UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Sex Andgender in Rehabilitation: Basics and Clinical Applications

2526-2-I0201D160

Aims

The course aims to provide students with knowledge and tools to understand and apply the principles of gender medicine and rehabilitation in clinical practice. Students will acquire competencies on the morphological, biochemical, physiological and social factors that determine individuals' health status from a gender perspective.
Knowledge and understanding (Dublin Descriptor 1):
• Know the theoretical foundations of gender medicine and its historical evolution
• Understand biological and sociocultural differences between genders that influence health
• Identify gender-specific risk factors in different pathologies
Applying knowledge and understanding (Dublin Descriptor 2):
• Apply gender rehabilitation principles in designing personalized rehabilitation interventions
• Integrate gender perspective into individual rehabilitation projects
• Adapt therapeutic strategies considering gender differences
Making judgements (Dublin Descriptor 3):
• Critically analyze pathologies considering gender differences in onset, symptoms and treatment effectiveness
• Autonomously evaluate when and how to apply gender approach in rehabilitation practice
Communication skills (Dublin Descriptor 4):
• Communicate effectively with patients and colleagues using appropriate and gender-sensitive language
• Present clinical cases highlighting relevant aspects of gender medicine
Learning skills (Dublin Descriptor 5):
• Develop capacity for continuous updating on gender issues in healthcare
• Autonomously integrate new knowledge on gender rehabilitation into professional practice
Contents
• Gender medicine: origins, evolution and fundamental principles
• Basic concepts of gender rehabilitation applied to rehabilitation practice
• The individual rehabilitation project from a gender rehabilitation perspective
• Pain and prevention: gender differences

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Detailed program

1. Introduction to gender medicine
   o History and development of gender medicine
   o Differences between sex and gender in medical context
   o Biological and sociocultural determinants of health
2. Biological bases of gender differences
   o Morphological, biochemical and physiological differences
   o Gender pharmacokinetics and pharmacodynamics
   o Hormonal influences on health and disease
3. Clinical applications of gender rehabilitation
   o Analysis of pathologies with gender approach
   o Gender differences in onset, symptoms and progression
   o Personalization of rehabilitation treatments
4. The gender rehabilitation project
   o Integration of gender perspective in individual rehabilitation project
   o Gender-specific intervention strategies
   o Outcome evaluation from gender perspective
5. Pain and prevention
   o Pain perception and management: gender differences
   o Gender-oriented preventive strategies
   o Differentiated therapeutic approaches
6. Clinical cases and practical examples
   o Osteoporosis and musculoskeletal pathologies
   o Cardiovascular rehabilitation
   o Gender aspects in neurological rehabilitation

Prerequisites

no

Teaching form

Frontal teaching: 2 hours of face-to-face lectures Interactive teaching: 5 hours of clinical practice activities in presence
Practical activities will include:
• Clinical case analysis focusing on gender differences
• Exercises on designing gender-specific rehabilitation interventions
• Guided discussions and group work

Textbook and teaching resource

Key scientific articles:
Klein, S. L., Schiebinger, L., Stefanick, M. L., Cahill, L., Danska, J., De Vries, G. J., ... & Zucker, I. (2015). Sex inclusion in basic research drives discovery. Proceedings of the National Academy of Sciences, 112(17), 5257-5258.
Soldin, O. P., & Mattison, D. R. (2009). Sex differences in pharmacokinetics and pharmacodynamics. Clinical pharmacokinetics, 48(3), 143-157.
Fadiran, E. O., & Zhang, L. (2014). Effects of sex differences in the pharmacokinetics of drugs and their impact on the safety of medicines in women. In Medicines for women (pp. 41-68). Cham: Springer International Publishing.
Bartosch, P. (2023). Frailty and its relationship with osteoporosis related outcomes, mortality and visual perception of health in older community-dwelling women. Lund University, Faculty of Medicine.
Clarke, B. L., & Khosla, S. (2010). Pathophysiology of Age-Related Bone Loss in Men. Radiol Clin North Am, 48(3), 483-95.
Online resources:
• https://www.fondazioneosteoporosi.it/
• https://www.reumatismo.ch/reumatismo-dalla-a-alla-z/osteoporosi
Reference texts:
Porter, S. (2014). Tidy's Physiotherapy Manual. Edi Ermes. Ch. 27. Physiotherapy for women's health.
Ainslie, T. (2020). Guide to physiotherapy. Assessment and treatment. Ch. 11 Obstetrics and gynecology

Semester

second semester

Assessment method

Group Project work

Office hours

by appointment
antonella.martinelli@unimib.it

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY