

# Drug treatment and side effects/Introduction

Men and women differ in many ways with regard to the use and effects of pharmaceutical treatments. Not only do women undergo drug therapy more often, but they also suffer more frequently than men from side effects <sup>[1]</sup> Women are 50 to 70 percent more likely to experience drug side effects compared to men. For example, drugs which can increase QT-length in an EKG (such as antiarrhythmics, antipsychotics, antihistamines and antibiotics) have a potential to cause heart arrhythmias, especially in women. This is not normally taken into account during treatment <sup>[2]</sup> In addition, women have an increased incidence of drug-induced liver toxicity, adverse gastrointestinal events due to steroidal anti-inflammatory drugs, and drug-induced allergic rashes <sup>[3]</sup>

Until the last century, women (and female laboratory animals) were systematically excluded from drug research experiments <sup>[4]</sup> because of the assumption that study results would be influenced by the female hormone cycle or the use of contraceptives. There was also a fear of early drop-out due to pregnancy during the study period. In the meantime, it has been recognized that it is precisely these hormonal influences on medications that need to be investigated. In the same context, the risk of medication use during pregnancy should also be investigated more thoroughly (study results are currently available for only certain drugs such as antidepressants) <sup>[5]</sup>

## Outlook

The fact that women take multiple medications in comparison to men cannot be explained by the use of contraceptives alone. Even after menopause, women take more medications and with greater frequency than men. At present, too little is known about the specific effects that certain drugs and drug combinations have on women in different hormonal phases. Further research on sex and gender could lead to significant health gains and cost savings <sup>[6]</sup>. In the future, more attention should be paid to sex, but also to aspects such as height, age and comorbidities when determining the appropriate dosage of medication. In general, hormonal and immunological factors as well as anatomical, physiological, biochemical and endocrine sex differences can influence the use and tolerance of medications <sup>[3]</sup>.

## Literature

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