D.Y. PATIL EDUCATION SOCIETY

[Deemed to be University], Kolhapur

Re-accredited by NAAC with 'A' Grade

LEARNING OUTCOMES AND GRADUATE ATTRIBUTES

Outcome Based Education (OBE) Platform

Institutional outcome:

- Knowledge and Skills
- Planning and Problem-solving abilities
- Communication
- Research Aptitude
- Professionalism and Ethics
- Leadership

D. Y. Patil College of Physiotherapy

Programme: Bachelor of Physiotherapy

Graduate Attributes

- Ability to acquire knowledge about normal- abnormal basic medical and human movement sciences, understand relevant investigations, role of drugs related to various medical conditions, surgical treatment and application of physiotherapy interventions.
- To gain knowledge about planning and problem-solving abilities to delineate the cognitive, affective and psychomotor skills to perform as a competent physiotherapist who will be able to evaluate, plan and effectively perform the physiotherapeutic skills.
- To demonstrate the ability to acquire good listening potential with effective interpersonal and intra personal communication skills.
- To extend the acquired knowledge to conduct research activities and publications that contribute to the upliftment in field of physiotherapy and betterment of society.
- To understand moral value, professional ethics and accountability towards patient and colleagues, develop good behaviors skills with confidentiality and humanitarian approach maintaining the respect and privacy of patient.
- To develop leadership skills, time management, logical reasoning, values required for self-directed and lifelong learning, soft skills for professional development and execute their professional role in society as a physiotherapist at various academic institutions, hospital/ clinics, organizations, research laboratories and rehabilitation centres.
- Understanding about society's needs in terms of health and wellness, to improve multicultural competency among professional and general public, promoting social policies that affect the demands of patients in terms of function, health and wellness, develop a character with good moral values, human values, good social behavior, gratitude, honesty, ethics, safety, hygiene, responsibility, confidence, tolerance and critical thinking.
- Able to contribute in sustainable development to achieve the national sustainable development goal, further the relationship between the environment, human health and functioning and physiotherapy are considered and respected to mutually benefit patient's health. Ensure healthy life's and promote wellbeing for all at all ages.
- Demonstrate ability to acquire new knowledge skill and reflect upon their experience to enhance personal, professional growth and apply the information for patient care.

Learning Outcome:

Anatomy

1. Dissect and identify the normal disposition, inter relationship, gross functional and applied anatomy of various structures in the cadaver.
2. Ability to identify the microscopic structures of basic tissues, organs in the human body and basic principles of embryology in stages of normal development.

3. To demonstrate different movements of joints, there attachments, palpate important bony landmarks.
4. To identify and describe various parts, structures and blood circulation of CNS and spinal cord. Describe the course of peripheral nerves and its importance. Understand anatomical basis of clinical conditions of nervous system.
5. To identify and describe various structures, mechanism, blood supply of cardiovascular and respiratory system and understand its anatomical basis of clinical conditions.
6. Ability to understand the knowledge of systemic anatomy, abdomen, endocrine and exocrine system and sensory organs with their applied anatomy.
7. To demonstrate the knowledge and application of imaging techniques and interpretation of radiogram.

Physiology

1. Acquire the knowledge of general physiology and its contribution in each organ system to maintain homeostasis.
2. To understand the basic physiological functions of various systems with special emphasis on Musculo-skeletal, Neuro-motor, cardio-respiratory, endocrine and uro-genital function and alteration in function with aging.
3. To acquire the knowledge about structure and function of special sense organs and its applied physiology (eye & ear).
4. To acquire the skills of basic clinical examination with special emphasis to peripheral and central nervous system, cardiovascular and respiratory system and exercise tolerance/ Ergography.
5. To analyze physiological response and adaptation to environmental stresses with special emphasis on physical activity, attitude, and temperature.
6. To explain and correlate the applied physiology of diseases and disorders related to organ systems of body which are commonly treated by the physiotherapist.

