



CONFERENCE PROCEEDINGS

**Virtual International Conference
On
Recent Advances & Challenges in Sports Rehabilitation
5th June to 7th June 2021**



OUR PATRONS



Dr. Prashant Bhalla
President, Manav Rachna Educational Institutions



Dr. Amit Bhalla
Vice President, Manav Rachna Educational Institutions

CHIEF GUEST



Prof. (Dr.) Sanjay Srivastava,
Vice Chancellor, MRIIRS

CHAIRPERSON



Prof. (Dr.) G L Khanna,
Pro Vice Chancellor, MRIIRS

GUEST OF HONOR



Prof. Olha Borysova
Vice Rector
National University of Ukraine on Physical Education and Sport, Ukraine

KEYNOTE SPEAKERS



Professor Dr. Hairul Anuar Hashim
Deputy Dean
School of Health Sciences, University Sains Malaysia



Assoc. Prof. Dr. Maria Abulkhanova
Department of Physical Education and Sport Science
Moscow State Academy of Physical Education, Russia



Dr. Hery Prambudi
Director
AAK An Nasher, Indonesia

CO-CHAIRPERSONS



Co-Chairperson
Prof. (Dr.) Moattar Raza Rizvi, Dean, FAHS



Co-Chairperson
Dr. Divya Sanghi, HOD Nutrition & Dietetics Department, FAHS

Organizing Committee Members

ORGANIZING COMMITTEE MEMBERS

ORGANIZING SECRETARY

Dr. Priyanka Sethi, Assistant Professor, Department of Physiotherapy, FAHS

JOINT SECRETARY

Dr. Shishir Nigam, Assistant Professor, Department of Physiotherapy, FAHS

REGISTRATION & STUDENT COORDINATOR

Dr. Sunita Kumari

Dr. Shrishti Negi

IT COORDINATOR

Dr. Preeti Saini

Dr. Gurseen Rakhra

Dr. Ankita Sehajpal

PROMOTIONS, MEDIA COVERAGE & Radio Manav Rachna

Bhawna Sharma

Dr. Nitesh Malhotra

Dr. Sneha Nair

LOGISTICS

Dr. Shobhit Saxena

Dr. Shishir Nigam

Dr. Priyanka Sethi

Dr. Lakhwinder

Dr. Shubhra Saraswat

SCIENTIFIC

Dr. Ekta Chitkara

Dr. Shweta Sharma

Dr. Irshad Ahmad

Dr. Pratibha Singh

Dr. Madhvi Avasthi

EVENT COORDINATOR

Dr. Ankita Sharma

Dr. Mahek Sharma

Dr. Vandana Garg

ALUMNI COORDINATOR

Dr. Pooja Sharma

Dr. Divya Puri

Dr. Prashant Bhalla



Dr. Prashant Bhalla
President
Manav Rachna Educational Institutions

MESSAGE

It gives me immense pleasure and pride to host **Virtual International Conference on Recent Advances & Challenges in Sports Rehabilitation** at Manav Rachna International Institute of Research & Studies, Faridabad, India from 5 to 7th June 2021.

This conference brings together academic experts and practitioners from all over world to share new knowledge and ideas pertaining to Sports Science and rehabilitation specially in this pandemic time. The conference program is not only designed to share interests through quality research presentations from people around the world, but also bring together leading experts to share their areas of expertise in sport and exercise science. Experts will address the latest developments and challenges that the Sports field faces with an emphasis on rehabilitation and ultimately performance enhancement. It will be a platform to establish network with professionals working in global academia, sports industry and governing bodies. The well planned theme would not only be enriching experience for delegates but also give scholars an opportunity to generate new research ideas.

I am delighted to invite you to the RACSR 2021.



PRESIDENT
Manav Rachna Educational Institutions

CHANCELLOR
Manav Rachna International
Institute of Research and Studies
'Deemed-to-be-University under
section 3 of the UGC act.'
Manav Rachna University
'State Private University under
section 2f of the UGC act.'

CHAIRMAN
Manav Rachna Dental College
Recognized by Dental Council of India
Manav Rachna International Schools

CHAIRMAN
Kunskapsskolan Schools
JV Manav Rachna and KED Sweden.

HONORARY PRESIDENT
BRICS Council of Exercise & Sports
Science (BRICSCESS)

MEMBER
Scientific Advisory Board,
Global Community Health (GCH)

DIRECTOR
Educational Rating and
Assessment (ERA) Foundation

TREASURER
Education Promotion Society of India

MREI Campus:
Sector-43, Delhi Surajkund Road,
Aravalli Hills, Faridabad, Haryana, INDIA
T +91-129-4198296, M+91-987-160-0009
chancellor@mrii.edu.in,
www.manavrachna.edu.in

Dr. Amit Bhalla

Dr. Amit Bhalla
President
Manav Rachna Educational Institution



MESSAGE

On behalf of the organizing committee of the Virtual International Conference on Recent Advances & Challenges in Sports Rehabilitation and on behalf of Manav Rachna group of Educational Institutions I would like to extend warm welcome to all the participants of the conference to be Organized by Manav Rachna International Institute of Research & Studies, Faridabad from 5th to 7th June 2021.

This conference would provide a high level opportunity for students, researchers, practitioners and academicians to present, listen and discuss the latest advances and trends in sports rehabilitation in the domain of Sports Medicine, sports rehabilitation, physiotherapy, Aging and Exercise Physiology, Women health and Nutrition in sports, bio-mechanical corrections on field and sports in COVID scenario. I am sure that this will be a good opportunity to interact as well as explore new possibilities and learning aspirations through Sport Science. In addition, it will be heartening to witness everyone here as participation and involvement in the presentations and workshops will contribute significantly to the success of promoting sports in the country.

We look forward to opening our doors to everyone for RACSR 2021.

A handwritten signature in black ink, appearing to read 'Amit', with a stylized flourish at the end.

Dr. Amit Bhalla

Dr. Sanjay Kumar Shrivastava

Prof. (Dr.) Sanjay Srivastava
Vice Chancellor,
Manav Rachna International Institute of Research & Studies



MESSAGE

It gives me a great pleasure to extend greetings and a warm welcome to everyone attending the Virtual International Conference on “Recent Advances and Challenges in Sports Rehabilitation 2021” organized by Faculty of Allied Health Sciences, Manav Rachna International Institute of Research and Studies.

Welcome to all participants, attendees who are attending this conference to increase their understanding on sports aspect of allied healthcare that is specifically concerned with the rehabilitation and prevention of injury in order to achieve optimum levels of functional, occupational and sports specific fitness.

This will a good platform for interaction as well as to explore the latest researches and advancements in the sports field for sure. I also extend my wishes to the organizing team for the smooth and successful conduction of this Conference.

Looking forward to see you soon in this event.

A handwritten signature in blue ink, consisting of stylized initials and a horizontal line.

Prof. (Dr.) Sanjay Srivastava

Professor. (Dr.) G.L.Khanna

Prof. (Dr.) G. L. Khanna

Pro-Vice Chancellor

Manav Rachna International Institute of Research & Studies



MESSAGE

I would like to welcome you to the Virtual International Conference on “Recent Advances and Challenges in Sports Rehabilitation 2021” organized by Faculty of Allied Health Sciences, Manav Rachna International Institute of Research and Studies (MRIIRS). Manav Rachna International Institute of Research and Studies (formerly MRIU A NAAC Accredited ‘A’ Grade Institution), ‘Deemed to be University’ under Section 3 of the UGC Act 1956 offers programs from Graduate to Doctoral level that are in tune with the market dynamics.

To commemorate the 25th anniversary of (MRIIRS), we are organizing a conference that not only looks past but also future. This conference will feature cutting-edge research from around the world in the fields of sports physiotherapy, nutrition, and rehabilitation. The central focus of conference is the future of sports physiotherapy practice in a changing health-care environment. The conference is segregated into four presentation themes that are important to physiotherapy and rehabilitation professionals in terms of clinical practice, research, and policy. Prevention, intervention, participation, and assessment are the four themes. We hope you will take advantage of this high-level opportunity to engage with members of the physiotherapy profession and their partners. Therefore, we look forward to meeting you during this conference to present, listen and discuss the

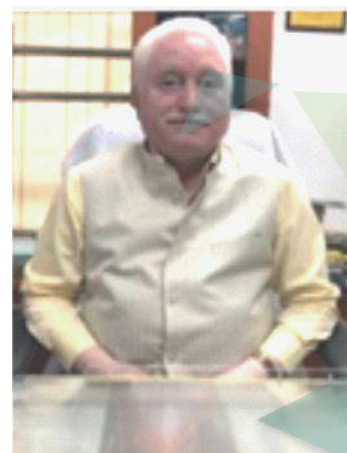
Prof. (Dr.) G. L. Khanna

Shri R. K. Arora

Shri. R. K. Arora

Registrar.

Manav Rachna International Institute of Research & Studies



MESSAGE

I am glad to know that faculty of Allied Health Sciences is organizing the virtual conference on “Recent Advances and Challenges in Sport Rehabilitation ” on 5-7 June 2021.”

Indian tradition and culture have always fostered a scientific temperament. Since times immemorial, rehabilitation has been linked with progress in sports. The power of rehabilitation and technology must be utilized to bring about a difference and to promote ease of living in the life of a sports man and his performance. This conference focuses on challenges faced by a sports person which would be beneficial to all scholars.

I extend my good wishes and greetings for the organizing team for smooth conduct of this conference and look forward that budding Research Scholars, Academicians, Students and other professionals across the world to be benefited with this conference.

I extend my best wishes for successful conduct of this mega event.

A handwritten signature in black ink, appearing to be 'R. K. Arora', written on a white background.

Shri. R. K. Arora

Professor. (Dr.) Moattar Raza Rizvi

Prof. (Dr.) Moattar Raza Rizvi
Dean, Faculty of Allied Health Sciences
Head, Department of Physiotherapy



MESSAGE

I would like to welcome you to the Virtual International Conference on “Recent Advances and Challenges in Sports Rehabilitation 2021” organized by Faculty of Allied Health Sciences, Manav Rachna International Institute of Research and Studies (MRIIRS). Manav Rachna International Institute of Research and Studies (formerly MRIU A NAAC Accredited ‘A’ Grade Institution), ‘Deemed to be University’ under Section 3 of the UGC Act 1956 offers programs from Graduate to Doctoral level that are in tune with the market dynamics.

To commemorate the 25th anniversary of (MRIIRS), we are organizing a conference that not only looks past but also future. This conference will feature cutting-edge research from around the world in the fields of sports physiotherapy, nutrition, and rehabilitation. The central focus of conference is the future of sports physiotherapy practice in a changing health-care environment. The conference is segregated into four presentation themes that are important to physiotherapy and rehabilitation professionals in terms of clinical practice, research, and policy. Prevention, intervention, participation, and assessment are the four themes. We hope you will take advantage of this high-level opportunity to engage with members of the physiotherapy profession and their partners. Therefore, we look forward to meeting you during this conference to present, listen and discuss the latest advances and trends in sports rehabilitation in the domain of Sports Medicine, sports rehabilitation, physiotherapy, Aging and Exercise Physiology, Women health and Nutrition



Prof. (Dr.) Moattar Raza Rizvi

Dr. Divya Sanghi

Dr. Divya Sanghi
Associate Professor and Head
Department of Nutrition and Dietetics
Faculty of Allied Health Sciences



MESSAGE

I am greatly honoured to invite all the delegates for the Virtual International Conference on “Recent Advances and Challenges in Sports Rehabilitation 2021” organized by Faculty of Allied Health Sciences, Manav Rachna International Institute of Research and Studies (MRIIRS), Faridabad to be held on 5th to 7th June 2021.

There is a growing need and increasing demand in field of Physical therapy and rehabilitation. Musculoskeletal injuries can have immediate and significant detrimental effects on function. When an individual experiences or is likely to experience limitations in everyday functioning due to ageing or a health condition, including chronic diseases or disorders, injuries or traumas, a set of interventions is needed. "Rehabilitation enables individuals of all ages to maintain or return to their daily life activities, fulfil meaningful life roles and maximize their well-being"

The conference organized on theme “Recent Advances and Challenges in Sports Rehabilitation” will definitely go a long way to energize young minds to walk the talk in field of sport rehabilitation.

Dr. Divya Sanghi

Dr. Priyanka Sethi

MESSAGE

Dear delegates

Warm greetings!!! On behalf of RACTR-2021 and the organizing committee, I would like to cordially welcome you all in the three days Virtual International Conference on "Recent Advances and Challenges in Sports Rehabilitation (RACTR-2021)"

We had been working on the concept of assisted health and rehabilitation technology in sports sciences for two decades now and realize that it is one of the key factors linking to the quality of lives of sports era. The last decade has seen not only medical and allied health field but engineering and technology sector to have invested significant time and effort into the area of assistive technology. This is a welcome change for the entire industry where we see clear opportunities and areas of larger networking between various players in this multi domain/ sectoral industry. We could successfully associate ourselves with various technology institutions and academia in the last decades and successfully tested and tried rehabilitation products that could have large impact in the rehabilitation field. Today we see the need of assistive technology and products in every step that we take. This conference with the theme "Recent Advances and Challenges in Sports Rehabilitation" is the right platform to bring various stakeholders under one roof to discuss needs/aspects of sports rehabilitation. Through this conference we will put all our effort to drive the recently developed key areas and coming out with the list of priority assistive devices list (APL). We are planning to have the best eminent speakers for delivering their session of knowledge, oral/poster presentation from delegates all-round the globe. This could be the first conference of its kind in the region where everyone could have opportunity to showcase and present their ideas, thoughts, developments that could lead to a meaningful life in the community. We are trying our best to ensure that you would have a wonderful experience and gain in knowledge through our expert talks and would be one of the most memorable one and you go back with rich information.

I welcome you again to this wonderful gathering and make the maximum out of it.

I thank each and every one of you who are contributing to the success of the conference and looking forward to seeing you all soon.



A handwritten signature in black ink that reads "Priyanka" with a small flourish at the end.

Dr. Priyanka Sethi
Organizing Secretary

Dr. Shishir Nigam

MESSAGE

Dear Delegates,

It gives me immense pleasure in welcoming you to the Virtual International Conference on “Recent Advances and Challenges in Sports Rehabilitation” to be held on 5th -7th June 2021.

The Words “Connect, collaborate and Innovate” captures the essence of each member of the Organizing Committee who has worked to put together an exciting and dynamic programme covering all areas of academic and clinical practice.

At this conference effort has been made in the scientific deliberations to expand the scope of practice with a greater emphasis into community practice and an effort to step into deeper understanding of sports physiotherapy.

We have worked to provide an environment of experiential learning. Join us for the conference and enjoy the learning environment created for this conference. I would like to thank our patrons, senior dignitaries, all the eminent speakers, my organizing team and all of you for the support and to make this conference a great success.



A handwritten signature in blue ink, appearing to read 'Shishir Nigam', with a long horizontal stroke extending to the right.

Dr. Shishir Nigam
Joint Organizing secretary

Dr. Anjum Padyal
Associate Professor
Dept of Physical Education and Sports Sciences,
Deshbandhu College, University of Delhi



MESSAGE

Respected Sir/Madam,

Congratulations to the organizers for organizing the virtual international conference **“Recent Advances and Challenges in Sport Rehabilitation”** from 5 to 7 June 2021. Injuries are the part and parcel of sports life.

Sports injuries can occur due to overtraining, lack of conditioning, and improper form or technique. The correct rehabilitation can help sportspersons to recover faster and retain their performance which can save them from mental trauma along with physical and physiological suffering.

I would like to wish you Good luck with the well conceptual and well design virtual conference initiative.

Sincerely,

A handwritten signature in black ink that reads "Anjum Padyal". The signature is written in a cursive, flowing style.

Dr. Anjum Padyal
Associate Professor,
Deshbandhu College,
University of Delhi

SCIENTIFIC PROGRAM

DAY 1, 5 th JUNE 2021 (Saturday)	
TIME (IST)	Event Details
9:00 - 9:30 AM	Conference Opening, Inauguration & Lamp Lighting
9:30 - 9:35 AM	Welcome Message by Professor Dr. Moattar Raza Rizvi , Dean, Faculty of Allied Health Sciences, MRIIRS
9:35 - 9:45 AM	Welcome Message by Professor Dr. G.L Khanna , Pro Vice Chancellor, MRIIRS
9:45 - 9:55 AM	Welcome Message by Professor Dr. Sanjay Shrivastava , Vice Chancellor, MRIIRS
9:55 - 10:00 AM	Inaugural Speech by Guest of Honor, Professor Olha Borysova , Vice Rector, National University of Ukraine on Physical Education and Sports, Ukraine
SESSION-I	
KEYNOTE SPEAKER	
10:00 - 10:45 AM	<u>Utility of Progressive Muscle Relaxation in Sports and Rehabilitation</u> Professor Dr. Hairul Anuar Hashim
10:45 - 11:15 AM	<u>Sports Injuries: Prevention and Management</u> Dr. Kiran Kulkarni
11:15 - 11:45 AM	<u>Tackling Injury Management: Optimizing Interdisciplinary Approach</u> Professor Dr. Oleksandr Krasilshchikov
11:45 AM - 12:15 PM	<u>The Non-Invasive Use of AES-05 Spike Wave Electro stimulators in Sport for Improving Muscular Endurance</u> Dr. Ir. Suhariningsih
12:15 - 1:00 PM	BREAK
SESSION-II	
1:00 - 1:30 PM	<u>Features of the Physical Therapy process conduction in the playing sports</u> Professor Nikanorov Oleksii
1:30 - 2:00 PM	<u>On Field Management of Catastrophic Sports Injuries</u> Dr. Dobson Dominic
2:00 - 2:30 PM	<u>Groin Strain Pre-Rehab & Post Rehab in Kabaddi Players</u> Dr. Vivek Chauhan
2:30 - 3:00 PM	<u>Understanding the connection between Kinetic and Kinematic in field hockey.</u> Dr. Rahul Tiwari
SESSION-III	
3:00 - 4:00 PM	PAPER PRESENTATIONS

