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DVVPF'S COLLEGE OF PHYSIOTHERAPY AHMEDNAGAR
TURNING CHALLENGES INTO OPPORTUNITIES

ABSTRACT BOOK

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National Research Conference Abstracts

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SYMPOSIA

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Cardiovascular and Respiratory sciences Physiotherapy Junior Category

CRS-J-1: Awareness of Cough Etiquettes Amongst Community in Covid 19 Crisis- A TeleHealth Survey

Pournima A. Pawar Assistant Professor, Rasika S. Kaluskar Assistant Professor, Mahendra L. Shende Principal & Professor, TMV's Indutai College of Physiotherapy, Pune 37

ABSTRACT: Background: Now a day's Covid-19 cases are increasing in the world; more than 215 countries are affected by the coronavirus outbreak. Cough etiquette is a series of actions to take if you are coughing or sneezing, which are designed to reduce the spread of respiratory illness to others. Colds and flu can spread easily via the transmission of the germs through the air, carried on droplets. If dispersal of these droplets can be prevented, then infection transmission can be reduced. Hence the objective of the study was to find out and create awareness of cough etiquettes amongst the community in Covid 19 crisis using a self-made questionnaire. **Methodology:** A self-made questionnaire were made and circulated via google forms, 111 participants participated in telehealth survey. **Result:** Out of 111 participants, 83% were female, and 17% were male. 97.3% of participants were aware of cough etiquettes and were practising it. 91.1% of participants were practising majors like using handkerchief or tissue while coughing and sneezing or washing their hands after coughing and sneezing. **Conclusion:** In this study, we concluded that the community is aware of cough etiquettes and practising it. **Key Words:** Cough etiquettes, covid 19, telehealth survey, community, awareness

CRS-J-2: Impact of Cardiac Rehabilitation on Depression and Quality Of Life After CABG

Radhika PK, T S Muthu Kumar, Lecturer Narayana Hrudayalaya Institute of Physiotherapy, Professor JSS college of Physiotherapy Karnataka.

ABSTRACT: Background: Depression following major cardiac events is associated with higher mortality and also affects the quality of life after coronary artery bypass graft surgery, but little is known about whether this can be reduced through treatment including cardiac rehabilitation. **Methodology:** We enrolled 30 subjects who underwent CABG. They participated in an 8week CR. Patients were personally interviewed for the assessment of depression and QOL. The patients completed the BDI-II & SF-36 Form before and after the rehabilitation. BDI-II and SF-36 scores were recorded, and the changes in the scores were compared using paired t-test p values <0.005 were considered statistically significant. Correlation between the variables using Pearson correlation. **Results:** BDI-II scores decreased (M-14.87+7.77) with participation in cardiac rehabilitation (p value$>$0.0001). Mean of SF-36 form components increased (20.13+ 1.59 to 24.93+ 1.36 t-10.64 p value-0.0001). But no significant improvement was seen in emotional wellbeing domain. There was a positive but weak correlation between depression and quality of life after CABG ($r=0.0462$). **Conclusion:** Cardiac rehabilitation decreases the levels of depression and improves the QOL in patients after CABG.

These patients benefit from rehabilitation and therefore, may cope up well with the new changes in their health conditions. **Keywords:** Beck depression inventory, cardiac rehabilitation, quality of life, coronary artery bypass graft.

CRS-J-3: Effect of Aerobic Training on Quality of Sleep And Obstructive Sleep Apnea In Obese Individuals: A Randomized Control Trial

Nilesh M. Andhare MPT, Assistant Professor, TMV's Indutai College of Physiotherapy, Pune.

ABSTRACT: Background: Sleep plays a vital role in keeping good health and well-being throughout your life. Getting enough quality sleep at the right times can help protect your mental health, physical health, quality of life, and safety. Sleep-related apnoea is a health condition characterised by recurrent episodes of upper airways occlusion during sleep associated with inadequate sleep, daytime sleeplessness, and increased cardiovascular risk.

Methodology: The patients suffering from OSA visiting affiliated hospitals were surveyed and evaluated using the STOP-BANG Questionnaire (a total of 128 patients). Patient satisfying inclusion criteria were recruited and further randomly allotted in two groups using a simple random sampling method. The experimental group (n=50) received aerobic training with breathing control for five days/week for four weeks, and the Control group (n=50) received breathing control exercises. Pre- and post-treatment, values were recorded. **Result:** Data collected was statistically analysed. A paired t-test was done to compare the pre-post values within a group, and unpaired t-test was done to compare data amongst the two groups. Baseline characteristics for Experimental group (mean age=49.48±6.17, BMI=36.98±4.59) and Control group (mean age=51.22±5.43, BMI=36.78±4.12). The experimental group showed significant improvement in PSQI from pre (10.58±1.72) to post (8.06±3.20), VO_2max from pre (31.66±9.5) to post (30.68±9.6) and STOP-BANG Questionnaire from pre (5.5±1.72) to post (4.5±151), as compared to Control group which showed changes from PSQI from pre (10.64±1.63) to post (9.12±1.59), VO_2max from pre (31.78±9.52) to post (29.88±9.3) and STOP-BANG Questionnaire from pre (5.22±0.78) to post (4.08±1.45). **Conclusion:** The study concluded that aerobic training significantly improves the quality of sleep and obstructive sleep apnoea in obese individuals. **Keywords:** Aerobic training, Sleep Quality, Obstructive sleep apnoea, Obesity.

CRS-J-5: Comparison of Deep Breathing Exercise and Incentive Spirometry In Open Heart Surgery Patients

Poonam Nariyani, Assistant professor, MGM School of Physiotherapy.

ABSTRACT: Background: Postoperative pulmonary complications are the most frequent and significant contributor to morbidity, mortality, and costs associated with hospitalization. In this context, it can be highlighted early mobilization, positioning, breathing exercises and techniques for bronchial hygiene. Among these Deep Breathing exercises (DBE) and Incentive Spirometry (IS) are widely used techniques. This study has tried to find more effective treatment among the two most widely used techniques that are DBE and IS. **Methodology:** 38 patients were included in this experimental study. Males and females with age 50-70 years referred for open-heart

surgery were included in the study and patients who will need NMV for more than 24 hours and have other cardiac or pulmonary complications like asthma, COPD, LVF were excluded. All included patients were given all pre-operative care. After surgery, patients were allotted into two groups. DBE and IS group. Both the groups were given Splinting, manual techniques, Airway clearance techniques, mobilization. Apart from this DBE group was taught Deep Breathing Exercise sessions and IS group was taught Flow incentive (3 balls) spirometry. Outcome measures, i.e. Peak expiratory flow rate (PEFR), Arterial oxygen saturation (SpO_2), was taken one day before surgery, on 2nd postoperative day and on 7th post-operative day. **Results**: Results showed there was a statistically significant reduction in PEFR and SpO_2 on 2nd postoperative day in both the groups. On the 7th postoperative day, both PEFR and SpO_2 values showed statistically significant improvement. Mean recovery in PEFR and SpO_2 showed no statistically significant difference. **Conclusion:** Deep breathing Exercise and Incentive spirometry, improves pulmonary functions with equal effectiveness after open-heart surgery.

CRS-J-6: Impact of fatigue on quality of life and functional capacity in breast cancer patients receiving adjuvant chemotherapy

Shila Amarsheda; ESIC Model Hospital, Bapunagar

Background: Cancer treatment-related fatigue is a common and distressing symptom among cancer patients during and after treatment. With greater longevity promote by advances in therapeutics & early diagnosis, interest has shifted to the assessment of the quality of life. The concept of functional capacity has been used extensively in disability and rehabilitation research as an indicator of an individual's ability to engage in physical activity. In an effort to understand better the nature of cancer-related fatigue in patients receiving chemotherapy, an attempt has been made to find the impact of fatigue on quality of life and functional capacity in post-operative breast cancer patients receiving adjuvant therapy. **Method**: The trial received ethical approval from the Institutional ethical committee and written informed consent from all participants were taken. Total 30 participants were recruited from the Cancer Hospital, Ahmedabad, India. The patients who were receiving the third cycle of chemotherapy were recruited in the study. Facit fatigue questionnaire, FACT B questionnaire and 6-minute walk test (6MWT) were used for the assessment purpose of fatigue, quality of life and functional capacity, respectively. **Result**: Spearman's rank-order correlation was used to explore the association between the fatigue and quality of life total/subscale score as well as between fatigue and 6-minute walk test. The strength of the correlations (r) was categorised as low (0–.25), moderate (>.25–.50), strong (>.50–.75) and very strong (>.75). The Spearman's correlation confirmed that the fatigue is strongly associated with the subscale score of Fact B and very strongly related to a total score of fact B, Fact G and TOI. There was a moderate association between the fatigue and functional capacity measured by the 6-minute walk test. There were above average values in total and subscale scores of quality of life, but among all the subscale scores of quality of life, breast cancer subscale score had lower value compared to others. Social well-being score was higher among all other subscale scores. **Conclusion**: There is the impact of fatigue on various health aspects of

quality of life in breast cancer patients receiving adjuvant chemotherapy. Fatigue is having a strong effect on the quality of life and a moderate effect on functional capacity in these patients. Specific breast cancer-related health has more effect among other quality of life aspects, and social well being is least affected. **Keywords:** Breast cancer, Fatigue, Functional capacity, Quality of life

CRS-J-7: Comparing effectiveness of lung recruitment maneuver with chest physiotherapy versus chest physiotherapy on post operative children with congenital heart disease on mechanical ventilation.

Dr. Lajwanti Lalwani ; Assist. Professor (PhD Scholar); Dept. of cardiovascular and respiratory sciences; Ravi Nair Physiotherapy College; Sawangi

Abstract- Background: Children's with Congenital heart diseases [CHD] postoperatively requires regular chest physical therapy [CPT] for preventing complications post-operatively. A comprehensive literature search was conducted, and no study showing the effectiveness of combined Lung Recruitment Manoeuvres [LRM] and [CPT]was observed. So a study was conducted to assess the effectiveness of LRM as an adjunct to CPT on oxygenation and ventilation in operative CHD patients on mechanical ventilation. Methodology: 48 patients operated case of CHD in the age group of Two to Fourteen years intubated more than 6 hours were included in the study. Study populations were divided into two groups. Control Group (Group A) that received CPT and Interventional Group (Group B) that received CPT with LRM. Outcome measures(Oxygenation and Ventilation) were assessed pre and 15 minutes post-treatment. Results: There was a statistically significant improvement in oxygenation and ventilation within both the group with $p<0.05$. There was a statistically significant improvement in oxygenation in the experimental group as compared to control group with $p<0.05$. Conclusion: Oxygenation and ventilation improved in both groups. Both interventions are effective. Keywords: Congenital Heart Diseases [CHD], Lung Recruitment Manoeuvres [LRM], Chest Physical therapy [CPT].

CRS-J-8: EFFECT OF 4 WEEKS ZUMBA VS AEROBIC DANCE TRAINING ON CARDIORESPIRATORY FITNESS IN YOUNG OVERWEIGHT WOMEN

Dr Priti Patil (Assistant Professor CMF's College of Physiotherapy, Pune)

ABSTRACT: Background: Physical inactivity is a critical public health issue. Today due to scientific development, man is enjoying the highest level of physical comfort. He rides instead of walking, sits instead of standing and watches instead of participating. Such changes lead to inactivity leading to a variety of diseases such as obesity, type 2 DM, heart diseases etc. It affects the cardiorespiratory fitness. Due to these varieties of diseases being seen the awareness regarding the same has also increased and various forms of physical activity have been taken up by the people. Zumba and aerobic exercises are a few of them. **Methodology:** After ethical clearance, 54 overweight women (BMI- 25-29.9 kg/m2) were selected according to the inclusion and exclusion criteria and divided equally into two groups namely group A (Zumba) and group B (aerobic dance). The training was given three times weekly for the next 4 weeks. Cardiorespiratory fitness (VO2max) was assessed before and after 4 weeks of Zumba and aerobic dance training using the Harvard step test. **Result:** In the study, we found improvement in the VO2max

within the two groups ($p < 0.001$). In between the group, there was a significant improvement in the VO2max seen in group A (Zumba) than group B (Aerobics) ($p<0.001$). **Conclusion:** The study concluded that the effect of Zumba is more significant than aerobic dance training on cardiorespiratory fitness in young overweight women. **Keywords**- Aerobic dance, Zumba, cardiorespiratory fitness, Harvard step test.

CRS-J-9: Comparative Study of Self-Demonstration versus Video-Based Education on Level of Anxiety and Self-Efficacy in Patient Undergoing Cardiac Surgery: A Double-Blinded Randomized Controlled Trial

Dr Rajshree Gaikwad[1], Dr Abhijit D. Diwate[2]
1. Assistant Professor at NPCRC, Nanded
2. Professor and HOD at DVVPF's College of Physiotherapy, Nagar

ABSTRACT: Background: Cardiovascular diseases are a major public health issue worldwide and the leading cause of death globally. Pre-operative education of the cardiac surgery patient plays a vital role in the patient's post-operative care. There are different methods for providing preoperative education like written education materials, individual demonstration of exercises or group instruction classes, telephonic intervention, video education using CD-ROM or Internet are used. **Methodology**: A Double-Blinded, Randomized Control Trial conducted at Cardiac Care Centre of District Based Tertiary Hospital. Duration of study was 12 months. A total number of 58 patients were included in this study. The patients divided into two groups. Group I, which receives self-demonstration and Group II which receives video-based demonstration. **Result**: Group I for Anxiety and Depression, within the group analysis showed that there was a significant difference found for depression between pre and post-intervention anxiety and depression. Group II for Anxiety and Depression, within the group analysis, showed that there was a significant difference found for depression between pre and post-intervention anxiety and depression group. Between the group analysis outcome measure, which showed that there was no significant difference found, i.e. p-value is 0.4925 for anxiety and p-value is 0.9441 for depression. In Group I and Group II, there was no statistically significant difference for Score of Self Efficacy Questionnaire. **Conclusion**: Study concluded that Self-Demonstration and Video-Based Education both are equally effective in the reduction of anxiety. Similarly, the study supports equal effectiveness of above techniques in term of self-efficacy post-operatively.

Cardiovascular and Respiratory sciences Physiotherapy
Senior Category

CRS-S-1: Correlation of Six Minute Step Test and Three Minute Step Test In Healthy Individuals

Neha Gotmare , Associate Professor, VSPMS College Of Physiotherapy Nagpur

ABSTRACT: Background: Cardiorespiratory endurance (VO2) is a fundamental component of physical fitness. In physical activity, the heart and pulmonary systems must alter their function in a manner that allows them to complete the activity. One such functional test that is practicable is a 3-minute and 6-minute step test. While, physical inactivity is a major contributing risk factor for heart disease with an overall risk that is similar to elevated blood

cholesterol, cigarette smoking and hypertension. **Methodology:** All the participants were selected according to the sample of convenience and given a thorough explanation of the procedure in the language they understand. Each participant signed written informed consent before participating in the study in the language they could comprehend. Subjects were screened based on selection criteria and PAR-q & you questionnaire. Total 30 participants were selected, and demographic and anthropometric data were recorded. In this 3 MST was performed on one day & 6 MST on the second day were performed for each participant. $VO_{2\ max}$ of 3 MST using the equation, and no of steps for 6 MST were calculated. Pre and post vitals are collected for a 3-minute step test and 6-minute step test. Data was collected and analysed.

Result & Conclusion: The study concludes that there is an excellent limit of agreement (ICC- .96) between the two tests so 6MST can be preferred over 3MST for evaluating the physical capacity of the studied population.

CRS-S-2: To Study the Effect Of Pectoralis Minor Stretching And Lateral Costal Breathing Exercise With Scapular Muscles Strengthening Exercises On Scapular Position In Trained Swimmers

Deepa Suvarna Associate Professor, Dr Aditi Zawar Intern, Dr Mahesh Mitra Principal, M.V.P'S College of Physiotherapy, Nashik

ABSTRACT: Background: Swimming is an activity that is growing in popularity as a competitive sport. Pectoralis Minor has a tendency to shorten in swimmers mainly because it is used as an accessory breathing muscle to ensure optimum ventilation, as well as due to repetitive glenohumeral flexion and medial rotation. Therefore, the purpose of this study was to find out the effectiveness of Pectoralis Minor stretching and lateral costal breathing exercise with scapular muscles strengthening exercises on chest expansion and the length of Pectoralis Minor in trained swimmers. **Methodology:** Experimental Study, Convenient Sampling, 30 participants were explained about the treatment procedure and the method of execution of exercises for two weeks to achieve the desired outcomes. **Results:** Pectoralis minor index - The t value was found to be 6.185, and p value was found to be less than 0.001, which is considered extremely significant. Upper thoracic expansion. The t value was found to be 4.097, and p value was found to be less than 0.001, which is considered significant. Lower thoracic expansion- The t value was found to be 6.595, and p value was found to be less than 0.001, which is considered significant. **Conclusion**: The study concluded that Pectoralis Minor stretching and scapular muscles strengthening exercises were found statistically significant in improving the length of Pectoralis Minor and Pectoralis Minor stretching and lateral costal breathing exercise improved chest expansion. **Keywords:** swimmers, stretching, breathing exercises, scapular muscles.

CRS-S-3: Effect of Pulmonary Rehabilitation Training In Never, Ex- And Current Smokers With Chronic Respiratory Disorders By The Measurement Of Functional Capacity: A Pilot Study

Dolly Parthiv Shah, MPT (Cardio-pulmonary), PhD Scholar, Gujarat University, Ahmedabad.

ABSTRACT: Background: Earlier research shows the efficacy of pulmonary rehabilitation in chronic lung disorders with regards to their smoking status, but not in all three groups together (i.e. Ex-, Never- and Current

smokers). So, the goal is to find out the effectiveness of pulmonary rehabilitation in chronic lung disorders with regard to their smoking status by the measurement of 6-minute walk distance. This study will help in identifying the least benefited to most benefited group among three groups by pulmonary rehabilitation. **Methodology**: Total 15 patients of both gender and age between30-80 were randomly selected and divided into three groups: Never, Ex- and Current Smokers with Chronic Respiratory Disorders. Pulmonary Rehabilitation was given for eight weeks, three times/week (30-40 minutes). Pre and Post PR (After eight weeks), functional capacity was measured by 6-minute walk distance. Data were analyzed by SPSS (v16.0) - One-way ANOVA to compare three groups and Post Hoc tests to detect the intergroup differences. **Results**: Pulmonary Rehabilitation was effective in all three groups, and Functional Capacity of all patients was improved ($p<0.05$). Effectiveness of Pulmonary Rehabilitation was more in Never Smokers compared to Current Smokers. ($p<0.05$)

Conclusion: Effectiveness of Pulmonary Rehabilitation is significant in all smokers with chronic respiratory disorders, but Never Smokers are more benefited from Current Smokers due to their non-smoking status. These findings emphasize the effectiveness of Pulmonary Rehabilitation and benefits of non-smoking status among patients with chronic respiratory disorders. So, we must encourage measures for smoking cessation at earliest in the pulmonary rehabilitation program.

Keywords: Pulmonary Rehabilitation, Smokers, 6 Minute Walk Distance

CRS-S-4: Correlation of hospital anxiety and depression scale (HADS) and six-minute walk test (6MWT) performance in chronic obstructive pulmonary disease (COPD) Patients.

Rashmi Ronghe,VSPM college of physiotherapy, Nagpur

ABSTRACT: Background: Chronic obstructive pulmonary disease (COPD) is a severe pulmonary disease with varying impact on the patient's general physical condition, functioning and quality of life. Anxiety and Depression are common comorbidities in COPD patients which affects exercise capacity in COPD patients. There is a lack of literature on the assessment of depression and anxiety in COPD patients. Therefore, the current study was undertaken. **Aim and objective:** To find out the correlation between Hospital Anxiety and Depression Scale score (HADS) and Six Minute Walk Test performance (6MWT) in Chronic Obstructive Pulmonary Disease (COPD) patients. **Methodology:** All the participants were selected according to the sample of convenience and given a thorough explanation of the procedure in the language they understand. Each participant signed a written consent before participating in the study in the language they could comprehend. Subjects were screened based on selection criteria, and a total of 100 participants were selected. Their anthropometric and demographic data were recorded. The participants were given the HADS and then asked to perform the Six-minute walk test (6MWT), and the distance was calculated, and vital parameters were taken. **Result:** In the abnormal depression group, the $r= -0.3148$, $p= 0.0047$, which shows there is a negative correlation which is strongly significant. In the abnormal anxiety group, the $r= -0.4115$, $p= 0.0001$, which shows there is a fair negative correlation which is significant. **Conclusion:** The study concluded that as anxiety and

depression increase the Six-minute walk test (6MWT) distance decreases. All the other parameters, i.e. Systolic BP, Diastolic BP, Respiratory Rate (RR), Rate of Perceived Exertion (RPE), were not to be found statistically significant.

CRS-S-5: A study on lung function of sedentary women of Indore district

Rajni Pawar; Associate Professor, SAIMS Indore

ABSTRACT: Background: Sedentary lifestyle is the centre for disease. Today in the era of women Empowerment, women are losing their physical power (HEALTH) due to job, stress and working conditions. People with a sedentary lifestyle have heavy breathing at rest and low body oxygenation. A person with low body oxygenation at rest normally complains about fatigue and naturally lazy. One of the central systems affected is the respiratory system leading to various health-related complications. Pulmonary function test serves as a tool of health assessment and also to some extent as a predictor of survival rate. So, the purpose of the study is to make women aware about the present and prepare them for future. **Methodology:** 100 Sedentary Women of age 25-55 years from Indore district had been taken as a subject for study. All participants were informed in detail about the purpose of the study, and their consent was taken. MVV an indicator of strong respiratory function was taken to assess the lung function of sedentary women by MIR spirometer. After assessment comparison of predicted and performed values of MVV was done. **Result**: The result of the study showed a significant difference in predicted and performed values of MVV. The mean values of predicted and performed MVV were 100.43 l/min and 76.79 l/min, respectively. **Conclusion:** The study revealed that sedentary women's performance on PFT was poorer when compared with the predicted value. Affected lung functions at an early age may be asymptomatic at present but will give rise to complications and co-morbid factors in future. This emphasises the need to change their lifestyle and adopt measures like breathing exercise regularly to be healthy. Breathing exercise enhances the body's ability to absorb and make use of oxygen optimally by guarding the body against the onset of illness.

Neurosciences Physiotherapy
Junior Category

NEU-J-1: Use of An Individualized Relaxation Technique Using Raga Darbari For Rehabilitation of Paediatric Spinal Cord Injury: A Case Report

Pallavi Palaskar, Assistant professor, MGM School of physiotherapy, Aurangabad

ABSTRACT: Background: The paediatric spinal cord injuries are more often traumatic. The rehabilitation in these cases in a challenge. As in this case, the child was 14 years old with obesity and little reluctant to treatment, faced great difficulties during transition from sit to stand and walking with HKFO and walker due to autonomic dysreflexia. **Methodology:** A child with thoracic D3-D69 spinal cord injury was included in the study. After discharge from hospital, he came to physiotherapy OPD twice a day regularly, and he has achieved good transitions from bed to wheelchair, sit to stand and walking. During transitions, he had episodes of autonomic dysreflexia. He was on medications to reduce anxiety, but still, there were episodes autonomic

dysreflexia. As the child was playing the tabla prior and fond of music it was easy to connect him to music to induce relaxation, so we have introduced Raga Darbari of Indian classical music in the instrumental form of FLUTE to induce relaxation in him. Post physiotherapy child was given relaxation for 20-25 minutes, and vitals were recorded pre and post relaxation. **Results:** Post relaxation therapy the child has more stable vital parameters after the transitions, gait training and sit to stand transitions. Frequency of episodes of autonomic dysreflexia was also reduced after an individualized relaxation treatment. **Conclusion:** This treatment has given satisfactory results in stabilizing vital parameters after episodes of autonomic dysreflexia. Individualized relaxation therapy may prove beneficial to induce relaxation and reduce episodes of autonomic dysreflexia in the paediatric population with spinal cord injuries. A structured relaxation treatment plan is a must, based on the interest of the child. **Keywords**: spinal cord injury, paediatric population, individualized relaxation treatment

NEU-J-2: Effect of Spiral Suit and Exercises to Improve Motor Functions Of 5 Years Old Male Quadriplegic Cerebral Palsy Child- A Case Study

Nivedita Singh Bele, Assistant Professor, Dept. of Neurophysiotherapy, Ravi Nair Physiotherapy College, Sawangi (Meghe), DMIMS, Wardha.

ABSTRACT: Background: Cerebral palsy is primarily a disorder of movement and posture. It is defined as an "umbrella term covering a group of non-progressive, but often changing, motor impairment syndromes secondary to lesions or anomalies of the brain arising in the early stages of its development". CP is a common problem; the worldwide incidence being 2 to 2.5 per 1000 live births. Diplegia is the commonest form (30% - 40%), hemiplegia is 20% - 30%, and quadriplegia accounting for 10% - 15%. In an analysis of 1000 cases of CP from India, it was found that spastic quadriplegia constituted 61% of cases followed by diplegia 22%. The GMFM-88 is designed to capture alterations in gross motor function in children with CP. It is important to stabilize the part to be treated during exercise, including ankle-foot orthosis, spiral suit etc. **Methodology:** A 5-years-old male a diagnosed case of quadriplegic cerebral palsy came to the OPD with the complaint of inability to walk, unable to sit without support, inability to hold the object, and dependent for his ADLs on his parents. After signing informed consent, the patient was assessed by using Neurological assessment proforma and GMFM-88 and received a Physiotherapy exercise programme including stretching, strengthening, balancing and gait training for the period of once a day for one month. Each session consisted of 40- 45 minutes. **Conclusion:** This case study concluded that patient showed improvement in motor functions including sitting, standing, walking and gripping activities.

NEU-J-3: Effect of Combining Music Therapy with Lower Extremity Exercise on Physical Performance in Post Stroke Individuals

Moushumi Debnath (MPT NEURO), YMT College of physiotherapy, Kharghar, Mumbai.

ABSTRACT: Background: Stroke is the most common disease affecting the motor function and physical performance of a post-stroke individual. Current physical therapy management for post-stroke aims to improve

motor function and physical performance. The purpose of this study was to find out the effectiveness of Music therapy versus without music therapy on motor function of the lower extremity and physical performance of stroke-affected individuals. Music therapy is an evidence-based practice and is largely dependent on research. The research results have been shown to affect areas in motor skills, communication skills, cognitive skills, and socio-emotional skills. Hence the objective was to find the effect of combining music therapy with lower extremity exercises, in improving motor function and physical performance in stroke. **Methodology:** The 20 elderly stroke patient subjects were divided into two groups: control group (n = 10) and intervention group (n = 10). Both groups were exposed to the same music therapy to improve movement and physical performance. While the control group was given the lower extremity exercise, the intervention group received the extremity exercise in addition to the music media. **Result:** After four weeks of intervention, the adherence to the lower extremity exercise regimen in the intervention group was significantly higher than that of the control group ($p < 0.0001$). Additionally, following four weeks of treatment, both the 6MWT values and CST showed significant differences between the control and intervention groups ($p < 0.0001$). **Conclusion:** Music media treatment combined with lower extremity exercise can both significantly increase the extent of exercise compliance of stroke patients suffering from STROKE, as well as improve the movement and physical performance. **Keywords:** Stroke, Individual age group, Lower extremity exercise, Music media

NEU-J-4: Effect of Additional Loaded Weight on Gait Angular Parameter in Hemiparetic Children – Cross-Sectional Study

Siddharth S. Mishra MPT; Assistant Professor; Rashmi Potdar BPTh, MGM College of Physiotherapy Navi Mumbai; affiliated to Maharashtra University of Health Sciences Nasik.

ABSTRACT: Background: Hemiparesis is the weakness of one side of the body, that leads to balance impairment in proactive and reactive postural control resulting in gait disturbance. The study aims to find the effect of additional load on the ankle on angular gait parameters in hemiparetic children. **Methodology:** 10 hemiparetic children with age between 4 to 8 years were recruited. Weight of 0.7 kg over ankle was placed on the affected and non-affected side. Using Kinovea software (version 0.8.15), the angular parameter of the knee joint and ankle joint was measured during gait phases. **Results:** Our study results showed statistical significance in affected side knee joint angles at initial contact phase ($p=0.014$) and deceleration phase ($p=0.008$) with the application of 0.7 kg weight over ankle joint of the affected side. **Conclusions:** Application of 0.7 kg weight over ankle joint of the affected side is effective to produce variation at affected side knee joint during initial contact and deceleration phase of the gait cycle. Application of weight over the non-affected side showed no changes in angular gait parameter in hemiparesis children.

NEU-J-5: Effect of Six Week Trunk Specific Exercises Program on Gait and Balance In Parkinson's Disease Patients

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ABSTRACT: Background: Trunk segment plays an important role in modulating gait-related oscillations dynamic balance and maintaining head stability. The individuals with Parkinson's disease (PD) not able to effectively control their body segments to maintain their postural stability and limit the risk of falling during both static and dynamic activity of both daily living.

Methodology: Permission was taken from the institutional ethical committee. A survey was carried out on 50 individuals from different rehabilitation centres. Amongst these, Randomized control trial study was carried out on 30 patients who were selected according to inclusion and exclusion criteria and randomly divided into Group A (Experimental group) (n=15, age=65.46±4.70) which received Trunk specific exercises along with conventional exercises and Group B (controlled group) (n=15, age=63.33±3.35) which received conventional exercises. Patients were evaluated pre- and post-intervention for trunk using trunk impairment scale, balance using the Berg Balance Scale and gait using Dynamic Gait Index. A six weeks intervention program was given to the patients four days per week for six weeks. **Results:** Data was statistically analyzed. Paired and unpaired "t" test was used, and the level of significance set at 5 % ($p<0.05$.) Between-group comparisons showed extremely significant ($p<0.0001$) improvement in Berg Balance Scale (44.73±5.76) and Dynamic Gait Index (22.06±0.96) for Group A as compared to Berg Balance Scale (43.53±5.76) and Dynamic Gait Index (21.20±1.37) for Group B. **Conclusion:** The study concludes that there is a significant effect of trunk exercises on trunk, balance and gait in the experimental group compared with the control group in PD patients. **Keywords:** Parkinson's disease, Balance, Gait, Trunk exercises

NEU-J-6: Effectiveness of Respiratory Proprioceptive Neuromuscular Facilitation Techniques on Pulmonary Functions in Patients with Spinal Cord Injury-A Pilot Study.

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ABSTRACT: Background: Spinal cord injury (SCI) is the injury of the spinal cord from the foramen magnum to the cauda equina, which occurs as a result of compulsion, incision or contusion. As patients with SCI leads to weakness and paralysis of respiratory muscles as well causing respiratory dysfunction, reduced cough flow and impaired pulmonary functions. Respiratory PNF techniques are mainly given to facilitate intercostal contraction, diaphragmatic excursion and chest expansion Most of the studies are conducted in COPD, neuromuscular junction disorders and stroke, but there is a paucity of literature in relation to spinal cord injury. **Objective:** To find out the effectiveness of respiratory PNF on pulmonary functions (FVC & FEV_1) & Chest Expansion in patients with spinal cord injury. **Methodology:** Study design: Pilot Study, Sample Size: 4 Participants, Study setting: Smt. Sindhutai E.Vikhe Patil Spinal Cord Injury Centre, PMT, Loni, Study Duration: 3 months. **Result:** In this study after four weeks of intervention there was a significant improvement in pulmonary functions (Pre Mean of FEV1 & FVC 0.99 L & 1.03L and Post Mean of FEV1 & FVC was 1.25 L & 1.35L respectively) and chest expansion (Pre Mean was 1.15 cm and Post Mean was 1.62 cm at Xiphoid Process Level)

Conclusion: This study concluded that Respiratory PNF increases pulmonary functions and chest expansion in patients with spinal cord injury after four weeks of intervention. **Keywords:** Spinal cord injury, Pulmonary functions, Respiratory Proprioceptive Neuromuscular Facilitation Technique.

NEU-J-7: The Effects of Closed and Open Kinetic Chain Exercises On Lower Limb Muscle Strength In Sub Acute And Chronic Stroke Patients.

Shrikrishna Shinde, NDMVPs college of physiotherapy, Nashik

ABSTRACT: Background: Muscle weakness is a common consequence of stroke and can result in a decrease in physical activity. This study aimed to examine the effects of the closed kinetic chain (CKC) exercise and open kinetic chain (OKC) exercise on muscle strength of the paretic lower limb in subacute and chronic stroke subjects. **Methodology:** Thirty patients with subacute and chronic stroke were enrolled. They were randomly allocated to three groups: CKC exercise group (n = 10), OKC exercise group (n = 10), and control group (n = 10). CKC and OKC exercise groups were trained four times per week for four weeks. The control group maintained routine activities and did not participate in any regular exercise program. All subjects were measured on muscle strength of the paretic lower limb **Results:** Muscle strength was significantly increased in both CKC exercise and OKC exercise groups, compared to the control group. However, muscle strength was increased significantly in only the CKC exercise group. **Conclusions:** The present study indicates that the CKC exercise can improve lower limb muscle strength in subacute and chronic stroke subjects, and it may lead to an improvement in functional performance of stroke survivors.

Neurosciences Physiotherapy
Senior Category

NEU-S-1: Overview: Effect of Dry Needling on Post Stroke – Spasticity

Sanjivani Kamble, Associate Professor, Gaurang Baxi, Associate Professor, Tushar Palekar Principal, Dr D. Y. Patil College of Physiotherapy, Pune

ABSTRACT: Background: Spasticity, is one of the most common in patients with upper motor neuron lesion. It reduces the potential ability of individuals functional activity of daily activity. Spasticity represents the central and neural component of hypertonia. Several therapeutic approaches have been proposed for the management of muscle spasticity. Dry needling has been an emerging technique used to treat muscle spasticity in a selected neurological disorder such as spastic teraparesia & post-stroke spasticity based on some theories. **Methodology:** In this review, the article which was regarding the effect of dry needling in neurological condition was reviewed and discussed from databases such as pub med, google scholar & Cochrane library. **Results:** Current evidence suggests that dry needling can enhance the prognosis of neurological disorder patients by the effective treatment technique. Dry needling helps to induce localized stretch of contractured cytoskeletal structure and reduces muscle stiffness and therefore decreases muscle resistance to passive movement.

Conclusion: Present review concluded that dry needling is one the promising treatment technique for reducing the spasticity, however

evidence related to it in the form of Randomized control trial are less so further research on a larger sample size needs to be conducted for validation of results. There is a need to explore more research article on the efficacy of Dry needling on muscle spasticity to reduce further residual symptoms related to the lesion with efficient neurorehabilitation.

NEU-S-2: Telerehabilitation a new perspective to Paediatric Physical therapy: A Review

Rasika Panse- Kaluskar PhD scholar, DPU Pune, Assistant Professor, Tushar J Palekar Professor and Principal, Dr D.Y Patil College of Physiotherapy Pune-18

ABSTRACT: Background: This review article aimed to discuss the role of telerehabilitation in the paediatric population used as part of Physical therapy treatment protocol by searching all relevant data. **Methodology:** A total of 151 journal articles were selected first. With the different combinations of Mesh, Key terms, 13 articles were screened on relevance based on the inclusion and exclusion criteria which resulted in 8 articles for this review. **Results:** Various researchers reported the effect of telerehabilitation on gross and fine motor skills along with ADLs in cerebral palsy children, Autism, congenital or acquired brain damage. **Conclusion:** Review of articles revealed that telerehabilitation is frequently used in paediatrics specifically for Cerebral Palsy children is an effective mode of treatment in enhancing motor skills related to hand functioning along within educational settings. **Keywords**: telerehabilitation, virtual environment, exergaming, physical therapy, paediatrics

NEU-S-3: Assessment of Two Point Discrimination Threshold in Lower Limb Of Healthy Adults

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ABSTRACT: Background: Sensation is a feeling perceived as a result of messages conveyed to the brain by the sensory receptors from the skin and correlating with stored past experiences[1]. Two-point discrimination is a classic tool to determine the tactile sensitivity, which is cost and time effective method to determine peripheral neuropathies and nerve injuries. **Aim:** The present study aims to establish normal values of Two-point discrimination threshold in the lower limb of healthy adults for various age group and also to find whether values of two-point discrimination change with advancing age. **Methodology:** 120 healthy individuals with no sensory impairment between age groups 18-55yrs were selected randomly from Latur city. Two-Point Discrimination testing was done using Aesthesiometer. Minimal reading for which subject perceive two distinct points was recorded. The procedure repeated thrice and the mean of three readings was recorded as final reading for that individual. The mean value for each age group was found and recorded. A graph was plotted between the mean age for that age group and the mean value of two-point discrimination threshold. **Result**: In the present study, subjects were divided into four age groups,18-25yrs,26-35yrs,36-45yrs,46-55yrs and mean values of two-point discrimination threshold were found 5.75mm, 9.03mm, 9.16mm, 10.01mm respectively. A strong positive linear correlation was seen between values of two-point discrimination threshold and age of the individual ($p = < 0.001$). **Conclusion:**

Normative values of two-point discrimination thresholds for individuals from 18 to 55 years were assessed, and a positive correlation between two-point discrimination threshold and age of individual was established. **Keywords**: Two-point discrimination threshold, Lower Limb, Aesthesiometer, Healthy adults.

NEU-S-4: Systemic review and Meta-analysis of effect of virtual reality training on balance in elderly

Swati Bhise, Manish Rathi, LSFPEFs college of physiotherapy, Pune

ABSTRACT: Background: Aging is a natural progressive and irreversible phenomenon. Due to affection of visual, somatosensory and vestibular system leads to balance affection, leads to falls and responsible for hospitalizations, morbidity and mortality in the elderly. Virtual Reality training (VRT) refers to a high-end user interface that involves real-time simulation and interactions through multiple sensory channels. Virtual reality has been used to motivate users to perform challenging balance tasks in realistic scenarios. Evidence of the positive and negative effects of virtual reality can prod physiotherapists to broaden their scope of action in the provision of care during the rehabilitation of the elderly. Contradictory results have been reported in the literature, and VRT dissemination is still incipient. The aim of this study id to summarize the effect of virtual reality training with physical therapy intervention on balance in elderly. **Methodology**: Studies were selected from GOOGLE SCHOLAR, RESEARCH GATE, MEDLINE, PUBMED, EMBASE, COCHRANE, from 2013-2018. Total 68 articles screen out, and finally, ten studies were selected according to inclusion and exclusion criterion. Pedro scale was used for quality analysis of studies. **Result:** Revman systemic analysis software was used for analysis. All studies showed significant improvement in balance in the elderly. The summary of the Meta-analysis showed mean effect of Berg Balance Scale Standardized Mean Difference (0.17) 95% CI [-1.23, 1.57] and the Timed Up and Go test SMD (-0.88) 95% CI [-1.47-0.28]. There was much variation in the methodologies and intervention, making it difficult to reach a precise conclusion regarding VR effect in Elderly population. **Conclusion:** Virtual reality training with physical therapy training showed improvement in balance. However, such evidence needs to be further investigated in future studies. **Keywords:** Virtual Reality Training, Balance, Elderly.

NEU-S-5: Prevalence of Shoulder Pain and Disability Among Cerebrovascular Accident Patients of Surat City in Gujarat State of India

Vivek H. Ramanandi (PT), Assistant Professor, SPB Physiotherapy College, Surat.

ABSTRACT: Background: Prevalence of cerebrovascular accident (CVA) in rural India is 1.1% and urban India 1.9%. Shoulder pain is a common impairment after CVA; its incidence is variable in up to 70% of patients. It reduces participation in rehabilitation; discourages motion; hinders recovery; and adversely affects function, thereby impeding the process of rehabilitation. **Methods:** This study was done using cross-sectional survey design by recruitment of male and female patients between 45-65 years of age having CVA and attending physiotherapy setups in Surat city of Gujarat. Subjects who had complains of shoulder pain for > 1 week, and were ready to give informed written consent were included in the study. Data was collected by

using a standard demographic questionnaire along with the Shoulder Pain and Disability Index (SPADI). **Results:** The result of this study showed that 61.45% of patients had shoulder pain. In our study participant, having pain is n=43 (61.43%), and disability is n=42 (60%), and total pain and disability is n=40(57.14%). Total scores of 43 (61.43%) subjects were found in a significant range to be considered as prevalent. **Conclusion**: From this study, it was found that 57.14% of patients suffer from shoulder pain after stroke in Surat city of Gujarat region. Among these, most of them had been suffered from mild to moderate disability associated with shoulder pain (n=42, 60%).

NEU-S-6: Comparison Between Effect of Mirror Therapy And Constraint-Induced Movement Therapy On Upper Extremity Motor Function In Sub-Acute Stroke Patients

Ashwini kale, MGMs institute college of physiotherapy

ABSTRACT: Background: Stroke is the second leading cause of death worldwide. Stroke is an important cause of morbidity and mortality and a leading cause of disability in India. In stroke survivors, the major cause of disability among elders is that the upper limb is most affected. After a stroke, 69% of patients do not recover and experience upper extremity functional limitations. Hence the objective of the study was to compare the effect of mirror therapy (MT) and constraint-induced movement therapy (CIMT) on upper extremity motor function in patients with sub-acute stroke. **Methodology:** 40 subacute stroke patients, randomized into two groups; The mirror therapy group (n=20) and CIMT group (n=20). Mirror therapy group received upper extremity training which included movement practice of elbow, wrist and finger, arm-hand dexterity and finger dexterity activities with unaffected limb inside the mirror box for 1 hour daily for 5days a week for four weeks. The CIMT group received intense task-oriented practice of the more paretic upper extremity for 1.5 hours a day under the therapist's supervision for five days per week for four weeks. The Fugal-Meyer Assessment (FMA) and Box and Block Test (BBT) were used to assess change in upper limb motor function after the intervention. **Result:** The upper extremity motor function of the affected side after the intervention was significantly improved in both the groups. After four weeks of intervention, improvements in the FMA (mean difference-25.8, 95% Confidence Interval [CI], p=0.0001) and BBT (mean difference-17.3, 95% CI, p=0.0001) were significantly greater in the mirror therapy group than CIMT group. **Conclusion:** The study concluded that mirror therapy was effective in terms of upper extremity motor function in patients with sub-acute stroke. **Keywords:** Stroke, Mirror Therapy, Constraint-Induced Movement Therapy, sub-acute stroke.

NEU-S-7: Telerehabilitation: An Adjunct Service Delivery Model for Paediatric Neurorehabilitation Services at A Tertiary Care Centre in India

Isha Tajane, Assistant professor in Neuro-physiotherapy, K J Somaiya College of Physiotherapy, Mumbai

ABSTRACT: Background: Neurorehabilitation is facing a unique challenge as COVID-19 circumstances magnify the access and resource barrier in healthcare provision and are disrupting the continuity of care of children with disability. Affirmative action is required as a 'Disability-inclusive response to

the COVID-19 crisis.' This study thus aimed to determine if Telerehabilitation (TR) model of service delivery is a feasible and effective alternative for paediatric neuro-physiotherapy. **Methodology:** This is a clinical trial conducted on children diagnosed with developmental delay or neurological condition and referred for Physiotherapy at a tertiary care centre. Clinical consultation is provided remotely with the use of real-time interactive technology. 1) Timely receipt of physiotherapy services; 2) Child's clinical outcomes; and 3) Family's acceptability and satisfaction with the provision of TR services are used as outcome indicators. **Results:** This is an ongoing study, and findings reported here are preliminary results. With regards to feasibility, the most common issues faced during TR sessions are technical; lack of time with mother; child's medical illness, etc. Children's clinical outcomes show improvement reported as 'acquisition of developmental skills' and 'the use of appropriate functional behaviours to meet their needs'. Families show satisfaction with TR services; however, they express the need for in-person sessions. **Conclusion:** In the current scenario, TR may enhance the capacity of families to meet the needs of their child with a disability by connecting them with health care providers, resources and supports, thus ensuring continuity of care. While guidelines to tackle this unprecedented situation continue to develop, TR demonstrates the potential as an alternative rehabilitation strategy, thereby ameliorating the impact of social distancing on underprivileged children. However, some psychosocial factors act as barriers to the feasibility of TR in the paediatric population.

