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2nd Edition

Physiotherapy in Obstetrics & Gynecology

A Comprehensive Textbook on Women's Health







Megha Sandeep Sheth
Anu Arora
Priyasingh Rangey
Neeta Jayprakash Vyas

JAYPEE

Contents

Section 1: Basics and Foundational Concepts of Women's Health

1. Introduction to Physiotherapy in Women's Health 3

Megha Sandeep Sheth, Anu Arora, Priyasingh Rangey, Neeta Jayprakash Vyas

- Stages in the Lifecycle of a Woman *3*
- Women's Problems *4*
- Importance of Women's Health *5*
- Physiotherapy in Women's Health: Evolution of Perspective *5*

2. Ethical Considerations in Women's Health 9

Megha Sandeep Sheth, Shivani Sheth

- Principles of Ethics in Physiotherapy *9*
- Ethical Considerations in Women's Health *10*
- Ethical Considerations for Research on Women *12*

3. Anatomy and Biomechanics of the Female Body 15

Deepali N Hande, Nupoor Kulkarni

- Anatomy of the Female Pelvis *15*
- Overview of the Female Reproductive System *16*
- Pelvic Floor *18*
- Breast *20*
- Biomechanics of the Female Body *20*

Section 2: Evaluation in Women's Health

4. Assessment in Women's Health 29

Payal P Gahlot

- Physiotherapy Assessment for Menstrual Disorders *30*
- Assessment in Child-bearing Years *30*
- Assessment Following Gynecological and Obstetrical Surgeries *32*
- Assessment of Pelvic Floor Muscles *33*
- Assessment for Urinary Incontinence *35*
- Assessment of Females in the Transition Period and Menopause *37*
- Assessment of Elderly Women *37*
- Assessment of Women with Breast Cancer *37*

5. Laboratory and Molecular Investigations in Women's Health 40

Ajay Junnarkar

- Anemia *41*
- Thyroid Disorders *41*
- Infections and Sexually Transmitted Infections *42*
- Infertility *42*
- Polycystic Ovary Syndrome *42*
- Pregnancy *42*
- Osteoporosis *43*
- Cancer in Women *44*

6. Radiological Investigations in Women's Health 46

Hiran Pandya

- Magnetic Resonance Imaging *46*
- Computerized Tomography *48*
- Ultrasonography *49*
- Sonohysterography *51*
- Mammography *51*
- Breast Imaging-reporting and Data System *52*
- Abdominal X-ray *52*
- Dual-energy X-ray Absorptiometry *52*
- Positron Emission Tomography *53*

7. International Classification of Functioning in Women's Health 57

Suvarna Ganvir, Shyam Ganvir

- International Classification of Functioning *58*
- Terminologies Used in ICF *58*
- Applications of ICF *60*
- ICF Core Sets *60*
- Breast Cancer *62*
- Urinary Incontinence *62*

Section 3: Management Strategies in Women's Health

8. Adolescence, Puberty and Menarche 67

Pothiraj Pitchai, Mayur Revadkar

- Adolescence *67*
- Puberty *68*
- Menarche *71*
- Menstrual Cycle *72*
- Role of Physiotherapy During Adolescence *75*

9. Menopause 80

Priyasingh Rangey

- Epidemiology *81*
- Etiology *82*
- Endocrinology *82*
- Menopausal Symptoms *84*
- Premature or Primary Ovarian Insufficiency *86*
- Complications of Menopause/Disease Risk Associated with Menopause *87*

- Diagnosis *87*
- Medical Management *87*
- Nonpharmacological Management *88*
- Physiotherapy Assessment *89*
- Physiotherapy Management *89*

10. Osteoporosis 96

Anu Arora

- Epidemiology *97*
- Bone Physiology *97*
- Pathophysiology *98*
- Types of Osteoporosis *98*
- Peak Bone Mass *100*
- Risk Factors for Osteoporosis *100*
- Signs and Symptoms *102*
- Diagnosis *103*
- Prevention *105*
- ICF and Osteoporosis *106*
- Management *106*
- Physiotherapy Assessment *106*
- Physiotherapy Management *106*

11. The Elderly Female 113

Apurv Shimpi, Anu Arora

- Repercussions of Advancing Age on Physical and Mental Health *114*
- Gender Bias in Differential Epidemiology of Chronic Diseases *114*
- Health Affection in Elderly Females *114*
- The Elderly Female and Financial Stability *118*
- The Elderly Female and Technology *118*
- The Elderly Female and Healthcare Systems *119*
- The Elderly Female and Social Aspects *119*
- The Elderly Female Living Alone *119*
- Menopause and Osteoporosis *120*
- Measurement Tools *120*
- Some Novel Approaches to Age-related Impairments *120*

12. Gynecologic Conditions: Clinical and Physiotherapy—Part I 124

Ami Vishal Mehta, Shivani Sheth, Priyasingh Rangey

- Menstrual Disorders *124*
- Amenorrhea *127*
- Abnormal Uterine Bleeding *129*
- Pelvic Infections *130*
- Pelvic Pain and Low Back Pain *137*