Scientific PROGRAM

DAY 2, 6 th JUNE 2021 (Sunday)	
SESSION-IV	
9:15 - 10:00 AM	<p style="text-align: center;">KEYNOTE SPEAKER <i>Recovery from COVID-19: Patients Experience & Feedback</i> Associate Professor Maria Abulkhanova</p>
10:00 – 10:30 AM	<p style="text-align: center;"><i>How to Develop International Competence of Sport Physiotherapy?</i> Professor Dr. Imam Waluyo</p>
10:30 - 11:00 AM	<p style="text-align: center;"><i>Sport for Pregnant Women and Impact on birth process</i> Dr. Tilawaty Aprina</p>
11:00 - 11:30 AM	<p style="text-align: center;"><i>Recent Trends of Therapeutic Modalities on Sports Rehabilitation</i> Dr. Bharath Kumar</p>
11:30 AM -12:00 PM	<p style="text-align: center;"><i>Current Concepts in ACL Reconstruction Rehabilitation</i> Dr.Gagan Kapoor</p>
12:00 - 12:30 PM	BREAK
SESSION-V	
12:30 - 1:00 PM	<p style="text-align: center;"><i>Release Tension Stress for Preparation Sport Competition</i> Dr. Arsyad Subu</p>
1:00 - 1:30 PM	<p style="text-align: center;"><i>Scope of Functional Rehabilitation and Artificial Intelligence in Sports Medicine-A Physiotherapist's Perspective</i> Dr. Jasmine Kaur Chawla</p>
SYMPOSIUM ON REGENERATIVE MEDICINE	
1:30 - 2:00 PM	<p style="text-align: center;"><i>Regenerative Medicina</i> Dr. Pankaj N Surae</p>
2:00 - 2:15 PM	<p style="text-align: center;"><i>Role of Regenerative Interventions in Sports Injuries</i> Dr. Namrata Dabas</p>
2:15 - 2:30 PM	<p style="text-align: center;"><i>Sports Related Back and Spine Injuries</i> Dr. Renu Dadiala</p>
SESSION-VI	
2:30 - 3:30 PM	PAPER PRESENTATIONS

SCIENTIFIC PROGRAM

DAY 3

7th JUNE 2021 (Monday)

SESSION-VII

9:15 - 10:00 AM	KEYNOTE SPEAKER <i><u>Traditional Nutrition for Increasing Stamina</u></i> Dr. Hery Prambudi
10:00 - 10:30 AM	<i><u>Yoga -Based Pulmonary Rehabilitation for the Management of Dyspnea in COPD: A Randomized Controlled Trial</u></i> Professor Dr. A M Moorthy
10:30 - 11:00 AM	<i><u>Role of Naturopathic Medicine & Yoga Therapy in Psychological Rehabilitation in COVID 19</u></i> Professor Dr. Sangeeth Somanadhapai
11:00 - 11:30 AM	<i><u>Free Radical Scavengers: Perspectives for Improvement of Muscle Performance and Recovery</u></i> Dr. Halyna Kuznietsova
11:30 AM - 12:00 PM	<i><u>Using Probiotics in Sports Enhancement</u></i> Dr. Mahenderan Appukutty
12:00 - 12:30 PM	BREAK
SESSION-VIII	
12:30 - 1:00 PM	<i><u>The Role of Sport Psychology in Injury Recovery</u></i> Chatkamon Singhnoy
1:00 - 1:30 PM	<i><u>Mental Training for Peak Performance</u></i> Dr. Anjum Padyal
SESSION-IX	
2:00 - 3:00 PM	PAPER PRESENTATIONS
3:00 - 3:30 PM	<i>Valedictory Session</i>

GUEST OF HONOR

Prof. Dr. Olha Borysova

Olha Borysova - Professor, Doctor of Science in Physical Education and Sport, Honored Official of Physical Culture and Sports.

Olha is a Vice-Rector on scientific and pedagogical matters in National University of Ukraine on Physical Education and Sport. She authored more than 250 scientific and methodological publications. She has been presenting her research findings as an invited and plenary speaker in International Conferences and Congresses over the world.

The area of her expertise is Professional Sport, its management and structural association with Olympic Sport.



KEYNOTE ORATORS

Professor (Dr.) Hairul Anuar Hashim

Professor (Dr.) Hairul is a Deputy Dean of Research, Innovation, Industry – Community Engagement and lecturer in Exercise and Sports Science Programme, School of Health Sciences, Universiti Sains Malaysia. He has a Master degree from Springfield College, USA and a PhD from the University of Western Australia in Sports & Exercise psychology. His area of research interests includes the use of psycho-behavioural techniques in sports performance and health enhancement, particularly progressive muscle relaxation. He also has a deep interest in psychometric development and validation. Prof. (Dr.) Hairul has published over 300 journals manuscripts, conference proceedings, books, book chapters, and newspaper columns. From 2014 to 2018, he wrote a weekly newspaper column in which he addresses issues related to emotional and mental health from various aspects especially exercise and mental health. He successfully obtained 30 research grants either as a principal investigator or a co-investigator. Prof. (Dr.) Hairul is actively involved in national coaching certification board as a curriculum board member. He also provides regular consultations for private and governmental agencies such as National Sports Council and State Sport Council as well as sports associations particularly in sports and exercise psychology. Besides academics, his is passionate about volleyball which he is actively playing and coaching.



ABSTRACT

Utility of Progressive Muscle Relaxation in Sports and Rehabilitation

Hairul Anuar Hashim

School of Health Sciences, Universiti Sains Malaysia, Malaysia

Progressive muscle relaxation (PMR) is a psychosomatic technique that has been used to counteract the stress response and regulates the activation of sympathetic nervous system. The series of contracting and relaxing muscle groups in PMR help individuals to increase awareness about the sensation of tensed versus relaxed muscle of their body. Consequently, it may enable individuals to recognize unwanted tension sensations and releasing the tension voluntarily. Growing evidence exist supporting the use of PMR to manage physiological and psychological arousal in numerous domains including sport performances, medical conditions, and general well being. In this presentation, I will share the research findings on the utility of PMR that we have observed in our laboratory in the past 14 years. Our findings generally support the effectiveness of PMR across samples of athletes, osteoarthritis patients, students, and army reserve personnel.

KEYNOTE ORATORS

Prof. (Dr.) Maria Abulkhanova

Associate Professor Founding Member and Vice President of BRICSCESS, Department of Physical Education and Sport Science, Moscow State Academy of Physical Education, Russia



ABSTRACT

Recovery from COVID-19 Patients Experience and Feedback

Maria Abulkhanova

Department of Physical Education and Sport Science, Moscow State Academy of Physical Education, Russia

The COVID-19 pandemic has transformed the approach to health care delivery around the world. The survey, conducted by the Recover@home team, was created to understand how patients experienced medical care during recovery from COVID-19 and to identify areas for improvement. The online survey explores patients' experiences and access to health care during this period.

Patient feedback will help the medical practitioner understand how well the health care system methods are meeting patients' needs and how they can be improved. It allows the patient to tell their opinions and the health care providers to hear them. Patient feedback plays a fundamental role in identifying opportunities to create the best possible experience for patients and medical care specialists, who often seek health care services during difficult and stressful times for themselves and their families.

KEYNOTE ORATORS

Dr. Hery Prambudi

Director

AAK An Nasher, Indonesia

Dr. Henry Prambudi is a Director of an An Nasher Academy of Health Analysts, Deputy Chairperson of Stikes An Nasher and Head of Hospital Pharmacy Installation, Sumber Waras, Indonesia. He did his graduation in pharmacy in 2001, post graduation in 2012. He has an academic experience of last 20 years. He has various organizational responsibility to his credit:

Chairman of OSIS SMAN, head of BEM, Head of RT, RW, PC IAI Regency, Cirebon, Head of Education and Training Division of AIPTLMI (Association of Indonesian Medical Laboratory Technology Higher Education Institutions), West Java Regional Chair for the 2018 TLM Competency Test, Honorary Member of PD Patelki (Indonesian Health Laboratory Engineering Association) West Java from 2012 to present and Chairman of Hisfarsi (Indonesian Hospital Pharmacy Seminar Association) Region 3 Cirebon in 2019 Up to now. He has an expert lecture in more than 15 workshop, seminar and conferences globally.



INVITED LECTURES

Dr. Kiran Kulkarni

Dr. Kiran Kumar Kulkarni is a world-class sports medicine, exercise, fitness, and nutrition consultant. He has done MBBS and PGD in sports nutrition and sports medicine. He works with the Asian Football Confederation as a Medical and Doping Control



Officer and the Board for Control of Cricket in India (BCCI) as a Doping Control Officer.

He has more than 20 years of experience in conservative Orthopedics treating knee osteoarthritis and prolapsed intervertebral discs. It would be beneficial to learn about sports injury prevention from someone like this. He has several publications to his credits as well as he has presented several national and international platforms as an expert lecture on doping and sport injury and rehabilitation.

Sports Injuries: Prevention and Management

Dr. Kiran Kulkarni

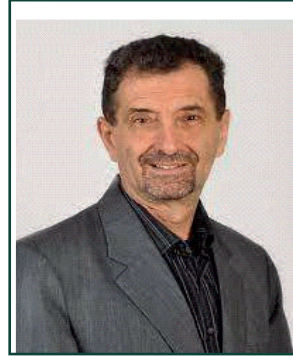
Consultant Sports and Exercise
AFC Medical & Doping Control Officer
Medicine Specialist, Indian Fitness academy,
Bengaluru, India

Injuries caused through sports involvement among children and adolescents in the United States total 3 million per year, with an injury defined as one that results in time spent away from sports. Injury rates have decreased as a result of changes in the sporting environment, which have resulted in greater safety regulations. Various equipment or safety gears to prevent sports injuries. Intrinsic factors which muscle imbalance, anatomical abnormalities along with extrinsic factors like improper footwear, improper training resulting to injury were explained. Various ways of injury management and inflammation along with importance of sports physiotherapy and rehabilitation in sports. "A major obstacle to developing strategies for preventing injury is the

lack of epidemiological data on injury rates in most sports."

Prof. Dr. Oleksandr Krasilshchikov

Dr. Oleksandr Krasilshchikov is Professor in the Exercise & Sports Science Programme at Universiti Sains Malaysia. His areas of expertise cover Training and Exercise Methodology, Talent Recognition and Development, Performance Analysis and Coaching



Science. He has more than 35 yrs. of teaching experience. He worked with Sports Authority of India as Training Methods Expert in and as SAI coordinator of scientific support to the National Teams in more than 10 different sports in preparations to 1994, 1998 and 2002 Asian and Commonwealth Games and 1996 and 2000 Olympics.

He is American Council on Exercise certified Personal Trainer, Lifestyle & Weight Management Consultant and Health Coach. He has been a recipient of Teaching Excellence Award in USM in 2006, best paper awards at the International Conferences in 2008 and 2013.

He has authored 90+ journal articles, five book chapters and three books on Exercise and Sports Training Methodology. His membership in professional bodies includes European College of Sports Sciences, Asian Council of Exercise & Sports Science, and National Association for Physical Education & Sports Science of India. He is a PhD thesis external examiner for 12 Universities from 4 countries.

He is an associate editor, guest editor and a reviewer for many National and International Scientific Journals.

INVITED LECTURES

Professor Nikanorov Oleksii

Professor at the National University of Physical Education and Sport of Ukraine (Physical Therapy department).



Sphere of interests:

Physical therapy of injuries of the athlete's musculoskeletal system. Conducts researches in the field of recovery of motor functions of athletes with damages of the knee joint in team sports. Author of over 60 scientific articles on physical therapy. Conducts practical work in the sports rehabilitation clinic.

Features of The Physical Therapy Process Conduction in the playing sports

Injuries in sports are very common among athletes of various levels. The nature of injury varies with sports. Representatives of 92 teams revealed injury in their national teams, and an aggregate of 1,055 such cases were recorded. Over 55% of them injured the lower limb, about 9.5% of athletes got head wounds. 3/4 of all injuries happened during competition. The main causes of sports injuries were further divided into 3 categories, these were- Methodical- This includes Violation of the general principles of training (gradualness, continuity), mistakes in sports selection: lack of medical supervision, lack of competence of the trainer when used in the preparation of exercises from other sports.

Organizational- Includes Shortcomings in material and technical support, unsatisfactory sanitary and hygienic conditions for training and competitions, poor quality of refereeing; shortcomings of theoretical and practical training of the trainer.

Due to the individual characteristics of the athlete- Includes insufficient level of technical and tactical preparedness of an athlete, the inadequate level of physical fitness, violation of sports rules or the general regime. Most of the musculoskeletal injuries in

athletes are accompanied by a sudden and abrupt cessation of training session which leads to- a violation of the established motor stereotype that entails a painful reaction of the whole organism, destruction of conditioned reflex connections developed by many years of systematic training and decrease in the functional abilities of the body and all its system, physical and mental detraining. Injuries of the musculoskeletal system in various sports are more common in playing kind of sports and martial arts and least in cycle kind of sports. Lower limb injuries are most common musculoskeletal injury in both team and individual sport, with knee joint injuries being most common. Organizational structure of physical rehabilitation in athletes consists of following stages. Stage 1: Restoration of muscle balance, proprioception and coordination of movements. Stage 2: Restoration of speed and strength qualities. Stage 3: Full restoration of sports conditions.

Dr. Dobson Dominic

Dr. Dobson Dominic is an Associate Professor and head of department, Saveetha Institute of Sports Medicine and Sports Sciences, Saveetha University, Chennai. He was a sports medicine consultant-New Zealand Cricket Team in India 2016-17. He is a Sports Medicine Consultant for the Tamil Nadu badminton team, a Board of Studies member for Sports Bio-mechanics at the Tamil Nadu Sports University in Chennai, a Sports & Exercise Science Consultant for the ELMS Sports Foundation, and a Scientific Advisor for URUFIT. He is expert in sports injury and management, he has delivered his lectures in over 100 webinars, making him a webinar expert.



INVITED LECTURES

On Field Management of Catastrophic Sports Injuries

The topic included collapsed athlete management under major 3 C conditions i.e., cardiac, concussion, and cervical spine injuries that are classified as on field catastrophes. The therapist should follow the sport and have basic certifications like BLS, ATLS and ACLS before going on field along with side line preparedness like a proper medical/physio kit, knowledge about the equipment being used in the sport and follow a proper protocol for treatment like FIFA 11 steps for sudden cardiac death. Primary survey also includes manual stabilisation, knowledge about CPR (it can damage cervical spine), suspicion of Sudden cardiac death (SCD) or Cervical spine SCI in cases of unresponsiveness and knowledge about suctioning for airway clearance. The Secondary survey includes a thorough side line assessment with complete HOPS (history, observation, palpation and special tests). Then comes Return to play (RTP), only if the injury is not catastrophic, for which the athlete should fulfil 4 criteria i.e., athlete must exhibit 100% strength, emotional readiness, must be free from pain and clearance of skill performance tests. Cardiac collapse, heat stroke, syncope and types of cervical spine injuries which included types of fractures and brachial plexus injury. The management of spinal cord injury has a very important component of patient transferring from field to stretcher that has steps like turning the body to side line with assistance and then log rolling it on the stretcher as a whole unit and fastening the body with straps to avoid any unwanted mobilisation of segments. As for whiplash injury (coup countercoup) there should be no RTP same day as pain arises a day after trauma with tender spinous and transverse processes. For neuropraxia, RTP is allowed only if there are complete cervical ranges, strength and no symptoms like paresthesias. The treatment will include sling, rest and icing but do a thorough motor, sensory (dermatome, myotome) and reflex responses assessment. Injuries like concussion that result from biomechanical forc-

es have a proper Sport Concussion Assessment tool which has components like side line assessment (GCS, Maddock's score, subjective and objective assessment), scoring, instructions, and patient information. Keep a check on second impact syndrome and retirement from sports.

Dr. Vivek Chauhan

Dr. Vivek Chauhan is a specialist in treating on-field injuries. He has more than 16 years of teaching experience and is an associate professor at the Dolphin Institute of Physiotherapy. He is well-versed in musculoskeletal injuries and their treatment. Worked as the chief physiotherapist for the Uttaranchal Tennis Association and at the all-India junior badminton championship and the all-India police athletic meet in Dehradun. Research work has been published in a number of international and national journals. To date, 50 physiotherapy and health awareness camps have been held. Today, he will impart his vast knowledge on groin pain, which has an anatomical approach to diagnosis. Management then includes a thoughtful approach to functional recovery, giving time for healing, regaining strength, and restoring mobility. Athletes should be reminded that there are no shortcuts, and that accurate diagnosis leads to targeted treatment, with functional closed-chain strengthening and core stability at the forefront of rehabilitation.



Groin Strain Pre-Rehab & Post-Rehab in Kabaddi Players

Groin pain is a clinical problem because of the variety of conditions that are potentially responsible. Much of the "theory" of groin pain is just theory, and much needs to be done to document the path mechanics and symptomatology of this anatomical region. Notwithstanding the above, clinicians should be comfortable in the knowledge that they

INVITED LECTURES

can provide relief in most cases and a cure in more than a few. The diagnostic approach is anatomical, Management then comprises a considered approach to functional recovery, allowing time to heal, regain strength, and restore mobility. Athletes should be reminded that there are no short cuts and accurate diagnosis leads to directed treatment, with rehabilitation focused on functional closed -chain strengthening and core stability.

Dr. Rahul Tiwari

Dr. Rahul Tiwari is a lead biomechanist at sports Authority of India. He has worked as a Sports Physiotherapist for the Madhya Pradesh Cricket Association. As an assistant professor at the Charotar University of Science and Technology in Gujrat, and as a



lead biomechanist at the Sports Authority of India's Netaji Subhas National Institute of Sports in Patiala. He will impart his knowledge of kinetic and kinematics in field hockey today.

Understanding the connection between kinetic and kinematics in field hockey

Biomechanics is a science dealing with internal and external forces acting on the human body and the application of these mechanics on the living being. Mechanics has two branches- dynamics and statics respectively, out of which the dynamics is divided further into kinetics and kinematics. Kinematics as description of motion without concerning the forces and explaining them using equation of motion. For instance, it has some parameters that don't deal with the force's consideration like distance, displacement, velocity, speed etc. Kinematics only focuses on the geometric aspects of the motion. Kinetics as a cause which makes the body to move. Its parameters deal with the underlying forces act-

ing on it like inertia, mass, momentum, weight etc. Gait kinetics and kinematics parameters and the kinematic chain principles. The importance of two branches of mechanics as they answer what and why of the motion. These branches with Field Hockey as the sport requires understanding of short sprint acceleration, agility and explosiveness. The assessment part should consider explosive and jump tests to assess these parameters of the mechanics. Also, this relationship between field hockey and parameters should be explained to the coaches in order to incorporate the same in their training programs too. The basic steps that should be kept in mind while training and assessing the athlete and focusing on sport specific training.

Prof. Dr. Ir Suharingsih

She is a Professor of Biophysics at Airlangga University, Indonesia. In her Academic Career She is a Government Employer at Ministry of Research, Technology in the Airlangga University. She is presently a Chief of Traditional Medicine



study programme at Universitas Airlangga. She has done her Doctorate in Physics Institution Universitas Airlangga in the year of 1995-1999 and Bachelor Program at Department of Physics, Faculty of Mathematics and Natural Sciences from Institute of Technology Sepuluh Nopember Year :1972-1978. She has worked on various Research developmental projects in the last and have got grants for the same. She is renowned researcher in the field of Traditional Medicine and its benefits. Professor has published almost 18 + international papers in the last 5 years and actively contributing in the field of Biophysics.

