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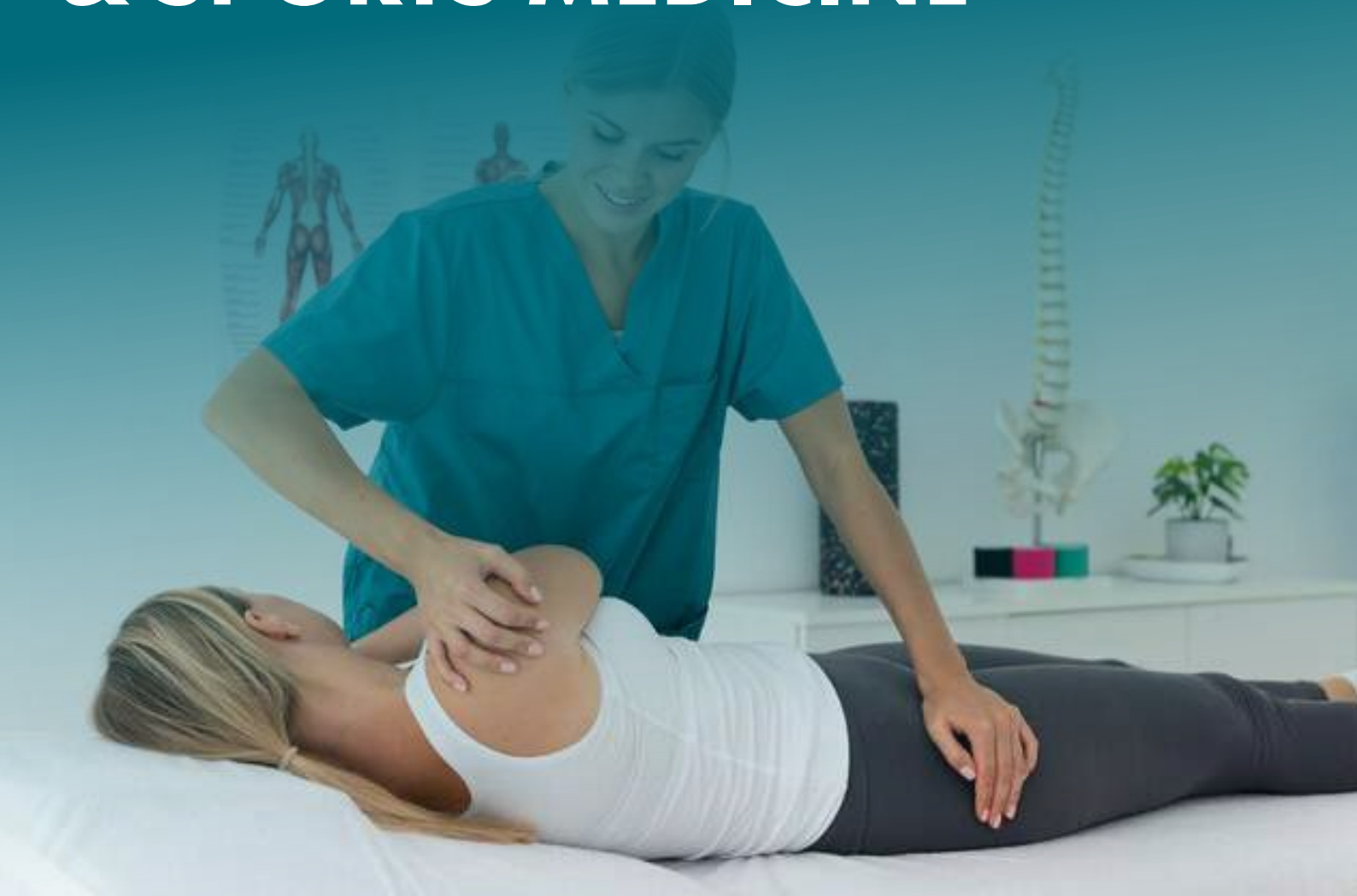
Scientific Meetings

11th World Congress on

PHYSIOTHERAPY, PHYSICAL REHABILITATION & SPORTS MEDICINE



18-19 NOVEMBER, 2024

Venue:
MIDAS Palace Hotel, Rome, Italy

Scientific Program

08:00–08:30: Registrations

08:30–08:45: Opening Ceremony

DAY 1

NOV 18, 2024

Keynote Presentations

09:00-09:30	
Kaj Winther Department of Nutrition, Exercise and Sports, University of Copenhagen, Denmark	Title: Rose–hip (rosa canina L) subspecies Lito influences the consumption of pain killers, age related body changes including skin wrinkles, cell longevity and body weight?

09:30-10:00	
Mohammed Takroni King Faisal Specialist Hospital and Research Center, Saudi Arabia	Title: Plantar Fasciitis Symptoms and the Effectiveness of Foot–insoles Orthosis on Recovery Process, and Quality of Life among Health Care Providers

10:00-10:30	
Hussain Ghulam Najran University, Najran, Saudi Arabia	Title: Injury Prevention Programs for ACL Injuries

Session Introduction

Oral Presentations

Tracks

Physical Therapy Science | Physiotherapy in Treatment & Care | Manual & Manipulative Therapy | Physical Medicine & Rehabilitation | Neurological Rehabilitation

Session Chair: Kaj Winther, University of Copenhagen, Denmark

Session Co– Chair: Hussain Ghulam, Najran University, Saudi Arabia

10:30-11:00	
Bulent Elbasan Department of Physiotherapy and Rehabilitation, Gazi University, Turkey	Title: Effects of Mollii Suit in Children with Cerebral Palsy with Different Ambulation Levels: A Preliminary Study

Group Photo | Coffee Break 11:00–11:20 @ Foyer

11:20-11:40	
Emidio Jorge Santos Lima Roberto Santos General Hospital, Salvador, Brazil	Title: Diaphragmatic rehabilitation after weaning from mechanical ventilation – A study project

11:40-12:00	
Zeljka Obrenov General manager of Pilates Studio, Novi Sad, Serbia	Title: Yoga in physical therapy

12:00-12:20	
Basar Ozturk Fenerbahce University, Department of Physiotherapy and Rehabilitation, Turkey	Title: Impact of Practical Training on Wearable Sensor Technology Knowledge in Physiotherapy Students

12:20-12:40	
Ramzi Abdu Alajam Jazan University, Physical Therapy Department ,Saudi Arabia	Title: A Comparative Analysis of Visual Reaction Time and Memory Response Between Athletes and Non–Athlete during Walking Tasks

Lunch Break 12:40–13:20 @ Restaurant

13:20-13:40	
Dominik Zaglaniczny Pt, specialist of physiotherapy, Poland	Title: The use of modern technologies to improve the patient's condition – own experience

13:40-14:00	
Aisha AL–Hammadi Kuwait Ministry of Health / Al–Adan hospital, Kuwait	Title: Pediatric obesity: insights from the kuwait experience physical therapy role

14:00-14:20	
Asmaa Al–Doub Kuwait Ministry of Health / Al–Adan hospital, Kuwait	Title: Early mobility and delirium in pediatric intensive care unit

14:20-14:40	
Noura Mohammed Almutairi Chest disease hospital, Kuwait	Title: Effect of pulmonary rehabilitation on Non obstructive disease congenital kyphoscoliosis patient in Kuwait
14:40-15:00	
Ameenah AlAttar Kuwait Ministry of Health / Al–Adan hospital, Kuwait	Title: Early mobility and Delirium in PICU

Networking & Refreshments 15:00–15:10 @ Foyer

15:10-15:30	
Beyza Başer Ozturk Feneryolu Physiotherapy Clinic, Turkey	Title: Optimizing Physical Performance in Young Elite Sailors: Core Endurance, Balance, Strength, and Flexibility
15:30-15:50	
Purnima Singh Assam Downtown University, Guwahati, India	Title: Effect of Aquatic Therapy approaches on Balance in community dwelling older adults – A Scoping Review
15:50-16:10	
Amira Daher Department of Physical Therapy, Zefat Academic College, Israel	Title: Impact of Clinical Training on Low Back Pain Complaints Among Nursing Students: A Comparative Cross–Sectional Study
16:10-16:30	
Md Bodruddoza Cumilla Diabetic Hospital, Bagichagaon, Bangladesh	Title: Effects of metformin on type 2 diabetes mellitus
16:30-16:50	
Saddam F. Kanaan Qatar University, Department of Rehabilitation Science, Qatar	Title: The Effectiveness of Passive Physiological Intervertebral Movements in Patients with Cervicogenic Headache: A Randomized Clinical Trial
16:50-17:10	
Ahmed Mohammed Salaheldin Faculty of Physical Therapy Cairo University, Egypt	Title: Effect of cognitive and proprioceptive training in reoccurrence rate of rotator cuff tears in athletes
17:10-17:30	
Ismet Shalaj Physiotherapy department, Faculty of Medical Sciences, Alma Mater Campus College Rezonanca, Kosovo	Title: Injuries in professional male football players in Kosovo: A descriptive epidemiological study

17:30-17:50	
Bekim Haxhiu Physiotherapy department, Faculty of Medical Sciences, Alma Mater Campus College Rezonanca, Kosovo	Title: Risk Factors for Injuries in Professional Football Players

17:50-16:10	
Mustafa Aydın Galatasaray Football Clup Departmant of Psychological, Turkey	Title: New psychological technological treatment methods used after injuries

Panel Discussion & Certificate Falicitation

Day –1 Ends

DAY 2

NOV 19, 2024

Virtual mode zoom meeting (GMT+2) Time in Italy

09:00-09:20	
Manisha Rathi Khyati College of Physiotherapy, India	Title: Effectiveness of Temporomandibular dysfunction correction exercises on Pain, Mobility and Disability among individuals having Mechanical Low Back Pain
09:20-09:40	
Mohamed Rizk Abdelwahab Ultimate Care, Cairo, Egypt – El Masa El Thamina LTD, KSA	Title: Introducing Gait Function Scale to Quantify the Capacity to Walk Independently from Least Functional to Most Functional
09:40-10:00	
Uria Moran Israel Defense Forces	Title: Finger Flexion Mitten for Carpal Tunnel Syndrome (CTS)
10:00-10:20	
Maryam AlMahruqi National Physiotherapy Focal Point @ Ministry of Health Oman, Oman	Title: Oman rehabilitation transformation
10:20-10:40	
Silverio Di Rocca M.P.R International School ,Switzerland	Title: Clinical Posturometry for Diagnosis, Treatment Planning, and Follow-Up in Health Sciences
10:40-11:00	
Ana Murray University of Sao Paulo, Brazil	Title: Simple is better for the physiotherapist's clinical assessment of Duchenne Muscular Dystrophy– Thesis Conclusion
11:00-11:20	
Isabel Stolz German Sport University Cologne (GSU), Germany	Title: Sports specific performance diagnostics meets health monitoring – Perspectives for individualized performance development in youth sports based on insights of a comprehensive diagnostics approach with youth athletes in Germany
11:20-11:40	
Areej Al Abdulrahman Rehabilitation Department, King Abdul-Aziz Medical City – Saudi Arabia	Title: Feeding, swallowing and breathing management in preterm babies

11:40-12:00	
Karolina Velebova Body Solution Clinic, Prague Czech Track and field federation	Title: The perfect sports medical team what they didn ´t teach us at medical school
12:00-12:20	
Susan M Blum Susan Blum Pediatric Physical Therapy, Philadelphia PA, USA	Title: Changing Lives Healing with Ease: TMR –Total Motion Release Pain Free Trauma Informed Treatment of CP & Torticollis
12:20-12:40	
Ekta Kharde MGM School of Physiotherapy, India	Title: Effect of metaverse – A virtual reality training on dynamic and static surfaces to enhance postural sway control and ankle muscles strength among fencer athletes
12:40-13:00	
Siththi Fathima Ilma Osman Sedar Faculty of Medicine, University of Colombo, Sri Lanka	Title: Application of a Supervised Muscle Strengthening Exercise Intervention on Hand Grip Strength in Cerebral Palsy patients and Evaluation of the Immediate Post–intervention and Short term follow up results: A Randomized Controlled Trial
13:00-13:20	
Roopa Desai Dr. D. Y. Patil Vidyapeeth Pune, India	Title: Effect of Surya namaskar on Lipid Profile of People with Different Body Mass Index: An Experimental Study
13:20-13:40	
Sedegheh Malek Mohammadi Orthotics and Prosthetics Research Clinic, Iran	Title: Plantar Fascia Properties in Physical Medicine and Rehabilitation of the Lower Limb
13:40-14:00	
Konstantinos Mylonas University of Patras, Physical Therapy Dept, Greece	Title: Evaluating Inter–Rater Reliability in Sway–back Posture Assessment Using Photogrammetry Among University Students
14:00-14:20	
Konstantinos Fousekis Physiotherapy Dept., School of rehabilitation sciences, Iran University of Medical Sciences, Iran	Title: Assessing the Reliability of Four Trained Examiners in Evaluating Forward Head Posture Using Photogrammetry in University Students

14:20-14:50

Soheil Mansour Sohani
Physiotherapy Dept., School of rehabilitation sciences, Iran University of Medical Sciences, Iran

Title: Low–Intensity And Extremely Low Frequency Electrostatic Fields (Deep Oscillation®)

Panel Discussion

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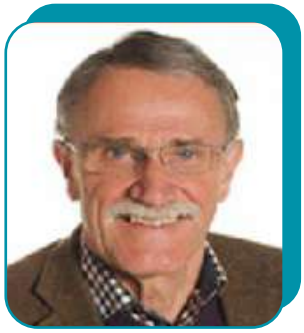
HYBRID EVENT

KEYNOTE PRESENTATIONS
DAY 1



Kaj Winther
Department of Nutrition, Exercise and Sports, University of Copenhagen, Denmark

Rose-hip (rosa canina L) subspecies Lito influences the consumption of pain killers, age related body changes including skin wrinkles, cell longevity and body weight?

