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EAPM Paper



Building a bridge between multidisciplinary insights and practice: The development of an e-learning for internal residents about sex, gender and persistent somatic symptoms

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1. Introduction

Research outcomes that may advance healthcare and society are frequently confined to the academic ivory tower, instead of finding their way to healthcare professionals. Particularly knowledge and outcomes from different scientific disciplines are oftentimes not integrated into an interdisciplinary perspective on health, which impedes an evidence-based biopsychosocial approach. We argue that the onus is, at least partly, on the researcher to facilitate the practical and societal implementation of multidisciplinary research outcomes. We developed an e-learning to disseminate our research outcomes to healthcare professionals, following previous initiatives and approaches [1–3]. Our e-learning connects scientific insights into sex, gender, and persistent somatic symptoms (henceforth: PSS) from various disciplines, and functions as a bridge between theory and practice.

This e-learning is built upon acquired empirical and multidisciplinary general knowledge on the importance and implementation of sex and gender in healthcare and in medical curricula [1,3–5]. Specifically, we focus on internal residents, as sex and gender sensitivity and awareness are an obligatory competence during the Dutch education of these specialists [6]. Furthermore, we consider internal medicine as an especially relevant specialty to focus on, since approximately 61% of the patients who attend a general internal outpatient clinic experience PSS [7].

To clearly understand the relevance of sex and gender in relation to PSS, we should first distinguish between the two concepts. Sex refers to the biological characteristics of female and male bodies, such as genes,

hormones and physiology. Gender entails the embodiment of different identities, roles and behaviors of men and women prescribed by societal norms in a given time and society [8]. Patients' sex and gender are independently associated with more frequent and more severe persistent symptoms in women, as well as with physicians' decisions regarding to diagnosis and treatment of PSS in women and men [9–12]. Both sex and gender affect the epidemiology of persistent somatic symptoms. Gender also influences the physician's approach and communication between physicians' and patients in consultations, which is important for physicians' decisions about healthcare [13]. Gender plays a pivotal role in especially the content of physicians' and patients' communication; in other words, in what is actually said [14,15]. Gender differences in the manner of communication, so how something is said, are far less pronounced [16,17].

To synthesize relevant findings from different scientific disciplines to clinical implications, and to increase awareness of the roles of sex, gender, and communication in healthcare trajectories of patients with PSS among internists, we have developed an e-learning for internists in training and their supervisors. Connecting valuable insights from various disciplines, our e-learning functions as a bridge between multidisciplinary insights and medical practice. Advantages of an e-learning are the large reach, the easy and flexible accessibility for students, and direct application of the obtained knowledge into practice [18]. Our e-learning was developed with the intention to have internists in training fulfil the following objectives: (1) understanding the differences between women and men in prevalence of and predisposition to PSS, (2) recognizing and being wary of gender bias in communication,

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and (3) being able to identify gender-related factors that are important to consider when treating patients with PSS.

2. Contents and development

The fictitious case of a 32-year-old female patient with persistent abdominal pain runs as a thread through the e-learning. The case is introduced in a short referral letter from the GP to the internist, followed by a short video of the patient's first consultation with the female internist. Hereafter, in the first of three modules, the concepts of sex and gender, as well as sex- and gender-differences in the epidemiology of PSS are introduced and explained. This module combines insights from epidemiology, general practice, psychology, and sociology. Then, the second module assesses unconscious stereotypes of women's and men's communication, and demonstrates how these stereotypes affect gender inferences, and patients' and physicians' communication. This module combines recent findings from linguistics, communication, general practice and sociology. The last module of the e-learning focuses on optimizing internists' professional interaction with patients affected by PSS. These gender-sensitive consultations are characterized by a model that assesses the somatic, cognitive, emotional, behavioral and social aspects in PSS care and consultations.

We involved internists in-training, practicing and supervising internists, general practitioners, and patient representatives in all stages of the development of the e-learning, to make sure that all objectives and modules' content were understandable, recognizable, and applicable to clinical practice. An institutional learning template was used to ensure an attractive and motivating learning environment. To enable and stimulate (inter-)active learning we included priming questions, mini lectures and transcripts of real doctor-patient interactions to illustrate the impact of gender on PSS and related consults throughout the e-learning. Ultimately, ten questions related to sex, gender, PSS and communication test participants' obtained knowledge. Upon successfully completing the e-learning a certificate and accreditation are provided to participants. Completion of the e-learning takes approximately 90 min. The e-learning was developed in Dutch. We are currently preparing an English translation of this e-learning, to reach more physicians. Moreover, because sex and gender sensitivity are now designated as a compulsory competence in the Dutch training in internal medicine, the e-learning's application will be facilitated in relevant educational programs for internists in training. Additional information regarding the content of the e-learning is available upon request. We aim to add these modules to an existing interprofessional e-learning on PSS to also reach other healthcare disciplines [2].

3. Conclusion

The e-learning's interactive training modules increase awareness of the importance of sex and gender, in healthcare for patients with PSS, and provide internists with pragmatic tools for applying scientific knowledge into daily practice. We recommend for fellow researchers to move their research beyond the ivory tower by facilitating the implementation of their multidisciplinary research outcomes. Developing an e-learning is merely one of the many available ways to build such a bridge between knowledge from various disciplines and medical practice. We experienced that combining insights from various research domains, translating theoretical knowledge into hands-on clinical tools, and inviting multiple stakeholders relevant to internist training to provide valuable input, is a synergistic approach to achieve this.