INVITED LECTURES

Sport for Pregnant Women and Impact on birth process

The current trend of sports for pregnant women in Indonesia involves prenatal gentle yoga, prenatal yoga Aqua, Yoga couple and birth ball use. The benefits of prenatal yoga include removing the pain and stress, improving the body shape and breathing techniques, and increasing the blood circulation. It's done for pregnant women in second trimester for 30 to 60 minutes for All sessions. The 3 important key elements during prenatal gentle yoga are breathing, posture and meditation. Prenatal yoga Aqua are the water exercises in the pool combining several aerobic movements. The principle of this sport is the head of mother should keep above the water level during the gymnastic movements. It's done for 20 to 40 minutes in the water depth 1-1.5 metres. Prenatal couple yoga is the modification of prenatal yoga. It involves the husband, helps in improving the physical fitness and health of both mothers and fathers and helps in reducing stress and improving the father-mother relationship. Birth ball is a method in which mother sits on a ball during the delivery process so that it helps the mother in reducing the pain during labour. An upright posture will support the birth process well and help the foetus to be in an optimal position. Birth ball therapy is carried out by mothers in labour by sitting relaxed and swing on the ball hugging the ball during contractions.

Professor Dr. Imam Waluyo

Padma Kumara Foundation and Associations of Applied Vocational Physiotherapy Education and Indonesian Consultant of An Nasher Institute of Health Sciences and Aisyiah Pontianak Politechnique



How to develop international competence of sport physiotherapy?

Competency certification and its importance for job seekers, employees in the workplace and companies and workplaces. The purpose of developing competency standard are defining performance requirements, establishing Benchmarks, regulatory or licensing requirements, requirements for entering an occupation or profession, and also providing a basis for maintaining the competence and supporting the achievement of goals.

Competency standards help the professional community in maintaining the competency, assisting the students and assisting in the recognition of competence while for educational institutions it helps in ensuring the link and match between the competence of graduates and the competence from the industry, and also ensure the efficiency in the development of educational programs and achievement of higher educational outcomes. The steps to develop competency standards are clarification of the scope and objectives, confirming the standardization system, initial research to identify relevant information, mapping of competency area function, research covering areas of critical and specific work functions, etc, formulating a work plan for formulating competency standards, and confirming standardization plan with relevant parties.

Competencies and Standards for sports Physiotherapy according to European region of WCPT & Defined the meaning of benchmarking and various professional roles that are specific to specialization in sports physiotherapy. Finally, framework for sports physiotherapy standards and the process which includes Foundation knowledge critic and synthesis information collection information processing action intervention evaluation and modification and specific national standards.

INVITED LECTURES

Dr. Bharath Kumar

Sports Medicine Doctor, Sports Authority of India, Bengaluru, India

Recent Trends of Therapeutic Modalities on Sports Rehabilitation

The recent trends in therapeutic modalities in sports rehabilitation. Therapeutic modalities are used because it helps restore function and performance to a preinjury level, safe return to the sports minimizing the risk of injury. It shows acute phase which promotes tissue healing and avoids deconditioning (i.e, right side body affected and left side deconditioned as it has not been used). Reconditioning phase in which tissue healing and remodeling takes place by increasing the load of training to normal level but cannot participate in sports.

Following Return to sport and prevent reinjury phases. Challenges faced during rehabilitation are such as pain management, restoring structure and function, fixing the nutrition and mind control. Recent trends of using Therapeutic modalities are - sports massage therapy, exercise therapy, manual therapy, compression therapy, virtual reality, vacuum cupping, dynamic taping, blood flow restriction, potentiation, kinesio tape etc. music therapy: VAT (which gives both acoustic and vibrant effect) occurring neuroplastic changes and neural recognition by stimulating dopaminergic pain receptor pathways.

Light therapy: UV (ultraviolet) and LLLT (low level laser therapy) are used which improve healing by releasing neural blockade and decreasing inflammatory neuropeptides. Compression garments: reduce muscle pain damage, decrease inflammation, clearance of metabolites, improve blood and lymphatic outflow. Blood flow restriction: resistance and aerobic exercise with protocols and exploring BFR with electrical stimulation. Virtual reality: simulation of 2 or 3D environments along with various strengths, weaknesses, opportunities and threats.

Dr. Gagan Kapoor

Dr Gagan Kapoor, Director at Actio-Prehab is a Sr. sports physiotherapist with over 20 years of experience. He is among the first few qualified post graduate sports physiotherapists to have worked with the national sports teams. He has worked as team physiotherapist for the National Football Team from 2005-2011.



Former Head of Rehab Service, HCAH India, he built a team of 180 physiotherapists across India. Alumni of the prestigious National Institute SVNIRTAR, Cuttack. On the academic side he has publications to his name in national and international journals and is visiting faculty at Jamia Millia Islamia, Delhi. He completed his masters in Sports physiotherapy from Jamia Hamdard, New Delhi. He is member of Medical Committee at Football Delhi and has worked as lead physiotherapist with Northeast United FC during inaugural season of the Indian Super League.

Current Concepts in ACL Reconstruction Rehabilitation

Gagan Kapoor

Actio-Prehab, New Delhi, India

ACL injury is a serious and sometimes career threatening injury for all players. Although non-surgical management could be an option, early ACL reconstruction (ACLR) is considered the gold standard treatment. Around 80% of ACL-reconstructed patients return to some kind of sporting activities, but only 65% return to their preinjury level and 55% to competitive level sports.

Once the ACL surgery is performed, it is important to alter the rehabilitation program based on the type of graft used, any concomitant procedures performed, and the presence of an articular carti-

INVITED LECTURES

lage lesion. This helps in the prevention of several postoperative complications, such as loss of motion, patellofemoral pain, graft failure, and muscular weakness.

Current rehabilitation programs focus not only on strengthening exercises but also on proprioceptive and neuromuscular control drills to provide a neurological stimulus so that the athlete can regain the dynamic stability that is needed in athletic competition.

Objective return-to-sport criteria often utilize measures of quadriceps strength and single legged hop tests, with limb-to-limb differences typically expressed as limb symmetry indexes.

High reinjury rates post-ACLR highlight the need for better rehabilitation of the injured limb as well as for implementation of prevention strategies for the uninjured limb.

Dr. Jasmine Kaur Chawla

Dr. Jasmine Kaur Chawla is a PhD in Sports Medicine and Physiotherapy, Guru Nanak Dev University. She is one of the few Indians who has been awarded Diploma in Football Medicine by FIFA in January 2018. She has 17 International and



National Publications to her credit. She is presently working as an Assistant professor in Amity University, Noida. She has been awarded a research Grant under Global Awards for Advancing Chronic Pain Research (ADVANCE) 2019 by Pfizer, NYC. She has also worked as project fellow in UGC DRS and DST project. Also, Worked as an Assistant Professor in Guru Nanak Dev University, Amritsar.

Further, she co-authored various chapters in her discipline and has also co-authored a book on orthopaedic and sports related conditions. As community service, she has designed an app for prevention of

age-related knee conditions which has received more than received >50,000 downloads. She has been a resource person to various national and international conferences and is an active community rehabilitation worker, working with various NGOs at state and national level.

Scope of Functional Rehabilitation and Artificial Intelligence in Sports Medicine: A Physiotherapist's Perspective

Jasmine Kaur Chawla

Amity Institute of Physiotherapy, Amity University, Noida, Uttar Pradesh, India

Artificial Intelligence (AI) and functional rehabilitation methods are some of the recent advances in sports medicine that are being increasingly applied in Health and Rehabilitation care. The applications of AI are becoming popular as they are used in predicting injury risk and performance in team sports.

Additionally, Functional rehabilitation is a multidisciplinary restoration program that is aimed to provide comprehensive treatment of an injury in an athlete in comparison to our conventional methods of traditional physical therapy. Incorporation of AI will provide a contextual data relevant during rehabilitation. Further, the algorithms can help in identification of an injury. Inculcating a comprehensive functional rehabilitation program which will comprise of a wide range activity including some simple tasks like jogging to some highly complex sport-specific activities that require refined levels of proprioceptive acuity will help in improving overall wellness and health of an Athlete.

INVITED LECTURES

Dr (Maj) Pankaj N Surange

Dr. Pankaj N Surange has completed his MBBS from GR Medical College, Gwalior and completed his MD (Anesthesiology) from Army Base Hospital, New Delhi. He was awarded Fellowship Interventional Pain Practice-Budapest (Hungary), Fellow Indian Academy of Pain management, Fellowship Spine Endoscopy-Korea and Germany. He is a Director, Interventional Pain and Spine Center (IPSC India), New Delhi and Director, IPSC India Training Institute. He is a Hon. Secretary, Indian society for study of pain. He is an Ex-Chairman, World Institute of Pain, India, Sri Lanka, Bangladesh and Pakistan Section. He is also a Founder Member and Treasurer, Musculoskeletal Ultrasound Society of India. He is also a Founder Member and Hon Secretary, Neuromodulation Spine society of India. He is a International Member of Spine Intervention Society. He was awarded as Recipient of Pain Awareness Ambassador Award 2015, Recipient of Excellence in pain practice award by World Institute of pain 2017 Recipient of National Pain Physician of the year Award 2016 and Recipient of "Her Highness" Rajmata Scindhia Excellence award. He was an esteemed Invited Faculty at various national and international conferences. Several books, editorial and national as well as international publications are to his credits.



Prof. A.M. Moorthy

Prof. A.M. Moorthy, vice-chancellor, Tamilnadu Physical Education and Sports University, Melakottaiyur, Chennai. He has strongly contributed in the field of yoga. Professor has established, organized and



founder of various yoga institutes and clinics in Tamil Nadu. He has Contributed his knowledge in yoga by publishing various research projects and he is actively designing various treatment and rehabilitation protocols for the Asthmatics, Diabetes, Psychosomatic Disorders, Stress Management, Control on Hypertension with the concept of different forms of Yogic Methods. He has conducted Yoga Mckenzie Method and general exercise for the treatment of Chronic Non-specific back pain and conducted various Randomised Control Trial with 2 years followup.

Dr. Sangeeth Somanadhapai

Dr. Sangeeth Somanadhapai, Professor & Dean, FNYS, holds a Bachelor degree in Naturopathy and Yogic Sciences with 2 Gold Medals, from Mangalore University, India, and Specialization in Workplace Wellness Medicine, Stress Management, and Applied Yoga Therapy.



Completed Doctor of Medicine in Acupuncture from Al-Farabi National Kazakh University, Kazakhstan.

Also, currently an Adjunct Professor with Nyarkotey College of Holistic Medicine, a Naturopathic Medical College attached with the Traditional Medicine Practice Council, Ministry of Health, Govt of Ghana, School of Holistic Medicine. Lincoln College University, Malaysia and also on the board of Faculty of Holistic Medicine, Universidad Empresarial, Costa Rica. Also an Executive educational member of World Naturopathic Federation for Nyarkotey College of Naturopathic Medicine He has excelled in the field of Naturopathy and Yoga as a Clinician, Academician, Corporate Trainer. He has more than 23 Years of work experience in the field in various capacities. He has presented papers in more than 15 National Conferences and 10 in international conferences.

INVITED LECTURES

He is actively involved in the capacity of Technical Advisory Panel & Resource Person of National Institute of Naturopathy, Pune and Central Council for Research in Yoga and Naturopathy, both, under the Ministry of AYUSH, Govt of India. He has represented as the Ministry of AYUSH official to Govt of Sikkim and Govt of Manipur in National Seminars and Workshops in Yoga and Naturopathy. He was also involved in Uniform Syllabus Conceptualisation for BNYS Curriculum with the Ministry of Health and Family Welfare, Govt of India, and Ministry of AYUSH, Govt of India from 2010 to 2109.

The Psychological Rehabilitation of Sport Persons through Naturopathic Medicine and Yoga

Sangeeth Somanadhapani^{1,2,3,4}

¹Faculty of Naturopathy & Yogic Sciences, SGT University

²Nyarkotey College of Holistic Medicine, Ghana

³School of Holistic Medicine, Lincoln College University, Malaysia

⁴Faculty of Holistic Medicine, Universidad Empresarial de Costa Rica

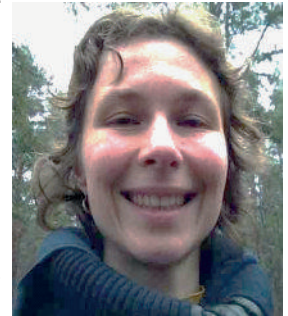
From cricket to athletics, Covid-19 pandemic has hit hard the sporting fraternity and will change it. India has been a sporting country for centuries now, be it an indoor or outdoor with very rich cultural heritage spanning for many centuries. Some sports will be hit harder than others especially unpopular ones. The economic structure of international cricket is likely to change, with lower-ranked nations facing a crunch in funds. Some less popular sports in India, like kho-kho, kabaddi, hockey, stare at an uncertain future. The economic impact brought by this pandemic will change the future of this industry forever to an unthinkable future for now.

The uncertainty brought by this pandemic has made all sports persons to be confined indoors. This means they have lost a lucrative career. Sports is a

unique activity that can't be practiced using virtual platforms. These uncertain situations have put many sports persons into lot mental conditions through loss of jobs and careers, economical loss through other sources of incomes like endorsements of products through advertisements etc. These have led into various psychological health issues like stress, depression, anxiety, fear and suicidal tendencies etc. Some of the sports persons have become victims of these deadly virus which have put them in more uncertain situations. Naturopathic medicine and Yogic interventions based on evidence-based medicine have solutions on how these psychological issues could be dealt upon efficiently through simple home remedies of Naturopathic Medicine, telehealth consultations and also through practices of various yogic and meditative practices. These practices not only could help in the effective management of these psychological conditions but also could have a positive effect on the performance of the sports person even during a non-pandemic situation.

Dr. Halyna Kuznietsova

She is a senior researcher of Taras Shevchenko National University of Kyiv and an associate professor of National University of Ukraine on Physical Education and Sport. She graduated from Taras Shevchenko National University of Kyiv, where she also got PhD degree.



Her scientific interests are biological effects and mechanisms of action of natural and artificial compounds (including nanomaterials) having different activities, including anti-inflammatory, antitumor and antioxidant ones. I have discovered a lot the biocompatible C60 fullerenes – the most powerful antioxidants have ever been. As redox balance is one of the main triggers and/or supporters of almost of all pathological and physiological process-

INVITED LECTURES

es, the prospects of prooxidants and antioxidants for correction of those becomes obvious.

Free Radical Scavengers: Perspectives for Improvement of Muscle Performance and Recovery

Halyna Kuznietsova

Taras Shevchenko National University of Kyiv, Ukraine

We have been demonstrated C60 fullerenes' ability to inhibit inflammation, fibrosis and cancer of gut organs, and the main mechanism their action has been realized by reactive oxygen species' (ROS) scavenging, lipid and protein peroxidation down-regulation and antioxidant defence system activation.

Muscle fatigue is known to be associated with excessive ROS production and oxidative stress. Therefore, antioxidant application looks promising strategy to attenuate oxidative stress consequences and improve muscle performance and recovery. However, antioxidant efficacy for athletes remains controversial because of complexity of signaling pathways involved in muscle contraction and relaxation regulation, which require ROS. And there are also no nutritional supplements with antioxidant activity as the main one, approved for usage in athletes. So, we tried to discover the effects of artificial free radical scavengers C60 fullerenes on muscle performance and recovery in order to contribute to the topic of antioxidant usage in sports.

Dr. Mahenderan Appukutty

Assoc Prof Dr. Mahenderan Appukutty was the Head, Centre of Postgraduate Studies from 2014 to 2019, at the Faculty of Sports Science & Recreation, Universiti Teknologi MARA, Shah Alam and started his academy journey in 2001. He has completed his sabbatical leave research on sports and proteomic at Jeffrey Cheah School of Medicine and Health

Sciences, Monash University Malaysia. He holds a PhD in Nutritional Sciences focusing on nutrition, immunity and exercise performance from Universiti Kebangsaan Malaysia, his Master of Sports Science from Universiti Sains Malaysia and Bachelor of Science (Hons) in Nutrition and Community Health from Universiti Putra Malaysia.



He is the Vice President of Nutrition Society of Malaysia (NSM) in 2020 and conferred as Fellow of NSM (FNSM) since 2016. He also serves as Vice President of Malaysian Association of Sports Medicine (MASM), Vice President of Malaysian Society of Body Composition (MSBC) and Council Member of Malaysian Association for the Study of Obesity (MASO). He also serves as Specialist Representative for Exercise Physiology/Sports Medicine for World Obesity (WO) Federation. His research interests and focus are on functional food, health and exercise science. He chairs the Malaysian Vegetarian Dietary Guidelines (MoH) and also contributed as key writer for the Malaysian Dietary Guidelines. He has published scientific articles in local and international referred journals, newspaper and health magazine. He also presented papers at international and local conferences and seminars in nutrition, health and exercise science.

Dr Mahenderan currently serves as the Malaysian Journal of Nutrition as Associate Editor, Editorial Board Members for International Journal of Therapies and Rehabilitation Research and International Journal of Physical Education, Sports and Health. He collaborates with government and private agencies for many community nutrition promotion and research projects. He has contributed towards capacity building of Nutritionists in the region (Southeast Asia Nutrition Leadership Program,

INVITED LECTURES

SEAMEO-RECFON, Indonesia and also serve as Chairperson of Malaysian Nutrition Leadership Program (MyNLP) and South East Asia Public Health Nutrition Leadership Programme (SEAPHN LP).

Using Probiotics in Sports Enhancement

Mahenderan Appukutty^{1,2}

¹Taras Shevchenko National University of Kyiv, Ukraine

²Sports Science Programme, Faculty of Sports Science & Recreation, Universiti Teknologi MARA, Shah Alam, Selangor, MALAYSIA

Probiotics as a live bacterium when ingested, confer mental health benefits through crosstalk of commensal gut bacteria. Probiotics have shown promising results in improving digestive and immune health of the host. Probiotics have a significant role in the gut system and regulate the adaptation pertaining to exercise. Microbiota-gut-brain axis was revealed many years back and the complex bi-directional relationship between the gastrointestinal tract and the brain is still subjected to research. Studies have proven that gut microbiota can directly affect the psychophysiological conditions of the human. Probiotics may not improve sport performance directly but through their secondary health benefits. The presentation focuses on the effect of using probiotics to improve psychological outcomes and the practical issues of probiotics usage in among sports community pertaining to formulations, dose-response, strains, and timing of supplementation in relation to travel and competition. In summary, albeit the scientific evidence for an ergogenic effect of probiotics is lacking, probiotics may provide athletes with secondary health benefits that could positively affect athletic performance through psychological disorders (anxiety, stress and depression), enhanced recovery from

fatigue, improved immune function, and maintenance of a healthy gastrointestinal tract function. More studies are warranted to further explore and establish the mechanism of action for probiotics to aid athletic performance, recovery and overall health.

Dr. Chatkamon Singnoy

Dr. Chatkamon Singnoy is working as an Assistant Professor Faculty of Sport Science, Burapha University.



