < 0.05$) than in the CCFE group.

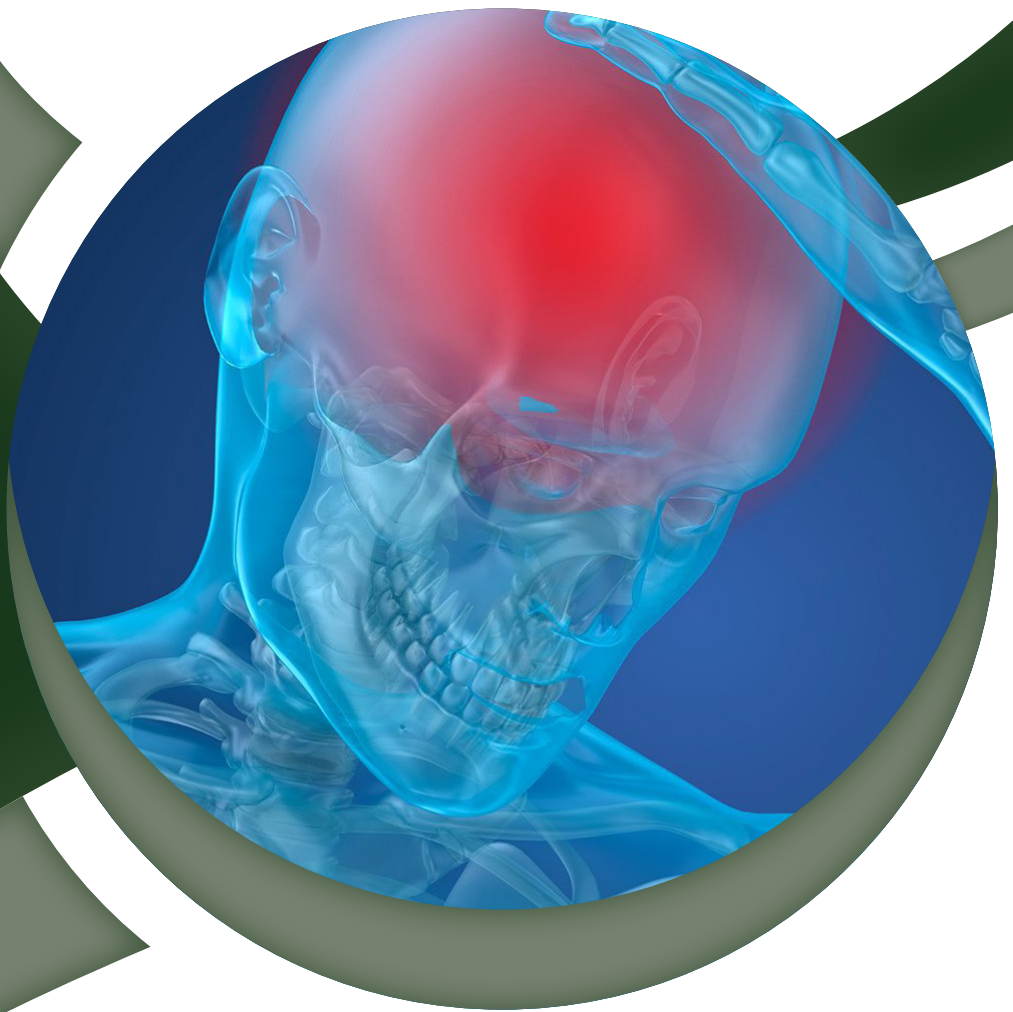
Conclusions: CSE may relieve cervical pain and improve CROM and CVA in the standing position in patients with neck pain. The results of this study will guide future research in identifying the effectiveness of CSE.