Knowing more about nutrition and incorporating this knowledge into our daily diet may ease the changes which life it self and also aging place upon our shoulders. The present survey aims to evaluate if Rosa Canina L (Rose-hip) subspecies Lito, containing seeds and shells, can add to our health when defined as pain from osteoarthritis, quality of the skin, cell longevity, visceral fat area, and bodyweight. In addition can daily intake of rose hip work anti-inflammatory and change the consumption of rescue medication like paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs) and opioids (Tramadol). When focusing on osteoarthritis, six randomized, placebo-controlled clinical trials were available and indicated a statistically significant reduction of inflammation and pain and improvement in quality of life ($p<0.010$). The consumption of Paracetamol fell by 50% ($p<0.032$) during Lito treatment. Similar reduction was observed for Tramadol and for NSAIDs. Lito significantly improved skin wrinkles, cell longevity ($p<0.021$) and cartilage and significantly reduced the liver enzyme AST ($p<0.050$) indicating liver protection. In addition Lito lowered visceral fat content and body weight. In summary: The present data indicates that rose hip subspecies Lito reduces inflammation, pain, the consumption of rescue medication and improves quality of life in patients with osteoarthritis. Lito also has some beneficial impact on the skin, on cartilage, on cell longevity, on visceral fat and on body weight and exerts some liver protection.

Biography:

Kaj Winther was earlier deeply involved in cardiovascular research and worked for a period at the Harvad Medical School, Boston on the topic circadian variation in myocardial infraction. Later in his career he more and more has focused on how herbal remedies can work anti-inflammatory and influence pain from osteoarthritis, and how the intake of such remedies can alter the consumption of non-steroidal anti-inflammatory drugs, paracetamol and synthetic opioids - all known for their serious side effects.

Mohammed Takroni

King Faisal Specialist Hospital and Research Center, Riyadh. Kingdome of Saudi Arabia

Plantar Fasciitis Symptoms and the Effectiveness of Foot-insoles Orthosis on Recovery Process, and Quality of Life among Health Care Providers

Introduction: Plantar fasciitis (PF) accounts for about 80% of cases of heel pain. Foot orthoses (shoe insole/arch support), are one of the conservative management for plantar fasciitis, in addition to the variety of physiotherapy modalities. To our knowledge, we could not find any study that assesses the authentic benefits of using foot insoles with their different types on reducing PF pain among healthcare providers in the kingdom of Saudi Arabia (KSA).

Aim of this Study: To evaluate the short and long-term effectiveness of foot orthosis in the recovery of plantar fasciitis and assess its influence on pain and quality of life among healthcare providers.

Methods: A 93 subjects agreed to participate in the study male (n=30) 32.3%, and Female (n=63) 6.78%. All participants were asked to sign a consent form before participating in filling out the survey questions. Study Design: Experienced Musculoskeletal researchers/Clinicians developed the study online questionnaire. Results: 93 participants (n=30) 32.3% were male and (n=63) 64.5 % were Female.

Results: The results showed that 42 (45.2%) of the participants used the foot-orthosis and 51(45.8) did not use it. Out of the 42 participants who used the foot orthosis 33 (35.5%) benefited from the foot orthosis. A significant decrease in pain level score was reported after using the foot orthosis (3.00) compared to before using the orthosis (6.79), p= 0.000.

Conclusion: The study confirms that Planter Fasciitis is one of the common problems among healthcare providers in the KSA, and foot orthosis is one of the best conservative management for decreasing PF symptoms. The study did not find a direct effect of Age, gender, BMI, and the received PT treatments on the benefits of using foot orthosis.

Biography:

Dr. Mohammed Abdullah Takroni, is a Cardiac Rehabilitation Consultant, has Fellowship in Cardiopulmonary Rehabilitation and Musculoskeletal Sport Medicine from Duke University and Medical (DUMC), North Carolina, USA, Master's degree in physical therapy from King Saud University, Master degree in Sports Medicine and Rehabilitation, Manchester Metropolitan University (MMU), UK, Ph.D., in Cardiovascular and Pulmonary Rehabilitation, Glasgow Caledonian University, Glasgow, UK. Member of the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR), member the European Society of Cardiology (ESC), member of the British Association for Cardiovascular Prevention and Rehabilitation (BACPR), member of Saudi Heart Association (SHA), member of the American Orthopaedic Society for Sports Medicine (AOSSM). Published several articles in the field. Developed the Cardiac Rehabilitation programs at King Faisal specialist hospital and research center (KFSH&RC), Riyadh, Saudi Arabia. Currently, head section of Cardiac Rehab Team. , physical therapy department.

Hussain Ghulam
Najran University, Saudi Arabia

Injury Prevention Programs for ACL Injuries

Anterior cruciate ligament (ACL) is considered to be one of the most commonly injured ligament of the knee joint both nationally and internationally, with 80% of these injuries have been shown to be non-contact in nature, occurring without any direct physical contact with the subjects' body. In addition, in young athletes, 48% to 96% of ACL injuries are reported to be non-contact in nature. These types of injuries can occur under any condition, which causes the stress on the ACL to increase beyond its capacity. Unsuccessful landing manoeuvres, sudden deceleration, and cutting might be considered as possible factors in ACL injuries.

Knee valgus which described as 'the position or motion of the distal femur towards the midline and the distal tibia away from the midline of the body' is one of the factors that contributes towards non-contact ACL injuries, as well as other knee injuries. Knee valgus misalignment can be described as a postural dysfunction in the lower extremity while performing weight bearing exercise, such as the single leg squat (SLS) or single leg hop landing (SLHL), and it is fairly common. Injury prevention programs such as FIFA 11 and FIFA 11+ has been used to limit such injuries. These programs are vary and had different methodology. Therefore, this study looks at all injury prevention programs related to ACL injury and summarize the best method to avoid such injury from occurrence.

Keywords: Injury Prevention, ACL, Knee Injuries, Lower Limb Injuries.

Biography:

Dr. Hussain Ghulam is currently an associate professor, consultant physical therapist, and chairman of the Medical Rehabilitation Department – Physical Therapy program at Najran University, Najran, Saudi Arabia. The head of the medical rehabilitation department at Medical Rehabilitation Hospital from 2005 to 2011 in Madinah, Saudi Arabia. In 2013, earned a master's in exercise and sports physiotherapy from Cardiff University, Cardiff, United Kingdom. In 2016, completed a doctorate (PhD) in health, sports and rehabilitation sciences from Salford University, Manchester, United Kingdom. From 2016 to 2018, the head of the training and academic affairs department at Medical Rehabilitation Hospital, Madinah, Saudi Arabia.

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HYBRID EVENT

SPEAKER PRESENTATIONS
DAY 1

Bulent Elbasan
Gazi University, Department of Physiotherapy, Turkey

Effects of Mollii Suit in Children with Cerebral Palsy with Different Ambulation Levels: A Preliminary Study

The EXOPULSE Mollii Suit method, is a wearable, non-invasive neuromodulation approach that features a full-body garment and electrodes placed within it. The aim of this study is to examine the effect of Mollii Suit application on functional patameters in children with cerebral palsy (CP) with different ambulation levels. Children with spastic cerebral palsy between the ages of 4 and 12 were included in the study. The study consisted of 2 groups: Ambulatory group (Gross Motor Function Classification Level (GMFCS): 1-2-3, n=5) and non-ambulatory group (GMFC: 4-5, n=5) Children who received Botulinum Toxin A injection in the last 3 months and surgical intervention in the last 6 months were excluded from the study. The Mollii Suit method was applied to all children for 60 minutes, 2-3 times a week for 6-8 weeks. Children were evaluated before and after the applications. Trunk control was evaluated with Trunk Impairment Scale (TIS), lower extremity selective motor control with Selective Control Assessment of the Lower Extremity (SCALE) and gross motor function with Gross Motor Function Measure (GMFM). SPSS 24.0 was used for statistical analysis. Wilcoxon Signed Rank test and Mann-Whitney U test were used to determine the differences before and after application. The significance level was $p<0.05$. Before and after the treatment, the TIS and GMFM scores of ambulatory children were better ($p<0.05$). While there was no statistically difference in the scores of the non-ambulatory group after treatment ($p>0.05$), the TIS and SCALE scores of the ambulatory group were better ($p<0.05$). No significant difference was found when comparing the difference values of the groups before and after treatment ($p>0.05$). It was concluded that molli suit could lead to functional improvements, especially in children with ambulatory CP. There is a need to continue the study with larger samples.

Biography:

He was born in 1976 in Tarsus. After graduating from Private Tarsus High School, he entered Hacettepe University School of Physical Therapy and Rehabilitation in 1994 and graduated in 1998. In 2002, he completed his Master's Degree in Cardiopulmonary Rehabilitation Programme at Hacettepe University Institute of Health Sciences and received the title of 'Science Specialist', and in 2009, he completed his PhD in Occupational Therapy Programme at the same institute and received the title of 'Doctor'. Between 1998-2011, she worked as the Founding Director and Coordinator Physiotherapist at Bilge Special Education and Rehabilitation Centre.

In 2011, he was accepted to Gazi University Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation as a 'Doctor Lecturer' and established the 'Developmental Physiotherapy and Pediatric Rehabilitation Unit' in the same department.

In 2014, ELBASAN, who was entitled to receive the title of 'Associate Professor', received the title of 'Professor' in August 2020. Since 2011, he has been working as a Faculty Member at Gazi University Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Department of Pediatric Physiotherapy and Rehabilitation. He served as Assistant Dean at Gazi University Faculty of Health Sciences. In 2020, he was appointed as Dean.

Since 1998, he has been continuing academic and clinical studies in the field of pediatric neurorehabilitation and early intervention in childhood. She has completed many national and international certified postgraduate trainings and courses related to her field. She wrote chapters in books related to Physiotherapy and Rehabilitation and worked as a translation editor. She worked as a researcher and executive in national and international projects and continues to work in this field. She also has many articles published in national and international refereed journals in the field of pediatric physiotherapy and rehabilitation. He continues to work as the developer and implementer of the SAFE National Early Intervention Approach. He is married and has 2 children.

Emidio Jorge Santos Lima
Roberto Santos General Hospital – Salvador – State of Bahia – Brazil

Diaphragmatic rehabilitation after weaning from mechanical ventilation – A study project

Forty eight percent of patients in ICUs will be treated by mechanical ventilation (MV) 1. It's a lifesaving strategy 2 but it's associated with complications, such as: pneumonia, barotrauma, volume-trauma, tracheal stenosis, prolonged MV and death 3. One cause of MV and weaning failure is diaphragmatic dysfunction (DD), which occurs up to 63% of patients during MV 4. Considering this complication I hypothesized that the use of high-flow oxygen through nasal cannula (HFONC) among patients after weaning from MV with DD could decreases the incidence of weaning failure. HFONC is scientifically approved noninvasive strategy for treating patients with moderate to severe hypoxemic respiratory failure (RF) 5. HFONC among patients with RF is associated with less 90- day mortality compared with noninvasive MV and standard oxygen therapy 5.

