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Summary report on physiofest 2012 – National Level Physiotherapy Students' Summit

Shri Samjibhai Harjibhai Taravia Charitable (SHTC) Trust managed and RK University affiliated School of Physiotherapy constantly strives to provide the quality inputs to students by providing them various platforms for their overall development. Taking this effort further, physiofest - 2012 – National Level Physiotherapy Students' Summit was organized on 25th March, 12 for future physiotherapists to craft their knowledge and skill beyond brick and mortar learning. In presence of Mr. Bhagvanjibhai Patel, Trustee, SHTC Trust, Mr. Shivlalbhairam Ramani, Registrar, RKU, Dr. Rama Mohan Rao, VC, RKU, Prof. Savita Ravindra, Guest of Honor, Dr. Priyanshu V. Rathod,



Director, SOP, RKU inaugural ceremony was articulated with lightening lamps and prayer.

The students' summit included Key note address and expert lectures by eminent speakers on global

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theme of empowering students, dignitaries, parallel Sessions: “*Abhyaas*”- Junior & Senior Seminar Presentation, “*Artistry*” - Exhibition cum Talent Hunt, “*Mind Game*”- A Quiz competition and “*Street Smart*” - Written Analytical MCQ Test for UG and PG Students for Academic Excellence Award, physiofest-2012, “*Public Shabha*” - Debate and “*Sketch me if you can*” - Poster Presentation, “*Talent Khazana*”- The Cultural Competition and Valedictory Function & Prize Distribution.
More details on page 4, 5



Health Corners

SLEEPING POSTURE: TO GET BETTER SLEEP

We spend one third of our lives in sleeping. A good sleeping setting is, therefore, very important to ensure proper recovery. So why do we sleep? Some believe that sleep gives the body a chance to recuperate from the day's activities. We have to sleep because it is essential to maintaining normal levels of cognitive skills such as speech, memory, innovative and flexible thinking. In other words, sleep plays a significant role in brain development.

Role of Sleep

A good way to understand the role of sleep is to look at what would happen if we didn't sleep. Lack of sleep has serious effects on our brain's ability to function. After just one night without sleep, concentration becomes more difficult and attention span shortens considerably. With continued lack of sufficient sleep, the part of the brain that controls language, memory, planning and sense of time is severely affected, practically shutting down. Research also shows that sleep-deprived individuals often have difficulty in responding to rapidly changing situations and making rational judgments. Sleep deprivation not only has a major impact on cognitive functioning but also on emotional and physical health. Thus, sleep is very important in the well being of all living things, especially for a healthy human being. Sleep rests the brain so it can replenish itself for the next day's activities.

How Much Sleep is Required?

There is no set amount of time that everyone needs to sleep, since it varies from person to person. People like to sleep anywhere between 5 to 11 hours, with the average being 7.75 hours. The current world record for the longest period without sleep is 11 days, set by Randy Gardner in 1965.

Sleeping Posture

The first important factor that influences sleep is the mattress quality. Sleeping on a sagging mattress puts the back in an unbalanced, stressful position that can cause problems to develop. A good mattress should be firm, not too hard, and the bed should also be large enough to allow freedom of changing positions frequently. Waterbeds can be satisfactory if adjusted properly. There is no unique position that has been proven to be best for everybody, but suggestions are given to help people find their most comfortable

position: lying on the side, try a body pillow between the knees and arms and alternate sides during the night; on the back, put a pillow under the knees to release the tension on the back muscles; on the stomach (usually not a recommended position because it puts a strain on the neck muscles), change head position during the night.

The pillow should also be comfortable and fill the

n a t u r a l curve of the neck. Try different pillows if it does not lead to a good sleep. There are many choices of pillows with various materials and forms. Re-

place pillow when it is flat or becomes uncomfortable



CORRECT SLEEPING POSTURE

There are two approved methods of sleeping recommended by the American Chiropractic Association: sleeping on your side and sleeping on your back. Sleeping on your stomach is not only the least desirable position to sleep in, but it could damage your spine and nervous system. Sleeping on your back is the preferred position for good sleeping posture, but sleeping on your side is acceptable if it doesn't cause back pain. However you sleep, the ACA recommends you sleep on a firm mattress unless it feels better for your back to sleep on a softer mattress.

Sleeping on Your Back Correctly

Provide support to lumbar spine by tying the towel around the waist to. A lumbar support allows spine to retain its neutral and proper alignment. Lie on back on



Cont.... SLEEPING POSTURE: TO GET BETTER SLEEP

a comfortable and supportive mattress. Place a pillow or small bolster under the knees. Bend the knees slightly. Relax and let the thighs and feet turn out.