Biography

SeungMin Kim is a Researcher in the Applied Neuro-Dynamics Laboratory, and Major in Rehabilitation Science. He has done PhD course at Korea University Graduate School, Seoul, Republic of Korea. His Research interests are Pain control, Therapeutic exercise, Orthopedic physical therapy, and Motor control. And he Worked at the Department of Physical Medicine and Rehabilitation of Korea University Anam Hospital..

life7389@gmail.com

Notes:



**7th World Congress on
Physical Medicine and
Rehabilitation**

May 18-19, 2018 Osaka, Japan

Accepted Abstracts

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Sonotherapy®: The medicine of the future

Gary Robert Buchanan
Steamboat Healing Center, USA

Within the fields of regenerative medicine and therapeutics, pain medicine, restorative therapies (e.g. for endocrinal, gastro-intestinal, geriatric and numerous other disorders) and general rehabilitation, Sonotherapy® is a unique, non-invasive and rapidly evolving combinatorial approach of arts, science and technologies employing sound, light, color, water and subtle energies within the emerging field of energy medicine and alternative therapeutics. Initial research and development began with Dr. Buchanan in 1975 at the University of Washington, Seattle and has been practiced at Steamboat Healing Center in Nevada since 2004. Hundreds of case studies for myriad conditions are on file, two textbooks published and distributed globally, a training course established with students located at clinics on all major continents, with clients from around the globe treated each week. Positive results have been documented since 2004. Sonotherapy® is an all-encompassing approach based upon Cymatics, Syneregtics, Photo-Syntotics and Photon Therapy (Heliotherapy), Wave Front BIOresonance™, Acu-Point/Acu-Pressure/Meridional/Bong-Han Duct networks, Fourth-Phase (EZ) Water Potentials and a host of related fields in vibrational medicine. Conditions improved and ameliorated include every type of disease, e.g. from parkinsonism, organic and neurological functions, autism, ADHD, musculoskeletal functions, hormonal and endocrine/alkaline-acidic balance to treatments for eye conditions, glandular malfunctions, vagus nerve blockages, vertigo, uterine conditions and even simple gout. The major crisis in modern medicine is the excessive use of pharmaceuticals for pain. Virtually, all Sonotherapy® treatments, the immediate outcomes are reduction of pain, swelling, edema, inflammation, with improved circulation and detoxification. Thus, this is the medicine of the future, worthy of further discussion and dissemination and an obvious solution to the opioid epidemic which is now taking place.

sona@communityguilds.org

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

The association between cardiorespiratory fitness and physical activity levels of central obese adults in Enugu State (eastern part), Nigeria

Iwezu Happy Nonso
University of Nigeria, Nigeria

Central obesity and its implicated adverse health conditions are a major concern of some people. Central obesity is one of the predisposition factors to cardiovascular disease, respiratory conditions, type-2 diabetes mellitus, cancer and others. The purpose of this study was to determine the relationship between central obesity, cardio respiratory fitness and physical activity level among adults in Enugu State. 317 subjects (158 obese and 159 non-obese) who met the inclusion criteria and gave their informed consent participated in the study. Their waist to hip ratio was determined using measuring tape and body mass index measured with stadiometer and weighing scale. Cardio respiratory fitness was determined using Harvard step test and International Physical Activity Questionnaire (IPAQ) was used to determine their physical activity level. Data collected was analyzed descriptively and inferentially using correlation test. The level of significance was set at $p=0.01$. The physical activity level of obese adults in Enugu State increases in an ascending order of vigorous, low and moderate while the cardiorespiratory fitness decreases in reverse direction as low, average, good, excellence and very low. There was a significant relationship between cardio respiratory fitness and physical activity ($r=0.146$, $\text{sig}=0.009$). There was also a significant relationship between waist-hip ratio and cardiorespiratory fitness ($r=-0.221$, $\text{sig}=0.000$).

iwezuhappy@yahoo.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Effect of a mobility focused exercise training in rehabilitation of an elite weightlifter with shoulder pain and weakness: A case study

Peng Zhao, Lingling Li and Runze Guan*China Institute of Sports Science, China*

Shoulder pain and weakness is associated with complex pathologies and often precludes weightlifters from participation in training. The role of exercise training in weightlifters with shoulder pathology remains unclear. This case report described an exercise program in management of a 22-year-old elite weightlifter with primary complaint of 2-year duration of right shoulder pain and weakness which were not relieved with steroid injection, manual therapy or physiotherapy. There was limitation in all active range of motion especially horizontal extension (13°) and external rotation (41°) with pain intensity at 4/10 and 10/10 (numeric pain rating score), respectively. Muscle weakness was most significant at supraspinatus and teres minor, 38% and 27%, respectively compared to his left shoulder. An exercise training program focusing on improving mobility was designed for this athlete following physical examinations, including specific stretching, muscle activating and scapular stability training (once per day, 60 min per session). All exercises were completed under instruction as pain allowed. Quantitative assessment was conducted at the end of each week for 3 weeks. After the program, the athlete was pain-free in all movements except the O'Brien active compression internal rotation test, the pain was however reduced from 10/10 to 3/10. The horizontal extension and external rotation ranges increased to 79° to 120°, respectively and strength of all rotator cuff muscles returned to normal. After 1-month follow up, he was totally pain-free and back to normal function and weightlifting activities. The outcomes sustained through 6-month and one year.