NEU-S-8: Normative values of Sympathetic Skin Response (SSR) in typical healthy adults: A Pilot study

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ABSTRACT: Background: Sympathetic Skin Response is a sensitive method for early detection and monitoring of autonomic function. However, there are no established normative values for clinical use in India. This study aims to derive normative data of SSR in a healthy population and to compare the values between males and females. Also, the association of BMI with SSR values is examined. **Methodology:** 25 healthy volunteers aged between 20 and 50 years, who gave consent to participate, were included in this study. The SSR was assessed using a standardized protocol of Neurowerk® EMG equipment in the dominant hand and foot with a five-minute interval between the two observations. **Results:** The mean SSR latency of hand and foot were 1.2 +/- 0.42 and 1.8 +/- 0.44 seconds respectively. The mean SSR amplitude of hand and foot were 2503 +/- 1424 and 1749 +/- 1252 micro Volts respectively. There was no difference statistically when compared with male and female values of SSR hand and foot ($P > 0.05$). Pearson correlation indicated that there was no significant association between BMI and SSR values. [BMI with Latency hand $r(28) = 0.26$, $p = 0.21$), Latency foot $r(28) = 0.01$, $p = 0.18$), Amplitude hand $r(28) = 0.03$, $p = 0.88$) & Amplitude foot $r(28) = 0.03$, $p = 0.87$)]. **Conclusion:** Method used was successful in eliciting SSR in both hand and foot of the participants. The mean SSR latency

of hand and foot were 1.2 +/- 0.42 and 1.8 +/- 0.44 seconds respectively. The mean amplitude of SSR of hand and foot were 2503 +/- 1424 and 1749 +/- 1252 micro Volts respectively. There was no difference in the values of SSR between male and female participants. Also, there was no association of SSR with the BMI of the participants.

NEU-S-9: Effectiveness of neurodevelopmental treatment (NDT) in treatment in cerebral palsy- A Systematic review

Author: Dr Mandar Ramesh Malawade, Professor, Krishna College of Physiotherapy, KIMS, Karad 415110

ABSTRACT: Background: A systematic literature review was conducted to evaluate the effectiveness of Neuro-Developmental Treatment (NDT) in cerebral palsy children. **Methods:** A search was made in Google Scholar, CINAHL and PubMed from October 2015 to August 2017. Only randomised control trials evaluating the effectiveness of NDT in CP were selected. The methodological quality was assessed and extracted. References were resolved before data entry and analysis. **Results:** Results of 23866 articles were initially identified; only six full-text articles were included. Four studies reported improvement in GMFM, although not in all the domains. One study said that movement in GMFM declined after six months when the treatment was stopped. Another study showed that there is a requirement of the intensive application of NDT. **Conclusion:** Due to limitation in methodological quality and variations in population, interventions and comes, only limited evidence on the effectiveness of NDT in Cerebral Palsy is available through RCTs. Rigorous studies are needed to draw definitive conclusions on the effect of NDT on children with cerebral palsy.

NEU-S-10: Single session effect of Self Myofascial Release versus Maintained stretch on wrist flexors spasticity in patients with stroke

Dr Maheshwari Harishchandre, Associate Professor, DVVPF'S, College of Physiotherapy, Department of Neuro-physiotherapy

ABSTRACT: Background: Stroke is defined as a neurological deficit due to an acute focal injury of the central nervous system caused by a vascular aetiology, including infarction, intracerebral haemorrhage or subarachnoid haemorrhage. Spasticity is defined as velocity-dependent hyperexcitability of muscles to stretch. It is characterized by exaggerated deep tendon reflexes, increased resistance to passive movement and hypertonia resulting from loss of upper motor neuron inhibitory control. There are several assessment methods developed for spasticity. The most commonly used ones are the Modified Ashworth scale (MAS) and the Modified Tardieu Scale. Both Static stretching and Myofascial release are expected to affect the spastic muscles, there is the need to establish efficacies of these methods of soft tissue elongation in clinical practice, but because of COVID -19 pandemic situation patient unable to come for treatment and also decreasing their functional activity. **Methodology:** A study were performed on five old OPD/IPD stroke participants; were admitted in Vikhe Patil hospital for physiotherapy; as per the criteria, participants were selected for the study. Oral consent was taken from participants and detail information of the study was given to the participants in their local language. Videos and practical demonstration of myofascial release and

stretching were showed to the participants through Zoom meeting and explained the procedure very clearly. Data were analysed by the applied statistical test. **Result**: Effect of Stretching showed statistical significance result to relieve wrist muscles spasticity in stroke patients than Myofascial release. **Conclusion:** Single session of stretching technique is more effective than self-Myofascial Release techniques in relieving wrist muscles spasticity in stroke patients.

N-01: Trunk Muscle Activation At Hands Just Above The Top Of The Head In Normal Individuals: An Observational Study

N-02: Quality of Life in Individuals with Spinal Cord Injury- An Observational Study.

N-03: Development And Validation Of Digital Thermal Sensation Assessment Tool For Patients With Neurological Dysfunction.

N-04: Effect of Visual Feedback Training Vs Conventional Therapy on Sitting Balance and Upper Limb Reaching Ability in Patients with Stroke: A Randomized Controlled Trial

N-05: Short Term Effects Of Mental Singing While Walking On Gait Disturbance In Hemiplegic Stroke Patients–A Pilot Study

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N-10: Brain gym as exercise programme on attention span: A new perspective in physiotherapy and rehabilitation

N-11: Recent Advances In Rehabilitation For Lower Extremity On Gait Symmetry In Stroke Survivors: Review

N-12: Non-Immersive Gamification And Infantile Hemiplegia: Inculcation Of Artificial Intelligence In Neurophysiotherapy Rehabilitation.

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CA-11: Prevalence of urinary incontinence in COPD Patients

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Neurosciences Physiotherapy

N-01: Trunk Muscle Activation At Hands Just Above The Top Of The Head In Normal Individuals: An Observational Study

Dr. Manasi Kulkarni[1], Dr. Suvarna Ganvir[2]

MPT student at D.V.V.P.F's College of Physiotherapy, Ahmednagar, Prof. & HOD at D.V.V.P.F's College of Physiotherapy, Ahmednagar.

Background: It is an observational study which aims to measure the trunk muscle activation at hands just above the head in normal individuals, and compare it between the males and females. **Methodology**: Normal individuals who were willing to participate in study, aged 18-60 years and not having any neurological condition and musculoskeletal condition. A task of taking hands on the top of the head was given in which RMS value of 6 trunk muscles was recorded at hands just above the head position. These 6 muscles are upper trapezius (TP), erector spinae (ES) at T3, T9 and L3 level, serratus anterior (SA), latissimus dorsi (LD), pectoralis major (PM) and oblique abdominals (OA). Muscle activation was measured by RMS (μV) by using surface EMG. **Results**: The highest activation was seen in the TP (mean RMS- 10.57μV) on the non-dominant side of the participants. Lowest activation was seen in the ES-T3 (mean RMS-3.65μV) on the dominant side. When the comparison between males and females was done on the dominant side, activation of 4 muscles were more in females and 4 muscles were having more activation in males. In comparison of males and females on non-dominant side, all muscles were more activated in males compare to the females except OA. **Conclusion**: Highest activated muscle during the given task was TP. There was no statistically significant difference was seen in the activation pattern of males and females when compared on dominant as well as non-dominant side.

N-02: Quality of Life in Individuals with Spinal Cord Injury- An Observational Study.

Dr. Quazi Ibtesaam Huma Aliuddin[1], Dr. Suvarna Ganvir[2]

2nd year MPT in Department of Neurosciences[1], Prof and HOD Department of Physiotherapy in Neurosciences[2], Dr. Vithalrao Vikhe Patil College of Physiotherapy, Vilad Ghat, Ahmednagar.

Background: Spinal Cord Injury is one of the severe injuries results in loss of sensory and motor function below the level of injury which deteriorates the quality of life. The bio-psycho-social model also emphasizes on the improving the quality of life than enhancing the physical function as the primary goals of

SCI rehabilitation. Prospective follow up study on quality of life in individuals with spinal cord injury have not been conducted in past years. Therefore, this study aims to observe the quality of life with spinal cord injury at 3, 6 and 9 months of injury following SCI. **Methodology:** It is an observational study, Ten SCI subjects aged between 18 to 60 years willing participated in the study. Thoracic level of SCI, etiology from trauma, vascular or orthopaedic pathology, participants undertaking the physiotherapy treatment on daily basis were included into the study. Patients with any other psychological and neurological disorder, aged above 60 years were excluded from the study. To measure quality of life Marathi Version of WHOQOL-BREF Questionnaire was used which was taken at 3, 6 and 9 months of injury. **Results:** Descriptive Statistics was obtained and normality of the data was checked using Kolmogorov-Smirnov Normality test. It was seen that there is gradual increase in every domain of WHOQOL-BREF Questionnaire at 3rd, 6th and 9th post injury. **Conclusion:** The finding of the study reveals that there is gradual improvement in the quality of life in individuals post injury due to the rehabilitation session and it is one of the factors responsible that contribute to enhance the quality of life in individuals with Spinal Cord Injury.

N-03: Development And Validation Of Digital Thermal Sensation Assessment Tool For Patients With Neurological Dysfunction.

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Background: Temperature awareness testing requires test tube containing warm water and cold water. The temperature range of which should be between 40- 45ºC for thermal stimulation and between 5-10ºC for cold stimulation. Caution should be exercised within these ranges because exceeding these ranges would elicit a pain response and burns. And also due to the process of evaporation the maintenance of temperature within this range is difficult which would give inaccurate test results. Digitalized thermal sensation would overcome this drawback of maintaining the thermal temperature. **Methodology:** A novel digital thermal assessment tool was developed for assessing hot sensation in patients with neurological dysfunction. In this tool, a temperature can be set at a predetermined degree and then it needs to be held perpendicular to the part of the body part. Patient needs to report if he feels the hot sensation or not. Sensations can be checked according to dermatomes. Validation of this tool was done by establishing its reliability and validity through its application on 20 healthy normal individuals and 15 paraplegic patients, 10 patients with stroke. Intra- and inter observer reliability was assessed in a subset of 20 patients by ANOVA. Traditional method of assessing hot sensations using test tubes was also used for assessing construct validity by correlation coefficient and regression analysis. **Result:** This study shows that there is no statistical difference in the values of normal subject for testing of thermal sensations with test tube as well as the digital thermal sensation testing instrument. Results of study conducted on the Spinal cord injury patients showed similar results for both test tube as well as the instrument. Therefore, we can say that the sensation testing with digital instrument cannot be applied to patients with

Spinal cord injury. Previous study was conducted to test the reliability and validity of instrument showed a high test retest reliability and inter rater reliability of 0.90 with no systematic difference between the raters. **Conclusion:** Digital thermal sensation assessment tool is a valid and reliable instrument to assess sensations in patients with hassle free procedure.

N-04: Effect of Visual Feedback Training Vs Conventional Therapy on Sitting Balance and Upper Limb Reaching Ability in Patients with Stroke: A Randomized Controlled Trial

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Background:- Reaching for variety of object requires coordinated movement of trunk and upper limb along with active participation of lower limbs. Rehabilitation programs based on visual feedback improves the sitting balance and reaching ability along with weight loading on affected lower limb. In the present work a group of stroke survivors practised reaching task with unilateral and bilateral upper limb using Visual Feedback. The aim of the study was to find out the effect of of visual feedback training on sitting balance and upper limb reaching ability in patient with stroke. **Methodology:-** An RCT was carried out in an inpatient stroke rehabilitation center. In total 40 stroke participants were assigned equally in both the groups. The experimental group (n=20) and control group (n=20). In addition to the control group the experimental group received 20 minute of visual feedback training program with unilateral upper limb (10 min) and bilateral (10 min) reach training 5 times/week for 4 weeks. The reaching ability was evaluated by Modified functional reach test, weight loading by Center of foot pressure (COFP) and trunk performance by Trunk impairment scale. The pre and post data of all the outcome measures was documented. **Result:-**No statistically significant differences were found between the experimental and control groups. In the intragroup analysis, both groups demonstrated a significant improvement in all variables. **Conclusion:-** Rehabilitation program along with Visual Feedback is an effective tool for improving dynamic sitting balance, weight loading response on paretic side in patients with stroke of age 25-65 years.

N-05:Short Term Effects Of Mental Singing While Walking On Gait Disturbance In Hemiplegic Stroke Patients–A Pilot Study

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Background: Gait disturbance is one of the major challenges encountered in patient diagnosed with hemiplegic stroke. Specifically, abnormal stride length, short or narrow steps, poor timing of muscle contraction and relaxation in the affected lower limb interfere with gait speed of stroke survivors. Mental singing requires cognitive resources for output alone, while external cueing requires cognitive resource for input and output. Furthermore, mental singing does not require extra devices and is less restricted by space and time, as the cueing results from patient' singing in their mind. **Purpose:** mental singing while walking is used to improve gait dysfunction in patient with Parkinson diseases. Also, study on immediate effect of mental singing while walking is done

on hemiplegic stroke patient. Further, no study is done to determine the short -term effect of mental singing while walking on stroke patients. Hence, this study is to see the short-term effect of mental singing while walking on gait disturbance in hemiplegic stroke patients. **Methodology:** As per inclusion and exclusion criteria screening of patients were done. 14 patients were enrolled in this study. Written consent was taken and subject were divided into two group. 10 metres walk test (10MWT) and timed up and go test (TUG) were used to assess the clinical outcome of training. Group A (n=7): received mental singing while walking training 10 min per each session for10 session Group B (n=7): received walking training alone 10 min per each session for 10 session. **Results:** Results were significant ($p < 0.05$) within group for both interventional and control group. But p value was greater than 0.05 in between group showing mental singing walking intervention is not beneficial over walking intervention. **Conclusion:** These results indicate that we can use mental singing technique for walking intervention.

N-06: Effect Of Virtual Reality Training On Balance After Spinal Cord Injury: An Evidence Based Study.

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Background: Spinal cord injury (SCI) involves an alteration of the spinal cord that causes a disorder or loss of proprioception, mobility, or autonomous function. To achieve balance, the coordination and integration of different body system are needed. Balance is required to perform most of the activities of daily living, and balance impairments could provoke mobility, posture, and gait disturbances.VR makes use of advanced technologies (such as computers and multimedia peripherals) to provide an interactive and multidimensional simulated environment that users perceive as comparable with real-life experiences. Advantage of VR-based technologies over conventional rehabilitation therapies has been associated with increased motivation, engagement, and the wide range of possible tasks/exercises that might be implemented. **Methodology:** Studies were selected from year 2011-2020. A search for relevant articles was carried out using search terms-virtual reality, balance, spinal cord injury. Search Engines used were- Google Scholar, PubMed, Science Direct, PEDro. Seven studies were included in which there were 1 RCTs, 3 systemic review and 3 pre-post design. **Results:** 7 Studies were reviewed from which 5 studies concluded that virtual reality training was more effective than a control group and 1 study showed that virtual reality and traditional training has similar effects. **Conclusion:** Based on the analysis of above evidences, it can be concluded that virtual reality training is effective to improve balance after spinal cord injury. **Key words:** Virtual reality, balance, spinal cord injury.

N:07 Impact Of Diabetes Mellitus On Balance: A Scoping Review

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Background: Diabetes Mellitus is a long-term condition in which either the pancreas production of insulin is insufficient or the response of the body to insulin is impaired. Almost every system in the body are being afflicted by chronic diabetes mellitus among which is balance dysfunction making patient physically disabled if not being identified and

addressed adequately. It is necessary to work on pathophysiology of diabetes mellitus how its gradually affecting the multiple systems of the body, chiefly in this review the effect on peripheral nervous system, the squeal with imbalance, and the functional disability produced thereby. **Method-** A Comprehensive search on pubmed, proquest database using Diabetes Mellitus, Balance, Diabetic Neuropathy by using Boolean apparatus AND. Studies which are published between 2013 to 2020 are included. **Result-** 59,902 articles were obtained using keywords in the database. Excluding animal studies articles obtained were 58,100. 5,161 articles were obtained using the filter 10 years. Based on type of study 1,806 articles were included, of which 14 articles were included after excluding articles based on abstract and title. **Conclusion-** This review study concludes that there is affection of balance more in patients with diabetic neuropathy than those without diabetic neuropathy. Neuropathy is not the only cause for balance affection in patients with diabetes mellitus other musculoskeletal changes also lead to balance affection. Hence patients with Diabetes Mellitus should start mobility and strengthening exercises in early stages.

N-08: "Challenges faced by Neurophysiotherapist for the consultation through telerehabilitation in the Maharashtra state."

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Background: Tele-physiotherapy is used as system to facilitate rehabilitations of patients within their homes. This Covid-19 pandemic made many of the Neurophysiotherapist to prefer the telerehabilitation for the consultations purpose and to plan a proper interventional protocol for their clients. Thus, it was essential to explore the challenges faced during consultation through this mode. **Methods**: A qualitative research approach was used to conduct an online survey of neurophysiotherapist within the Maharashtra state. A brief structured and validated questionnaire was prepared and sent by Whats app and mail to gather the basic information and strategic questions about the challenges faced in consultation and the responses were analyzed. **Results**: The results showed that among n=10 participants, Among which 7(70%) do not think that telerehabilitation has a better experience than traditional way for taking consultation, and 5(50%) were not satisfied by the consultation taken. From which 5(50%) were able to maintain the follow up & 6(60%) of therapist think that the patients were not able to describe their condition properly and 4(40%) were co-operative. 9(90%) thought that telerehabilitation was beneficial in this current pandemic situation. 5(50%) were actually able to fulfill the patients need through this mode and 8(80%) thought it was a cost-effective mode. 6(60%) faced time challenges, whereas 5(50%) suggested that 20-30 mins were sufficient for consultation, 3(30%) suggested 30-45 mins and 2(20%) suggested 10-15 mins were enough. **Conclusion**: In this study it was seen that it was not easy for the therapist to take consultation through telerehabilitation and also had various challenges like time, network issues, electricity, time taken to build up trust. Thus it is a need to address all these issues. **Keywords**: Telerehabilitation, Neurophysiotherapist, Challenges, Consultation, Maharashtra.

N-09: Benefits Of Early Mobilization In Paediatric Guillain Barre Syndrome – A Case Study.

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Background: Guillain-Barre syndrome (GBS) is the most common cause of acute flaccid paralysis worldwide, having an incidence of about 1/100,000 across several studies in a number of countries. Guillain–Barré syndrome e is characterized by progressive motor weakness, sensory changes, dysautonomia, and areflexia. We describe a pediatric Guillain–Barré syndrome variant presenting with severe muscle weakness predominantly in the distal lower and upper limbs. A 12 -year-old girl had progressive lower extremity weakness and pain. 3 days prior to the complaint the patient had complaints of fever. The patient underwent three sessions of double filtration and the final diagnosis was Guillain-Barre syndrome. On presentation, diagnosis of Guillain–Barre syndrome was supported by areflexia and albuminocytologic dissociation. Her condition deteriorated with a decline in respiratory effort and inability to handle secretions. She was given non-invasive ventilation to prevent worsening of her acute respiratory failure. Treatment with intravenous immunoglobulin led to an uneventful clinical course with partial recovery within 2 weeks. Early intervention with intravenous immunoglobulin benefited this patients. The treatment strategies focussed to improve the functional performance of the patient experiencing Guillain-Barre Syndrome. A combination of isometric and resistance exercises and static stretch were used in rehabilitation to increase muscle power. **Results:** It was observed that early rehabilitation along with the focus on respiratory training helped in improving the respiratory function of the patient and hence the patient could be finally weaned off from all the respiratory assistance and also could be discharged from the ICU to an inpatient rehabilitation. **Conclusion:** It should be emphasized that acute-phase rehabilitation must start immediately and include an individualized program of cardio respiratory training, gentle strengthening, and manual resistive and progressive resistive exercise.

N-10: Brain gym as exercise programme on attention span: A new perspective in physiotherapy and rehabilitation

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Background: Brain gym expresses a determined coordinated group of activity which processes and strategies, facts and figures as well as the learning values. It also emphasized for advancements in wide range of domains for interpersonal skill development. Attention is said to be the capacity to concentrate on the certain features and entity whereas attention span is considered to be the stronger nature of human

being if it is precisely used, also it can give you exceptional advantage, and simultaneously it is hard to have an attention span which helps a person in acquiring the proficiency. **Methodology:** We have conducted an interventional study with 60 subjects according to the inclusion criteria done with G power analysis of sampling. For evaluating the brain gym intervention, the attention span was evaluated by Mindful attention awareness scale (MASS) followed by brain gym exercises were taught to the subjects, 2 times a day for a week and continued for 1 month which was followed by the after interventional attention span assessment. **Result:** Data was collected and statistically analyzed by means of paired t-test. It showed the attention span of the subjects was increased significantly with p value 0.0005. **Conclusion:** According to the result obtained we can conclude that brain gym exercises have significant role for the enhancement of the attention span in young adults. **Keywords:** Brain gym exercises, Attention span, mindful attention.

N-11: Recent Advances In Rehabilitation For Lower Extremity On Gait Symmetry In Stroke Survivors: Review

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Back ground: Stroke is a major cause of global public health problem and a cause of decrease in physical activity leading to increase disability and decrease in quality of life. The main clinical indicators following stroke are somatosensory deficits, motor deficits, visual deficits and intellectual deficits, perceptual dysfunction, cognitive dysfunction and impaired balance and coordination which result in the impairment of locomotion and functional mobility. Asymmetry is an important issue to address in the rehabilitation of post-stroke gait for several possible reasons including efficiency, balance control, musculoskeletal health, and overall activity level. To find out recent advances in treatment of lower extremity on gait symmetry in stroke survivors. **Method:** A comprehensive search on PubMed, ProQuest database using keywords Gait, parameters, asymmetry, stroke survivors and studies which are published from 2015 to 30th September 2020. **Results:** Total articles obtained using key words in database are 1364, after applying filter of last five years are 420. After applying filter of RCT and systematic review articles obtained are 103, 85 articles were excluded on basis of title and abstract, 18 articles obtained after removing duplicates. This 18articles are obtained and documented in this study. **Conclusion:** The common rehabilitation techniques for gait used were task-oriented approach, robotic assisted gait training, functional electrical stimulation, treadmill training, traditional approaches. In which robotic assisted gait training provides better result in acute and subacute phase where task specific training along with conventional therapy gives long term result even in chronic patients. No one rehabilitation approach will be useful for management in stroke when given alone and when these approaches are combined with each other or traditional therapy the results are sooner and reliable.

N-12: Non-Immersive Gamification And Infantile Hemiplegia: Inculcation Of Artificial Intelligence In Neurophysiotherapy Rehabilitation.

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Background- "Cerebral Palsy is non-progressive, not-unchanging disorder of posture and movement" caused by damage to the developing brain, with prevalence of 1 million birth per year. Congenital Hemiplegia accounts for 38% of cases of all CP cases. The affected population are present with unilateral impairment with involvement of upper extremity. Recent researches have advocated the approaches for the management of CP which are based on individualized movement therapy. While few researches have focused on use of non-immersive gamification in children as compared to immersive gamification, recent results have indicated that it could be an engaging and promising for rehabilitation of children with unilateral upper limb impairment. **Methodology-**We have designed this experimental research with 6 subjects who were recruited using purposive sampling with age group between 6-10 years with good cognitive function. All the participants were trained for 2 hours prior to treatment and then were asked to perform the non-immersive gamification along with the conventional therapy session [NDT]. Most of the children reported no difficulties in carrying out the proposed activities, while the others needed some assistance from PT in initial sessions. **Result-**Participants who underwent this protocol along with the conventional therapeutic session showed improvement in the upper extremity function and improvement in range of motion. **Conclusion-** This study emphasis the use of non-immersive gamification along with conventional physiotherapy treatment which was beneficial for patients with upper extremity functional impairment along with reduction of muscular hypertonus.