Biochemistry

1. To acquire and demonstrate the knowledge of formation, functioning and fate of biomolecules, their normal and abnormal levels to understand the disease process and their clinical interpretation.
2. To acquire the knowledge of vitamins, minerals their functions, deficiency manifestations and their role in daily nutritive requirements.
3. To acquire the knowledge about healthy balanced diet with its nutritive importance and dietary deficiencies.
4. To describe the fundamentals aspect of enzymes and hormones with their role in various metabolic disorders where in regulation of enzymatic and hormonal mechanism is altered.
5. Ability to understand mechanism and biochemical events in connective tissue.

Fundamentals of Kinesiology and Kinesiotherapy

1. To understand basic principles of biomechanics, biophysics and application of these principles in Kinesiotherapy.
2. To understand classification of joints and muscles, types of movements along with their distinguishing characteristics. Demonstrate various starting and derived position used in therapeutics.
3. To acquire the skills of assessment of basic evaluation like sensations, reflexes and vital parameters and also the skills of objective assessment of range of motion by goniometry.
4. To understand physiological principles and acquire the skills of application of therapeutic massage.
5. To acquire the knowledge on physiological basis and principle of relaxation and the skills of relaxation methods. Understand principles of aerobic exercises for general fitness and demonstrate fitness skills on self and group.
6. To acquire the knowledge on physiological principles and skills of performing Pranayama and Yoga Sana for maintaining general fitness.

Fundamentals of Electrotherapy

1. Ability to acquire basic physics principles, laws of electricity, electromagnetic spectrum, common electrical components, fundamentals of currents, sound waves and their effects.
2. Ability to understand effects of environmental and man-made electromagnetic field at the cellular level and risk factors on prolong exposure.
3. To describe and identify various types of electrodes used in electrotherapy, electrical skin resistance and significance of various media used to reduce skin resistance.
4. To acquire knowledge of various superficial thermal agents and their skills of application.
5. Ability to understand types and production of various therapeutic electrical currents and in application on different electrotherapeutic modalities.

Pathology& Microbiology

1. To describe the concept of cell injury & change produced by different tissues, organs & capacity of the body in healing process and understand in brief, about the common hematological disorders &investigations necessary to diagnose them.
2. To acquire the knowledge of common immunological circulatory disorders vitamin deficiency & their resultant effects on the human body and develop an understanding of neoplastic change in the body in appreciate need for early diagnostic& their management of neoplasia.
3. Recall the Etiology, pathogenesis, the pathological effects & the clinic-pathological correlation of common infections, non-infectious diseases & genital diseases. Understand correlate normal & alternate morphology of different organ system in different diseases needed for understanding disease process their clinical significance.

4. To get knowledge about scope & the subject with classification of various Micro-organisms, demonstrate knowledge about laboratory diagnosis of the different micro-organisms causing infections epidemiology & prevention of the disease, prophylaxis and best methods to prevent the development of infections in sets and patients (Universal safety precautions).
5. To get knowledge about immunity its types, structure and function various antigen antibody reactions with its application and demonstrate the knowledge of etio-pathogenesis of different micro-organisms (bacteria, viruses, fungi and parasites).
6. To get knowledge of prevalent communicable diseases and the agents responsible for causing clinical infections pertaining to CNS, CVS musculoskeletal, respiratory, genitourinary, wound infections and of newer emerging pathogens.
7.

Psychiatry (including Psychology)

1. To understand the increasing awareness of psycho-social by individual with its significance of various points the continuum of health & disability.
2. To understand the term psychology with its importance in the health delivery system knowledge of psychological maturation during human dire & growth with alteratims during aging process.
3. To interpret theories of learning and its role in human life with the importance of psychological status in health & disease environmental & emotional on the mind & personality.
4. Evaluate psychiatric history a mental status Examination of Schizophrenia, Ansich, personality somatoform, childhood & Organic brain disorder, mood & eating disorders, with genetic psychology.
5. To get knowledge about management of various psychiatric disorders with the help of ECT, pharmacotherapy grow therapy psychotherapy, cognitive behavioral therapy & rational emotive therapy.

