

II MPT Attendance statusTotal number of clinical hours mandated by RGUHS for II year MPT: **675**Working hours/ day In JSS CPT : **06**Number of days required to complete mandate : **112**

Sl. No.	Name of the student	No. of days attended	Percentage
1.	Eluri Mani Sandhya Devi	112	100%
2.	Jeslin T Achens	112	100%
3.	Kavadi Naresh	112	100%
4.	Mukunda	112	100%
5.	Nischitha R Rao	112	100%
6.	Priscilla Pavai	112	100%
7.	Rahiba CK	112	100%
8.	Teresa Vanlalpeki	112	100%
9.	Thillai Vigensh B	112	100%

List of presentations

Sl.no	Name of the student	JC	EBP	Case presentation
1.	Eluri Mani Sandhya Devi	5	3	10
2.	Jeslin T Achens	5	2	10
3.	Kavadi Naresh	4	3	10
4.	Mukunda	5	4	10
5.	Nischitha R Rao	5	3	13
6.	Priscilla Pavai	5	2	10
7.	Rahiba CK	3	4	10
8.	Teresa Vanlalpeki	4	3	10
9.	Thillai Vigensh B	5	4	10

Seminars presented by students of II MPT:**1. Title: Geriatric rehabilitation to include theories of ageing****Abstract:**

Aging is an inevitable process and decline occurs in all tissues and systems. Aging is simply the result of accumulative deteriorative processes such as oxidation, telomere shortening, other molecular damage, stochastic (random) changes, wear and tear, and disease-

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specific processes such as accumulation of cell mutations (cancer), or accumulation of blood vessel deposits or damage. Nonetheless, with a thoughtful lifestyle approach, it is possible to prevent or attenuate the severity of some diseases, and delay the condition of frailty. Indeed, physical activity is the most potent tool of physical therapists to optimize function throughout the entire life span. Inactivity should be considered as much a contributor to impairments and loss of function as pathology or disease.

Physical therapists utilize the principles espoused in the physical stress theory to help guide the modulation of exercise for older adults to the appropriate level to achieve positive gains in tissue functioning and homeostasis; while avoiding, both the tissue damages of excessively high stress and the physiological decline of inadequately low stress. The rehabilitation is based on a careful examination of the specific impairments, tasks, and activities affecting function; an integration of all evaluation data (including patient goals and preferences) to inform prognosis; then careful targeting of the structures and tasks that can provide greatest functional gain; and finally determination of the intensity of the intervention to optimize positive adaptation to stress.

The goal of rehabilitation in older people is the development of physical independence and the ability to do as many as possible daily living activities taking care of the comorbidities associated with old age. The following aspects are taken into account in the rehabilitation of geriatric patients.

Reactivation - immobilized elderly persons must be motivated to develop their autonomy as much as possible and thus acquire the ability to take care of themselves. The physical exercise component of physical therapy which includes aerobic training, Gentle sustained stretching, Strengthening.

Social reintegration – Elderly patients should return to family and friends, avoiding isolation Reinstatement into society, participating to moderate professional activities, other low physical demand activities (walking, hand crafts) or hobbies (e.g. gardening) corresponding to their residual capacity.

References:

- Andrew A. Gucione, Geriatric physical therapy
- Cassel C. Geriatric medicine. New York: Springer; 2003.
- OSA Jackson, Physical therapy of geriatric patient
- ACSM's guidelines for exercise testing and prescription
- ACSM's exercise prescription for persons with chronic diseases and disabilities
- Joel.A.Delisa, rehabilitation medicine principles and practice.

Presented by: Sandhya Eluri

Moderated by: Kavitha Raja PT, PhD

Principal

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2. Title: ETHICS OF RESEARCH

Abstract:

- ETHICAL GUIDELINESS FOR BIO MEDICAL RESEARCH (ICMR)
- INFORMED CONSENT FORM
- CONFIDENTIALITY
- ETHICS OF PUBLICATION AND AUTHORSHIP

Ethics is defined by The Concise Oxford English Dictionary as ‘the science of morals, treatise on this, moral principles or rules of conduct’ (1964: 415). The word comes from the Greek *éthikos* meaning ‘of or for morals’.

The general statement of ICMR states three important objectives of

1. Purpose of Research should be directed towards increase in Human knowledge.
2. Conducted in a dignified manner conducive and towards the well-being of the human population.
3. Evaluated at all stages so that the result of the research ensures safety of all concerned.

GENERAL PRINCIPLES OF ICMR:

- Principles of Essentiality.
- Principles of voluntariness, informed consent and community agreement.
- Principles of non-exploitation.
- Principles of privacy and confidentiality.
- Principles of precaution and risk minimisation.
- Principles of professional competence
- Principles of accountability and transparency.
- Principles of the maximisation of the public interest and of distributive justice.
- Principles of institutional arrangements.
- Principles of public domain.
- Principles of totality of responsibility.
- Principles of compliance.

INFORMED CONSENT

Informed consent is an ethical and legal requirement for research involving human participants. It is the process where a participant is informed about all aspects of the experiment.

Classification of informed consent:

- Consent
- Parental consent/ permission

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- Assent
- Verbal
- Short form

CONFIDENTIALITY

Confidentiality is the right of an individual to have personal, identifiable medical information to be kept secret. Medical information and records of the patients should be made available only to the health care professionals and insurance personnel as and when required.

REFERENCES

- ETHICAL GUIDELINES FOR BIOMEDICAL RESEARCH ON HUMAN PARTICIPANTS, Published by: Director-General Indian Council of Medical Research New Delhi 110 029 www.icmr.nic.in.October, 2006.
- Human Research Ethics Committee. UCD Human Research Ethics Committee – Vulnerable Groups February 2008.
- Committee on Publication Ethics (COPE) GUIDELINES ON GOOD PUBLICATION PRACTICE, 1999.

Presented by: Sandhya Eluri

Moderated by: Kavitha Raja PT, PhD

Principal

3. Title: THEORIES OF MOTOR CONTROL WITH CLINICAL IMPLICATIONS

Abstract:

Motor control is defined as the ability to regulate or direct the mechanisms essential to maintain and change posture, and movement. It is the result of a complex set of neurological and mechanical processes.

These processes include motor action, cognitive, and perceptual development. Movement emerges from the interaction of three factors the individual, the task, and the environment.

A theory of motor control is a group of abstract ideas about the control of movement. These theories are based on models of brain function, reflecting different criteria on how movement is controlled by the brain, each being emphasised in different neural components of the movement.

Theories of motor control:

1. Reflex control theory
2. Hierarchical theory
3. Motor programming theory
4. Systems theory
5. Dynamic action theory
6. Ecological theory

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THERAPEUTIC TECHNIQUES USED BASED ON MOTOR CONTROL THEORIES:

1. The Bobath concept.
2. Rood's approach.
3. PNF – Proprioceptive Neuromuscular Facilitation.
4. Vojta Therapy.
5. Motor Relearning Program.
6. The Carr & Shepherd (1987) approach.
7. Task oriented motor learning.

Reference:

1. Shumway-Cook, A. and Woollacott, M. (2017). Motor control. Philadelphia: Wolters Kluwer.
2. Latham, C. and Radomski, M. (2002). Occupational therapy for physical dysfunction. Philadelphia: Lippincott Williams & Wilkins.

Presented by: Sandhya Eluri

Moderated by: Sandeep PH

Assistant professor

4. Title: MUSCLE PLASTICITY

Abstract:

Muscle plasticity is defined as the ability of a given muscle to alter its structural and functional properties in accordance with the environmental conditions imposed on it.

Muscle plasticity is the ability of a given muscle cell to alter

- (1) The quantity (amount)
- (2) The type of protein (i.e., phenotype or isoform)

Contractile Machinery:

Currently, muscle fibers are typed using 3 different methods:

- Histo-chemical staining for myosin ATPase
- Myosin heavy chain isoform identification
- Biochemical identification of metabolic enzymes.

Motor Unit Classification:

Motor units can be divided into groups based on contractile speed, motor units are classified as either slow-twitch (S) or fast-twitch (F). The F motor units are further subdivided

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into fast-twitch fatigue-resistant (FR), fast-twitch fatigue-intermediate (Fint), and fast-twitch fatigable (FF).

Reference:

1. Shauna Dudley-Javoroski, PT and Richard K. Shields, PhD, PT, Muscle and bone plasticity after spinal cord injury: Review of adaptations to disuse and to electrical muscle stimulation. J Rehabil Res Dev. 2008 ; 45(2): 283–296.
2. Julien et al., Neuromuscular electrical stimulation training induces atypical adaptations of the human skeletal muscle phenotype: a functional and proteomic analysis. J Appl Physiol 110: 433-450, 2011.

Presented by: Sandhya Eluri

Moderated by: Dr. Annie Thomas PT, PhD

Assistant professor

5. Title: Pulmonary Function Test

Abstract:

Spirometry: Spirometry is a physiological test that measures the volume of air an individual inhales or exhales as a function of time. John Hutchinson (1811-1861) Inventor of the spirometer and originator of the term vital capacity (VC).

TYPES OF SPIROMETERS:

- Volume Displacement-based
- Flow sensor-based

The various components of pulmonary function tests:

- Tests for ventilation: Spirometry with helium dilution technique & body plethysmography.
- Tests for diffusion: diffusion capacity for CO (DLCO)
- Tests for ventilation / perfusion: V/Q scan, nitrogen wash out test.
- Exercise testing.

Indications of spirometry:

- Diagnostic
- Monitoring
- Disability/impairment evaluations

Results classification:

- Normal

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- Obstructive
- Restrictive
- Combined

Contraindications:

- Haemoptysis of unknown origin
- Pneumothorax
- Unstable angina pectoris
- Recent myocardial infarction
- Thoracic aneurysms
- Abdominal aneurysms
- Cerebral aneurysms
- Recent abdominal or thoracic surgical procedures
- History of syncope associated with forced exhalation.

Presented by: Sandhya Eluri

Moderated by: Nagina Nikath M, MPT

Assistant Professor

6. Title: REPORTING RESULTS IN RESEARCH

Abstract:

“Research reports are detailed and accurate accounts of the conduct of disciplined studies accomplished to solve problems or to reveal new knowledge.” (Busha and Harter, 1988).

Research report writing is the oral or written presentation of the evidence and the findings in such detail and form as to be readily understood and accessed by the reader and as to enable him to verify the validity of the conclusions.

PRELIMINARY SECTION:

- Title page
- Certification
- Candidate Declaration
- Preface including Acknowledgements
- Table of Content
- List of Tables
- List of figures
- List of Abbreviation

CONTENTS OF THE RESEARCH REPORT:

Introduction, Research Problems & Objectives

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- What--What is being studied?
- What About--Specifically, what aspects of the subject is the study's focus?
- What For--Why are we studying this issue? What is the significance of the study
- Literature Review
 - What is known?
 - Methodology
 - What Way--How was the study conducted?
 - Data Analysis, Discussion of Results, Conclusions & Implications
 - What was found?
 - So What?
 - What Now
 - Outline for reporting the results section:
 - Mention sample size over the study period (months)
 - Demographics: Mention the important ones in words
 - For comparative study, mention whether the 2 groups were comparable in terms of the parameters studied before the intervention
 - Results of the primary outcome measure
 - Results of the secondary outcome measures
 - Other results. E.g., Complications of a procedure
 - Tabulate results, use graphs

Presented by: Sandhya Eluri

Moderated by: Mr. Jakson K Joseph, MPT

Associate Professor

7. Title: Stroke

Abstract:

A stroke is a preventable and treatable disease which presents with sudden onset of neurological disturbances including limb weakness or numbness, speech disturbance, visual loss or disturbance of balance.

Stroke is defined by WHO as “a clinical syndrome consisting of rapidly developing clinical signs of focal (or global in case of coma) disturbance of cerebral function lasting more than 24hrs or leading to death with no apparent cause other than a vascular origin.

Types of stroke:

Clinical

- Transient Ischemic Attack –TIA resolve <24h
- Evolving stroke – increasing >24h. – Thrombus
- Recurrent / multiple stroke – sec. factors.
- Completed stroke – no change... embolic

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Pathological

- Focal / Global
- Ischemic & haemorrhagic (chronic/acute)
- Venous infarcts. (Young, infections)

Common Types and Incidence:

Infarction: Incidence 80% - mortality 20%

- 50% - Thrombotic – atherosclerosis
- Large-vessel 30% (carotid, middle cerebral)
- Small vessel 20% (lacunar stroke)

30% Embolic (heart dis / atherosclerosis)

- Young, rapid, extensive.
- Venous thromboembolism (rare)

Haemorrhagic: Incidence 20% - mortality 80%

- Intra cerebral
- Subarachnoid

NIH Stroke Scale: Designed for acute stroke trials.

- Quick (5-10 min) & reproducible.
 - Requires speech/language cards & safety pin.
 - Quantifies clinical stroke deficit:
 - < 4 = mild stroke
 - > 15 = poor prognosis if no treatment
- > 22 = increased risk for ICH

Presented by: Sandhya Eluri

Moderated by: Dr. Annie Thomas PT, PhD

Assistant professor

1. Title: Outcome measures

Abstract: Outcome measure can be defined as the tabulation, calculation, or recording of activity or effort that can be expressed in a quantitative or qualitative manner (when attempting to measure shifts or progress toward desired levels of quality). For EBP to hold value, it must be measurable in terms of better outcomes for patients. They are easy to apply with minimal discomfort/inconvenience to patients, sensitive to detecting

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changes caused by rehabilitation, useful for guiding clinical practice, help to establish diagnosis, prognosis or level of participation outcome achieved and are useful for goal setting and at group level

Types of outcome measures are:

- ✓ Diagnostic outcome measures
- ✓ Prognostic outcome measures
- ✓ Prescriptive outcome measures
- ✓ Outcome measures based on intended purpose
- ✓ Outcome measures based on underlying theory
- ✓ Outcome measures based on scope

How to decide which outcome measure to use for clinical practice?

