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Proceedings of

International E-Conference on

PHYSIOTHERAPY, PHYSICAL REHABILITATION AND SPORTS MEDICINE

September 02-03, 2021 I Webinar

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NOTE:

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DAY 1

KEYNOTE SPEAKERS

Dr Joan van Rotterdam, Professor Michael J. Hensley and Professor Michael Hazelton
University of Newcastle, Newcastle, Australia

Chronic Pulmonary and Chronic Cardiac Rehabilitation: Staff Perspectives and Patient Experiences

Cardiac (CR) and Pulmonary Rehabilitation (PR) programs have been shown to enhance self-management, improve quality of life and decrease dependence on healthcare services. Patient Outcome Measures(POMs) such as Quality of Life (QoL) questionnaires are essential to evaluate these programs' ability to measure treatment effectiveness. However, many of the present QoL instruments either underestimate or overestimate the response to the change in health status in these programs. This qualitative descriptive study sets out to analyse discussions by patients and staff engaged in CR and PR. These discussions occurred both pre and post program to compare and contrast what changes for these patients. The data for this study was collected both pre and post program, from those patients and staff participating in outpatient CR and PR programs. Focus groups and individual interviews were audio-taped and transcribed verbatim. Transcripts were analysed, tabulated and coded for common themes, then a cohesive story was formulated to explain the concepts put forward. Patients and staff discussed some common themes however terminology was different between the two groups. There is also a change in patient's perspective from pre to post rehabilitation, patient's expectations change from wanting to get back to a "normal" state of health to accepting living within "certain limits". This qualitative study clearly shows a "Response Shift" in patient perceptions pre to post CR and PR program and that language used by patients is very different to that of health staff and often is different to present POMs used in these programs.

Keywords: Respiratory rehabilitation; Cardiac rehabilitation; Quality of life; Questionnaire development; Patient outcome measures

Biography:

I completed my PhD in 2019 and am slowing down in my private practice. I have enjoyed a varied work life with 35 years in private practice and 25 years in the health research area as project officer and researcher with knowledge and experience of both quantitative and qualitative research methods and analyis. I also have 15 years experience in health administration as a practice manager in a private rehabilitation specialist practice. Presently I am the Chair of the Aboriginal and Torres Strait Islander Practitioner's Network (ARRPN) for the Australian Chiropractors Assocaition (ACA), I represent the ACA as a member of the National Rural Health Alliance (NRHA) and I chair the board for Hands on Health Australia (HoHA) a not for profit organisation.

Danilo Demarchi
Politecnico di Torino, Italy

Bio-Inspired Electronics for Rehabilitation Medicine

Rehabilitation Medicine is nowadays demanding new approaches to electronic devices. Wearable systems are the new horizon for allowing homecare solutions and long-term monitoring, also during the everyday life of the patients. With these targets, power consumption and reliability of electronics are the implementation keys. It is strategic to find new approaches for the design of rehabilitation devices, with an impact at system level, not on the single parts only, but on the global structure: system optimisation is done as a consequence of the choices related to how the single devices are working, associated to how they interact each other and they transmit the information. The two levels (system and device) are strictly related, and design choices have to be made to optimise the system as a global entity. For these reasons, it is a good idea to take inspiration from the biological systems, applying a merge of the techniques born in recent years and exploiting them to reach the best tradeoff between quality (performance) and power consumption. In the talk will be presented rehabilitation devices designed with a Bio-Inspired approach, targeting self or remote rehabilitation. The systems that will be presented do a gesture interpretation by Surface ElectroMyography (sEMG) and a real-time synchronised stimulation of these gestures by Functional Electrical Stimulation (FES). All with a substantial reduction in power consumption and system complexity, allowing their easy use at the patient's home.

Keywords: Bio-Inspired Electronics, Surrface ElectroMyography (sEMG), Functional Electrical Stimulation (FES)

Biography:

Danilo Demarchi, Associate Professor, Department of Electronics and Telecommunications, Politecnico di Torino, Italy. Visiting Professor at Tel Aviv University (2018-today) and at EPFL Lausanne (2019). In 2018 Visiting Scientist at MIT and Harvard Medical School (project SISTER - Smart electronic IoT SysTEms for Rehabilitation sciences). Leading the MiNES (Micro&Nano Electronic Systems) Laboratory at Politecnico di Torino. Member of the IEEE Sensors Council and of the IEEE BioCAS Technical Committee, Associate Editor of the IEEE Sensors Journal and of the IEEE Open Journal on Engineering in Medicine and Biology. In 2017 General Chair of IEEE BioCAS (Biomedical Circuits and Systems) Conference.