N-13: Various Functional Limitations Observed In Stroke Survivors In India.

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Background: Stroke is rapidly developing clinical signs of focal (and global) disturbance of cerebral function lasting more than 24hrs or leading to death with no apparent cause other than of vascular origin. The key risk factors of stroke such as smoking, hypertension, diabetes mellitus, dyslipidaemia are prevalent and inadequately controlled because of inadequate public awareness and poor infrastructure. Age is a major non modifiable risk factors the stroke. Stroke is a major global public health problem. According to the Global Burden of Disease (GBD) the disability-adjusted life years (DALYs) is currently the most important time-based measure of burden of chronic disease including both disability and mortality. Stroke is a major global public health problem. According to the Global Burden of Disease (GBD) the disability-adjusted life years (DALYs) is currently the most important time-based measure of burden of chronic disease including both disability and mortality. **Methodology:** The article searched individually with each keyword under relevant section. Literature search was conducted from PubMed and ProQuest. Area of review are stroke, disability, functional outcomes, motor limitations to know the functional limitations in stroke survivors. **Result:** Total 12,447

studies were identified through searching the databases. After adding Boolean apparatus AND there were 6556 articles left. Out of which scholarly articles were 2389. After adding keywords only meta analysis and systematic reviews it got filtered to 825. After filter for 5 years 146 articles were included. After removing duplicates 9 articles were included. **Conclusion:** Conclusion - The high prevalence of stroke in the rural population is at high risk for stroke. The stroke survivors who were chronic in the community dwellers showed related impairments in body structure and function, limitation and restriction in participation.

Keywords: stroke, functional outcome, post stroke, motor limitations, disability, activity limitations.

N-14: Physiotherapy Approach For Complex Case Of Stroke To Improve Quality Of Life

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Background:- Stroke (cerebrovascular accident) is the sudden loss of neurological function caused by an interruption of the blood flow to the brain. Hemorrhagic stroke occurs when it is possible to see changes in the level of consci ousness and visual, motor, cognitive, percept ual impairments and language ability when b lood vessels burst causing blood leakage in o r around the brain focal deficits. **Case presentation:-** A 57 year old Caucasian man attendant by profession with right side dominance came to the physiotherapy department with the chief complaints of weakness in the right side, pain in the right shoulder, global aphasia, difficulty in balance, difficulty in coordination, Cognition and difficulty in performing basic ADL's. **Investigations:-** The main diagnosis was done using MRI and CT- SCAN. There was infarct in the left middle and anterior cerebral artery territory. Recent CT Brain revealed chronic infarct in left occipito-temporo parietal region. Tone, Muscle Tightness, Range of Motion, Balance, Gripping Arm Motor Function and Gait were assessed pre-treatment. **Management:-** Physiotherapy interventions, including ice stroking and electrical stimulation to the right side and active assisted exercise to the left side upper and lower limb. Outcome measures showed improvement in muscle tone, strength, cognition and balance. **Conclusion:-** Reduced pain over the right shoulder joint and improved cognition, static balance, coordination, improved their range of motion and improved activity of daily living which leads to improvement in quality of life.**Key Words**:-CVE, Hemiplegia

N-15: Factors Influencing Physiological Cost Index In Children With Cerebral Palsy"

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Background: There are no systemic review studies done to relieve which factors are affecting energy expenditure in children with cerebral palsy. This study will help in future research to do studies on other factors which may affect physiological cost index in children with cerebral palsy. **Methodology**: Study

design: systemic review. Study duration: September 2018. Study place: DVVPF'S college of physiotherapy, digital library. **Result:** Out of 10 studies, all the 10 studies were done on patients with CP and healthy control participants were also included. 3 studies considered indoor even surface and outdoor uneven surface. Other 3 studies considered factors such as walking aids like walker, rigid and hinge AFO's, comparison between with and without AFO'S. 2 studies included age, height, body weight as a factor affecting PCI. One single study considered adding up weight to the lower body. **Conclusion**: Factors which affects the PCI are walking aids like walker, orthosis like rigid and hinge AFOs, outdoor and indoor surface, BSA, muscle strength, ROM of hip knee ankle, power, adding weight to lower body, and increased level of disability which is determined by GMFCS scale.

N-16: Effects Of Simplified Postural Correction Exercise Program On Functional Scoliosis In Children With Cerebral Palsy: A Pre-Post Experimental Study.

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Background: Scoliosis is a major problem in children with Cerebral Palsy contributing significantly to the limitations in functional activity and participation with also cardiopulmonary dysfunction and postural muscle imbalance. Physical therapy applied for scoliosis correction in CP mostly complies of advanced skilled functional rehabilitation comprising MRP, NDT, Motor Control strategies along with biomechanical correction management. There is a corresponding feeling among caregivers for a need of a simplified program that can be implicated by parents as a home program in such cases so that its application can be justified. Thus this study was aimed to find the effect of a simplified postural correction exercise program for correction of scoliosis in Cerebral Palsy Children as a conservative treatment.

Materials and Methods: A convenient sample of 30 subjects with diplegic Cerebral Palsy between the age of 6 to 18 years included for this study. The simplified postural correction exercise program which included stretching of the concave side and strengthening of the convex side was given four times a week for 4 weeks. The measurements of the variable i.e curvature of the spine was evaluated with a scoliometer twice, once at the beginning of the study (Pre) and other at the conclusion of the 4 week duration (Post).

Results: Following 4 weeks of the simplified postural correction exercise program there was significant difference observed in degree of scoliosis, where the P value is (p= 6.38E-14) implying that intervention helped in reducing scoliosis.

Conclusion: This study concluded that the the simplified postural correction exercise program which included stretching of the concave side and strengthening of the convex side was effective in reducing the scoliosis in children's with cerebral palsy.

Musculoskeletal Physiotherapy

M-01: "An Observational Study To Find Out The Acquaintance Of Concussion In Students Pursuing P.G. In Sports Physiotherapy By Using Concussion Knowledge Questionnaire"

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Background: There is currently much discussion in the sports medicine literature and mainstream media regarding diagnosing and managing concussion and the appropriate criteria to guide return-to-play decisions. In amateur sport, the physiotherapist is often the primary healthcare professional present at sporting events. So, being a Sports Physiotherapy student, one should have the knowledge of how to assess and manage a case of on field concussion. **Methods:** A questionnaire created by Keating and Louis was forwarded to students (n=30) studying sports physiotherapy by E-mail and WhatsApp made in Google Forms. The questionnaire has 4 sections which includes Demographic Details, Knowledge, Assessment and Management of Concussion. Total 31 questions with each question carrying 1 mark. Result was made according to the scoring in each section.**Results**: 70.33% have proper knowledge regarding concussion. 60.25% have awareness of how to assess the patient. 62.39% have awareness about managing a concussed player. **Conclusion**: The findings suggest that only 64.33% have the knowledge to assess and manage a concussed athlete. **Key Words:** Concussion, Sports Physiotherapy, Concussion Knowledge Questionnaire.

M-02: "Effect Of Muscle Energy Technique Vs Strain-Counterstrain In Treatment Of Acute Myofascial Upper Trapezius Trigger Point On Patients With Mechanical Neck Pain. "

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Background: There have been studies done to check effectiveness of various technique to improve pain in upper trapezius trigger point. Among the techniques, muscle energy technique and Strain-counterstrain has been proved a role in improvement in pain. Hence the need of study arises to check for superior form of technique in a treatment of upper trapezius pain. **Methodology:** The comparative study consists of 48 subjects who met the inclusion criteria and were randomly divided into two groups with each group consisting of 24 patients after obtaining their consent. The subjects were randomized to receive either MET (Group A) or Strain-counter strain (Group B). All the participants will receive treatment three times a week for 6 consecutive weeks. Outcome measures were assessed at baseline and after the 6 week treatment period. **Result:** The mean value of NPRS group A and group B are 1.79 and 4.50 respectively ,mean value of CROM group A and B are 41.54 and 33.83, and NDI are 12.75 and 20.83 .Standard deviation of NPRS is 0.88 & 1.06 ,CROM values are 3.41 & 3.02 ,NDI 5.03 & 7.46 T-test value for NPRS -9.597, CROM-8.289, NDI-4.401,and P value is <0.0001 for all the three outcome measures, these values suggest there is significant improvement in reducing trigger point in group A than group B. **Conclusion:** A 6 week intervention of Strain-counter strain and Muscle energy technique has showed that both techniques were effective in the treatment of upper trapezius trigger points however significant difference was found in the Muscle energy technique group.

M-03: "Prevalence Of Musculoskeletal Pain In Security Guards"

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Background: A wide range of inflammatory and degenerative conditions affecting muscles , tendons ,joints peripheral nerves etc. are categorized as "Musculoskeletal disorders"(MSDs). Once the prevalence is known, preventive strategies can be adopted to prevent MSDs. Hence the prevalence of MSDs in security guards whose job demands prolonged standing, as the major activity It will make the lifestyle of security guard physically and mentally healthy, safe and improve their work efficiency and productivity. **Methodology:** 100 subjects were recruited with the age group of 22-55 years. In the cross-sectional survey. Study setting done in D.Y.Patil university (DPU) campus. Target population is security guard were selected and were explained about the survey and were assessed for presence of Low back pain with or without radiating pain. Both genders were included. Any recent surgery or fractures, those who were not willing to participate were excluded. **Result:** 100 security guard at DPU had musculoskeletal pain. Site of pain is more common in lower back with 29.57% which is followed by knee 26.76. In the age group of 36-45 there is 37% prevalence of musculoskeletal pain and in age group of 46-55 there is 63% prevalence of musculoskeletal pain. Musculoskeletal pain can also arise due to BMI. The chart describes Underweight 1% Normal 36% Overweight 55% Obese 8%. **Conclusion:** Study concluded that prevalence of musculoskeletal pain in security guards there is a common pain in lower back with 29.57 % followed with 26.76 % knee pain in the age group of 35-45 with 37% and 46-55 with 63% in both the genders.

M-04: Effectiveness Of Muscle Release Intervention In Reducing Pain, Disability And Improving Muscle Activity, Range Of Motion In Adhesive Capsulitis Of Shoulder : A RCT

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Background: Adhesive capsulitis is characterized by Shoulder pain, mobility deficits, functional limitations and disabilities that affects daily activities of patients. Presence of trigger points in the shoulder muscles could be an important cause for pain and restriction. Very few evidences are available showing the effect of muscle release intervention in releasing these trigger points in adhesive capsulitis patients. So, this study aimed to investigate whether muscle release technique is effective in treating adhesive capsulitis. **Methodology:** Seventeen patients with unilateral adhesive capsulitis, aged between 40 - 65 years, were randomly divided into two Groups (A and B). Group A received muscle release intervention along with routine physiotherapy treatment and group B received routine physiotherapy treatment alone for two weeks. Patients were assessed at baseline and after two weeks for range of Motion of shoulder using a universal goniometer, electrical muscle activity of selected shoulder muscles during MVIC evaluated by surface electromyography, pain

and disability of the patients was assessed using SPADI questionnaire. **Results:** Both the interventions showed no statistical difference almost similar effects on all the outcome after 2 weeks of intervention. However, patients treated with muscle release showed marginally better improvement, particularly in the electrical muscle activation of the shoulder muscles during MVIC than the patients receiving routine physiotherapy alone suggesting a better improvement in overall shoulder muscle strength due to muscle release. **Conclusion:** Both muscle release intervention along with routine physiotherapy treatment and routine physiotherapy treatment alone are equally effective in treating adhesive capsulitis patients.

M-05: Effect Of Resistance Exercise On Functional Mobility And Quality Of Life In Patients Undergoing Dialysis-Quasi Experimental Study

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Background: Patients with CKD typically have approximately 50% of the exercise capacity of nonuremic, healthy, sedentary people. Unlike other long-term conditions, people with CKD are not generally offered exercise-based rehabilitation. In dialysis patients, reduced ability to exercise has a substantial effect not only on the quality of life but also on morbidity and mortality. Hence this study was undertaken with the aim to find out the effect of resistance exercises on functional mobility and quality of life in patients undergoing dialysis. **Methodology:** This study was conducted at the dialysis unit of a tertiary care hospital situated in a rural area. 19 adults between 18-50 years of age undergoing haemodialysis were recruited in the study according to the inclusion and exclusion criteria of the study. The sit-to-stand-to-sit 10 test and KDQOL-36 questionnaire were the outcome measures used in the study. The outcome measures were assessed at baseline 1 hour after the dialysis session, at 4^{th} week and at the end of 8^{th} week. **Results:** The study showed significant increase ($p<0.0001$) in baseline, 4^{th} week and 8^{th} week for the physical composite score of KDQOL- 36 Questionnaire. The analysis showed no significant difference ($p = 0.556$) between all three intervals, i.e. baseline, 4^{th} and 8^{th} week for the mental composite score of KDQOL- 36 Questionnaire. **Conclusion:** The physiotherapy protocol in the form of resistance exercises for lower extremities and active exercises for both upper and lower extremities is safe and effective means to improve the functional mobility and quality of life in patients undergoing haemodialysis.

M-06: Evaluation of Neck Pain and Scapular Stability in Graduate Dental Students- A Cross-Sectional Study

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Background - The symptoms of the musculoskeletal disorder occur during the educational and training course in dental students. The most commonly affected areas are neck, low back, wrist and hand. **Methodology**-Study design- Observational, cross- sectional. Study setting- Dental college attached to a tertiary care hospital. The site

of pain over the neck region (in subjects with pain) was assessed using body diagrams. Assessment of intensity of pain (if present) was done using Numerical Rating Scale, scapular posture using Pectoralis Minor (PM) length test and resting scapular upward rotation using Baseline Bubble Inclinometer, dynamic scapular positioning using Lateral Scapular Slide Test (LSST) and muscle strength of scapular stabilizers (upper, middle, lower trapezius, serratus anterior and rhomboids) using Lafayette Manual Muscle Tester. Outcome measures were compared between group A and B. **Results-** 63 female dental students (group A, n= 32; group B, n=31) were included. There was a significant difference in the PM length test of left side (p=0.02) and intensity of pain (right side p=0.008, left side p=0.003) in group A and B. 65% students in group B and 25% in group A reported pain. The site of pain was over the lateral aspect of the neck and character of pain was aching. Few students in group A (8) and B (9) showed positive LSST. We found no significant difference in other outcome measures. **Conclusion-** Dental students suffer from neck pain. Static scapular posture was affected, whereas dynamic scapular stability was not affected. Dental students should be educated about ergonomics and posture.

M-07: Effect Of Cross Hand Myofacial Release Technique On Hamastrings Flexibility In College Students Using Sit And Reach Test: A Pilot Study

Megha Vora (2nd Year Mpt –Musculoskletal And Sports)

Background:- Physiologically full stretch occurs in hamstrings muscle only if the knee is fully extended and hip fully flexed. Complete contraction and stretching rarely occurs in normal daily activity and hamstrings are therefore, chance of it going into tightness are more in individuals not participating in any daily stretching routine. An urban sedentary lifestyle is one of the reasons responsible for certain abnormal postures. Long hours of sitting seen especially in people with desk jobs, students, etc. results in altered length of soft tissues. The prevalence of hamstring tightness is very high in college going students of age group 18-25, especially the students having prolong sitting hours. So, in this study college going students are included. Myofascial Release is a hands-on soft tissue technique that facilitates a stretch into restricted fascia. Cross hand release techniques are by far the most important, fundamental and commonly used techniques in the MFR approach and form the basis of every other MFR technique. **Methodology:-** 10 subjects with hamstring tightness were assessed and treated with cross hand myofascial release technique for 2 weeks 3 times a day (alternative days). Outcome measure used were back saver sit and reach test was measured before and after the intervention. **Result:-** Statistical analysis showed that hamstring flexibility significantly improved post treatment using cross hand myofascial release technique. Independent sample t test used for comparison of pre-post data. **Conclusion:-** Myofascial Release technique is effective for hamstring flexibility.

M-08: Comparison Of Musculoskeletal Disorders In Children Before And After COVID-19

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Background: An outbreak of corona virus (COVID-19) disease causing severe acute respiratory syndrome first occurred in China. It

gradually spread worldwide. During this pandemic, 107 countries implemented school closures. This quarantine was associated with changes in the daily activity among children, where less physical activity and more use of electronic device was seen. The study aimed to compare musculoskeletal disorders among children before and after COVID-19. **Methodology:** One hundred thirty-one school-going children, selected by convenience sampling, aged 6-18 years, studying online since at least one month, participated in this cross-sectional study. The participants were asked to fill a self-designed, close ended questionnaire of 24 items. Descriptive analysis was done using Microsoft excel. **Results:**80.1% children (average age13.7 years) used electronic devices less than 2 hours for study, 89.81% for games, social media and communication before COVID-19. Post-C0VID-19, 93.11% children used electronic devices more than 2 hours for study,72% children used electronic devices less than 2 hours for games, social media and communication. 51.14% children had musculoskeletal pain after COVID-19. Children with pain in the neck (39.4%), back (15.2%), neck and back (12%), right or left shoulder (6%), both shoulders (6%) and more than one part involved (21.2%). Neck pain was mild (28.3%), moderate (65%), severe (6.7%). Severity of back pain was mild (54.5%), moderate (31.8%), severe (13.6%). Severity of shoulder pain seen was mild (74.3%), moderate (25.7%). Severity of arm pain was mild (83.3%), moderate (16.7%). 51.9% Children were exercising before COVID-19, 60.3%after COVID-19. **Conclusion:** After COVID-19there is an increase in the prevalence of musculoskeletal disorders (neck, back, shoulder and arm pain) among children with an increase in the time of use of electronic device.

M-09: Effect Of Therapeutic Kinesio-Taping In Patients With Shoulder Impingement Syndrome: A Pilot Study

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Background – Kinesio-taping is widely used in sports rehabilitation for prevention and treatment of sports-related injuries. The role of Kinesio-taping has recently received renewed interest in patients with shoulder problems like shoulder impingement or rotator cuff tendinopathy. However, lack of previously published research that objectively assesses the impact of kinesio-taping taping in patients with shoulder impingement. This gap in the literature motivated the present study. **Methodology** – 6 patients diagnosed with shoulder impingement syndrome were included in the study and they were allocated into the experimental and control group. The patients in experimental group received ultrasound therapy for 8 minutes followed by application of therapeutic kinesio-taping and in control group patients received ultrasound therapy for 8 minutes followed by application of placebo kinesio-taping. Outcome measure were pain intensity by NPRS, shoulder range of motion by goniometry, acromio-humeral distance (AHD) using ultrasonography and functional disability by SPADI assessed at baseline, immediate after taping application and 3 days post intervention. **Result** – Therapeutic kinesio-taping group showed significant change in AHD, pain, shoulder

range of motion and function whereas placebo kinesio-taping showed no significant improvement in outcomes. **Conclusion** – Kinesio-taping found to be more effective in increasing AHD, range of motion, decreasing pain and functional disability and can be used as adjunct treatment option in patient with shoulder impingement.

M-10: Impact Of COVID-19 On Fatigue And Exercise Capacity In Patients Treated At A Dedicated COVID Government Tertiary Care Hospital In Mumbai.

Dr. Sayali D. Mhatre, Final Year Postgraduate Student (Musculoskeletal Physiotherapy), Dr. Anagha N. Mangaonkar,Dr. Chhaya V. Verma (PT, PhD)[β], Professor and HOD) Physiotherapy School and Centre, TNMC BYLNCH, Mumbai.

Background: COVID-19 is an ongoing pandemic of highly contagious respiratory disease caused by the novel corona virus SARS-CoV-2. Along with fever and respiratory symptoms of dyspnea and dry cough, musculoskeletal symptoms like fatigue, myalgia have also been reported. Covid-19, primarily affecting the lungs, takes a toll on the exercise capacity. The aim is to study the impact of Covid-19 on fatigue and exercise capacity. **Methodology:** After receiving approval from Institutional Ethics Committee a cross-sectional, observational study was conducted. Seventy five stable adult inpatients who tested positive for COVID-19 on RT PCR were recruited. Demographic data was recorded along with serum CPK and CRP levels. Patients rated their level of fatigue on Fatigue Assessment Scale (FAS) and were then asked to perform the One Minute Sit to Stand test (1MSTS) under supervision to quantify their exercise capacity. Statistical analysis was performed using SPSS version 24 (2016). Pearson's correlation coefficient (r) was used to test the correlation of fatigue with serum CPK, serum CRP and exercise capacity respectively. **Results:** Mean level of fatigue rated on FAS was 16.90±4.36. Serum CPK levels were observed to be raised in 8% of the patients with a mean level of 106.34±65.52 IU/L. Raised CRP levels with a mean of 48.61±30.20 mg/L were observed in 98.66% patients. Mean number of repetitions completed during the 1MSTS were 17.69±6.00 repetitions. A significant positive correlation of FAS score with Serum CPK and CRP levels respectively was observed (p value >0.05) and a significant negative correlation was observed (p value >0.05) between FAS score and number of repetitions completed during 1MSTS. **Conclusion:** Fatigue showed a significant positive correlation with Serum CPK and Serum CRP levels and a significant negative correlation with exercise capacity measured by the repetitions performed during 1MSTS. **Key Words:** COVID-19, Fatigue, Exercise Capacity, Serum CPK, Serum CRP.

M-12: Effects Of Blackburn-Exercises On Grip Strength And Hand Function In Type 2 Diabetics: A Randomized Controlled Trail.

