

Medicine

also relevant for Health Sciences, Nursing, new degrees in health professions (Physiotherapy), Pharmacy

Course: Medicine

Group of courses: Medicine and Health

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Course objectives:

The category of gender plays a central role in medical professions. Alongside biological differences ("sex"), sociocultural differences ("gender") also affect the pathogenesis of diseases and their perception. Furthermore, interaction and communication between health care professionals and patients cannot be considered detached from gender and the gender roles associated therewith. Thus, gender sensitivity is important for both diagnosis and medical care.

Medical education thus plays a key role in enabling students to recognise gender-specific differences and to use these findings in their medical work. In addition to imparting cognitive knowledge and gender competence, students should be made aware of their own gender role as well as existing gender stereotypes and their significance for professional practice. Upon completion of studies, students should be capable of reliably using the gender perspective as an important dimension of assessment and action in medical work and interdisciplinary communication.

Teaching content/subject-specific gender studies content:

Content should be planned in line with the Nationaler Kompetenzbasierter Lernzielkatalog Medizin (NKLM) (National Competency-based Learning Objective Catalogue for Medicine), a competence-based core curriculum with recommendations, which has been approved by all faculties of medicine in Germany and includes the following:

1. Role of medical staff
2. Medical knowledge, clinical skills and professional attitude
3. Patient-centered health care

Based on the proceedings of a conference held at Charité-Universitätsmedizin Berlin, during which "Competences in gender-medical education" were developed in writing workshops, additions were made to the established gender-specific teaching content and competences:

Students of medicine should acquire knowledge and competence in the following areas, which must be specified for the individual disciplines:

1. Health and society (description of the role of medical staff and the health system in Germany)

- considering gender in all medical decisions
- knowledge of stereotypes and consideration of gender differences in social roles and living conditions and their impact on pathogenesis, diagnosis, prevention and medical care
- knowledge and consideration of specific topics related to men's health
- self-reflection of one's own gendered personality and its significance for professional activity
- awareness of the impact of gender on communication and interaction with patients and development of gender-appropriate communication and interaction
- ability to critically evaluate teaching/learning materials and scientific publications regarding gender adequacy and designation of gender in the methodology section
- ability to assess the extent to which medical treatment and health care structures are gender-sensitive and the changes that might be required, including and using the resources of the individual (e.g. health literacy and gender)
- knowledge about partner conflicts and sexual violence

2. Prevention (counselling)

- knowledge on the gender distribution of diseases in the population and its importance for prevention and medical care
- knowledge about prevention measures and access to medical care/nursing in old age
- knowledge of early detection and preventive measures paid by the SHI and critical assessment of these measures

3. Organ and body systems (principles of function)

- knowledge of gender differences in organ and body systems (anatomy, physiology, etc.) and pathogenesis
- knowledge of gender differences in transitional phases, e.g. adolescence, menopause, pregnancy

4. Disease models (pathogenesis and diagnostics)

- Knowledge and competence in dealing with gender differences in internal medicine and surgical subjects, which applies to all medical disciplines and must be adapted to the curriculum of the individual faculty. E-learning modules (see below) can be helpful here. An innovative field in cardiology is gynecardiology, which deals specifically with women-specific diseases in cardiology.
- knowledge and competence in examination methods that are appropriate for the respective gender

5. Gender-specific therapy (general, pharmacological, interventional)

- knowledge and competence in dealing with gender aspects and gender implications with regard to pain symptoms and their therapy including anaesthetic procedures
- knowledge of gender differences in metabolism and volume of distribution regarding the evaluation of effect and side effects of pharmaceuticals
- gender aspects of pharmacological studies and their critical evaluation