13. Gynecologic Conditions: Clinical and Physiotherapy–Part II 142

Ami Vishal Mehta, Priyasingh Rangey, Shivani Sheth

- Endometriosis *143*
- Infertility *145*
- Uterine Prolapse *147*
- Genital Tract Injuries *149*
- Investigative Procedures *151*
- Gynecological Surgeries *153*

14. Simplifying the Enigma: Pelvic Floor 162

Suroshree Mitra, Anu Arora

- Anatomy of Bony Pelvic Floor *163*
- Layers of Pelvic Floor and Kinesiology of the Genital Support *165*
- Neuroanatomy of the Pelvic Floor *167*
- Pelvic Floor Dysfunction *168*
- Pelvic Floor Dysfunction and ICF *173*

15. Managing the Pelvic Floor 177

Kruti Oza Modi

- Ambit of Pelvic Floor and Pelvic Floor Dysfunction *179*
- Management of Pelvic Floor Dysfunction *179*

16. Psychosexual Dimensions of Women's Health 199

Komal Shah, Priyasingh Rangey

- Etiology *200*
- Classification of Psychosexual Disorders *200*
- Female Sexual Interest/Arousal Disorder *200*
- Female Orgasmic Disorder *202*
- Genitopelvic Pain/Penetration Disorder *202*
- Psychological and Sexual Issues During Puberty, Adolescence and Early Adulthood *204*
- Psychological and Sexual Issues During and After Pregnancy *205*
- Psychological and Sexual Problems at Workplace *205*
- Psychosexual Problems During Menopause *206*
- Management Strategies *206*

17. Electrophysical Agents in Women's Health 211

Shivani Sheth, Megha Sandeep Sheth, Priyasingh Rangey

- Role of Electrotherapy *211*
- Electrophysical Agents *212*

18. Barriers in Health Seeking Behavior Among Women 222

Daxa Mishra

- Barriers Faced by Women *222*
- Rural-Urban Divide in Health Seeking behavior *223*
- Health/Treatment Seeking Behavior *223*
- Measures to Improve Health Seeking Behavior *225*

Section 4: Mother and Childcare

19. Pregnancy—Clinical 231

Pushpa Yadava, Priyasingh Rangey

- Physiological Changes in Pregnancy *232*
- Diagnosis of Pregnancy *235*
- Labor *236*
- Instrumental Delivery *237*
- Episiotomy *237*
- Antenatal, Intranatal and Postnatal Complications *238*
- High-risk Pregnancy *241*
- Dilatation and Evacuation *242*
- Importance of Physiotherapy in Childbirth *242*

20. Physiotherapy in Pregnancy 245

Nupur Shah

- Complications and Problems Reported During Pregnancy *246*
- Effects of Physiotherapy on Maternal and Fetal Health/Benefits of Exercise During Pregnancy
- Common Problems Seen During Pregnancy *246*
- Guidelines for Managing the Pregnant Woman *251*
- Antenatal Team *251*
- Antenatal Classes *251*
- Exercise Prescription *252*
- Contraindications for Exercising During Pregnancy *256*
- Preparation for Labor *257*

21. Labor and Childbirth 260

Manisha A Rathi

- Signs of Labor *260*
- Induction of Labor *261*
- Physiological Changes in Mother and Fetus During Labor *261*
- Types of Delivery *264*
- Complications of Labor *266*
- Role of Physiotherapist in Labor *266*

22. Postnatal Care 273

Anu Arora

- Constituents of Postnatal Care *274*
- Phases of Postpartum Period *274*
- Early attachment and Skin-to-skin Care *274*
- Breastfeeding *275*
- Immediate Postpartum Concerns *279*
- Postnatal Back Pain *282*
- Diastasis Recti Abdominis *283*
- Ergonomics for the Mother with a Young Child *284*
- Assessment *286*
- Physiotherapy Management in Postpartum Period *287*
- Early Child Care *290*
- Long-term Goals for the Mother *291*
- Birth Control: Spacing for the Next Pregnancy *291*

23. Cesarean Section 294

Gopi Contractor

- Incidence of Cesarean Section *294*
- Classification *295*
- Indications *295*
- Contraindications *296*
- Operative Procedures *296*
- Outcome of Procedures *297*
- Physiotherapy Assessment *298*
- Physiotherapy Management *299*

24. Neonatal and Early Pediatric Problems 306

Archana Shah, Priyasingh Rangey

- Care of the Newborn After Delivery *307*
- Common Conditions Seen During Infancy and Early Pediatric Period *308*
- Physiotherapy in Pediatric Patients *317*

25. Early Intervention 320

Amruta Nerurkar

- Phases of Intrauterine Development *321*
- Needs of an Infant Born Preterm *321*
- Neonatal Hydrotherapy *329*
- Oromotor Therapy in NICU *329*
- Assessment in Early Intervention *330*
- Normal Development *332*
- Play Theories Associated with Development *335*
- Application of Schools of Neurophysio Therapy Like Neurodevelopmental Therapy and Sensory Integration in Early Intervention of Infants at Risk *336*