Pharmacology

1. To describe the pharmacokinetics & pharmaco dynamics, indication & contra -indication interactions & adverse reactions, precautions, formulation & route of drug administration of various drug.
2. To demonstrate knowledge about various drugs acting on CNS autonomic nervous system CVS, respiratory system, endocrine system, GIT tract.
3. To demonstrate knowledge about various hematinic & dermatological drugs.

Kinesiology

1. To understands the principles of biomechanics.
2. To acquire the knowledge of kinetics & kinematics of spine, extremities, thoracic cage.

3. To acquire the knowledge of musculoskeletal movements during normal gait & activities of daily living.

Kinesiotherapy

1. To understand the biophysical properties of connective & non connective tissue & mechanical loading, & factors with which influence the muscle strength & mobility of articular & particular soft tissue.
2. Apply the biomechanical principles for the efficacy in the assessment methods & acquire the skills of subjective & objective methods of muscle strengthening, joint mobility, muscle stretching, muscle testing.
3. To describe the physiological effects, therapeutic uses of Hydrotherapy & Demonstrate various therapeutic exercises on self & acquire the skill of application on models with home program.
4. To analyze the correct & faculty posture & all views of posture and acquire the knowledge of postural mechanism & factors affecting on posture, motor control, postural control & balance.
5. To demonstrate & acquire the skills of functional re-education techniques on models & also skills of balance & co-ordination exercise.
6. To acquire the skill of using various walking aids for training of gait.
7. To acquire the knowledge & skills of demonstrating breathing exercise postural drainage techniques.

Electrotherapy

1. To acquire the knowledge of pain physiology; pain pathways methods of pain modulation & appropriate modality for pain modulation.
2. To describe the physiological effects, therapeutic uses, indications & contraindications of various low / medium & High frequency currents also with appropriate acquire the skills of application of these currents on mode models, for the purpose of assessment & treatment.
3. To describe the physiological effects & therapeutic uses of various therapeutic ions & topical pharmaco therapeutic agents to be used for application of into phoresis & sonophono phoresis.
4. To describe the physiological effects, therapeutic uses, indication & contraindication of action therapy IRR, UVR, caser & acquire an ability to select the appropriate mode as per the tissue specific & area specific application.
5. To acquire the knowledge of types of wound & skills of application of therapeutic arrents – us. U.V.R & Laser.

Surgery I

1. Ability to familiarize with principles of general surgery including various specialties like cardiovascular, thoracic, neurology & plastic surgery.
2. Ability to familiarize with terminology & abbreviations for efficient & effective chart reviewing & documentation.
3. To explore about epidemiology, pathology, primary & secondary clinical characteristics with their medical & surgical management.
4. To make awareness of general as well as specialty surgical conditions.
5. To understand effects of surgical trauma & anesthesia.
6. Ability to clinically evaluate & describe surgical management of various surgical conditions including general surgical as well as neuro surgical, cardiovascular & thoracic surgery, ENT & ophthalmic surgery, plastic & reconstructive surgery.
7. Ability to describe pre-operative evaluation, surgical indications, management & post-operative care & complications related to above mentioned areas.
8. Ability to read & interpret findings of relevant investigations.