Education – He has done his doctoral degree (Exercise and Sport Science) Burapha University, Thailand 2008 and Master degree in Exercise and Sport Science in Burapha University, Thailand 2004. He has also done his Post-Doctoral in sport psychology at Faculty of Sport, University of Porto, Portugal 2011-2012

He work as a sport psychologist for athlete's preparations and enhance performance: - Youths (golfer and tennis) - International competition (working with the Sport Authority of Thailand as swimming, fencing, women football, cycling, dragon boat, kayak and canoeing, and sailing) His professional careers (women professional golfer; and tennis) as follows: Head of sport massage team in futsal professional team; and Head of sport science service team in University Game and National Game. - Football head coach of university team - Sport Psychology special lecturer - Editorial Board Members in SPORTS & HEALTH RESEARCH.

He has numerous publications in reputed journal. Presented more than 15 research papers in national and international conferences.

INVITED LECTURES

Dr. Anjum Padyal

Dr. Anjum Padyal is currently working as Associate Professor, Deshbhandu College, New Delhi. She has around 15 years of teaching, academics and research experience in the field of Physical Education and Sports Sciences, Health, Wellness and Nutrition.



She was graduated in Kinesiology and Exercise Science from Lakshmibai National Institute of Physical Education and post-graduated in Physiology and Exercise Science from Jiwaji University. She has done PhD in Physical Education and an expert for Business strategy, Team Management and Research. She is well renowned Executive Wellness Coach and Sports Sciences and Nutrition Coach.

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

OSC 1

Effect of Muscle Energy Technique vs Strain-Counterstrain in Treatment of Mechanical Neck Pain due to Upper Trapezius Trigger Points

Gaurav Bhatnagar

Department of Physiotherapy, Maharashtra Institute of Physiotherapy, Latur, Maharashtra, India.

Background: Mechanical neck pain affects 45% and 54% of the general population and can result in severe disability. A myofascial trigger point (MTrP) is a hyperirritable spot that can give rise to referral pain, local tenderness, muscle weakness, decrease ROM and peripheral and central sensitization. Manual therapy techniques like M.E.T and strain counter strain have been used to treat mechanical neck pain.

Purpose: The study aimed at comparing the clinical efficacies of these two manual therapy techniques for treating mechanical neck pain due to upper trapezius myofascial trigger points.

Methods: 48 subjects from MIP College OPD, who met the inclusion criteria were selected and randomly divided into two groups, with each group consisting of 24 subjects after obtaining their consent. After baseline examination, the subjects were randomized to receive either MET (Group A) or Strain counter strain (Group B). The outcome of interest like Pain intensity via NPRS, cervical lateral flexion ROM via goniometer and cervical pain and disability via neck disability index (NDI) were assessed at baseline & at the end of 6 weeks.

Result: MET and strain-counterstrain were effective among which MET was significantly more effective in reducing neck pain (Mean 2.08, $p < 0.0001$), increasing cervical lateral flexion ROM

(Mean 41.96, $p < 0.0001$) and reducing functional disability (Mean 12.67, $p < 0.0001$).

Conclusion: Study concludes that Muscle energy technique is more effective than strain counter strain technique in reducing pain, improving CROM and reducing neck disability due to upper trapezius trigger points.

OSC 2

Comparison of Novel Biofeedback and Clavicular brace with Physiotherapy Intervention in Computer user with Nonspecific Neck Pain

Pragya Kumar¹, Farhin Talat¹, Jasmine Kaur Chawla¹

¹Amity Institute of Physiotherapy, Amity University, Noida, India

Background: Neck pain nowadays is a common problem due to extensive use of computer, laptop, desktop or phone at work and home, which causes increased pressure on musculoskeletal system. Physiotherapy treatment including modalities like hot pack, TENS and exercises have shown to improve pain, but it is yet not clear that whether these approaches will help to correct habitual muscle tension during work thus improving pain and posture. Few researches suggested integration of biofeedback can help in improving posture and pain while working.

Purpose: Study was designed to evaluate and compare the effect of novel biofeedback machine along with clavicle brace and conventional physiotherapy among computer professionals with nonspecific neck pain.

Methodology: 30 computer professionals were recruited from different MNCs in Delhi, NCR as per selection criteria. Subjects were randomly allocated into 03 groups – Group A [Ergonomic advice + Neck exercises (n=10)], Experimental Group B [Ergonomic

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

Advice + Clavicular brace (n= 10)] & Group C [Ergonomic Advice + Biofeedback & clavicular brace (n=10)]. 0 day , 2 weeks & 3 weeks post – intervention assessment for neck pain (NPRS), disability (NDI) and posture [Crano-horizontal angle (CHA), Cranio-vertebral angle (CVA) & Sagittal Shoulder Posture (SSP)] were conducted. Data was analysed using descriptive statistics and ANOVA for intra- and inter-group comparisons.

Result: Intra group comparison (0 day, 2 - & 3-week post intervention showed significant improvement in pain & disability in all 03 groups. Marked improvement in SSP was seen only in Group C (F= 4.58; $p < 0.05$) whereas no change was noticed in Group A and B w.r.t. neck posture. Inter group comparison revealed no significant difference at 0 day, 2- & 3- week post intervention for neck pain, disability, and posture.

Conclusion: All three interventions were equally effective in reducing pain, disability and improving posture. Improvement in neck posture (SSP) was noticed in professionals receiving ergonomic advice along with biofeedback integrated clavicular brace alone.

OSC 3

Study on Pre-Competition Anxiety between College-Level Cricket Batsmen and Spin Bowlers

Manohar M. Mane

Department of Physical Education, University of Mumbai, Santacruz (East) Mumbai, Maharashtra, India

Background: Cricket is the commonly played game in India from amateur to professionals. Some many kids and youngsters train themselves for professional level in cricket. When you play professionally anxiety plays an important role in the performance of cricket players. Cricket requires a good level of coordination and reaction sense, which can get af-

fected because of anxiety. Cricketer has to predict movements which cause them to worry with negative thoughts. Pre-competition anxiety plays a very important role in players' performance in a cricket match. Sometimes, anxiety also helps to be attentive in the match and improve performance with care.

Purpose: The researcher decided to conduct the Study on a Pre-Competition Anxiety survey between College-Level Cricket Batsmen and Spin Bowlers.

Methodology: 150 intercollegiate level male cricket players aged between 18 to 28 years were randomly selected from various colleges affiliated with the University of Mumbai. Out of 150 which 80 were batsmen, 70 were spin bowlers. The subject's Anxiety was measured by using SCAT Questionnaire, developed by Rainer Martens in 1977. The null hypotheses were tested using a z-test at a 0.05 level of significance.

Result: It is found out that there is no important difference between the mean scores of anxiety between Batsmen and Spin Bowlers. Because the value of 'p' = 0.8463 is greater than the value of the level of Significant 0.05.

Conclusion: The result showed that there was no significant difference in pre-competition anxiety between cricket batsmen and spin bowlers.

OSC 4

Creating Opportunities for Social inclusion through Sports for Adolescents with Autism Spectrum Disorder

Deepti Ahuja¹, Aparna Sarkar¹, Prakash Kumar²

¹Amity Institute of Physiology and Allied Sciences Amity University, Noida, Uttar Pradesh, India

²Amity Institute of Occupational Therapy, Amity University, Noida, Uttar Pradesh, India

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

Background: Autism Spectrum Disorder (ASD) is characterized by difficulties in social communication, social interactions, and repetitive behaviours. Sports could be a possible medium for including autistic youth in social activities. The impact of physical activities has been well documented for wholistic development of children with and without disabilities.

Purpose: The aim of this exploratory study is to identify the facilitators and barriers for social inclusion of autistic youth in sports.

Methods: The current study will explore and analyze the results found in literature and available resources and highlight the importance of sports for holistic development of autistic youth.

Results: The current exploratory study reports the overall positive indicators of using sports as a training program for adolescents with ASD and described the barriers for social inclusion.

Conclusions: The well-known positive link between physical activities and well-being, especially in a social context, may represent an excellent and additional healthy alternative for social inclusion in adolescents with ASD.

OSC 5

Biomechanical Alterations in Shoulder Girdle among Computer Users with Non-Specific Neck Pain

Neeraj Singh¹, Pragya Kumar¹, Raju K Parasher²

¹Amity Institute of Physiotherapy, Amity University, Noida, India

²Amar Jyoti Institute of Physiotherapy, University of Delhi, Delhi, India

Background: Prolonged improper postures while using computers /laptops/smartphones result in many health problems, including eye strain, fatigue and a host of musculoskeletal disorders (MSDs)

such as neck pain, shoulder girdle pain, forearm and wrist pain etc. High prevalence of non-specific neck pain was reported in office workers who use computers compared to the general population given the anatomical link between the neck and the shoulder girdle.

Purpose: The purpose of the present study was to determine the prevalence of neck pain, shoulder girdle dysfunction and the physical factors associated with them in computer users.

Settings and Design: A Cross sectional, observational study that was carried out at a call center that used computers terminals.

Material and Methods: One hundred and eleven (n = 111) male computer users with mean age of 34.3±9.13 years, that worked more than 8 hours a day on computers, were included in the study. They were evaluated on the following physical factors- Pectoralis minor tightness (Pectoralis minor index), scapular asymmetry (observational Y/N method), scapular kinematics (Lateral Scapular Slide Test), posture (Forward Shoulder Posture), cervical range of motion and Posterior Capsular Tightness (Goniometer). The data were analyzed using descriptive statistics.

Results: There was a high prevalence (n = 72; 64.8%) of non-specific neck pain in our sample. Computer users with neck pain demonstrated increased deficits of cervical flexion -extension range of motion (88.2%) followed by cervical side flexion (96.3%) and cervical rotation (79.2%). Shoulder girdle examination revealed a higher frequency of inferomedial scapular border prominences with neck pain, along with a high prevalence of posterior capsular tightness (75%), tight pectoralis minor muscle length (26.3%), abnormal lateral scapular slide test values with arms abducted

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

(84.7%) and protracted shoulders (37.5%), observed in computer users with non-specific neck pain.

Conclusion: Overall, the results suggest that computer users with neck pain exhibit several shoulder girdle deficits and thus, it is imperative that clinicians address both factors in their management of neck pain.

OSC 6

A Study to Assess the Weight Status and Dietary Habits of Male and Female Athletes during the Pandemic Period

J. Sai laavanya¹, K. Silambu Selvi¹,

¹Department of Clinical Nutrition, SRM Medical College Hospital and Research Centre, SRMIST, Kattankulathur, India

Background: The COVID -19 pandemic has led to the implementation of several restrictions in the physical activities of athletes and thus has created a huge change in the dietary pattern and lifestyle of athletes.

Purpose: The aim of the current study was to assess the weight status and dietary habits of male and female athletes during the COVID-19 pandemic.

Methodology: This cross sectional descriptive Online survey was conducted among physical education students studying in different colleges and universities across Tamil Nadu. A sample of 270 male and female athletes belonging to the age group of 18-35 responded to the online questionnaire which included questions related to dietary habits, sociodemographic variables and anthropometric parameters such as height, weight, and BMI. Weight status was categorised and assessed based on WHO Asian BMI classification. Dietary pattern of the participants was assessed using scoring system. The data obtained was then statistically analysed using SPSS software.

Results: Though the dietary habits of majority of the samples was found to be satisfactory, no significant difference was observed in the dietary habits and dietary score among the male and female athletes. There was a significant difference in the mean height of male and female athletes but mean weight and BMI values were found to be not significant at 5% level. No significant correlation was observed between BMI and dietary scores among male and female athletes. Significant difference was observed in place of residence ($p=0.010^*$), occupation of the father ($p=0.009^{**}$) and the role of mother ($p=0.013^*$) between male and female athletes at 5% level of significance.

Conclusion: The study concludes that there is no significant difference in weight status and dietary habits between male and female athletes. The dietary pattern of majority of the athletes was found to be satisfactory.

OSC 7

Impact of Complex Training and Plyometric Training on selected Physical Variables among Sportsmen

G. Ashok Kumar¹, V. Pandian²

¹Department of Physical Education, PSR Arts & Science College, Sivakasi, Tamilnadu, India

²College of Physical Education, Alagappa University, Karaikudi, India

Background: Complex training is a combination of method that alternates between performing heavy resistance exercises and plyometric exercises within one session, a well-designed and sport-specific plyometric training as a safe and effective training modality for improving jumping and sprint.

Purpose: The aims of this experiment analysis were to examine the effect of complex training and plyometric training.

Methodology: To achieve this study 45 men physical education students were selected as subjects.

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

This consists of three equal groups (N=15). Group 1 treated as Complex training, Group 2 treated as plyometric training and Group 3 treated as Control group. The subjects were tested on selected criterion variables namely speed.

Results: The duration of training was 12 weeks and the level of significance 0.05 was fixed. The calculated data of before-test and after-test were tool by using analysis of covariance.

Conclusion: The results show that the complex training showed better improvement on speed. It is concluded that complex training and plyometric training is advantageous training for physical students and sportsmen.

OSC 8

Osteitis Pubis in a Professional 100m Para Athlete

D. Varalakshmi¹, P.N. Vineel Kumar¹

¹Apollo college of Physiotherapy, Jubilee Hills, Hyderabad, Telangana, India

Objectives: To describe the history, pathomechanics, diagnostic procedures, and conservative management of the osteitis pubis syndrome.

Background: Age: 20 yrs Male, Category: C47 (Below elbow amputation), Highest level of participation: 19th senior national para-athletic championship, Injured side- left leg Patient started complaining of pain at the pubis before one week of competition due to traveling. After reaching to the place of competition he has no pain and he did proper warm up and he even went to the track before the day of competition and 30m/50m started practicing in the presence of coach and physiotherapist. Next day suddenly after crossing 60m he started complaining of pain in the groin region and he ended up in the second position due to acute pain. We were unable to diagnose the exact pain so immediately

we kept on icing for 30 min later we did some acupuncture points releasing and athlete started saying decreased of pain about 5 percent. **Diagnosis:** On palpation, grade 4/4 tenderness is present over the symphyseal region. Several tests are performed such as the pubic symphysis gap test with isometric adductor contraction and lateral compression test. Some provocation tests are helpful that is single adductor squeeze, and bilateral adductor tests (best) for the assessment of chronic groin pain. The tests are compared with the injured (Left) and normal side (Right). Checked ROM. Probable osteitis pubis.

Treatment: Initially we given him 12 days of rest completely to recover the body. Upper body work out using weights and therabands for 1- 2 weeks. 3-4 weeks started with isometrics and pain free range of motion exercises for the lower limbs And other customized exercise program which continued for 10-12 weeks.

Conclusion: Although this case appears routine, I am concerned that I may be overlooking something or that a different formulation of the case might produce a better chance for a positive outcome. Our protocol has been used successfully to return the athlete to high level of sports performance early diagnosis and prompt treatment are of utmost importance to prevent this condition from becoming chronic.

OSC 9

Effect of Age, Gender, Body Mass Index and Physical activity level on Knee Joint Position Sense in normal adults

Josni Khah¹, Ashok Sharan¹, Tarun Kumar¹

¹Indira Gandhi Institute of Medical Sciences, Patna, India
Background: Proprioception deficits are common after ligament injury and degenerative joint diseases of knee. There is a paucity of studies investigat-

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

ing the effect of various factors on knee joint position sense in normal non-athletic individuals.

Purpose of the study: To investigate the effect of age, gender, Body Mass Index (BMI) and Physical activity level on knee joint position sense in normal adults.

Methodology: 114 healthy individuals in the age group 30 to 60 years (73 males and 51 females) participated in the study. Subjects with history of pain or injury to lower limbs were excluded. Physical activity index (PAI) was calculated using General Practice Physical Activity Questionnaire (GPPAQ). Digital inclinometer was used to measure the joint position sense (JPS) errors of the knee joint in open kinetic chain. Subjects were seated on high chair and blindfolded to avoid any visual cues. Inclinometer was placed on the dominant leg and was passively brought to an angle of 45 degrees. Subject was instructed to reproduce the given angle. Error in active repositioning of given angle was noted.

Results: T-test was used to analyse the difference in JPS between males and females while ANOVA was used to analyse the effect of age, BMI and physical activity index. JPS errors were found to be significantly different among the two genders ($t=1.97$, $p=0.05$) and also among three age-groups ($F=19.53$; $p=0.0001$). Also, pair-wise comparison showed that JPS errors were more in upper age groups. However, JPS level was not significantly different in various categories of BMI and physical activity level.

Conclusion: Knee joint position sense errors increase with an increase in the age and also seem to be more in females as compared to males. However, this study could not find any effect of Physical activity levels and BMI on knee joint position sense.

OSC 10

Effect of Plyometric Training and Weight Training on Speed of College Men Players

T. Chandra Kumar

Department of Physical Education, PSR Arts & Science College, Sivakasi, Tamilnadu, India

The purpose of the study was to investigate the effect of plyometric training and weight training on speed among college men players. The Forty-Five men players were selected from PSR Arts & Science College, Sivakasi, Tamilnadu. The study was formulated as pre and post-test random group design, in which forty-five subjects were divided into three equal groups. The experimental group-1 ($n=15$, PT) underwent plyometric training, the experimental group-2 ($n=15$, WT) underwent weight training and group-3 ($n=15$, CG) served as a control group did not undergo any training. In this study, two training programmes were adopted as independent variable, i.e., plyometric training and weight training. The speed was chosen as dependent variable. It was tested by 50 mtr dash and recorded seconds.

The selected two treatment groups were performed twelve weeks, as per the stipulated training programme. The condition of speed was tested before and after the training period. The collected pre and post data was critically analyzed with statistical tool of analysis of co-variance, for observed the significant adjusted post-test mean difference of two groups. The Scheffe's post hoc test was used to find out pair-wise comparisons between groups. The subjects were involved with their respective training for a period of twelve weeks. The results revealed that there was a significant difference found on speed.

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

OSC 11

Scope of Iontophoretic technique in sports rehabilitation: A Review Article

Parul Sharma¹, Rajiv Kumar Tonk², Manoj Malik³

¹School of Physiotherapy, Delhi Pharmaceutical Sciences & Research University, New Delhi, India

²School of Pharmaceutical Chemistry, Delhi Pharmaceutical Sciences & Research University, New Delhi, India

³Department of Physiotherapy, Guru Jambheshwar University of sciences & technology, Hissar, Haryana, India

Background: Managing a sports injury and illness through transdermal drug delivery method is the emerging trend in sports field. Availability of a range of evidence-based methods helps a sports physiotherapist in managing and preventing an injury with greater ease such method is Iontophoresis. Iontophoresis offers substantial benefits for the transdermal delivery of these medications and can be valuable additions to existing treatment modalities for minor sports-related injuries. Although several clinical studies claimed an advanced healing process after iontophoresis, controversy on the healing efficacy of iontophoresis remains.

Methods: A literature search in the databases, MEDLINE (PubMed), Pedro, and the Cochrane Database was conducted.