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[2]Sports University of Tirana, Faculty of Physical Activity and Recreation, Tirana, Albania

Exercise rehabilitation effects on posture in university students

Background: Incorrect positioning of the body in the space increases the tension of the myofascial tissue and overloads the skeleton, which leads to functional disturbances, premature development of degenerative lesions and pain, but also to reduction of cardiovascular fitness, displacement of internal organs and reduction of quality of life (Kjaer P et al., 2011; Wawrzyniak A et al., 2017; Maciałczyk-Paprocka K et al., 2012). To achieve the natural standing posture, the balance of the muscles around the spine and the pelvis is essential but holding this position requires only a minimal amount of energy of healthy people (Ghandhari, H et al., 2003). Purpose of this study was identifying the exercise rehabilitation effects on posture in university students. Methodology: A total of 120 students, 18-22 years old, (82 males & 35 females) from Sports University of Tirana took part in preliminary selections but only 20 subjects (12 females and 8 males) resulted with small postural problems. “Zebris” system (software WinSpine 2.3) was used to examine the body posture. Subjects underwent a 12-week (3 times/week, 60 min total session) exercise intervention consisting in core and functional training exercises. Results: Data results show a significant improvement ($p < 0.05$) on overall body posture in all 3 plans in both males and females suggesting that the exercise rehabilitation training was efficient in improving postural problems.

Conclusions. Exercise rehabilitation programs can be an effective method to improve imbalances of spinal curvatures which are common among this age group. More intervention studies need to be conducted involving larger subject groups and with more longer intervention time including specific and personalized exercises focusing in each individual problem.

Keywords: Posture evaluation, exercise, rehabilitations

Biography:

Completed his university studies at the “Academy of Physical Education and Sports”, “Vojo Kushi”, today “Sports University of Tirana”, graduated and received the title: “Teacher of Physical Education” in the Specialty, “Volleyball”. 2007-2009 graduated in “European Master” in “Health and Physical Activity”, University of “Foro Italico” Rome. In October 2018, “Doctorate” in “Sports Sciences”. 2010- 2020, researcher/lecturer at the “Sport Sciences Research Institute”. Currently working at the Faculty of Rehabilitation Sciences, Department of Biomedical and Humanities Disciplines. Currently holds the post of Deputy Dean of this Faculty.

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SPEAKER PRESENTATIONS

Prevent Anterior Cruciate Ligament injury in soccer players… Yes we can!

Florian Forelli
Orthosport Rehabilitation Center, France

The anterior cruciate ligament injury (ACL) is the most feared injury in the world of soccer, especially among young soccers players. Indeed, the prospects of becoming professional pass by the absence of serious injury and in particular of the ACL since the period of maturation not being reached, the influence of the growth can come to disturb the process of ligamentization and a fortiori weaken the transplant by plus the other risk factors inherent in young soccer players. If the risk of injury and / or recurrence in young soccer players exists (the risk of recurrence after ACL reconstruction before age 25 is established at almost 20%), it becomes important to have criteria return to optimal completion but also precise algorithms that can detect the initial lesion in order to reduce the incidence of ACL injury in young soccer players (1). Today there are solid algorithms that allow us to screen for the risk of ACL injuries, including the 5 factors Maximum Model. (2) This scientific model, validated by logistic regression, is based on the existence of 5 variables corresponding to modifiable risk factors for the individual. Each existing variable represents 20% risk and therefore allows us to establish a percentage risk of ACL injury in a specific population such as soccer. (2) Among these variables, we find the dominant anthropometric, strength and power, biomechanics, proprioception and psychological. Thus, this algorithm allows us to also establish the work objectives on which to rely in order to decrease the risk of ACL injury in young soccer players. In addition, the controversial effect of the FIFA 11+ protocol on the prevention of ACL injuries (3), prompts us to individualize prevention in a sport where the injury occurs in 88% of cases without direct contact. (4)

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Biography:

Florian FORELLI is a physical therapist specializing in ACL disorders and trauma in athletes. He works at the Orthosport Rehab Center and the Clinic of Domont in France. Graduated in 2009, Florian FORELLI, quickly moved towards the world of sport. He undertook training in this field in order to acquire expertise and joined the staff of several clubs in football and rugby as well as the French Futsal team in 2011. Eager to do research and teaching, Florian FORELLI obtained his Master'degree in 2014. He continues his work on ACL injuries in a doctorate in education. He joined many schools of physical therapy and teaches in the fields of traumatology and rheumatology. He continues his university training in the field of physical preparation, movement analysis and clinical research. At the same time, he continued rehabilitation care and decided to specialize in ACL rehabilitation from 2017. That same year, he founded the Orthosport Rehab Center, a center specializing in the rehabilitation of sports pathologies with physical therapists specialized in their field. . At the same time, he created OthoLab and became co-director. It is a functional exploration, movement analysis and clinical research unit located at the Clinic of Domont. In this unit, Florian FORELLI assesses 250 patients who have ACL surgery each year through robotic laximetry, isokinetics, postural analysis, gait and running analysis and functional tests. It also contributes to the development of clinical research in connection with surgical activity on pathologies and / or surgery of the lower limb. Thus, Florian FORELLI supervises, each year, research work related to ACL injuries and surgery. Thanks to this research and their publications, Florian FORELLI trains students and physical therapists on ACL injury rehabilitation and clinical research. Eager to want to improve further in sports pathologies. Florian FORELLI carried out training with FIFA, the IOC and the University of Barça

