

***Textbook of
Physiotherapy for Obstetric
and Gynecological Conditions***

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Gynecological
Conditions***

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JAYPEE BROTHERS
MEDICAL PUBLISHERS (P) LTD
New Delhi

Published by

Jitendar P Vij

Jaypee Brothers Medical Publishers (P) Ltd

B-3 EMCA House, 23/23B Ansari Road, Daryaganj, **New Delhi** 110 002, India
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First Edition: 2007

ISBN 81-8061-813-7

Typeset at JPBMPT typesetting unit

Printed at Ajanta Press

*To
My Father
and
Beloved Husband
Ramesh*

Preface

The book titled *Textbook of Physiotherapy for Obstetric and Gynecological Conditions* has been designed to cater the needs of the students of the Bachelor of Physiotherapy degree especially in their second year, third year and final year. This book is also useful for professionals of physiotherapy, obstetricians, gynecologists, rehabilitation professionals, other paramedics and every woman in her childbearing year.

This book has been prepared as per the curriculum of obstetric and gynecology for Bachelor of Physiotherapy degree course devised as per MCI regulations and universities syllabus.

Not many books on physiotherapy for obstetrics and gynecology are available in India. Especially the book is written for the students of physiotherapy in India. This subject is essential and is a basic subject of physiotherapy for the undergraduate and as well as for the postgraduate courses. None of the books by the Indian authors are available. Very few textbooks by foreign authors are available in the market. To avoid confusion in understanding each topic of the entire subject and students referring many books for topics in the syllabus, this *Textbook of Physiotherapy for Obstetric and Gynecological Conditions* has been written in a systemic manner in a very simple approach for the students, professionals of physiotherapy, teachers, doctors, rehabilitation professionals, obstetricians, gynecologists, other paramedics and to every woman who is in childbearing year. Recently, lots of advances have taken place in the field of obstetrics and gynecology. Utmost efforts have been made to cover all the necessary aspects of electrotherapy. All the chapters have been written in a very simple manner and clearly expressed.

In ancient times, woman who is pregnant was asked to be under regular medical supervision and medication. In recent times every woman is preferring to exercise for the health benefits. This is taught by the physiotherapist by a specially designed exercise regime during pregnancy. Physiotherapy is an ever-advancing field. Recent advances have made physiotherapy very interesting and playing an important role in working women with regard to ergonomics at work place to prevent further complications like low backache, etc. for fitness throughout pregnancy, regaining shape back to normal, woman will be learning stress-free techniques like relaxation and breathing techniques which are useful during normal labor and every woman prefers today because of minimal complications and to get back shape easily. All these techniques are found to be

effective by every woman nowadays. Utmost efforts have been made to update this textbook starting from the introduction of physiotherapy for obstetric and gynecological conditions to the recent advances; all the aspects have been covered with details.

I have tried to give a fairly complete coverage of the subject describing the most common method known to the women employed by physiotherapist at appropriate time. The intention is to explain how the method works and their effect upon the woman and fetus. In the initial chapter, I have tried to lay the foundation of the principles of physiotherapy for obstetric and gynecological conditions because a thorough understanding of these principles will ultimately lead to safer and more effective pregnancy, labor and postpartum period.

Introduction covers about physiotherapy in obstetrics and gynecology starting from the definition of physiotherapy, need of physiotherapy during pregnancy, fitness during pregnancy, exercise regime during antenatal period, perinatal period, puerperium, postnatal period, after six months period, regain shape back and electrotherapy treatment have also been added.

Chapter one covers about anatomy of bones and joints of pelvis, abdominal and pelvic floor, female reproductive system, ovaries, fallopian tubes, vulva and perineum.

Chapter two has been explained in detail about female reproductive system, hormonal regulation, menstrual cycle, ovulatory phase and postovulatory phase.

Chapter three is about National Women's Health Policy, fitness in childbearing year and role of physiotherapy during pregnancy.

Chapter four has tests done for the confirmation of the pregnancy and the tests that are harmful for the fetus also explained in this chapter.

Chapter five covers introduction to biomechanics, sacral region, its movements and functions, posture in detail.

Chapter six consist of definition of kinesiology, types of muscle tissue, aims of kinesiology, care during pregnancy, lower body exercises, upper body exercises, abdominal and pelvic floor exercises and muscles contraction and action done.