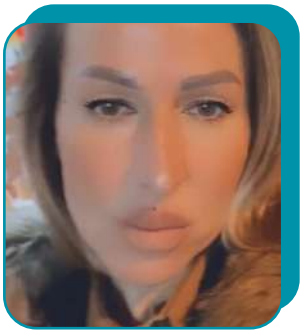
Method: A study for testing the hypothesis that HFONC could decreases the rate of weaning failure among mechanically ventilated patients extubated with DD, identified by ultrasound.

Inclusion: Adult patients Patients with RF treated by MV (more than 48 h) and extubated after successfully spontaneous respiratory trial Lung and diaphragm ultrasound after extubation

Exclusion: COPD Palliation RF due neuromuscular syndromes Absent echography window The patients will be, after extubation, evaluated by lung ultrasound 6 and diaphragm ultrasound 6. Those patients with diaphragmatic dysfunction will be randomly assigned in two groups: control and intervention. Patients in the control group will be treated without HFONC but by the usual post-extubation management. Patients in intervention group will be treated by HFONC during 48 h after extubation.

Biography:

Emídio Jorge Santos Lima has completed his PhD in 2011 from Federal University of Bahia-Brazil (UFBA) and Critical Care Medicine Fellowship in 2012 from Pierre and Marie Curie University, Paris 6. He is the director of Intensive Care Unit at PROHOPE Hospital (Brazil), and Professor at UNIME University and Roberto Santos General Hospital (Brazil). He has published clinical researches about Mechanical Ventilation, Echography Pulmonary, and Echocardiogram in reputed journals.



Zeljka Obrenov
Pilates Studio, Novi Sad, Serbia

Yoga in physical therapy

Background: As a young girl and as athlete, I've experienced few injuries and this is when I've decided to become a coach. In my opinion the physical therapy rehabilitation in sport must be on a higher level. We have to bring more awareness about how much is important that our clients receive the proper care, at least corrective exercise and to bring more awareness about our clients injuries.

Biography:

Experience: Certified Pilates Instructor, Studio Novi Sad, July 2013 – August 2016

- General Manager, Studio Novi Sad, Sept 2016 – Sept 2018
- PT and Group training, Instructor for mat and reformers, Hype gym Kuwait, Oct 2018 – March 2020
- Head Coach, Peak Fitness Kuwait, July 2021 – September 2022
- General manager, Pilates Studio, Novi Sad, September 2022 - Now

Education: Fitness Academy Belgrade, Serbia, Certified Pilates Instructor, Pilates Matwork, 2013, PT and Group Fitness programs Instructor

- Yoga Academy Belgrade, Serbia, Certified Yoga Instuctor, Instructor in sport, 2016-2017, Grade 10
- Red Cross of Serbia, First Aid Certificate, 2017
- Vojvodina Association for recreation and fitness, Certified coach for proper diet and supplementation, Training in the field of recreation and fitness,2017-2018
- Yoga Academy Belgrade, Serbia, Certified Yoga Intructor, Yoga for Athletes, 2018-2019, Grade 10
- Body Hach Fitness Education , Certified for Rehab, Injuries and Corrective exercise, 2019
- NASM AFAA, Perinatal Fitness, Health and Physical Education/Fitness,March 2020, Pre and postnatal fitness care
- HFS, Functional training, Health and Physical Education/Fitness, January 2021, Coach for functional training

Coaches are their own best advertisement for dedication, training and results. Enjoy inspiring and encouraging others to lead healthier lifestyle. I love to educate myself and I think that we should be learning all our life. I graduated on Fitness Academy Belgrade on July 2013. After that I went on Yoga Academy and I finished it on July 2016. When I finished that, I decided to specialized myself for working with top athletes. I would like to thank to my kids, because they are my biggest support and they believe in me and my goals even more than I do.

Basar Ozturk
Baha Naci, Merve Demirer, Engin Caglar, Ezgi Eryıldız Fenerbahçe University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Istanbul, Turkey

Impact of Practical Training on Wearable Sensor Technology Knowledge in Physiotherapy Students

The aim of this study is to introduce physiotherapy and rehabilitation students to the developing technology and to improve the rehabilitation process by investigating the effect of practical training on wearable sensor technology on the students' knowledge level. Wearable sensors, designed to measure human movement in various ways, represent a promising technology to support more cost-effective and efficient healthcare services while enhancing individuals' ability to manage their own health. This study involved practical training using Euleria XClinic wearable sensor technology, which is a class 2a certified medical software that interacts with wearable inertial sensors, allowing physiotherapists to conduct biofeedback exercises and objective assessments with their patients. A total of 112 students from Fenerbahçe University's Department of Physiotherapy and Rehabilitation participated in the study. Participants' knowledge levels were assessed using a 20-item Likert scale questionnaire before and after the practical training. The results indicated a significant increase in students' knowledge levels regarding the use of wearable sensors in physiotherapy and rehabilitation ($p<0.05$). This suggests that practical sensor training can effectively enhance students' understanding and application of wearable sensor technology in their future professional practice.

Keywords: Wearable Sensor Technology, Physiotherapy Education, Practical Training, Rehabilitation Technology, Knowledge Assessment

Biography:

Basar Ozturk is an Associate Professor at Fenerbahçe University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation. He completed his PhD at the age of 30 and has published several papers in reputed journals. His research interests include biomechanics, orthotics, motion analysis, wearable technologies, and innovative physiotherapy techniques. He has been actively involved in various international conferences and has contributed significantly to the field of physiotherapy and rehabilitation.

Ramzi Abdu Alajam
Jazan University, College of Applied Medical Sciences, Physical Therapy Department, KSA

A Comparative Analysis of Visual Reaction Time and Memory Response Between Athletes and Non-Athlete during Walking Tasks

Studying responses to visual stimuli and memory tasks is crucial in understanding human performance across various fields. Previous studies showed athletes have faster reaction time response and better memory recall compared to non-athletes during single tasks, such as sitting. However, the influences of dual tasks, such walking, on reaction time response and memory recall is still unclear among athletes. This study aimed to compare visual reaction time and memory response between athletes and non-athletes during walking tasks. Cross- sectional study design was utilized for collecting the date. The participants included in this study were recruited based on specific eligibility criteria. Convenient sampling methods were used to recruit participants. Reaction Time and memory response were evaluated through simple visual reaction test (SVRT) and visual memory test (VMT). These measurements were recorded during sitting and walking tasks (slowing, normal, fast walking speed). Comparison analysis found that the non-athletes group displayed a significant delay in SVRT during slowing walking ($p = 0.002$), normal walking ($p = 0.04$), and fast walking ($p = 0.002$) as compared to the athlete group. In addition, the mean scores of visual memory test were significantly higher in athletes as compared to non-athletes during normal walking speed ($p = 0.027$) and fast walking ($p= 0.033$). In conclusion, our findings suggested that athletes had faster reaction time and better memory response as compared to athletes during walking tasks. These findings might help on development of targeted interventions for enhancing response time and memory recall while engaging in multitask activities.

Biography:

Ramzi Alajam is an assistant professor at Jazan University, Jazan, Saudi Arabia. He obtained his PhD in rehabilitation science from the University of Kanas Medical Center, Kansas City, Kansas, United States in March 2020. In July 2013, he received his master's degree in physical therapy and post-professional doctor of physical therapy from Loma Linda University, Loma Linda, California, United States. He earned his bachelor's degree in physical therapy in January 2009 from King Saud University, Saudia, He has been an educator and researcher at Jazan University since 2009. His research interests include improving quality of life and wellbeing of individuals with neurological conditions, especially those with stroke and spinal cord injury. He has published around 20 papers in reputed journals.

[1]Dominik Zaglaniczny Pt
[2]Justyna Pogorzelska
[1]specialist of physiotherapy, Poland
[2]Poland, Kielce

The use of modern technologies to improve the patient's condition - own experience

Entry. A patient after hip arthroplasty requires a multi-profile and comprehensive physiotherapeutic approach. The patient's physiotherapy covers the period before and after the procedure.

Material and methods: A 38-year-old patient was referred for bilateral arthroplasty. The patient received physiotherapy care 2 months before the procedure. The aim of the therapy was to obtain optimal ranges of motion and improve muscle strength based on manual techniques and treatments using TECAR technology on the Indiba device. After the procedure, the patient was again provided with physiotherapy care. The patient's good condition allowed for early verticalization and from the first week the patient began regular rehabilitation. The therapy consisted of activating the patient by including upper body exercises using weights in the rehabilitation program. Additionally, from day 3, physical therapy treatments were included deep oscillation and TECAR in order to improve the healing and tissue regeneration processes after the procedure.

Results: After 6 weeks of therapy and self-exercise, the patient moved efficiently and had no problems with ADL. After 12 weeks, the patient returned to his original activity - Capoeira.

Conclusions: Patient preparation and early rehabilitation are the key to returning to full fitness. Properly selected strengthening exercises and local and global work with the patient provide quick and lasting results.

Biography:

Dominik Zaglaniczny - physiotherapist since 2001, finish Collegium Medicum in Bydgoszcz in Poland, in 2018 pass exam – specialist of physiotherapy (4800 h) , work 5 years with handbal team, 8 years in hospital, since 2004 have own practice. Finish many courses in country and abrod eg PNF lev 5, Kaltenborn – Evejenth, Bobath, Graston Technique, STEP therapy, Indiba Activ lev 1,2, Fascial Manipulation, GDS – muscle chain, USG courses, and many small courses.

Justyna Pogorzelska - physiotherapist since 2006, finish Phisical Academy in Kraków, now work in Uniwersity Jana Kochanowskiego in Kielce and Pediatric Center in Kielce. Finish a lot of courses eg PNF, Vojta, NDT Bobath and Baby. Write many article and have many clinical observation.

Aisha AL-Hammadi
Kuwait Ministry of Health / Al-Adan hospital, Kuwait

Physical therapy intervention post smoke inhalation injury in pediatric (case report)

The survival rate among burn patients has improved significantly globally over the last 50 years. Smoke inhalation injury results in the majority of patients' death, morbidity and mortality in house fires, and it counts for 20% of mortality. Children younger than four years and who were diagnosed with both burn and smoke inhalation injury have higher mortality rates compared to those who are older. This is because of the anatomical and physiological differences among pediatric age group. Most common cause of death in this population is the associated hypovolemic shock, airway obstruction from inflammation of small airways and underlying infection such as sepsis.

The underlying pathophysiology of smoke inhalation injury can be divided into three definitive process, that can occur in isolation or combination. Those injuries are thermal injury to the upper airway, chemical injury to the tracheobronchial tree, and systematic intoxication. This injury result from the inhalation of toxic chemicals contained within smoke, that cause asphyxiation, systematic toxicity, or respiratory damage . Both carbon monoxide (CO) and hydrogen cyanide (HCN) gases, resulting from fire smoke, are considered to be the early and immediate cause of death among patients in enclosed fires location. CO poisoning can result in neurological, cerebrovascular, or cardiovascular disorders. Those disorders can be seen as encephalopathy, ischemia, and peripheral nerve injury

We report a case of Five years old boy previously healthy admitted as a case of smoke inhalation injury that resulted in hypoxic Ischemic changes. Functional Independence Measure (FIM) scale was used as an objective measure to assess the patient initial case and progression after physiotherapy intervention. A rehabilitation program was designed according to the patient needs. Physiotherapy intervention as a part of multidisciplinary burn team has a vital role in maximizing patient independency as a part of rehabilitation program post burn injury.

Keywords: Neurological rehabilitation - smoke inhalation - pediatric - case report

Biography:

I am a physical therapy specialist who graduated with a bachelor degree of physical therapy from Kuwait university 2013. I have been working as a pediatric physical therapist since 2014 in both outpatient clinic and inpatient wards as well as pediatric ICU delaying with variety of cases including (orthoepic -musculoskeletal – neuromuscular -cardiopulmonary) cases .Recently established childhood- adolescent obesity physiotherapy clinic in Kuwait following the recommendation from AXXON (Belgian physical therapy association). A member of Kuwait physical therapy association. ex-member of the awareness committee in administration of physical therapy. Presented numerous lectures and posters related to pediatric physical therapy and public health. Participated in Kuwait international multidisciplinary pediatric conference with a scientific poster.