952421240@qq.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Knowledge of parents on rehabilitation activities for their children with cerebral palsy

Hosnara Perveen*Centre for the Rehabilitation of the Paralysed, Bangladesh*

Cerebral palsy is one of the most common congenital disorders of childhood. That affects muscle tone, movement and motor skills and that's why they are dependent on their family; especially the mother takes the responsibilities to take care of the children with lots of stress of children with cerebral palsy. Author identified the knowledge of parents on functional activities for their children with cerebral palsy. To assess the level of knowledge of parents on rehabilitation activities for their children with cerebral palsy, here uses the cross-sectional study method with 109 participants of parents with their CP children. Data was analyzed by using SPSS version 20 and Microsoft Excel Work 2013. Among 109 participant mothers, most of them (24.8%) were completed secondary education level and 7.3% completed a bachelor's degree. In additionally, most of the fathers completed (18.6%) primary level and 4.3% completed bachelor. Here, 63% parents know about the rehabilitation activity and 46% were not, 99% know about physiotherapy 1% were not, 84.4% know about occupational therapy and 15.6% were not, 76.1% know about speech and language therapy and 23.9% were not, 68.8% know about assistive device and 31.2% were not, 91.7% know about school going matter and 8.3% were not. It was true that knowledge of mothers was not very good with CP children, but there was no relation between functional limitations of CP children with their mother's knowledge. Educational status and knowledge of parents about physiotherapy, occupational therapy, speech and language therapy, all show the significant results (0.00) where p value exist the significant score is about (0.05). Also, knowledge of parents about causes of CP, sign of CP also presents significant results. Therefore, to increase knowledge of mothers, they should be motivated to join social activities related to their interests and care their own health. Mothers with depressive symptoms should be psychologically supported.

crphosnara@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Comparison between platelet-rich plasma and hyaluronic acid treatments for talar osteochondral lesions: A network meta-analysis of randomized controlled trials**Wei Li***Taipei Medical University Hospital, Taiwan*

Introduction & Purpose: Both platelet-rich plasma (PRP) and hyaluronic acid (HA) with or without surgical intervention can enhance healing and improve function in talar OCLs. However, recent studies on OCLs have not thoroughly investigated the effects among PRP, HA and conventional treatment. The purpose is to synthesize evidence by comparing the effects (pain score and foot and ankle condition scores) among PRP, HA and conventional treatment strategies for talar OCLs.

Material & Method: All relevant research articles were included using related terms in the PubMed, EMBASE, Web of Science, Science Direct and Cochrane library databases from their inception to June 2017. The screening criteria for this systematic review were as follows: Randomized controlled trials (RCTs) that compared PRP with HA, PRP with control and HA with control in patients with talar OCLs. The risk of bias in the included studies was assessed using the Cochrane Risk of Bias Tool. Data were extracted and recorded as weighted mean difference (WMD) and their standard deviations (SDs) with 95% confidence intervals (CI), consistency H and I-2 for continuous data in the network meta-analysis.

Result: A total of 1199 references were identified, of which five RCTs were included in the final synthesis. These studies randomized 197 patients into the PRP, HA and control groups. PRP caused higher reductions in the visual analog scale score than HA and conventional treatment and the WMDs were 1.109 (95% CI: -1.716, -0.502) and -2.301 (95% CI: -2.825, -1.777). Moreover, PRP improved the American Orthopedic Foot and Ankle Society score more than the other treatment methods and the WMDs were 12.448 (95% CI: 7.224, 17.672) and 18.617 (95% CI: 13.536, 13.698).