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Dr. Sucheta Golhar (Principal, Professor) P.E.S Modern College of Physiotherapy

Background: The global prevalence of diabetes among adults over 18 years of age has risen from 4.7% in 1980 to 8.5% in 2014. There is detrimental effect of type 2 diabetes mellitus (T2DM) on on skeletal muscles. The present study aims to compare the effects of Blackburn-exercises with recommended protocol against the effect of only recommended protocol on type 2 diabetics on grip strength and hand function. **Methods**:

44 subjects fulfilling the inclusion and exclusion criteria were randomly allotted into 2 groups. Blackburn Exercise with recommended protocol for diabetics (Experimental Group) and recommended protocol for diabetics (Control Group) both for 4 weeks. All the subjects were assessed using Baseline® Dynamometer for measuring Hand grip strength (HGS), hand function was measured using Durouz Hand Index Questionnaire. **Results:** Difference between Mean Change in Grip Strength of Post 4 weeks with Pre for Dominant and Non-Dominant hand is significantly (p value $<$ 0.001*) different in Group A when compared with Group B with more change in Group A compared to Group B. The effect of additional Blackburn exercise along with recommended protocol shows remarkably statistically significant effect (p-value $<$ 0.05) in Hand Function Score at the end of the treatment. The Median Score in Group A goes on reducing gradually from 3 to 0 which suggests the hand function score was gradually improving as the week progressed, while in Group B the Median Score was 3 suggesting no change. **Conclusion:** Both the groups showed significant effect to exercise training, wherein Group A showed significant difference from the 1st week whereas Group B started showing significant difference from the 2nd week both in hand grip strength and hand function scores.

M-13: Effect Of Cognitive Functional Therapy On Pain And Functional Disability In Patients With Nonspecific Chronic Low Back Pain

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Dr. Vrushali Panhale[2]. Professor, M.G.M. College of Physiotherapy, Navi Mumbai

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Background: Non-Specific Chronic Low Back Pain (NSCLBP) must be addressed taking into consideration the multidimensional biopsychosocial framework as it is found that NSCLBP is resistant to change with traditional approach of management. This study aimed to study effect of cognitive functional therapy (CFT) on pain and functional disability in patients with NSCLBP in Indian population. **Methods:** 40 subjects in the age group18-50 years, with NSCLBP$>$3 months and pain on Numerical Pain Rating Scale (NPRS) in the range of 2-7/10 were randomly allocated in either of experimental group A(n$=$20) or control group B(n$=$20). Group A treatment included Cognitive Training, Functional movement training, Functional integration and Physical Activity Exercise plus conventional exercises. Treatment session ended by providing therapist-made Guided Imagery for relaxation and application of hot packs to low back. Group B treatment included ankle pumps, flexion/extension exercise (depending on movement-bias), drawing in abdominal wall exercise, static glutei, stretching for hamstrings and gastro-soleus and hot packs. Pain, functional disability and fear- avoidance beliefs were assessed, using appropriate outcome measures, pre-intervention and 6th week of intervention. **Results:** At the end of 6th week, between group comparison of pain, functional disability & fear avoidance beliefs was done using Mann Whitney U test. There was statistically significant difference(p$=$0.002) in NPRS, in Roland-Morris Disability Questionnaire(p$=$0.001) and Fear Avoidance

Belief Questionnaire (p=0.00). Minimally Important Change % for NPRS and RMDQ in Group A were 100% & 41.67% and in group B were 70% & 12.5% respectively. **Conclusion:** This study concludes that Cognitive Functional Therapy is effective for reducing pain and improving functional status(in terms of LBP) in nonspecific chronic low back pain patients than conventional exercise therapy alone.

M-15: Effect Of 4-Week Advanced Throwers 10 Exercise Programme On Shoulder Muscle Endurance In Female Badminton Players Of Age 12-16 Years Using Posterior Shoulder Endurance Test- A Pre And Post Experimental Study.

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Background: Badminton is a popular sport in Asia and requires repeated overhead movements with rapid changes in direction. Since overhead athletes demand dynamic stabilization of shoulder the muscles involved, forced by repetition over a period of time, are prone for chronic injuries and adaptive changes in the dominant upper extremity. Therefore, exercise programme is required for improving strength and endurance and preventing injuries in badminton players. Advanced Throwers10 is a tailored exercise program to increase the strength and endurance of rotator cuff and scapular muscles in overhead athletes. **Methodology:** A pre and post experimental study was carried out in 35 female badminton players of age group 12-16 years. Participants were assessed for outcome measures - number of repetitions performed in Posterior Shoulder Endurance Test, rate of perceived exertion score on Modified Borg Scale taken immediately after Posterior Shoulder Endurance Test and isometric strengths of internal and external rotators measured on hand-held dynamometer. The Advanced throwers 10 exercise programme was performed by the participants 3 times a week for 4 weeks. Data was documented and statistically analysed using Paired t-test. **Results:** There was significant improvement in the number of repetitions performed in Posterior Shoulder Endurance Test, the rate of perceived exertion score on Modified Borg Scale and isometric strengths of internal and external rotators. **Conclusion:** 4-week Advanced Throwers exercise programme can be used as endurance training for shoulder muscles in badminton players.

M-16: Relationship Between Core Stability And Performance In Normal And Obese Individuals"

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Background: The well-trained core is essential for optimal performance and injury prevention. The stabilization of trunk is vital for the stability of spine and pelvis when they are in a functional position. If core muscles are unable to provide a strong base of support through which kinetic energy moves toward upper and lower extremities, trunk motion can no longer occur in a safe boundary. It is therefore imperative to examine the components of core strength closely and its relationship with performance in obese population with the hopes of identifying possible risk factors for injury and eliminating them. **Methodology -** A cross sectional study was carried out in normal and obese males and females aged between 20 to 30 years. Each subject in Group A (normal) and Group B

(obese) was subjected to tests to assess of core stability and performance in the following sequence: core stability by four tests (Flexor endurance test, Back extensor test and Lateral musculature test (right and left side) and performance by Backward overhead medicine ball throw and Single leg squat. Data obtained and statistically compared by unpaired t-test and correlated by Pearson's correlation coefficient. **Result:** Results of the study revealed that core and performance is much better in normal individuals when compared with obese individuals. Correlation of core stability and performance in normal and obese individuals showed a positive correlation between core stability with backward overhead ball throw test and core stability with single leg squat test in both the groups. **Conclusion:** Study reveals that increased BMI is associated with decreased core stability which compromises the level of performance in obese individuals as compared with normal individuals.

M-17: Validity And Reliability Of Isometric Strength Testing Devices Of Knee Extensor Isometric Strength: A Systemic Review

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Background- Strength of muscles of thigh (i.e. quadriceps muscles) is important to keep the knee joint healthy and free from pathologies. Muscle strength measurement is an important clinical aspect when proposing a treatment, to measure therapy's effectiveness. Testing of muscle strength can also help in planning the exercise protocols for prevention of knee problems. . Currently, the gold standard method to quantify quadriceps strength utilizes an Isokinetic dynamometer (IKD). The alternative method used to assess isometric strength is Hand Held Dynamometer. **Methodology-** Articles published on an online electronic database were included. On the basis of selection criteria screening was done. We included studies that were published in English from the year 2015 to 2019 and which focused only on reliability and validity of isometric strength testing of knee muscle strength in various populations. This systemic review included six articles which were test retest reliability.**Result-** Isokinetic Dynamometer and Hand Held Dynamomter shows excellent reliability in assessment of isometric knee strength ranging from (r= 0.8-0.9 ICC). **Conclusion-** This systemic review shows that Isokinetic dynamometer and Hand held Dynamomter are the reliable and valid tools for the measurement of isometric knee muscle strength. As Isokinetic dynamomter equipment is highly expensive and Hand Held Dynamomter has disadvantage of poor positioning, there is a need for cost effective 'INDIAN MAKE' Isometric strength testing device.

M-18: Evaluation of Endurance among Normal Healthy Individuals in Ahmednagar

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Background- Endurance is the ability of an organism to exert itself and remain active for a long period of time, as well as its ability to resist, withstand and recover from, and have immunity to trauma, wounds or fatigue. It is usually used in aerobic and anaerobic exercise. In this study we included different tests like- sit to stand test, abdominal

endurance test, wall sit test, pull up test, F8T test and VO2 max test. Considering the inclusion and exclusion criteria, 90 normal healthy individuals were selected to perform these tests and after the tests were done mean, SD and average of the tests were calculated, and accordingly results were obtained. **Methodology:** Study design- Cross-sectional study. Study setting- Physiotherapy OPD in Neuroscience department. Study duration- 6 months. Sample size- 90 subjects. Sampling technique – Purposive sampling. Study material- Pen, paper, water, watch, chair, horizontal bar, consent form, measuring table, 2 cones, pulse oximeter. **Result:** The results of this study were analyzed on the basis of comparison between the tests performed on the normal individuals on this study to that of the normative values of the tests that are included. Statistical analysis was done by GraphPad InStat Software. Various statistical measures such as mean, standard deviation and average were taken and were utilized to analyze the data. **Conclusion:** As the age increases the level of endurance decreases and vice versa and also the level of endurance is more among males as compare to females. **Keywords**- Endurance, normal healthy individuals, sit-to-stand test, pull up test, abdominal endurance test, wall sit test, F8T, VO2 max test.

M-19: A Comparative Study On Core Stability Of Male Advance Yoga Practitioner And Beginners In Yoga

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Dr. Umanjali Damke, HOD and Professor Physiotherapy school and Centre Government Medical College, Nagpur.

Background: Yoga is regarded as a holistic approach to health and is classified by the National Institute of Health as a form of complementary and alternative medicine. Regular practice of yoga promotes strength, flexibility, and facilitates great self-control while cultivating sense of wellbeing but whether yoga has a significant effect on core stability needs to be analyzed. **Methodology** – 42 yoga practitioners were selected of which 21 were advanced yoga practitioners and 21 were beginners of yoga. All participants were assessed for core stability on the basis of the duration for which they could hold McGill endurance test positions. Longer they held the test position more was their core stability and the time was recorded in seconds. McGill endurance test included three tests and they were trunk flexor test, trunk extensor test and side plank test. **Results** – Unpaired t test was used for intra group comparison. The P values obtained for all the three tests were less than 0.05 which means it was statistically significant and indicated that the advance yoga practitioners have higher core stability than that of the beginners. **Conclusion** – The study concluded that core stability of advance yoga practitioners is higher as compared to that of the beginners. This means yoga plays a vital role in strengthening the core muscles of the body. **Key words** – Yoga, Core stability and McGill endurance test.

M-20: Relationship Between Sleep Posture And Spine Range Of Motion In Adults: A Scoping Review.

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Background: Despite many advanced techniques in medicine concerning spine complaints and treatment methods, Neck pain, back pain will be one of the common leading problems. Hypomobility of the spine results in compensatory segmental hypermobility of the segment above or below which is likely cause for restriction of all segments. Sleep posture may cause this difference in the segment of the spine so to guide treatment intervention there is a need to assimilate existing evidence regarding sleep posture and spine range of motion. **Methodology**: Databases Searched using PubMed, ProQuest, science direct. Keywords Used are posture, spine range of motion, sleep, neck pain, back pain, segment, lordosis, kyphosis Boolean Operators used: "AND" and "OR". Records identified from electronic database 2857, records, after duplicates removed 2672, after title screening, abstract screening, full-text screening selected articles for review, is 11. **Results**: Supine and lateral sleep position provides neutral and symmetrical loads and ensures the spine alignment also prone position will increase the lumbar lordosis. Some studies showed variation in the spinal alignment but There is conflicting evidence regarding sleep posture and spine range of motion. limited association was found between sleep posture and spine range of motion. Also not only sleep posture affects the segments but mattress design, quality, sleep surface, and pillow. Even ears, shoulder, and hip alignment will help in maintaining a neutral spine. **Conclusion**: Various factors affect modifies sleep posture which leads to change in spinal alignment and affects the segmental range of motion. Obtaining good sleeping posture, surface influence significant effect on maintaining spine healthy.

Physiotherapy in Cardiovascular And Respiratory Sciences

CA-01: Effect Of Combination Of Flutter And Breathing Exercise On Post-Operative Pulmonary Complications In Off -Pump CABG Patients: A Randomized Controlled Trial

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Background – There is high incidence of post-operative pulmonary complications in patients undergoing CABG. Flutter device proved to lower the incidence of postoperative pulmonary complications. Therefore, the study aimed to investigate effectiveness of flutter device and breathing exercises on prevention of postoperative complications in Off pump CABG patients. **Methodology** – 30 patients underwent Off pump CABG for the first time were included in the study and they were allocated into the experimental and control group. The patients in experimental group received flutter device twice a day for 10 minutes along with breathing exercises which included diaphragmatic and segmental breathing for 10 minutes, 3 sets per day for 3 days after the CABG and patients in controlled group received the breathing exercises. Outcome measures were PFT (FEV1, FVC,

FEV1/FVC, PEF), Vitals (HR, RR, BP, SPO2) and Chest X- ray, which was assessed preoperatively and 3 days after postoperative treatment. **Result** – When within the group comparison was done both the group showed significant improvement in FEV1, FVC, FEV1/FVC and vitals but between the group comparison showed no significant difference in FEV1, FVC, FEV1/FVC, PEF and vitals values. The post-operative Chest X-ray revealed that 13.3% patients had prevention of post-operative complications. **Conclusion** – The study concluded that the patients who underwent physiotherapy treatment showed 13.33% of prevention of post-operative pulmonary complications in coronary artery bypass graft patients.

CA-02: Effect Of Acu-Tens On Dyspnoea Pefr Value And Functional Capacity In Bronchial Asthma- A Randomized Controlled Trial.

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2. Assistant professor, MGM's Institute of physiotherapy Aurangabad.

Background: Bronchial asthma is a chronic airway disorder and more common in Adults (10%-15%) at urban than rural areas. Dyspnoea is one of the key symptom of bronchial asthma due to bronchospasm. Previous study has shown the effect of Acupuncture TENS in dysponea associated with COPD Thus, the present study is an attempt to evaluate the efficacy of Acu-TENS and placebo TENS on dyspnoea, PEFR value and Functional capacity in patients with Bronchial asthma. **Methodology:** The sample size of 40 Patients with medically diagnosed asthma were recruited and screened based on the inclusion and exclusion criteria. Subjects were randomly allocated into Group A ACU-TENS for 20 minutes, relaxation techniques, pursed lip breathing and activity pacing whereas Group B received Placebo TENS for 20 minutes, relaxation techniques, pursed lip breathing and activity pacing. **Results: T**he 6 MWT (p=0.000), PEFR (p=0.009) and Borg scale (p=0.001) were statistically significant within Group A pre and post intervention. Whereas in Group B only 6MWT (0.001) and Borg scale (p=0.000) values were statistically significant. **Conclusion:** The results and data analysis shows that using of Acu-Tens in bronchial asthma patients is effective on dyspnoea, PEFR values and functional capacities in patients with bronchial asthma.

Keywords: Bronchial Asthma, Acu-TENS, Borg scale, PEFR.

CA-03: Determination Of Reference Value Of Chest Expansion In Healthy Indian Children

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Background: Considering the importance of chest expansion as a diagnostic tool in clinical setting, the interpretation is dependent on reference values or normative data drawn from the normal individuals to detect variation from normal. Chest expansion values of adults cannot be used for children as the chest wall dimensions and compliance is different. Also, there is lack of data available for reference value in children in India as well as globally. Aim and objective of this study was to determine reference value of chest expansion in healthy Indian children of age 6 to 15 years. Objectives was to study relation of Age, Height & Weight with chest circumference, and to compare the Indian reference data with published global data. **Methodology:** Total

455 healthy children participated in the study. Participants were included using the inclusion and exclusion criteria by random sampling method. Data was obtained by measuring chest expansion of the participants in erect sitting position and hands kept on waist. The measurement of chest expansion was taken at three levels that is Axillary, Mammary and Xiphoid level. **Result:** 455 children participated in the study in which 229 were males and 226 were females. The mean value of chest expansion for males at axillary level(CE1) is 5.334cm, at mammary level(CE2) is 4.963cm, and at xiphoid level(CE3) is 4.644cm. For females, vales of chest expansion at CE1 is 5.085cm, at CE2 is 4.483cm and at CE3 is 4.113cm. **Conclusion:** It was concluded that the values obtained from this study was significantly different from the values available globally. This study has provided reference values derived from normal Indian population of age 6 to 15 years.

CA-04: Comparison Of Pulmonary Functions In Copd Patients With Normal Versus Abnormal Craniovertebral Angle

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Background: COPD is a lung disease causing chronic obstruction of the airflow which affects almost 65 million people globally. Changes in Craniovertebral Angle(CVA) is known to have an effect on the pulmonary functions as abnormal CVA is a measure of forward head posture. Forward head posture causes changes in the length tension relationships of the accessory muscles of respiration which affects their capacity to function normally as well as reduces diaphragm efficacy. Both COPD and CVA affect pulmonary functions negatively. However, the effects of changes in CVA in COPD patients, in whom the respiratory function is already affected has not been studied extensively. This study was carried out to prove the nature of relationship between craniovertebral angle and pulmonary functions in COPD patients, to provide us with a more comprehensive outlook in assessment and rehabilitation of COPD patients. **Methodology:** 44 participants, both males and females, aged 40 to 65 years, diagnosed with COPD were included. Spirometry was performed and FEV_1 and FVC values were noted. Patients were divided into two groups of 22 based on CVA values. Group A had patients with normal CVA and group B with abnormal CVA. FEV_1 and FVC values of both groups were compared using Mann Whitney U test. **Results:** There is statistically significant reduction in the FEV_1 and FVC in abnormal CVA group as compared to normal CVA group. **Conclusion:** Pulmonary functions in COPD patients are affected by abnormality in Craniovertebral Angle. FEV_1 and FVC values were reduced in abnormal CVA group. Hence, effect of craniovertebral angle on pulmonary functions should be considered during assessment and rehabilitation of COPD patients.

CA-05: Post COVID Rehabilitation In The Epoch Of Technology - A Case Report

Dr. Madhura R. Patil (PT), Final year Post graduate Student (Cardiovascular and Respiratory Physiotherapy)

Dr. Chhaya V. Verma[1] (PT, PhD) Professor and Head Dr. Rachna D. Arora[1] (PT), Assistant Professor

Dr. Nitin D. Karnik[2] (MD) Professor and Head of the Department , Physiotherapy School and Centre, T.N.M.C & B.Y.L, Nair Ch. Hospital, Mumbai.

Background: Post discharge home isolation has led to a notable physical deconditioning at the musculoskeletal and metabolic level. Due to contagious nature of COVID-19, telerehabilitation has been recommended to limit spread of infection between patient and the physiotherapist. The purpose of telerehabilitation in the following case was to prevent post COVID complications and improve functional capacity in order to facilitate functional independence in ADL's. **Methodology:** A 55 year old male diagnosed as COVID-19 with severe ARDS, LRTI, Metabolic Encephalopathy and COVID induced Diabetes Mellitus was admitted in a ward of tertiary care hospital for 6 days. After an episode of convulsion he was shifted to ICU for 20 days where he was on ventilator support. Post discharge his complaints were Breathlessness on walking (grade 3), fatigue on ADLs, swelling in B/L lower limbs, tingling in lower limb, difficulty in getting up from chair and maintaining balance. After recommendation by treating physicians tele-rehabilitation was started using Video Calling Application. Key outcome measures 6MWT, 1MSTS, FIM, Fatigue Severity Scale and Berg Balance Scale were assessed once a week. Based on the assessment, physiotherapy intervention was started. It included counselling, breathing exercises, mobility and strengthening exercises of upper and lower extremity, balance training, gait training and aerobic exercises. Tele-rehabilitation was conducted every day for 9 weeks with each session of 30 minutes. **Result:** The patient maintained stable vitals throughout all telerehabilitation sessions. The perception of fatigue and functional Independence improved by 16% and 57% respectively. The functional capacity assessed by 6MWT and 1 MSTS improved by 61% and 90 % respectively, which promoted general health and well-being. **Conclusion:** The structured implementation of telerehabilitation program showed an improvement in the perception of fatigue, muscle strength, metabolic imbalance and functional capacity which facilitated his return to work and ADLs. **Keywords:** COVID-19, Telerehabilitation, Physiotherapy

CA-06: Post Covid Symptoms And Rehabilitation Needs In Survivors Of COVID-19 Infection: A Cross-Sectional Evaluation.

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Dr. Anjali Bhise (PhD, principle at Government Spine Institute and Physiotherapy College , Ahmedabad)

Background: COVID-19 is a truly multisystem disease, with common extra-respiratory complications affecting the cardiac (arrhythmias and myocardial injury), renal (acute kidney injury), gastrointestinal, nervous (neuropathy, encephalopathy), endocrine and musculoskeletal (weakness, pain, and fatigue) systems. Specific data concerning the rehabilitation need of this group is therefore urgently required. **Method**: One of the largest hospital trusts in Asia with approximately 1200 beds and providing secondary and tertiary services to people. Questionnaire were sent to Patients treated for COVID-19 and follow up were done via telephonic method by physiotherapist. **Result**: The prevalence of post covid-19 problems detected on telephone screening are reported in breathlessness, fatigue, swallowing, nutrition, voice quality, laryngeal sensitivity, communication, PTSD disorder, continence, cognition, perceived health status, vocation, and family/carers views. **Conclusion**: New

illness-related fatigue, breathlessness, and psychological distress were commonly reported with greater prevalence in those needing ICU / Ward care when compared with those managed in home isolation. **Keywords:** COVID-19, Post COVID symptoms and rehabilitation.

CA-07: Awareness & Knowledge Of Cardiovascular Risk Factors Among Young Adults

Rebecca Ferreira, Cardiovascular Pulmonary Physiotherapy and Fitness Postgraduate student, MGM School of Physiotherapy, Aurangabad.

Background: The acceleration in CVD risk factors is appalling and is attributed to the urbanization, lack of knowledge, and effective preventive strategies. The data found was very limited about the prevalence of awareness of CVDs and their risk factors and their perception in India. Clinicians who are administering the ABCD Risk questionnaire to patients, help in deciding on their rehabilitation program and finding out whether the programme is effective in empowering patients to make informed lifestyle choices about their health. **Methodology:** A self-administered Attitudes and Beliefs about Cardiovascular Disease (ABCD) Risk Questionnaire was answered by a sample of young adults. It assessed the CVD risk awareness and also evaluated the quality of perceived CVD risk, general knowledge of CVD and intent of change in behaviour with regards to diet and exercise. Using the scoring scheme of the questionnaire, the prevalence and perception was calculated. **Results:** A total of 125 young adults participated in the survey. Out of which, 98 participants (78.4%) lacked CVD risk awareness and general knowledge. Out of these 98 participants, 61 participants (62.24%) had a higher average perception of risk of having a heart attack or stroke, 95 participants (96.93%) had a higher average perception of the benefits of diet and exercise and also of readiness for change in regards to exercise behaviour and 91 participants (92.85%) had a higher average perception of readiness for change with regard to health dietary behaviour. **Conclusion:** There was a very low prevalence of participants with CVD risk awareness and general knowledge. Also, a majority had high perception of risk of CVD and intent of change in behaviour with regards to diet and exercises

CA-08: Short-Term Effects Of Pranayama On Cardio-Respiratory Parameters And Cardio-Respiratory Endurance In Type 2 Diabetes

Dr Shilpa Ajay Parab, Sharon Nathan

Background: The World Health Organization estimates that more than 180 million people world-wide have diabetes and this number will increase by 2030. Diabetes is a complex and multifactorial metabolic changes that can lead to damage and impairment of the cardiovascular system which can affect the quality of life. Pranayama's calming effect may have a effect on pulmonary, cardiovascular and mental functions of the brain.It can boost resistance power and improve physical strength hence its important to study it effect on diabetes mellitus patient. **Methodology:** Permission was taken from institutional ethical committee. This is an experimental study which was carried out in 20 subjects both male and female having type 2 diabetes mellitus. They were selected according to the inclusion and exclusion criteria. Cardio-respiratory parameters used were blood pressure, pulse rate, respiratory rate and peak

expiratory flow rate and 6 min walk test was used to assess the cardio respiratory endurance. **Result:** The study showed that there was significant difference in cardio-respiratory parameters in systolic blood pressure($p<0.001$), pulse rate ($p<0.001$), respiratory rate($p<0.001$), peak expiratory flow rate ($p<0.001$). There was no significant difference in the cardio-respiratory endurance in 6 min walk test ($p>0.001$) **Conclusion:** The present study concludes that Pranayama has an effect on the cardio-respiratory parameters but it does not have any effect on the cardio-respiratory endurance.