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Training in children with neuromuscular disorders specifically Duchenne muscular dystrophy

Imelda JM de Groot, Merel Jansen, Lotte Heutinck, Saskia Houwen, Mariska MmPH Janssen

Radboud university medical centre, department of Rehabilitation, Nijmegen, The Netherlands

Children with neuromuscular disorders progressively loose strength and thus also become limited in their physical activities. Most common in childhood is Duchenne muscular dystrophy (DMD) although still a rare disease. In DMD mostly boys are affected as it is X-linked inherited with an incidence of 1: 4000/6000 newborn boys. DMD is characterized by loss of muscle strength starting in the legs. The boys become wheelchair bound around 11-12 years of age, loose their armfunction around 15-16 years of age, develop cardiomyopathies and have deteriorating lungfunction. There is no cure as yet for DMD and retarding progression next to preventing secondary consequences (like contractures, cardiorespiratory disorders, weight gain) is the usual care nowadays. In the international guidelines an active life style is adviced. Standard training principles however are not fully applicable and especially in wheelchair confined children training is difficult. Still it is possible en beneficial, as has been shown for boys with DMD. Several studies by our group have been performed and have shown positive effects. Training with electrical or weight compensating devices is possible and has a positive influence on the progression rate of the disease. Also adapted martial arts sport is possible and has a positive influence on their selfesteem. As the principle of all these studies is “no use is disuse” it seems possible to translate the ways of training to other neuromuscular disorders with possible some adaptions in the supportive devices. An overview of the performed studies will be presented. Thus a child with a neuromuscular disorder can have an active joyful life.

Keywords: training, neuromuscular disorder, children, Duchenne muscular dystrophy

Biography:

Imelda JM de Groot, MD PhD, associate professor, has been working as a rehabilitation physician (May 2021 retired) in Academic medical centre Amsterdam, Rehabilitation centre De Trappenberg in Huizen and Radboud university medical centre in Nijmegen, The Netherlands. She focussed on neuromuscular and metabolic disorders specifically in children with referrals for second and third opinions.She performed studies on training, dysphagia, development of new technical devices and new assessments. Member of the Duchenne Centre Netherlands, leading the Care for Care project. Chair of the standard of care for Duchenne muscular dystrophy, co-author of other guidelines. Lecturer in masterclasses.

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Biomechanically Informed Training

Cyril J. Donnelly1,2*, Ben S. Jackson2, Daniel F. Gucciardi3, Jeffery A. Reinbolt4

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[2]School of Human Science (Exercise and Sport Sciences), University of Western Australia, Australia
[3]School of Physiotherapy and Exercise Science, Faculty of Health Science, Curtin University, Australia
[4]Department of Mechanical, Aerospace and Biomedical Engineering, University of Tennessee, USA

Biomechanically-informed Training (BIT) was built to combat the rise of knee and anterior cruciate ligament (ACL) injury incidence worl-wide. We will highlight the biomechanical principles used to create the content framework. However, the behaviour change theory used to optimise delivery, will be brieft (full paper is on-line). We argue that when the biomechanical content of an intervention and behaviour change theory used for optimised delivery of said content are considered, it is then we will see global reductions in knee and ACL injury rates.

While previous research has examined the merits of different training genres (e.g., plyometric, balance, resistance), what makes BIT novel is that it explicitly targets the biomechanical mechanisms that underpin musculoskeletal injury risk (i.e., forces applied to the musculoskeletal system) in ways that are guided by proven behavior change principles. The goal of BIT and its four pillars are to improve an individual's: 1) knee flexion dynamics, 2) dynamic trunk control, 3) gastrocnemius muscle strength, and 4) hip muscular strength irrespective of the training genre used.

Our BIT program was implemented as a bolt-on to the Australian female field hockey team's regular training schedule, four sessions/week, 20 min/day. Following 25 weeks, the entire training group reduced reduce their peak knee moments and ACL injury risk by 29%. We also reduced their lower limb injury incidence by 63% and ACL incidence from 4 to 0. Therein, there is a rationale for researchers to shift their focus from the type of training prescribed to the intended biomechanical focus of the training content, while incorporating established psychological and behavior change principles in the delivery of the content to maximize training outcomes.