Conclusion: PRP reduced pain and improved ankle conditions to a greater extent than HA and conventional treatment. Therefore, PRP might be recommended for the treatment of talar OCLs. Further investigation is required to guarantee the safety and efficacy of different surgical treatments.

a4910131@gmail.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

An exploration of healthcare-related locus of control in COPD patients attending group-based pulmonary rehabilitation**David Edwards***Manchester Metropolitan University, UK*

Background & Aim: Pulmonary rehabilitation is of proven benefit in improving function and health-related quality of life in patients with COPD. However, long-term maintenance is poor. Though reasons for this are not fully understood, psychological concepts such as Health Locus of Control (HLOC) may be of interest. This exploratory study aimed to investigate whether HLOC can be altered through pulmonary rehabilitation.

Method: A non-randomized controlled before/after design was used. Eligible participants with a diagnosis of COPD and attending their first pulmonary rehabilitation program were invited to participate. The intervention consisted of standard pulmonary rehabilitation care: A six-week course comprising twice-weekly group-based exercise and education sessions. Participants completed the multidimensional health Locus of Control Form-C (MHLC-C) and standard assessments pre- (baseline) and post the six-week program.

Result: 96 patients were invited to participate, 46 consented and 20 completed both pre-and-post study outcomes. Significant improvement between pre- and post-tests were found for two MHLC-C dimensions (Internal: Mean increase=5.4, $p=0.012$ and Doctors: Mean increase=2.1, $p=0.016$).

Conclusion: Though limited by methodological issues, the results tentatively suggest that HLOC can be significantly altered through group-based pulmonary rehabilitation, potentially through enhanced self-management and education strategies empowering patients. Further investigation of these findings and the relationship with long-term maintenance is warranted.

david.edwards@mmu.ac.uk

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Physiotherapy post bilateral sub-thalamic nucleus deep brain stimulation in patients with ParkinsonismRidhima J Negandhi^{1, 2}¹Kovai Medical Center and Hospital, India²Walton Rehabilitation-Gujarat, India

PD is a progressive neurologic condition that occurs due to significant loss of dopamine producing degeneration of both motor and non-motor basal ganglia circuitry. The literature used for this study suggests the Level I evidence for physiotherapy management of PD patients and it also emphasizes on a comprehensive client centered approach 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, also hallucinations and depression although physiotherapy regime post-surgery is still lacking. For this purpose, a case series of 3 patients with idiopathic PD and similar criterion were considered appropriate. They were scored on ADLs H&Y scale and mean criterion for DBS. Post-surgical intervention, significant differences were seen bradykinesia and tremors, moderate difference in cognition but not in postural instability and rigidity. The study in mid stage supports the evidence although post 6 months of DBS - no specific physiotherapy protocol has been devised for the same. Also, the use of one-off auditory cues has been implemented to see its impact on functional mobility and balance confidence based on the auditory reaction time.

waltonrehab@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Holding back to move forward: Mobilization following posterior fossa neurosurgery

Gaspari Clara, Lafayette Sabrina, Kelly Jennifer Jaccoud and Anna Carolina*Paulo Niemeyer State Brain Institute, Brazil*

The detrimental impact of immobility is known in the literature. There is a wide variation of specific activity recommendations and when the activity should begin. Increasingly, studies show the need for diagnosis-specific recommendations for protocols. The posterior cranial fossa houses parts of the brain that controls respiration, cardiac cycle, consciousness and balance. In the early post-operative (PO) period following posterior fossa neurosurgery, patients often have episodes of nausea, vomiting, headaches and general discomfort. Due to a significant loss of cerebrospinal fluid (CSF) during this surgery, there is a higher chance of developing these symptoms. Symptoms worsen with the upright posture. Traction and edema around cranial nerve VIII can lead to vestibular symptoms and poor tolerance of positional changes and upright position. The act of vomiting may increase intracranial pressure which could jeopardize hemostasis, cerebral perfusion and increase likelihood of CSF leak. Nausea and vomiting can lead to delayed discharge, thereby increasing medical cost. We believe it is beneficial for these patients to begin mobilization gradually. We have instituted a protocol that ensures a less aggressive mobilization approach immediately following posterior fossa surgery. Day-1: Elevate head of bed and sit at edge of bed, as tolerated; Day-2: Sit out of bed (OOB) and stand/walk, as tolerated. This approach to mobilization ensures that the patient tolerates PT or OOB activities without worsening of symptoms. This structured protocol for mobilization of these patients allows for improved tolerance of mobility and less risk for complications in the PO period.