Recognize concepts that are important to measure, use of valid scientific articles on outcome measures where its effectiveness on treatment has been tested on similar populations, textbooks, online outcome measure resources to recognize a potential list of outcome measures, exclusion of any measure that is not valid, standardized, not appropriate to population, use a standardized process or instrument or follow basic principles like validity, reliability and clinical utility, establish that the instrument can ascertain change, discriminate or predict for the required population and the purpose, determine scoring methods, identify copyright, document and devise a procedure of how the outcome measure will be implemented, pilot test the instruments for a period of time and re-evaluate the instrument's performance, feasibility and execution process and determine the time period to review the outcome data.

References

- Alison J, Fawcett Laver. Principles of Assessment and Outcome Measurement for Occupational Therapists and Physiotherapists. North Yorkshire. North Yorkshire and York Primary Care Trust:2007
- L Mary, M joy. Evidence based rehabilitation: A guide to practice. Canada. School of Rehabilitation Science; Second ed.p63-94;2008

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- <http://www.rehabmeasures.org/rehabweb/t3.aspx>

Presented by: Jeslin T Achens

Moderated by

Dr Shahanawaz PT, Ph.D

Dr. Kavitha Raja PT, Ph.D

Associate Professor

Principal

1) Title: Rheumatoid Arthritis

Abstract: Rheumatoid arthritis is a chronic destructive inflammatory process involving tissues derived from the embryonic mesenchyme but particularly focusing on diarthroidal (synovial) joints. Early manifestations of synovitis are hyperemia, oedema and an infiltration of lymphocytes around superficial capillaries and venules. Females are more affected than males (3:1). Occurs during fourth and fifth decades of life. Disease is strongly related to the presence of a protein on the surface of WBC called HLA-DR4. Smoking is the dominant environmental risk factor and doubles risk of developing RA. Other potential environmental risk factors include alcohol intake, vitamin D status. Rheumatoid factor: Found in 80% of patients with RA.

Clinical features consist of RA consists of pain, tenderness, swelling, erythema, stiffness, muscle wasting. In the hands, primarily affects the synovium which is found in all the joints and around flexor and extensor tendons and their sheaths. Rheumatoid nodules may be found in the hand, particularly over the bony prominence exposed to the pressure. Common sites include ulnar side of the hand, wrist and dorsum of the fingers. Trigger finger usually develops in these individuals. Boutonnieres deformity, swan neck deformity, hallux valgus, hammer toe and nodules are seen on the feet. Rheumatoid vasculitis is a serious complication of where there is inflammation of blood vessels, seen in patients with high titres of circulating rheumatoid factor. Symptoms include skin rashes and ulcers. Involvement of the nerves causes numbness or tingling. Inflammation in the eyes may cause pain, redness and impaired vision.

The three principles to be considered for the treatment of an individual are:

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- To help restore normal physical functions, such as the application of therapeutic exercise to restore muscle strength
- Ensure that the body's own healing processes do not become a source of difficulty(eg: scarring, pannus and degenerative changes)
- In a chronic unrelenting lifelong disease, apply strategies that will prevent further deterioration of function

Treatment Objectives: Pain management, improvement and maintenance of joint mobility and muscle strength, maintenance of cardiopulmonary fitness, joint protection, energy conservation and preserve function. For RA, 4 types of exercises can be given

- Active mobilizing exercise to maintain or restore joint movement and flexibility of soft tissue structures
- Strengthening exercise to maintain or restore muscle strength
- Conditioning exercises to maintain or restore endurance and aerobic capacity
- Passive techniques of joint mobilisation

References:

- Walker J, Helewa A. Physical therapy in arthritis. Philadelphia: W.B. Saunders; 1996.
- Pispati PK. Manual of rheumatology. 2nd edition. India;2002.
- Stanley B, Tribuzi S. Concepts in hand rehabilitation. Philadelphia; 1992.
- Matthew K G, Aggarwal P. Medicine- Prep Manual for undergraduates. 4th ed. India: Elsevier; 2011.
- Gaudin P, Leguen-Guegan S, Allenet B, Baillet A, Grange L, Juvin R. Is dynamic exercise beneficial in patients with rheumatoid arthritis?. Joint Bone Spine. 2008;75(1):11-17.
- Williamson E, Williams M, Heine P, Adams J, Dosanjh S, Melina D et al. Sarah: strengthening and stretching for people with rheumatoid arthritis of the hands: a randomized controlled trial. Physiotherapy. 2015;101:814-815.
- Williamson E, McConkey C, Heine P, Dosanjh S, Williams M, Lamb S. Hand exercises for patients with rheumatoid arthritis: an extended follow-up of the SARAH randomised controlled trial. BMJ Open. 2017;7(4):131-135

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Presented by: Jeslin T Achens

Moderated by: Mr. Jakson K Joseph

Assistant Professor

3.) Title: Energy transfer and energy expenditure during rest and various physical activities

Abstract: Energy is the ability to do work or cause change. Energy expenditure can be defined as the amount of energy (calories), that a person uses to breathe, circulate blood, digest food, and be physically active. We need to know about energy expenditure as it is useful to identify inactive lifestyle and motivate towards more active lifestyle. Energy expenditure is often assessed along with energy intake for weight management purposes. Factors that affect energy expenditure: Physical activity, diet induced thermogenesis, climate, pregnancy, Methods of measuring energy expenditure: Direct calorimetry, Indirect calorimetry, Non calorimetric techniques.

Indirect calorimetry: Closed circuit spirometry, Open circuit spirometry, Portable spirometry, Bag spirometry. Direct calorimetry: Airflow calorimetry, Water flow calorimetry, Gradient layer calorimetry, Storage calorimetry. Non- calorimetric methods: Doubly labelled water, Heart rate-based energy expenditure estimation method, VO_2 estimation, integrated EMG, Pulmonary ventilation volume, Activity logs and factorial methods, Kinetic measures, excess post exercise oxygen consumption.

References:

- 1) McArdle WD, Katch FI, Katch VL. Exercise Physiology: Energy, Nutrition, & Human Performance. 6th ed. Maryland (USA): Lippincott Williams & Wilkins; 2007 p.184-228.
- 2) Brown SP, Miller WC, Eason JM. Exercise Physiology: Basis of Human Movement in Health & Disease. Philadelphia (USA): Lippincott Williams & Wilkins; 2006.
- 3) Wilmore JH, Costill DL, Kenney WL. Physiology of sports and exercise. 3rd ed. Champaign (USA): Human Kinetics; 2004.
- 4) Sahn DE, Lockwood R, Scrimshaw NS. Methods for the Evaluation of the Impact of Food and Nutrition Programmes. Massachusetts (USA): September 1981.

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- 5) Levine JA. Measurement of energy expenditure. *Pub Hlth nutri.* 2005 Aug; 8(7A):1123-32.
- 6) An Energy Expenditure Estimation Method Based on Heart Rate Measurement. *First beat tech.* 2007 Feb; 1-4.
- 7) Haggarty P, McGaw BA. Non restrictive methods for measuring energy expenditure. *Proc nutri soc.* 1988; 47:365-74
- 8) Webster JD, Welsh G, Pacy P. Description of a human direct calorimeter, with a note on the energy cost of clerical work. *Br j nutr.* 1986; 55:1-6
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- 10) Ravussin E, Lillioja S, Andreson TE, Christin L, Bogardus C. Determinants of 24-hour Energy Expenditure in Man. *J cli inv.* 1986 Dec; 78:1568-78
- 11) Hambraeus L, Sjodin A, Webb P, Forslund A. A suit calorimeter for energy balance studies on humans during heavy exercise. *Eur j Appl Physiol.* 1994; 68:68-73
- 12) Jay O, Kenny GP. The Determination of Changes in Body Heat Content during Exercise Using Calorimetry and Thermometry. *J hum envr sys.* 2007; 10 (1):19-29
- 13) Close WH, Dauncy MJ, Ingram DL. Heat loss from humans measured with a direct calorimeter and heat-flow meters. 1980; 47:87-94

Presented by: Jeslin T Achens

Moderated by: Mr. Jakson K Joseph

Assistant Professor

2) Title: Theories of ageing

Abstract: Ageing can be defined as the persistent decline in the age specific fitness components of an organism due to internal psychological deterioration. WHO defines healthy ageing as the process of developing and maintaining the functional ability that enables well-being in older age. Types of ageing: Functional ageing, biological ageing, psychological ageing, sociological ageing and spiritual ageing. Young old- 65 and 75 years of age. They have a minimum level of disability. Middle old- 75 and 85 years of age. They exhibit the occurrence of chronic disease and there is a decline in additional

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years of life expectancy. Old-old: Older than 85 years of age and have an additional life expectancy of 5 to 6 years.

Theories of ageing: Biological theories, sociological theories and psychological theories.

Psychological Theories	Biological Theories	Sociological Theories
Human needs theory	Hayflick limit theory	Life course perspective
Theory of individualism	Telomerase theory	Social exchange theory
Stages of personality development theory	Caloric restriction theory	
Life course/ life span theory	Immunologic theory	
Selective Optimization	Theory of intrinsic mutagenesis	
Activity theory	Neuroendocrine and hormonal theory	
Continuity theory	Free radical theory	
	Error theory	
	Wear and tear theory	
	Somatic mutation theory	

Even though the process of ageing is inevitable, it is important for physiotherapists to understand the theories of ageing so that we can influence in a positive way that can maintain or enhance health as an individual ages .

References:

- 1. Choon park D, Geun Yeo S. Aging. Korean J Audiol [Internet]. 2013 [cited 22 November 2018];17(2092-9862):39-44. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3936540/>
- 2. Rose M, Flatt T, Graves J, Greer L, Martinez D, Matos M et al. What is Aging?. Frontiers in Genetics. 2012;3.

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- Viña J, Borrás C, Miquel J. Theories of ageing. *IUBMB Life*. 2007 Apr-May;59(4-5):249-54. Review. PubMed PMID: 17505961.
- Guccione, A. (n.d.). *Geriatric physical therapy*. 3rd ed. St. Louis, Missouri: Elsevier.

Presented by: Jeslin T Achens

Moderated by: Mrs. Anushree Narekuli

3) **Title:** Evaluation of ageing

Abstract: According to WHO, most developed countries - chronological age of 65 years and above as a definition of 'elderly' or older persons. Physiological changes that occur during ageing include: skin and hair changes, ocular changes, changes in the mouth and teeth, olfactory changes, auditory changes, musculoskeletal changes, postural changes, gait changes, neurological changes, cardio-pulmonary changes, endocrine system changes, gastrointestinal changes, immune system changes and renal system changes.

Evaluation of elderly: The role of physiotherapy in elderly is to reduce morbidity and prevent or delay loss of independence. Evaluation should include the following:

- Demographic data in order to identify the individual and also provide insight into their cognition, memory and role in the family and dependency on caregivers.
- Chief complaints usually multiple issues and non-specific symptoms.
- Past Medical History: Note impact of past illness on elder's overall function
- Medical and social History
- Cognitive Evaluation
- Physical examination: Orthopaedic, neurological and cardio-pulmonary screening
- Functional Assessment
- Fall Risk Assessment
- Immobility signs
- Urinary incontinence assessment
- Nutrition affecting BMI
- Cultural assessment
- Role of Caregiver

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Benefits of exercise: Physiological, psychological, cardio-respiratory, musculoskeletal effects.

References:

1. Andrew A. Guccione, Geriatric physical therapy
2. Cassel C. Geriatric medicine. New York :Springer; 2003.
3. OSA Jackson, Physical therapy of geriatric patient
4. ACSM's guidelines for exercise testing and prescription
5. ACSM's exercise prescription for persons with chronic diseases and disabilities
6. Joel.A.Delisa, rehabilitation medicine principles and practice

Prakash, I.J. Ageing in India. Geneva: World Health Organization; 1999

Presented by: Jeslin T Achens

Moderated by: Dr. Kavitha Raja, Mrs. Renuka Devi M

4) Title: ICF

Abstract: The International Classification of Functioning, Disability and Health (ICF) is a framework for organising and documenting information on functioning and disability. It conceptualises functioning as a 'dynamic interaction between a person's health condition, environmental factors and personal factors. The ICF provides a scientific, operational basis for describing, understanding and studying health and health-related states, outcomes and determinants. The health and health related states associated with any health condition can be described using ICF.

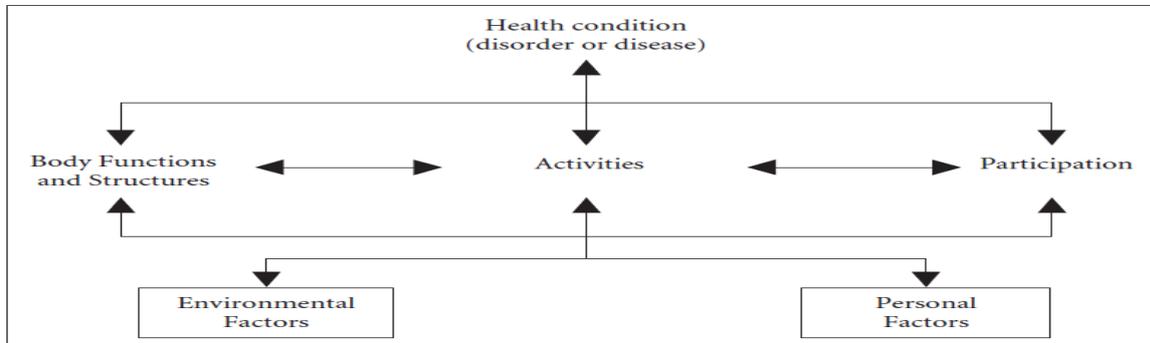
The principals that helped in the development and is essential to its implementation are as follows:Universality, Parity, Neutrality andEnvironmental influence.