Sleeping on Your Side Correctly

Lie on either right or left side. Rest the head on a standard pillow that is the correct thickness so the face points straight ahead. Avoid a thicker pillow that will cause



Good posture when sleeping on your side

neck to rotate up or a thinner pillow that would allow turning face toward the bed. Bend the knees slightly and place a pillow between the knees to keep pelvis stable. Do not twist pelvis which will result into incorrect spine alignment. Keep knees away from chest. Switch sides occasionally. Sleeping on one side causes chest and spine to eventually shift to one side which is harmful.

**By Dr. Milan P. Patel, Physical Instructor,
College of Veterinary Science & Animal Husbandry,
Navsari Agricultural University, Navsari**

Sleeping positions

Your mattress should be quite hard - not sagging in the middle. If it is, use a board underneath, or better - get a new one

Wrong

This position accentuates the low back curve, if the mattress is too hard.



A pillow which is too high overstretches the neck, arms and shoulders.



Facing downwards tires the neck and shoulder muscles.



Even if you bend the knee and hip, the lumbar curve is still accentuated when face down.



Correct

Side posture with flexed knees, which decreases the low back curve. The pillow should support the neck.



If a cushion is placed under the knees in this position, the low back curve is corrected.



To change the habit of sleeping face down, raise the foot of the bed as shown below.



Arrange your pillows correctly for reading and resting on the bed.



Objective Structured Practical / Clinical Examination (OSPE or OSCE) - A Modern and Refined Approach in Medical Exam.

Objective Structured Practical or Clinical Examination (OSPE or OSCE) has designed to test practical / clinical competence of medical students in examination at one hand and improving objectivity and reliability of pattern of examination at other. The course curriculum or examination contents (practical / Clinical) will be justice to students with appropriate distribution in categories of MUST TO KNOW for 70%, NEED TO KNOW for 20% and DESIRE TO KNOW for 10%. In this method of examination each students moves around different examination stations and spend approximately 2-4 minutes of time on each station with recording the findings and performs procedures on given practical (OSPE) on object and clinical (OSCE) on subject / patient as a examination task. In context to research evidence OSPE or OSCE approach are more valid, reliable and remain unique method as a modern pattern of examination for every student. Moreover, this approach provides freedom to the students as well as fearless concept of examination without any possibilities of unfairness by the teacher or students. This approach also helps for conducting examination for large number of students under time effective strategies. Students' friendly approach of examination (OSPE or OSCE) has introduced to the physiotherapy students at School of Physiotherapy, RK University, Rajkot.

by
Dr. Priyanshu V. Rathod, PhD. Director, School of Physiotherapy, RKU, E: Priyanshu.rathod@rku.ac.in

*Conti ...Summary report on physiofest 2012 –
National Level Physiotherapy Students' Summit*



In presence of dignitaries Mr. Bhagvanjibhai Patel, Trustee, SHTC Trust, Mr. Shivlalbhai Ramani, Registrar, RKU, Dr. Rama Mohan Rao, VC, RKU, Prof. Savita Ravindra, Guest of Honor, Dr. Priyanshu V. Rathod, Director, SOP, RKU, Senior Physiotherapists and Delegates, inaugural ceremony was articulated with welcome speech by Dr. Ravinder Kaur, Faculty SOP, RKU, followed by lightening lamps and prayer.



Key Note address by Prof. Savita Ravindra, PT, Prof. & Head, Dept. of Physiotherapy, M S Ramaiah Medical College & Hospital, Banglore on the Theme of the event "Empowering Students", Expert Lecture by Dr. Dinesh Sorani, PT Senior lecturer, Government Physiotherapy College Jamnagar, on "Anthropometry" Dr. Shahanawaz Syed, PT Assistant Professor, School of Physiotherapy, RK University on "Sports and Sports Injuries".



Exhibition cum Talent Hunt - ARTISTRY Participants expressing their ideas with innovative educational and therapeutic concept & models of Anatomy, Biomechanics, Exercise & Electro Therapy instruments as well as Design for a Physiotherapy Clinic Model for Functional re-education for wrist and hand, etc to juries Prof Savita Ravindra, Dr. Devangi Vaishnav, and Dr. Manish Pathak



Conti ...Summary report on physiofest 2012



"MIND GAME" Quiz Competition



"PUBLIC SABHA" Debate Competition



"SKETCH ME IF YOU CAN" Poster Presentation and "TALENT KHAZANA" Entertainment cum Cultural Competition and Juries on their view!!!



Dr. Bhavisha and Dr. Ankur, Conveners, Physiofest 2012 giving away the trophies & Certificates to winners.