Section 5: Cancer in Women

26. Breast Diseases 343

Shefali Desai, Anshumi Desai

- Anatomy and Physiology of the Breast *344*
- Benign Breast Disease *344*
- Breast Cancer *345*
- Breast Cancer and Pregnancy *353*
- Role of a Physiotherapist in Breast Cancer Management *354*

27. Gynecological Cancers 356

Ava Desai

- Cervical Cancer *356*
- Endometrial Cancer *358*
- Malignant Ovarian Tumors *359*

- Vulvar Cancer *361*
- Vaginal Cancer *362*
- Palliation in Gynecologic Cancer *362*
- Role of the Physiotherapist *362*

28. Cancer—General Physiotherapy 364

R Harihara Prakash

- Problems Related to Cancer in Women *365*
- Role of Physiotherapy—General Considerations *365*

29. Cancer and Lymphedema 373

Nipa Atul Shah

- Anatomy of Lymphatic System *374*
- Classification of Lymphedema *374*
- Prevalence of Lymphedema in Women After Cancer *375*
- Etiology and Contributing Factors of Lymphedema *375*
- Stages of Lymphedema *375*
- Signs of Lymphedema *376*
- Evaluation *376*
- Complications of Lymphedema *377*
- Lymphedema Management *377*

Section 6: Special Population

30. Obesity in Women 387

Mariya P Jiandani

- Anthropometric Measurements *387*
- Types of Obesity *388*
- Role of Estrogen *389*
- Role of Hormone Replacement Therapy *390*
- Health Risk of Obesity in Women *391*
- Management of Obesity *392*

31. Women's Health in Sports 401

Preetha Ramachandra, Kiransha R Velingkar

- Menstrual Disturbances and Female Athletes *402*
- Pregnancy and Female Athletes *404*
- Urinary Incontinence and Female Athletes *406*
- Menopause and Female Athletes *408*

32. Women at Workplace 413

Reena Kumari, Parul R Agarwal

- General Ergonomic Risk Factors at Workplace and Pathophysiology for Injury *413*
- Work-related Musculoskeletal Disorders in Women *416*
- Ergonomic Management and Recommendation for Worksite Wellness *416*
- Physical Fitness of Working Women *418*
- Organizational Factors Contributing to Occupational Stress *418*
- Women Working at Home *418*
- Provisions for Women Employees under the Constitution of India *418*

Section 7: Application of Yoga in Women's Health

33. Yoga—Concepts 423

Mohammed Sabir Shaikh

- Definition of Yoga in Various Scriptures *424*
- Classification of Yoga (Classical Approach) *424*
- The Eight-Fold Path of Patanjali *425*
- Textual Understanding of Yoga as a Therapy *428*
- Yogic Concept of Health and Disease *428*

34. Yoga for Women's Health 431

Anuprita Thakur

- General Yoga Practices *431*
- Yoga in Adolescence *437*
- Yoga in Adulthood and Middle Ages *438*
- Yoga in the Transitional Phase *440*
- Yoga in Elderly Women *440*

Section 8: Newer Concepts

35. Evidence-based Practice in Women's Health 445

Sakshi P Arora, Waqar M Naqvi

- Concept of Evidence-based Practice *446*
- Different Models to Implicate Evidence-based Practice *447*
- The 5-step Process in Evidence-based Practice *448*
- Navigation and Mapping to Locate Evidence *448*
- Evidences and their Current Clinical Review Classifications *449*
- Reliability, Validity, and Applicability on the Basis of Evidence *449*

36. Male Pelvic Floor Physical Therapy 452

Smita Amit Mehta

- Anatomy and Physiology of the Male Pelvis *452*
- Common Male Pelvic Floor Conditions *455*
- Physical Therapy Evaluation and Examination *458*
- Physical Therapy Treatment *459*

Index 467

Chapter 7

International Classification of Functioning in Women's Health

Suvarna Ganvir, Shyam Ganvir

LEARNING OBJECTIVES

At the end of the chapter, the reader will be able to:

- Define International Classification of Functioning (ICF).
- Describe the terminologies used in describing the ICF for a particular condition.
- Describe the relevance of using ICF in different conditions related to women.
- Understand the concept of ICF for a particular disease condition related to women's health.
- Describe the clinical and research related use of ICF for a physiotherapist.



CHAPTER OUTLINE

- Introduction
- International classification of functioning
- Terminologies used in ICF
  - Body structure
  - Body function
  - Activities and participation
  - Environmental factors
  - The qualifiers
  - Contextual factors
- Applications of ICF
- ICF core sets
  - Postpartum period
  - Fall risk
- Breast cancer
- Urinary incontinence

INTRODUCTION

Patient-Centered Care (PCC) has been defined as "care that is respectful of and responsive to individual patient preferences, needs and values". ***Patient-Reported Outcomes*** (PROs) and shared decision-making are key components of PCC because they encourage and empower patients to play an active role in their own care. These PROs are described by patients in their own words which are focused towards the patient's life experiences. Thus, it helps to note the information which otherwise may get overlooked in a busy clinical setting. This also facilitates clinician—patient communication and shared decision-making. This may provide right direction to the treatment goals and thus overall quality of treatment may improve.