Aims of the ICF are as follows: Provides scientific basis for understanding and studying health & health-related states, outcomes, determinants, and changes in health status and functioning, establishes a common language for describing health & health-related states in order to improve communication between different users, such as health care workers, researchers, policy-makers and the public, including people with disabilities, permits

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comparison of data across countries, health care disciplines, services & time, provides a systematic coding scheme for health information systems.

ICF consists of two parts and each part have two components



Uses of ICF: Policy development, economic analysis, research, interventional studies, common language in clinical settings, in educational settings and for goal setting and planning intervention.

References:

- Cieza A, Stucki G. E IN YR T. Eur J Phys Rehabil medicine. 2008;44(3):303–13.
- 2. How to use the ICF-A practical manual for using the international classification of functioning,2013
- 3. Towards a common language for functioning, disability and health,ICF,2002

Presented by: Jeslin T Achens

Moderated by: Mrs. Renuka Devi M

5) **Title:Physiotherapy management following transtibial amputation**

Abstract: Lower limb amputations are the most common amputation, more widely performed in male than females with a ratio of 4:1. Among lower limb amputations, transtibial amputations are the most common type of amputation, most common reasons being non DM vascular insufficiency(acute)(11.1%), non DM vascular insufficiency(chronic)(33%) and diabetes mellitus(39.5%). It was first proposed by Verduyn in 1696. Indications for transtibial amputation are presence of diabetic foot, chronic vascular insufficiency, acute vascular insufficiency, malignancy by procedures

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such as Modified Burgess posterior flap surgery, Modified Bruckner procedure and Modified Ertl procedure. Complications post amputation are infection, oedema, phantom sensation, phantom pain, bursitis, ulceration, symptomatic neuroma, bone spurs and heterotrophic ossification.

Goals of physiotherapy management post-operative should be as follows:

- Maintain full ROM of the hip and knee
- Facilitate rapid healing of the suture line
- Maintain/ improve cardiovascular/ pulmonary conditioning
- Enhance static/ dynamic balance
- To facilitate functional strength in the remaining musculature
- Patient and family education

Conventional TENS (continuous pattern, pulse duration-80 μ s, pulse frequency-100Hz,) is effective for post-operative pain as well as phantom pain (Level of evidence- II). Oedema management strategies are as follows: Soft dressings and compression, Pressure garments, Non removable rigid dressings, Removable rigid dressings, Removable polyethylene semi rigid dressings, Pneumatic compression for early ambulation. The residual limb should be maintained in as much as extension as possible, whether in bed, sitting in wheelchair or lounge chair, or during exercise and physical activity to prevent contractures. Exercises to strengthen the amputated extremity should immediately focus on neuromuscular re-education of the muscles traumatized by surgery. Open- and closed-chain therapeutic exercises can use the overload principle as a goal for strengthening. The DeLorme protocol can be followed, with three sets each of ten repetitions performed at 50%, 75%, and 100% of a one-repetition maximum strength test. The lower-extremity regimen should include exercises for the surrounding hip muscles, with particular attention to the hip abductor and hip extensor groups for pelvic stabilization. Prosthesis : Patella tendon bearing socket.

References:

- P. U, Rollands R, Parambil S. Epidemiology of major limb amputations: a cross sectional study from a South Indian tertiary care hospital. International Surgery Journal. 2017;4(5):1642.

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Presented by: Jeslin T Achens

Moderated by: Mr. Vijay Samuel Raj

1) Title: Sample design

Abstract: A sample is a subset of a population .The type of sample selected determines the degree to which research results can be generalized to the population as a whole

Probability samples are representative of the population. They permit generalization to the population from which they are drawn. There are two types of probability samples: Random and stratified. Random - each individual in the population has an equal chance of being selected for the sample.

Stratified - a miniature representation of the larger population with regard to proportions within selected strata (e.g., gender, education, socioeconomic level). Individuals are randomly selected within strata. A table of random numbers or the random number function

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in Excel can be used to select a random sample from a population. Nonprobability samples are of 3 general types: In all these types, selection is non-random. It is worthwhile attempting to increase representativeness so as to improve validity.

Quota - numbers within levels are determined by the researcher. Selection may or may not be random within each quota.

Purposive (including snowball) - a select group is targeted with sample obtained in non-random way.

Convenience - sample of available participants, an accidental sample.

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Presented by: Kavadi Naresh

Moderated by:

Dr. Annie Thomas PT, PhD

2) Title: Qualitative study designs

Abstract: Qualitative research seeks to describe the complex nature of humans and how individuals perceive their own experiences within a specific social context.

Qualitative methodology uses the subject's own words and narrative summaries of observable behaviour to express data, rather than numerical data derived from predetermined rating systems.

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The qualitative approach emphasizes an understanding of human experience, exploring the nature of people's transactions with themselves, others and their surroundings.

Qualitative designs and methods also allow the study of many simultaneous variables contained in a phenomenon.

Questions that lend themselves to qualitative inquiry are generally broad, seeking to understand why something occurs, what certain experiences mean to a patient or client, or how the dynamics of an experience influence subsequent behaviours or decision

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Presented by: Kavadi Naresh

Moderated by

Mrs . M. Renuka Devi

3) Title: Anthropometric Measurements

Abstract: Anthropometry is the study of the measurement of the human body in terms of the dimensions of bone, muscle, and adipose (fat) tissue. Measures of subcutaneous adipose tissue are important because individuals with large values are reported to be at increased risks for hypertension, adult-onset diabetes mellitus, cardiovascular disease, gallstones, arthritis, and other disease, and forms of cancer.

Anthropometric data are used to evaluate health and dietary status, disease risk, and body composition changes that occur over the adult lifespan

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Researchers in diverse health disciplines including cardiovascular health, gerontology, nutrition, and occupational health use anthropometric data to examine health status and health care utilization trends in different populations.

A recent analysis of data using BMI criteria determined that overweight and obese individuals were more likely to report fair or poor health (rather than good or excellent health), activity limitations, and more health provider visits per year compared to normal weight adults.

References:

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Presented by: Kavadi Naresh

Moderated by

Nagina Nikath M, MPT

Assistant Professor

4) Title: Exercise planning and prescription

Abstract: Exercise is a single acute bout of bodily exertion or muscular activity that requires an expenditure of energy above resting level and that in most, but not all, cases results in voluntary movement.

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Introduction to the principles of exercise prescription the scientific evidence demonstrating the beneficial effects of exercise is indisputable, and the benefits of exercise far outweigh the risks in most adults.

An exercise training program ideally is designed to meet individual health and physical fitness goals

The FITT-VP principles of EX RX presented is based on the application of the existing scientific evidence on the physiologic, psychological, and health benefits of exercise.

Some individuals may not respond as expected because there is appreciable individual variability in the magnitude of response to a particular exercise regimen.

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Presented by: Kavadi Naresh

Moderated by:

Nagina Nikath M, MPT

Assistant Professor

1. Title: Designing methodology

It is a term used to describe how one has gone about conducting a certain scientific study. It is a way to systemically solve the research problem. Each research methodology is a standardized and accepted practice. The main purpose of research methodology would be to explain, define and justify a theory or concept. It is necessary for the researcher to know not only the research methods/techniques but also the methodology. Designing methodology includes following steps: Study design, Sample strategy, Source study Sample size, Duration

[Type text]

of study, Participant criteria: inclusion criteria and exclusion criteria, Outcome measures, Materials used, Procedure and Data analysis.

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- ACRI clinical research institute.

Presented by: Mukunda

Moderated by

Mr. Jakson K Joseph, MPT

Associate Professor

2. Title: Study Design Types

The research process delineates a general strategy for gathering, analysing, and interpreting data to answer a question. A variety of schema has been used to classify research strategies according to their purpose and objectives. There are three types of research, which are Descriptive, exploratory and experimental. The descriptive research consists of developmental research, normative, qualitative, descriptive surveys and case study. The exploratory research consists of cohort studies, case control studies, co relational, predictive research and historical research. The experimental research consists of randomized controlled trial, quasi experiments and single subject design. The purpose of experimental design is to provide a structure for evaluating the cause and effect relationship between a set of independent and dependent variables. Exploratory research is the systematic investigation of

[Type text]

relationships among two or more variables. Descriptive research is designed to document the factors that describe characteristics, behaviours and conditions of individuals and groups.

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Presented by: Mukunda

Moderated by

Nagina Nikath M, MPT

Associate Professor

3. Title: Use of Clinical Practice guidelines and clinical care pathway

As defined by the Institute of Medicine, clinical guidelines are “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.” Clinical pathways are defined as complex interventions consisting of a number of components based on the best available evidence and guidelines for specific conditions. A recent literature review identified 84 different terms that may mean a clinical pathway. These included (amongst others) care map, care pathway, critical pathway, integrated care pathway, protocol and guideline. Guides care management for a well-defined group of patients for a well-defined period of time.

Uses of clinical care pathway as follows

- States goals and key elements of care based on evidence and best practice.
- Sequences the actions of a multidisciplinary team.
- Allow documenting, monitoring and evaluating of variances. Structured multidisciplinary care plan.
- Detail essential steps in care of patients with a specific clinical problem.
- Facilitate translation of national guidelines into local protocols.
- Help communication with patients by providing a clearly written summary of care.
- Facilitate variance management.

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- Support multidisciplinary care.
- Support evidence-based clinical practice.

Purpose of clinical practice guidelines

- To describe appropriate care based on the best available scientific evidence and broad consensus.
- To reduce inappropriate variation in practice.
- To provide a more rational basis for referral.
- To provide a focus for continuing education.
- To promote efficient use of resources.
- To Act as focus for quality control, including audit.
- To highlight shortcomings of existing literature and suggest appropriate future research.

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Presented by: Mukunda

Moderated by

[Type text]

Kavitha Raja PT PhD

Associate Professor

4. Title: Physiotherapy Management for Common Skin Disorders

Psoriasis, Acne Vulgaris, Hyperhidrosis (excessive sweating) and Vitiligo are the common skin disorders which are managed by Physiotherapy treatments. Psoriasis is a genetically determined immune-mediated by T-helper (Th1)/ (Th17) T cells .With a prevalence of 0.44-2.8 per cent in India, it commonly affects individuals in their third or fourth decade with males being affected two times more than females and significantly impairs the quality of life of patients and their families resulting in great physical, emotional and social burden. Evidence says that Narrowband Ultraviolet B and 308nm excimer laser are effective in treating patients with psoriasis.

Acne is a disease of the pilo-sebaceous unit—hair follicles in the skin that are associated with an oil gland .The clinical features of acne include seborrhoea (excess grease), non-inflammatory lesions (open and closed comedones), inflammatory lesions (papules and pustules), and various degrees of scarring. Evidence says that Light therapies (Laser) can improve acne initially but for longer-term outcomes and comparisons with conventional acne therapies are needed. It is a chronic autonomic disorder that can be debilitating leading to emotional and social embarrassment, as well as occupational, physical and psychological disability.

In a majority of cases, the cause of hyperhidrosis is unknown. Evidence says that iontophoresis is the treatment which we can use for treating hyperhidrosis. Vitiligo is a common depigmenting skin disorder with a worldwide prevalence of 0.5-1%. Stable vitiligo lesions are treated with various surgical melanocyte transplantation techniques combined with subsequent phototherapy. Evidence says that Narrow Band Ultra Violet B is effective in treating patients with vitiligo. Future, high quality studies are required to decide PT management for common skin disorders.

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[Type text]

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Presented by: Mukunda

Moderated by

Nagina Nikath M, MPT

Associate Professor

1. Title : Communicating Research

Abstract

The culmination of Research process is the communication of results. Communicating the research article is an important stage, where the information can clarify, amplify, and expand the professional body of knowledge. Process involved in communication of research are (a). Writing a research proposal (b) Reporting the results of clinical research (c) Evaluating research reports. Mechanism involved in Communication of Research.

[Type text]

Process involved in publishing results (a) Choose appropriate journal (b) Follow the instructions on writing style (c) Identify the structure and components of research article (d) Condense content retaining substance and meaning.

Ten Golden Rules for Communicating Research:

Understand why? , Know your audience, Communicate with (ask what's in their mind), Understand what you want your audience to know or do, Tell a good story, Remember your audiences' audiences, Find out what your audience already knows, Widen your influence, Understand the risks, Compelling experiences.

Presented by: Nischitha R Rao

Moderated by

Mrs. Nagina Nikath, MPT

Assistant Professor

2. Title : Joint Structure and Function

Abstract

Materials found in human joint include various types of connective tissues made of cells and extracellular matrix. Properties of connective tissue (a) Mechanical Properties include load, force and elongation, stress and strain explained using Young's Modulus and Load – Deformation Stress-Strain Curves (b) Viscoelasticity (c) Time and Rate dependent properties include creep, stress relaxation, hysteresis, strain-rate sensitivity (d) Specific tissue properties of bone, tendon, ligament and cartilage.