Asmaa Al-Doub
Kuwait Ministry of Health / Al-Adan hospital, Kuwait

Early mobility and delirium in pediatric intensive care unit

Early mobilization for adult Intensive Care Unit (ICU) patients is safe and effective in preventing ICU adverse effect such as physical, cognitive, and functional impairment. Barriers to mobilizing critically ill children include lack of physician referral, inadequate mobilization equipment, lack of pediatric mobilization and sedation guideline, medical complexity of a child's condition, insufficient recourses, and fear of Endotracheal Tube (ETT) dislodgement.

In a study that was done by Herbsman et al. (2020) to improve the quality of early mobility in Pediatric ICU (PICU) an algorithm was developed to identify the interventions needed to be implemented in order to increase the percentage of early mobilization in PICU. The results showed significant improvement in the rate of early mobility and thus reduction in PICU and hospital Length of Stay (LOS). Another program that was developed by Azamfirei (2023) to highlight the previous PICU culture where the critically ill children are intubated and mechanically ventilated, immobilized, and are highly sedated to a culture of mobility. Adaptive strategies were used by multidisciplinary PICU team. The PICU up! Includes a 3-level system. It was implemented for a duration of 3 months and demonstrated safety and feasibility. Family engagement was an important part of the program. The aim was to increase the mobility, optimize sleep hygiene, and to decrease the use of sedatives.

Conclusion: Early mobilization in PICU is highly important. It is safe and effective.

Biography:

I'm a senior Physical therapy specialist enthusiastic in pediatrics. Graduated with bachelor degree from Kuwait university 2010, working with different pediatric age groups with different cases. A clinical Instructor for physical therapy KUNIV students since 2017. A member of Kuwait Physical Therapy Association. I developed the Physical therapy In-Patient Pediatric Policy (General wards, NICU, PICU) 2022 in Al-Adan Hospital. I conducted a Workshop in Pediatric Early Mobility in PICU for the PICU team (Doctor, Nurses, Rt) and other physical therapists. Participated in Physical therapy Scientific day with three scientific posters. Published a paper about early mobility in pediatric ICU in SWAAC ELSO. The coordinator of pediatric inpatient physical therapy unit including (pediatric ICU, general ward, NICU, palliative and complex.

Noura Mohammed Almutairi
Chest disease hospital, Kuwait

Effect of pulmonary rehabilitation on Non obstructive disease congenital kyphoscoliosis patient in Kuwait

Abstract: case study of Non-COPD patient with Congenital kyphoscoliosis to see the effect of pulmonary rehabilitation after 36 sessions given in Chest disease Kuwait with signs and symptoms, physical capacity, functional level and Quality of life.

Introduction: Pulmonary rehabilitation programs improve exercise tolerance, muscle strength, and dyspnoea in patients with Non-COPD. The Aim of case study to see effect pulmonary rehabilitation in reducing respiratory exacerbation signs and symptoms, Improving Pulmonary functional test values and level of physical activity on non-obstructive pulmonary disease congenital sclerosis patient in Kuwait.

Case: 60 years female Kuwaiti patient diagnosed with Non-obstructive pulmonary disease Congenital kyphoscoliosis since 2005. Patient underwent spine correction implanted screw for whole spine in 2015 in USA. Patient complains from very sever short of breath while resting and walk and ADLs. She is on oxygen support 3 L/mint with recurrent infection and hospitalisation 3 to 5 time in year after surgery. She referred to pulmonary rehabilitation to improve lung function, to improve physical activity performance and Daily activity of life.Treatment given in 36 sessions during 6 mouths 2 time per week with daily home programme including aerobic exercise, strengthen exercise, stairs exercise, IMT device for diaphragm and active breath exercise Monitoring patient level of saturation in blood SPO2 and respiratory rate during and after session.

Discussion: Recent evidence bases research in word wide show the effect of pulmonary rehabilitation in COPD And Non-COPD patient in reducing chronic signs and symptoms and improve physical activity level Treatment given in 36 sessions during 6 mouths 2 time per week with daily home programme including aerobic exercise, strengthen exercise, stairs exercise, IMT device for diaphragm and active breath exercise Monitoring patient level of saturation in blood SPO2 and respiratory rate during and after session. Patient before pulmonary rehabilitation not able to walk outdoor home using wheelchair to transfer with sever short breath, fatigue, reduce cardiorespiratory endurance on 3 L/O2.patient referred to pulmonary rehabilitation clinic to treat patient signs and symptoms and improve lung function.

Aerobic exercise started including cycling, walk and gait training and hand ergometer till 30 mints with monitor patient SO2 while session also, strengthen exercise given such as sit to stand 10 time with 3 sets, 1 to 2 KG weight for Shoulder flexors , Elbow flexors and shoulder abductors 10 times reptations with 3 sets done per Day. IMT device for diaphragm strengthen for 5 mint and progressed till 15 mint ,4 time per day as home programme. Active cycle breathe exercise while resting and movement 10 time each hour. Stair's exercise achieved 10 steps with 2 sets after 14 sessions patient not able at begging to use due to sever

short breath and reduce cardiorespiratory Endurance. Home programme 3 time per day given at home with self-monitor for SO2 Not below 90%. After 36 sessions patient able to walk 30 minutes with 1.5 L/O2 and using car to drive safe

Physical examination: Table 1

Physical examination	Borg scale	6MWT test	FEV1% prediction	Auscultation
Before pulmonary rehabilitation	6/10	180 meters	23%	Sever reduce air entry apical and basal with 3L/O2
After pulmonary rehabilitation	2/10	390 meters	28%	Reduce air entry basal with 1.5 L/O2

Conclusion: Pulmonary rehabilitation effective with non-COPD congenital sclerosis patient. Patient improved in functional test 6MWT achieving great score 390 mete with borg score 2/10 while test that shows Significant improvement in cardiorespiratory Endurance.FEV1% = 28 prediction where after discharge that reflect the improvement in lung volumes and function. Pulmonary rehabilitation essential for symptomatic non-COPD congenital disease with sever short of breath while rest and physical execration in daily activity life. Starting early pulmonary rehabilitation 2-3 time per week including aerobic exercise 30 mint, strengthen exercise 12 repetitions 3 sets, breath exercise and intercostal muscle trainer device IMT 3-5 time per day recommended for non-obstructive pulmonary disease.

Ethical approval: Consent form written and taken from patient to be published his case and improvement in lung function and ADLs.

Acknowledgement: Author PT Nourah Al Mutairi contributes all stages of this work including Data taking, History taken, Test taken 6 MWT pre and post pulmonary rehabilitation sessions.

Author PT Nourah Al Mutairi contributes Data, Analysis of PFT test and 6 MWT to Conclusion of results of benefits of pulmonary rehabilitation.

Author PT Nourah Al Mutairi contributes Findings, results, and critical analysis to PFT test and 6 MWT.

Ameenah AlAttar
Kuwait Ministry of Health / Al-Adan hospital Kuwait Physical Therapy Association, Kuwait

Early mobility and Delirium in PICU

Objective:

1. Identify the faced challenges to establish early mobility in PICU.
2. Understand the importance of early mobility in PICU.

Early mobilization for adult ICU patient is safe and effective in preventing ICU adverse effect such as physical, cognitive and functional impairment. Barriers to mobilizing critically ill child include lack of physician referral, inadequate mobilization equipment, lack of pediatric mobilization and sedation guideline, medical complexity of child condition, insufficient recourses, and fear of ETT dislodge. In a study that was done by Herbsman in (2020) to improve the quality of early mobility in PICU an algorithm was developed to identify the intervention needed to be implemented in order to increase the percentage of early mobility in PICU the result showed significant improvement in the rate of early mobility and thus reduction in PICU and hospital length of stay (LOS). Another program that was developed by Kudchadkar in 2019 to highlight the previous PICU culture where the critically ill children are intubated and mechanically ventilated, immobilized, and are highly sedated to a culture of mobility. Adaptive strategies were used by multidisciplinary PICU team. The PICU up! Includes three- level system. It was implemented for duration of 3 months and demonstrate safety and feasibility. Family engagement was important part of the program. The aim was to increase the mobility, optimize sleep hygiene and to decrease the sedative.

Early mobilization in Pediatric Intensive Care Unit (PICU) is highly important. Its safe and effective. A quality improvement plan was developed to overcome the challenges of implementing such service. Many Studies reports those challenges and suggested a clinical solution. Moreover, those study showed positive results. Family are considered to be an integral part of the child life. Thus, including them during early mobility program in PICU is highly recommended.

Biography:

A Specilalist Physiotherapist at Adan hospital, Who graduated with BSc of physical therapy from Kuwait university in 2012. I have been working as pediatric physiotherapist since 2015. I worked in different pediatric subspecialties including NICU, PICU, pediatric general wareds at Adan hospital for 9 years. Currently working in PICU as part of multidisciplinary team at Adan hospital since 2021. I am an Clinical instructor at kuwait university (Allied Health science), for physiotherapy students. Also, a Member of quality committee of physical therapy department in Adan Hospital, since 2021. Additionally, I am a Member at Kuwait physical association since 2019. Participated in multiple scientific physiotherapy poster days, at Adan hospital.

[1]Basar Ozturk,
[2]Beyza Başer Ozturk, Ayça Aklar

[1]Fenerbahçe University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Istanbul, Turkey
[2]Feneryolu Physiotherapy Clinic.
[3]Ayça Aklar Physiotherapy Clinic

Optimizing Physical Performance in Young Elite Sailors: Core Endurance, Balance, Strength, and Flexibility

This study aims to investigate the relationship between core endurance, balance performance, muscle strength, and flexibility among young elite sailors. A total of 40 athletes from the Galatasaray sailing club were randomly selected and divided into three groups: windsurfing (n=14), optimist (n=13), and laser (n=13). Demographic data, body mass index, and dominant body side were recorded. Upper extremity strength was measured using a hand dynamometer, while lower limb strength was assessed through vertical jump, standing long jump, and single leg jump tests. Core endurance was evaluated using sit-up, plank, and rotary stability tests. Balance and flexibility assessments included Y balance, straight leg raise, shoulder flexibility, sit and reach, shoulder elevation, and total body rotation tests. Significant differences were found among the groups in hand dynamometer tests for both hands ($p<0.001$), with the laser group showing the highest mean values. The standing long jump test also revealed significant differences ($p<0.05$), with the laser group achieving the highest scores. The single leg jump test showed significant differences ($p<0.05$), with the windsurfing group scoring highest. The Y balance test indicated significant differences ($p<0.05$), with the optimist group achieving the highest scores. These findings suggest that different sailing classes require specific physical attributes and performance parameters, particularly in terms of strength and balance.

Keywords: Sailing, performance evaluation, core endurance, muscle strength, balance, flexibility

Biography:

Basar Ozturk is an Associate Professor at Fenerbahçe University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation. His current research focuses on the physical performance metrics of athletes, particularly in exercise. He has conducted extensive studies on biomechanics, motion analysis, and innovative physiotherapy techniques. He has also worked on exercise studies related to diabetes management. Başar Öztürk has published numerous papers in reputed journals and actively participates in international conferences, contributing significantly to the advancement of physiotherapy and rehabilitation.

Purnima Singh
Dept of Physiotherapy, Assam Downtown University, Guwahati, Assam, India

Effect of Aquatic Therapy approaches on Balance in community dwelling older adults – A Scoping Review

Background: Aquatic environments have been found to increase proprioceptive input to the immersed body through increased balance and alignment. Evidence suggested that aquatic therapy techniques using laws of fluid mechanics improve balance in elderly.

Objective: To compile available research on the effect of Water Specific Therapy (WST), Bad Ragaz Ring Method (BRRM), and Clinical Ai Chi for improving balance in the elderly.

Methods: The search was conducted in various databases. The PICO model was used in the selection of the papers. Selection criteria included randomized controlled trials (RCT), quasi-experimental studies, pilot trials, and Cohort with either of the three interventions as the main aquatic intervention for the elderly with the report of a standardized outcome measure for balance.

Results: Thirteen articles, with a total of 393 participants, met the inclusion criteria including 8 RCT's, 2 Cohort, 2 pilot trials, and 1 QES ranging from fair to good assessed using the Downs and Black checklist. Comparison groups included various aquatic interventions & land-based exercise.

Discussion: The qualitative analysis reveals a number of encouraging results with Significant improvement in Balance following Ai Chi, WST, and BRRM intervention. All the studies specifically described the whole program, thus facilitating the recommendation of a certain protocol specific to the elderly population relative to balance.