International Classification of Functioning (ICF) serves the purpose of providing a comprehensive list of patient-related outcomes in terms of Activities and Participation. Thus, shared decision-making using ICF can be facilitated.

For a clinician it is equally important to know the body structures and functions affected in a patient which has a direct impact on activities and participation. The International Classification of Functioning, Disability and Health (ICF) provides a useful framework for achieving this understanding, and constitutes a common language among the different health professionals. According to the ICF, the problems associated with a disease may concern body functions and body structures, activities and participation in life situations. Health states and the development of disability are modified by contextual factors such as environmental and personal factors.

Literature has identified Women's Health as a domain founded from the clinical area of Obstetrics and Gynecology that is involved in the care of women in relation to childbirth, both antenatally and postnatally, including the teaching of

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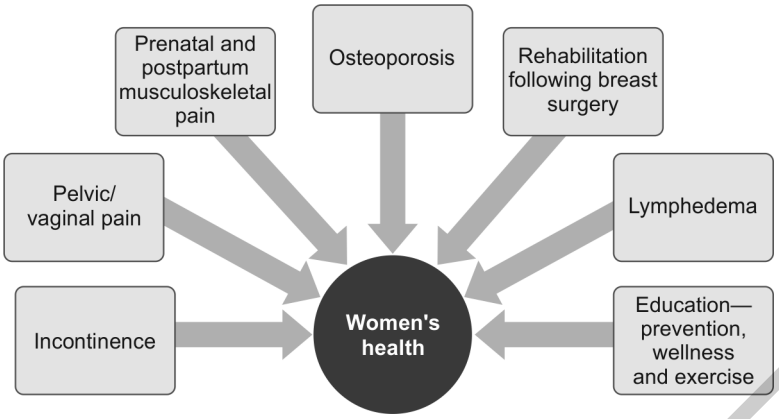

Fig. 7.1: Scope of women's health.

antenatal classes, in the treatment of incontinence, and in the care of women undergoing gynecological surgery. The scope of practice has now increased to include all health concerns of women **(Fig. 7.1)**.

INTERNATIONAL CLASSIFICATION OF FUNCTIONING

The International Classification of Functioning, Disability, and Health (ICF) provides a useful framework for classifying patients' problems and describing them in a standardized language for professionals worldwide. The second part of the ICF covers contextual factors, including environmental, and personal issues. In the ICF, having a problem may mean an impairment, limitation, restriction, or barrier, depending on the component.

The ICF focuses on three components **(Fig. 7.2)**, which underscores the importance of the interplay and influence of both internal and external factors to each individual's health status:

- **Body functions and structures**
- **Activities and participation** (at individual and societal levels)
- **Personal and environmental factors** (at a contextual level).

TERMINOLOGIES USED IN ICF

Box 7.1 describes some of the terms related to ICF.

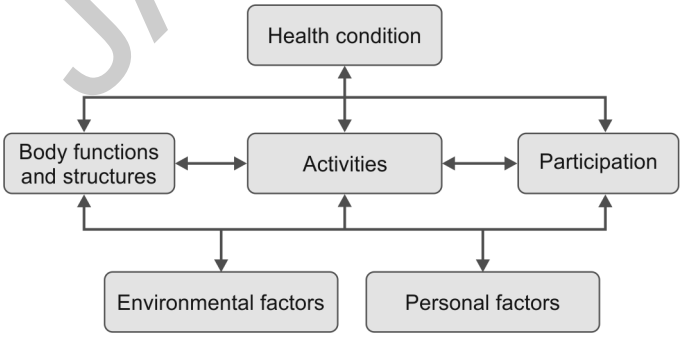

Fig. 7.2: Components of ICF.

Box 7.1: Terms related to ICF.

- **Body functions:** The physiological functions of body systems (including psychological functions).
- **Body structures:** Anatomical parts of the body such as organs, limbs and their components.
- **Impairments:** Problems in body function and structure such as significant deviation or loss.
- **Activity:** The execution of a task or action by an individual.
- **Participation:** Involvement in life situation.
- **Activity limitations:** Difficulties an individual may have in executing activities.
- **Participation restrictions:** Problems an individual may experience in involvement in life situations.
- **Environmental factors:** The physical, social, and attitudinal environment, in which people live and conduct their lives.

Body Structure

- Structure of the nervous system
- The eye, ear and related structures
- Structures involved in voice and speech
- Structure of the cardiovascular, immunological and respiratory systems
- Structures related to the digestive, metabolic and endocrine systems
- Structure related to genitourinary and reproductive systems
- Structures related to movement, skin, and related systems.