cgaspari@gmail.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Effect of anodyne therapy versus traditional physiotherapy in treating De Quervain tenosynovitis**Ahmed Ebrahim Elerian**
Cairo University, Egypt**Objective:** Comparing the effect of anodyne therapy versus traditional physiotherapy on De Quervain tenosynovitis.**Material & Method:** 32 De Quervain tenosynovitis patients were included in this study. They were equally divided into two groups. Group-1 contained 16 patients who perform 12 physiotherapy sessions each, consisting of ultrasound, kinesiotherapy and instruction for stretching exercises at home. Group-2 contained 16 patients who perform 12 sessions of anodyne therapy (3 times per week) and received instruction for stretching exercises at home. Evaluation of pain and ability to function were done before treatment, immediately afterwards and three months later. The mean age of the patients was 48.3 ± 11.3 years (range 26-67), 83% were female, 89% were overweight, 56% had bilateral impairment and 75% used analgesics regularly.**Result:** Anodyne therapy and conventional therapy were effective in pain reduction and improving the functional abilities of De Quervain tenosynovitis. Anodyne therapy effect was sooner than physiotherapy after the onset of treatment.**Conclusion:** Anodyne treatment and conventional physiotherapy were equally effective when evaluated three months after the end of treatment.

dr_ahmed_elerian77@yahoo.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Physical disability, range of motion and selected gait parameters in patients with unilateral knee osteoarthritis**Olusegun O Ojedoyin and Adegoke B O A***University of Ibadan, Nigeria*

Osteoarthritis is the most common joint disorder worldwide. In Nigeria, the most affected joint is the knee. There is paucity of literature on the interrelationships among physical disability, range of motion and selected gait of knee OA patients in Nigeria. This study is therefore to investigate the relationships between physical disability and knee flexion and each of stride length, dynamic base of support, walking speed and stride time in patients with knee OA. The participants were purposively sampled and recruited as they became available. The degree of physical disability was measured using Ibadan knee/hip osteoarthritis outcome measure questionnaire (IKHOAM), with higher IKHOAM scores implying lesser physical disability. Active knee flexion was measured using goniometer. Footprints of participants were recorded in a 10 m paper walkway. Kinematic gait parameters were computed using the footprints within the central 6 m of the 10 m walkway. Pearson's product moment correlation was used to determine the correlation between the IKHOAM scores and degree, each of knee flexion, between the IKHOAM scores and each of kinematic gait parameters and between range of knee flexion and each of the kinematic gait parameters. The level of significance was set at 0.05 alpha. Results showed significant correlations between physical disability and each of knee flexion ($P=0.016$, $r=-0.336$), stride time ($P=0.023$, $r=+0.347$), stride length ($P=0.000$, $r=-0.652$), walking speed ($P=0.000$, $r=-0.586$). And between knee flexion and each of walking speed ($p=0.009$, $r=0.396$) and stride time ($p=0.029$, $r=-0.333$). It was concluded that walking speed and stride time were the only kinematic parameters that correlated with each of knee flexion and physical disability.

olusegunojedoyin@gmail.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

The comparison of activities limitation between individuals with unilateral and bilateral symptomatic knee osteoarthritis based on the comprehensive ICF core set for OA

Patcharin Nilmart*Mahidol University, Thailand*

This study aimed to compare the ability to perform activities between individuals with unilateral and bilateral knee osteoarthritis (OA). Symptomatic knee OA in this study was identified by using the ACR clinical criteria for OA. 250 participants including 83 people with unilateral and 167 people with bilateral knee OA enrolled in this study. The characteristics of participants consisting of age, BMI and duration of knee pain were recorded. Two performance tests including self-paced walk (40 meter) and stair climb tests were performed. 23 ICF categories in activity and participation domain based on the comprehensive ICF core set for OA were asked to report levels of difficulty. The results showed that there were no significant differences of age and BMI between groups. The bilateral knee OA group had significantly longer duration of knee pain than the unilateral knee OA group. The unilateral knee OA group demonstrated greater ability to perform both performance tests than the bilateral knee OA group. Furthermore, scores of nine ICF categories had significant difference between groups. Interestingly, maintaining a squatting, kneeling and side sitting positions, were reported to have the highest level of difficulty in more than 80% of participants of both groups. In conclusion, the activities related to lower extremities performance were affected from the pathology of knee OA. Bilateral knee OA resulted in greater limitation of some activities compared with unilateral knee OA. Identification of activity limitations should be considered to direct physical therapy treatment goals for knee OA.