Osteokinematics refer to the rotator movement of the bones in the space during physiological joint motion. These are the observable movements of the bony levers in the sagittal, frontal and transverse planes that occur at joints. Movements are described plane, direction and axis in which they occur.

Arthrokinematics refer to physiological joint motion which involves rotation of bony segments as well as motion of joint surfaces in relation to another. The terms roll, slide and spin are used to describe type of motion that moving part performs.

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Effects of altered loading on connective tissue: Connective tissues become weaker and lose their normal structure if they are not loaded. Changes with decreased load occur rapidly. Recovery of normal structure and function requires gradual progressive loading. Loads should be tailored to the connective tissue.

Two broad classifications of joints include Synarthroses (non synovial joints) and Diarthroses (synovial joints). Synarthroses are subdivided into fibrous joints and cartilaginous joints. Fibrous joints include sutures, gomphoses and syndesmoses. Cartilaginous joints include symphyses and synchondroses. Diarthrodial joints are sub classified into uniaxial, biaxial, triaxial joints. Uniaxial includes hinge joints and pivot joints. Biaxial joints includes condyloid and saddle type. Triaxial joint includes plane joints and ball and socket joints.

Presented by: Nischitha R Rao

Moderated by

Mr. Jakson K Joseph, MPT

Assistant Professor

3. Title: Spinal Cord Injury Assessment and Management

Abstract

Spinal Cord Injury (SCI) assessment should include respiratory function, skin condition, sensation, tone assessment, muscle strength, functional mobility.

Outcome measures to be used based on complete and incomplete injury includes ASIA impairment scale, Walking Index for SCI, Timed Up and Go test, BBS, 6 min walk test, Numeric pain rating scale, World Health Organization Quality of Life – BREF, Ashworth and Modified Ashworth, Penn Spasm Frequency Scale, Brief pain Inventory, Spinal cord injury pressure ulcer scale, Jebsen Hand Function test, Box and Block, SCIM.

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Strongest predictor of future independence following SCI is Neurological level. It indicates the strength of muscles which has large effect on a person's ability to carry out functional tasks.

Example: the key muscle partially innervated at C3 is the diaphragm. People with C1 to C3 tetraplegia are ventilator dependent or use diaphragmatic pacing systems, depend on others for self-care, use chin-control power wheelchairs of mobility, use head, mouth or voice activated technology for independence.

The process involved in physiotherapy management of people with SCI can be described in five steps:

1. Assessing impairments, activity limitations and participation restrictions
2. Setting goals with respect to activity limitation and participation restrictions
3. Identifying key impairments that are limiting achievement of goals
4. Identifying and administering physiotherapy treatments
5. Measuring the outcome of treatments

Presented by: Nischitha R Rao

Moderated by

Mr. Sandeep P H, MPT

Assistant Professor

4. Title: Outcome measures in Rehabilitation

Abstract

An Outcome Measure is a qualitative or quantitative measurement of outcome, generally in response to a rehabilitation intervention. Rehabilitation Measure of Outcome (RMO) is vital to the practice of evidence-based rehabilitation and can be understood in the context of WHO ICF. RMOs are used for multiple reasons. They help track changes in

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functioning at an individual as well as population level. They establish a common language that can be understood by all rehab professionals. They help provide feedback for improving clinical rehabilitation interventions as well as research specific questions. The core attributes of an RMO include validity (answer the question asked), reliability (measurement independent of measure), sensitivity (ability to detect change) and generalizability (avoidance of floor or ceiling effects). The most accepted RMOs are also easy to implement (feasibility) and communicate. The smallest change detected that is not the result of measurement error is defined as the minimal detectable change. How small a change detected by the RMO is clinically important is defined as the minimal clinically importance difference.

Types of outcome measure: diagnostic outcome measures, prognostic outcome measures, prescriptive outcome measures, outcome measures based on intended purpose, outcome measures based on underlying theory, outcome measures based on scope.

Guiding questions for selecting outcome measures

1. What are the specifications of the construct?
2. Rationale for selecting the measure
3. Determination of the most appropriate source of outcome information
4. Determination of when outcome should be measured

Presented by: Nischitha R Rao

Moderated by

Mrs. Nagina Nikath, MPT

Assistant Professor

5. Title: Fatigue Assessment

Abstract

[Type text]

Fatigue can be defined as the progressive loss of ability to generate a maximum force during a sustained or repeated muscle contraction or the loss of ability to generate force during a task. Types of fatigue are: Central fatigue- Occurs due to the proximal events and it can be divided into Spinal (reduced alpha motor neuron firing) and supraspinal (reduced descending drive). Peripheral fatigue- Occurs due to the involvement of muscles and caused by altered muscle bioenergetics and excitation contraction.

Mechanisms of central fatigue:

- Loss of recruitment of high threshold motor units.
- Reduced central drive from increased inhibitory interneuron inputs to motor cortex.
- Central conduction block due to demyelination or motor neuron dropout.
- Increased negative feedback from muscle afferent type III and IV sensory neurons.
- Loss of positive feedback from muscle spindle type I sensory afferents

Mechanisms of peripheral fatigue:

- Loss of electrical conduction from muscle membrane to tubule system.
- Impaired calcium release from sarcoplasmic reticulum.
- Impaired interaction between actin and myosin during cross bridge cycling.
- Impaired re uptake of calcium.
- Bioenergetic failure due to impaired oxidative phosphorylation, glycolysis or both.

Assessment format: ACSM guidelines for the assessment of fatigue

Management for fatigue: Energy conservation technique, Aquatic therapy, Cognitive Behavioural technique, Relaxation technique, Yoga.

Presented by: Nischitha R Rao

Moderated by

Mrs. Renukadevi M, MPT

Professor

[Type text]

6. Title: Institutional Based Rehabilitation and Multidisciplinary approach

Abstract

Institute Based Rehabilitation has been described as a range of services designed to facilitate transition from medical dependence to functional independence and also transition between hospital care management to home program where, the objectives of care are not primarily medical, the patient's discharge destination is anticipated and clinical outcome of recovery is desired. Institution based rehabilitation as is an outpatient or inpatient health care facility set up in which uni or multidisciplinary assessment (as needed) treatment and rehabilitation are available for full or part of a day. IBR should have access with secondary or tertiary level health care set up. Institutional rehabilitation plays a significant role towards re-establishing the life of its patient back to society. It provides a safe environment for improvement, maximizes the strength and potential of patients. Institute Based Rehabilitation (IBR) is also referred as Intermediate care.

Aims of IBR : IBR sets the policy and directions with care standards and aims to guide and support patients at every step, from IBR centres to home and to their re-entry into the society. IBR aims to equip person with disabilities with life skills and improve their overall mental, social and emotional well being to function in everyday life.

Barrier to successful rehabilitation in India:

Poor coordination of discharge plans, Lack of interagency collaboration, Accessibility, Lack of attention to the rehabilitation needs of people with disability, Inequities in provision of services, Addiction to PMR or Rehabilitation Centres, Home modification not done, Lack of acceptance and acceptability of aids/ assistive technology, Lack of awareness and social attitude, Economic problems for follow up, No livelihood option, no option for social interaction, Caregiver attitudes.

Importance of carryover from IBR to CBR:

Hidetoshi S et al (2016) in their study 'Interaction effects of in-hospital rehabilitation and the use of community-based services after hospital discharge on patients subsequent functional abilities' concluded that rehabilitation during a hospital stay and use of community-based rehabilitation or non-rehabilitation services interacted to influence the functional abilities of patients.

[Type text]

Presented by: Nischitha R Rao

Moderated by

Dr. Kavitha Raja, PT PhD

Principal

7. Title: Rehabilitation Program for Musculoskeletal, Cardiothoracic and Neurological condition. Prescribing and devising low cost locally available aids

Abstract

Rehabilitation refers to the combined and coordinated use of medical, social, educational and vocational measures for training and re-training the individual to the highest possible level of functional ability. Any item, piece of equipment or product system whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain or improve functional capabilities of individuals with disabilities is called as assistive technology. Or Any service that directly assists an individual with a disability in the selection, acquisition or use of an assistive technology device. Principles of use: Equitable use: The design is useful and marketable to people with diverse abilities. Flexibility in use: The design accommodates a wide range of individual preferences and abilities. Simple and Intuitive use: use of the design is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level. Perceptible information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. Tolerance for error: The design minimizes the hazards and adverse consequences of accidental or unintended actions. Low physical effort: the design can be used efficiently and comfortably and with a minimum of fatigue. Size and Space for approach and use: appropriate size and space is provided for approach, reach, manipulation and use regardless of user's body size, posture or mobility.

Cultural factors that affect the use of assistive technology; Use of time, Balance of work and play, Sense of personal space, Values regarding finance, Roles assumed in the family, Knowledge of disabilities and sources of information.

Presented by: Nischitha R Rao

Moderated by

[Type text]

Mr. Prashanth V M

Lecturer

1. Title : Type I and Type II Bias

Abstract:

The process of testing the differences between groups or levels has been presented in terms of comparisons between an obtained probability level (p) and a predetermined probability of error set by the researcher, the alpha level. Sampling error: It is unpredictable because it simply occurs by chance; by virtue of who gets picked for any one sample. The laws of chance tell us that through a process of infinitely repeated random sampling we should expect to see such differences among the sample means.

The tendency for sample values to differ from population values is called sampling error.' Sampling error of the mean for any single sample is equal to the difference between the sample mean and the population mean. The greater the sampling error, the less accurate is the mean of the sample to the estimate to the mean of the population.

According to the concept of sampling error, the expectation to see some differences between groups even when a treatment is not at all effective, because of chance differences in subject characteristics.

Therefore, a mechanism is needed for deciding if the observed effect reflects chance only or that the differences represent real effects. Null hypothesis: It states that any observed differences between means are due to chance.

No matter how the research hypothesis is stated, the researcher's goal will always be to statistically test the null hypothesis, usually with intention of rejecting it. It suggests that we assume no relationship exists between variables until reasonable evidence is accumulated to convince. In essence, we use a decision making process with a negative inference.

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Alternative hypothesis: This states that the observed difference between the 2 population means is not due to chance. So, this concludes that the observed difference is real/ true or it can be said that the likelihood of the difference due to chance is too small, $H_1: \mu_A \neq \mu_B$ or $H_1: \mu_A - \mu_B \neq 0$.

Type I error: To determine the chance of probability of committing a type I error a standard of rejecting the null hypothesis is to be set. This standard is called the level of significance and is denoted as alpha (α). This level of significance represents the criteria to judge if the observed difference can be considered sampling error or real. The larger the observed difference is, the less likely is the occurrence of chance. The probability (p) that the observed difference occurred by chance is determined by statistical tests.

Type II error: If we fail to reject the null hypothesis when it is false, we have committed a Type II error; i.e. we have found no significant difference when a difference really exists.

In research, bias occurs when “systematic error [is] introduced into sampling or testing by selecting or encouraging one outcome or answer over others.” Bias can occur at any phase of research, including study design or data collection, as well as in the process of data analysis and publication.

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Presented by: Priscilla Pavai

Moderated by

Jakson K Joseph

Lecturer

2. Title: Developmental reflexes

Abstract:

[Type text]

The primitive reflexes and the postural reactions comprise one of the earliest, simplest, and most frequently used tools among child neurologists to assess the central nervous system integrity of infants and young children.

Infants with cerebral palsy have been known to manifest persistence or delay in the disappearance of primitive reflexes and pathologic or absent postural reactions. The primitive reflexes and the postural reactions constitute one of the earliest, simplest, and most frequently used tools among child neurologists, as well as developmental and general pediatricians all over the world to assess the central nervous system integrity of infants and young children.

On the other hand, there are a considerable number of developmental scales, developmental screening tests, and motor assessment instruments which more or less cope with the evaluation of motor development in either term or preterm infants and young children and include a variable number of primitive reflexes or postural reactions as items.

Primitive reflexes are brainstem-mediated, complex, automatic movement patterns that commence as early as the twenty-fifth week of gestation, are fully present at birth in term infants, and with central nervous system maturation become more and more difficult to elicit after the first half of the first year of life, when voluntary motor activity and thus cortical inhibition emerges and takes over.

They are considered part of the motor repertoire of the specific age. Primitive reflexes are highly stereotypical patterns and are elicited by specific sensory stimuli. They persist or re-appear in the presence of brain damage and it is thought that they inhibit certain motor abilities among cerebral-palsied children.

A number of postural reactions (i.e., motor patterns) have been identified and repeatedly described as diagnostically relevant. They emphasized the distinction between primitive reflexes and postural reactions.

It has been suggested that postural mechanisms are not true reflexes, but rather are based on multiple input modalities, usually acting as a whole; they further suggested that postural mechanisms require cortical integrity and thus are not present in the neonate, but instead develop postnatally, being considered mature postural responses that persist as a basis for normal motor behavior.

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The rooting reflex is present at birth (age of appearance 28 weeks) and disappears around four months of age, as it gradually comes under voluntary control. The rooting reflex assists in the act of breastfeeding. A newborn infant will turn its head toward anything that strokes its cheek or mouth, searching for the object by moving its head in steadily decreasing arcs until the object is found.

The sucking reflex is common to all mammals and is present at birth. It is linked with the rooting reflex and breastfeeding. It causes the child to instinctively suck anything that touches the roof of their mouth, and simulates the way a child naturally eats.

There are two stages of the action:

Brain stem reflexes: The findings of a study suggest that for many children in mainstream schooling, the attainment of core educational skills may be affected by the persistence of a brainstem mediated reflex system that should have been inhibited in the first year after birth. (McPhillips et al, 2007).