Conclusion: There is a need for more rigorous study designs, as well as more structured and outlined programs in order to prove the effectiveness of these techniques in improving balance and reducing the risk of elderly people falling.

Biography:

Dr Purnima Singh has completed her Masters from Rajiv Gandhi University of Health Sciences and currently pursuing PhD from Assam Downtown University, Assam. She is the principal of Hosmat Hospital Educational Institute, a premier Physiotherapy college in Bangalore, India. She has conducted various workshops on Aquatic therapy & published papers in Indian journals.

Amira Daher
Zefat Academic College, Safed, Israel

Impact of Clinical Training on Low Back Pain Complaints Among Nursing Students: A Comparative Cross-Sectional Study

This cross-sectional study investigates the changes in low back pain (LBP) complaints among nursing students before and after clinical training in hospital settings. A total of 194 nursing students in Israel participated in an online survey that assessed LBP prevalence, sociodemographic factors, clinical characteristics, and stress levels. LBP was reported by 40.7% of students before starting the nursing program, increasing to 54.6% after the first year and further rising to 75.3% during the last month of clinical training. The study identified that physical demands and prolonged patient handling in clinical environments significantly contributed to the increase in LBP complaints. Furthermore, high Body Mass Index (BMI), previous musculoskeletal issues, and educational stress were significant predictors of LBP. Notably, students who experienced higher levels of educational stress were 1.8 times more likely to report severe LBP compared to those with lower stress levels ($p < .001$). Additionally, single students were found to be at a higher risk of developing LBP compared to their married or partnered counterparts (OR = 0.16, $p = .016$). These findings highlight the need for targeted interventions within nursing programs, such as stress management workshops, ergonomic training, and enhanced support systems, to reduce the incidence of LBP among nursing students. The study underscores the importance of early intervention and ongoing monitoring of musculoskeletal health to promote the well-being and academic success of future healthcare professionals. Future research should explore the effectiveness of such interventions and consider a longitudinal approach to better understand the progression of LBP over time.

Biography:

Dr. Amira Daher is an experienced physiotherapist specializing in musculoskeletal rehabilitation, particularly in the management of chronic neck pain. She earned her B.PT from Tel-Aviv University, followed by a Master of Health Administration (MHA) and a PhD in Physical Therapy from the University of Haifa. Dr. Daher has held various academic positions and currently serves as a senior lecturer at Zefat Academic College. She has 30 years of experience in both clinical practice and academia.

Her research focuses on evidence-based treatments for neck pain, with a particular interest in integrating aerobic exercise into conventional rehabilitation protocols. Dr. Daher's work has been published in renowned journals such as Clinical Rehabilitation and the Physical Therapy & Rehabilitation Journal.

Bodruddoza
Cumilla Diabetic Hospital, Bangladesh

Effects of metformin on type 2 diabetes mellitus

Metformin, a widely prescribed oral hypoglycemic agent, has been pivotal in managing Type 2 Diabetes Mellitus (T2DM). Its primary mechanism of action involves reducing hepatic glucose production, enhancing insulin sensitivity, and improving peripheral glucose uptake and utilization. Clinical studies have consistently demonstrated that metformin effectively lowers HbA1c levels by approximately 1-2%, thereby improving glycemic control. Additionally, metformin exhibits favorable effects on lipid profiles, including reductions in total cholesterol and low-density lipoprotein (LDL) levels, contributing to cardiovascular risk reduction. The drug also promotes modest weight loss or weight stabilization, which is particularly beneficial for overweight or obese patients with T2DM. Beyond glycemic control, metformin has been associated with potential anti-inflammatory and antioxidant properties, offering further protection against diabetes-related complications. Moreover, its low risk of hypoglycemia, when used as monotherapy, enhances its safety profile. Despite its benefits, metformin is contraindicated in patients with significant renal impairment due to the risk of lactic acidosis. Ongoing research continues to explore its broader therapeutic applications, including cancer prevention and treatment of polycystic ovary syndrome (PCOS). Overall, metformin remains a cornerstone in the management of T2DM, underscoring its multifaceted benefits in improving metabolic health.

Biography:

Dr. Bodruddoza, MBBS, CCD, is a dedicated Senior Medical Officer at Cumilla Diabetic Hospital in Bangladesh, where he has served with distinction for over 15 years. His extensive experience in diabetology has made him a trusted expert in managing both indoor and outdoor patients, providing comprehensive care for individuals with diabetes. Throughout his career, Dr. Bodruddoza has demonstrated a deep commitment to advancing his knowledge and skills in diabetology. He has actively participated in numerous scientific conferences around the world, including prestigious events in Greece, Turkey, and India. These experiences have allowed him to stay at the forefront of the latest developments in diabetes care, ensuring that his patients receive the most up-to-date and effective treatments. Dr. Bodruddoza's dedication to his field, combined with his compassionate approach to patient care, has earned him a reputation as a highly respected medical professional in his community. His contributions to diabetology and his ongoing efforts to improve patient outcomes continue to make a significant impact on the lives of those he serves.

[1]Saddam F. Kanaan
[2]Mohammad Emad Al-Natour
[1]Qatar University, Department of Rehabilitation Science, QU Health, Doha, Qatar, [2]Department of Rehabilitation Sciences, Jordan University of Science and Technology, Irbid, Jordan

The Effectiveness of Passive Physiological Intervertebral Movements in Patients with Cervicogenic Headache: A Randomized Clinical Trial

Various approaches are used to reduce Cervicogenic headache (CGH) pain intensity and frequency, but their effectiveness remains suboptimal. Passive physiological intervertebral movements (PPIVMs) are manual therapy techniques aimed at improving spinal segmental mobility. While PPIVMs have been used for various spinal conditions, their effectiveness on CGH has not been examined. To examine the effect of adding PPIVMs to therapeutic exercises on headache intensity and frequency, neck pain and disability, mental health symptoms, and quality of life in patients with CGH. Participants with CGH were randomized into two groups: the intervention group, receiving PPIVMs and exercise, and the control group, receiving only exercise. Each group underwent 6–8 treatment sessions over four weeks. Assessments were conducted at baseline, post-intervention, and three months follow-up. Outcome measures included headache intensity (numeric pain rating scale, NPRS), headache frequency (number of headaches per week), neck pain (NPRS), Neck Disability Index (NDI), Depression Anxiety and Stress Scale (DASS21), and short-form quality of life questionnaire (SF-12). Compared to the control group, the intervention group showed a statistically significant decrease in headache pain intensity ($p<.001$), neck pain intensity ($p<.001$), NDI ($p<.001$), stress score ($p=.029$), anxiety score ($p=.018$), depression score ($p<.001$), SF-12 physical component ($p=.001$), and SF-12 mental component ($p<.001$) at four weeks and three months follow-up. The study demonstrated the effectiveness of adding PPIVMs to therapeutic exercises as an evidence-based protocol for CGH. It showed improvements in headache and neck pain severity, mental health symptoms, and quality of life. Physiotherapists can incorporate PPIVMs into the care plan for CGH patients.

Biography:

Dr. Saddam F. Kanaan is an Associate Professor at Qatar University with a PhD in Rehabilitation Science from the University of Kansas Medical Center. He also holds an MSc in Applied Musculoskeletal Physiotherapy from Sheffield Hallam University and a BSc in Physical Therapy from Jordan University of Science and Technology. He has more than 40 peer-reviewed publications.

Ahmed Mohammed Salaheldin
Faculty of physical therapy, Cairo University, Egypt

Effect of cognitive and proprioceptive training in reoccurrence rate of rotator cuff tears in athletes

Rotator cuff tears are some of the most common injuries among athletes, studies suggest that approximately 69% of sports related injuries are rotator cuff partial or complete tears (Enger M et al 2019), the challenge we face is that up to one of four athletes experience recurrence after complete recovery (Migliorini et al 2023). We noticed that using precise cognitive and proprioceptive training to increase joint awareness might be very effective to prevent recurrence.

A trial was conducted upon 100 athletes after partial RCT, a control group which adheres to the general APTA guidelines of shoulder rehabilitation protocol (Group A) (50 athletes), and the second group had the same protocol with added PNF, NJF and Somatosensory Stimulation Training to their program, both groups were treated and trained for 12 weeks. Outcome measures included clinical assessments, ultrasonography to detect partial tears, and proprioception testing at baseline, mid-intervention, and post-intervention for other 12 weeks.

The intervention group showed a significant improvement in proprioception scores ($p < 0.05$) compared to the control group. Furthermore, the incidence of partial rotator cuff tears was significantly lower in the proprioceptive training group(B) (16%) compared to the control group(A) (30%) at the conclusion of the study ($p < 0.01$).

Proprioceptive training significantly lowers the occurrence of partial rotator cuff tears in individuals at risk. These results highlight the value of including proprioceptive exercises in injury prevention strategies for athletes and those engaged in repetitive shoulder movements.

*Paper yet to be published in Cairo University scientific journal, feel free to contact for more detailed information.

Biography:

Dr. Ahmed Salah has completed his master's degree from Cairo University in Egypt, post academic studies from Mulligan institute, comera institute, OMTA and other internationally accredited and well-established entities. With 9 years of experience in sports injuries, manual therapy and rehabilitation He is the director of MSR physical therapy center in Egypt, a senior in the teaching hospitals institution of Cairo university.

Mustafa Aydın
Galatasaray Football Clup Departmant of Psychological, Turkey

New Psychological Technological Treatment Methods Used After Injuries

In recent years, psychological support has become very important in treatment methods for sports injuries. In addition to the physical effects of injuries, psychological effects and these psychological effects also affect the course of treatment. During the rehabilitation process, athletes enter the mourning process psychologically because the first feeling experienced after a loss is sadness, missing a tournament/missing an Olympics/missing a match/missing a final match etc. etc. These are all losses, the same feeling as a person who loses a loved one. Athletes who receive psychological support are primarily supported in their mourning processes. However, new methods have come into play in recent years due to the influence of developing technology. In this speech, I aim to inform you about technological treatment methods used after injuries. The birth point of sports psychology is the knowledge that "the brain cannot distinguish between what it really sees and what it imagines". Thus, mental training and imagination methods have developed. In addition to athletes applying these methods in their own minds with as much imagination as possible, using materials such as VR and GoPro with the help of technology, watching their own training videos again through augmented reality activates the psychomotor skills in their brains during the injury process and prevents mental extinction behavior. I will share information by generously sharing such studies I have done at Galatasaray Football Club with the participants.

Biography:

AYDIN has completed 3 master's degrees. The first was in general psychology, the second master's degree was in movement and training sciences and finally he completed his master's degree in clinical psychology. He has been teaching as a lecturer at Istanbul University Faculty of Sports Sciences for 11 years. AYDIN has taught "sports psychology, mental training, mentoring in sports and psychomotor learning in sports". He has also been managing the sports psychology department at Galatasaray Football Club for 13 years. He provides psychological support to athletes in many different sports branches such as tennis, basketball, volleyball, football and swimming. He especially provides support to athletes during injury processes. Therefore, he works closely with physiotherapists and sports physicians.

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VIRTUAL PRESENTATIONS

DAY 2

Manisha Rathi
Principal, Khyati College of Physiotherapy, Ahmedabad, Gujarat, India

Effectiveness of Temporomandibular dysfunction correction exercises on Pain, Mobility and Disability among individuals having Mechanical Low Back Pain

Background: Individuals with temporomandibular dysfunction (TMD) are having higher probabilities of experiencing low back pain (LBP) than people without symptoms of TMD. Low back pain and TMD showed higher coexistence in clinical practice. Hence there is need to find the prevalence of TMD among the participants having mechanical LBP and then assess the added effect of TMD correction exercises apart regular conventional treatment protocol among participants with mechanical low back pain on pain, mobility and disability. Methods: After screening 54 participants with mechanical low back pain, 25 participants with TMD and LBP were selected. Helkimo index was used to diagnose TMD. Pain, flexion, extension and lateral flexion ranges of Lumbar spine and Oswestry disability index. In this experimental study, these participants were then randomly divided into two groups, conventional physiotherapy group (control group, n=12) and conventional physiotherapy along with TMD correction exercises (experimental group, n=13). were assessed before and after the intervention in both groups. Participants in both groups received treatment for 4 times a week for 2 weeks. Post assessment was carried out after 2 weeks. Results: Prevalence of TMD in mechanical low back pain was 51.85% (95 % CI : 0.388 – 0.646). Both groups showed significant improvement individually on pain, lumbar range and disability ($p<0.001$). When compared with each other, experimental group showed statistically more significant improvement on pain at activity and mobility (Flexion and lateral flexion) but pain at rest ($p=0.65$), lumbar extension range ($p=0.3$) and disability ($p=0.26$) did not show significant improvement. Conclusion: Participants having mechanical low back pain can be given TMD correction exercises as added treatment for better results. Due to the high prevalence, patients with mechanical low back pain need to be assessed for TMD and its correction exercises can be added as a routine treatment protocol.