Surgery II

1. Ability to identify & describe the classification, causes, clinical features, heading of fractures & complications of fractures of upper, lower vertebral column thorax and pelvis.
2. Ability to identify and describe principles of general description & management of traumatic dislocation & subluxation of shoulder, acromion-clavicular, elbow, hip & knee joint.
3. Able to interpret & read silent features of x-ray of spine & extremities & correlate the radiological findings with clinical findings.
4. Ability to understand grades of injury, management of injuries of ligaments, bursal, fascia, muscles & tendons of upper and lower limb, whiplash of cervical spine, cervico-lumbar spine crush injuries of hand & foot.
5. Ability to identify & understand causes, classification physical clinical radiological features and complications of congenital & acquired deformities of upper & lower limb also understands principles of medical & surgical management of these deformities.
6. Able to discuss the etiology, path physiology, clinical manifestations and conservative or surgical management of degenerative & inflammatory conditions.
7. Able to understand the etiology, clinical manifestations & management of metabolic tumors.
8. Able to identify & understands etiology, patho- physiology, clinical manifestations and conservative and surgical management of general orthopedic conditions like carpel tunnel syndrome entrapment nerve injuries, compartment syndrome ischemic contracture, avascular necrosis of bone I adult & children gangrene, backache.
9. Able to understand classification, causes, clinical manifestations, general description & principles of general management of begin & malignant tumors.

Medicine I

1. To identify & describe the etiology, pathology & clinical symptoms and management of the cardiovascular & respiratory conditions.
2. To identify & describe the etiology, pathology & clinical symptoms and management of the general medicine, rheumatology & gerontology.
3. To get knowledge of various drugs used for each medical condition to understand its effects & user during therapy.
4. To understand skill of history taking & clinical examination of cardiovascular, respiratory, general medicine & gerontology conditions as a part of clinical teaching.
5. Able to acquire the skills of basic life support & describe the principles of management at ICU.
6. To understand relevant investigations which will help to know about the important medical conditions.
7. To acquire the knowledge in medicine that are required to be practice in community & at all levels of health care system.

Medicine II

1. Students should able to ability describe applied physiology an etiology, Pathophysiology signs & symptoms and management of various neurological and pediatric conditions.
2. To acquire skills of history taking and clinical examination of neurological & CO3: pediatric conditions as a part of clinical teaching.
3. To acquire knowledge of various drugs used for each medical condition to understand its effects during therapy.
4. To acquire knowledge in brief about inter development of the fetus.
5. Student should able to describe normal development and growth of a child importance of immunization breast feeding & psychological as put of development.
6. Student should able to describe neuromuscular musculoskeletal cardiovascular and respiratory conditions related immunological conditions nutritional deficiencies infectious diseases and genetically transmitted conditions.
7. To acquire skill of clinical examination of a neonate / child with suspect to neurological musculoskeletal & respiratory function.

Community Health & Sociology

1. Ability to understand role of physiotherapy in socio-cultural factors as determinants of health & behavior.
2. To identify role of social security, medical social worker & role of NGO in relation to disabled.
3. To understand the role of Physiotherapy in social planning & in improvement of health & rehabilitation.

4. To acquire knowledge in preventive & measures that are required to be practiced in community & at all level of health care system.
5. Illustrative concepts influence of formal & informal social factors or personality, socialization in Hospital & Rehabilitation setting.
6. To identify role of rural & urban communities in public health & practices in home remedial treatment.
7. To understand sociology of brain death/ organ donation.

Functional Diagnosis & Physiotherapeutic skills

1. Ability to acquires knowledge on the clinical reasoning of the ICF and its use.
2. Ability to acquire knowledge on assessment & examination of musculoskeletal system with its dysfunction, assessment of joints with special tests, assessment of pain of response of these soft tissue to trauma.
3. To understand the basic in manual therapy, soft tissue mobilization skills for joints & soft tissue, its applications with clinical reasoning, indications & contraindications.
4. Ability to acquires knowledge on assessment & examination of cardiovascular & pulmonary system with its drug function 7 assessment for fitness & health.
5. Ability to understand general principles of human development & maturation.
6. Ability to understand assessing of neurotherapeutic skills & its application with clinical reasoning.