Results: The results of this review indicated quantitative evidence that iontophoresis is effective in the treatment of sports injuries. However, the lack of solid research design in studies on iontophoresis makes it difficult to ensure that the improvements observed can be explained by the iontophoresis technique.

Conclusion: Iontophoretic technique is used to enhance topical drug delivery through the skin, provides advantages of improved efficacy with

reduced side effects as compared to oral or parenteral administration. Future research should be emphasized on standardization of the treatment methods, the outcome measures and the inclusion of several controls.

OSC 12

Yoga: A strategic, potential cross training tool to prevent injury and sustain optimum performance in athletes

M.V.L. Surya Kumari

Department of Physical Education, G. Narayanamma Institute of Technology and Science (for Women), Hyderabad, Telangana, India.

Professional athletes build up careers based on their physical capabilities and capacities. Sustaining careers is about staying utmost fit without any injuries to attain best performance at the highest levels of competition. In this pursuit of excellence in sports, psycho-social stresses and over loaded training regimens significantly increase injury risks to athletes. Sports injuries pose direct and indirect physical and psychological effects on self as well as on the team in addition to health and financial burden. Globally, more than 15 million sports injuries are reported every year costing up to 1,200 million US \$ for their treatment. In this regard, yoga as a cross training tool along with sport specific training is identified as a great solution to prevent and rehabilitate sports injuries, safeguard health, fitness and peak performance of athletes. Yoga is different from other kinds of exercises as it generates motion without any strain and imbalance in the body. The hatha yoga invigorates and heals the body by stretching and toning by directing blood and oxygen to internal organs. Athletes undergoing sports training develop tight muscles, uneven use of muscle groups and one side of the body. By its very nature, yoga helps to restore the balance and sym-

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

metry in the body to avoid injuries. Yoga has proven to be a unique and effective method for restoring motion to tight muscles and realigning the body while strengthening the muscles. In yoga, the emphasis is on correct biomechanical alignment in the form of static muscular contractions and specific breathing techniques. While the physical benefits of yoga are remarkable for excelling in sports, the part played by mind in training and competition to direct the energy and concentration is exceptional.

Athletes also benefit from yoga's holistic approach in proper strengthening of the core muscles. Athletes during their competitive season should schedule yoga in inverse proportion to the intensity of their training. It can be concluded that integration of yoga into sports as a cross training tool helps the athletes to prevent sport injuries and sustain optimum performance to achieve desirable goals and golds.

OSC 13

Quality Evaluation & Acceptability of Soybean Curd Coagulated by Using Starter Culture as Fermented Rice Rinsed Water for Sports Person

D. Sridevi¹ & Shilpa Joy²

¹Food Science and Nutrition, Dr. NGP Arts and Science College, Coimbatore, Tamil Nadu, India.

²Malabar multi-Speciality Hospital, Eranhipalam, Calicut, Kerala, India

Lactic acid bacteria are a diverse group of bacteria that produce lactic acid as their major fermentation product. LAB is widespread in nature and is beneficial probiotics in our digestive systems. Probiotic bacteria are defined as live food ingredients that are beneficial to the health of the host and synthesizing, enhancing the bioavailability of nutrients. Soya bean curd contains high quality protein and

calcium that can be easily digested and cholesterol free. The monounsaturated and polyunsaturated fatty acid in soy can inhibit the transport of cholesterol into blood stream. The production of soya curd by fermentation of soya milk with lactobacillus plantarum, which isolated from rice rinsed water, was studied. The efficacy of using rice rinsed water of 10%, 15%, 20%, 25% of prepared LAB solution is added in soya milk (S1, S2, S3, S4) as a starter culture. Fermentation of soy-milk done by using 10% of LAB solution has secured highest score is organoleptic evaluation, so it is selected for the further study. A physio-chemical, nutrient and microbial property of selected soy curd was assessed. The selected soy curd contains protein content (4g), fat (3.8g), calcium (125 mg), fibre (2mg) and lactose (0.4g) were recorded So this type of probiotic soy curd could positively affect athletic performance through enhanced recovery from fatigue, improved immune function, stimulating immune modulatory cells, modifying gut pH and maintenance of healthy gastrointestinal tract function.

OSC 14

Effect of Lumbar Posture on Functional Activity of Pelvic Floor Muscles among Non-Osteoporotic Post-Menopausal Women

Bhumika Chhibber

Amity Institute of Physiotherapy, Amity University Uttar Pradesh, India

Background: Pelvic floor muscles (PFM) contribute to support the pelvic contents, postural control, intra-abdominal pressure, and continence. Lumbar posture has been suggested to alter the subjective awareness of a voluntary PFM contraction in healthy women and a sense of decreased activation of the PFM is reported in different position. Whilst altered lumbar spine curvature may result into muscle imbalance and activation pattern of the

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

trunk muscles during the functional tasks which if left untreated may result into pelvic floor dysfunction and weakness. If any relation is found between the lumbar posture and pelvic floor functioning, then one can know if posture correction exercises can also be a part of management of disorders associated with reduced PFM functioning.

Purpose: This study aims to find out the effects of lumbar posture on pelvic floor muscle functioning in non-osteoporotic post-menopausal females.

Methodology: Seventy-eight post-menopausal, Biparous/uniparous continent women with mild to moderate BMI were allocated into three groups based upon lumbar curvature namely normal lordosis, hyperlordosis and hypolordosis. Every subject was made to perform three tasks (quiet standing, maximal coughing and Valsalva manoeuvre). Vaginal pressure data were recorded using a vaginal probe during above three tasks. Mean of the three trials of each task was considered and t-test was applied to find out level of difference. $P < 0.05$ is considered to be significant.

Result: In this Study, we found that hypolordotic women shows significant ($p < 0.05$) increase in the pressure exerted by the pelvic floor muscle during maximal coughing and Valsalva manoeuvre compared to normal lordosis. While opposite results are seen in hyperlordotic lumbar curvature where pressure exerted is found to be significantly ($p < 0.05$) lower than normal lordosis during maximal coughing and Valsalva maneuver.

Conclusion: We conclude that decreased lumbar lordosis is associated with reduced pelvic floor functioning.

OSC 15

Female Health in Sports and Considerations for Coaching Practice

Nilima Deshpande

Sports Authority of India, Patiala, Punjab, India

Background: An active life style is important for females and when the Question comes for the females in sports scenario, there has been a steady growth in participation of women both in recreational and competitive sports. It is very essential for a coach to understand health issues of females in coaching practice. This Knowledge helps him/her to impart meaningful training programme. It is the structural, Physiological and biomechanical differences between Men and Female athletes that contribute to performance difference.

Puberty: Girls and boys do not differ significantly in most measurements up to puberty as in body size composition and physiological responses to exercise, though there is great variation.

Structural Differences: Because of the wider pelvis in female there is a greater shift of centre of gravity to bring the weight over the hip joint. Thus, they have higher risk of knee problems in running activities.

Strength and Power Differences : Due to difference in muscle mass training is varied in female athletes as it is governed by hormonal factors.

The Female athlete triad: It is a combination of three conditions disordered eating, altered menstrual function and osteoporosis. All of this effect training for achieving top level of performance.

Physiological considerations: A women's lung capacity is on an average, 25-30% lower than a man. Thus, aerobic training disadvantage in comparison to men. The average female heart is 25% smaller

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

than the average men. Thus, differences in heart rate, which is also apparent when they are training at a submaximal level.

Conclusion: The above fact sheet approach is vital importance in the consideration of high level of training programme for top performance.

OSC 16

Comparison of Shoulder Rotational Range of Motion and its Association with Scapular Kinematics in Healthy Overhead Athletes – A Cross Sectional Study

Yaduvanshi P., Arunmozi R

Career Point University, Kota, Rajasthan, India

Objectives: To analyze any association between glenohumeral rotational range of motion deficits (if any) in conjunction with scapular positioning differences in dominant and non-dominant extremities in healthy overhead athlete

Methods: 64 overhead subjects were recruited (convenient sampling) and divided in age criteria into two groups. Group A - Elder age [32 subjects] Age b/w 26-33 yr] and Group B - Lower age [32 subjects] Age b/w 18-25 yr]. All the subjects were measured shoulder rotational range of motion, Kibler lateral slide test, and scapular upward rotation in scapular plane in dominant and non-dominant hand respectively.

Results: all overhead athletes presented with altered glenohumeral range of motion and scapular kinematics in healthy overhead athlete. Internal rotation range was seen to be less on the dominant side when compared to non-dominant in both group of overhead athletes. But elder age group athlete shows less internal rotation range of motion compare lower age athlete, also scapular upward rotation of dominant hand at all position in both age groups when compared non dominant hand as well as less scapular upward rotation at all position in

elder age group and high scapular protraction compared to lower age group overhead athlete.

Conclusion: Less internal rotation may be the clinical marker that results in other compensatory motion alterations often identified in overhead athletes. Over time, IR deficits may cause changes to scapular upward rotation, and protraction.

OSC 17

A Comparison of PEFr in Female Athlete vs Sedentary Women in Post-Menopausal Phase

Rajni Pawar

SAIMS Indore, Madhya Pradesh, India

Background: Everyone should maintain health throughout the life. Lifestyle plays a major role in influencing the lung function parameters, as there is a keen association between pulmonary functions and volume of regular exercise performed. Deterioration of lung function is observed more after menopause. Most of the women in our country are not aware of importance of exercise and sports and thus suffer from complications due to poor lung function. Women who are doing regular exercise have better lung function than sedentary women in the attenuation of physical decline and can potentially improve physical functioning and quality of life with age.

Purpose: Is to make aware women about the benefits of exercise and sports and to alleviated with a prescription for exercise to prevent women from future health related complications. As there is limited information on potential changes in respiratory health when women enter the menopausal state and the effect of menopause on decline of pulmonary functions in Indian population. To make aware more opportunities for safe and accessible leisure time activity to women in order to increase their overall levels of activity would therefore help close

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

the gender gap and achieve the 2025 global physical activity target.

Methodology: Total 60 Women of age 45-55 years from Indore district had been taken as subject for study. All participants were informed in detail about the aim of study and their consent was taken. PEFR an indicator of strong respiratory function was taken to assess lung function of 30 female athlete and 30 sedentary women by PEAK FLOW METER. After assessment comparison of values of PEFR was done in both the group.

Result: In the present study, the observed mean value of PEFR was significantly HIGHER in female athlete when compared to sedentary women. The PEFR means and standard deviation of sedentary women and female athlete were 323, 33.8 and 400, 24.55 respectively.

Conclusion: Result indicates that sedentary lifestyle is an important risk factor for airflow limitation and decrease lung function which can be further deteriorating in post-menopausal phase. An awareness program to promote participation of women in physical activity and sports should be incorporated in early phase and peri menopausal phase of life to reduce postmenopausal complications.

OSC 18

Effect of Proprioceptive Neuromuscular Stretching versus Aerobic Training on Blood Glucose Level in Patients with Type 2 Diabetes Mellitus: A Comparative Study

Shagun Agarwal¹, Jasobanta Sethi¹, Rajeev Aggarwal²

¹Amity institute of Physiotherapy, Amity University Uttar Pradesh, Noida, India

²Neurosciences Center, AIIMS, New Delhi, India

Purpose: The study aimed to compare the effect of Proprioceptive neuromuscular stretching Vs. Aero-

bic training on HbA1c levels in patients with type 2 diabetes mellitus.

Methods: Forty sedentary type 2 diabetes mellitus patients (22 males & 18 females) were randomly allocated in aerobic training group (n=20) and proprioceptive neuromuscular stretching group (n=20) with twelve-week protocol for both the groups. Glycated haemoglobin (HbA1c) was measured before and after 12 weeks of intervention to examine the effect on blood glucose level.

Results: Both Aerobic training and Proprioceptive neuromuscular stretching induced decrease in blood glucose levels (glycated haemoglobin HbA1c) after twelve weeks of training ($P < 0.05$). There was no significant difference between the two groups ($P > 0.05$)

Conclusion: This study shows that both Aerobic training and Proprioceptive neuromuscular stretching reduced blood glucose levels. There is no significant difference between the two interventions. Proprioceptive neuromuscular stretching may be an alternative to aerobic training to those patients who are unable to perform aerobic training to control blood glucose levels.

OSC 19

A Systematic Review on Sports-Injury Prevention

Amalendu Chowdhury¹, Dhiren Kumar Panda¹,
Tirthankar Ghosh¹

¹Amity Ergonomics and Sports Physiology Laboratory, Faculty of Health and Wellness, Sri Sri University, Cuttack, Odisha, India

Physical and sports participation is encouraged by all health care professionals, as it has numerous positive effects on a person's health. There is however a significant burden of sports-related musculoskeletal injury. So, it is vital to incorporate primary

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

injury prevention and make this public health priority. Injury prevention by a systematic approach, establishing the extent of injury in a specific population through surveillance systems. Identifying the risk factors, Development, and validation of injury prevention strategies and evaluation of this injury prevention. Factors that determine include Age group, level of play, and type of sports. Sports injury prevention programs, Neuromuscular training injury prevention programs. Sporting rules and policy changes to prevent injuries and for its equipment recommendation.

We searched PubMed, CINAHL and Web of science electronic database. After reviewing the titles, abstracts, and full text of potentially relevant articles. We exclude any articles that were not original. The data extracted were the age and sex of participants' injury history. Interventions were grouped according to the mechanism of action.

The literature searches yielded 150 articles considered relevant analysis. Our search yielded 2500 papers and 400 were considered relevant after the title and abstract search. The bibliographic search yielded an additional 80 papers (total-no-480) paper of these, 120 papers were excluded because they did not meet our inclusion criteria after reading the full text and 150 articles were excluded because they did not measure clinical outcome.

We found only 210 publications in the existing literature that examined interventions designed to prevent sports injury. Of these, the majority investigated equipment or training interventions whereas 10% focused on changes to the rules and regulation that govern sport. The focus on intervention research is on acute injuries in collision and contact sports whereas only 30% of the studies focused on non-contact sports.

OSC 20

Difference between the First Year and Second Year College Students Sports Involvement

Raymond M. Anselmo

University of Santo Tomas, Espana Boulevard, Manila

This study investigated the difference in the sports involvement of the first year and second year college students in terms power and performance and pleasure and participation. In a sample of seven hundred seventy first year and second year college student students collected between the months of November to December 2019, in terms of power and performance during sports activities, first year respondents gave an average rating of 3.06 (Agree) while the second-year respondents gave an average rating of 3.07 (agree).

The results suggest that the student-respondents were not really after winning when they were involved in sports. Furthermore, first year respondents gave the highest mean score of 3.79 (strongly agree) in the item "I want to have fun during sports activities" while the second-year respondents gave the highest mean score of 3.75 (strongly agree) in the item "I believe that even poorly skilled students deserve the right to play". Moreover, using the t-test at 0.5 level of significance power and performance with a computed t-test value of 1.54 and pleasure and participation with a computed t-test value of 1.170 were both lower than the tabular t-test value of 1.971.

Therefore, the null hypothesis was accepted. Thus, there was no significant difference between the first year and second year college students' sports involvement in terms of power and performance and pleasure and participation. The results suggest

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

that students may be provided with various sports programs for competition or for leisure to foster holistic student development.

OSC 21

Sleep in the Process of Athlete Recovery and Sports Performance: An Opinion Statement

Subrata Dey¹, Dhiren Kumar Panda¹,

Tirthankar Ghosh¹, Keren Susan Cherian²

¹Ergonomics and Sports Physiology Laboratory, Faculty of Health and Wellness,

Sri Sri University, Cuttack, Odisha, India

²MYAS-NIN Department of Sports Science, ICMR-National Institute of Nutrition, Hyderabad, Telangana, India

Sleep is one of the basic requirements for health due to its physiological and psychological restorative effect. An athlete's performance and recovery are multi-factorial, with sleep being an often-neglected factor in connection to athletes' sports performance as well as well-being.

The quality and quantity of sleep are very essential for optimal recovery from training. Lower sleep hours or a night out is also associated with reduced speed, strength and endurance performance. The Rapid Eye Movement (REM) sleep depicts a quality of deep sleep, which is responsible for repairing the tissues and restoring various physical and mental stressors. The recommended time for REM sleep is 2-hours which can be obtained during an 8-hour sleep. The sleep assessment in competitive athletes revealed that there is a greater prevalence of poor-quality sleep.

Sleep disturbance has a direct impact on sports performance, especially prior to competition. The predominant mental stressors like training induced load, interpersonal relationship, competition and medal winning pressure can reduce the quality of sleep. Apart from this, the use of mobile, other electrical devices, video games, social media etc. are

emerging in recent times as an easily modifiable cause for sleep disturbance.

Professional athletes are more prone to short sleep and disturbed sleep quality and sleep deficiencies. Inconsistent research methodologies make it difficult for conclusive recommendations. Nevertheless, the primary recommendation is educating the athlete about the importance of sleep for their performance. Followed by, motivating the athlete to form a routine in preparing the body to sleep using techniques such as breathing exercise, visualisation, reducing blue light exposure and finally, regular monitoring and follow up by support staff.

OSC 22

Efficacy of Transdermal Drug Delivery of Succinylcholine on Myofascial Pain Syndrome: Pilot Study

Shilpa Jain¹, Ramesh K. Goyal¹

¹Delhi Pharmaceutical Sciences and Research University, M. B. Road New Delhi, India

Background: Myofascial pain syndrome is also one of the problems, a pain condition characterized by the presence of active trigger points, pain and spasm. Succinylcholine has been found to be a strong muscle relaxant used by the anaesthesiologist.

Purpose: To create a gel and use it Physiotherapeutically to reduce the pain of the patients suffering from Myofascial Pain syndrome induced by Trigger Points.

Methodology: To treat the trigger points a transdermal formulation of Succinylcholine gel was formulated. Trigger point was identified using Travel and Simon's Criteria of identifying active trigger point and the formulated gel was applied was applied on 29 patients with active trigger point in upper trapezius using phonophoresis technique.

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

The main outcome measure was pain which was measured as baseline on VAS and 15 minutes, 30 minutes, one hour, two hours after the application. Also pain on VAS was recorded on the second and third day after the application. Approval from Institutional Review Board and Ethical Committee was taken before commencing the study.

Results: Unpaired t test was used to compare the results of all with baseline data and in all p value was found to be 0.000. The patients also reported pain free movements after taking the treatment.

Conclusion: After the results found significant in reducing the pain, it can be concluded that the technique will be very beneficial in reducing pain within hours of the intervention, may be wisely used on-field injured athlete who develop pain and spasm due to injury. Also, it will be beneficial for Physiotherapists who use manual therapy like ischemic compression technique and develop pain in their thumbs. The main study will be done with more outcome measures like ROM, Pressure Threshold, Neck Disability Index and Quality of Life.