6. Gender-neutral science/study planning and design

- knowledge of methodological research approaches to be able to identify and distinguish effects of genes and hormones and to carry out research of lifetime periods such as intrauterine phase, prepubertal phase, puberty, adulthood, pregnancy, old age
- knowledge of the basic cellular biochemistry of women and men with multiple differences that can affect the individual's health
- consideration of research that determines the functions and effects of x-chromosome- and y-chromosome-linked genes in somatic and germ-line cells
- knowledge of the significance of certain lifetime periods: intrauterine phase, prepubertal phase, puberty, adulthood, pregnancy, old age
- critical perspectives on traditional research concepts

Core competences of professionals working in gender-medical education include:

- ability for interdisciplinary professional collaboration
- management and responsibility for gender-appropriate medical care

- ability to provide gender-sensitive health counselling and prevention
- ability for gender-sensitive research and teaching
- being a professional role model for students
- ability for gender-neutral non-discriminatory communication

Integration of gender studies content into the curriculum:

It is generally necessary to establish gender-sensitive medicine as a cross-cutting issue, as gender-sensitive aspects play a role in all medical fields.

Standardised and validated teaching and learning objectives are a prerequisite for the systematic implementation of gender-sensitive content

1. into medical curricula at universities
2. for establishing the concepts of gender and diversity in the (model) continuing education regulations of the Bundesärztekammer (German Medical Association) and the continuing education regulations of the regional medical associations (currently at planning level).

The aim is the longitudinal integration of learning objectives into all teaching formats and subjects across all semesters with examinable content. For example, this has been realised in the model study course medicine at Charité Universitätsmedizin Berlin. An intermediate step is the integration of gender-specific aspects as learning objectives and learning content in several courses (at six German medical faculties). The modular e-learning program "eGender" (<http://egender.charite.de/de/>) and the use of the now automated database "GenderMedDB" (<http://gendermeddb.charite.de/>) for teaching staff are helpful for the implementation of the learning objectives in a new curriculum. The Medical University of Innsbruck (coordination office), the Medical University of Vienna (Gender Medicine) and the Medical University of Graz (gender:unit) offer extensive experience and advice on the implementation of gender-medical teaching.

Time dimensions: clinical traineeship, elective period, continuing education

Depth dimensions: 1. Factual knowledge (What?), 2. Action and reasoning knowledge (How and why?), 3. Ability to perform (3a. Performance under supervision, 3b. Working independently). Step 3 has not yet been achieved.

It is important to ensure that these learning objectives are examinable. The most appropriate exam format for each learning objective should be sought.

Initiation of discussion processes at the university that lead to a reassessment of women's and gender research as an area of innovation as well as an important quality feature for medical education and care (e.g. systematic training of teaching staff in gender medicine and the establishment of professorships for women and gender research in medicine). Should a systematic implementation not yet be possible, it is advisable to set up lecture series and to invite experts from different disciplines to discussions in order to raise awareness for gender-sensitive content.

Degree Stage:

Gender-related content should be continuously integrated into medicine degrees, i.e. from the first to the last semester, varying according to subject and study level. For instance, it has proved practical to offer an introductory seminar on "Gender in Medicine" at the beginning of studies (e.g. at the Medical

University of Vienna or Charité-Universitätsmedizin Berlin) to teach cognitive knowledge and sensitise students to gender-related issues and their own gender roles.

Basic Literature/Recommended Reading:

Textbooks:

