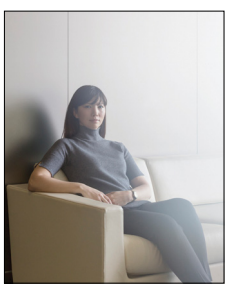
Sex and gender differences in mental disorders



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Sex and gender differences in mental disorders are among the most intriguing and stable findings in psychiatry. For example, differences exist regarding prevalence, symptomatology, risk factors and influencing factors, or course.[1] Thus, it is well known that women have a higher lifetime prevalence of mood or anxiety disorders than men[1–4] or a later onset of schizophrenic psychoses.[5]

But we still do not really understand the causes of these differences, and comparatively little research has been done to explain them. This lack of research is more than surprising since explanations of these findings could give us important insights into aetiological and pathogenetic mechanisms of these mental disorders in general. At the same time, they would most likely improve our therapeutic approaches for both women and men.

This *Lancet Psychiatry* Women's Mental Health Series tries to meet this challenge. It offers four papers[5–8] on gender-specific issues relevant to mental disorders and an accompanying comment[9] on the lack of studies in this area.

The gender gap in depression has been reviewed by Christine Kuehner.[6] She identifies potential risk factors such as the influence of sex hormones, women's blunted hypothalamic–pituitary–adrenal axis response to stress, girls' and women's lower self-esteem and higher tendency for body shame and rumination, higher rates of interpersonal stressors, experienced violence, childhood sexual abuse, and—on a societal level—lack of gender equality and discrimination. All in all, it seems striking that many factors that are well known to increase the risk for depression are more prevalent in women and might therefore contribute to their higher depression rate.

A similar gender gap exists in the prevalence of anxiety, trauma-related and stress-related disorders. In their review, Li and colleagues[7] tried to find explanations for this gap, focusing on the potential role of the sex hormones oestradiol and progesterone. They proposed that women might be more vulnerable to these disorders because of their greater monthly and life-span fluctuations of these hormones, which obviously cannot only modify neurotransmitters and neurosteroids, but also influence cognition and behavioural processes for the gender gap in these disorders. A further review should discuss potential psychosocial explanations.

One of the most important psychosocial risk factors for mental disorders in women, namely gender-based violence, is covered in a review by Oram and colleagues.[8] They clearly show that women, much more often than men, experience different forms of gender-based violence, and that this experience is associated with an increased prevalence of post-traumatic stress, anxiety, and depressive disorders. It seems obvious that violence must be taken much more seriously in diagnosis and treatment of women with mental illness. Oram and colleagues focus on domestic and sexual violence but also discuss human trafficking, female genital mutilation, forced and early marriage, and honour crimes.

Domestic violence and abuse is recognised as an expression of power inequalities between men and women.[8] Many more of these inequalities exist and can most likely also influence women's mental health, such as gender role traditionality[3] and gender harassment, or simple discrimination in the workplace or during professional careers,[10] and would certainly justify their own review.

My paper in this Series discussed schizophrenic psychoses with a focus on the potential influence of the hypothalamic-pituitary-gonadal axis.[2] Also in these disorders, an increased incidence has been shown in periods of low oestradiol concentrations. Many women with schizophrenia, even in the untreated prodromal phase, experience oestradiol deficiency and gonadal dysfunction, which might have put them at increased risk and might be due to stress-induced hyperprolactinaemia.

As stated in all the papers in this Series, mental health research often ignores sex and gender differences as well as the different risk factors and protective factors of both women and men. Howard and colleagues[9] expand on this problem and its consequences. Not to investigate potentially differing causal pathways and treatment responses of women and men not only undermines scientific validity, but also results in a failure to deliver gender-sensitive treatments.

In conclusion, it is high time for a shift in practice and research. Research, psychiatric training, and practice should consider sex and gender aspects much more strongly. Population-based, representative cohorts of patients should be examined longitudinally to draw

more valid conclusions on true gender differences (which cannot be assessed in selected populations) and causal pathways (which cannot be drawn from cross-sectional studies). More multilevel, interdisciplinary research investigating sex (biology) and gender (psychosocial influencing factors) should be done. More research is needed on gender differences in illness behaviour, coping, help-seeking, and compliance, as well as on sex-specific aspects of psychopharmacology, hormonal therapies, or gender-sensitive psychotherapy. Also, a quite neglected issue is the abuse of women in therapeutic relationships.[11] Last but not least, the outlined research should be published in the form of regular articles in widely read journals and not only in special Series on women's mental health.

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I declare no competing interests.

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