OSC 23

Comparison of Nerve Slider Technique with Conventional Treatment of People with Ankle Inversion Sprain: Randomized Clinical Trial

Avinder Singh Ghuman¹, Vivek Chauhan¹

¹HNB, Garhwal University, Srinagar, India

Background- Lateral ankle sprain is the most common soft tissue injury among the athletes and other individuals. The pathomechanics of the lateral ankle sprain involves subtalar inversion with or without ankle plantar flexion and forefoot adduction. The main aim of the study is to compare the effect of common peroneal nerve slider technique with or without standard care in people with ankle inversion sprain.

Purpose: To compare the efficacy of nerve slider technique with conventional and conventional alone in treating ankle inversion sprain.

Study Design: Randomized clinical trial

Methodology: 30 males and females are included and divided in to 2 groups with mean age 22+/-4. Group A was treated with conventional physiotherapy and group B was treated with Conventional as well as nerve slider techniques (common peroneal nerve). The treatment session is given for 10 minute, 30 second hold and 1 minute rest. Treatment included 2 sessions per week in 4-week program (total 8 sessions).

Results: Group B showing a significant improvement in 4 weeks treatment.

Conclusion: conventional physiotherapy with nerve sliding technique is more effective than only conventional physiotherapy in treatment of ankle sprain.

OSC 24

Prevalence of Lumbopelvic Pain among Indian Women: A Systematic Review

Priyanka Sushil¹, Jasmine Kaur Chawla¹,

Raju K Parasher²

¹Amity Institute of physiotherapy, Amity University, Noida, Uttar Pradesh, India.

²Amar Jyoti Institute of Physiotherapy, University of Delhi, Delhi, India.

Background: Musculoskeletal pain in the lumbopelvic region is a major health problem that predominantly afflicts women globally. Disability secondary to pain negatively influences work place performance and consequently economy of the industry. **Purpose:** To identify studies addressing lumbopelvic pain (LPP) among Indian women and determine its prevalence.

Methodology: PubMed, Science Direct, PEDro, Web of science and Google scholar databases searched from inception to February 2021. All study designs

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

were included if musculoskeletal LPP was the primary problem. Two authors independently screened the articles and extracted data from 20 out of 169 retrieved studies. Critical Appraisal Skills Programme checklist and Cochrane risk of bias criteria assessed the quality of non-experimental and experimental studies respectively. Narrative synthesis of data was done as there was a large variation between studies and was not appropriate for meta-analysis.

Results: Overall point prevalence of LPP was 54.8% (95% C.I.: 40.9 – 68.7) among Indian women. The prevalence of LPP was 48.3% (95% C.I.: 31.9 – 64.7) and 62% (95% C.I.: 31.6 – 93.6) among urban and rural women respectively. Majority of studies (n=17) did not describe the anatomical location pain. Common work-related risk factors of LPP were prolonged sitting, lifting weights and job dissatisfaction. LPP was also reported among housewives who were not only involved in any physical activity other than household chores. Biomechanical risk factors of LPP are sparsely studied in Indian women.

Conclusion: It is evident that the prevalence of LPP is high among Indian women. Evaluation of ergonomic factors among women would be incomplete if household chores are not taken into consideration. There is need for studies that explore broad spectrum manifestations of LPP. (Review registered at PROSPERO: CRD42021227044).

OSC 25

Sleep Quality and Cognition- Way to Recovery in Sports in Postpartum Females

Charu Chadha¹, Aparna Sarkar¹, Vandana²

¹Physiology Department, Amity University, Uttar Pradesh, India

²Indian Spinal Injuries Centre, New Delhi, India

Background: Postpartum women sleep less during the early weeks following delivery than during pregnancy and other periods of reproductive age. In India, social stigma, household responsibilities play an additive role and burden these females. Taking care of the newborn child, nursing him and physical changes demands in the body play a role in lack of sleep during the initial months post-delivery. The International Classification of Sleep Disorders, 2nd edition, defines insomnia as the presence of a sleep problem despite adequate opportunities for sleep. Such opportunities for sleep may be hard to find during the first postpartum months. Some authors have suggested that sleep deprivation in healthy mothers could produce daytime sleepiness, cognitive deficits, fatigue, and irritability, consistent with mood symptoms reported postpartum.

Purpose: The purpose of this paper was to review the quality of sleep and cognitive function in a way return of postpartum females to sports.

Methodology: A total of 25 studies were included to assess and review the quality of sleep and cognition in postpartum females.

Result: The results suggested that post-partum females have been overlooked with respect to their sleep quality in order to take care of the newborns and this has led to weight retention also and affected quality of life. The cognition, which is also affected in these females altogether makes it difficult for them to return to sports.

Conclusion: More emphasis is needed to take care of the postpartum females in order to promote their return and sportsmanship.

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

OSC 26

Prevalence of Knee Cartilage Degeneration between Obese and Non-Obese Menopausal Women

Hafiza Ibadasuk Syiem¹, Ekta Chitkara¹,
Moattar Raza Rizvi¹

¹Department of Physiotherapy, Faculty of Allied Health Sciences, MRIIRS, Faridabad, Haryana, India

Aim: The aim of this study is to find the relationship between obesity and osteoarthritis through KOOS questionnaire.

Methods: 70 samples of menopausal women between the age of 45-55 were taken. It was divided into two groups: obese and non-obese groups with 35 subjects each group. Data was collected using KOOS scale questionnaire. The data was being analyzed in an IASP software.

Results: Results shows that the observed mean is 50.083 for obese and 64.980 for non-obese. Median is 41.310 and 69.050 for obese and non-obese respectively. Skewness of symmetry for obese and non-obese is 1.859 and 1.053 respectively. Similarly, the variance is 1793.688 and 1845.540 for obese and non-obese respectively with kurtosis of 4.250 and 3.190 respectively for obese and non-obese. Therefore, through the KOOS scoring scale, it is found that Pain, ADL functions and Sports and Recreation functions will increase in obese group representing the prevalence of knee OA and the other two dimensions, i.e, Symptoms and knee-Based Quality of life will be deteriorated in obese group and for non-obese group, it is vice versa.

Conclusion: Subjects with obesity have the high tendency of developing knee cartilage degeneration as compared to the non-obese subjects. Therefore, it is necessary to provide awareness about the importance of physical fitness not only to prevent

from OA but also to prevent from many other complications or diseases

OSC 27

To Study the Level of Depression, Anxiety, Stress and Physiological Parameters Among the Post Vaccinated Population Against COVID

Saurabh Mandal¹, Ekta Chitkara¹,
Moattar Raza Rizvi¹

¹Department of Physiotherapy, Faculty of Allied Health Sciences, MRIIRS, Faridabad, Haryana, India

Background: Coronavirus Disease 2019 (COVID-19) caused by an infection with the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) has caused one of the largest global outbreaks. In December 2019, a local outbreak of pneumonia of unknown etiology was detected in Wuhan City, Hubei Province of China. The World Health Organization (WHO) declared the COVID-19 outbreak as a pandemic on 11 March 2020. Vaccines are a very critical new tool in the battle against COVID-19. Different types of vaccines work in different ways to offer protection by building up immunity. The process of building immunity sometimes causes few symptoms like fever, body ache, digestive issues etc.

Purpose - The aim of this study is to study the Level of depression, anxiety, stress and physiological parameters among the post vaccinated population against covid.

Method - Total 100 subjects were taken who were vaccinated by any COVID-19 Vaccine. The details of the survey regarding benefits, aims and purpose of the study were explained to them and then on meeting the study criteria, they were asked to fill the google form. The Google form created for the Research includes the Consent form along with the

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

questionnaire to study the physiological changes and questionnaire to check the levels of depression, anxiety, stress post COVID-19 Vaccination.

Results: Fever and body ache are the most occurring symptoms along with pain at vaccination site after vaccination. There are no significant findings of higher levels of depression, anxiety and stress post vaccination.

Conclusion: Fever and body ache are the common physiological changes that occurred in subjects post vaccination of covid-19 vaccine. Out of 100 subjects, 72 subjects experienced fever after vaccination. Pain at the site of vaccination proved to be the most predominant symptom after vaccination. More than 50% percent of Subjects experienced normal levels of depression, anxiety and stress whereas 21% of Total population faced Moderate depression and 22% of the total population faced Moderate Anxiety along with 15% of Total Population who all experienced Moderate Stress.

OSC 28

Association of Upper and Lower Body Explosive Power and Free Throwing Performance in Male College Basketball Players

Priyanka Verma, Sunita Kumari, Ankita, Shobhit Saxena, Pooja Sharma, Irshad Ahmad, Moattar Raza Rizvi

Department of Physiotherapy, Faculty of Allied Health Sciences, MRIIRS, Faridabad, Haryana, India

Background: Free throw shots are very important in the basketball sports as it sometimes determine the outcome of the game or even a season. But accuracy of that free shot is something not every player can achieve and players focus least about their free throw success in the game as they are more focused on others factors like explosive power that is also something that greatly affect any player's performance.

Objective: The purpose of this study was to find association between upper and lower body explosive power and free throwing performance in college basketball players.

Method: 40 basketball players of age 18-24 years were asked to participate in the project in which 15 players were in the competitive phase. Vertical jump test($p=0.001$) was used to measure lower explosive power, seated medicine ball throw($p=0.01$) was used to measure upper explosive power and 20 free throws were used to measure free throwing performance of each subject.

Result: The results of this study shows that upper and lower body explosive power are truly associated with free throwing performance of basketball player with correlation coefficient of 0.74 and 0.70 respectively.

Conclusion: The conclusion of this research suggested that better free throwing performance of college basketball players can be achieved by improving their upper and lower body explosive power.
Key words: explosive power, free throwing performance, vertical jump, seated medicine ball throw

OSC 29

The impact of COVID-19 on Heart rate variability- A review and recommendations for future study

Ankita, Moattar Raza Rizvi, Sunita Kumari, Pooja Sharma, Irshad Ahmad

Department of Physiotherapy, Faculty of Allied Health Sciences, MRIIRS, Faridabad, Haryana, India

The family of seven known human coronaviruses are known for their impact on the respiratory tract, not the heart. However, the most recent coronavirus, severe acute respiratory syndrome coronavirus 2 (SARSCoV-2), has marked tropism for the heart and can lead to myocarditis, necrosis of its

ORAL PRESENTATION (SENIOR CATEGORY) ABSTRACT

cells, mimicking of a heart attack, arrhythmias, and acute or protracted heart failure (muscle dysfunction). Accordingly, SARS-CoV-2 infection can damage the heart both directly and indirectly. SARS-CoV-2 exhibited a striking ability to infect cardiomyocytes derived from iPSCs in vitro, leading to a distinctive pattern of heart muscle cell fragmentation, with “complete dissolution of the contractile machinery”. In another iPSC study, SARS-CoV-2 infection led to apoptosis and cessation of beating within 72 hours of exposure. A secondary immune response to the infected heart and endothelial cells (endothelitis) is just one dimension of many potential indirect effects. These include dysregulation of the renin-angiotensin-aldosterone system that modulates blood pressure, and activation of a proinflammatory response involving platelets, neutrophils, macrophages, and lymphocytes, with release of cytokines and a prothrombotic state. More worrisome than the pattern of limited injury is myocarditis: diffuse inflammation of the heart, usually representing a variable admixture of injury and the inflammatory response to the injury that can extend throughout the three layers of the human heart to the pericardium (which surrounds the heart). Unlike SARS-associated myocarditis, which did not exhibit lymphocyte infiltration, this immune and inflammatory response is a typical finding at autopsy after SARS-CoV-2 infections. Involvement of myocytes, which orchestrate electrical conduction, can result in conduction block and malignant ventricular arrhythmias, both of which can lead to cardiac arrest. The heart rate variability (HRV) analysis technique is a series of measurements of successive sinusoidal RR interval variations that provides information about autonomic tone. HRV is affected physiologically by several fac-

tors, including gender, age, circadian rhythm, respiratory rate, and body position. HRV measurements are fast and painless. They also have a high degree of reproducibility. They can be performed using 24-hour Holter records or at shorter time intervals of 0.5 to 5 minutes, most often in the field of dynamic electrocardiography. Nowadays, the majority of manufacturers of Holter apparatus incorporate HRV testing programmes into their instrument systems. HRV changes are certain in a COVID patient post recovery as heart is affected a lot in the patients suffered from COVID. The gaps in knowledge were identified in the following main domains: patient eligibility, dose of steroids given, severity of infection and effect on heart rate variability. Furthermore, by establishing the relationship between HRV and COVID impact on heart the cognitive function can also be studied for people required high cognitive performance. Cardiac injury in COVID-19 may result from the direct effects of the virus itself. In general, viral infections are one of the most common causes of infectious myocarditis. Evidence also suggests that common infections trigger acute coronary events and strokes. Following this vein, researchers have aimed to describe the mechanisms of COVID-19 mediated cardiac injury. HRV can be studied at initial stage to reduce the impact of virus on heart and to start the treatment at the early stages.

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

OJC 1

To Assess and Correlate Heart Rate Variability, Resting Heart Rate and Body Composition in Judo and Wushu Players

Sapna Yadav¹, Gaurav Kadyan¹

¹Department of Physiotherapy, Indian Spinal Injury Center, New Delhi, India

Background: Adequate In any combat sport, where competitors are divided by weight classes, optimal body composition is a major concern. Thus, athletes attempt to maximize the amount of lean tissue, minimize the amount of body fat, and minimize total bodyweight. Monitoring the status of the autonomic nervous system (ANS) via the measures of heart rate (HR), including the variability of HR and HR at rest can be used to understand the physiological state of body.

Purpose: This study aims to assess and Correlate Heart rate Variability, Resting Heart rate and Body composition and HRV in judo and wushu players.

Materials and Methods: Subjects were divided into 2 groups i.e., Judo and Wushu group containing 20 players each. Age (19.85 ± 1.805), height (171.37 ± 5.98), Weight (72.87 ± 11.8), BMI (24.77 ± 3.56). Anthropometric profiling was done with the help of Harpenden calliper and measuring tape to measure the skinfold thickness and body circumference respectively. HRV recordings were taken with the help of Heartwear shimmer ECG device in sitting position in a quiet environment.

Result: Subjects showed significant negative correlation of Resting heart rate with HF, BMI showed significant positive correlation with LF/HF, whereas Body fat % showed significant positive correlation with LF/HF.

Conclusion: There is significant negative correlation between resting heart rate and HRV, and signifi-

cant negative correlation between Body Fat % and HRV in judo and wushu players.

OJC 2

Efficacy of Ayurvedic Science in the Fields of Sports

Akriti Sharma¹, Kirti Bhati¹

¹Department of Swasthavritta and Yoga, Bharati Vidyapeeth (Deemed to be University) College of Ayurved, Pune, Maharashtra, India

Ayurveda is an ancient medical science. It is very distinctive system of medicines with indomitable ideologies. As Ayurvedic system of medicines is so adaptable in nature and always trying to cope up with the problems arising in this modern world, with its traditional knowledge and distinctive methodology instigated in Samhitas. Ayurvedic practitioners are always eager to seek the knowledge from various different fields, to do something better for the mankind and Sports medicine is one of those fields that is becoming the new focus for the Ayurvedic practitioners by improving the performance of a sports person in their specific games with their traditional methods. In sports, health, physical fitness and mental fitness plays very essential role towards the performance of a sports person in their specific games. There are various procedures and formulations in Ayurveda that we can be indorsed in sports injuries or prevent them from injuries along with several daily and seasonal regimes to be adapted for the promotion of health of an individual including daily pathya ahara (nutritious diet), vyayama (physical exercise) according to the season, weight and strength of an individual person by increasing the endurance and stamina. Also, some Abhyanga (massage) techniques to strengthen the muscles or to relax the mind of a person. Medicated oils have healing properties, injuries which are musculoskeletal in nature can be healed with various techniques. Yogic and pranayam techniques help

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

for the cleansing of body and mind respectively. The main focus of this article is to acquaint with the efficacy of Ayurvedic (traditional) science in the fields of sports.

OJC 3

Estimation of Prevalence of Myocarditis in Athletes: A Systemic Review

Pratik Saha¹, Shrishti¹, Lakshmi Ramesh¹,
Aparna Sarkar¹

¹Amity Institute of Physiology and Allied Sciences, Amity University, Noida, Uttar Pradesh, India

Background: Myocarditis is a leading cause of arrhythmias and sudden cardiac death (SCD) in physically active people and athletes alike. Elite athletes appear to be at an increased risk of viral infection and subsequent myocarditis due to increased pathogen exposure (global travel/international competition) or an inhibited immune system (continuing training during infections/resuming training soon after, strenuous exercise training). Athletes may be at a higher risk of adverse cardiac events. The initial clinical presentation varies, but athletes exhibit non-specific symptoms of fatigue, muscle soreness, increased heart rate at rest and during exercise, and decreased overall exercise capacity. However (unnecessary) prolonged disqualification of athletes to avoid adverse cardiac events can cause significant disruption to training schedules and tournament preparation, leading to a decline in performance and ability to compete. As a result, improved risk stratification tools are critical. Among several diagnostic methods like ECG, Echocardiography and cardiac biomarkers, Cardiac magnetic resonance imaging (CMR) should be more focused upon.

Purpose: To assess and contrast the differences in existing recommendations and present a new pro-

posed diagnostic process flow focusing on the use of cardiac magnetic resonance imaging in athletes with suspected myocarditis using the most recent available data,

Methods: A substantial number of correlated research papers were perused to ascertain the results. Furthermore, the availability of mundane information such as risk factor, inhibited immune response, diagnostic procedures was established via incisive analysis of pertinent websites.

Results: Based on scant evidence, primarily autopsy studies and expert opinions, current recommendations generally recommend a minimum of 3 to 6 months of abstinence from competitive sports for the prevention of onset of myocarditis among suspected athletes.

Conclusions: Due to the high level of cardiac stress in highly competitive sports, precise screening modalities are required, particularly for acquired cardiac diseases such as acute myocarditis. Evidence from large multicentre registries, including cardiac magnetic resonance imaging, is required to modify recommendations in athletes with myocarditis. A yearly follow-up examination should be performed on all athletes.

OJC 4

Standardization and Quality Evaluation of Breakfast Chonut Bar

Jayavarshini P.¹, Sridevi D.¹

¹Food Science and Nutrition, DR.N.G. P Arts and Science College, Coimbatore, Tamil Nadu, India

Breakfast bars are one of the ready-to-eat convenient products occupying larger space in the consumer market which not only satisfy the hunger, but prove as a quality source of nutrients and a convenient means of replacement of a meal. Sprouting process which activate the enzymes of the resting

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

grain resulting in high bioavailability and digestibility of nutrients and therefore it plays an important role in nutritional and human nutrition. Hence, the sprouted millet powder, sprouted channa powder, sprouted horse gram powder, carrot, beetroot, groundnut, watermelon seed, pumpkin seed, sesame seed which provide use for nutrient enrichment and to enhance the digestibility and absorption into formulated product. It is standardizing at different level of incorporation at (15%), (10%), (5%) level. The product was analysed for proximate composition, physical and chemical analysis and organoleptic evaluation. Overall, it can be concluded that incorporation of sprouted millet powder, sprouted channa powder, sprouted horse gram powder, carrot, beetroot, groundnut, watermelon seed, pumpkin seed, sesame seed up to 15 % 10 % 5 % in preparation of chonut bar with good sensory attributes and nutritional value can be prepared. It acts as a good substitute for a person who missing the breakfast. The Nutri-bars are healthy snacks for sports person that provides them adequate daily intake of all five food groups nutrients and helpful in the development of stamina building as well as maintenance of desired body weight. The bar provides 1/3rd of calories for the sports person.