Keywords: Helkimo index, temporomandibular Dysfunction, Disability, Pain

Mohamed Rizk Abdelwahab
Ultimate Care, Cairo, Egypt – El Masa El Thamina LTD, KSA

Introducing Gait Function Scale to Quantify the Capacity to Walk Independently from Least Functional to Most Functional

The scale quantifies independent reciprocal walking, depending on braces and assistive devices for specific distances. It included twenty-one patients who have neurological disorders, musculoskeletal injuries, old age, and diabetic foot; ages 26 to 77 years. The scale does not take into account pathological gait abnormalities such as waddling, hemiplegic, kinematic, or kinetic gait analysis. The GFS consists of seventeen levels, from zero for no independent reciprocal walking to level sixteen for walking twenty meters without braces and assistive devices. Results: According to the GFS, C5-6 quadriplegia has a score of 0, L3/4 paraplegia has a score of 5-, transverse myelitis has a score of 8-, diabetic foot elderly has a score of 8+, Parkinson, hemiparetic and paraplegic patients have a score 11-, multiple sclerosis and a postoperative total hip replacement have a score 11+, an elderly has a score 12, transverse myelitis has a score 12+, hemiplegia has a score 13+, transverse myelitis and hemiplegia have a score 15-, multiple sclerosis has a score 15, a post-operative ACL reconstruction patient and transverse myelitis have a score 15+, A Parkinson and hemiplegic patients have a score 16, a sensory ataxic and a post-operative knee replacement patients have a score 16+. Conclusion: The GFS provides an objective evaluation that quantifies independent gait. It acts as a road map to upgrade each level to the next. It aids in following up and evaluating the treatment and rehabilitation program.

Biography:

Mohamed Rizk Abdelwahab has completed his MSc at the age of 34 years from Cairo University School of Physical Therapy. He is the general manager of Ultimate Care Egypt and vice-chairman of El Masa El Thamina LTD Saudi Arabia. Former director of physical therapy department of Egyptian war victims and veterans association. Former director of ICHC inside elwafa welamal branch of Egyptian war victims and veterans association.

Uria Moran
Israel Defense Forces, Israel

Finger Flexion Mitten for Carpal Tunnel Syndrome (CTS).

Introduction: Ischemia of the median nerve causes CTS.

The cause may be pressure from outside in the carpal tunnel and /or stretch of the nerve, blocking blood flow.

Materials and Methods: Flexion of the proximal interphalangeal joints (PIPJS) causes the tendons of flexor digitorum superficialis to withdraw proximally. The excursion is 4 cm from full extension to fingertip to palm touch, distancing the thick musculotendinous junctions from the entrance of the tunnel. This reduces the tendon bulk in the tunnel. Flexion at the metacarpophalangeal joints (MPJS) causes the palm to be soft and pliable reducing the antero-posterior pressure exerted on the tunnel anterior wall by the palmar aponeurosis when the fingers are straight. This creates optimal space in the tunnel. These flexed finger positions slacken the stretch exerted on the median nerve in the tunnel by the digital nerves when the fingers are straight. Velcro strips were added to mittens. When pressed together these strips hold the tips of the fingers close to the palm in the desired flexion positions which maximize the space in the tunnel, decrease the tendon bulk within, and slacken the nerve.

Preliminary clinical trial: 27 cases of CTS suffering from night pain and night wake-ups were given mittens to wear throughout the nights. The Boston Carpal Tunnel Questionaire (BCTQ) was used for assessing and grading the results after 1 month.

Results: 16 cases no pain wake up --BCTQ grade 1. Seven cases still woke up once with slight pain-BCTQ grade 2. Four cases still woke up 3-4 times with moderate to strong pain ---BCTQ grade 4 (surgical treatment recommended). All but the 4 failed cases continue to wear the night mittens. We are continuing with more cases and improving the comfort and convenience of the mittens.

Conclusions: of the preliminary clinical trial: The finger flexion mitten shows great promise for the amelioration of night pain and wake ups in carpal syndrome mild to moderate cases.

Maryam AlMahruqi
Senior Physiotherapist National Physiotherapy Focal Point @ Ministry of Health Oman, Oman

Oman rehabilitation transformation

In Oman, a phased, innovative approach to *pediatric rehabilitation* is transforming the care of children with developmental disabilities and motor impairments. This initiative, led by the *National Focal Point for Physiotherapy Services, began in August 2024 with the launch of the first integrated training program between the **Ministry of Health (MOH)* and the *Ministry of Social Development (MOSD). The focus is on **standardizing pediatric rehabilitation* by incorporating well-established approaches such as *Bobath, manual therapy, cage therapy, and oral motor training, ensuring that care providers across both ministries deliver **consistent, high-quality care*.

This *collaborative model* addresses the challenges of *service duplication, creating **equity in care* and promoting *early intervention* to achieve better outcomes. By streamlining rehabilitation practices, this phase of the project enhances *service efficiency* and establishes a foundation for *long-term cost savings* within Oman's healthcare system.

Looking toward the future, the second phase—planned for 2026—will integrate *advanced rehabilitation technologies, including **tele-rehabilitation platforms, **AI-driven therapies, and **robotic-assisted rehabilitation, across both ministries. This will align Oman's rehabilitation services with the **World Health Organization's guidelines* and the *Rehabilitation Alliance's call for action, advancing care standards. This presentation will showcase how these innovations will make pediatric rehabilitation more **accessible, **equitable, and **cost-effective, ultimately positioning Oman as a leader in **technology-driven, patient-centered rehabilitation*.

Silverio Di Rocca
M.P.R International School, Switzerland

Clinical Posturometry for Diagnosis, Treatment Planning, and Follow-Up in Health Sciences

In this workshop, we will explore the full potential of clinical posturometry for diagnosis, treatment planning, and follow-up in all health sciences. The Posturometer is an easy-to-use and interpret tool, essential for professionals looking to advance their clinical practice.

Workshop Structure:

- Basic Concepts of Clinical Posturometry
- Understanding the Posturometer
- Basic Diagnostic Tests
- Identifying Different Sensory Dysfunctions
- Oculomotor System
- Masticatory System
- Podal Support
- Biochemistry and Internal Environment
- Projecting a Treatment Based on Diagnosis
- Practical Application on Each Topic

This fascinating and practical workshop will equip you with crucial knowledge to enhance your daily practice.

Biography:

Silverio Di Rocca has completed his Graduation in Dentistry and Post-graduation in Functional Orthopaedics from University of Buenos Aires, Argentina. He has also done a degree in Dentistry and Prosthetic at the University of Turin, Italy and a Doctorate in Dentistry and Prosthetic at University of Turin, Italy. He is the Director of the MPR International School, Vice President, International Representative and Founder of API Swiss (International Association of Posturology, Switzerland). He is also a Professor in Amocoac Diplomate in Mexico and COMEI, College of Dentistry in Mexico, Associate Professor in ICOM (International College of Osteopathic Medicine) Milan, Italy and an International Honorary Member of AMOCOAC.

Isabel Stolz
German Sport University Cologne (GSU), 50933 Cologne, Germany

Sports specific performance diagnostics meets health monitoring – Perspectives for individualized performance development in youth sports based on insights of a comprehensive diagnostics approach with youth athletes in Germany

Individualized training strategies are playing an increasingly important role in competition- oriented sport. Research findings from the past years have shown that training load leads to varying strain responses and adaptions in different individuals, especially in regard to developmental characteristics (Zinner & Sperlich, 2022, Ferrauti et al., 2020). For the healthy performance development, it is important to objectively record the type of stimulus induced in training (e.g. in watts or speed) and its duration, frequency and intensity, plus internal strain (heart rate (HR), lactate, rate of perceived exertion (RPE)). Furthermore, modulators as sleep, nutrition, regenerative measures and psychosocial factors such as stress, travel, etc. should be included for a comprehensive view (Zinner & Sperlich, 2022). Also, more precise information on training quality becomes available, if training data is closely and correctly monitored and training journals are completed, which represents a significant addition to athlete-coach communication in training processes (Wang, Liu, Wang & Wang, 2023). In this oral contribution, perspectives for individualized performance development in youth sports based on the example of a comprehensive diagnostics approach with paralympic youth athletes in Germany will be discussed. Combined measurements of RPE and HR and also potentials of RPE and Training impulse (TRIMP index score by Banister, 1991) show promise to assess athlete's internal load live during training via novel app- and sensor-based digital technology (Yang et al. 2024). Furthermore, innovative potential of digital assessment technology for the usage in youth sports are addressed.

Keywords: assessment, health, performance, technology, youth sports.

Biography:

Dr.Sindhushree Srinivas MBBS ,MD , DNB pediatrics. Pursued her MD in Dr ram Manohar Lohia hospital,New Delhi. Clincal Isabel Stolz is a Researcher at German Sport University Cologne in Germany - Institute of Movement and Neurosciences. Her research interests lie in the area of diagnostics and assessment in sport and exercise science, including technology and movement interventions. She is interested in motor development through sports in children and youth sports and the development of athletic and performance-related abilities. Past research projects included the development and validation of a digital assessment tool (app) in the field of movement therapy for children and adolescents, as well as adult clinical populations. Her current project analyzes metabolic load via comprehensive performance diagnostics with elite para dressage athletes from the German National Youth Squad.

Sedegheh Malek Mohammadi
Orthotics and Prosthetics Research Clinic, Tehran, Iran

Plantar Fascia Properties in Physical Medicine and Rehabilitation of the Lower Limb

It has been accepted plantar fascia thickness is a biomechanical variable.

Plantar fascia has long been connected to the kinematics and kinetics qualities of the ankle and foot.

The objective of this research is better understanding the specific properties of the plantar fascia in physical medicine and rehabilitation of the lower limb simultaneously.

Method: 1) Analyze the previous studies and methods about plantar fascia properties. 2) To find a method to study mechanical properties of the plantar fascia in living individual in static and locomotion. 3) Plan of investigation was designed to recognize each location of the plantar fascia along its length on both feet / legs.4) Applying the collected data in physical medicine and rehabilitation schedule of the lower limb.

The outcome of this research can be resulted in arranging a physical medicine and rehabilitation schedule of the lower limb according to the properties of the body of living individual, as close as possible. Additionally, rehabilitation schedule can be more effective and secondary problems can be decreased, also.

Biography:

I am faculty of orthotics and prosthetics. My experience in the area of research, teaching in University, clinical experiments, measuring and reviewing papers is more than 28 years. I have done research in the area of plantar fascia qualities and its connection with the ankle and foot structure and function in living individual. I have experience of working with Ultrasound machine to design a methodology to identify each location of the plantar fascia along its length and its equivalent location in the opposite foot to quantify the amount of the vertical load (body weight) applied in static and locomotion.

Ana Murray
University of Sao Paulo, Brazil

Simple is better for the physiotherapist's clinical assessment of Duchenne Muscular Dystrophy- Thesis Conclusion

Objective: Characterization of respiratory function to explore values related to respiratory muscle strength: forced vital capacity and maximal respiratory pressures, in a Brazilian sample of people with DMD.

Method: Retrospective, cross-sectional and observational study. Data from 231 medical records of people with DMD aged between 9 and 18 years old, diagnosed by DNA testing and being followed up by the Physiotherapy Service of the Center for Human Genome and Stem Cell Studies, Biosciences Intitute, University of São Paulo. Descriptive statistics were used for data analysis and forthe evaluation of normality, The ShappiroWilk test, The Kolmogorov-Smirnov and Lilliefors test were used to compare the means found. Speramn´s test was used tocorrelate yhe variables, and finally, to compare agerelated variability, our sample was subdivided by age grou pinto G1: age 9 to13 years old and G2: age 14 to 18yearsold. This distribution was considered normal by T and MannWhitney tests. In this study, we did not have multicolinearity, and the resulto f the multiple regressionanalysis was simple regression.