CA-09: Comprehensive Physiotherapy Management In Adults With COVID 19: A Paradigm Shift Towards Early Recovery.

Dr. Nidhi Savla , , Dr. Dolly Kanakia , Dr. Anagha Mangaonkar, First Year Post graduate student Dr. Chhaya Verma (PT, PhD)[1] Professor and Head Physiotherapy School and Centre, Topiwala National Medical College & BYL Nair Ch Hospital

Background : Today, India is in the midst of the coronavirus pandemic wherein all its healthcare workers are relentlessly fighting against the unseen enemy. SARS COV 2 which was identified in China in December 2019 primarily affects the respiratory system causing abnormal pulmonary mechanics due to ventilation perfusion mismatch and/or intrapulmonary shunting. Apart from physical sufferings, disease-associated stigmatization and factors like fear of isolation have led to unavoidable stress, emotional set back, fear and anxiety about a poorly known contagious disease outbreak. This in turn, affected the mental health and well-being thereby making it necessary to address these aspects of fear, anxiety and apprehension in the management of these patients. This case series is an attempt to discuss various physiotherapeutic interventions administered to patients admitted in the wards of a government tertiary care hospital dedicated for COVID 19 management and its benefits in enhancing recovery and function. **Methodology (Case Presentation):** This Case series describes the cases of four patients with varied characteristics and age who presented with complains of fever, dry cough and breathlessness in our COVID dedicated tertiary care hospital. They were confirmed positive for COVID 19 on rt PCR test. After ensuring stability in the overall health condition, the patients were referred for physiotherapy treatment with emphasis on patient education and positioning strategies. **Results:** Positive treatment outcomes were obtained with physiotherapy interventions in all the four patients with average increase in SpO2 and Functional Independence. **Conclusion:** In our experience, Physiotherapy intervention with an emphasis on patient education and positioning proved to be beneficial with these four patients presenting with different characteristics. Improvement in the level of oxygen saturation and in performance of activities of daily living facilitated early recovery and functional independence.

CA-10: Multidisciplinary Approach In Treating A Patient Affected By Covid-19 – A Promising Venture.

Dr. Rajvi D. Sheth[1] Final year Post graduate Student. Dr. Chhaya V. Verma[1], Professor & Head., Dr. Rachna D. Arora[1].Assistant Professor, Dr. Ramesh N. Bharmal[2]. (MD) Dean.

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Background: Severe Acute Respiratory Syndrome Corona Virus-2 (SARS-CoV-2) has crippled the world. This case report discusses the journey of a middle-aged, recently diagnosed hypertensive male affected by COVID-19, suffering from severe Acute Respiratory Distress Syndrome (ARDS), from being bedridden to resuming his job. A team of an Internist, Chest Physician, Cardiologist, Psychiatrist and a Physiotherapist treated him in the Intensive Care Unit (ICU) and followed-up till he recommenced his job. **Methodology:** Medical management of the hypertensive patient, suffering from severe ARDS (PaO_2/FiO_2:98) comprised of medications and external Oxygen support. Not every patient is referred to a Cardiologist, Psychiatrist and Physiotherapist at the set-up. Due to persistent tachycardia and rise in blood pressure, cardiologists prescribed Beta-blockers. Psychiatrist aided to deal with the stress experienced by the patient of being the sole earner for his family of 8. Physiotherapist aided him in becoming functionally independent in the hospital (at referral-Barthel Index Score= 40) with breathing exercises and positioning to help reduce dyspnea, relaxation techniques to reduce anxiety and lower blood pressure and generalized mobility exercises and ambulation to prevent ICU-acquired weakness (MET>2-3) (at discharge-Barthel Index Score= 85). Decisions regarding the Plan of care were discussed amongst the team members. Mechanic by profession, telerehabilitation was conducted post discharge, to improve strength and endurance for the demanding job. (MET<5). **Result:** As the patient was managed by a multidisciplinary instead of mono-specialty approach, the length of hospital stay was reduced with an early functional independency. **Conclusion:** Multidisciplinary approach is the key to success. **Key words:** Multidisciplinary approach, Physiotherapy, COVID-19, ARDS.

CA-11: Prevalence of urinary incontinence in COPD Patients

Hiral Jain, PG (Cardiovascular & Respiratory Physiotherapy), Dr. Shilpa Ajay Parab

Background: COPD is characterized by the slowly progressive impairment of the airflow that is not fully reversible. Symptoms like dyspnoea, cough, decreased endurance & physical activity are seen. At present the treatment of COPD is focused on above symptoms. As, COPD progresses, urinary incontinence is a clinical condition associated with it & affecting lifestyle of the individual. It has been neglected by the patients as well as left untreated by healthcare professionals. Hence, the need of study is to find out the prevalence of urinary incontinence in COPD, findings of which are important for the prevention & treatment of the distressing condition. **Methodology:** Study place: PCMC, Pune Sample size & method: 65, purposive sampling Materials used: ICIQ-SF Questionnaire, pen Duration: 6 months Inclusion criteria: Age- 45& above Diagnosed case of COPD (>5 yrs.) Both genders. Exclusion criteria: Neuropsychiatric diseases Other systemic disease like urinary tract infection, AKD/CKD etc. Any abdomen or pelvic floor surgery history. **Procedure:** EC clearance was taken. Each subject was selected as per the inclusion & exclusion criteria (37 females ,28 males, total =65). Demographic data was noted. Informed consent was taken & ICIQ-SF forms was provided. Data was collected & analysed after forms were filled. **Result**: As per this study, prevalence of Urinary incontinence was 57% among the total no. of participants included in

the study.59% in females ,60% in males. Type of incontinence found commonly in 1) Male-Urge 2) Females: Stress. **Conclusion**: As per the results of this study, prevalence of urinary incontinence in COPD patients is high, majorly found in females as compared to males.

CA-12: Prevalence of Nicotine Dependency In Young Female Cigarette Smokers

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Background: In India, due to increased globalization and lifestyle modification women started cigarette smoking to match current trends in society. Now a days, smoking has become tend or fashion in young crowd. Due to this it is observed that few of them eventually develop into addiction which leads to problems like miscarriage, ectopic pregnancy, menstruation problem, preterm births and various birth defects, so it is need to find out exact prevalence of nicotine dependency in young female cigarette smokers. **Methodology:** Permission was taken from institutional ethical committee as survey was carried on 150 young female individuals in and around Pune. This cross-sectional study was carried out on 80 young female individuals which were selected according to inclusion and exclusive criteria. Individuals were evaluated for nicotine dependency using Fagerstrom test. **Results:** Data was statically analysed using Microsoft excel 2007 and percentage was calculated. The result of the study shows that 46% of young females having low nicotine dependence, 21% having moderate, 11% females having low to moderate and 22% having no nicotine dependency. 37 females having low dependency, 17 subjects showed moderate, 9 subjects showed low to moderate nicotine dependency, 17 having no dependency and no one having high nicotine dependency. **Conclusion:** In our study, we concluded that there is a low nicotine dependency in young female cigarette smokers. **Keywords:** Nicotine Dependency, Cigarette Smokers, Fagerstrom test.

Day 2

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CBR 03: Effectiveness Of Therapeutic Exercises To Improve Physical Performance Among Diabetic Community Dwellers

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Musculoskeletal Physiotherapy

M-21: Effectiveness Of Muscle Energy Technique With And Without Strain Counter Strain Technique In Individuals With Non Specific Neck Pain''- A Prospective Comparative Study

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Background – Evidence till date reported high incidence of neck pain. MET has proven to alleviate the pain and improve range of motion in population with Non specifc neck pain. Another widely used approach for treating patients with neck pain is strain counter strain (SCS). Hence the present study aims to investigate the Comparative effectiveness of MET with SCS techniques in individuals with Non-specific neck pain. **Methodology**-10 individuals diagnosed as Non-specific neck pain were included in the study according to the inclusion criteria. They were allocated into group A and group B according to convenient sampling. Participants in Group A were treated with MET with SCS technique and Group B received MET with conventional physiotherapy. The interventions were given for 2 weeks, 3 sessions per week for 45 minutes. The outcome measures used in the study were NPRS, NDI, ROM which was assessed before the intervention immediately after the first session and at 1 st week and end of 2nd week. **Result** When within the group comparison was done both the group showed significant improvement in pain, neck disability index and cervical range of motion. But between the group comparisons showed significant difference in Group A only at the end of 2 week of intervention whereas results were not significant immediately and at the 1 week of intervention. **Conclusion** The study concluded that MET with SCS technique is more effective in reducing pain, neck disability and improving CROM. **Keywords:** MET, SCS, Non-Specific Neck Pain.

M-22: "Effectiveness Of Tele-Rehabilitation Plantar Fasciitis"

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MPT 2nd MGM School Of Physiotherapy, Department Of Musculoskeletal Physiotherapy, Associate Professor, MGM School Of Physiotherapy, Department Of Musculoskeletal Physiotherapy

Background: Plantar Fasciitis is a commonest among on musculoskeletal disorder. It is present in wide range of individuals and creates significant burden to quality of life and participation in the physical activity. **Methodology:** Total 10 patients diagnosed with Plantar Fasciitis were included in the study according to the inclusion criteria. They were randomly allocated into two groups as group A and group B by random sampling method using coin method. Each group consisted of 5 patients. Experimental group received exercises using the tele-rehabilitation through video conferencing and control group received exercises in conventional mode. Both the groups received intervention for two weeks daily.The outcome measures used in the study were foot ankle disability index (FADI) and patient specific functional scale (PSFS) which was assessed before the intervention at the 6 day and on the 12 day respectively. **Results:** When within the group comparison was done both the groups showed statistically significant improvement

in the FADI score and PSFS score at the 6 day and12 day of the intervention. But between the group comparison showed significant difference of FADI score but there was no significant difference found in the PSFS score. **Conclusion:** There was no additional effect of tele-rehabilitation in terms of pain and disability in patients with plantar fasciitis when compared with the conventional group.

M-23: Effectiveness Of Home Based Exercise Program For Musculoskeletal Pain In Primary Dysmenorrhea: A Pilot Study

Shetty Aparna Dinesh, BPT, II MPT, JSS college of physiotherapy.

Background: Primary dysmenorrhea usually occurs pain in the suprapubic area but may radiate to the back of the legs or lower back and may be accompanied by other symptoms such as nausea, diarrhea, and headache. The studies have shown that exercise therapy for musculoskeletal pain induced by the menstrual cycle might be useful. A pilot study conducted to test the research feasibility, clarity, and objectivity of the tools used in the present study - pre and post questionnaire, handy exercise prescription and calendar and to estimate the time needed for data collection and modifications will be done based on the pilot study results. **Methodology:** A pilot study was conducted on 10 subjects. The subjects included in the pilot study were excluded from the study sample. Data collection procedure has been done through three phases; assessment, implementation, and evaluation phase. The study conducted for 45 days and awareness regarding exercise was created and education was imparted about the planned exercise session that should be practiced for next 45 days and after 45days follow up was done. **Results:** After the period of data collection of 45days on 10 subjects. The study tools were evaluated and modifications were done in interviewing pre and post questionnaire, handy prescriptions and calendar. Out of 10 subjects, 6 were reported for the follow up, out of that 4 subjects reported decreased in pain intensity and duration. **Conclusion**: The present pilot study concluded that study tools – interviewing pre and post questionnaire, handy prescriptions and calendar are feasible and relevant to conduct the further study to evaluate the effectiveness of home based exercise program for musculoskeletal pain in primary dysmenorrhea.

M-24: Benefits Of Graded Motor Imagery In Rehabilitation Of Complex Regional Pain Syndrome – A Scoping Review.

P. S. Geeta, BPT, II MPT, JSS college of Physiotherapy.

Background – Graded Motor Imagery (GMI) is most advance rehabilitation program, to manage patients with complex regional pain syndrome, phantom limb pain, pathological pain, movement problems and chronic pain. The word graded means a step after step procedure, Hence, it is divided into three stages of techniques through which the treatment is delivered, each exercising the brain in a unique way. Left/right discrimination training, explicit motor imagery exercises, and mirror therapy are the three treatment techniques included in graded motor imagery. Although a flexible approach from both therapist and patient is required in order to move forward, backward and to the side in the treatment procedure, these techniques are to be delivered sequentially one after the other. **Methodology** – An extensive search is done on Graded motor imagery and complex regional pain syndrome in databases such as, PubMed, Google

scholar, and Cochrane review. Keywords used are Graded motor imagery, Complex regional pain syndrome, and Reflex sympathetic dystrophy, physiotherapy management, mirror therapy, motor imagery. **Result** – Graded motor imagery (GMI) and mirror therapy are found to be beneficial in managing CRPS according to evidence (moderate quality). GMI (graded motor imagery) significantly reduces pain intensity and enhance grip strength in patients with chronic regional pain syndrome. It helps improve functional and fear-related outcomes also. **Conclusion** – Graded Motor Imagery (GMI) is used to in the treatment of complex pain and movement problems in patients with complex regional pain syndrome. It's a process which trains the brain away from pain using imagery technique.

M-25: Benefits of Extracorporeal shockwave therapy on pain management in Musculoskeletal conditions- A Scoping Review.

Sri Divya. Ande, BPT, II MPT, JSS college of physiotherapy.

Background- In Extracorporeal shockwave therapy (ESWT) shockwaves are sound waves that have specific physical characteristics. They carry energy to the painful spots and the musculoskeletal tissues. This energy assists in regeneration and repair of bones, tendons and other soft tissues. It is primarily used in the treatment of common musculoskeletal conditions. Both upper and lower extremity tendinopathies, medial tibial stress syndrome, greater trochanteric pain syndrome, plantar fasciopathy, can be treated with ECSWT. Research done on ESWT involves delivery of shock waves to injured soft tissue to reduce pain and promote healing. Purpose- The aim of this scoping review is to know about the benefits of Extracorporeal shockwave therapy on pain in musculoskeletal conditions. **Methodology:** An extensive search is done on Extracorporeal shockwave therapy and pain management in MSK conditions in databases such as, PubMed, Google scholar and Cochrane review. Keywords used are extracorporeal shockwave therapy, musculoskeletal pain, pain management, musculoskeletal conditions. **Result:** The application of extracorporeal shockwave therapy (ESWT) is primarily used to treat numerous sports related over-use tendinopathies including proximal plantar fasciitis of the heel, calcific or non-calcific tendonitis of the shoulder, lateral epicondylitis of the elbow, etc. The success rate ranged from 65% to 91%. It can also be utilized to treat avascular necrosis of femoral head, non-union of long bone fracture, ischemic heart disease, chronic diabetic and non-diabetic ulcers. **Conclusion:** Extracorporeal shockwave therapy is a modern, non-invasive therapeutic tool which is effective, safe and advantageous. It may replace surgery in several orthopaedic pathologies with at least the same results. This leads to a short-term reduction in pain and sensitivity and also early return of the function and performance.

M-26: A Survey On Level Of Work Related Depression Among Physiotherapist Due To COVID 19 - An Observational Study

Dr. Sai Vispute[1], II Year MPT (Ortho PT), Dr. Neeraj Kumar[2] (Guide, HOD of Department of Orthopedic Physiotherapy, Vice Principal of Dr. APJ AK College of Physiotherapy, Loni.

Background: The COVID-19 pandemic has created an unprecedented global crisis necessitating drastic changes to living conditions, social life, professional life and economic activity. There is lack of study done

yet which examined the presence of work-related depression among the physiotherapist due to COVID 19. So, the aim of the study is to evaluate the presence or absence of the work relate related Depression Among Physiotherapist due to COVID 19. **Material and Methodology:** Between 10th Oct 2020 to 26th Oct 2020, 94 Physiotherapist were recruited by online survey through a Google form. Participants completed measures of depression (PHQ9) Questionnaire. Settings and Design: Pravara Institute of Medical Sciences, Dr. APJ Abdul Kalam College of Physiotherapy, Loni. Type of study- Observational Study with Survey Approach. Sampling method- A web-based cross-sectional survey. **Result:** The present study had a targeted sample size of 88 Physiotherapist in which 24 were having no depression, 40 were having mild depression, 18 were having moderate depression and 6 were having moderately severe and no one had severe depression. Meeting the criteria for depression was predicted by clinical practitioners. Work related depression symptoms were also predicted by low income, loss of income, and pre-existing health conditions in self and other. **Conclusion**: 88 Physiotherapist responded to the survey based study from all parts of Maharashtra. However, specific COVID-related variables which is associated with psychological distress due to loss of income because of the pandemic& exposure to the virus and high estimates of personal risk, most of physiotherapist from responses were mildly depressed.

M-27: Impact Of 8 Weeks Of Barefoot Training On Physical Fitness Parameters In Amateur Hockey Players: A Randomised Control Trial

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Background: Hockey players require good agility and speed to have better performance. So, different methods should be considered to improve performance. Shoes provides protection to our foot and prevent unnecessary displacement. So, shoes have a significant effect on running which is also responsible of speed and agility. When trained without shoes more efforts will be required, more strategies will be needed to balance. So, This study is done to determine if 8 weeks of barefoot training will improve agility and sprinting performance in amateur hockey player between age 18-25. **Methodology**: Ethical approval was taken from the committee. Total 36 subjects met with inclusion criteria and divided randomly in two groups, control group and experimental group. 18 subjects were included in each group. The experimental group performed the training activities in barefoot while the control group performed with shoe-on. 8 week protocol was followed of which control group trained themselves with shoes on while the experimental group performed training bare foot. All the subjects performed two tests which were the outcome measures Arrowhead agility test and 100m sprinting test. Testing was done three times at the start, after 4 weeks and after 8 weeks. **Result**: The data collected was statistically analysed by Paired T-test and Unpaired T-Test and result

showed statistically significant improvement in agility and sprinting performance when performed barefoot. **Conclusion**: Study concludes that barefoot training is more effective in improving agility and sprinting performance as compared to training with shoes on.

M-28: Geriatric Rehabilitation Program On Recovery Of Periprosthetic Fracture Patient: A Novel Approach.

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Professor, MPT (Department of Community Health Physiotherapy), Ravi Nair Physiotherapy College, Sawangi (Meghe), DMIMS (DU), Wardha (MS).

Background: - Slip and fall accidents are associated with 87% of hip fractures and elderly people (Soangra and Lockhart, 2017). Factors such as muscle weakness, impaired postural control and balance are associated with falls in older people. Falls cause reduced independence, function, mobility, confidence in mobility, and quality of life (Hill et al., 2016). Patients with periprosthetic fractures are typically elderly, frail and have osteoporosis. It has advantages of early mobilization, reduced hospital stay and reduction in complications such as mal-union and nonunion (Marsland and Mears, 2012). **Case Report:** - A 72-year-old male shopkeeper with right-hand dominance complains that day-to-day tasks such as sitting cross-legged, squatting is difficult. He had a slip and fall back 2 years in the toilet on the left side and sustained injuries to the left arm and hip. **Investigations:** - revealed dislocation and loosening of prosthesis of left hip, hence revision surgery was done where bipolar prosthesis was removed and cemented total hip arthroplasty was done where a mid-shaft femur fracture of same side was found. 7 screw plating proved to be insufficient and unstable, and came out of its place. An open reduction internal fixation was done with trochanteric bridge plating, screws and 4 titanium banding cable-2 at the trochanter in April 2020 and was given an open knee brace. **Conclusion:** - In conclusion, this case report demonstrates that patients with periprosthetic fracture with revision total hip replacement and revision surgery for displaced mid shaft implant. Patient was able to resume activities of daily living and grooming on his own. **Keywords** – Total hip replacement, Rehabilitation, Oesteoporosis, Periprosthetic Fracture, implant.

M-29: The Precision Of Motion Tracking Device For Evaluating The Range Of Motion Using Leap Motion Sensor

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Background - The human hand is important for the performance of activities of daily living which are directly related to the quality of life. The ability to assess the impairment in the hand and the wrist by measuring the range of motion (ROM), is essential for the development of effective rehabilitation protocols. Currently, the most used clinical standard for measuring the ROM is the

goniometer. **Methodology** - In this research, we explore the feasibility and reliability of an AI-Based motion tracking device - Leap motion sensor in measuring active hand/wrist ROM. We measured the hand/wrist ROM of 20 healthy adults with the goniometer and the Leap Motion sensor, in order to check its efficacy between the two most used methods and additionally, we performed a test-retest of the Leap Motion sensor with 2 (Flexion & Extension) of them, to assess its reliability. **Results** - The results suggest low agreement between the goniometer and the leap motion sensor, yet showing a large decrease in measurement time and high reliability when using the later. **Conclusion** - Despite the low agreement between the two methods, we believe that the Leap motion sensor shows potential to contribute to the development of hand rehabilitation evaluation protocols and be used with patients in a clinical setting.

M-30: Epidemiology Of Musculoskeletal Injuries In Basketball Players- Systematic Review

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Background: Basketball is a popular sport with high level of skill tasks that has moderate to high level demand which leads to chance of musculoskeletal injuries. **Methodology**: This is a systematic review based on the following sources of information: PubMed, Google Scholar, Cochrane journals in the last 10 years with studies addressing the general epidemiology of Musculoskeletal injuries in basketball players. **Results**: In total, 70 articles were selected in which 12 were eligible as per inclusion criteria for the Systematic review. A total of 691 injuries were observed, most of which occurred in the lower limbs 412(59.62%), with ankle injuries and knee injuries. Injuries in the upper limbs represented 151(21.66%) of the total injuries. In the upper limbs, hands, fingers and wrists were affected more frequently than the shoulders, arms and forearms. **Conclusion**: The lower limbs were the most affected, with high prevalence of ankle followed by knee injuries having the highest prevalence of injuries regardless of gender and category. Furthermore, randomized studies and epidemiological data collection are necessary to find out prevalence of sports injuries and to validate effectiveness of preventive intervention in basketball players. **Keywords:** Basketball players, Musculoskeletal injuries, Musculoskeletal problem.