OJC 5

Standardization and Quality Evaluation of Probiotic Drink using Pomegranate Extract and Rice Rinsed water

Anulavenya.S, Sridevi.D¹

¹Food Science and Nutrition, DR.N.G. P Arts and Science College, Coimbatore, Tamil Nadu, India
A high percentage of people consume soft drinks that contain sugar or artificial sweeteners, flavorings and various additives. In this study, the application of probiotic strain *Lactobacillus plantarum* in pomegranate juice fermentation is sought. The main aim of this study was the development of a

novel fermented pomegranate beverage by the application of *Lactobacillus plantarum*, a probiotic strain with good technological characteristics to the sports person especially for dehydration which was evaluated in the present study. Sports drinks are designed to optimize performance during and in the recovery from prolonged exercise by providing carbohydrates, energy replacing fluid and electrolytes. Pomegranate is loaded with fibre, potassium, vitamin C and much more. It is also rich in powerful plant components. Commercial sports drinks consist of water, varying types of carbohydrates in concentrations of (4-8%), small amounts of electrolytes and sometimes other ingredients designed or thought to increase physical performance or health. It resulting in high bioavailability and digestibility of nutrients and for the sports person it plays an important role. Fermentation of fruit juice by probiotic bacteria can increase viability of the cells and in addition improve functional aspects of the produced beverage. The fermented pomegranate extract and rice rinsed water were taken in three different variations at (25% & 75%), (50% & 50%) and (75% & 25%) .The product was analyzed for proximate composition, physical analysis, chemical analysis, microbial analysis and organoleptic evaluation. The overall acceptability of the product was (variation III) it is rich in vitamin c and calcium and it is good substitute for the sports person.

OJC 6

Comparison of Body composition among Athletes across Strength, Endurance and Intermittent sports using DEXA: A Systematic Review

Mounica Ayyalasomayajula¹, Venkata Ramana Y.¹, Bharati Kulkarni¹, Keren Susan Cherian¹

¹DMYAS-NIN Department of Sports Science, ICMR- National Institute of Nutrition, Hyderabad, India.

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

Background: Body composition is related to athletic performance and is the most manipulated factor in the field of sports. However, till date no review has explored body composition across sporting categories (strength, endurance and intermittent) specific to DEXA.

Purpose: The review is aimed at systematically exploring the body fat percentage (BF%) and fat-free mass (FFM) across different sporting categories measured using DEXA.

Methodology: This review followed the PRISMA guidelines, and was registered in PROSPERO. An electronic database search was conducted on PubMed, Cochrane, EBSCO, ProQuest, ScienceDirect and Google scholar (January 2010 to 30 June 2020) using appropriate key terms and Boolean operators. Selection of articles was done based on inclusion and exclusion criteria and screening was done independently by two researchers. Any disparity in screening procedure between two researchers was analysed and sorted at the primary level by the third researcher.

Results: Out of the 3093 articles, 124 articles were included in the review. Intermittent sports exhibited a broader range of BF% (7.8-34.1%), compared to strength (8.8%-28.4%) and endurance (9.5-23.4%) categories. FFM also showed similar variation across sporting categories. In combat sports, the percent body fat increased with higher body weight category, irrespective of gender. Further, a lower BF% was reported among national, international and NCAA Division I players, irrespective of gender. Considering the age-category, a slightly lower range of fat percent was reported among <18-year-old athletes (Male:13-17%; Female: 20-23%), compared to a higher age-category of 18-25-years

(Male:11-20%; Female: 21-25%). A wider variation in Fat-free mass was observed in intermittent sporting group (31.6 and 90.9 kg) compared to combat (62.9 to 88.6 kg) and endurance (68kg – only one study) sporting groups.

Conclusion: BF% exhibited a difference based on weight category, age and level of competition and should be taken in to consideration while framing body composition cut-offs for athletes.

OJC 7

To Assess and Correlate Cardiorespiratory Adaptations in Endurance Trained Cyclist and Recreational Cyclist

Ananya Mandal¹, Gaurav Kadyan¹

¹Institute of Rehabilitation and Sciences, Indian Spinal Injuries Centre, New Delhi, India

Background: Road cycling is a highly endurance sport, with elite cyclist riding approximately 30,000 to 35000 Kms. each year during training and competition. The performance in cycling is mainly determined by maximal aerobic power over long lasting distances and anaerobic power to sprint fast during the close gaps so as to finish the race first. Heart rate variability (HRV) an effective tool has been used to monitor the status of the autonomic nervous system to understand the physiological adaptations of body in amateur and trained athletes. Majorly this daily routine non-invasive method helps in tracking and recording the training status, “exercise readiness,” and post-exercise fatigue in individual athletes. Thus having relevant indicators of the exercise stress-recovery status could be a real advantage for individual athlete’s monitoring so to avoid the state of over-reaching and over-training.

Purpose: This cross-sectional study aimed to compare and correlate HRV indices, body composition

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

and aerobic power (VO_{2max}) in recreational cyclist and trained endurance cyclist.

Materials and Methods: Forty-seven male cyclists participated in the study (age: 20.32 ± 0.365 ; height: 171.50 ± 1.117 ; BMI: 23.00 ± 0.47). Anthropometric profiling was done with the help of Harpend-er calliper and measuring tape to measure the skinfold thickness and body circumference respectively. HRV was recorded using Heartware Shimmer ECG device for 10 mins. and later 3 min. McArdle step test for VO_{2max} .

Results: Subjects showed significant negative correlation of Body fat % with VO_{2max} , fat mass showed significant positive correlation with LF/HF whereas the body fat % and VO_{2max} is significant within groups.

Conclusion: There is a significant correlation between Body fat%, Fat mass and VO_{2max} and no significant correlation of VO_{2max} with HRV indices.

OJC 8

Association of Low Energy Availability on Bone Health among Athletes: A Systematic Review

Santhiya Babu¹, Venkata Ramana Y.¹,

Bharati Kulkarni¹, Keren Susan Cherian¹

¹MYAS-NIN Department of Sports Science, ICMR-National Institute of Nutrition, Hyderabad, India.

Background: Low energy availability (LEA) is prone to cause bone health-related issues which can affect the sports performance of athletes.

Purpose: To identify the association of LEA with bone health outcomes among athletes through assembling and synthesizing the best evidence.

Methodology: The present systematic review was carried out according to the PRISMA guidelines and registered under PROSPERO. A total of 1644 articles were identified from PubMed, Cochrane, EBS-

CO, ProQuest, Science Direct, and Google Scholar from June 2020 to August 2020 using appropriate search terms and Boolean operators. Two reviewers independently screened the titles, abstract and full text articles depending on the study selection criteria. At the end a total of 23 studies were considered for final review.

Results: The mean EA across the studies ranged from 18.9 to 51.8 kcal per kg FFM per day among males, versus 3.75 to 44.2 kcal per kg FFM per day among females. The prevalence of LEA ranged from 6% to 83.33%, with male at lower end and female athletes at the highest end of range. Overall, mean BMD values of athletes across different sports, ranged from 1.029 g/cm² to 1.316 g/cm². Among majority of the studies, LEA was associated with occurrence of any one of the bone health outcomes, such as stress fractures, injuries, osteoporosis and/or reduced BMD. The studies reporting highest percent prevalence of LEA and bone-health related concerns were carried out among collegiate athletes, athletes aged under less than 20 years and among male athletes.

Conclusion: LEA was associated with higher risk for bone related injuries. Further research is warranted for conclusive recommendation due to limited number of studies and differences in bone health measures employed across studies.

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

OJC 9

Effect of Ayurvedic Rasayana Supplements on Physical Performance: A Systematic Review

Bindia Raji¹, Venkata Ramana Y.¹,

Bharati Kulkarni¹, Keren Susan Cherian¹

¹MYAS-NIN Department of Sports Science, ICMR-National Institute of Nutrition, Hyderabad, India.

Background: Traditionally Ayurvedic Rasayanas were used to restore the health and overall well-being of an individual and in recent time it has been explored for its potential role in sports performance.

Aim: This systematic review was initiated to understand the effect of popularly used Rasayana supplements like Arjuna, Ashwagandha, Guduchi, Musli, Shatavari, and Shilajit in improving the physical fitness parameters.

Methodology: A systematic search was conducted in six electronic databases following PRISMA guidelines and the protocol was registered in PROSPERO. Intervention studies done on healthy human population between the age group of 16 to 45 years exploring any performance related parameters; both health and performance related fitness were included in this review. Sixteen studies were selected from screening 2371 records, of which 590 were duplicates.

Results: The most explored physical fitness parameter was muscle strength and muscle power, followed by VO₂max and maximum velocity. A mean increase in the 1RM bench press of 12.8 kg (SD=8.2) and 46.05 kg (SD=23.00) was observed with Ashwagandha supplementation (500 and 600 mg/day) over a period of 12-weeks and 8-weeks, respectively. The highest increase in handgrip strength (2.7 kg) was observed with an incremental dose (750 to 1250 mg/day) of Ashwagand-

ha supplementation, followed by 2.5 kg increase with 3g per day of Musli supplementation. The supplementation with Shilajit promoted the retention of maximal muscular strength, following a fatiguing protocol. The VO₂max showed improvement with the supplementation of Ashwagandha, Guduchi and Arjuna. The VO₂max improvement with Ashwagandha supplementation ranged from 5.67% (dose of 600mg/day over 12-weeks) to 13% (dose of 2000mg/day for 8-weeks).

Conclusion: Rasayana herbs has shown an improvement in the performance parameters like muscular strength, handgrip strength, muscle power, VO₂max, maximum velocity etc. Further researches in this direction are required to substantiate these findings.

OJC 10

Management of Isolated Discoid Lateral Meniscus Repair and Return to Sport

Vaishali R.¹, Ramesh¹

¹Chettinad Academy of Research and Education care (Deemed to be University), Kelambakkam, Chengalpattu, Tamil Nadu, India

Background: A 17-year-old football player, member of the national team injured her right knee while playing under-18 match from a sudden combined valgus with external rotation movement. The review of all signs and symptoms suggested a bucket handle or discoid lesion of the lateral meniscus.

Purpose: This case report is to describe a criterion-based, supervised, sport-specific rehabilitation protocol for a high-level athlete with a lateral meniscus repair from the first postoperative day until return to competitive sport. The treatment chosen will depend on the location of the tear, the athletes

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

sport, ligamentous stability of the knee and any associated injury.

Findings: To confirm the diagnosis the patient had an MRI of right knee suggestive of incomplete discoid morphology of lateral meniscus. Horizontal tear in the body and anterior horn of lateral meniscus with associated para meniscal cyst. The patient agreed to have surgery of her injured knee. An arthroscopically assisted RIGHT LATERAL MENISCUS REPAIR AND BALANCING.

Methodology: The rehab program was divided in 4 phases, mainly based on the joint condition and the neuromuscular control of the operated knee. Patient weight bearing was advocated for the first 4 weeks, with a progression of load (20%,50%,70% of body weight). Neuromuscular and balancing training from bilateral stance to unilateral stance on the involved limb were performed.

Results: Early diagnosis followed by timely surgical intervention and, the accelerated rehabilitation protocol showed a safe return to sport. Return to high-level sport was allowed only when these criteria were met: full ROM in non-weightbearing and weight-bearing situations, 90% isokinetic quadriceps strength index, achievement of sports-Specific neuromuscular control.

OJC 11

To Assess the Changes in Nutritional and Hydration Status of State Level Kho-Kho Players

Lakhvinder Kaur¹, Shweta Sharma¹, Naman Khatri¹

¹Manav Rachna International Institute of Research and Studies, Faridabad, Haryana, India

Background: Adequate nutrition is essential to achieve better performance and physical fitness; kho-kho being a game of endurance, strength; agil-

ity and speed have a high energy requirement of 4000-4500 kcal.

Methodology: A total of 75 university level kho-kho players of different states were selected for the study. The purpose of the study was to compare the BMI, muscle mass and hydration status of players, pre and post the study. Dietary and hydration recall of the players was accessed to determine their nutrition intake and then compared with the RDA.

Results: The study revealed that 90 percent of the subjects were dehydrated and subsisting on inadequate diet. Throughout the study players were provided with nutritionally adequate diet which showed significant improvement in their nutrition and hydration status.

OJC 12

Comparison between Core Stability and Static Balance among Prolong Standing and Prolong Sitting Workers

R. Lalbiakkimi, Pooja Sharma, Moattar Raza Rizvi, Ankita Sharma, Sunita Kumari, Shobhit Saxena

¹Department of Physiotherapy Manav Rachna International Institute of Research and Studies, Faridabad, Haryana, India

Background: Core stability refers to the ability of passive and active stabilizers in the lumbo-pelvic region to maintain optimal trunk and hip posture, balance, and control during dynamic and static movement. Balance is the capacity to maintain a body's Center of Gravity within its Base of Support with minimum postural motion. Core muscle endurance is critical for maintaining balance, coordination and performing physical task

Objective: The purpose of the study was to examine who have weaker core stability and stable balance among prolong standing and prolong sitting workers.

ORAL PRESENTATION (JUNIOR CATEGORY) ABSTRACT

Method: A total of 57 subjects were taken age group between 20-30 years. And 28 subjects for prolong standing and 28 subject for prolong sitting in both male and female from sector 21 D, Faridabad. Each and every one of them was examine by using McGill torso muscular endurance test that is trunk flexor endurance test, trunk extensor, trunk lateral endurance test (right and Left) and in this test the subject were ask to hold the position and the time was stop when there is visible shift in the trunk and the time was recorded and the comparisons of the ratio was taken for each test and static balance was assessed using single leg stance that is eye open and eye closed which was done for three trials and the best time was taken. During the test rest period of 1-2 minutes between each trial was given. SPSS and t-test were used for statistical analysis.

Result: The comparison of trunk flexor endurance test, trunk extensor endurance test, trunk lateral endurance test (right and left), it was found statistically where the participant of prolong standing were found to have greater core stability than prolong sitting. And the comparison of the ratio was found statistically significant where the participants of prolonged standing were found to have lesser ratio than prolonged sitting. In comparison of single leg stance that is eye open and eye close it was found that the participant of prolong standing were having a greater static balance as compare to prolong sitting.

Conclusion: There is statistically significant between core stability and static balance among prolong standing and prolong sitting workers. The challenge in dealing with trunk endurance is to apply our knowledge and skills to develop workout programs that improve endurance and, as a result, balance as a key component of an activity's overall success.

Key words-core stability, balance, McGill endurance test, Single leg stance test

POSTER DISPLAY ABSTRACT

P-1

Recovery Pump: A Novel Prevention Strategy for DOMS on Athletes with Hamstring Strains- A Case Report

Sneha Tiwari¹, Pallavi¹

¹Apollo College of Physiotherapy, Jubilee Hills, Telangana, India

Background: Hamstrings strains are very common in athletes. The previous studies show that the use of eccentric training for the rehabilitation has been established in the medical literature. DOMS occurs after high levels of eccentric training primarily due to muscle cell micro damage and inflammation, which leads to the accumulation of lactic acid, creatine and other metabolic waste the body cannot clear during exercise. Recovery pump works on same principle as external compression, it can be an effective treatment that minimizes swelling, improves the alignment and mobility of scar tissue, in an injured joint consequent to eccentric damage models. The aim of this case report was to evaluate the effectiveness of a recovery pump on DOMS.

Methods: A 22-year-old elite badminton player clinically diagnosed with grade 2 hamstrings strain after 12-week rehab high supervised eccentric training program was added then he develops soreness, a decreased ROM, swelling, pain, and impaired functional capacity which limit ability to train at full strength.

Results: Recovery pump had shown positive effect by reducing swelling, decrease pain, and alleviate muscle stiffness, 20-60 mins at Medium or High intensity can greatly accelerate soft tissue healing.

Conclusion: This case study report provides some evidence that Recovery-pump compression techniques can reduce the DOMS by increases blood circulation and helps body get rid of accumulated

waste in muscles faster and more efficiently than body normally can. The result shows muscles heal and recover faster which causes less delay in return to sports.

P-2

Development of Iron Rich Bar for Reducing the Prevalence of Iron Deficiency Anemia among Adolescent Girls

Vinita Singh¹, Monika Thakur¹,

Satya Prakash², Mayank Rai³

¹AIFT, Amity University, Noida, Uttar Pradesh, India

²Horticulture, SVPUA & T, Meerut, Uttar Pradesh, India

³KVK, GB Nagar, SVPUA & T, Meerut, Uttar Pradesh, India

Background: Iron deficiency is the most common nutritional disorder in the world, with the highest prevalence among children (40%), women of reproductive age (30%), and pregnant women (38%). It is the leading cause of anemia, with women of reproductive age being particularly vulnerable to acquiring iron-deficiency anemia (IDA), because of the increase in blood volume and muscle mass that occurs around puberty followed by regular menstruation, which increases the body's demand for iron. Food supplementation is a form of direct intervention to solve the problem of iron deficiency anemia. This strategy focuses on improving the availability, access and consumption of vitamin and mineral rich foods. Benefits of food supplementation strategies are not only restricted to the improved intakes of specific nutrients but also helps in improving overall diet and health status. Food supplement is the concentrated source of nutrient compounds such as vitamins, minerals, amino acids, fatty acids, fibre, botanical or herbal products, which is added to the diet to enhance the status of human health.

POSTER DISPLAY ABSTRACT

Purpose: The purpose of the study is to develop Iron and vitamin C Rich Bar for anemic adolescent girls.

Methodology: The Iron and vitamin C rich bar was developed by the mixture of rice flakes, cauliflower leaves powder, jaggery and niger seeds. For the absorption of iron, amla powder was also added in the bar.

Result and conclusion: The 100 gms of Iron Rich Bar developed by the mixture of 35 gms rice flakes, 45 gms jaggery, 10 gms niger seeds, 5 gms cauliflower leaves powder and 5 gms amla powder provides 15.91 mgs iron and 30 mgs of vitamin C. Supplementation of food like rice flakes, jaggery, niger seeds, green leafy vegetables and other locally available foods helps in reducing the prevalence of iron deficiency anemia among adolescent girls at lower cost and useful to the community for combating anemia.

P-3

Comparison of Posture and Anthropometric Covariates of Physically Active and Sedentary Individuals in elderly population

Jasmine Kaur Chawla¹, Janvhi Singh¹,

Pragya Kumar¹

¹Amity Institute of Physiotherapy, Amity University, Noida, Uttar Pradesh, India

Background: Sedentary lifestyle, growing age and lack of physical activities in elderly population may be one of the reasons of the growing numbers of population with incorrect body posture.