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Presented by: Priscilla Pavai

Moderated by

Annie Thomas PT, Ph.D

Associate Professor

3. Title: Documentation for rehabilitation

Abstract:

[Type text]

Documentation is a medical note by the physical therapists is considered a legal document. Documentation must comply with individual state practice acts to which the therapists should refer for information related to authentication and other specific requirements. Although physical therapists and other health professionals are vulnerable to legal actions, complete and accurate documentation practices can help to minimize legal risks.

Documentation formats should include narrative, SOAP, and functional report measures. Within these formats the therapists can use standardized forms, tables, graphs and photographs to improve the readability of the documentation.

Documentation is any form of written communication related to a patient's encounter, such as an initial evaluation, progress note, flow sheet/ checklist, re-evaluation or discharge summary.

The patient's record provides the only enduring version of the care as it evolves over time and a reference work of value in emergency care, research, and quality assurance. In the legal system, documentation is regarded as an essential element. Extending the risk management dimension, failure to document relevant data is itself considered a significant breach of and deviation from the standard of care.

Documentation formats:

A. Narrative formats: It is the simplest form to document. It accounts about the therapist-patient

Confrontation. In this type of format they should develop their own outline of information. These may be concise or be comprehensive.

The information listed below each heading is left to the documenter's discretion.

B. Problem oriented medical record: It was first described in 1968 by Larry Weed. It has found to be very successful in providing a structure that helps doctors record their notes about patients, and view those notes subsequently in a manner that quickly gives them a good understanding of that patient's history.

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C. SOAP format: This format is highly structured. It was developed in the 1960's at the University of Vermont as part of the problem-oriented medical record (POMR). In this type of medical record, each patient chart is headed by a numbered list of patient problems.

D. Functional outcome report format: It emphasizes on the recording the ability to perform sensible functional activities rather than isolated musculoskeletal, neuromuscular, cardiopulmonary, or integumentary impairments. The main idea is to determine the rationale for the intervention by indicating connection between the impairments and the participation restrictions. It also promotes the style of clinical decision making that begins with functional problems and assesses the specific impairments that cause the activity limitations or restrictions.

E. SOAPIER format

S- Subjective data – information the patient or family members expressed, such as the chief complaint and other impressions.

O- Objective data as observed or assessed including laboratory results or measurable data such as observed signs and symptoms, vitals.

A- Assessment and conclusion regarding patient's condition based on the subjective and objective data.

P- Plan or action to address the problem. It is the strategy for relieving the patient's problem (including both immediate or short- term actions and long-term measures).

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5. MRD protocol, NABH guidelines for medical documentation.

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6. Consumer protection Act, 1986.

Presented by: Priscilla Pavai

Moderated by

Dr.Kavitha Raja PT, Ph.D

Principal

4. Title: Effects of aerobic, anaerobic, isometric and isokinetic exercises on cardiac function

Abstract:

Cardiovascular system consists of an interconnected continuous vascular circuit containing a pump (heart), a high pressure distribution system (arteries), exchange vessels (capillaries), and low-pressure collection and return system (veins). Blood pressure: A surge of blood enters the aorta with each contraction of the left ventricle, distending the vessel and creating pressure within it. The stretch and subsequent recoil of the aortic wall propagates as a wave through the entire arterial system.

At rest, the highest pressure generated by left ventricle contraction to move blood through a healthy, resilient arterial system at rest usually reaches 120mm Hg. As the heart relaxes and aortic valve close, the natural elastic recoil of the aorta and the other arteries provides a continuous head of pressure to move blood into periphery until the next surge from ventricular systole. During exercise, rhythmic exercise- during rhythmic muscular activities like brisk walking, hiking, jogging, swimming, and bicycling, dilation of the active muscles' blood vessels increases the vascular area for blood flow. Increased blood flow during moderate exercise increases systolic pressure in the first few minutes; it then levels off usually between 140 and 160mm Hg.

Resistance exercise: Straining type exercise increases blood pressure dramatically because sustained muscular force compresses peripheral arterioles, considerably increasing resistance to blood flow. The heart's additional workload from acute elevations in blood pressure increases risk for individuals with existing hypertension or coronary heart disease. In such cases rhythmic forms of moderate physical activity produces less risk and greater health

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benefits. Upper-body exercise: Exercise at a given percentage of VO₂max increases systolic and diastolic blood pressure substantially more in rhythmic arm (upper body) compared with rhythmic leg (lower body) exercise.

Exercise heart rate: Graded exercise-Heart rate for the untrained person accelerates relatively rapidly with increasing exercise demands. A much smaller heart rate occurs for the trained persons. Thus, the trained person achieves a higher level of exercise oxygen uptake at a particular submaximal heart rate than a sedentary person. Sub maximum exercise: Heart rate increases rapidly and levels off within several minutes during steady rate exercise. A subsequent increase in exercise intensity increases heart rate to a new plateau as the body attempts to match the cardiovascular response to the metabolic demands.

The American College of Sports Medicine (ACSM) defines aerobic exercise as any activity that uses large muscle groups, can be maintained continuously and is rhythmic in nature. Improving respiratory efficiency, left ventricular systolic function, the frequency of Sino atrial node depolarization increases, as does the heart rate, there is a decrease in vagal stimuli as well as an increase in SNS stimulation, there is an increase in the force development of the cardiac myofibers. A direct inotropic response of the SNS increases the myocardial contractility.

Changes at rest: There is a reduction in the resting pulse rate in some individuals because of a decrease in sympathetic drive, with decreasing levels of norepinephrine and epinephrine; A decrease in atrial rate secondary to biochemical changes in the muscles and levels of acetylcholine, norepinephrine and epinephrine in the atria; and an apparent increase in parasympathetic (vagal) tone secondary to decreased sympathetic tone. A decrease in blood pressure occurs in some individuals with a decrease in peripheral vascular resistance. The largest decrease is in systolic blood pressure and is most apparent in hypertensive individuals. An increase in blood volume and haemoglobin may occur. This facilitates the oxygen delivery capacity of the system.

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Presented by: Priscilla Pavai

Moderated by

Renuka Devi

Professor, Vice Principal

5. **Title: Yoga- concept of yogic practices. Kinds of yogic practices; asana, pranayama, kriya, mudra, bandha, dhyana.**

Abstract:

The word asana means seat. In earlier times some static postures were recommended that allowed comfortable execution of dhyana, dharana and samadhi. Asanas are not curious gymnastics or calisthenics but a way of gaining conscious control over the functions of our body and mind creating a sense of agility, flexibility and calmness that release our consciousness from body consciousness. They are performed in a clean and quiet environment. They are best performed on the floor or on a hard surface over some thin carpet.

Asanas are performed bare-bodied or with the least restraint of clothes. During winter or in cold climates some stretchable costumes are advocated to avoid sudden spasm of

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muscles when they are being activated. During the asanas, the eyes are kept open to watch over the correct position of the limbs. After reaching the perfect postures the eyes are closed for a while. The breathing pattern during all asanas must remain smooth and easy without any jerkiness. Inhalation and exhalation can be equal in duration or exhalation can be as twice as inhalation.

In some cases inhalation is done in one phase and exhalation in the other for example, paschimottan- breathe in while lying down or stand upright padahastasana and breathe out as you sit up or bend downwards padahastana. While performing it if there is discomfort the postural stance is released and is asked to restart after a brief pause.

Pranayama also known as rhythmic yogic breathing control is preferably done before the yogasana or at least 15-30 mins after coming out of the dead man's pose or shavasana. The selection and execution of the asanas have a sequential order to minimise strain on the some muscles and joints and to bring into operation the antagonistic group of muscles one following the other.

For warming up exercise the following are recommended as detailed below:

Tadasanavrkshasana, Trikonasana, Uttanasana/ Utkatasana, Utthitapadasana, Paschiomottanasana, Dhanurasana, Dvipadapitham, Vajrasana/ Virasana.

Physiological effects of Asanas:

- Rejuvenation/regeneration of cells of pancreas due to abdominal stretching during yoga exercise, which may increase utilization and metabolism of glucose in peripheral tissues, liver, and adipose tissues through enzymatic process.
- More active practices followed by relaxing ones lead to deeper relaxation than relaxing practices alone, documented by research from Swami Vivekananda yoga research foundation near Bangalore city and possibility of neuroplasticity bringing about changes in the hypo-pituitary–pancreatic axis.
- Muscular relaxation, development and improved blood supply to muscles might enhance insulin receptor expression on muscles causing increased glucose uptake by muscles and thus reducing blood sugar.

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- The improvement in the lipid levels after yoga could be due to increased hepatic lipase and lipoprotein lipase at cellular level, which affects the metabolism of lipoprotein and thus increase uptake of triglycerides by adipose tissues.

Pranayama:

It pre-supposes adherence to the rule of cleanliness and the purifactory rites and are best practices in the early hours of the morning or after sunset. The practice begins after evacuation of bowels and the bladder and is also done in an empty stomach. The basic posture is a sitting posture on the floor like sidhasana, bhadrasanapadmasana, virasana. The spine is kept erect and perpendicular to the floor and the pelvis remains tilted at an angle of 30 degrees. The cross-legged extended arm position are deliberate as they give stability of the posture and relax the big muscles of the arms and thighs which can get tensed up in a standing position.

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Presented by: Priscilla Pavai

Moderated by

Nagina Nikath M, MPT

Associate Professor

6. Title: Discussion on Methodology of CBR with reference to National health delivery systems

Abstract:

Health systems delivery:

People-centred and integrated health services are critical for reaching universal health coverage. People-centred care is care that is focused and organized around the health needs and expectations of people and communities, rather than on diseases. Whereas patient centred

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care is commonly understood as focusing on the individual seeking care (the patient), people-centred care encompasses these clinical encounters and also includes attention to the health of people in their communities and their crucial role in shaping health policy and health services. Integrated health services encompasses the management and delivery of quality and safe health services so that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, disease-management, rehabilitation and palliative care services, through the different levels and sites of care within the health system, and according to their needs throughout the life course.

WHO is supporting countries in implementing people-centred and integrated health services by way of developing policy options, reform strategies, evidence-based guidelines and best practices that can be tailored to various country settings. Universal health coverage is defined as ensuring that all people have access to needed health services (including prevention, promotion, treatment, rehabilitation and palliation) of sufficient quality to be effective while also ensuring that the use of these services does not expose the user the financial hardship. Universal health coverage has therefore become a major goal for health reform in many countries and a priority objective of WHO.

Community needs assessment: Community health needs assessment is a process that describes the state of health of local people; enables the identification of the major risk factors and causes of ill health; and enables the identification of the actions needed to address these. A community health needs assessment is not a one-off activity but a developmental process that is added to and amended over time. It is not an end in itself but a way of using information to plan health care and public health programmes in the future.

The steps of community health needs assessment are as follows. Profiling: the collection of relevant information that will inform the nurse about the state of health and health needs of the population; and analysis of this information to identify the major health issues.

- Deciding on priorities for action.
- Planning public health and health care programmes to address the priority issues.
- Implementing the planned activities.
- Evaluation of health outcomes.

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Needs assessment will enable to: plan and deliver the most effective care to those in greatest need; apply the principles of equity and social justice where they can give maximum health benefit; and work collaboratively with the community, other professionals and agencies to determine which health issues cause greatest concern and plan interventions to address those issues.

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1. WHO guidelines
2. Community needs assessment
3. Management- CBR guidelines: NCBI
4. The health care delivery system: NCBI
5. The role of the physical therapist in the national health

Presented by: Priscilla Pavai

Moderated by

Anusree Narekuli, PT, PhD

Associate Professor

6. Title: Discussion on Physiotherapist as a master trainer

Abstract:

- **Planning:** is the process of identifying the fundamental values of a community and translating them into community health programme priorities and objectives, delineating basic structures for a programme and developing guidelines for the use of resources. It also takes into account the cultural and social context.
- **Management:** management takes the basic system characteristics that emerge from the planning process and develops programmes to implement services.

Features:

1. **Ownership and governance:** full participation from the stakeholders and government for an execution.

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2. Decentralization: decision shifting from global to local and thus scope for independent action.

Role of physiotherapist:

1. Assessment: the needs of the individual, evaluation of the outcome.
2. Design: the conceptual leap between assessment and fabrication.
3. Fabrication: use of local material and local human resources and costs.
4. Maintenance: user maintained.
5. Training: users, family, and local personnel in device purpose and application.
6. Evaluation: based on general experience and observation, formal research studies.

Rehabilitation:

- Disability booklets and manuals can be a useful tool for rehabilitation. These resources can be used by CBR personnel and by people with disabilities and their family members to guide rehabilitation, particularly where access to rehabilitation professionals is limited. These resources may also provide valuable information for the wider community as well as the many different services and sectors involved in rehabilitation activities.
- The following CBR activities are suggested. Locate existing resource materials. These may be available through government ministries, United Nations bodies, disabled people's organizations or national and international nongovernmental Organizations.

Present community health programme:

- Physiocare: Planned and executed by Help-age India

Aim: to enable and support the elderly to maintain their fitness and mobility level.

Current status:

- 70 geriatric PT clinic
- Treatment given to 12,353 elderly in 2014-15

[Type text]

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Presented by: Priscilla Pavai

Moderated by

Anusree Narekuli, PT, PhD

Associate Professor

1. Title: ASKING CLINICAL QUESTIONS

In our daily clinical practice, questions about the best care for our clients arise frequently. As the current best evidence on a given topic changes at an unpredictable rate, even the most experienced practitioners cannot assume that they know the answer without looking into the most current literature. It has become increasingly obvious that the pace of development of new evidence from research is too quick for standard textbooks to be dependable. When questions do arise, it is unlikely that they will be answered by these textbooks accurately and quickly. Fortunately, the advent of better research, better information resources, and better information technology makes it possible for us to respond to these challenges by learning some basic literature search skills and acquiring access to key evidence resources in the hospitals, clinic, or at home. The first step in any research venture is to define the problem that is to be studied. The clarity with which a researcher views the problem at hand will greatly influence each subsequent step of the research process. Researchers should therefore devote a great deal of intellectual energy to developing their research problems.