- Kautzky-Willer A, Gendermedizin: Prävention, Diagnose, Therapie. Böhlau: UTB Verlag; 2012.
- Kortendiek, B. Riegraf, & K. Sabisch (Eds.), Handbuch Interdisziplinäre Geschlechterforschung. Wiesbaden: Springer Fachmedien.
- Kuhlmann E., Annandale E. The Palgrave Handbook of Gender and Healthcare. London: Palgrave Macmillan; 2016 (eBook).
- Legato M, Principles of Gender-Specific Medicine, Third Edition: Gender in the Genomic Era. London/San Diego/Cambridge/Oxford: Academic Press; 2017.
- Maas A, Bairey Merz C. Manual of Gynecardiology – Female-Specific Cardiology. Cham: Springer Nature; 2017.
- Miemietz B, Polikashvili, Nino. Medizin und Geschlecht: Perspektiven für Lehre, Forschung & Krankenversorgung. Lengerich: Pabst Science Publishers; 2013.
- Oertelt-Prigione S, Regitz-Zagrosek V. Sex and Gender Aspects in Clinical Medicine. London: Springer Verlag; 2011.
- Regitz-Zagrosek V. Sex and Gender Differences in Pharmacology. Volume 180 of Series: Handbook of Experimental Pharmacology. Heidelberg: Springer Verlag; 2012.
- Schenck-Gustaffson K., DeCola P., Pfaff D. Pisetsky, D. Eds, Handbook of Clinical Gender Medicine. Basel: Karger Verlag; 2012.

Literature:

- EUGenMed Cardiovascular Clinical Study Group, Regitz-Zagrosek V, Oertelt-Prigione S, Prescott E, Franconi F, Gerds E, Foryst-Ludwig A, Maas AH, Kautzky-Willer A, Knappe-Wegner D, Kintscher U, Ludwig KH, Schenck-Gustafsson K, Stangl V. Gender in cardiovascular diseases: impact on clinical manifestations, management, and outcomes. Eur Heart J. 2016 Jan 1; 37:24-34.Review. PubMed PMID: 26530104.
- Ludwig S, Oertelt-Prigione S, Kurmeyer C, Gross M, Grüters-Kieslich A, Regitz-Zagrosek V, Peters H. A Successful Strategy to Integrate Sex and Gender Medicine into a Newly Developed Medical Curriculum. J Womens Health (Larchmt). 2015 Dec; 24:996-1005. PubMed PMID: 26468664.
- Seeland U, Nauman AT, Cornelis A, Ludwig S, Dunkel M, Kararigas G, Regitz-Zagrosek V. eGender-from e-Learning to e-Research: a web-based interactive knowledge-sharing platform for sex- and gender-specific medical education. Biol Sex Differ. 2016 Oct 14; 7(Suppl 1):39. eCollection 2016. PubMed PMID: 27785342.
- Siller, H., Komlenac, N., Fink, H., Perkhofer, S., & Hochleitner, M. (2017). Promoting gender in medical and allied health professions education: Influence on students' gender awareness. Health Care for Women International, 1-17. doi:10.1080/07399332.2017.1395881.
- Van der Meulen, F., Fluit, C., Albers, M., Laan, R., & Lagro-Janssen, A. (2017). Successfully sustaining sex and gender issues in undergraduate medical education: a case study. Advances in Health Sciences Education 22(5), 1057-1070. doi:10.1007/s10459-016-9742-1.
- Ventura-Clapier R, Dworatzek E, Seeland U, Kararigas G, Arnal JF, Brunelleschi S, Carpenter TC, Erdmann J, Franconi F, Giannetta E, Glezerman M, Hofmann SM, Junien C, Katai M, Kublickiene K, König IR, Majdic G, Malorni W, Mieth C, Miller VM, Reynolds RM, Shimokawa

H, Tannenbaum C, D'Ursi AM, Regitz-Zagrosek V. Sex in basic research: concepts in the cardiovascular field. Cardiovasc Res. 2017 Jun 1; 113:711-724. PubMed PMID:28472454.

Journals:

There are no german genderspecific Journals in Medicine. In recent years some gender based topics were processed by different medical Journals by publishing special issues.

International there are Journals with an emphasis on Gender, even though some of them are at the interface between Medicine and Health Sciences:

- Archives of women's mental health | [Website](#)
- Biology in Sex Differences | [Website](#)
- BMC women's health | [Website](#)
- Current Women's Health Reviews | [Website](#)
- Health Care for Women International | [Website](#)
- Gender and the Genome | [Website](#)
- International Journal of Women's Health | [Website](#)