Body Function

The ICF has a separate chapter for each of the domains:

- Mental functions
- Sensory functions and pain
- Voice and speech functions
- Functions of the cardiovascular, hematological, immunological and respiratory systems
- Functions of the digestive, metabolic, endocrine systems, genitourinary and reproductive functions
- Neuromusculoskeletal and movement-related functions
- Functions of the skin and related structures.

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Activities and Participation

- Learning and applying knowledge
- General tasks and demands
- Communication
- Mobility
- Self-care
- Domestic life
- Interpersonal interactions and relationships
- Major life areas—community, social and civic life.

Environmental Factors

- Products and technology
- Natural environment and human-made changes to environment
- Support and relationships
- Attitudes, Services, systems and policies.

Depending on which body part is affected or which system of the body is diseased, the healthcare professional can refer the concerned chapter and can decide the codes and its qualifiers.

For example:

Body structure is denoted as s and the corresponding item in each chapter is given the coding such as, e.g.:

- s720: Structure of shoulder region
- s810: Structures of areas of skin

Similarly, body function is denoted as b, e.g.:

b28010: Pain in head and neck

Activities and participation are denoted as d and classified as, e.g.:

- d230: Carrying out daily routine
- d420: Transferring oneself
- d475: Driving
- d920: Recreation and leisure

Environmental factors are coded as e and classified as e.g:

- e115: Products and technology for personal use in daily living
- e155: Design, construction and building products and technology of buildings for private use
- e355: Health professionals

The Qualifiers

The list of domains in ICF becomes a classification when qualifiers are used. Qualifiers record the presence and severity of a problem in functioning at the body, person and societal levels.

For the classifications of body function and structure, the ***primary qualifier*** indicates the presence of an impairment and, on a five-point scale, the degree of the impairment of function or structure:

- No impairment
- Mild
- Moderate
- Severe
- Complete

In the case of the Activity and Participation list of domains, two important qualifiers are provided. Together, these qualifiers enable the user to code essential information about disability and health. The ***Performance qualifier*** describes what an individual does in his or her *current environment*. Since the current environment always includes the overall societal context, performance can also be understood as "involvement in a life situation" or "the lived experience" of people in their actual context. (The 'current environment' will be understood to include assistive devices or personal assistance, whenever the individual actually uses them to perform actions or tasks.)

Qualifiers are as follows:

1. No problem
2. Mild problem
3. Moderate problem
4. Severe problem
5. Complete problem
6. Not specified
7. Not applicable

The ***Capacity qualifier*** describes an individual's ability to execute a task or an action. This construct indicates the highest probable level of functioning of a person in a given domain at a given moment. When a person has a capacity problem associated with a health condition, therefore, that incapacity is a part of their state of health. To assess the full ability of the individual, one would need to have a "standardized environment" to neutralize the varying impact of different environments on the ability of the individual. In practice, there are many possible environments that we could use for this purpose. That is, a standardized environment might be:

- An actual environment commonly used for capacity assessment in test settings; or
- An assumed environment thought to have a uniform impact; or
- An environment with precisely defined parameters based on extensive scientific research.

Whatever it is in practice, this environment can be called 'uniform' or 'standard' environment. The capacity construct therefore reflects the environmentally-adjusted ability of the individual in a specified domain. The Capacity qualifier assumes a 'naked person' assessment, that is, the person's capacity without personal assistance or the use of assistive devices. For assessment purposes, this environmental adjustment has to be the same for all persons in all countries to allow for international comparisons.



Clinical Pointer

The gap between capacity and performance reflects the difference between the impacts of current and uniform environments, and thus provides a useful guide as to what can be done to the environment of the individual to improve performance.

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Contextual Factors

"***Environmental factors***" can be subdivided into:

- *Individual factors* (the features and interactions present in a person's immediate living, working, and socializing environment) and
- *Societal factors* (the formal and informal rules or laws, social structures, and available services and support in the person's living or working environments, community, or society).

Environmental factors greatly influence the extent to which a health condition affects the person's ability to perform activities or to participate in life.

Personal factors constitute the second contextual factor type in the ICF model. These individual background characteristics are not considered to be a part of the health condition of interest. Examples of these characteristics include:

- Sex
- Race
- Age
- Socioeconomic status
- Fitness
- Habits
- Coping styles
- Education
- Comorbidities
- Social background
- Past and current events
- Behavior patterns

These important contextual factors are included in the ICF model because of the potential effects that some or all of them have on various outcomes. For example, socioeconomic status is known to be an important factor in health outcomes, habits related to physical activity influence many aspects of health and functional ability, and depression presents a challenging barrier to participation for many people. **Table 7.1** shows the qualifiers for environmental barriers and facilitators.

APPLICATIONS OF ICF

The ICF can be useful as a clinical tool for:

- Health needs assessment and matching treatments with specific conditions
- As a statistical tool for comparing services
- As a research tool for measuring outcomes, environmental factors, or quality of life.

Despite its potential, the length and time required to use the ICF in the clinical context represent important obstacles, and the development of ICF-based instruments is encouraged.