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References

- [1] P. Dielissen, P. Verdonk, M.W. Waard, B. Bottema, T. Lagro-Janssen, The effect of gender medicine education in GP training: a prospective cohort study, *Perspect. Med. Educ.* 3 (5) (2014) 343–356, <https://doi.org/10.1007/s40037-014-0122-3>.
- [2] A. van Gils, L.M. Tak, H. Sattel, J.G.M. Rosmalen, Development and user experiences of a biopsychosocial interprofessional online course on persistent somatic symptoms, *Front Psychiatry*. 12 (2021), 725546, <https://doi.org/10.3389/fpsyt.2021.725546>.
- [3] T. Lagro-Janssen, Sex, gender and health: developments in research, *Eur. J. Women's Stud.* 14 (1) (2007) 9–20, [10.1177/147135050680702314](https://doi.org/10.1177/147135050680702314).
- [4] J.K. Scholte, Francisca W.M. van der Meulen, T.A. Teunissen, et al., Exploring the views of successful applicants for medical school about gender medicine using a gender-sensitive video assignment, *BMC Med. Educ.* 20 (1) (2020) 1–9.
- [5] F. van der Meulen, C. Fluit, M. Albers, R. Laan, A. Lagro-Janssen, Successfully sustaining sex and gender issues in undergraduate medical education: a case study, *Adv. Health Sci. Educ.* 22 (5) (2017) 1057–1070.
- [6] T. Lagro-Janssen, J. Scholte, T. Pepping, *Gender-sensitive zorg in de geneeskundige vervolgoopleidingen: Eindrapportage CGS-project. (gender-sensitive healthcare in the medical education: final report of the board of medical specialist education)*, Radboudumc - Gender & Women's Health, Nijmegen, 2018.
- [7] J.M. Gol, H. Burger, K.A. Janssens, J.P. Slaets, R.O. Gans, J.G. Rosmalen, PROFSS: a screening tool for early identification of functional somatic symptoms, *J. Psychosom. Res.* 77 (6) (2014) 504–509, <https://doi.org/10.1016/j.jpsychores.2014.10.004>.
- [8] J.L. Johnson, L. Greaves, R. Repta, Better science with sex and gender: facilitating the use of a sex and gender-based analysis in health research, *Int. J. Equity Health* 8 (1) (2009) 14, <https://doi.org/10.1186/1475-9276-8-14>.
- [9] A.V. Ballering, K.J. Wardenaar, olde Hartman TC, Rosmalen JGM., Female sex and femininity independently associate with common somatic symptom trajectories, *Psychol. Med.* 1-11 (2020), <https://doi.org/10.1017/S0033291720004043>.
- [10] A.V. Ballering, D. Muijres, A.A. Uijen, J.G.M. Rosmalen, olde Hartman TC., Sex differences in the trajectories to diagnosis of patients presenting with common somatic symptoms in primary care: an observational cohort study, *J. Psychosom. Res.* 149 (2021) 110589, <https://doi.org/10.1016/j.jpsychores.2021.110589>.
- [11] A.V. Ballering, I.J. Bonvanie, T.C. Olde Hartman, R. Monden, J.G.M. Rosmalen, Gender and sex independently associate with common somatic symptoms and lifetime prevalence of chronic disease, *Soc. Sci. Med.* 253 (2020), 112968, <https://doi.org/10.1016/j.socscimed.2020.112968>.
- [12] J.M. Groeneveld, A.V. Ballering, K. van Boven, R.P. Akkermans, T.C. Olde Hartman, A.A. Uijen, Sex differences in incidence of respiratory symptoms and management by general practitioners, *Fam. Pract.* 37 (5) (2020) 631–636, <https://doi.org/10.1093/fampra/cmz040>.
- [13] J. Houwen, P.L.B.J. Lucassen, H.W. Stappers, P.J.J. Assendelft, S. van Dulmen, T. C. Olde Hartman, Medically unexplained symptoms: the person, the symptoms and the dialogue, *Fam. Pract.* 34 (2) (2017) 245–251, <https://doi.org/10.1093/fampra/cmw132>.
- [14] J.A. Hall, J.T. Irish, D.L. Roter, C.M. Ehrlich, L.H. Miller, Gender in medical encounters: an analysis of physician and patient communication in a primary care setting, *Health Psychol.* 13 (5) (1994) 384, <https://doi.org/10.1037//0278-6133.13.5.384>.
- [15] D.L. Roter, J.A. Hall, Y. Aoki, Physician gender effects in medical communication: a meta-analytic review, *JAMA.* 288 (6) (2002) 756–764, <https://doi.org/10.1001/jama.288.6.756>.
- [16] E. Aries, *Men and Women in Interaction: Reconsidering the Differences*, Oxford University Press, 1996.
- [17] I. Plug, W. Stommel, P. Lucassen, T.O. Hartman, S. Van Dulmen, E. Das, Do women and men use language differently in spoken face-to-face interaction? A scoping review, *Rev. Commun. Res.* 9 (2021) 43–79, <https://doi.org/10.12840/ISSN.2255-4165.026>.
- [18] J.G. Rosmalen, A. van Gils, M.A. Acevedo Mesa, R.A. Schoevers, R. Monden, D. J. Hanssen, Development of grip self-help: an online patient-tailored self-help intervention for functional somatic symptoms in primary care, *Internet Interv.* 19 (2020), 100297, <https://doi.org/10.1016/j.invent.2019.100297>.