Keywords: self-determination theory; translation; injury; rehabilitation; knee

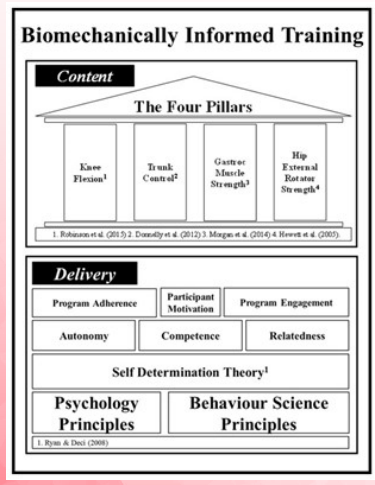

Figure 1. Overview of BIT. Empirical evidence for content above and psychological and behavior change foundation below.

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Biography:

I have mentored 34 graduate level students to completion. I am currently overseeing all research activities of the Precision Rehabilitation research stream within RRIS. With established research collaborations globally, I have shown a strong ability to publish in high quality outlets, contributing meaningful work to the fields of biomechanics and bioengineering. With an evolving record of accomplishment (h-index 20, i10-index 28 and >1,230 citations), I belive my contributions will continue. I have secured $5,753,000 in funding as an associate and over $975,000 as a chief. My long-term research goals are to help improve what defines best practice clinical care across Singapore and the world.

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The effect of massage and range of motion exercises on intensive care unit acquired weakness: a single-blinded randomized parallel controlled clinical trial

Elham Rahiminezhad, Mahlagha Dehghan
Department of Critical Care, Faculty of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran.

Atrophy and muscle weakness are common problems in the ICUs. Intensive care unit acquired weakness (ICU-AW) is an acute neuromuscular disorder that occurs in the ICU. Objective: To compare the effect of massage and ROM exercises on ICU-AW. This study was a single-blinded randomized controlled trial which conducted in intensive care units of Afzalipour hospital in Kerman, southeastern Iran. Ninty conscious patients were selected by convenience sampling and were divided into three groups (massage, ROM exercises and control) with block randomization method. The researcher and co-researcher massaged the whole body of samples in the massage group once a day for seven consecutive days using the Swedish massage. The researcher and core searcher did ROM exercises on the upper and lower extremities once a day for seven consecutive days. The MRC scale was evaluated before, on the fourth and seventh days of intervention and in the control group on the first, fourth and seventh days of admission at 8 pm. According to MRC, the rate of muscle strength increased significantly in the massage and ROM exercise groups after the intervention. The median muscle strength in the control group decreased significantly from 50 before the intervention to 48 during the intervention and 44 after the intervention. Muscle strength was significantly higher in the samples of the massage and ROM exercise groups than the control group after the intervention. In addition, muscle strength in the ROM exercise group increased after the intervention compared with the massage group. The results of the present study showed that ROM exercises and massage were respectively effective interventions to prevent or improve ICUAW in patients admitted to intensive care units.

Keywords: intensive care unit acquired weakness, range of motion, massage, intensive care unit

Biography:

She completed her Master of Science degree in Critical care nursing, Razi Faculty of Nursing and Midwifery at Kerman University of Medical Sciences, Kerman, Iran. She is collaborated with Razi Faculty of Nursing and Midwifery School of Kerman University of Medical Sciences as a clinical instructor. Her research interests are complementary and alternative medicine, critical care, Patient teaching.

Physiotherapy early intervention strategies for stroke rehabilitationl

Dr. G.Varadharajulu
Dean, Krishna College Of Physiotherapy, India

Background:

The quality of therapeutic outcome in case of stroke rehabilitation is highly depending on the timing of the Physiotherapy intervention with appropriate treatment strategies. Stroke rehabilitation falls immediately after the incident of stroke which will be followed at all the stages of recovery (Brunnstrom Stages of recovery) till the expected functional recovery.

Objectives:

1. Etiology and pathomechanism of stroke(cerebrovascular accident)
2. Different stages of recovery of stroke
3. Clinical manifestations
4. Various early intervention strategies
5. Team work
6. Evidence based practice

Theme of presentation:

In this presentation there will be detailed discussion about early intervention Physiotherapy strategies in line with Brunnstrom Stages of recovery in stroke patients and also there will be highlights on responsibilies of Intensivist at stroke ICU, staff nurse posted as a core team member in stroke rehabilitation process.

Stroke rehabilitation team includes Neuro Physician, Neuro Physiotherapist, Occupational therapist, Intensivist, Staff nurse

Different phases of stroke rehabilitation:

- Stroke intensive care unit
- Recovery ward
- Outpatient Physiotherapy (OPD) department
- Home care.