Chapter seven covers definition of ergonomics, aims of ergonomics, risk assessment, risk factors, high risk areas and tasks, risks association with lifting, low back pain, workplace ergonomics. Risk control, task rationalization and implementation. Consideration of movements, planning lifting activities.

Chapter eight is about pregnancy weight gain, pelvic viscera, fascia, ligaments, urinary system, pulmonary system, cardiovascular system, musculoskeletal system, thermoregulatory system, posture and balance changes.

Chapter nine explains about physiotherapy assessment include general assessment, pelvic floor assessment and also diastasis recti assessment.

Chapter ten covers definition of relaxation, practicing relaxation, relaxation techniques, and whole body relaxation, training for labor, Yoga-nidra.

Chapter eleven consists of definition, techniques of breathing and breathing during labor.

Chapter twelve is about definition of massage, techniques of massage, massage sessions for back, legs, face, neck, shoulder, abdomen and self-massage.

Chapter thirteen describes fetal physiology, placenta, maternal nutrition, fetal circulation, renal function, central nervous system, alimentary track, respiratory system, transfers of placenta, water, gas, carbohydrate, amino acid, fat and fetal hypoxia, and also includes embryonic developments during first, second, third, fourth, fifth, sixth, seventh, eighth and ninth months.

Chapter fourteen explains about the problem usually woman faces and their treatment like anemia, bleeding gums, breathlessness, constipation, cramps, heart burns, nausea, edema, piles, pre-eclampsia, vaginal discharge, varicose veins, gestational diabetes, urinary frequency, fainting, vulval varicosities, backache, tender breast, carpal tunnel syndrome and insomnia.

Chapter fifteen is about definition, causes, hypertension, pulmonary embolism. Addiction, drugs, cardiac disease, pulmonary disease, renal disease, diabetes, infectious disease, family history, rheumatic disease, thyroid, hematological diseases, genetic disorder and liver diseases.

Chapter sixteen is in detail regarding the show, the waters, contractions, first stage, induction, pharmacological pain relief, epidural anesthesia, fetal monitoring, transition, second stage, episiotomy, assisted delivery, cesarean section and third stage.

Chapter seventeen includes material on introduction, how to start, feeding times, diet for mother, equipment required, breastfeeding problems, bottle-feeding and bottlefeeding equipment.

Chapter eighteen describes about introduction, Apgar score, measurement of the baby, common musculoskeletal disorders, congenital dislocation of hip, congenital talipes equino varus, metatarsus adductus, talipes calcaneo valgus, brachial plexus injury and sternocleidomastoid tumor.

Chapter nineteen consists of introduction to exercise regime, principles of exercise regime, the concentration, the breath, the girdle of strength, flowing movements, relaxation, importance of exercise sessions, aims of physiotherapy, plans of physiotherapy, guidelines for exercise in pregnancy, contraindications for exercise in pregnancy, effects and uses of exercises in pregnancy, sequence of exercise regime, management during pregnancy, aims and plan, first trimester, second trimester, third trimester, management during postnatal stages, aims and plans, first-three months after the birth, three to six months after the birth, six months plus, cesarean section, preoperative physiotherapy, postoperative physiotherapy, high-risk pregnancy, aims and plans.

Chapter twenty is in detail about definition, muscle stimulation, inferential therapy, TENS, microwave diathermy, ultrasound, short-wave diathermy, infra-red radiation, laser therapy, cryotherapy and electrotherapy treatment during antenatal period, labor, postnatal periods and cesarean.

Chapter twenty one describes about hemoglobin status, pelvic floor problems, backache, pubic symphysis joint subluxation, sacroiliac joint dysfunction, separation of rectus abdominis, weight gain, nerve compression syndrome, painful perineum, puerperal infection, breast infection, thrombophlebitis, and incontinence.

Chapter twenty two covers about infection control for physiotherapist working with women's health. Universal precaution, protection from infection, use of gloves, handwashing, cleaning, work areas, catheters, vaginal and anal electrode, perineometer, ultrasound head and inferential electrodes are also explained in this chapter.

Glossary of terms and Bibliography are also given at the end of the book. Any suggestions from the teachers and students will be highly appreciated, so that further improvement in the information can be made in the subsequent editions in the light of the same.