Two additional important elements of the well-built clinical question to consider are the type of foreground question and the type of study (methodology). This information can be helpful in focusing the question and determining the most appropriate type of evidence.

Foreground questions can be further divided into questions that relate to therapy, diagnosis, prognosis, and aetiology/harm.

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- Therapy: Questions of treatment in order to achieve some outcome. May include drugs, surgical intervention, change in diet, counselling, etc.
- Diagnosis: Questions of identification of a disorder in a patient presenting with specific symptoms.
- Prognosis: Questions of progression of a disease or likelihood of a disease occurring.
- Aetiology/Harm: Questions of negative impact from an intervention or other exposure.

Knowing the type of foreground question can help you select the best study design to answer your question. You always want to look for the study design that will yield the highest level of evidence.

According to the Centre for Evidence Based Medicine (CEBM, "one of the fundamental skills required for practicing EBM is the asking of well-built clinical questions. To benefit patients and clinicians, such questions need to be both directly relevant to patients' problems and phrased in ways that direct your search to relevant and precise answers."

A well-built clinical foreground question should have 4 components. The PICO model is a helpful tool that assists you in organizing and focusing your foreground question into a searchable query. Dividing into the PICO elements helps identify search terms/concepts to use in your search of the literature.

P = Patient, Problem, Population (How would you describe a group of patients similar to you? What are the most important characteristics of the patient?)

Population refers to the sample of subjects you wish to recruit for your study. There may be a fine balance between defining a sample that is most likely to respond to your intervention (e.g. no co-morbidity) and one that can be generalized to patients that are likely to be seen in actual practice.

I = Intervention, Prognostic Factor, Exposure (What main intervention are you considering? What do you want to do with this patient? What is the main alternative being considered?)

Intervention refers to the treatment that will be provided to subjects enrolled in your study

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C = Comparison (Can be none or placebo.) (What is the main alternative to compare with the intervention? Are you trying to decide between two drugs, a drug and no medication or placebo, or two diagnostic tests?)

Comparison identifies what you plan on using as a reference group to compare with your treatment intervention. Many study designs refer to this as the control group. If an existing treatment is considered the 'gold standard', then this should be the comparison group.

O= Outcome (What are you trying to accomplish, measure, improve or affect?)

Outcomes may be disease-oriented or patient-oriented.). Outcome represents what result you plan on measuring to examine the effectiveness of your intervention.

Presented by: Rahiba CK

Moderated by:

Mrs. M. Renukadevi

Associate professor, JSSCPT

2. Title: CRITICAL APPRAISAL TOOLS

Critical appraisal is the assessment of evidence by systematically reviewing its relevance, validity and results to specific situations (Chambers, R. (1998). Critical appraisal is an important element of evidence-based medicine. It has been estimated that less than 20% of published literature is scientifically sound, leaving health practitioners with the often overwhelming task of sorting the valid, sound and useful literature from the invalid and ineffectual (Demaerschalk, 2004; Rychetnik & Wise, 2004). So, how can public health professionals decide if the evidence they find is good enough? The answer lies in a critical appraisal of the research evidence. Critical appraisal is the systematic evaluation of clinical research papers in order to establish

- Does this study address a clearly focused question?
- Did the study use valid methods to address this question?
- Are the valid results of this study important?

Randomized Controlled Trials

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- **CASP: Randomized Controlled Trial Appraisal Tool**

Summary: Critical Appraisal Skills Program (CASP): RCT CAT is a methodological checklist which provides key criteria relevant to randomized controlled trials.

Authors: Public Health Resource Unit, NHS, England.

- **PEDro Scale**

Summary: PEDro (Physiotherapy Evidence Database) Scale is an excellent webpage which provides access to a range of appraisal resources including a tutorial and appraisal tool.

Authors: The Centre of Evidence-Based Physiotherapy (CEBP), Sydney, Australia.

- **The CONSORT Statement**

Summary: The Consolidated Standards of Reporting Trials (CONSORT) Statement is a detailed document which outlines an explanation and elaboration of the CONSORT statement for reporting randomized controlled trials. It also includes (in table two) the critical appraisal tool.

Authors: The CONSORT Group, Canada

<http://www.consort-statement.org/consort-statement/>

- **The JADAD Score**

Summary: The Jadad scale assesses the quality of published clinical trials based methods relevant to random assignment, double blinding, and the flow of patients. There are 7 items in the scale, scored with a yes scoring 1 and a no scoring zero. The last 2 questions attract a negative score, which means that the range of possible scores is 0 (bad) to 5 (good).

SYSTEMATIC REVIEWS

- **CASP: Systematic Reviews**

Summary: Critical Appraisal Skills Program (CASP): Systematic Reviews is a methodological checklist which provides key criteria relevant to systematic reviews.

Authors: Public Health Resource Unit, NHS, England.

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- Systematic Review (of Therapy) Worksheet

Summary: This methodological checklist provides key criteria relevant to systematic reviews.

Authors: Centre for Evidence-Based Medicine, University of Toronto, Canada.

- ARIF Checklist

Summary: Aggressive Research Intelligence Facility (ARIF) Checklist is a webpage which provides a list of questions to be asked which evaluates the quality of systematic reviews.

Authors: ARIF, University of Birmingham, UK.

- AMSTAR

Summary: Assessment of Multiple Systematic Reviews (AMSTAR) is a 37- item assessment tool used to assess the methodological quality of systematic reviews.

Authors: EMGO Institute, the Netherlands.

- **QUOROM CHECKLIST**
- **PRISMA CHECKLIST**
- **MOOSE CHECKLIST**

CASE-CONTROL

CASP: Case Control Studies

Summary: Critical Appraisal Skills Program (CASP): Case Control Studies is a methodological checklist which provides key criteria relevant to case control studies.

Authors: Public Health Resource Unit, NHS, England.

CRITICAL APPRAISAL TOOLS FOR COHORT STUDY

- CASP: Cohort Studies

Summary: Critical Appraisal Skills Program (CASP): Cohort Studies is a methodological checklist which provides key criteria relevant to cohort studies.

Authors: Public Health Resource Unit, NHS, England.

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- Strobe checklist

CRITICAL REVIEW FORM- QUANTITATIVE STUDIES

- Qualitative Studies originally developed by the McMaster University Occupational Therapy Evidence-Based Practice Research Group and revised by Letts et al., 2007

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McMaster University

Presented by: Rahiba CK

Moderated by:

Mrs. Nagina Nikath

Assistant professor, JSSCPT

3. Title: MOTOR CONTROL AND MOTOR LEARNING

Movement is a critical aspect of life. Our capacity to Just a convenience that enables us to walk, play or manipulate objects. It is a critical aspect of our evolutionary development, no less important than the evolution of our intellectual and emotional capacities. The movement takes many forms some forms can be regarded as genetically defined, such as the way in

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which people control their limbs or the ability of centipedes to coordinate their legs. Here the patterns of action appears to be determined by genetic makeup, through growth and development or in both ways and this actions appears to be quite stereotypical for members of same species.

A second class of movement can be thought of as learned for example those involved in controlling an automobile, typing on a keyboard etc. These learned movements are often called as skills. They are not inherited, and mastering them requires long periods of practice and experience.

Motor control has been defined as “ an area of study dealing with the understanding of the neural, physical and behavioral aspects of movements”. “The process of initiating, directing, and grading purposeful voluntary movement. It is the ability to regulate or direct the mechanism essential to movements. Theories of motor control: Different theories of motor control have been developed over time, and reflect current understanding and the interpretation of nervous system function. Theories provides an important framework for clinical practice.

1. Reflex Theory
2. Dynamical Systems Theory
3. Hierarchical Theories
4. Motor Program Theory
5. Ecological Theories

Motor learning Motor has been defined as a set of internal processes associated with practice or experience leading to relatively permanent changes in the capability for skilled behaviour.

1. Adams Closed Loop Theory
2. Schmidt's Schema Theory
3. Ecological Theory

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Presented by: Rahiba CK

Moderated by:

Mrs. Annie Thomas

Associate professor, JSSCPT

4. Title: PHYSIOTHERAPY IN PSYCHIATRIC CONDITIONS

Severe mental ill health (SMI) is one of the leading causes of disability worldwide; accounting for almost a quarter of all years lived with a disability. People with severe mental ill health (SMI) are less physically active and more sedentary than the general population. The main cause of decreased lifespan is comorbid physical conditions such as coronary heart disease, diabetes, respiratory, and infectious diseases. The physical health benefits of exercise are well established but there is also growing research evidence of links between physical activity and mental health benefits. It includes mood elevation, better cognitive functioning and improved self-perception, self-esteem and self-efficacy. Physical activity has been shown to enhance the effectiveness of psychological therapies and to have a role in improving quality of life and symptom management for people with a wide range of mental health problems. However referral to a physical therapy is rarely available in psychiatric settings in India.

CLASSIFICATION: The Diagnostic and Statistical Manual of Mental Disorders (DSM) provides the standard language by which clinicians, researchers, and public health officials in the United States communicate about mental disorders. The current edition of the DSM, the

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fifth revision (DSM-5), was published in May 2013, marking the first major overhaul of diagnostic criteria and classification

Since the DSM-IV in 1994.

PHYSIOTHERAPY: can be used as a measure of upgrading the quality of life of patient with mental disorders through enhanced self-esteem, improved mood states, reduced state of anxiety and stress. Evidence is convincing that exercise can be useful in treating and avoiding depressive illnesses, and can be used as a means of reducing stress and anxiety on a daily basis. There is no definitive exercise recommendation for all elements of mental health promotion as it is likely that different formulas of frequency, intensity and duration of exercise apply for different mechanisms and perhaps different populations. Generally 30 minutes or more of moderate activity such as brisk walking on 5 or 6 days each week is supported by the literature. Resistance exercise should also be considered and certainly for those already fit and active participation in vigorous exercise and sport may well bring further benefits in mental well-being.

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Presented by: Rahiba CK

Moderated by:

Mrs. Nagina Nikath

Assistant professor, JSSCPT

5. Title: Yoga

Yoga as well as Ayurveda which hold a holistic view of body-mind relationship always believed that behind most physical disorders lie unhealthy thoughts and emotions. Hence by graded exercises and by adopting a healthy way of life one can reverse many of the disease processes. The yogic exercises particularly help in integration of these two aspects both at the level of effector organs as well as at the cerebral cortex and spinal cord. The yogic exercises particularly condition the postural substrate of muscle tone maintenance by stimulating the interoceptors whereas the vigorous exercises like weight lifting have little influence on that system. There is also an element of economy of energy expenditure to achieve a range of movement. This economy of energy can be demonstrated by observing the movements of a tense nervous tennis player at a critical stage of game who literally flags out due to uneconomical internal tonic influences (muscles, heart and lungs).

The two concepts of all discussions are 'prakriti' (nature) and 'purusha' (soul). There are three elements or three primordial undifferentiated matter known holistically as 'prakriti' and these are called the three 'gunas'. They are as follows 'Satta', 'Rajas' and 'Tamas'. Satta represents lightness or intelligibility which later develops into mind, Rajas represents energy and Tamas represents inertia. It is said that 'prakriti' is not a static state but a state of dynamic equilibrium of the three different but interdependent 'gunas'.

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Asana: The word asana means seat. In earlier times some static postures were recommended that allowed comfortable execution of dhyana, dharana and samadhi. Asanas are not curious gymnastics or calisthenics but ways of gaining conscious control over the functions of our body and mind creating a sense of agility, flexibility and calmness that release our consciousness from body consciousness.

They are performed in a clean and quiet environment. They are best performed on the floor or on a hard surface over some thin carpet. Asanas are performed bare-bodied or with the least restraint of clothes. During winter or in cold climates some stretchable costumes are advocated to avoid sudden spasms of muscles when they are being activated. During the asanas, the eyes are kept open to watch over the correct position of the limbs. After reaching the perfect postures the eyes are closed for a while. The breathing pattern during all asanas must remain smooth and easy without any jerkiness. Inhalation and exhalation can be equal in duration or exhalation can be as twice as inhalation. In some cases inhalation is done in one phase and exhalation in the other for example, paschimottan- breathe in while lying down or stand upright padahastasana and breathe out as you sit up or bend downwards padahastana. While performing it if there is discomfort the postural stance is released and is asked to restart after a brief pause.

Pranayama also known as rhythmic yogic breathing control is preferably done before the yogasana or at least 15-30 mins after coming out of the dead man's pose or shavasana.

The selection and execution of the asanas have a sequential order to minimise strain on the some muscles and joints and to bring into operation the antagonistic group of muscles one following the other.

Asanas are two types: dhyanasana which help us to go through 'Dhyana' or meditation and another type called 'Swasthyasana' which helps the body to keep strong and virile. Those swasthyasanas which are supposed to strengthen the internal or external secretions of our glands are called 'Mudras'.

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Presented by: Rahiba CK

Moderated by:

Mrs. Nagina Nikath

Assistant professor, JSSCPT

1. Title: Spinal cord Injury- mechanism, classification, neurological complications and prognosis.

Abstract: Spinal cord begins downward extension of medulla oblongata at the level of the upper border of the 1st cervical vertebrae (C1) and extends down to the level of the 1st lumbar vertebrae (L1) lower border and 2nd lumbar vertebrae upper border.