Faculty and Students of School of Physiotherapy, RKU and Organizing committee - who have made this event memorable "Team Physiofest 2012"

Abstract from Winner: Senior Seminar Presentation, Physiofest 2012

“A STUDY TO EVALUATE ACTIVATION OF THE LOWER TRAPEZIUS MUSCLE DURING VARIED FORMS OF KENDALL EXERCISES”

Author: Vaibhavi Ved
(1st Year MPT, Shri K K Sheth College of Physiotherapy, Rajkot)



BACKGROUND: The Trapezius Muscle, a dynamic structure plays a crucial role in maintaining proper Shoulder Mechanics and is often considered a source of weakness and dysfunction in patients. **OBJECTIVES:** To evaluate the activation pattern of Lower Trapezius Muscle during varied forms of Kendall exercises, so that it can help clinicians to design an efficient Shoulder Rehabilitation Program. **DESIGN:** A Cross Sectional Observational Study **METHOD:** The Muscle Activation pattern of Lower Trapezius Muscle of 50 individuals, aged 20 to 30 years was measured using Surface EMG for Maximum Voluntary Isometric Contraction against manual resistance during which EMG Activity of Lower Trapezius Muscle was assessed in Shoulder at 75°, 90°, 125°, and 160° of abduction with arm externally rotated & manual resistance was applied at the distal forearm. A repeated measure ANOVA was then performed. **RESULTS:** Means of LOWER TRAPEZIUS showed Highest Muscle fiber Activation at 160° abduction. Then ANOVA was applied and calculated using Graph pad Version 3.10, Obtained values: $p = 0.5139$, $F = 0.7675$, **CONCLUSION:** There was No Significant difference in Activation of Lower Trapezius Muscle at any Angle of Arm Abduction, **KEY WORDS:** Electromyography; Kendall exercises; Arm Abduction

Abstract from Runner Up: Senior Seminar Presentation, Physiofest 2012

“Application of Electroacupuncture In Labour”

Author: Rushik Ukani (Final Year BPT, Shri K K Sheth College of Physiotherapy, Rajkot)

Labour pain is one of the highest intensity pain. This article opens the new horizons for the physiotherapy. Electroacupuncture, form of acupuncture where a small electric current is passed between acupuncture needles. 2Hz and 100Hz frequency electroacupuncture significantly increase enkephalin and dynorphin level. It also secrete the other neurotransmitters, β -EP and 5-HT, both concern with modulation of Pain and stress associated with labour and pain gate theory. The acupuncture points used were Hegu (LI-4), in upper limb web space and Sanyinjiao (SP-6), in lower limb above the medial malleolus bilaterally. Dense and disperse wave form used with 2–100Hz, 14–30 mA for 20-40 minutes. Treatment is started at the beginning of the active phase in the first stage of labor. The needles were removed after 20 minutes. When 7 to 8 cm of cervical dilatation was present, the above procedure was performed. It has many advantages such as Easy induction, Less Exertion Significant reduction of duration of labour up to 1/3 to 1/2, pain reduction but contraction remains, reduction in the blood loss, no injury to child as in forceps or vacuum delivery. So as a being physiotherapist we should accept the new concept.

Abstract from Winner: Junior Seminar Presentation, Physiofest 2012

ERGONOMIC POSTURE

Author: Ashwarya Maadam (F.Y. BPT, Swaminarayan Physiotherapy Collage, Jamnagar)

Posture: It is the attitude assumed by the body either with support during muscular inactivity, or by means of the coordinated action of many muscles working to maintain stability. **Ergonomics:** **Ergon = Greek for “work”, Nomos = Greek for “laws of”. The Study of Work. Major factors related to ergonomic posture like** *Static work & Force* during work. Causes for faulty ergonomic posture: Working in awkward positions, long drive driving, Heavy lifting, Pushing, pulling, carrying, Accidents, slips, trips, falls, Vibration. Faulty ergonomic posture leads to musculoskeletal disorders, Nerve injuries, Tendonitis, Muscle tightness etc. **Prevention:** Warm up & stretch before activities that are repetitive, static or prolonged, Take *frequent breaks* from ANY sustained posture every 20-30 minutes, Stop painful activity, Recognize early signs of inflammatory process. **Re-education methods:** Proper sitting arrangement, lifting, safely, use of various safe tools, pushing and pulling. **Principles:** Work activities should permit healthy and safe postures, Muscle forces done by the *largest appropriate* muscle groups, Work activities perform at mid-point of ROM. **Body Mechanics:** Use the largest joints & muscles to do the job, Use 2 hands to lift rather than one, Avoid lifting with forearm in full pronation or supination, Slide or push & pull objects instead of lifting, Carry objects close to body at waist level. Practice Wellness for health at Work and Home!