patcharin.nilmart@gmail.com

Notes:

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Cardiac rehabilitation and changes in serum and salivary hs-CRP among male patients with coronary artery disease**Boshra Jamshidpour and Farid Bahrpeyma**
Tarbiat Modares University, Iran

Introduction & Aim: Cardiac rehabilitation is a key part in the management of coronary risk factors by its anti-inflammatory effects. However, the effect of exercise training programs on salivary concentrations of hs-CRP in patients with coronary artery disease has not been well studied. The objective of this study was to evaluate the effect of an exercise based cardiac rehabilitation program on serum and salivary concentrations of hsCRP, in relation to the anthropometric measurements of obesity and the relationship between salivary and serum levels of hs-CRP in male patients who received coronary artery bypass grafting (CABG).

Materials & Methods: 40, 45 to 75 year old male volunteers with coronary artery disease participated in 6-8 weeks of moderate intensity aerobic exercise training consisting of 45 min sessions of treadmill, stationary bicycle and arm bicycle. Anthropometric measurements of obesity (body mass index (BMI), waist, hip circumference, waist- hip and waist-height ratio), levels of hs-CRP concentration in the serum, stimulated and non-stimulated saliva were measured at the beginning, in the middle and at the end of exercise sessions.

Results: All anthropometric measurements increased ($P < 0.05$) following cardiac rehabilitation except waist-hip ratio ($P > 0.05$). The exercise training induced reduction in serum CRP levels by 36% independent of changes in anthropometric measurements. Stimulated and non-stimulated salivary hs-CRP concentrations decreased by 68% and 54%, respectively after 24 sessions of exercise-based cardiac rehabilitation. Non-stimulated salivary hs-CRP levels appear to be correlated to serum levels of hs-CRP at baseline and following exercise training.

Conclusion: 24 sessions of exercise based cardiac rehabilitation seem to be effective to improve serum and salivary hs-CRP concentrations independent of anthropometric measurements.

Clinical Significance: Non-stimulated salivary hs-CRP measurement could be a surrogate for blood measurement for determining cardiovascular disease risk expressed by hs-CRP during cardiac rehabilitation in male patients with CAD.

jamshidpour.boshra@gmail.com

7th World Congress on

PHYSICAL MEDICINE AND REHABILITATION

May 18-19, 2018 Osaka, Japan

Evaluation of the risk of patellofemoral pain syndrome and lower extremity biomechanics**Rasmi Muammer and Aygul Koseoglu***Yeditepe University, Turkey*

Background & Aim: Patellofemoral Pain Syndrome (PFPS) is one of the most common complaints in the knee of young's. The mechanism of PFPS may rise from abnormal muscular and biomechanical factors that alter tracking of the patella within the femoral trochlear notch contributing to increased patellofemoral contact pressures that result in pain and dysfunction. The aim of this study was evaluation of the risk of Patellofemoral Pain Syndrome (RPFPS) and lower extremity biomechanics.

Methodology: This study included 30 subjects, the case group consisted of 15 participants who suffered from bilateral RPFPS and the other 15 participants were classified as a control group. Kujala Scoring Questionnaire (KSQ), Lysholm Knee Scale (LKS) and Clarke's Test were applied to all participants. Hamstring muscle length, Iliotibial band tightness, static Quadriceps angle (Q-angle) and position of subtalar joint of the feet were evaluated.

Result: Significant differences were observed in the lower extremity biomechanical properties of the RPFPS group and control group ($P<0.05$) in relation to KSQ, LKS values, hamstring muscle length, ITB tightness, foot pronation and Q-angle. The Clarke's test was found to be significant criterion between the two groups as a differential clinical test ($P<0.001$).

Conclusion: Hamstring muscle shortness, Iliotibial band tightness, increased static Q-angle and excessive pronation of the foot are demonstrated as risk factors for patellofemoral pain.

rasmymuammar@yahoo.com