Functions of the spinal cord:

- It acts as a pathway for motor information, which travels down the spinal cord.
- It serves as a conduit for sensory information in the reverse direction.
- It is a centre for coordinating simple reflexes.

SCI are divided into two broad functional categories:

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- Tetraplegia
- Paraplegia
- Tetraplegia – refers to complete paralysis of all four extremities and trunk, including the respiratory muscles and results from lesions of the cervical cord.
- Paraplegia – complete paralysis of all or part of the trunk and both lower extremities , resulting from lesions of the thoracic or lumbar spinal cord or cauda equin

According to International Standards for Neurological Classification of Spinal Cord Injury (ISNCSCI) ASIA

- Complete injuries.
- Incomplete injuries.
- Complete injury – having no sensory or motor function in the lowest sacral segments (S4 and S5)
- Incomplete injury – having motor and / or sensory function below the neurological level including sensory and / or motor at S4 and S5.

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- Bhuiyan S Pritha (ed). Textbook of Human Neuroanatomy (Fundamental and Clinical). 9th Edition.India: Jaypee Brothers Medical Publishers (P) Ltd; 2014.
- <http://www.elearnsoci.org/>

Presented by: Teresa Vanlalpeki

Moderated by

Shahanawaz PT, PhD

Associate Professor

Kavitha Raja PT, PhD

[Type text]

Principal

2) Title: Quantitative studies

Abstract: When conducting research, the research approach can be either:

- A qualitative (collected data: words (interviews), pictures (video) or objects (artefacts))
- or a quantitative (data collected: numerical data)
- or a mixed approach.

A quantitative approach is appropriate when the research purpose is to test predictive and/or cause-effect type of hypotheses. Deductive logic is used and the design is suitable for phenomena that have been well developed with regard to theory and concept. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative measurement is measurement of data that can be put into numbers.

The goal of quantitative measurement is to run statistical analysis, so data has to be in numerical form.

Quantitative research strives to present valid and reliable research finding:

- Reliability refers to the consistency of a measure. A questionnaire/ or test is considered reliable if the same result is obtained repeatedly when the questionnaire is re-administered/ or tested repeated (Thermometer reading).
- Validity refers to the extent to which a questionnaire / or test measures what it purports to measure (Thermometer does not measure blood pressure).

References:

- 1) LG Portney, MP Watkins. Foundations of clinical research: application to practice. Stamford, USA.1993
- 2) Silva L Da. Quantitative Research Methods and Tools. Fraserhealth Research and evaluation. 2011;6

[Type text]

3) Creswell JW. Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Vol. 4, Educational Research. 2012. 673

Presented by: Teresa Vanlalpeki

Moderated by

Shahanawaz PT, PhD

Associate Professor

3) Title: Translating evidence into practice

Abstract: Evidence based Practice (EBP) emerged in medicine based on a clear need for a better way to make clinical decisions and fueled by developments in the field of clinical epidemiology. Mc Master University, Hamilton, ON, Canada has been recognized as the birthplace of evidence – based medicine (EBM). EBP tries to root out assessment procedures and interventions that have worked their way into accepted practice but which may not be the most beneficial for the client. If there is a better way to practice, therapists should find it. This means critically evaluating what has already been done to see if it could be improved, making EBP a heavily client – centered approach to provide care.

Translational medicine and evidence based practice (EBP) are key principles that have guided clinical applications of research over the past two decades, helping to transform research on disease and disability. Patient care and outcomes could be significantly improved if the knowledge gained from health research was better translated into practice. Components of EBP- Individual clinical expertise, patient’s values and expectations, best available clinical evidence to improved patient outcomes.

The five steps to translate research into action are:

- Reach the target population.
- Effectiveness or efficacy.
- Adoption by target staff, settings, or institutions.
- Implementation consistency, costs and adaptations made during delivery.
- Maintenance of intervention effects in individuals and settings over time.

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In India, EBP is not delivered in a systematic and structured manner to improve the EBP understanding of students. One can become evidence based practitioner by prioritizing activities, Planning ahead, using evidence, teaching others, seeking help, making a commitment, and being motivated. Systematic reviews allow to draw conclusions, confidence about what is known and not known about the answer to the review question. Clinical practice guidelines are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options. Clinical Practice Guidelines can be implemented into clinical pathways by developing algorithms or decision trees.

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Presented by: Teresa Vanlalpeki

[Type text]

Moderated by

Kavitha Raja PT, PhD

Principal

4) Title: Body composition, nutrition and caloric balance

Abstract: “The study of human body composition can be defined as a branch of human biology which mainly focuses on the in vivo quantification of body components, the quantitative relationships between components, and component alterations related to various influencing factors.”

Body composition refers to the body’s chemical composition.

- The first two divide the body into its various chemical or anatomical components; the last one simplifies body composition into two components, the fat mass and the fat-free mass.
- Fat mass is often discussed in terms of relative body fat, which is the percentage of the total body mass that is composed of fat. Fat-free mass simply refers to all body tissue that is not fat.

Knowing a person’s body composition is more valuable for predicting performance potential than merely knowing height and weight.

- Densitometry is one of the best methods for assessing body composition and has long been considered the most accurate, although it does carry certain risks of error.
- Field techniques for assessing body composition include measuring skinfold fat thickness and bioelectric impedance. These techniques are less costly.

Carbohydrates are sugars and starches. Insufficient intake of carbohydrate during periods of intense training can lead to depletion of glycogen stores. Fats are stored primarily as triglycerides, which are the body’s most concentrated energy source. Protein is not a primary energy source in our bodies, but it can be used for energy production during endurance exercise.

Vitamins perform numerous functions in the body and are essential for normal growth and development. Many are involved in metabolic processes, such as those leading to energy production. Minerals are required for numerous physiological processes, such as muscle

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contraction, oxygen transport, fluid balance, and bioenergetics. At rest, water intake equals water output. During exercise, metabolic water production increases as metabolic rate increases.

Knowing body composition of patients for rehabilitation is important for treatment and planning goals, improving functional outcomes and for prescribing types of exercises to be given with intensity.

References:

- 1) Kenney L W, Willmore H J. Physiology of sports and Exercise. 5th Edition. United States of America: Human Kinetics; 2012.
- 2) Wang Z M, Pierson R N, Heymsfield S B. The five-level model: a new approach to organizing body – composition research. Am J Clin Nutr. 1992;65(1):19–28.

Presented by: Teresa Vanlalpeki

Moderated by

Mr. Jakson K Joseph, MPT

Lecturer

5) Title: Electrophysiological testing

Abstract: Electrophysiology is the branch of neuroscience that explores the electrical activity of living neurons, and investigates the molecular and cellular processes that govern their signalling. Neurons communicate using electrical and chemical signals.

Electrophysiology techniques listen in on these signals by measuring electrical activity, allowing decode intercellular and intracellular messages.

NCS is a test commonly used to evaluate the function of the motor and sensory nerves of the human body, mainly for peripheral nerves. NCS- has SNCS and MNCS. IN SNCS, active electrodes is placed along the nerve roots, while in MNCS, active electrodes is placed over the muscle belly.

Evoked potential are voltage changes monitored from the electrically excitable tissue of the cerebral cortex, brainstem, and spinal cord in response to various applied sensory

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stimuli. Evoked potential can be classified as sensory and motor evoked potential. Under sensory are visual, brainstem auditory and somatosensory evoked potential.

In EMG, nerve conduction studies was perform prior using surface electrodes and next is the needle electrodes inserted to the muscle belly and was recorded at rest, and with movement.

2 main EMG patterns:

Neurogenic: Fibrillation and positive sharp wave= denervation.

Myogenic: Short duration, polyphasic with early recruitment and full interference pattern.

An EEG is a test used to evaluate the electrical activity in the brain. During EEG procedure, position of test person is in recline or lie down with eyes closed for most of the test, and they have to stay still and relaxed as possible. Or they ask to perform simple task like reading, eyes open and closed.

EEG is indicated in – seizures disorders, encephalopathy, encephalitis, sleep disorder, memory problems, head injury.

References:

- 1) Shapiro Barbara E, Preston David C. Electromyography and neuromuscular disorders.2nd Edition. Philadelphia: Elsevier Science; 2005.
- 2) Robinson Andrew J, Mackler Lynn Snyder. Clinical Electrophysiology. 3rd Edition. Philadelphia: Lippincott Williams & Wilkins, a Wolters Kluwer business; 2008.
- 3) Shieh Jennifer, Carter Matt. Guide to Research Techniques in Neuroscience. 2nd Edition. 2015

Presented by: Teresa Vanlalpeki

Moderated by

Nagina Nikath M, MPT

Assistant Professor

[Type text]

6. Title: Public awareness to different disability. Message generation and dissipation

Abstract:

Awareness: Knowledge that something exist, or understanding of a situation or subject at the present time based on information or experience.

Public Awareness:

Public awareness refers to public or common knowledge and understanding about a social, scientific or political issue.

In regard to disabilities, public awareness may refer to the understanding of various disabilities, people with disabilities, treatment and facilities available to them, knowledge on methods of dealing with people with various kinds of physical and mental disabilities for effective care and rehabilitation as well as helping them adapt to society.

The components of public awareness include:

- The use of communication to spread information,
- Educating the masses,
- Highlighting methods in which they may participate and/or provide assistance toward a cause,
- Encourage them to continue the chain of communication to further disseminate knowledge and understanding.

Methods of spreading public awareness:

1. Mass Media
2. Personal media
3. Social media

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4. Events

Methods in health education:

1) Individual level (approach)

- Personal contact
- Home- visits
- Personal letters

2) Group level (approach)

- Lectures
- Demonstrations
- Discussion methods - Group discussion, panel discussion, workshop, conference, role play, tutorial, debate and Delphi method.

3) Community level (approach)

- Television
- Radio
- Newspaper
- Printed material
- Direct mailing
- Posters
- Health museums and exhibition
- Internet

WHO to approach?

Disabled themselves

General public

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Policy makers

Stakeholders:

- Family
- Local authorities- village elders, town planners
- Professionals -education, health, welfare, business, law, medicine, media, religious leaders
- NGOs, aid agencies, transport, civil servant etc.

HOW to spread?

Media:

- Mass media
- Personal media
- Social media
- Seminars, workshop, conferences
- Posters, TV, radio, newspaper
- Songs, Audio and visual aids, etc.

Diversity and inclusion, surveys and data collection should be at the heart of policy making. The media play such an important role in challenging stigma, stereotypes and negative attitudes.

Sport can provide many opportunities and promote healthier lifestyles, and having a job is very important not just from a financial perspective - it can improve quality of life and contribute greatly towards society. Promotion of good practice through seminars such as - presentations, group work.

The government of member States, national level, persons with disabilities, NGOs and other stakeholders plays an important role in awareness of disabilities.

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[Type text]

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- <https://rm.coe.int/final-study-awareness-raising/168072b421>

Presented by: Teresa Vanlalpeki

Moderated by

Anushree Narekuli, MPT

Associate Professor

[Type text]

Prashanth V Mangalvedhe, MPT

Lecturer

7) Title: Yoga- Asanas definition, classification, limitations, safety measures.

Abstract: Asana is a state where mind and body complement each other. Asana conserves energy as it is an effortless act. 'Asanas are for developing one's spiritual being and not just for fitness and disease cure'.

Scope

According to Yogic texts the number of Asanas runs into 84 lakhs. However they present the techniques of around a hundred Asanas or so. The texts also tend to differ in many minor points of detail in the techniques of these Asanas, but they are almost unanimous about the major benefits claimed for each Asana they describe. All of them recognize the worth of Asana in the restoration of health and their therapeutic utility. The scope of Yogic Asana is so vast and all-embracing that their limitations seem to fade into insignificance comparatively. Depending upon the anatomic limitations due to fat rigidity ageing process, illness etc., and one can choose the simplest from the vast array of Asanas with their modified variations to serve specific purposes of an individual. Asana take full advantage of the extreme range of movement made available due to the various types of joints in the body.

Classification of Asanas:

- Meditative Asanas
- Cultural Asanas
- Relaxative Asanas

Precautions:

Beginner should perform with eyes open to know and correct the errors.

- Later on eyes can be shut as one gains control.
- Women- No balancing posture should be perform on hands. During pregnancy all Asanas should be practised under supervision.
- Illness- Asanas should not be taken up abruptly after a prolong illness, Do not control urine or stool during practise.

[Type text]

- Remember all contraindication of each Asanas.
- Physical exercises like swimming, aerobics, walking should not be followed immediately before or after Asana.

References:

1) PATEL N. YOGA and REHABILITATION. 1st ed. Delhi: JAYPEE; 2008.

2) <https://harishyogi.blogspot.com/p/asana-posture.html>

3) <https://oksanawadhawan.wordpress.com/tag/limitations/>

4) <https://www.wailana.com/yoga/asanas/guidelines>

Presented by: Teresa Vanlalpeki

Moderated by

Nagina Nikath M, MPT

Assistant Professor

1. Title: Calculation of minimum sample size for different study designs

Abstract: Sampling is defined as the selection of some part of an aggregate or totality on the basis of which a judgement or inference about the aggregate or totality is made. Sample size is the sub-set of population to be studied in order to make an inference to a reference population.

Determinants of sample size

Type I error, Confidence level(CL), Type II error, Power of the test, Variation of the results, Drop out, Compliance, precision, Accuracy, Null hypothesis, Alternate hypothesis, Effect size, Design effect

References:

1) Arif Habib et al (2014) Design and Determination of the Sample Size in Medical Research IOSR Journal of Dental and Medical Sciences (IOSR-JDMS).