Table 7.1: The qualifiers for environmental barriers and facilitators.

	Qualifier for environmental barriers		***Qualifier for environmental facilitators***
(-0)	No barrier	(+0)	No facilitator
(-1)	Mild barrier	(+1)	Mild facilitator
(-2)	Moderate barrier	(+2)	Moderate facilitator
(-3)	Severe barrier	(+3)	Substantial facilitator
(-4)	Complete barrier	(+4)	Complete facilitator
(-8)	Barrier, not specified	(+8)	Facilitator, not specified
(-9)	Not applicable	(+9)	Not applicable

ICF CORE SETS

For the ease of application, WHO has developed Core sets for different conditions incorporating the relevant domains and the chapters along with codes. These are called as Core sets. Core sets facilitate a systematic and comprehensive description of functioning which can be utilized in clinical practice as well as for research. The core sets make the ICF more applicable for everyday use. These condition specific core sets include composite information about specific health conditions, condition groups and settings. In clinical practice, ICF core sets, together with ICF qualifiers can be employed to identify the level of impairment in body functions and structures, limitations in activities, restrictions in participation, and the extent of influence environmental factors have on the functioning of a specific patient.

Detailed information on individual ICF core sets is available at www.icf-research-branch.org or www.icf-core-sets.org. ICF core sets for musculoskeletal, neurological, cardiopulmonary conditions and few general conditions are available.

However, there are none related to conditions related to Women's health. Hence there is a lot of scope for research in this aspect of ICF and women's health.

In a recent research study, following components of ICF have been used to understand the issues associated with this population as shown in **Table 7.2**.

Postpartum Period (PNC)

Mothers often have physical complaints such as problems of:

- Functions of sleep and pain sensation
- Urinary or fecal incontinence
- Sexual dysfunction
- Pelvic organ prolapse

These complaints vary according to:

- Biological factors
- The dependence level of the baby for care
- The level of social support received

Moreover, the impairment of pelvic floor muscle function **(Fig. 7.3)** is also widespread and occurs as a result of:

- Reduced tonus
- An overload of pelvic region structures
- Multiparity
- Traumas resulting from childbirth

Women in the immediate postpartum period usually have difficulties regarding their mobility and transfers. Many mothers face difficulties in performing their daily routine and taking care of their health, which can generate stress, frustration, and mental illness. These problems consequently

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Table 7.2: Components of ICF associated with women's health.

Personal factors	*Body function*	*Body structure*	*Activities*	*Environmental factors*
i110 Age	b134 Sleep functions	s410 Structure of cardiovascular system	d230 Carrying out daily routine	e115 Products and technology for personal use in daily living
i150 Educational background	b152 Emotional functions	s430 Structure of respiratory system	d450 Walking	e120 Products and technology for personal indoor and outdoor mobility and transportation
i160 Occupational background	b280 Sensation of pain	s610 Structure of urinary system	d570 Looking after one's health	e155 Design, construction, and building products and technology of buildings for private use
i170 Economical background	b415 Blood vessel functions	s620 Structure of pelvic floor	d5700 Ensuring one's physical comfort	e310 Immediate family
i210 Position in the family	b440 Respiration functions	s630 Structure of reproductive system	d640 Doing housework	e315 Extended family
i220 Position in partnership and marriage	b515 Digestive functions	s6302 Breast and nipple	d6600 Assisting others with self-care	e320 Friends
i530 Personal attitudes	b525 Defecation functions	s730 Structure of upper extremity	d760 Family relationships	
i74012 Habits	b620 Urinary functions	s740 Structure of pelvic region	d770 Intimate relationships	
i74015 Lifestyle	b6202 Urinary continence	s750 Structure of lower extremity	d7702 Sexual relationships	e325 Acquaintances, peers, colleagues, neighbors and community members
	b640 Sexual functions		d850 Remunerative employment	e355 Health professionals
	b6603 Lactation	s760 Structure of trunk	d920 Recreation and leisure	e360 Other professionals
	b730 Muscle power functions	s7601 Muscles of trunk	d9205 Socializing	e460 Societal attitudes
	b7305 Power of muscles of the trunk			e540 Transportation services, systems, and policies
	b760 Control of voluntary movement functions			e575 General social support services, systems and policies
	b820 Repair functions of the skin			e580 Health services, systems, and policies
				e590 Labor and employment services, systems and policies

lead to negative changes in performance of activities and participation. According to the current perinatal health promotion model, the attitudes of family members, friends, and health professionals play an essential role as a support network for women and must be considered from a biopsychosocial perspective.