Abstract from Runner Up: Junior Seminar Presentation, Physiofest 2012

“VITAMINS”

Author: Megha Patel (2nd Sem, School of Physiotherapy, RKU, Rajkot)

Vitamins as organic compounds required in the diet in small amounts to perform specific biological functions for normal maintenance of optimum growth and health of the organism. Classification: 1) Fat soluble: A, D, E, K 2) Water soluble: C, B. VITAMIN – A: Function: Growth of teeth and bones, Maintenance of immune system, Colour vision. Dietary sources: Liver, Kidney, Milk. Deficiency :Night blindness. VITAMIN-D: Function :To regulate the plasma levels of calcium and phosphate. Dietary sources: exposure of skin by sunlight. Deficiency: Rickets in children and osteomalacia in adult. VITAMIN E: Function: Essential for the membrane structure and integrity of cell. Dietary sources: Meat, Milk, Butter. Deficiency: Sterility, Megaloblastic anemia. VITAMIN K: Function: It acts like coenzyme for the carboxylation of glutamic acid. Dietary sources: liver , cheese, dairy products. Deficiency symptoms: blood clotting time is increased. VITAMIN C: Function: Collagen formation, Bone formation, Iron and hemoglobin metabolism. Dietary sources: Green vegetables, Tomatoes. Deficiency symptom: Scurvy. VITAMIN B COMPLEX: 1) Energy releasing are thiamin, riboflavin, niacin, pyrioxine, biotin, pantothenic acid. 2) Hematopoeitic are folic acid (B₉) and vitamin B₁₂. Function: RBC formation, Redox reactions. Dietary sources: Egg, Milk. Deficiency: Thiamine(B₁): beriberi. Riboflavin(B₂): Headache, mental depression, digestive irregularities. Niacin(B₃): Pellegra. Pyridoxine(B₆): Marasmus. Biotin(B₇): Dermatitis. Pantothenic acid(B₅), Folic acid(B₉) & cyanocobalamin(B₁₂): anemia.

Abstract from Winner : Exhibition: Physiofest 2012

SPINAL DEFORMITIES

Author: Suchi Prajapati & Prachi Patel
(2nd Semester, Charotar Institute of Physiotherapy, Changa)

STRUCTURE: Spinal column consists of 4 main parts : Cervical(7), Thoracic(12), Lumbar(5), Fused sacral segments(5). CURVATURES: The two curves that retain the posterior convexity are primary curvature (thoracic and sacral) and the two curves that shows reversal is called secondary curves (cervical and lumbar). DEFORMITIES: SCOLIOSIS: Consistent lateral deviation of a series of vertebrae from LOG in one or more region of spine may indicate the presence of lateral spine may indicate the scoliosis. SPONDYLOLISTHESIS: Anterior or posterior displacement of a vertebra or vertebral column in relation to vertebra below. KYPHOSIS: Conditions of over-curvature of thoracic vertebra. LORDOSIS: Inward curvature of a portion of lumbar and cervical vertebra.



Abstract from Runner Up: Exhibition: Physiofest 2012

“AUTONOMIC NERVOUS SYSTEM IS PRIMARILY CONCERNED WITH THE REGULATION OF VISCERAL VEGETATION FUNCTION OF THE BODY”

Author: Jalpa Jaykumar Tank
(F.Y.BPT, Swaminarayan Physiotherapy Collage, Jamnagar)



Divisions of ANS: Sympathetic and Parasympathetic division, Sympathetic Division (Thoracolumbar outflow): The preganglionic neurons fibers are situated in lateral gray horns of 12 thoracic and first two lumbar segments of spinal cord. Sympathetic division supplies smooth muscle fibers of all the visceral organs such as blood vessels, heart, lungs, glands, gastrointestinal organs etc. Sympathetic ganglia: Paravertebral or sympathetic chain ganglia, Prevertebral or collateral ganglia, Terminal or peripheral ganglia. Parasympathetic Division (Craniosacral outflow): The fibers arise from brain & sacral segment of spinal cord. Cranial Nerves of Parasympathetic Division: Oculomotor (III) nerve, Facial (VII) Nerve, Glossopharyngeal (IX) Nerve, Vagus (X) Nerve. Function of ANS: The ANS is concerned with regulatory functions , which are beyond voluntary control By controlling the various vegetative functions. It maintains the constant internal environment. Almost all the visceral organs are supplied by both sympathetic & parasympathetic division & it produce antagonistic effects on each organ. When the fibers of one division supplying to an organ is sectioned or affected by lesion , the effects of fibers from other division on the organ become more prominent.

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