M-31: Comparison Between Functional Task Training And Resistance Task Training In Harmonium Players On Hand Grip Strength: A Comparative Study

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Background: Playing a musical instrument requires simultaneous integration of both motor and sensory information and studies have concluded that musicians have lesser hand grip strength and greater sensitivity as compared to non-musicians, which thus creates a need to improve their hand grip strength. Thus, this study aims to find the effect of both the training and compare

between Functional task training and resistance training in Harmonium players on hand grip strength. **Methods:** A comparative study was done in music studios, in Professional Harmonium players. Individuals above 18 years of age with daily minimum of 3 hours of harmonium playing were included whereas those with neuro-muscular injury were excluded. 24 individuals were divided in two groups one underwent functional training and the other underwent resistance training for 4 weeks once daily with 10 reptations of each activity with patient consent. The hand-held dynamometer was used to measure grip strength at baseline and after 4th week. **Results:** The mean values of Pre-training hand grip in individuals who underwent functional-task training noted were increased in post training (P value 0.003). While in resistance task training the mean of pre training also showed an increased post training (P value 0.001). Intragroup comparison (p value 0.004) showing statistical significance. **Conclusion:** The study concludes that resistance training and functional task training both were found to be effective in harmonium player. However, resistance training was more effective in improving the hand grip strength than functional task training in Harmonium players.

M-32: To Compare The Effect Of Warm Up Exercise With Resistance Tube Exercise On Agility And Balance In Amateur Football Players: An Experimental Study.

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Background– Football is one of the oldest and most popular sports in the world with around 150 football playing countries. On the field, football requires explosive burst of energy in the form of sprinting, kicking, changing directions and maintaining balance. Before playing any game either on field or off field the players need to have a proper warm up and cool down session, which aims to prepare them physically and mentally for dynamic actions. Balance and Agility are important component which helps the athlete to perform fast and smooth activities. Training with resistance is an essential part of preparation, hence resistance tube exercise training is undertaken to analyze its effects on agility and balance in amateur players. **Methodology** - Total 30 participants were discovered to be included in the study as per the inclusion and exclusion criteria. Participants were informed and the protocol of four days per week for three weeks was incorporated with the basic warm up exercise. After the intervention balance and agility were assessed using star excursion balance test and agility T test and were compared with pre session readings respectively. **Result**- The results for both the outcome measures in the group were performed using paired't' test. The statistical test compared pre-test readings with post-test and the results were not statistically significant. **Conclusion**- As a strategy for improving the physical performance with the use of resistance tube exercise for three weeks failed to satisfactorily improve agility and balance in amateur football players. **Key Words** – football, resistance tube, agility, balance.

M-33: Improvement In The Lumbo-Pelvic Rhythm By The Correction Of Forward Head Posture.

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Background: Forward head posture (FHP) is one of the commonest postural abnormality in collegiate students due to improper sitting, heavy backpack load and prolong use of cell phones. In FHP, the head protrudes forward from sagittal plane and appears to be in front of the body with rounded shoulders and kyphotic posture. The main reason for FHP is tucked pelvis and poor abdominal tone. Biomechanically, the FHP is indirectly related to lumbo-pelvic rhythm. This study focused on positive relationship between FHP and lumbo-pelvic rhythm in collegiate students. **Methodology:** Experimental study was done by simple random sampling on 40 collegiate students, both males and females were recruited in the age group 18 to 25 years having FHP. Duration of the study was for 4 weeks for 3times/week. Kinovea software was used for evaluating FHP by measuring the cranio-vertebral angle(CVA) and Schobers test for evaluating lumbar-flexion and extension. The protocol for FHP correction included cervico-thoracic fascia release, chin tucks and chin drops, stretches for pectoral, trapezius and levator scapulae (10 repetitions, 6 sec hold) for both left and right side and Maitland's mobilization for cervico-thoracic vertebra (2-3 oscillations/sec,3-4 glides). **Results:** There were significant changes in intragroup comparison between pre and post treatment value of CVA and lumbar-flexion and extension with p value <0.05. **Conclusion:** The study was found to be effective in improving the lumbo-pelvic rhythm by the correction of FHP. **Keywords-** Forward head posture, lumbo-pelvic rhythm, kinovea software`

M-34: Effectiveness Of Mckenzie Method Based Self-Management Apsssproach For Secondary Prevention Of Recurrence Of Low Back Pain-A Randomized Controlled Trial

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Background-Low back pain is a considerable highly prevalent health problem worldwide. Although many people recover quickly from an episode of low back pain, recurrence is very common. There is limited evidence on effective prevention strategies for recurrences of LBP. Self-management programs aim to empower patients with skills that help them become more active and responsible in the management of recurrence of low back pain. The McKenzie method–based self-management approach has several potentially important advantages over traditional group-based exercise approaches in preventing recurrence of LBP. Exercises focus on balancing mechanical forces created by the postures or positions used by each individual throughout a typical day. **Methodology-** Randomized controlled study was done by simple random sampling on 30 participants. Both male and female were recruited in age group between 20-40 years having recurrent LBP. To the experimental group, McKenzie exercise protocol given for 4 weeks, 2 sessions of 30-45 minutes per week. control group received the conventional physiotherapy such as hot packs and TENS. NPRS and MODQ scale was used to measure pain and disability due to LBP respectively. **Result-**The results showed non-significant changes in pre and post NPRS and MODQ values within and between the groups with p value <0.05 **Conclusion-** The study was found to be non-

effective in prevention of recurrence of LBP by self -management approach. **Keywords-** Low back pain, McKenzie method, Trans cutaneous nerve stimulation, Modified Oswestry low back pain disability questionnaire.

Cardiorespiratory Physiotherapy

CA-13: Psychological Impact On Health Care Workers Working In Covid Units

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Background: Since the outbreak of COVID-19, health care workers are under constant pressure. This has led to a lot of physical and psychological burden. The study aims to assess the psychological burden in terms of depression, anxiety and stress in health care workers who are working in COVID-19 units. **Methodology:** It is a cross sectional, online based survey conducted in October 2020 among various health care workers who are working in COVID-19 units. DASS-21 (depression, anxiety and stress scale) was used for assessment purpose. **Result:** A total of 64 responses were received out of which 56.3% were male and 43.8% were female. It is found that 60% of health care workers are suffering from depression from which 31.25% have moderate while 10.93% have severe signs. 70% of health care workers have signs of anxiety, while 21. 87% have extremely severe and 28.12% have moderate signs. Stress is found to be present in 44% of health care workers, from which 18% have moderate while 20.31% have mild signs. **Conclusion:** Evident signs and symptoms of psychological burden are seen in health care workers, working in COVID-19 units. Among all the parameters assessed, anxiety is found in higher percentage of health care workers, working in COVID-19 unit.

CA-14: Awareness Of Pulmonary Rehabilitation After COVID-19 Among Medical Professionals.

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Background: Coronavirus disease (COVID-19) has spread worldwide and has become a global public health emergency. Because of the good recovery rate, number of post COVID patients is higher in today's date. Post COVID-19 symptoms include pulmonary fibrosis, post covid fatigue syndrome etc. The role of physiotherapy here is to manage and control post COVID symptoms. For this reason it is important to know the awareness in other department medical resident and doctors about pulmonary rehabilitation after COVID recovery. In this survey we are aiming to acknowledge the awareness of pulmonary rehabilitation in patients recovered from COVID-19 among other medical professionals. **Methodology:** We conducted an cross sectional observational study of awareness of pulmonary rehabilitation after COVID-19. A 15 item self-administered questionnaire was validated and used to collect data via google document. **Inclusion criteria:** Participants willing to participate, all department resident doctors, both genders. **Exclusion criteria:** Not willing to participate, paramedical sciences

residents **Results:** 68 medical resident doctors, male(33), female (35) from various hospitals participated in the study. Most participants (59.25%) had knowledge and are aware about pulmonary rehabilitation after COVID-19. 24.11% participants are not aware about pulmonary rehabilitation and least number of participants are not sure between yes and no were 15.37% . A total number of 39.48 % participants lack awareness for pulmonary rehabilitation after COVID-19. All the data was evaluated using Microsoft excel sheet. **Conclusion:** Most medical professionals showed good knowledge and awareness of pulmonary rehabilitation after COVID-19. But there are ample number of medical professionals who lack awareness.

CA-15: Identification & Resolution Of The Factors Causing Pressure Ulcer/ Decubitus Ulcer In A Tertiary Health Care Hospital

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Background - Pressure sores occur due to pressure applied to soft tissue resulting in completely/partially obstructed blood flow to the soft tissue. Shear is also a cause, as it can pull on blood vessels that feed the skin. It most commonly develop in indivuals who are immobilized, such as being bedridden, confined to a wheel chair, have under gone spinal surgery or chronic injury, hip dislocation, paralysis, etc. It is widely believed that other factors can influence the tolerance of skin for pressure and shear, thereby increasing risk of pressure sore development. Although often prevented and treatable if detected early , pressure sores can be very difficult to prevent in critically ill patients, frail elders, wheelchair users (spinal cord injury) and terminally ill. **Methodology**-The present observational study was conducted at Vikhe Patil Memorial Hospital Ahmednagar , Maharashtra for 9 months. The critically ill patients seeking care for various disorders admitted in Medical & Surgical Intensive Care Unit during the study period formed the study population of 100 patients, taking into consideration inclusion and exclusion criteria. Study subjects were observed for the potentiality of development of pressure ulcers in patients admitted in ICU in specific time duration. Braden scale was used for predicting pressure ulcers in the study subjects showing the potentiality of developing clinical signs of bed sores were selected and put on the study list. **Conclusion**-The scoring of risk factor of Pressure Ulcer according to Braden Scale is : Severe Risk : Total score 9, High Risk :Total score 10-12,Moderate Risk : Total score 13-14, Mild Risk : Total score 15-18

CA-16: Anterior Mediastinal Tumour Post Myasthenia Gravis And Impact Of Physiotherapy Programme On Quality Of Life And Functional Independence: A Single Subject Research.

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Background: A thymoma occurs in approximately 15 per cent of adult with Myasthenia gravis (MG). Recent clinical cases have supported the active role of structured physiotherapy rehabilitation program post MG and its complicating symptoms. **Case presentation**: A 61 year old male patient was

admitted to the physiotherapy out-patient department with present complains of lump in neck region with generalised weakness and early fatigability. From past two months, the patient had faced difficulty in both basic and instrumental activities of daily living such as swallowing, transportation and regular hand activities. **Investigation**: Chest X-ray, CT and serum Ach R was done and diagnosed with thymoma. Restricted muscle examination of the shoulder and scapular muscle was positive showing symptoms of chest pain and was rated 3/5. The patient was operated for thymectomy, an elective surgical procedure. The patient had a history of Type II Diabetes Mellitus. **Management**: The primary focus of the physiotherapy rehabilitation program included airway clearance techniques, monitored graded bed mobilization, aerobic training and progressive resistance training. **Conclusion:** There was a significant improvement in the patient after 6 weeks of physiotherapy rehabilitation program. The early excision of thymoma with prompt tailor made supervised exercise program helps in early recovery and achievement of functional goal thus improving the quality of life and functional independence.

CA-17: Efficacy Of Pulmonary Rehabilitation To Improve Functional Independence In Post TB Sequalae Patient With Right Ventricular Failure.

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Background: According to the Global TB report 2020 Pulmonary Tuberculosis is a communicable disease, one of the top 10 causes of death worldwide and the leading cause of death from a single infectious agent. India is the biggest contributors to the global increase with 26% of total cases. Post TB sequelae causes physiological impairment, respiratory symptoms and also reduces functional capacity along with consequences such as Bronchiectasis, Emphysema, and Pulmonary Hypertension leading to disability. **Patient information:** In the present report 28-year-old male patient having known case of Post TB sequelae along with severe Pulmonary Arterial Hypertension and Right Ventricular Failure admitted to emergency ward with complain of acute exacerbation of symptoms, difficulty in performing ADLs and history of repeated hospitalizations for same. **Therapeutic intervention**: Airway clearance by Nebulization with mucolytic, Active cycle of breathing technique, airway clearance devices like acapella along with Chest physiotherapy for loosening and moving secretions to central airways. The exercise protocol has given according to AACVPR guidelines for Cardio-Pulmonary rehabilitation. **Outcome:** Energy conservation techniques with breathing exercises, interval exercise training and motivation have a positive effect on performing ADLs independently. The patient gets better sleep at night with a decreased number of awakenings due to cough and dyspnea. **Conclusion:** A Pulmonary Rehabilitation program has proven to be beneficial in improving exercise capacity, functional activities and psychological status which play a major role in achievement of goal.

CA-18: Evaluation Of Moderate To Vigorous Aerobic And Resistance Training In Patient With Non-Alcoholic Fatty Liver Disease -A Case Report.

(Tasneem Pallawala, 2nd year MPT resident, IKDRC-ITS College of physiotherapy, Civil campus, Ahmedabad)

Background: Non-alcoholic fatty liver disease (NAFLD) is characterized by accumulation of fat in hepatocytes. NAFLD is a silent epidemic affecting 30% to 40% population of India. If not intervened, NAFLD may progress to non-alcoholic steatohepatitis (NASH) which may progress to cirrhosis ultimately leading to high risk of death compared to general population. In addition, NAFLD patients have higher risk of developing cardiovascular disease and its related mortality. At present, lifestyle modification in the form of physical exercise and diet are the only available therapy for NAFLD. Here, I present my experience of aerobic and resistance training in a patient with NAFLD. **Methodology:** A 30-year-old woman, diagnosed as having Fatty liver on USG of Abdomen and Fibro scan while undergoing the evaluation for probable kidney donation for her son. Her BMI was 33 (class 2 Obesity) and hence was referred to physiotherapy department for weight loss. Here she was subjected for moderate to vigorous aerobic and resistance exercise for duration of 8 weeks. The Frequency of exercise was 6days/week. For prescription of exercise, Pre and post exercise parameters in form of Body mass index (BMI), distance walked in six minutes, muscle strength by 3RM (repetition maximum). Also as a part of evaluation, hand held dynamometer, quality of life questionnaire (SF-36) and fibro scan CAP (Controlled attenuation parameter) value were taken. **Results:** 8 weeks of aerobic and resistance exercise showed significant improvement in BMI, distance covered in 6MWD, Strength, fibro scan CAP value and overall quality of life in NAFLD subject. **Conclusion:** Moderate to vigorous aerobic and resistance exercise reduces fat deposition in liver as well as improves health related quality of life and physical functional capacity.

CA-19: Importance Of Physiotherapy Rehabilitation In Covid- 19 Post Renal Transplant Patients — A Case Report."

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Background: Covid 19 pandemic was declared as a public health emergency of world wide, it affect primarily the respiratory system. People with known co morbidity such as diabetes mellitus, hypertension and ther immune-compromised disease are having more chances to getting infection. Post transplanted patients are at higher risk to get infected because of immunosuppressant medication. **Case Study** –A 53 year old male post renal transplant with hypertension visited a primary care hospital with complain of fever 101F, cough, body ache, breathlessness hence with the help of investigations (chest x-ray, HRCT, rtPCR) covid pneumonia was diagnosed. Therefore he was shifted to ikdrc–its hospital after the time of admission his saturation was 78% in room air hence he was kept on NRBM with 15 lit/min oxygen support but the patient condition was deteriorated resultant from 2nd to 6th days he was kept on non invasive ventilator. Later on 3rd day of admission physiotherapy rehabilitation relaxation and positioning had started

then gradually rehabilitation progressed resulted on 20th day patient transferred in non covid ward with 10lit/min NRBM and able to performed MET 1 and 1.5 activities with Oxygen support then rehabilitation was continuing. In day 44th he was able to walk in 15m corridor and till day. 51th discharged he was able to performed 5 step stair climbing. During this whole rehabilitation SPO2 was maintaining ≥ 90% and modified Borg scale ≤ 3.After discharged rehabilitation was continuing via telecommunication. **Result** — Progressions had seen in 6min walk test, functional independent scale and breathe hold time. **Conclusion** — Physiotherapy rehabilitation is effective in weaning from O2 therapy and make patient independent after COVID.

CA-20: Effects Of Aerobic Exercise Versus Resistance Exercise On Cardiovascular And Pulmonary Parameters In Adult Chronic Smokers: A Pre-Post Comparitive Study

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Background: Smoking affects exercise performance and capacity which reduces physical fitness and cardiovascular functioning. Exercise has been proven to improve fitness in smokers. Since there is no comparison of PEFR and VO2 max on cardiovascular function in smokers so the aim of the study was to compare the effects of aerobic exercise versus resistance exercise on PEFR and VO2 max in adult chronic smokers. **Methodology**: A pre-post comparative study with inclusion criteria of 100 chronic smokers between the age of 20-40 with a score of more than 5 on Fagerstorm nicotine dependence test was conducted in residential societies and office areas. Further they were divided into 2 groups, (Group A) Resistance exercise group and (Group B) Aerobic exercise group and intervention was given for 6 weeks in which VO2 max and PEFR using Queens step test and Peak flow meter was assessed pre and post exercise. **Results:** Within group analysis of Resistance training group showed significance in PEFR and VO2 max value ($P<0.001$).Similarly walking group showed significant improvement in PEFR ($P<0.02$) and VO2 max ($P<0.001$). But when between group analysis was done, it was found that Resistance training showed significant improvement compared to walking group. **Conclusion**: The study concluded that aerobic and resistance exercises for a period of 6 weeks shows significant improvement in PEFR and VO2max in chronic smokers, however resistance exercise was highly significant in improving cardio-respiratory parameters.

Keywords: Smokers, Pefr, Vo2 Max

CA-21: Comparison between Chest PNF and Inspiratory Muscle Training on Chest Expansion in Patients with Restrictive Lung Diseases.

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Background: The objectives of this study were to study for effect of Chest PNF on chest

expansion in patients with restrictive lung diseases by tape method, To study the effect of Inspiratory Muscle Training on chest expansion in patients with restrictive lung diseases by tape method and to Compare the effect of Chest PNF vs Inspiratory muscle training on chest expansion in patients with restrictive lung diseases. **Methodology**: This was an experimental study in which 50 patients with restrictive lung diseases were screened out of which 30 were selected and their chest expansion was assessed by giving them two different types of interventions. The study was completed in 1 week. Two groups were made, group A was given Chest PNF and group B was given IMT training. Approval and written consent was taken from all subjects. Pre and Post measurements were taken through chest expansion by tape method. The outcome measure was chest expansion through tape method. **Result:** The data collected was analysed statistically by paired t and unpaired t test. From the result of the statistics it was proven that there was increase in the chest expansion in both the groups, Group A ($p = <0.0001$) and Group B ($p = <0.0001$). There was a better increment in group A with chest PNF when compared with Group B with IMT training but statistically it was insignificant. ($p=0.5547$) **Conclusion:** It was concluded that there was no statistical significance seen when both groups were compared. **Keywords**: Chest expansion, inspiratory muscle training, Chest PNF, restrictive lung diseases.

CA-22: Combine Effect Of Resistance Training & Treadmill Training On Bmi In Young Obese Individuals: Comparative Study

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Background: *Obesity is m*ost prevalent metabolic disease worldwide, reaching epidemic proportion in both developed and developing countries and affecting not only adults but also children and adolescents.18-25 year olds are identified by WHO as a group with a high risk of weight gain due to some social and environmental changes. Aerobic training produces cardio vascular and/or muscular adaptations and is reflected in an individual's endurance. Resistance Training (RT) is yet another system of mechanical resistance. It instead of providing brief intervals of heavy, local-muscle overload as in standard resistance training provides more general conditioning that improves body composition, muscular strength and endurance and cardiovascular fitness. **Methodology**: 15 young individuals in either group with BMI$>$ 25 kg/m^2 were included in the study and exclusion criteria include any musculoskeletal condition, cardiac or pulmonary disorder recent surgery. The individuals performed ten minutes of treadmill training followed by 30 minutes of resistance training consisting of exercises like leg curls, leg extension, leg press, abdominal curls, lateral pull down, triceps push away, biceps curls. **Result:** Mann-Whitney Rank Sum Test was used for body weight were p value was 0.02 i.e <0.05 all these p values were

statistically significant. **Conclusion:** The study concluded that a training program consisting of treadmill training and resistance training both has a positive effect on cardio-pulmonary endurance. **Keywords:** Obesity, Aerobic training, Resistance training.

CA-23: Immediate Effects Of HIIT On Vital Parameters In Patient Undergoing Hemodialysis: A Pilot Study

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Background: In End-stage-renal-disease (ESRD) kidney doesn't function and Hemodialysis (HD) is the only choice of treatment for it. Patients undergoing HD have significantly reduced cardiorespiratory fitness and quality of life. HIIT elicits greater change in cardiorespiratory fitness. However, there is lack of literature on intradialytic exercises and HIIT for patients undergoing haemodialysis. Hence, aim of this study is to determine the immediate effects of HIIT on vital parameters in patients undergoing haemodialysis. **Methodology:** In this pilot study 9 patients with ESRD undergoing haemodialysis for more than 3 months, aged between 20- 75 years from Dialysis Unit of Tertiary care medical college Hospital, who were medically stable were included. Participants with acute infection, unstable angina pectoris, severe arrhythmias, uncontrolled hypertension were excluded. After taking written consent from every participant, they performed HIIT on bed cycle ergometer for 20 minutes on bed in supine position during dialysis. Efficacy was measured at baseline and immediately after the intervention from change in HR, SpO2 and BP. **Results:** All the participants completed HIIT exercise without any complication in given time. There was significant change in HR values with P value of <0.006 as HR increased within the target heart rate limits. However, there was no significant change in values of SpO2 and BP with P value of <0.8 and $<$ 0.6 respectively. **Conclusions:** This study demonstrated that HIIT is feasible and safe method for intradialytic exercise and also emphasise the importance of intradialytic exercises.