Fall Risk

The ICF allows a comprehensive study of fall risk that includes medical, social and psychological risk factors. As fall risk is multidimensional, the ICF is appropriate to systematically investigate falls in the clinical practice. Further, the ICF has already been embraced across a number

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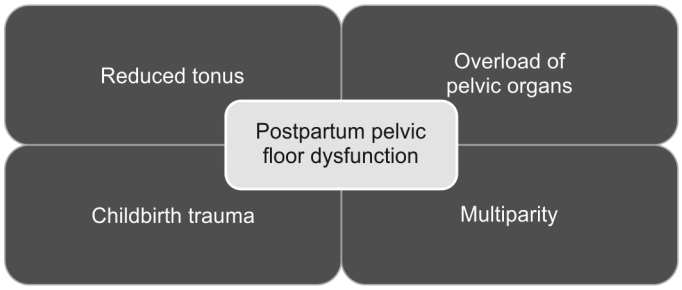

Fig. 7.3: Common causes of pelvic floor dysfunction in postpartum women.

of falls-related disciplines, such as occupational therapy and rehabilitation, but has not been specifically related to fall risk. The interactions between the ICF components are reciprocal. Therefore, the ICF accommodates the dynamic interactions underpinning fall risk, so that any change in one of the ICF components can influence other interactions within the framework. In a study of the ICF and clinical assessment measures in relation to falls following stroke, the ICF was found to match the multidimensional nature of fall risk. However, this relationship was not empirically tested. Furthermore, little evidence exists on how to reliably map the ICF to fall risk, or whether an analysis of fall risk using the ICF components is able to confirm the theoretical assumptions underpinning the ICF.

BREAST CANCER

Due to advances in the treatment of breast cancer, including the combined use of surgical intervention, radiation therapy and chemotherapy, cancer survival rates have increased to 50%. However, breast cancer is associated with a wide range of functional impairments.

- Pain, limited range of motion and lymphedema of the affected arm can result from primary surgical treatment. Untreated lymphedema gradually worsens with time.
- Anxiety, depression, loss of energy or fatigue, and sleeping problems are common responses to stressors.
- A significant proportion of women also suffer from disturbances in body image and self-concept.
- Moreover, social isolation and disruptions in family and sexual relationships are related to fears of recurrence and death.
- Finally, the side-effects of treatment, as well as inactivity secondary to treatment, can impair activity and participation, decrease independence and affect quality of life.

Taking the diversity of consequences of breast cancer into account, a multidisciplinary approach seems appropriate. Rehabilitation after breast cancer requires a multiprofessional team including physicians, psychologists, nurses, social workers and particularly physiotherapists **(Fig. 7.4)**. Physiotherapists are part of the multiprofessional team to prevent and restrict physical sequelae. In order to reach these rehabilitation goals, physiotherapists use different systemic treatment approaches and advise patients regarding

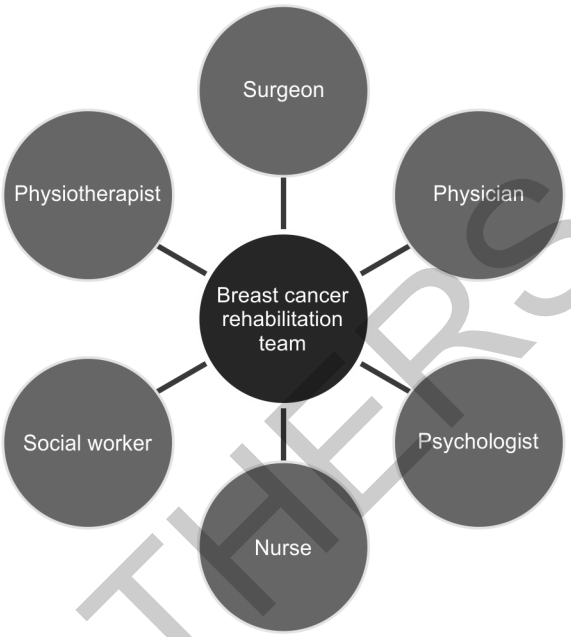

Fig. 7.4: Rehabilitation team for breast cancer.

prevention or how to apply compensation strategies. To optimize interventions aimed at maintaining functioning and minimizing disability, a proper understanding of the patient's functioning and health status is needed.

The International Classification of Functioning, Disability and Health (ICF) Core set for Breast Cancer represents an attempt of the ICF to present the typical gamut of issues commonly seen in the functioning and contextual factors of the affected subjects that may influence the patient's overall functioning. ICF core set is available for Breast Cancer in comprehensive and brief form which includes all the related domains under the categories of ICF. The content validity of these core sets from the perspective of physiotherapists was examined by Andrea Glaessel in 2011. Based on the discussion of the results of this study, a revised version of the ICF Core set for Breast Cancer could be created. Finally, as the Comprehensive ICF Core Set for Breast Cancer defines 'what to measure' but not 'how to measure', future studies could focus on the operationalization of the ICF categories.

URINARY INCONTINENCE

The American Physiotherapy Association defines Urinary Incontinence as involuntary loss of urine. Though this constitutes an impairment of body functions denoted by ICF code b6202 but has far more consequences which can be more efficiently described by ICF. Urinary incontinence may lead to activity limitations like inability to reach toilet in time, frequent urination, etc. In addition, it may also affect the patient's lived experiences thus leading to participation restrictions like avoidance of social activities, travel, etc. The above mentioned impairments and restrictions can be influenced by environmental and personal factors such as access to sanitation, mobility, attitudes, support, etc.