2) Foundation of Clinical Research (Applications to Practice) - 3rd edition- Leslie G. PORTNEY

[Type text]

3) Textbook of Research Methodology (Methods and Techniques)- C.R. Kothari

Presented by: Thillai Vignesh B

Moderated by

Dr. Annie Thomas Ph.D

Associate Professor

Dr. Kavitha Raja Ph.D

Principal

2. Title: Metabolic Equivalent (MET) values of various exercise and activity.

Abstract: ATP is the direct source of energy for muscle contraction and it is a labile chemical compound that is present in all cells. MET is an index of energy expenditure. It is defined as the resting metabolic rate that is the amount of oxygen consumed at rest, sitting quietly in a chair. $1 \text{ MET} = 3.5 \text{ ml O}_2/\text{kg}/\text{min}$ or approximately $1 \text{ kcal}/\text{kg} /\text{hour}$. It is the ratio of rate of energy expended during an activity to the rate of energy expended at rest. Energy expenditure can be calculated through direct calorimetry by measuring the heat and indirect calorimetry by measuring respiratory gases.

MET values of self-care, house work, occupation, physical conditioning, and Recreational activities were ranged from 1MET to 30 METS. Another Five level classification of physical activity in terms of exercise intensity are light, moderate, heavy, very heavy, and unduly heavy. Limitations of MET: A larger person would be expected to have a larger resting oxygen uptake compared with a smaller person. Even though individuals with the same body mass will differing in per cent body fat and lean body mass (LBM), will have different resting metabolic rates. There is lack of evidence of study based on MET and energy expenditure in Indian population. Values we got from the western population will differ in body size and composition, race, ethnicity, environmental changes etc.

Recommendation: A total of 60 min of physical activity is recommended every day with minimum 30 min of moderate-intensity aerobic activity (e.g., brisk walking, jogging, hiking, gardening, bicycling etc.), 15 min of work-related activity (e.g., carrying heavy loads, climbing stairs etc.) and 15 min of muscle-strengthening exercises.

[Type text]

References:

- 1) Wilmore JH, Costill DL, Kenney WL. Physiology of sports and exercise. 2004.
- 2) Walter R. Thompson RW, Gordon NF, Pescatello LS. ACSM's guidelines for exercise testing and prescription. ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription.2009.
- 3) Poelhman ET, Denino WF, Beckett T, Kinaman KA, Dionne IJ, Dvorak R, et al. Effects of endurance and resistance training on total daily energy expenditure in young women: a controlled randomized trial. J Clin Endocrinol Metab 2002.

Presented by: Thillai Vignesh B

Moderated by

Mrs. Renuka Devi M, MPT

Professor

Dr. Kavitha Raja PT, Ph.D

Principal

3. Title: Physical Fitness Assessment

Abstract: Physical fitness is the ability to perform moderate to vigorous levels of physical activity without undue fatigue and the capability of maintaining such ability throughout life." (American College of Sports Medicine). Pre-activity screening -To identify those with a medical contraindication (exclusion) to performing specific health-related physical fitness assessments. Types of physical fitness- Health related fitness divided into Cardio respiratory Fitness, Body Composition, Flexibility, Muscular Strength and muscular Endurance. Motor related (Athletic Ability)-Balance, Reaction Time, Coordination, Agility, Speed and Power. Recent evidence says that well planned exercise combined with diet will contribute to reduction of heart disease, stroke, and diabetes mellitus and lowers the risk of early death by 30%. Cardio respiratory Fitness includes Field Tests: The subject perform a timed completion of a certain distance, complete a measured distance, or perform for a set time to predict CRF.(1.5MILE RUN TEST, 12-MINUTE WALK TEST). Sub maximal Exertion: using either step test or a single-stage or a multi-stage to predict maximal aerobic capacity (STEP

[Type text]

TEST). Maximal Exertion: using a graded or progressive exercise test to measure an individual's volitional fatigue or exhaustion. (BRUCE PROTOCOL).

References:

1. Testing E. ACSM'S Guidelines for Exercise Testing and Prescription 9th edition
2. Davis SE. EDITORS. ACSM'S Health-Related Physical Fitness Assessment Manual 2nd edition.

Presented by: Thillai Vignesh B

Moderated by

Mrs. Nagina Nikath M, MPT

Assistant professor

Dr. Kavitha Raja, PT, Ph.D

Principal

4. Title: Scope, Benefits & Limitation of Asana

Abstract: The seminar consists of scope, benefits, limitations, precautions for performing asana. Asana is a state where mind and body complement each other. The scope of Yogic Asana is so vast and all-embracing that their limitations seem to fade into insignificance comparatively. Asana are classified into Meditative Asanas, Cultural Asana, and Relaxative Asanas. Meditative Asana are the sitting postures, with a broad base, erect spine and symmetrical arrangement of the body. Asana like Padmasana, Siddhasana, Vajrasana. These are the Asana that are designed to give complete relaxation to the entire musculature of the body. The two well-known relaxative Asana are Shavasana and Makarasana. Physical, Mental, Health, Spiritual. The basic limitations about Asana are, it cannot be fully understood with the help of only the exercise Physiology or Physical Education norms. So one cannot expect to achieve the fitness factors considered most important by modern sciences at present. Lack of standardization of the techniques of specific Asana poor agreement among the experts on the basic principles underlying the concept and practice of Asana.

References:

[Type text]

1. PATEL N. YOGA and REHABILITATION. 1st ed. Delhi: JAYPEE; 2008.

Presented by: Thillai Vignesh B

Moderated by

Mrs. Nagina Nikath M, MPT

Assistant professor

Dr. Kavitha Raja, PT, Ph.D

Principal

UG CLASSES SUPERVISED- PRACTICAL BY SANDHYA:

Sl. No	Topics	Class
1	Axis and planes with model making	I BPT
2	Osteology of clavicle and scapula	I BPT
3	Motor points and Stimulation of muscle with both faradic and galvanic current	II BPT
4	SD curve	II BPT
5	Stretching	II BPT
5	Gait analysis	II BPT
6	Crutch measurements	II BPT
7	EEI	II BPT
8	Needs assessment	IV BPT
9	ICF assessment	IV BPT
10	PPI	IV BPT
11	WHODAS	IV BPT
12	Sensory evaluation	IV BPT

UG SEMINARS BY SANDHYA:

Sl. no	Topics	Class
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1	Anatomy of shoulder complex	II BPT
2	Biomechanics of shoulder complex	II BPT
3	Physical and Architectural barriers for disabled, required modifications	IV BPT
4	Prevention and rehabilitation of Mental Retardation	IV BPT
5	Prevention and rehabilitation of behavioural disorders	IV BPT

UG CLASSES SUPERVISED- PRACTICAL BY JESLIN T ACHENS:

Sl. no	Topics	Class
1	Goniometry	I BPT
2	Manual Muscle testing	II BPT
3	Introduction to tens, ultrasound, electrical stimulator, laser	II BPT
4	Courses of peripheral nerves(II BPT)	II BPT
5	Dermatomes and myotomes (II BPT)	II BPT
5	Special tests of shoulder joint	III BPT
6	Special tests of elbow joint	III BPT

UG SEMINARS JESLIN T ACHENS:

Sl. no	Topics	Class
1	Renal Physiology	I BPT
2	Walking Aids	
3	Anatomy and biomechanics of cervical spine	II BPT
4	Anatomy and biomechanics of thoracic spine	II BPT
5	Anatomy and biomechanics of lumbar spine and sacrum	IV BPT

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UG PRACTICAL CLASSES SUPERVISED BY MUKUNDA:

Sl. no	Topics
1	Introduction to electrical modalities (II BPT)
2	Brachial plexus (II BPT)
3	Courses of peripheral nerves(II BPT)
4	Dermatomes and myotomes (II BPT)
5	Introduction to tens, ultrasound, electrical stimulator, laser (II BPT)
6	Faradic bath (II BPT)
7	MMT (II BPT)
8	Goniometry (I BPT)
9	Special tests (shoulder, elbow, hip,knee)
10	Cervical examination
11	Lumbar examination
12	Mobilization
13	Posture analysis

CLASSES FOR UG BY MUKUNDA:

Sl.NO	TOPICS
1	Action potential
2	Special tests for elbow joint

[Type text]

UG CLASSES SUPERVISED- PRACTICAL BY NARESH:

Sl. No	Topics	Class
1	Levers in biomechanics	I BPT
2	Joint structure and functions	I BPT
3	Motor points and Stimulation of muscle with both faradic and galvanic current	II BPT
4	electrotherapy	II BPT
5	Stretching	II BPT
5	Goniometer	II BPT
6	Limb length measurements	II BPT
7	Crutch measurements	II BPT
8	Cardiology, BP, Auscultator methods	III BPT

UG SEMINARS BY NARESH:

Sl. no	Topics	Class
1	Nerve muscle physiology	II BPT

UG classes supervised – Nischitha R Rao

Sl. No	Topics
1	Axis and planes – I BPT
2	Lever System – I BPT
3	Introduction to Goniometer – I BPT
4	Limb length measurement, Cervical ROM assessment – II BPT

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5	Gait analysis – II BPT
6	Crutch measurements – II BPT
7	TENS and IFT – II BPT
8	Needs Assessment – IV BPT
9	Paediatric physical fitness tests – IV BPT
10	Rehabilitation program for musculoskeletal, cardiothoracic and neurological condition. Prescribing and devising low cost locally available aids – IV BPT
11	Maternal Nutrition and Education– IV BPT
12	Immunization program and genetic counselling – IV BPT
13	Screening and early intervention in high risk babies– IV BPT

UG SEMINARS BY PRISCILLA:

Sl. no	Topics	Date	Class
1	Anatomy and biomechanics of knee joint	2/1/18	II BPT
2	Anatomy and biomechanics of ankle complex	4/1/18	II BPT
3	Role of social worker	7/6/19	IV BPT
4	Rehabilitation of cerebral palsy, Duchene muscular dystrophy, Down's syndrome and polio myelitis	14/6/19	IV BPT

UG PRACTICAL SUPERVISED BY PRISCILLA:

Sl. No	Topics	Class
1.	Biomechanics- Lever system	I BPT
2.	Motor points and Stimulation of muscle with both faradic and galvanic current	II BPT
3.	SD curve	II BPT
4.	TENS	II BPT
5.	Interferential therapy	II BPT

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6.	Goniometry- upper limb, lower limb and spine ROM	II BPT
7.	Introduction to mobilization	II BPT
8.	Need assessment	IV BPT
9.	ICF assessment	IV BPT
10.	PPI	IV BPT
11.	WHODAS	IV BPT

UG PRACTICAL CLASSES SUPERVISED BY RAHIBA:

Sl. no	Topics
1	Introduction to electrical modalities (II BPT)
2	Brachial plexus (II BPT)
3	Courses of peripheral nerves(II BPT)
4	Dermatomes and myotomes (II BPT)
5	Introduction to tens, ultrasound, electrical stimulator, laser (II BPT)
6	Faradic bath (II BPT)
7	MMT (II BPT)
8	Goniometry (I BPT)
9	Special tests (shoulder, elbow, hip,knee)
10	Cervical examination
11	Lumbar examination
12	Mobilization
13	Posture analysis

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CLASSES FOR UG BY RAHIBA:

Sl.NO	TOPICS
1	Action potential
2	Special tests for elbow joint
3	Anatomy of knee joint

UG CLASSES SUPERVISED- PRACTICAL BY TERESA:

Sl. No	Topics	Class
1	Axis and planes with model making	I BPT
2	Osteology of clavicle and scapula	I BPT
3	Motor points and Stimulation of muscle with both faradic and galvanic current	II BPT
4	SD curve	II BPT
5	Stretching	II BPT
5	Gait analysis	II BPT
6	Crutch measurements	II BPT
7	EEI	II BPT
8	Need assessment	IV BPT
9	ICF assessment	IV BPT
10	PPI	IV BPT
11	WHODAS	IV BPT

UG SEMINARS BY TERESA:

Sl. no	Topics	Date	Class
1	Anatomy and biomechanics of elbow complex	2/1/18	II BPT
2	Anatomy and biomechanics of wrist	4/1/18	II BPT
3	Screening of disabilities	7/6/19	IV BPT
4	Vocational rehabilitation	7/6/19	IV BPT

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DIDACTIC CLASSES FOR II MPT:

Sl. no.	Topic	Taken by	No. of hrs
1.	ICF	Anushree Narekuli	2hrs
2.	Clinical assessment and rationale of laboratory investigations along with differential diagnosis	Vijay Samuel raj	1hr

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SUPERVISED PRACTICAL CLASSES FOR UG STUDENTS BY VIGNESH:

SL.NO	Topics	Class
1.	Range of motion	II BPT
2.	Biomechanics- Lever system	I BPT
3.	Motor points and Stimulation of muscle with faradic and galvanic current	II BPT
4.	SD curve	II BPT
5.	TENS	II BPT
6.	Interferential therapy	II BPT
7.	Goniometry-Upper limb, lower limb, Spine ROM	II BPT
8.	Introduction to mobilization	II BPT
9.	Glasgow Coma Scale	IV BPT
10.	Cranial nerve examination	IV BPT

UG SEMINARS BY VIGNESH:

Sl. no	Topics	Class
1	TRACTS OF SPINAL CORD	I BPT
2	SYNAPSE	I BPT
3	NEURO ANATOMY OF CEREBELLUM	IV BPT

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