Results: Positive correlations were found between the measures evaluated, and the values found are like those presented in the literature, which show data from population samples from different continents. Patients aged 14 to 18 years had significantly lower MEP (23%) when compared to the group aged 9 to 13 years; as well as in relation to FVC values, (33%). It was possible to establish predictive formulas from each of the studied variables.

Conclusion: Our study shows that the population we have been studing, as a brazilian sample, present similar behavior of the respiratory function as the population in Other countries. Predictive formulas can help to facilitate the clinical-functional assessment routine.

Biography:

PhD in Rehabilitation at the University of Sao Paulo. Master in Rehabilitation for the São Paulo School of Medicine of the Federal University of Sao Paulo - UNIFESP/EPM. Specialist in Clinical and Hospital Motor Physiotherapy for the UNIFESP/EPM. Specialist in Chiropractic. Specialist in the Kabat Method for the Institute of Rehabilitación Marcelo J. Fitte, Buenos Ayres, Argentina. Specialist in Heart diseases in the Physiotherapy for the Society of Cardiology of the State of São Paulo - SOCESP. Courses of formation in Neural Mobilization, Trigger Points, Dry Needling, Ayurveda Medicine, Muscle-Articulate Re-education. Graduated in Physiotherapy for the University of ABC, Santo Andre, Brazil. Graduated in Physical Education for the College of Physical Education of Santo Andre, Brazil. With 30 years of formation, 28 years of experience as a University Teacher, it gives specializes courses in Physical Education and Physiotherapy since 1998

Ekta Kharde
MGM School of Physiotherapy, Chhatrapati Sambhajinagar-431001, Maharashtra India

Effect of metaverse - A virtual reality training on dynamic and static surfaces to enhance postural sway control and ankle muscles strength among fencer athletes

Introduction: Fencing is a sport that demands precise postural sway control to maintain stability and execute accurate movements. VR technology has emerged as a potential tool for enhancing athletic performance by providing immersive training environments. This study aims to investigate the impact of Metaverse, a VR training platform, on postural sway control and ankle muscle strength evaluated by the balance master, toe pro dynamometer and push pull dynamometer.

Methods: A randomized clinical trial was conducted involving 30 fencer athletes from various skill levels. Participants were randomly assigned to the treadmill walking group and the ground walking group and were engaged in VR training sessions that simulate dynamic and static surfaces, designed to challenge postural control and ankle muscle strength. Pre- and post-intervention assessments was evaluated for postural sway measurements using force plates on balance master. Ankle muscle strength was evaluated by toe pro dynamometer and push pull dynamometer.

Results: Anticipated outcomes included improved postural sway control in fencer athletes who undergone Metaverse VR training in treadmill walking group. It was hypothesized that the immersive and interactive nature of the VR training will provide a unique stimulus to the athletes, leading to greater engagement and adaptability. The VR treadmill walking training group has shown more conventional improvements in postural control and ankle strength.

Conclusion: The findings may offer insights into novel training methodologies that combine technological advancements with sports-specific demands, paving the way for innovative training approaches.

Keywords: Virtual Reality, fencer athletes, postural sway control

Biography:

Ekta Kharde has completed her Master of Physiotherapy (MPT-Sports) from MGM University Maharashtra, India. She is a Junior Research Fellow at Guru Nanak Dev University, Punjab, India. She has published more than 10 papers in reputed journals and has served as a Physiotherapist at Asian Games in Lawn Tennis held at Chhatrapati Sambhaji Nagar 2024.

Susan M Blum
Susan Blum Pediatric Physical Therapy, Philadelphia PA, USA

Changing Lives Healing with Ease: TMR -Total Motion Release Pain Free Trauma Informed Treatment of CP & Torticollis

Traditional treatment of limitations in range of motion is stretching. Most recent studies in fascial science support the option of shortening tissues to gain range of motion.

TMR Tots & Teens is an innovative treatment concept that treats mobility and alignment challenges in patients of all ages for birth to 100.

TMR treatment uses a modified patient generated Counterstrain and muscle energy/ contract relax principles to shorten tissues, improve extensibility and range. For patients not yet able to contract muscles independently the therapist listens to the response of their body and follows the patient into positions of ease and comfort. When patients are able to assist, the therapist guides them deeper into ranges of comfort to shorten and gain range. Because the motion is only in directions of ease there is no possibility of undue stretching, micro-trauma to the tissues, increased neural tension and stress. Patient driven treatment insures feelings of safety and control plus respect for patient's autonomy.

As medical professionals we are called to Do No Harm! In this presentation we will discuss a less invasive option to eliminate painful stretching from our treatment. Case examples will be presented to illustrate the unprecedented progress seen when patients and families are empowered to utilize the TMR concept.

Biography:

Susan Blum is the is the creator and lead instructor for the TMR Tots and Teens educational programs. She is a pediatric physical therapist in Philadelphia PA. Susan teaches seminars and coaches physical therapists and caregivers worldwide. She serves as a CEO mentor for the Wired -on -Development therapist collective. In October of 2021 Susan was awarded the Pediatric Special Interest award of excellence by the PAPTA in appreciation for outstanding contributions to the pediatric physical therapy profession.

[1]Siththi Fathima Ilma Osman Sedar
[2]Dr. Chaturanga Ranasinghe
[1]Post Graduate Degree/ MSc in Health Development, Faculty of Medicine, University of Colombo, Sri Lanka
[2]MBBS (Col), D.Sp.Med. (Col), Ph.D. (Aus), Senior Lecturer- Sports and Exercise Medicine Unit and Department of Allied Health Sciences, Faculty of Medicine University of Colombo, Sri Lanka

Application of a Supervised Muscle Strengthening Exercise Intervention on Hand Grip Strength in Cerebral Palsy patients and Evaluation of the Immediate Post-intervention and Short term follow up results: A Randomized Controlled Trial

Introduction: Application of a Supervised Muscle Strengthening Exercise Intervention on Hand Grip Strength in Cerebral Palsy patients and Evaluation of the Immediate Post-intervention and Short term follow up results: A Randomized Controlled Trial

Sedar SFIO1 , Ranasinghe DC2,3

[1]Post Graduate Diploma in Health Development, Faculty of Medicine University of Colombo

[2]Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka;

[3] School of Exercise and Nutrition Sciences, Faculty of Health, Queensland University of Technology Australia

Introduction: Cerebral palsy (CP) is known to cause the motor and sensory impairments which result in compromised arm and hand function. Application of supervised hand strengthening exercises and its outcomes on hand function are limitedly studied in CP children living in the western province of Sri Lanka.

Objectives: To determine the effects of a supervised exercise program on pre-intervention, post-intervention, and a 4-week post-intervention follow-up in CP patients and to compare the effect of the exercise program with standard care without exercise.

Methods: A randomized control trial allocated CP patients (aged 11- 22 years) attending NISANSALA clinic Ja-Ela, The patients were randomly divided into an intervention group (IN) and a control group (CN). A supervised handgrip exercise program was followed by the IN group for 30 minutes, two times per week for 8 weeks in addition to the standard physiotherapy care. CN followed only standard physiotherapy care. Pre-intervention, immediate, and 4-week post-intervention follow-up handgrip strength were measured and compared between groups.

Results: Results indicated that participants from the intervention and control group showed good to excellent reliability during pre-test and post-test. The mean age of the sample was 16.8 (±5.3) years (n=40 male/ female 22/18). The baseline means grip strength of the IN: right hand (RH) 13.3 (±5.3) kg, left hand (LH) 12.3 (±5.7) kg. CN: RH 12.3 (±6.1) kg, LH 12.9 (±5.2) kg. Post-intervention means grip strength of IN: RH 14.9 (±5.4) kg, LH 14.9 (±5.5) kg, CN: RH 12.6 (±5.3) kg, LH 13.2 (±5.7) kg. The absolute mean change in strength was statistically significant for IN (P= 0.041). Post-intervention 4-week follow-up, mean grip strength: IN: RH 12.1 (±3.3) kg, LH 12.2 (±3.6) kg. CN: RH 12.2 (±5.6) kg, LH 12.1 (±4.3) kg returned to baseline.

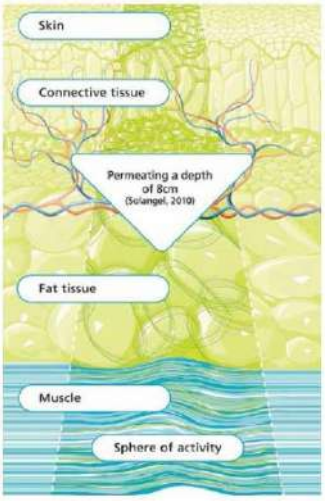
Conclusion: The study indicates evidence that the intervention exercise program improved grip strength in CP patients, but the discontinuation of the program shows a reduction of grip strength to its baseline. Limitations in methodology such as the duration of the intervention and larger sample size would provide a more statistically significant result.

Keywords: Cerebral Palsy, Intervention, Exercise program, Grip Strength, Randomized Control Trial

Soheil Mansour Sohani
Associate professor of physical therapy Iranian Center of Excellence in Physiotherapy, Rehabilitation Research Center, Physiotherapy Dept., School of rehabilitation sciences, Iran University of Medical Sciences, Tehran, Iran

Low-Intensity And Extremely Low Frequency Electrostatic Fields (Deep Oscillation®)

Deep Oscillation® therapy is a relatively new physical modality. It is based on the Johnsen- Rahbek effect, expressing the force of attraction between the contacts materials as a function of the voltage applied between them. When an electric potential is applied between a metal surface and a semiconductor material in biological tissues, forces of electrostatic attraction and relaxation are created, and a soft-acting oscillation occurs in depth, which covers all tissues. (Locheva et al. (2019)) Deep Oscillation® therapy is a patented method, based on low-frequency variable electrostatic field. As a result of its application in depth of the treated area, a vibration of the affected area tissues occurs. (Zehtindjieva et al (2013); Kulikov A.G. et al. (2019)) According to the data from previous studies, the clinical effects include: analgesia in acute and chronic pain of different etiology (Jahr S. et al. (2008); Aliyev R. (2009); Fistetto G. et al. (2011); Hernández Tápanes. S. (2012); Hernández Tápanes S. et al. (2018): Kraft K. et al. (2013); Reinhold J. et al. (2014); O'Brien C.P. & Watson A. (2016); Vladeva E. et al. (2021)) anti-inflammatory effect; Boisnic S. & Branchet MC (2013)) primary or secondary lymphedema reduction (Mikhalchik E. et al. (2005); Jahr S. et al. (2008); Fistetto. G. et al. (2011). Teo I. et al. (2016)) prevention in the process of fibrous remodeling, fibrosis reduction, (Gao Y.C. et al. (2015); Hernandez. Solangel et al. (2018); Gasbarro V. et al. (2006)) muscle relaxation and fascial mobilization, range of motion improvement, (Jahr. S. et al. (2008); Hernández Tápanes. S. et al. (2012); Aliyev R. et al. (2008); Hinman MR. et al. (2013) Winkelmann Z.K. et al. (2018)) supporting the wound healing process, (Mikhalchik E. et al. (2005); Trybulsky. R. (2008); Reinhold J. et al. (2014)) accelerating recovery after exercise, decongestion, and functional improvement in obstructive pulmonary conditions (Reinhold J. (2017)).



Biography:

Soheil Mansour Sohani completed his BSc. In physiotherapy from TUMS, MSc. and Ph.D. from IUMS in Tehran, Iran. He is an assistant professor and lecturer at Physiotherapy Dept., School of Rehabilitation Sciences, Iran University of Medical Sciences, and Tehran, Iran. He has had many workshops (during past eight years) around his country and several webinars (during 3 years ago). He had online presentation in past Online Conferences, October 28-29 2020, titled:" Shockwave Therapy: Radial vs. Focused" and April 12-13 2021, titled:" Radiofrequency in musculoskeletal pain" and October 15-16 2021, titled:" Mulligan concept of manual therapy" and November 28-29 2022, titled: "Light therapy in neuromusculoskeletal pain".