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Summary

ICF is an umbrella term describing the effect of a disease on functioning of an individual. For a physiotherapist who is concerned primarily with functional independence, it is important to understand this impact in a greater detail so that remedial measures can be taken to reduce the impact and improve functional recovery. Though the literature related to the use of ICF in different women related conditions is scanty, it can be viewed as an opportunity to develop core sets for these commonly seen conditions and hence the responsibility on the shoulders of physiotherapists is big.

CLINICAL EXAMPLE

A 20-year-old female with 6 months of pregnancy is complaining of back pain in thoracolumbar region and referred for physiotherapy. Pain is localized to back and is more during rest. She is a teacher by occupation and plans to continuing to work till 8th month of pregnancy. On NPRS pain is 5/10 at rest and 3/10 during movements and no abnormal restriction of movements is present.

ICF description will include structural impairments related to pregnancy whereas structural integrity will be in terms of neurological, cardiothoracic system. Movements should be carefully analyzed in terms of quantity and quality. Pain at rest indicates more of muscle fatigue or early spasm. And hence should be carefully noted. All system descriptions should be elaborated and mention that other systems have intact structural integrity.

Review Questions

1. What are the components of ICF?
2. What are qualifiers? How are these classifiers applicable in women-related conditions?

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Multiple Choice Questions (MCQs)

To test your understanding and recall of key concepts.

1. What is the primary focus of the International Classification of Functioning (ICF)?
   A. Diagnosis of disease
   B. Patient's abilities and contextual factors
   C. Clinical imaging techniques
   D. Pharmaceutical interventions

2. In ICF, which term refers to anatomical parts of the body such as organs and limbs?
   A. Body functions
   B. Activities
   C. Body structures
   D. Environmental factors

3. Why are contextual factors important in ICF?
   A. They put emphasis on the disease pathology
   B. They define the environmental and personal influences on an individual's health
   C. They categorize diseases into different chapters
   D. They identify treatment protocols for specific conditions

4. What role does the Performance qualifier play in ICF?
   A. Measures an individual's potential capabilities
   B. Assesses the impact of societal attitudes on participation
   C. Describes what an individual does in their current environment
   D. Evaluates anatomical abnormalities in body structures

5. A woman with breast cancer reports difficulty lifting her arm after surgery. Which ICF code could best describe this limitation?
   A. d475: Driving
   B. d450: Walking
   C. d430: Lifting and carrying objects
   D. d530: Toileting

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6. **How can the gap between capacity and performance qualifiers guide intervention planning?**
   A. It highlights the need for additional medical imaging
   B. It identifies environmental modifications to improve functional performance
   C. It suggests the best pharmacological treatment for the condition
   D. It determines the severity of anatomical impairments

7. **A 20-year-old pregnant woman reports back pain during rest. Which factors should be analyzed using ICF?**
   A. Structural impairments related to pregnancy
   B. Quality and quantity of movement patterns
   C. Contextual factors impacting health
   D. All of the above

8. **While designing an ICF-based assessment plan for a woman with postpartum pelvic floor dysfunction, which of the following should be included?**
   A. Body function evaluations (e.g., urinary continence)
   B. Activity assessments (e.g., self-care)
   C. Environmental and personal factors (e.g., family support)
   D. All of the above

ANSWERS

1. B	**2. C**	**3. B**	**4. C**
5. C	**6. B**	**7. D**	**8. D**

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Physiotherapy in Obstetrics & Gynecology

A Comprehensive Textbook on Women's Health

The goal of the editors when compiling this book was to provide a textbook that serves as a foundational resource for undergraduate and postgraduate physiotherapy students, a practical guide for clinicians, managing women's and pelvic health in diverse settings.

As with our first edition, this book remains a collaborative effort of renowned clinicians, academicians, and researchers who bring not only scientific rigor, but also years of hands-on experience.

The book contains important and comprehensive information related to women's health, divided into sections catering to various aspects of women's health, encompassing the foundational concepts, evaluation, investigations and evidence-based management strategies, and clinical examples, with special emphasis on clinical reasoning.

It aligns itself with current best practices in the field of mother and child care, cancer in women, special populations, yoga for women's health, and some lesser touched areas like male pelvic health. It provides a clear understanding of the assessment and management processes.

Salient Features

- Use of learner-friendly language to align scientific research with clinical practice
- Detailed description of the physiotherapy management related to women's health
- Facilitate understanding through photographs depicting important clinical features and management strategies
- Highlight the role of physiotherapy in male pelvic health
- To facilitate competency-based and curriculum-aligned learning, reinforcement of important concepts, and assist in self-assessment and exam preparation, the book has:
  - Clinical pointers for important points and clinical guidance
  - Detailed illustrations, tables, and flowcharts
  - Clinical examples—concise real-world scenarios
  - Review questions
  - Multiple choice question (new addition)

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