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Keywords: Stroke, CVA, Brunnstrom stages of recovery, early interventional strategies, team work

Biography:

Dr. G. Varadharajulu having 24 years of professional experience in administration, teaching and clinical areas graduated from Tamilnadu Dr. M.G.R. Medical University in the year November 1996 and post-graduation from MG University Kottayam in the year July 2002. A challenging Neuro- Physiotherapist having excellent leadership qualities. Presently Serving as Dean of Faculty of Physiotherapy, KIMSDU, Karad, Maharashtra duly from October 2002 to till date. Having research background of guiding more than 25 staff projects, 75 Post Graduate dissertations and numerous Undergraduate project during the tenure of his services. So far he is having 5 publications as first author, more than 45 publications as a corresponding author in his credit. He is awarded twice National Level distinguished Service award by the Indian Association of Physiotherapists. He is always a visionary Physiotherapist wanted to take up some professional development responsibilities in this part of country. Presently taken the responsibility of President of Satara Physiotherapists Association and also working as founder member of establishment of Indian Neuro Physiotherapists Association.

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Comparison of the effectiveness of proprioceptive and isometric exercises in Patients of knee osteoarthritis: A randomized Control trail

Aadil Ameer Ali
Institute of physiotherapy & Rehabilitation sciences, Shaheed Mohtarma Benazir Bhutto Medical University, Larkana, Pakistan

Objective: Assessment of the effectiveness of proprioceptive and isometric exercises in patients of knee osteoarthritis (OA).

Methods: The experimental study was conducted among the 40 patients who had confirmed diagnosis of knee OA. The 40 patients were randomized into separate two groups A & B. The group A received proprioceptive exercise, whereas group B were given the isometric exercises. The data was collected before and after the treatment by using the visual analogue scale for assessing the pain intensity, whereas the analogue goniometer was used for assessing the range of motion of knee joint. After collection, the data was analyzed by using statistical packages for social sciences (Spss) version 22.

Results: Patients of group A were heaving the mean age of (45.24 ± 11.52) and the patients of group B were having the mean age of (50.25 ± 12.12). Among the patients of group A, after the treatment the Knee range of motion was (113, ± 7.042), whereas among the patients of group B that was (107, ± 6.601). During the check of Vas scale, group A patients reported (4.01, ± 1.197) and group B reported (3.69, ± 1.054). Proprioceptive and isomeric exercises were statistically significant ($p<0.05$) to flexion range of motion and pain intensity, separately.

Discussion: In current study the both exercises (proprioceptive & isometric) were significant in the management of Knee OA patients. Furthermore the proprioceptive exercises were found significant in enhancing the range of motion of knee joint, while the isometrics gave good results in pain management.

Biography:

I had my Bachelors in Physiotherapy from Liaquat University of Medical & Health sciences after that I continued with my Post graduation (Post Professional Doctor of Physical Therapy) from Isra University Karachi, Pakistan. Currently I am a Ph.D. scholar at university of Lahore. I had more than 5 years of experience as a clinical physiotherapist in different well know national hospitals of Pakistan. In 2017 I continued my carrier as an academician. I have 15 international publication in different journal of Physical therapy and Medical sciences.

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Effects of 12-week traditional strength training on body composition parameters in 18-20 years old subject

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[1]Sports University of Tirana, Faculty of Rehabilitation Sciences, Department of Biomedical and Human Disciplines. Tirana, Albania.

[2]Sports University of Tirana, Faculty of Physical Activity and Recreation, Department of Movement and Health. Tirana, Albania.

Traditional strength workouts use resistance training principles and they include isolating a specific group of muscles and lifting weights to maximize muscle strength also isolating the muscles and works them to exhaustion. A typical training session might be three to five sets of eight to 12 repetitions per exercise. Body composition is a method of describing what the body is made of. Body composition analysis can accurately show changes in fat mass, muscle mass, and body fat percentage. Main objective of this study was to evaluate the effects of traditional strength training on body composition parameters in 18-20 years old subjects. A total of 80 subjects were enrolled in this study but only 20 (10 males & 10 females) were selected to be part in the intervention exercise program focusing in the improvement of overall body composition parameters. Tanita (BC-601) (BIA) was used for body composition evaluation. We measured: total body muscle mass (kg), total body fat mass %, visceral fat level, total body water %. Results after 12 weeks showed improvements in all body composition parameters in both females and males. There was a statistically significant difference increase in total body muscle mass (kg) ($p < 0.05$), significant decrease in total body fat mass % ($p < 0.05$), significant decrease in visceral fat ($p < 0.05$) also a statistically significant difference increases in total body water % ($p < 0.05$). We think that body composition is an important key parameter for general population but also those exercising with sports or physical activity in order to better understand the difference between total body weight and body composition overall parameters.