Musculoskeletal Physiotherapy

1. Ability to identify evaluate analyze primary & secondary musculoskeletal dysfunction based on biomechanical kinesiological & pathophysiological principle.
2. Correlate the same with radiological electro physical biochemical hematological investigation as applicable & arrive at the appropriate physiotherapy dangerous with skillful evaluation of structure & fraction clinical.
3. To understand the pharmaco therapeutics its interaction with physiotherapeutic measures & modify physiotherapeutic intervention.
4. To acquire ethical skills by demonstrating safe respectful & effective performance of physical handling techs taking into account the patient's clinical conditions the need for privacy the physiotherapist the resources available & the environment.
5. The students will be able to plan & prescribe short along term physiotherapy treatment by selecting appropriate modes of evaluation & intervention in case of various orthopedic surgeries upper limb trauma, lower limb & spine trauma pre & post-operative amputation bone-joint infection & bone tumors far relief of pain functional independence.
6. Ability to apply the radical basis of physiological effects indication contraindications and best available evidence on the effectiveness efficacy & safe application guideline or a full range of physiotherapeutic strategies & interview including appropriate modes of soft tissue and joint. Mobilization electrotherapy therapeutic exercise and appropriate ergonomics advice that can be employed to manage problems of the individual's structures

functions activities & participation capacity & performance levels associated with musculoskeletal system for relief of pain & prevention restoration & rehabilitation measures for workplace in community.

7. Able to prescribe & train for appropriate orthosis prosthesis & walking aids based on musculoskeletal dysfunction.

Neurosciences Physiotherapy

1. To acquire the knowledge of identification & analysis of movement dysfunction caused by neuro-musculoskeletal disorder in terms of biomechanical & biophysical basis.
2. To understand the co-relation of routine electro-physiological radiological & biochemical investigations & formulate appropriate functional diagnosis using the model of Who-International classification functions (ICF) with clinical resolving.
3. To acquire the knowledge of planning of realistic short and long -term goal on the basic of prognosis of disorders of neuro-muscular system & prescribe appropriate & evidence-based neuro therapeutic intervention by taking precautions of safety measures.
4. To understand infection control principles best practices & appropriate neurotherapeutic techniques for the adults or pediatric clients with neurological conditions.
5. Be able to develop psychomotor skills for timely implementation of appropriates outcome measure for assessment select therapeutic techniques to ensure holistic approach & for reduction long term morbidity.
6. Select & implement appropriate neuro-therapeutic approaches electrotherapeutic modalities joint & soft tissue mobilizations & ergonomic advice for conditions neuro-musculoskeletal system contextual factors to enhance functional skills & social integration.
7. Be able to develop behavioral skills and humanitarian approach while communicating with patients, relative's society & co-professionals, to promote individual & community health.

Cardio respiratory Physiotherapy

1. To study of applied anatomy & physiology of cardiovascular & respiratory system along with pathological changes & path mechanics.
2. Physical assessment with relevant tests & measures for determining impairments & differential diagnosis related to patients with disorders of cardio-vascular & respiratory system.
3. Ability to understand investigation & clinical application of investigation along with exercise testing
4. Ability to understand knowledge of bioenergetics, total energy expenditure adaptation to exercise prevention of complications of bedrest, Aerobic & anaerobic training & Principles of exercise Prescriptions
5. To demonstrate physiotherapeutic skills & branched hygiene techniques in different cardio respiratory conditions along with application of ICF model.
6. To study physiotherapy management in medical and surgical cardio respiratory disease along with cardio respiratory & pulmonary rehabilitation.

7. To study basic evaluation and management of cardio respiratory conditions in ICU along with basic life support.

Community Physiotherapy

1. To explain role of physiotherapy in health promotion in community and women's health.
2. To demonstrate evaluation and training of geriatric population.
3. Articulate the need of physiotherapy in an industrial set up and explain Ergonomic assessment.
4. To acquire the knowledge in preventive and curative measures that are required to be practiced in Community and at all levels of health care system.
5. To identify the role social security, role of medical social worker and the role of NGO's
6. To understand the role of social planning in the of health & in rehabilitation.