

Srinivas University

Mangalore - India



Atomic Research Centre (ARC)

Cardiopulmonary Physiotherapy and Rehabilitation



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Institute of Physiotherapy

1. Purpose of ARC:

To create an innovative and advanced cardiopulmonary research centres to progress and excel in the advanced physiotherapy and rehabilitative intervention in the field of cardiopulmonary physiotherapy. Further to explore various research projects and programs to grow cardiopulmonary physiotherapy wing and cardiac and pulmonary rehabilitation centers.

2. Objective of ARC:

- The objective of this research centre is to provide a scientific communication medium to discuss the utmost advancements in the domain of Cardio Pulmonary Physiotherapy and Rehabilitation Research.
- To update and inculcate all advanced methods of assessment and examination procedures used to evaluate patients with Cardiac and Respiratory Diseases.
- To train both UG, PG students and Research scholars in the immediate recognition and treatment of emergency and life threatening illnesses including medical, surgical, and ICU emergencies.
- To train students in the recognition, evaluation and management of cardio pulmonary physical disabilities and cardiopulmonary physiotherapy and rehabilitation management skills.
- To identify and specify strategies of intervention during various phases of cardiac and pulmonary rehabilitation.

3. Description on Proposed Research:

1. Acute Effect of Enhanced External Counter Pulsation on the carotid hemodynamic parameters in patients with high cardiovascular risk factors – A Pilot Study

2. Cost Effectiveness and Functional Outcomes of Smartphone Cardiac Rehabilitation Assisted self-Management (SCRAM) versus Centre Based Cardiac Rehabilitation among patients with coronary heart disease in Southern India – A Multicentre Randomized Clinical Trial
3. Cost Effectiveness and Functional Outcomes of Smartphone Cardiac Rehabilitation Assisted self-Management in Coronary Artery Disease Patients (SCRAM) – Systematic Review
4. Unsupported upper limb exercise test in post covid 19 patients with persistent dyspnoea – quasi experimental study
5. Pulmonary function test values in normal and post covid physiotherapy collegiate students – Cross Sectional Study
6. STAR excursion balance test values in physiotherapy collegiate students – Normative Study
7. Effectiveness of aerobic exercises versus yoga program in WALLID score in physiotherapy collegiate dysmenorrhea students – quasi experimental study

4. Expected Outcome:

1. EECF protocol study will explore a the short term effect and portability of instrumentation
2. Smartphone assisted cardiac rehabilitation study shall opens up more participation of patients with coronary artery disease patients with more feasibility
3. Other studies proposed for the purpose with the completion of UG and PG students dissertation/thesis completion

5. List of the Team Members:

Dr. M. Premkumar
 Dr. Tamilalagan
 Dr. Divya Patel

6. List of Working Papers:

- (1) Combined Effect of Constraint Induced Movement Therapy and Neural Mobilization Technique on Upper Extremity Function in Spastic Hemiplegic Patient – A Single Case Study
- (2) Comparison of Spencer Technique versus Myofascial Release on Pain and Range of Motion in Periarthritis Shoulder
- (3) Comparative Study on Active Release Technique versus Myofascial Release Technique for Upper Trapezius Muscle Spasm
- (4) Effect of modified constrained induced movement therapy on improving arm function in children with obstetric brachial plexus injury – a case study

7. List of related Published Papers in Journals, Proceedings, Book Chapters, Magazines by Coordinator & his/her Group year wise in APA format.

- (1) M. Premkumar, Amit Kiran, S. Rajasekar, & Ajay Kumar. (2022). Effect of Smartphone Assisted Cardiac Rehabilitation Self-Management (SACRSM) on Talk Test Value and Six Minute Walk Test Distance in Uncomplicated Cardio Vascular Disease (CVD) Patient – Single Case Study. *International Journal of Health Sciences and Pharmacy (IJHSP)*, 6(1), 62–71. <https://doi.org/10.47992/IJHSP.2581.6411.0081>

- (2) Parikh, H. (2021). Effect of Abdominal Resisted Exercises on Pulmonary Function Test Values in Different Temperatures During Summer and Winter Season in Healthy Female Subjects-Longitudinal Study. *Indian Journal of Physiotherapy & Occupational Therapy*, 15(3).
- (3) M.Premkumar, S.Jeya Preethi Angela, S.Kavitha, Benefit of stability exercise on swiss ball exercise along with treadmill walking in physiotherapy college girl students with PCOS symptoms – single group pre post design - IJPOT journal – accepted and in process of publication
- (4) M. Premkumar, Amit Kiran, S. Rajasekar, & Ajay Kumar. (2022). Cost Effectiveness and Functional Outcomes of Smartphone Cardiac Rehabilitation Assisted self-Management in Coronary Artery Disease Patients (SCRAM) – Systematic Review Protocol – wwjmrd journal – accepted and in process of publication
- (5) R.Shyam Sundar, M.Premkumar, K. Kartheeswari, Mohammed Ameer Hussain. Effect of Constrained Induced Movement Therapy on Functional Arm Reach Distance on Adult Hemiplegic Patients – A Pilot Study - IJPOT journal – accepted and in process of publication
- (6) Mohammed Ameer Hussain, M. Premkumar, S. Kavitha. Comparison of Spencer Technique Versus Myofascial Release on Pain and Range of Motion in Periarthritis Shoulder - wwjmrd journal – accepted and in process of publication
- (7) Tamilalagan, M.Premkumar, K.Sangeetha , S.Kavitha. Telerehabilitation as a Tool Given on Physical Fitness and Quality of Life In Overweight And Obese College Students Amidst Covid 19 Pandemic – Single Group Pre Post Design - IJPOT journal – accepted and in process of publication
- (8) Madhuripu, M.Premkumar, Radhika Gopal.S, S.Kavitha. Effect of IFT With Anterior Glide versus Posterior Glide Joint Mobilisation Technique On Shoulder External Rotation Rom In Patients With Adhesive Capsulitis - Comparative Study - IJPOT journal – accepted and in process of publication
- (9) B. Pradeep Kumar, M.Premkumar. Comparative Study on Active Release Technique versus Myofascial Release Technique For Upper Trapezius Muscle Spasm - wwjmrd journal – accepted and in process of publication
- (10) R. Muthupandikumar, R. Shyam Sundar, M.Premkumar, Mohammed Ameer Hussain. Effect of Flexibility Exercises with Muscle Energy Techniques in Improvement of Gait in Parkinson Patients – A Pilot Study - wwjmrd journal – accepted and in process of publication
- (11) R. Muthupandikumar, R. Shyam Sundar, M.Premkumar, Mohammed Ameer Hussain. Effect Of Modified Shoe with Motor Relearning Programme on Timed Up And Go Test Values and Gait Parameters in Chronic Stroke Patients – Comparative Study - IJPOT journal – accepted and in process of publication