Keywords: Traditional training, body composition, 18-20 years old subject

Biography:

Completed his university studies at the “Academy of Physical Education and Sports”, “Vojo Kushi”, today “Sports University of Tirana”, graduated and received the title: “Teacher of Physical Education” in the Specialty, “Volleyball”. 2007-2009 graduated in “European Master” in “Health and Physical Activity”, University of “Foro Italico” Rome. In October 2018, “Doctorate” in “Sports Sciences”. 2010- 2020, researcher/lecturer at the “Sport Sciences Research Institute”. Currently working at the Faculty of Rehabilitation Sciences, Department of Biomedical and Humanities Disciplines. Currently holds the post of Deputy Dean of this Faculty.

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Effectiveness of Tai Chi Exercise On Balance In Elderly Patient With Knee Osteoarthritis.t

Dr. Deepti Chandrasheel Thokal[1], Dr. Shyam Devidas Ganvir [2]

[1]Asst. Prof. Department of Community Physiotherapy, Dr.Vithalrao Vikhe Patil Foundation's College of Physiotherapy, Ahmednagar.

[2]Principal, Prof. & HOD, Department of Community Physiotherapy. Dr.Vithalrao Vikhe Patil Foundation's College of Physiotherapy, Ahmednagar.

Background: The Worldwide prevalence estimate for Knee Osteoarthritis is 9.6% among Men and 18% among Women. Individuals with painful Knee Osteoarthritis experience difficulty performing basic daily activities such as, performing household chores, stair climbing etc. Tai Chi is one of the popular form of exercise among older adults and it encompasses balance, aerobics, flexibility and weight bearing exercises with meditation and deep breathing.

Aim of the Study: To study the Effectiveness of Tai Chi exercise on Balance in Elderly patient with Knee Osteoarthritis.

Method: It was a Randomized Controlled Trial. 50 patients were randomly assigned to the Experimental Group & Control Group with 25 patients in each group. It was pre & post –assessed with the WOMAC Index & Berg Balance Scale.

Results: The results showed that there was a statistically significant difference in the BBS scale at Baseline & 1 month in the Experimental group. Also there was a statistically significant improvement in the WOMAC Index at Baseline & 1 month in the Control group.

Conclusion: Tai Chi exercises are effective for improving Balance in elderly patients with Knee Osteoarthritis.

Keywords: Elderly People, Balance, Osteoarthritis Knee, Tai Chi.

Biography:

Dr. Deepti C. Thokal is graduated : 2014(4Years and 6 months of Internship)from Dr. Vithalrao Vikhe Patil Foundation's College of Physiotherapy, Ahmednagar. Maharshtra.India. Later on she did her Postgraduation in Community Physiotherapy : 2014-17(3 years)from the same Institute. During this span of Postgraduation she presented papers at National and International levels. She has also done an Workshop on Resident as a Teacher and Basic Workshop on Research Methodology. Also she has undegone a training program on Tai Chi Exercises. She is a Life Member of Indian Association of Physiotherapists and also a registered member of Maharashtra Occupational Therapy and Physiotherapy Council, Mumbai. She has published total number of 09 articles(till date) in National and International Journals. She has 04 years of Teaching Experience and currently working as an Assistant Professor (Community Physiotherapy) at Dr. Vitthalrao Vikhe Patil Foundation's College of Physiotherapy. Ahmednagar.

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Nejat: An instructional application for patients discharged from COVID-19 intensive and non-intensive care units who need muscle rehabilitation

Sima Mokhtarabadi , Mahlagha Dehghan, Elham Rahiminezhad
M.S. of Nursing, Shafa Hospital, Kerman University of Medical Sciences, Kerman, Iran.
Assistant Professor, Nursing Research Center, Kerman University of Medical Sciences, Kerman, Iran (corresponding Author).
M.S. of Nursing, Afzalipour Hospital, Kerman University of Medical Sciences, Kerman, Iran.

Today's mobile applications are vital in patient education because they address users' educational needs at minimal cost and time. Complications of Covid illness include decreased muscle strength and weakness, which can lead to increased patient mortality. This study's goal was to design and implement Android-based software for teaching muscle rehabilitation to Covid patients discharged from intensive and non-intensive care units. This study was an applied study. The educational content of the application was designed according to the literature review and opinions of experts. For approval, the application's instructional content was reviewed by 10 faculty members from infectious disease, anesthesiology, internal medicine, physiotherapy, and intensive care nursing at Kerman University of Medical Sciences. The first version of the app was created for Android by an IT specialist using the App Editor program. The Nejat application has five major sections. The first section discusses the COVID-19 disease in further detail. The second portion is about the prognosis of COVID-19. The third section discusses common techniques of care and therapy. The fourth segment discusses immunization and its maintenance. The final section focuses on respiratory and muscular restoration. Section 5, the most significant section of the application, contains a variety of breathing exercises, Swedish massage, and joint range of motion exercises. Each part is labeled with a detailed description, photos, and the number of exercises so that the patient or his primary caregiver may simply conduct the exercises for himself or the patient using the description. Due to the high prevalence of COVID-19 disease and increased care burden, clinics lack rehabilitation and self-care training. Using appropriate applications can assist overcome the educational gap in an emergency.