Konstantinos Mylonas, Georgios Chatzis, Vasiliki Makrypidi, Georgios Chrysanthopoulos, Georgios Tsirogiannis, Andreas Sofoulis, Maria Tsekoura, Konstantinos Fousekis

University of Patras, Physical Therapy Dept, Greece

Assessing the Reliability of Four Trained Examiners in Evaluating Forward Head Posture Using Photogrammetry in University Students

Forward head posture (FHP) is a common postural deviation that has been linked to various musculoskeletal disorders, including neck pain, headaches, and upper crossed syndrome. Assessing FHP accurately is crucial for preventing and treating these conditions. Photogrammetry, a non-invasive and cost-effective method for posture analysis, is increasingly being utilized for its simplicity and reliability. This study aimed to examine the reliability of four trained examiners in assessing forward head posture using photogrammetry. A total of thirty university students (aged 20-25) participated in this study. The four examiners, who were trained in postural assessment techniques, placed reference markers on specific anatomical landmarks on the participants' bodies. They then captured images of each participant's profile using mobile phones. These images were processed using photogrammetric software to calculate the head displacement angles, which served as the primary data for analysis. Inter-rater reliability was measured using intra-class correlation coefficients (ICC), and the data were analyzed using SPSS software. The results demonstrated excellent agreement among the four examiners, with ICC values of ICC1 = 0.98, ICC2 = 0.98, and ICC3 = 0.98. These findings suggest that the photogrammetric assessment of forward head posture is highly reliable, ensuring consistent measurements across different examiners and repeated evaluations. In conclusion, this study confirms that photogrammetry is a highly reliable tool for assessing FHP when performed by trained examiners. Its ease of use, combined with its high reliability, makes it a valuable method for both clinical and research applications in monitoring and managing posture-related disorders.

Biography:

Konstantinos Mylonas is a PhD candidate in the Department of Physiotherapy at the University of Patras. His research interests focus on the assessment of posture and advanced soft tissue techniques, where he has made significant contributions through multiple publications. Mylonas has developed expertise in evaluating postural deviations, such as forward head posture, and applying innovative techniques for treating musculoskeletal conditions. His dedication to advancing physiotherapy practices has led to several studies aimed at improving therapeutic outcomes.

Konstantinos Mylonas, Pavlos Angelopoulos, Georgios Chrysanthopoulos, Georgios Tsirogiannis, Andreas Sofoulis, Maria Tsekoura, Konstantinos Fousekis
University of Patras, Physical Therapy Dept, Greece

Evaluating Inter-Rater Reliability in Sway-back Posture Assessment Using Photogrammetry Among University Students

Sway-back posture, a postural deviation characterized by an excessive curve in the lower spine and forward displacement of the pelvis, is often associated with a heightened risk of musculoskeletal disorders such as lower back pain. Accurate assessment of swayback posture is essential for early diagnosis and effective treatment. Photogrammetry, a non-invasive and affordable technique, has been widely used in posture evaluation due to its reliability and ease of application. This study aimed to investigate the reliability of four independent examiners in assessing swayback posture using photogrammetry.

Thirty university students (aged 20-25) participated in this study. Four trained examiners placed reference markers on specific anatomical landmarks of the participants' bodies to define critical points for assessing posture. Photographs were taken using mobile phones and processed with photogrammetric software to calculate swayback posture angles. Intra-class correlation coefficients (ICC) were used to determine inter-rater reliability, and the data were analyzed using SPSS software.The reliability analysis revealed excellent agreement between the examiners, with ICC values of ICC1 = 0.99, ICC2 = 0.99, and ICC3 = 0.99. These results demonstrate near-perfect reliability, confirming that photogrammetry is a consistent and reliable method for assessing swayback posture across multiple examiners.

This study concludes that photogrammetry is a highly reliable tool for evaluating swayback posture when conducted by trained examiners. Its consistent results across raters make it a valuable technique for both clinical and research purposes.

Biography:

Konstantinos Mylonas is a PhD candidate in the Department of Physiotherapy at the University of Patras. His research interests focus on the assessment of posture and advanced soft tissue techniques, where he has made significant contributions through multiple publications. Mylonas has developed expertise in evaluating postural deviations, such as forward head posture, and applying innovative techniques for treating musculoskeletal conditions. His dedication to advancing physiotherapy practices has led to several studies aimed at improving therapeutic outcomes.

Anastasios Koumpetsos, Margarita Iliopoulou, Pavlos Angelopoulos, Georgios Chrysanthopoulos, Andreas Sofoulis, Sofia Lampropoulou, Eftichia Trachani, Konstantinos Fousekis
University of Patras, Physical Therapy Dept, Greece

The Role of Therapeutic Exercise in the Rehabilitation of Patients with Parkinson's Disease: A Literature Review

Parkinson's disease is a progressive neurodegenerative disorder that affects motor control, leading to significant motor and non-motor dysfunctions. Therapeutic exercise has emerged as a key non-pharmacological intervention that can improve both motor function and the overall quality of life for patients. This review aims to examine the role of therapeutic exercise in the rehabilitation of individuals with Parkinson's disease through a systematic analysis of the current literature.

This review evaluates 30 clinical studies published in the past decade that explore the relationship between therapeutic exercise and improvements in motor function and quality of life in patients with Parkinson's disease. The studies were selected through a systematic review of databases such as PubMed, Scopus, and Cochrane. Selection criteria included studies focused on exercise-based rehabilitation for Parkinson's patients, while those lacking clinical data or not focused on rehabilitation were excluded.

The studies demonstrate that various forms of therapeutic exercise, such as aerobic training, resistance exercise, and balance training, significantly improve motor function and overall quality of life in Parkinson's patients. Patients who participated in structured exercise programs exhibited slower disease progression compared to those who did not engage in such programs.

Therapeutic exercise appears to be an effective intervention in the rehabilitation of patients with Parkinson's disease, enhancing motor function and slowing disease progression. However, further long-term studies are required to define optimal exercise protocols and to better understand the mechanisms by which therapeutic exercise improves motor function in these patients.

Biography:

Anastasios Koumpetsos is a PhD candidate in the Department of Physiotherapy at the University of Patras. He has expertise in neurological rehabilitation, and his research interests focus on the application of therapeutic exercise in the rehabilitation of patients with neurological disorders. Koumpetsos has made significant contributions through multiple publications, particularly in the use of therapeutic interventions aimed at improving motor function and quality of life for patients with conditions such as Parkinson's disease. His work is dedicated to advancing rehabilitation practices and optimizing therapeutic outcomes in neurological rehabilitation.

Anastasios Koumpetsos, Margarita Iliopoulou, Pavlos Angelopoulos, Konstantinos Mylonas, Andreas Sofoulis, Sofia Lampropoulou, Eftichia Trachani, Konstantinos Fousekis

University of Patras, Physical Therapy Dept, Greece

Electromyographic Evaluation of the Superficial Back Line During the Application of Movement and ERGON IASTM Technique on Distant Parts in Healthy Adults

The study of myofascial adaptations and fascial pathologies has gained significant attention in recent years. Fascia is a fibrous tissue network that permeates the entire body, creating myofascial continuities (lines) that surround, support, suspend, protect, connect, and divide muscular, skeletal, and visceral structures. It has been proposed that energy transfer can occur through these myofascial continuities to distant parts of the body. Although some studies support this hypothesis theoretically, clear scientific evidence remains limited. This study aims to evaluate electromyographically the activation of distant points on the superficial back line during active and passive movement, isometric contraction, and the application of ERGON IASTM Technique.The study involved 30 healthy adults (11 women, 19 men) with an average age of 25 years. Electromyographic (EMG) evaluation was performed on eight different muscle groups along the posterior line during various movements and techniques, such as active and passive ankle dorsiflexion/plantarflexion, isometric contractions, and soft tissue techniques on the foot's plantar flexors.The findings indicate significant energy transfer during all six conditions compared to the baseline. Specifically, EMG activation during ankle dorsiflexion, isometric contraction, and neck extension was significantly higher at all points of the posterior line. The study supports the hypothesis of energy transfer through myofascial continuities. Further research is required to validate these findings and contribute to the development of new therapeutic programs.

Biography:

Anastasios Koumpetsos is a PhD candidate in the Department of Physiotherapy at the University of Patras. He has expertise in neurological rehabilitation, and his research interests focus on the application of therapeutic exercise in the rehabilitation of patients with neurological disorders. Koumpetsos has made significant contributions through multiple publications, particularly in the use of therapeutic interventions aimed at improving motor function and quality of life for patients with conditions such as Parkinson's disease. His work is dedicated to advancing rehabilitation practices and optimizing therapeutic outcomes in neurological rehabilitation.

Areej Al Abdulrahman
Rehabilitation Department, King Abdul-Aziz Medical City – Saudi Arabia)
Supervisor of Physiotherapy in KASCH, Riyadh

Feeding, swallowing and breathing management in preterm babies

Prematurity is one of the significant factors for infants' hospital admission. The oral feeding of preterm neonates concerns healthcare providers and parents. Feeding has a considerable effect on the child's growth and development. (Pereira et al, 2020) Feeding and swallowing are significant factors for preterm Health and readiness for hospital discharge decisions. Many specialties from healthcare providers intervene according to their part in solving the feeding and swallowing problems. Each specialty has an intervention, protocols, and guidelines for feeding stimulation and activation. In this review, a summary of the best interventions will be presented. Also, any extra interventions from other specialties, such as the Osteopathic approaches, will be included. Some of the interventions studied in the literature are oral and non-oral sensorimotor stimulation, oral motor stimulation, multi-stimulation, and positioning for feeding. In addition, many comparisons were made between non-nutritive sucking with a gloved finger, breath interaction, and phase of respiration with swallowing during the non-nutritive sucking. (Moreira et al, 2014)

Most systematic reviews and literature contradict their results regarding the best intervention for feeding and swallowing stimulation. This review summarizes the literature on recent approaches used to improve feeding to have better effects on preterm babies. Besides, weight gain and length of stay in the hospital are essential for any discharge decision. (Thakkar et al, 2018) Another critical factor is to judge the readiness of each preterm to start the feeding prerequisites and what prerequisites should be available to initiate this experience.

Biography:

Areej Al Abdulrahman has completed her BSc in Physical Therapy from King Saud University and MSc from Liverpool University in Clinical Research Administration. She is the initiator of the Early Intervention Program for the neonates from NICU until Outpatient services, Supervisor and Neurodevelopment therapist NDT, Osteopathic practitioner and certified in Prechtl's General Movement Assessment.

Dr. Roopa Desai
Dr. D. Y. Patil Vidyapeeth Pune, India

Effect of Surya namaskar on Lipid Profile of People with Different Body Mass Index: An Experimental Study

The purpose of this study was to find the effect of Surya namaskar on the lipid profile of individuals with different BMI. Forty-five participants were divided into three groups of 15 in each group according to their BMI (Normal, Overweight and Obese). All participants were informed to perform 10 Surya namaskars for 3 alternate days a week for 12 weeks and their fasting blood samples were collected at the beginning of the intervention and at the end of 12 weeks to observe for the difference. Individuals with Normal BMI showed significant difference in cholesterol, triglycerides, LDL, HDL, or VLDL levels before and after the intervention ($p > 0.05$). In Overweight individuals there was a significant decrease in total cholesterol levels ($p = 0.009$) triglyceride levels ($p = 0.029$), HDL levels significantly decreased ($p = 0.032$) and VLDL levels ($p = 0.021$). There was no significant change in LDL levels ($p = 0.078$). In Obese individuals, total cholesterol levels significantly decreased ($p = 0.011$), LDL levels significantly decreased ($p = 0.005$) after intervention. However, there was no significant change in triglyceride levels ($p = 0.776$), HDL levels ($p = 0.551$), or VLDL levels ($p = 0.733$) after the intervention in obese individuals. The study provides evidence for the effect of Surya Namaskar on lipid profile based of people with different BMI status, with statistically significant improvements observed in overweight and obese individuals. Incorporation of Surya Namaskar into lifestyle can aid in the prevention and management of dyslipidemia and cardiovascular disease, while emphasizing the importance of a healthy, cost-effective approach to health promotion.

Biography:

Dr. Roopa Desai, Professor, Dr. D. Y. Patil College of Physiotherapy, Dr. D. Y. Patil Vidyapeeth Pune, India. She has total 18 years of academic experience. She has completed her PhD from Dr. D. Y. Patil Vidyapeeth, Pune, India. She has published more than 35 papers in reputed journals. Also, has presented research papers in many National and International Conferences. She has 2 patents and 1 copy right in her credit. She is a Certified Aerobic Instructor and Pilates instructor. Her area of interest includes Research, management of Spine conditions, Movement Control.

Index

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