GB Madhuri

Acknowledgements

Textbook of Physiotherapy for Obstetric and Gynecological Conditions is a book that provides basic knowledge and methodology. Exercise regimes along with updated knowledge of the important aspects of physiotherapy in obstetrics and gynecology.

I am indebted to G Anandarao, my father for inspiring me and encouraging me at every step of my life.

I am thankful to my husband, Mr. Ramesh for always supporting me and motivating for writing this book and endured two years of emotional stress while I was deeply engrossed in preparing this book.

This book is a complete, authoritative, latest and easily readable book. This book has been designed to effectively meet the needs and requirement of the undergraduate students. The book focuses on the basic principles and their application during pregnancy.

In preparing this book, I have consulted and utilized the knowledge of many authors and books. I wish to express my appreciation and gratitude to all of them who helped me with their valuable suggestions in this venture.

I have made every effort to keep the book comprehensive without eliminating basic information. The emphasis has been laid entirely on accuracy, authenticity, simplicity and reproducibility by the student. How far I have succeeded in my efforts is for students and teachers to judge. I shall welcome their suggestions and comments.

I especially thank Dr Aditya Sir and Dr Mohankrishna Sir who have encouraged me a lot for bringing this book out. My special thanks to Mr Md Fakruddin (Graphics and Design—mdfakruddin007@yahoo.com) and Mr Md Zubair Mohiuddin Farooqui who helped me a lot in setting up the material.

I owe my special thanks to Shri JP Vij, Chairman and Managing Director, M/s Jaypee Brothers Medical Publishers (P) Ltd., New Delhi and his whole team for publishing this book in such a nice manner.

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Introduction

Pregnancy is the time of great change and growth, for someone it is an exciting, challenging state, for others it is the time of stress, emotional change and lifestyle reassessment. The physiotherapy plays a vital role and physiotherapist must consider all the factors when designing the exercise throughout the pregnancy and postpartum period. So the concept of fitness in pregnancy must encompass emotional and psychological aspects in addition to physical fitness.

The physiotherapist needs to be aware of normal pregnancy weight gains and should refer the women to a dietician if indicated. The physiotherapist need to recognize the different needs of the woman who wishes to continue to exercise safely during pregnancy to cope with the physical demands of pregnancy and labor. So assessment must be done which includes physical aspects, history and psychological influences.

In the promotion of healthy lifestyle in the childbearing years, physiotherapist must reinforce the value of exercise and back care as a part of multidisciplinary team involved in the antenatal care. Physiotherapist must have the expert and skill to provide the pregnant woman, who wishes to exercise safely during her pregnancy and the physiotherapist should have the ability to understand the biomechanical and physiological changes during pregnancy and their influence on exercise, must be able to assess muscle strength, muscle length and posture, analyze movement, design appropriate exercise regime, must be able to reinforce the principles such as relaxation, breathing techniques, back care, lifting and bending technique, etc. and manage the musculoskeletal problems associated with the childbearing

Pregnancy is the time of great change and growth. A physiotherapist offer a best service by promoting its benefits to the well-being of the pregnant and postpartum woman by arranging the exercise classes and demonstrating the exercises which are specially designed to meet the needs of the woman in the childbearing year. Thus, fitness is very important.

A Physiotherapist will give an accurate idea of physiological changes of pregnancy and puerperium, postpartum period, preventive practices, ergonomics, safe exercise guidelines, specific exercises for strengthening and stability, physical management of pregnancy and discomfort, musculoskeletal problems and its management, relaxation techniques, breathing techniques, positioning throughout pregnancy, labor and postpartum period, coping skills for labor, massage, fitness program, baby handling, baby massage, specific

treatment modalities in the form of electrotherapy for complications after delivery for pain relief, muscle stimulation, strengthening, promotion of healing of acute and chronic tissue problems, breast engorgement, mastitis and blocked ducts, etc.

Exercise regime is the ideal gentle and effective exercise system during pregnancy for woman's health at all stages of the pregnancy, helps to cope up with labor, childbirth, care of newborn, breastfeeding, handling of newborn, identifying for the early pediatric problems and regaining her shape back by specific exercises designed.

Thus, physiotherapy is useful in the months leading up to baby's birth and in the weeks following to get woman's body back in shape and achieve the longer, leaner and stronger.