Keywords: Respiratory Rehabilitation, Muscle Rehabilitation, Application, COVID

Biography:

She is reasercher in nursing school in Kerman University of Medical Sciences. Her research interests are spiritual issues, complementary and alternative medicine, scale development and critical care. She is relatively good at research with an H-index of 2.

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September 02-03, 2021 | Webinar

Vitamins Dietary Supplements

Athar Mohamed Ali
Faculty of Pharmacy Ain Shams University, Cairo, Egypt

The best way to get the nutrients you need is eating a variety of healthy foods, vegetables and fruits. And even if you eat healthy, you might need a supplement, some people may not get enough vitamins and minerals from their daily diet. When that's the case, recommended a dietary supplement to provide missing nutrients. The most popular nutrient supplements are multivitamins which are necessary to improve your immunity, energy, and vitality, especially calcium and vitamins B, C and D. Calcium supports bone health, and vitamin D helps the body absorb calcium. Vitamins C and E are antioxidants molecules that prevent cell damage and help to maintain health. Just because they've informed that a supplement is helpful, In certain population such as athletes and students, the consumption of supplement in larger than recommended amounts may lead to Imbalances, "At high doses, (Supplements) are drugs," says Donald Boyd, so you must be aware of how to choose your multivitamin according to what your body needs, there are tips for taking vitamins and how to choose the right vitamins. According to your age, certain genetic or health conditions, defections like hair loss, serious tiredness, as well as the appropriate dose, possible interactions, usage, safety and storage.

Keywords: vitamins; supplements; Dietary; nutrients.

Biography:

My name is Athar Mohamed, I'm a pharmacy student (level 4) faculty of pharmacy Ain shams university, Egypt. I'm interested in scientific research and presentation skills, İ always seek for self-development in various fields, exploit every minute for learning something new, useful and applicate it, I have many hobbies such as handmade crafts, photography and fitness"

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Physical Therapy and Technology: Revamping the educational and clinical training curricula for future Clinicians

Jones Onigbinde
PT, DPT,BMRPT, Clinical Director, Stargate Physical Therapy Inc, Canada.

New advances in science and technology have changed human life in every aspect. In the field of healthcare, clinicians are leveraging science, engineering, technology, and mathematics (STEM) to provide novel ways of addressing clinical challenges. New innovations in regenerative medicine and rehabilitation, nanotechnology in cell therapy, and tissue engineering provide promising future avenues for general practitioners, but pose new challenges for Physical Therapists. Physical Therapists (PTs) have always been passive end users of health technologies. PTs need to actively participate in designing and developing new technologies now more than ever. This is the only way to take Physical Therapy's unique understanding of human movement and functional impairment to the 21st century. Physical therapy education and training are not adapting to a constantly evolving world of technology. This presentation would advocate the inclusion of data science, data analytics, healthcare informatics, machine learning, artificial intelligence, and robotics into Physical Therapy training curricula. This new training approach would provide PTs with necessary skill for future innovations in the field of medical rehabilitation science. It would also expand their roles in a world where robots clean our homes, drive our vehicles, and undoubtedly treat ailments and perform rehabilitation of injured humans. It is clear that the current pedagogical and clinical training curricula are insufficient for such a world. Now is the time to begin designing and implementing novel training approaches to address upcoming challenges in the medical rehabilitation profession.

Keywords: Physical Therapy, Technology, Education, Machine learning, Artificial intelligence

Biography:

Jones graduated with a Bachelor of Medical Rehabilitation in 1998 from Obafemi Awolowo University. He completed his professional Doctor of Physical Therapy from the University of Montana, Missoula, United States. He has been practicing Physical Therapy since graduation in 1998, with a focus in Musculoskeletal injuries. Jones has certifications in subspecialty areas including Manual Therapy, TMJ/TMD management, Vestibular rehabilitation, and Health focus Lifestyle intervention. He currently holds practicing licenses with College of Physical Therapists, Alberta, Canada and Health and Care Professions Council of the United Kingdom, also a member of Canadian Physiotherapy Association.