Purpose: The study investigated the effect of lack of physical activity on body posture of elderly population. Further, physical activity was evaluated using validated scale RAPA.

Methodology: The study was conducted in different locations of Delhi NCR. Anthropometric covariates were assessed using standard measuring tools. Forward head posture (FHP) and Forward shoulder

posture (FSP) were assessed using On protractor mobile application and pectoralis minor length respectively. scapular asymmetry with LSST, Lumbar lordosis with flexicurve was used. Physical activity was assessed using RAPA questionnaire.

Result: Statistical analysis was performed on SPSS 20. The postural co-variates like ((Pectoralis major and minor, LSST, FHP 7.64, ($p < 0.00001$ and Lordosis Index are 0.69 ($p < 0.00001$), were significantly higher in the physically active group for than physically inactive group. Furthermore, anthropometric covariates (BMI are-5.11 ($p < 0.00001$), Body Density-12.99 ($p < 0.00001$), Waist-Hip Ratio 2.73 ($p < 0.00001$) was significantly low in physically active than sedentary individuals.

Conclusion: The study concluded that physically inactive individuals tend to have a poor posture than physically active. It is recommended that physical education teachers and physiotherapists can have a very active and important role in detecting and treating of postural defects, particularly in elderly population prior to their becoming a complex entity.

P-4

Awareness & Prevalence of Text Neck Syndrome in Work from Home Population: A Survey

Ekta Chaudhary¹, Meenakshi Singh¹,
Neha Gupta¹

¹Amity Institute of Physiotherapy, Amity University, Noida, Uttar Pradesh, India

Background: Text Neck Syndrome is a repetitive strain associated with excessive use of mobile devices or laptops. It leads to harmful symptoms such as neck pain, back pain, shoulder pain, chronic headaches, and spinal deformities. Given the ongoing Covid-19 pandemic, the number of people working online from home has increased significantly which additionally increases the need to analyze

POSTER DISPLAY ABSTRACT

this population for getting neck, cervical pain or complaints of the upper extremity.

Purpose: To find Awareness & Prevalence of Text Neck Syndrome in Work from Home Population.

Methodology: 200 subjects from various companies/ multinational companies, in the age group of 20-45 years, who use mobile phones or laptops for working online from home participated in this observational study. A self-administered questionnaire was mailed which included questions pertaining to personal and information related to phone usage, awareness and knowledge related to text neck syndrome along with demographic details etc. A mail was also provided in the form for FAQs & queries regarding the questions in the form.

Results: Descriptive statistics was conducted to evaluate the responses. Also, the responses for each question were calculated in Percentage. This study demonstrated that 25% population awareness of Text neck syndrome. Also, it mentioned about lack of knowledge of Text neck syndrome in this population. Out of the people who have heard of text neck syndrome, only 19% know about the preventive measures.

Conclusion: Awareness of Text Neck Syndrome is insufficient and that the information about this disease is very important to prevent injuries which can be easily prevented.

P-5

Prevalence of Complaints of Arm, Neck and Shoulder (Cans) in Students taking Online Classes

Sakshi Mehra¹, Meenakshi Singh¹,
Neha Gupta¹

¹Amity Institute of Physiotherapy, Amity University, Noida, Uttar Pradesh, India

Background: Due to the sudden occurrence of the COVID-19 pandemic, when the lockdown was implied schools & universities were closed. Many students have faced problems physically and mentally while attending online classes from their homes. One of such physical problems includes the complaints of arms, neck, and shoulder (CANS) in students. This study was outlined to provide data regarding the complaints of arms, neck, and shoulders in university students along with the risk factors involved.

Purpose: This study tried to find out the prevalence and risk factors of CANS among the university students taking online classes.

Methodology: This study was an “observational study” done by surveying university students age group (18 -25 years), who have been taking online classes in the pandemic. A self-administered questionnaire MUEQ was used to find the prevalence of CANS. The data collection form was made on google forms for data collection and was circulated among student population on various social media platforms. A total of 184 students participated in the survey. The data collected was analysed on Microsoft Excel 2019 and was interpreted in tables, pie charts and bar graphs.

Results: The prevalence of CANS in students taking online classes was found to be 70%. Neck was most affected followed by shoulders, wrists and hands. Identified risk factors for developing CANS were long sitting hours, awkward postures, repetitive tasks & work pressure.

Conclusion: Since, many of the risk factors are modifiable, it is important to increase the awareness, correct ergonomics and good work habits to prevent CANS in students taking online classes.

POSTER DISPLAY ABSTRACT

P-6

Role of Microelements in Sports Nutrition

Shrishti¹, Pratik Saha¹, Lakshmi Ramesh¹,
Aparna Sarkar¹

¹Amity Institute of Physiology and Allied Sciences,
Amity University, Noida, Uttar Pradesh, India

Background: It is important to claim that sports nutrition is a complex process, and it contains the regulation of vitamins, minerals, and supplements in the food rations. Microelements play an essential role in the human organism. nutrition in sports, microelements and vitamins are vital for muscle building and healthy development of the body as well. What is more, there are nutrition supplements, such as metal chelates, that help to catalyze the processing of minerals in the organism. sports nutrition should contain healthy amounts of microelements, such as calcium, iron, magnesium, copper, and iodine to control the metabolic processes and the amount of energy in the organism required for performance.

Purpose: Micronutrients play an important role in energy production, hemoglobin synthesis, maintenance of bone health, adequate immune function, and protection of body against oxidative damage.

Methodology: Review was done from numerous articles. Method used in the article mainly consisted about microelement importance and their function on body.

Result: It is important to mention that the majority of athletes use special supplements to increase the number of various microelements in the body. Thus, the metal chelates are the active mineral forms. The chelate is a kind of chemical combination that consists of the organic and metal molecule (Guetschow). The primary role of chelates is to make the mineral biologically active for the human

body. Such substances as glycine, glucose, and proteins are quite popular among athletes.

Conclusion: To sum up, the role of microelements is essential for healthy nutrition. Micronutrients such as calcium, iron, magnesium, copper, and iodine are vital for muscle building and healthy development of the body. athletes need such elements as magnesium and calcium for muscle building. Speaking about the metal chelates, there is a need to control the quality and quantity of such substances to reduce the possible harmful effect.

P-7

Comparison between High Power Laser and Conventional Physiotherapy in Treatment of High Hamstring Tendinopathy: Randomized Clinical Trial

Rajinder Nahata¹, Vivek Chauchan¹

¹HNBG University, Garhwal, Uttarakhand, India

Background: High hamstring tendinopathy refer to a condition in which overuse injury of hamstring origin results in gradual wear and tear due to its over activation during eccentric loading caused by hip flexion and forced knee extension. It is commonly seen in endurance sports

Purpose: The aim of this study is to check the efficacy of High-power laser and eccentric exercise of hamstring in comparison to conventional physiotherapy to reduce pain, disability and improve strength, range of motion along with functional recovery after High Hamstring Tendinopathy

Methodology: 20 subjects were taken including both males and females who fulfilled the requirement of the inclusion criteria and randomly allocated in two groups. The study was experimental with different subject design. The subjects are randomly assigned into two equal groups-A n=10 (High level

POSTER DISPLAY ABSTRACT

Laser+ conventional treatment), and group-B (conventional treatment). Subject is assessed for hamstring strength and pain by back leg chest dynamometer and pain (NPRS). The treatment was taken over 3 days period with subject in each group A and group B receiving a one treatment session in a day for consecutive 3 day for 4 weeks.

Result: Group B showing a significant improvement in 4th week treatment

Conclusion: Conventional therapy in High Power laser therapy is more effective the conventional physiotherapy in treatment of High Hamstring Tendinopathy

P-8

A Review of Most Common Sports-Related Injuries

Dhiren Kumar Panda¹, Subrata Dey¹, and Tirthankar Ghosh¹

¹Ergonomics and Sports Physiology Laboratory, Faculty of Health and Wellness, Sri Sri University, Cuttack, India

Sports injuries have long been recognized as a worldwide health problem requiring a public health approach to decrease their effect. Sports injuries have been reported to burden 5.2 million to the Australian healthcare system, 20% of all nonfatal injuries are sports injuries and cost €2.4 billion in Europe and more than US\$1.58 billion is expended on sports injuries in the United States. Most sports injury rates in the population are based on data provided by developed countries. Little is known about sports injuries in underdeveloped and developing countries like India.

A thorough computerized literature search was undertaken using the databases PubMed, Medline, and Science Direct. We identified the subject of this review (type of injury, treatment method, affected body part) of the 154 abstracts extracted and

scanned from the above-mentioned database literature in Allied Health from January 1, 2008, to December 31, 2017.

Every sport has the threat of injury. Sprains and strains are the most prevalent kinds of sports injuries. In sports, a traumatic injury is described as a significant injury to a person's head, spine, or brain. Jump shots, tennis elbow, and tendinopathy are examples of recurring pressure injuries. In former athletes following injury, weight-bearing joints like hip, knee and ankles are in threat of developing Osteoarthritis (OA), or in the presence of malalignment, especially in association with high impact sport.

Only 30% of sports injuries are reported to the healthcare sector, so it is difficult to determine the actual burden of sports injuries. The absence of defined criteria of sport injury further makes the reporting of actual injury rates challenging and compares between studies. Another issue affecting the comparability of research results is the lack of standardization of rates and population-based data, which is usually not reported annually, and there has been little solid research on long-term follow-up of retired players, and no such research has evaluated the quality of life, making it difficult to fully understand the effects of sports injuries to the present day. There are many effective ways to prevent sports injuries using random treatment plans

P-9

Smartphone Overuse and Anxiety in Young Population

Pragya Sharma¹, Neha Gupta¹, Meenakshi Singh

¹Amity Institute of Physiotherapy, Amity University, Noida, Uttar Pradesh, India

POSTER DISPLAY ABSTRACT

Background: Smartphones are a very popular and useful devices. There is an ever-increasing use of smartphone in the young population allowing everyone to access the internet, social communication & to entertain themselves anytime anywhere. But over smart phone use can also be related to some somatic complaints, anxiety, depression, stress, insomnia and increasing loneliness. Thus, the current study aims to study the relation between smart phone addiction and anxiety.

Methodology: 30 young adults (18-25 yrs age, 14 females and 16 males) agreed to participate in the study. Demographic details, smartphones addiction scale – short version (SAS-SV) and Hamilton's anxiety scale (HAM-A) were filled via an online questionnaire, to assess the level of smartphone addiction and severity of anxiety.

Result: This study showed that the young adults with mean age 21.55(1.29), have a mean 16.89(9.07) on HAM-A and a mean of 31.7(11.21) on SAS-SV. The correlation between SAS-SV and HAM-A is 0.324. The study showed that 73.4% are high user of smartphones (total score of 25 or above) and 16% of our subjects fall into the category of "moderate level of anxiety" individuals (having total score 18-24) 24% fall into the category of "highly severe level of anxiety" (total score of 24 or above).

Conclusion: The current study shows that smartphone overuse is moderately responsible for increasing anxiety among the participants. As young adults need to develop their skills & knowledge to be competent professionals, they should use smartphones appropriately and be cautious about the negative effects of phone addiction on anxiety.

P-10

Holistic Outlook of Traditional Medicine in Sports

Pooja Raj¹, Ravindra Patwardhan¹, Kirti Bhati¹

¹Department of Swasthavritta and Yoga, Bharati Vidyapeeth (Deemed to be University) College of Ayurved, Pune, Maharashtra, India

Background: In ancient vedic era, sports was addressed as 'krida' (playing, skipping) and 'vyayama' (toughening up, physical exercise) for 'exercise' and this demonstrates the ayurvedic principle of balance as too much activity creates imbalance as much as too little. Vyayama (exercise) helps to get rid of heaviness and stiffness of the body as it burns Ama (digestion impurities) and creates more flexibility, lightness, smoothness and easiness which are three pillars of fitness. Sports medicine has two goals to achieve, primarily physical and mental fitness and second goal is treating the sporting injuries of the sportsman. Ayurved can help to achieve both of them through Panchakarma, yoga, Rasayana, Marma Chikitsa etc and herbs which add extra healing edge to the body injuries. Discipline is a bridge between goals & accomplishment which is very important for any sports person and these rules are explained well in Dincharya, Rutcharya and Ratricharya.

Purpose: The present paper intends, in the above context, to identify the possible contribution of Ayurved in the field of sports medicine. The aim of this review is to bring the ayurvedic outlook with various treatment modalities into limelight & factual research evidence validating it.

Methodology: Traditional Medicine recommendations for prevention & curation of injuries in sports were rationally reviewed in light of published information from several scientific articles & literature

POSTER DISPLAY ABSTRACT

review from Vedic texts were taken into systemic review study.

Conclusion: Ayurvedic therapy with new modern technology in sports if used together, can enhance performance, physical fitness and assist in various sport injuries with several concepts in Ayurveda & rules & regimens for healthy living as a goal for a sports person.

P-11

Importance of Yoga in our Daily Life

Sajad Ahmad Dar¹, Vivek Gulhane²

¹Sant Gadge Baba Amravati University, Amravati, Maharashtra, India

²P.G. Jain Arts College Ansing, Washim, Maharashtra, India

It is rightly said that if we want to maintain a balance between oneself and environment then yoga is necessary for every human. We can't deny the fact that since ancient times in India yoga is being practiced. The 'yoga' word is derived from the Sanskrit which means 'to join or to unite'. Exercises of yoga have a physical effect and also bring a balance between body, soul and mind. Several years ago, sages analysed nature and cosmos through meditation. It is rightly said that if we want to maintain a balance between oneself and environment then yoga is necessary for every human. We can't deny the fact that since ancient times in India yoga is being practiced. The 'yoga' word is derived from the Sanskrit which means 'to join or to unite'. Exercises of yoga have a physical effect and also bring a balance between body, soul and mind. Several years ago, sages analysed nature and cosmos through meditation. Yoga can be practiced in any age it is suitable for people of all ages and requires no 'stunt' skills. It should be included in our daily life. Path of self-knowledge and self-realisation can be

attained via positive thinking, perseverance, discipline, right orientation, prayer as well as humble and kindness. The importance of life is the health of our body. If health is not good then we will not be able to achieve our goals or will not remain happy. It is rightly said that "Health is not everything, but without health everything is nothing."

P-12

Effect of Moderate Intensity Resistance Training with Blood flow restriction On Muscle Strength and Girth in Young Adults – A Randomized Control Trial

Tanya Gujral

Noida International University, Greater Noida, Uttar Pradesh, India

Objective: To examine the effects of moderate intensity resistance training with blood flow restriction on muscle strength & forearm girth.

Method: Total of 39 students enrolled in this study were divided into three groups that is group A (control group), group B and group C. Group A performed exercise training without restrictive pressure, group B & C performed exercise training with 50mmHg and 75mmHg respectively. Both the outcome measures were evaluated on day1 and day 12th with the help of digital dynamometer and measuring tape.

Results: Repeated measure ANOVA with Post hoc analysis was done using SPSS software version 20. The result of the study showed significant ($p \leq 0.05$) within subject improvement in muscle strength and muscle girth in all the three groups. However, there was significant improvement in muscle strength was found in between group analysis ($p \leq 0.05$).

Conclusion: The results of the study can be concluded as the partial blood flow restriction (50mmHg)

with moderate intensity resistance training resulted in greater handgrip strength than the other two groups. No difference was found in forearm girth among the three groups, however within group difference was found

P-13

Effect of Ergonomic Intervention and Postural Correction exercises on pain and disability in Computer Professionals with neck pain

Jaspreet Kaur¹, Manoj Malik¹, Deepika Jayani¹

¹Department of Physiotherapy, G.J.U.S.&T., Hisar, Haryana, India

Background: Computers have become ubiquitous in the workplace. Because of such widespread use, even relatively small risks associated with their use have important public health implications, and interventions that result in decreased risk would have great public health benefits. Complaints of work-related neck pain are becoming increasingly prevalent especially among intensive computer users.

Purpose: Purpose of this study was to find out the effects of ergonomic intervention and postural correction exercises on pain and disability in Computer professionals with neck pain.

Methodology: Computer professionals suffering from neck pain and fulfilling selection criteria were invited to participate in the study. Pain and disability were evaluated using Visual analog scale and neck disability index, respectively. Ergonomic intervention and postural correction programme were administered for two weeks. After two weeks, post intervention data of pain and disability was recorded. Data so obtained was analysed for statistical significance.

Results: Related T-test was done to analyse the statistical significance. Result showed a statistically significant decrease in Neck disability index and

visual analogue scale from pre intervention to post intervention levels.

Conclusion: Ergonomic intervention and postural correction exercises are effective in decreasing pain and disability in computer professionals suffering from neck pain.

P-14

The Effect of Covid 19 on Sports and Health: A Study

Arsheed Hussain Bhat¹, Vivek Gulhane²

¹Sant Gadge Baba Amravati University, Amravati, Maharashtra, India

²P.G. Jain Arts College Ansing, Washim, Maharashtra, India

Sports are an important role to economic and social development. Its role is well recognized by government, including in the political declaration of the 2030 agenda, which reflects on the contribution sports make to the empowerment of women and young people, individuals and communities as well as health education and other social objectives.

The year 2020 will forever be remembered for the arrival of the novel coronavirus. It is not hyperbole to claim that Covid-19 has affected and is affecting pretty much everyone and every part of society. The pandemic and actions taken in response to the pandemic have brought with them severe trials and high-lighted pre-existing systemic weaknesses. In many parts of the world, the situation appears to be improving as governments, organizations, and individuals are finding and implementing increasingly effective strategies.

However, this is far from true everywhere, the remaining uncertainty is substantial, and in the coming months many challenges will persist while new challenges will arise. It is thus too early to write a

history of sports and Covid-19. A sport around the world begins its journey back to normality, national governing bodies and international federations have published a range of return-to-training, return-to-play, and return-to-competition protocols. The aim of these protocols and the accompanying risk assessments is to ensure, as much as is possible, that the risk of spreading the virus that causes Covid-19 is reduced as much as is possible.

Alongside clear directions on personal hygiene and the use of personal protective equipment, the protocols include directions on managing the spread of infection in playing areas and on shared equipment, reducing interpersonal closeness and contact to a necessary minimum, and playing games in the absence of spectators.

**Virtual International Conference
On
Recent Advances & Challenges in
Sports Rehabilitation**

5th June to 7th June 2021



MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES
(Deemed to be University under Section 3 of the UGC Act, 1956)
(NAAC Accredited 'A' Grade)

Administrative Headquarters: 5E/1-A, Bungalow Plot, N.I.T. Faridabad, Phone: +91-129-4198600 (30 lines)
MRIIRS Aravali Campus: Sector-43, Delhi Surajkund Road, Faridabad, Phone: +91-129-4198100 (30 lines)

E-mail: info@mriirs@edu.in