CA-24: Effectiveness Of Oropharyngeal Exercises And Ujjayi Pranayama In Patients With Obstructive Sleep Apnea - A Clinical Trial

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Background: Obstructive Sleep Apnea (OSA) is a disorder characterized by repetitive upper airway obstruction resulting in nocturnal hypoxia and sleep fragmentation. Apnea-hypoapnea index (AHI) is an index used to assess the severity of sleep apnea based on the total number of complete cessations (apnea) and partial obstruction (hypo apnea) of breathing occurring per hour of sleep. Risk factors are Age, Excess body weight, Gender (male are more prone than female), Craniofacial anatomy, Familial or Genetic predisposition, Smoking and Alcohol consumption. The two interventions are useful to reduce the snoring in OSA patients are "Oropharyngeal exercises" and "Ujjayi

Pranayama". **Methodology:** A clinical trial performed on 60 subjects, where either group received Ujjayi Pranayama everyday five repetitions and oropharyngeal exercises single repetition of 21 different exercises. Outcome measures were age, gender, weight, BMI and first five question's score of the Berlin questionnaire. Study duration was fifteen months. Through simple random sampling subjects were randomized and beforehand screening done according to the inclusion and exclusion criteria. **Results:** A total of 60 subjects were taken from patients with OSA of age group 20-60 year, of which 30 subjects were given either interventions The statistical analyses was calculated in demographic factors and score of five questions of first category. Data study was analyzed by using Sleep Evaluation Questionnaire i.e. Berlin Questionnaire. **Conclusion**: Ujjayi Pranayama in OSA patients is more effective in equal time of duration of intervention given for both the therapy.

CA-25: Changes In Mode Of Oxygen Delivery And Physiological Parameters With Physiotherapy In COVID-19 Patients Treated At Government Tertiary Care Hospital In Mumbai: A Retrospective Study

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Background: In the COVID 19 pandemic, Physiotherapy has emerged as a crucial part of the multi disciplinary approach in the management of COVID 19 patients. This retrospective study aims at exploring patient characteristics and identifying the impairments associated with COVID 19, which will provide a directive to the physiotherapy community in planning future management strategy for patients with COVID 19.

Methodology: After procuring Institutional Ethics Committee approval, retrospective data of 433 patients referred for Physiotherapy from 13th May to 31st July 2020 was analyzed. The data archived from the electronic system included (a) Characteristics of patients with associated co morbidities, (b) course of hospital stay, (c) mode of oxygen delivery, (d) Pre and post physiotherapy treatment values of oxygen saturation and Heart Rate, and (e) physiotherapy treatment administered and was analyzed using the SPSS software version.24. Wilcoxon Matched Pair test was used to compare pre and post treatment Oxygen Saturation and Heart rate and McNemar's test was used to compare mode of oxygen delivery pre and post physiotherapy treatment. **Results:** A better outcome in terms of grade of dyspnea and rate of discharge was observed on Day 14 of Physiotherapy treatment. Hence a comparative analysis of Day 1 and Day 14 was performed for Mode of Oxygen delivery, Oxygen Saturation and Heart Rate. A statistical significant improvement was observed in the Heart rate ($p = 0.001$) and oxygen delivery ($p = 0.000$). However, no significant difference in the level of oxygen saturation was found ($p = 0.6433$). **Conclusions:** Physiotherapy treatment in conjunction with medical treatment can be effectively administered in patients with COVID-19 taking into consideration their health status as well as hemodynamic stability and plays a significant role in facilitating early

weaning and recovery further leading to a better quality of life. **Keywords:** COVID 19, Mode of Oxygen Delivery, Oxygen Saturation, Physiotherapy

Community Physiotherapy

CBR 01: A Comparison Of Bosu Ball Training And Wobble Board Training With Mirror Feedback On Balance In Older Adults: A Pilot Study"

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Background: Balance is critical for functional independence of elderly population. Subjects with impaired balance are often unaware of their deficits and may intend to plan faulty movements causing fall. There are lots of studies on balance training using Wobble Board and BOSU ball for improving balance in older individuals. But there is paucity of literature which compares these two balance training options in geriatric population. **Methodology:** 14 participants were screened for inclusion criteria, MMSE scores obtained further to screen pre assessment LOS on Balance master was obtained for both the group. All the subjects were divided into two groups A and B equally (7 in each group) by computer generated random tables. Both group received balance training along with mirror feedback for 6 week total 18 sessions. Subjects were screened for post- test and results were obtained which was analyzed statistically using appropriate tests. **Result:** When compared pre-test and post-test all the parameters of LOS like RT, MVL, MXE, EPE, DCL are highly significant within group, However, between the group post-test comparison showed no significant difference. Except DCL rest of the parameters (RT, MVL MXE AND EPE) are highly significant in group B (wobble board) **Conclusion:** Both BOSU Ball training and Wobble board training with mirror feedback are effective for improving balance and reducing risk of falls in older population. We found significant improvement in almost all parameters of LOS on balance master in wobble board training with mirror feedback than BOSU Ball training with mirror feedback. Therefore, administrating training on wobble board with mirror feedback was found to be more effective in older population.

CBR 02: A Comparison Of Biofeedback Training And Gym Ball Training On Pelvic Floor Muscle Strength In Post-Menopausal Stress Urinary Incontinent Women- A Pilot Study

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Background: Stress urinary incontinence is defined as the involuntary loss of urine due to physical activity. In post-menopausal women prevalence of stress urinary incontinence is high. Pelvic floor muscle training is considered as first line of treatment for stress urinary incontinence. Many methods such as Kegel master devices, vaginal cone, tampons which are being used for pelvic floor muscle strengthening. Most of these methods require intra vaginal insertion and is not suitable for every woman. Also there is limited evidence that compares these two methods.

Methodology: 14 subjects were screened using QUID for the stress urinary incontinence. Pre assessment 1 hour Pad test and Perineometer measurements were obtained for both groups. And then divided into two groups as Biofeedback (Group A) and Gym ball (Group B) by computer generated random tables. Subjects in Biofeedback group underwent pelvic floor muscle training with the use of perineometer. Gym ball group was treated for pelvic floor exercises on gym ball. Both groups underwent 6 weeks of training. Post treatment assessment was done using Perineometer for evaluating pelvic floor strength. Urine leakage was assessed by 1 hour pad test. **Result:** When compared pre-test and post-test all the parameters of both groups perineometer measurements, 1 hour pad tests showed significant improvement in Group A compared to Group B. **Conclusion:** From current study we conclude that Biofeedback training was more effective in improving pelvic floor muscle strength and urine leakage than gym ball training in post-menopausal stress urinary incontinent women. Gym ball training can also be used as a method of treatment for pelvic floor training if woman is not comfortable with treatment that includes intra vaginal insertion.

CBR 03: Effectiveness Of Therapeutic Exercises To Improve Physical Performance Among Diabetic Community Dwellers

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Background: Type 2 diabetes mellitus is closely associated with both acquired and genetic risk factors. Sedentary lifestyle is an example of an acquired factor that is an independent predictor of poor quality of life, and should be considered as a modifiable risk factor in the rural population. The prevalence of type 2 diabetes in developing countries is rising due to the dietary change, increasing prevalence of obesity, and a decrease in physical activity. **Procedure:** This is interventional study. This study includes 100 participants. A physiotherapist was given one session on therapeutic exercise and its importance. The study duration was 3 months. **Results:** The mean age of men was 71.5 and women 67.3 years. This study shows that physical performance in men and female were lower in before intervention and it was significantly increased after intervention of 12 weeks. **Conclusion:** Therapeutic Exercise is considered a critical cornerstone of treatment for people with DM due to its beneficial effects on physical performance, glycaemic control, physical fitness, cardiovascular health and improvement in quality of life in older individuals. **Keywords:** Older individuals, Physical performance, Diabetic, Therapeutic exercises, community dwellers

CBR 04: Development Of APPS Test And Reliability For Identification Of Risk Of Fall In Adult And Community–Dwelling Healthy Elderly Population

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Background: Elderly population of 60 years and older has increased rapidly over the last century and has reach to 103.9 million by 2016 in India. Out of all this potential serious complications, most common consequence associated with aging is falls. Approximately 14%-53% of elders with age of 60 years and above have prevalence of falls in India. To develop physical test for prediction and assessing risk of fall in young and elderly individuals respectively and to examine its validity and reliability in rural area. **Methodology:** After a literature review, limitation points were discussed, a focus group discussion, and expert consultations was performed. This test was evaluated by different physical therapist to assess difficulties in different surveys. For reliability its test-retest reliability was examined using ICC values. **Results:** Test-retest reliability was assessed using intraclass correlation coefficients (ICC) between the scores obtained from inter-rater and intra-rater values. Total 200 subjects were assessed in both healthy adult and elderly with 100 subjects in each group. We developed APPS test with procedure, instructions and scoring was assessed for adult and then in healthy elderly. Pearson's correlation coefficient was calculated for testing construct validity. The total scores of adult and healthy elderly subjects repetitions were correlated ($r=0.974$, $P<0.001$, 95% CI interval: 0.9712 to 0.9775). **Conclusion:** APPS test was developed for community rural population and showed to be valid and reliable for subjects, healthy adult and elderly. **Keywords:** APPS TEST, reliability, feasibility.

CBR 05: Development Of Healthy Aging Model In Elderly

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Background: Healthy Aging is about creating the environments and opportunities that enable people to be and do what they value throughout their lives. Recently, the 2019 novel coronavirus (2019-nCoV) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) as it is now called, is rapidly spreading from its origin in Wuhan City of Hubei Province of China to the rest of the world. Aim of this study to developed a healthy aging model in rural community population which can be used in healthy individuals as well as in elderly with COVID-19. **Methodology:** 250 participants were recruited from the rural community of Ahmednagar. Focus group discussion and in depth interviews were conduct to select the items. **Result**:TUG test, berg balance scale, 30 seconds chair stand teste were administered which found statistically significant ($p=0.002$) after the intervention. **Conclusion**: A healthy aging model for rural community was developed and it is found to be more effective in rural community population in Ahmednagar. The healthy aging model has the advantage of reflecting the perspectives of rural community elderly and of including a positive health dimension, allowing it to encompass a wide spectrum of aspects of health-related quality of life. The healthy aging model can be used elderly with COVID-19 as well as in clinical settings. **Key words:** Healthy aging, rural community elderly.

CBR 06: Knowledge, Attitudes And Beliefs Towards Patients With Chronic Low Back Pain Among Physiotherapy Students

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Background: Low back pain is caused by injury to muscle or ligament. Common causes include improper lifting, poor posture, lack of regular exercise, a fracture, a ruptured disc or arthritis. Studies have found health care professionals with positive attitudes and proper knowledge are more likely to provide patients with evidence-based care. It is important that physiotherapist's attitudes become positive over the course of their education. Knowledge of neurophysiology of pain, attitudes and beliefs about patients with chronic low back pain may affect management choices. Studies on this in India are few. This study aimed to determine the level of knowledge of pain and attitudes and beliefs towards patients with chronic low back pain among physiotherapy students and find the correlation between them. **Methodology:** A cross-sectional study was carried out on 75 physiotherapy students of Ahmedabad included by convenience sampling. Two questionnaires-Health Care Providers' Pain and Impairment Relationship Scale(HC-PAIRS) for measuring attitudes and beliefs about pain and the Neurophysiology of Pain Questionnaire(NPQ) for knowledge of pain were used. t tests compared data with $p<0.05$. **Results:** The study had a 100% response rate($n=75$). The mean correct NPQ score was 5.86($\pm$1.98). The mean correct score for HC-PAIR was 67.35($\pm$1.98). Knowledge of scores had a low inverse relationship ($r=0$-.283, $p=0.04$) with scores for attitudes and beliefs towards patients with chronic low back pain. **Conclusion:** There is a lack of knowledge of pain among physiotherapy students with a low but significant correlation with attitudes and beliefs towards patients with chronic low back pain. Knowledge is one of the factors that could contribute in changing attitudes. Studies to improve knowledge of pain may be conducted to see change in these attitudes and beliefs.

CBR 07: Prevalence Of Musculoskeletal Pain Among Farm Laborers In Rural Area Hingana

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Background: India is primarily an agrarian economy and human workforce contributes substantially for crop production as farming is one of the most important occupations in the country. Musculoskeletal pain is prevalent in communities across the globe and their impact is pervasive. It may affect people engaged in almost all the occupations and laborer's doing heavy manual work. Musculoskeletal pain result in disorders, Injury, illness, poor quality of life and reduce productivity. But there are very few studies has been documented about musculoskeletal pain in farm laborer's of India. **Methodology:** In this study, ($n=400$) farmers were selected, from rural area of Nagpur district (Hingana). A Standardized Nordiac Questionnaire were used to find out the prevalence of musculoskeletal pain and the distribution of that pain in various body regions among farmers. the data was computed and analyzed by EPI INFO software, version 7. **Result:** In this study result showed that the prevalence of musculoskeletal pain among farmers in rural area in Nagpur district is 88% ($n=352$

out of 400 farmers) and among them, most commonly affected regions were Low back 71.25% (n=285) followed by knee 62.75% (n= 251), upper back 45.75% (n=183) and neck pain 41% (n= 164) in Farmers of Hingna Region. **Conclusion:** This study concluded that, the prevalence of musculoskeletal pain among farmers in rural area in Nagpur district (Hingana) found to be 88% . And the most commonly affected regions with musculoskeletal pain were Low back followed with knees , upper back and neck in Farmers.

CBR 08: Correlation Of BMI With Dynamic Balance Using Y-Balance Test In Young Adults With Flexible Flat Foot

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Background: - Increase in body mass index suggests an increase in adiposity, Excess body fat deposition leads to change in the Center of Pressure which leads to altered biomechanics of the body. Different systems work together to maintain balance. The present study finds a relationship between BMI and dynamic balance in young adults with flexible flat foot. **Method: -** In this study, 90 participants were recruited based on inclusion and exclusion criteria. Of the 90 participants; 30 were of normal weight, 30 were overweight and 30 were obese. Y balance test was performed. **Result:** - There is statistically significant correlation between body mass index and dynamic balance for right limb (r= -0.7718, P value< 0.0001) for left limb (r= -0.7614, P value=0.0001). Positive correlation was seen between Navicular drop test and BMI for right limb (r=0.7089 P value<0.0001) for left limb (r=0.3967 P=0.0300). **Conclusion:** - The study concludes that there is a negative correlation between obesity and dynamic balance in young adults with Flexible Flat Foot. So, increase in BMI will lead to decreased in dynamic balance in the same way, decrease in BMI will lead to increase in dynamic balance. **Keywords: -** Body mass index, dynamic balance, Y balance test.

CBR 10: Xia-Gibbs Syndrome: A Rare Case Report Of A Female Child And Insight Into Physiotherapy Management

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Background: Xia-Gibbs syndrome (XGS) is a recently discovered genetic disorder. It is characterized by global developmental delay, intellectual impairment, hypotonic, and sleep abnormalities. While the current literature emphasizes on the genotype and phenotype of this rare condition, it does not provide any description of the physiotherapy management of patients with XGS. **Case Presentation:** A case of a 27-month-old Indian female diagnosed with XGS, who presented with difficulty in sitting without support. She had dysmorphicfacies, hypotonic, hyper extensible joints, mild kyphoscoliosis, and global developmental delay. **Investigations:** MRI of

the brain shows depicts areas of significant cerebro-cortical atrophy and dimorphism. According to the physiotherapy assessment and investigations the child shows downward slanting palpabral fissures with partial ptosis of the right eye, horizontal eyebrows, flat nosal bridge, thin upper lip, full chicks, round face and low set ears. **Management:** The physiotherapy intervention was based on the principles of neurodevelopmental treatment (NDT) and sensory integration (SI). The management included weight-bearing exercises, wheelbarrow walking, joint compressions, rib cage mobilization, multidirectional reaching, and pushing-pulling activities along with the use of equipment like Swiss ball, balance board, stability disc, trampoline, swing system, walker (rollator), and walking harness. Also, ankle-foot orthotic (AFO). **Conclusion:** It was observed that the NDT and SI approaches along with the use of appropriate orthoses accelerated the achievement of motor milestones in this case.

CBR 11: Can Waist To Height Ratio Predict The Body Fat?

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Objectives: The objective of this study is to establish a regression equation to predict body fat percentage of an individual from waist circumference to height ratio. The equation obtained from the analysis can be used as a bed side tool in order to predict the body fat percentage. **Methodology:** This is an Observational study in which 200 healthy adults (100 males and 100 females) in the age group 21-60 years were assessed for body fat percentage by skin fold thickness measurement method using digital skinfold caliper. The waist circumference and height was also calculated. The waist to height ratio and calculated body fat percentage were correlated using the Pearson's correlation. The formula for body fat percentage was obtained by further regression analysis of the data. **Results**: There is a moderate positive significant correlation between waist to height ratio and body fat percentage with a Pearson's correlational coefficient [r=0.629, ($p<0.05$) females][r= 0.545, ($p<0.05$) males] **Conclusion** :The waist to height ratio can be used to predict body fat percentage. The formula obtained can be used as a bedside tool in order calculate body fat percentage of any individual. **Keywords:** waist circumference, obesity, skin fold thickness, body mass index

CBR 12: Association Of Physical Performance Among Community Dwelling Elderly Population With Knee Joint Osteoarthritis: Cross-Sectional Study

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Background- Knee-osteoarthritis (OA) is a degenerative articular cartilage disease, combined with variable and gradually advancing thigh muscle weakness leading to functional impairments. The population worldwide, is ageing and age-related osteoarthritis is the leading cause of disability, radiographically evident in one out of four individuals between 56–84 years' old. Osteoarthritis is the primary cause of long-term disability and is ranked second among all pathologies that result in reduced physical activity of all joints, the knee is most frequently affected by OA, which leads to the greatest loss in functional performance and incurs the highest social costs as compared to any other type of arthritis or site of OA. **Methodology**- 12 subject were selected on the basis of inclusion and exclusion criteria. Subjects were selected by convenient sampling method. They were divided into 2 groups of knee osteoarthritis and without knee osteoarthritis. To evaluate physical performance in elder's time up and go test was conducted. The time taken to complete the task of TUG is recorded and then analyse. **Result-** Time taken to complete the time up and go test was analysed and compare between groups of knee osteoarthritis and without knee osteoarthritis by Unpaired t test (pvalue = <0.0001). Age was compared in between group and it came not significant. BMI in participants with knee OA was higher than in participate without knee OA. When KL Grading and TUGT was compared in group A pvalue: <0.0001 extremely significant. As KL grading was higher the time taken to complete TUGT was also more. **Conclusion-** Participant with knee joint osteoarthritis takes more time to complete the TUGT than participant without knee osteoarthritis. BMI in participant with OA was higher than in participant without OA. Higher KL Grading value also leads to more time to complete TUGT. **Keyword:** Knee Osteoarthritis, Physical Performance, Time up and Go test, Kellgren-Lawrence (KL)

CBR 13: A Cross-Sectional Study On Health Care Students And Professionals Attitudes Towards Plagiarism.

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Background: Scientific and competent medical research requires a great deal of effort, complete commitment, serious and sustained constructive learning. The desirable output of a scientist is to have an excitement for the proof. Patients benefit from not only high-quality treatment, but also from proper clinical examination. We all have high standards in the field of medical and science publication. Research is, after all, a pursuit for the truth. The quality, expertise, reliability and legitimacy of scientific researchers are essential in building public trust. **Methodology:** A multidisciplinary collaborative analysis consisting of 29 questions was performed on "Attitudes Towards Plagiarism" at the university level. These questions were used to gather data comparing two attitudinal variables against plagiarism (Positive and Negative). The positive attitude (optimistic approach)

towards plagiarism represents the acceptance of such activity and rationale. Criticism and condemnation of plagiarism was conveyed in a negative attitude towards plagiarism. **Results:** In the study conducted, total 1112 respondents out of 1452 giving a response rate of **76.5%** . The Mean age of respondents was 28.6±7.9 years. There were 30.6% male and 69.4% female respondents. In this study, 290(26.1%) faculty members, 456(41%) postgraduates, 321(28.9%) interns and 45(4%) final years were taken into consideration. The mean attitude score was 90.67 where positive attitude was seen in 560(50.4%) and negative attitude was seen in 552(49.6%) respondents. **Conclusion:** The attitude of the final years, interns, postgraduates and members of the faculty reflect the incomplete magnitude and awareness with which plagiarism is interpreted. Among postgraduate, faculty and students, knowledge of plagiarism should be strengthened. **Keywords:** Attitude, Plagiarism, Faculty, Postgraduates, Interns, Final years.

CBR 14 : Waist Circumference In Postmenopausal Women- A Cross Sectional Study

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Background: Present study shows the changes in waist circumference after post menopause. The aim of this study is to determine the waist circumferences in postmenopausal women it is a cross sectional study. **Methodology:** The sampling method was purposive sampling method, the sample size was 15 postmenopausal women aged between 45 to 65 first BMI was taken according to Quatlet Index Formula, Waist Circumference was taken in standard method with the help of measuring tape. **Result:** Demographic data was taken age, BMI, socioeconomic status was taken the according to student t-test the result was taken mean was taken of in standard method with the help of measuring tape, waist circumference was taken. The mean of waist circumference was taken. in that mean values of waist circumference get increased in postmenopausal women. **Conclusion:** The values for all the waist circumference were more in post-menopausal women but their values started decreasing with age. **Keywords:** waist circumference, postmenopausal women.

CBR 15: Association Of Body Sway Among Faller Elderly Population – Cross Sectional Study.

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Background- About one third of the community dwellers over the age of 65 and persons over the age 80 will fall each year. Fall is an unexplained event that results in a person inadvertently coming to the rest on the floor, ground or lower level. Falls are extremely common among the older adult

population, account for the substantial morbidity and mortality. Postural control involves controlling body's position in space for dual purpose of stability, balance and orientation. Postural stability or balance is the ability to maintain the projected centre of motion within the limit of base of support. Physiological changes of normal aging may increases the risk of falls.eg-with the normal aging there is diminished input from the visual, proprioceptive, and vestibular system which may results in alteration of balance. **Methodology -** 12 subjects were selected on the basis of inclusion and exclusion criteria. Subjects were selected by convenient sampling method. They were divided into 2 groups of fallers and non-fallers. To evaluate body sway among elderly, the body sway meter had been use. The body sway among elderly having history of falls and without falls had been measure, with keeping their eyes open and closed. **Result-** The body sway was analyzed and compared within community dwelling elderly population which were fallers and non fallers, by unpaired t test (pvalue = <0.0001). Age was compared in between groups and it comes not significant . The BMI in the participant had come significant. When body sway compared in elderly, the sway observed greater among people having previous history of falls. **Conclusion-** The patients having previous falls history are having more body sway that means they are at high risk of falls; than the elderly without falls history. BMI in the participants with falls history was seen higher than participants without having falls history. **Keyword:** fallers, community dwelling elderly,body sway,sway meter.

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