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Once a week Resistance Training improves muscular strenght in Breast Cancer Survivors

Vitor Marques[1], Rafael Alves[1], Rafael Felipe Moraes[1] Wanderson Divino dos Santos[1], Weder Silva[1], Claudio Lira[1], Mario Hebling[1], João Ferreira-Junior[2], Paulo Gentil[1], Maria Sebastiana Silva[1] Carlos Vieira[1]

[1]Federal University of Goias, UFG, Brazil.
[2]Federal Institute of Minas Gerais, Rio Pombas, Brazil

Exercise has been shown to reduce adverse outcomes related to breast cancer. However, the rate of adherence to physical exercise is very low among breast cancer survivors (BCS) Objective: This study investigated the effects of resistance training (RT), once a week, on changes in muscular strenght. Methods: This study analyses the effects of once weekly RT on fatigue levels among BCS. Randomized controlled trial. The 25 women included were randomized into RT or control group. The RT group performed eight weeks of RT (once per week). The group RT performed 8 weeks of supervised, with one trainer per volunteer. Muscle strength was evaluated by 10 repetition maximum (10RM) for leg press (45□) and brench press. A 1-way analysis of variance was usedto compare within-group effects at pre- and post-intervention. An analysis of covariance test was used to compare postintervention values, using pre-intervention measures as covariates. The effect size (ES) was calculated by Cohen's d. Results: The RT improved muscle strength in 10 RM leg press (45°; Δ 33.75 ± 11.51 kg, P = .02; ES = 0.96) and bench press (Δ 4.08 ± 1.83 kg, P = .01; ES = 1.15). Adherence to training was more than 99%. Conclusion: Once-weekly supervised RT could be an alternative to increase the adherence to exercise and improve muscular strength in BCS.

Keywords: breast cancer; Adherence; physical exercise.

Biography:

Vitor Alves Marques is physical education by profession, is master in Health Science at the Federal University of Goias, and its dissertation is about the effects of chemotherapy treatment on muscle performance in women with breast cancer in the year 2018. He is member the Laboratory of Physiology of the Exercise and Nutrition and Healthy at the Federal University of Goias (LAFINS/UFG) and also is member the Laboratory of Analyzes of Human Moviment (LAMOVH/UFG).

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Improving the physiotherapy provision of pelvic health care to critical care patients: A Quality Improvement Project.

Luwaiza Mirza[1], Alyssa Arshad[1], Sanjana Nanchahal[1], Sarah Elliott[1], Tiffany Sequeira[1]
[1]Medway Maritime Hospital, Kent, United Kingdom.

Background. Long-term hospitalization has been suggested to have an impact on pelvic-floor function, with consequences on bladder and bowel functioning, including issues such as incontinence, urinary retention, and constipation. This highlights the critical need for physiotherapists to be integrated within the rehabilitation team.

Purpose. This quality-improvement project aimed to improve the integration of physiotherapists within the critical-care rehabilitation team within Medway Maritime Hospital (MMH) and enable them to become more competent in assessing the pelvic-health of critical-care patients.

Methodology. Competency of critical-care physiotherapists in performing pelvic-health assessment was evaluated using self-rating scales (0-10) in questionnaires developed by the team, at baseline and after various interventions: an educational training video (intervention-1), leaflet (intervention-2) and amendment of an assessment pathway used by the physiotherapists (intervention-3). Score 0 referred to the lowest self-perceived competency.

Results. 21 responses were received: 9 at baseline, 7 after intervention-1 and 4 after intervention-2. The physiotherapists' mean awareness of assessing pelvic-health in critical-care increased from 7.8(baseline) to 8.4(intervention-1) and 8.5(intervention-2). Their ability to teach pelvic-floor exercises increased from 8.3(baseline) to 9.0(intervention-1) and 9.5(intervention-2). Competency in assessing pelvic-health of patients of the same gender changed from 5.4(baseline) to 7.3(intervention-1) and 5.0(intervention-2). Mean self-score for assessing the opposite gender increased from 5.0(baseline) to 6.6(intervention-1) and 5.0(intervention-2). Results showed that the first two interventions improved awareness, and only intervention-1 improved competency of the physiotherapists.

Conclusions. While a low number of responses were received, several positive developments were made to the physiotherapists' practice at MMH, particularly the educational video which improved awareness and competence. To amplify the impact, future audits will be conducted to ascertain the impact of the interventions, using feedback to further develop them.

Keywords: physiotherapists, critical-care, pelvic-dysfunction, quality-improvement.

Biography:

Final year medical student at King's College London with First Class BSc in Management from Imperial College London. I have a keen interest in data science and health-tech particularly in the fields of psychiatry and paediatrics. I have had the opportunity to work with numerous well-known academics in the medical field and using the skills I have developed; I hope to work within the field of data-science to help improve the quality of healthcare offered within the UK.

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