

Sex and gender differences in drug treatment – should we be concerned?

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Sex or gender in drug treatment



Sex differences – biological differences in eg disease patterns or pharmacokinetics

- Do we treat men and women *in the same way*, where, in fact, we should have sex specific guidelines for either drug choice or drug dosing?
- Do we have data on pharmacokinetics and drug effects in men and women, to inform such guidelines?

Sex or gender in drug treatment



Gender differences - differences in how diseases and symptoms are perceived and interpreted by either patients or health care professionals

- Do we have *differences in drug treatment* that are not motivated by the patient's medical needs?
- Do we have data to inform us on such inequalities in drug treatment?

Sex in drug treatment

For many medicines, there are differences in drug metabolism, that may lead to differences in drug exposure, as exemplified here by Chan et al. 2022

Often, but not always, exposure is higher in women

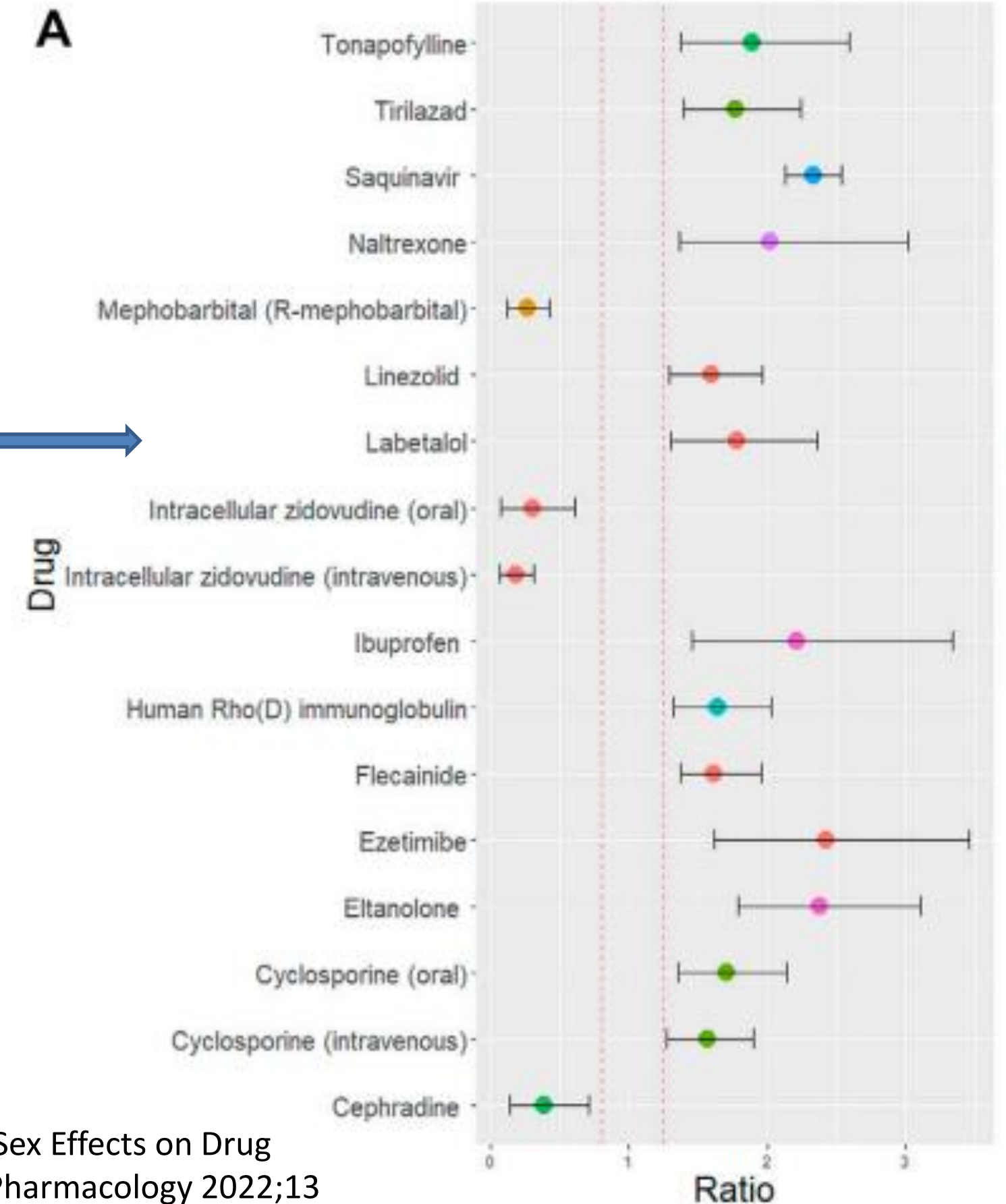
This may lead to a higher risk of adverse events in women, as reported by eg Zucker and Prendergast 2020

However, we still lack information on

- sex differences in PK for many drugs?
- clinical relevance of possible PK differences?
- sex-specific treatment recommendation, when motivated?

“Harnessing Clinical Trial and Real-World Data Towards an Understanding of Sex Effects on Drug Pharmacokinetics, Pharmacodynamics and Efficacy” Chan et al. Frontiers in Pharmacology 2022;13

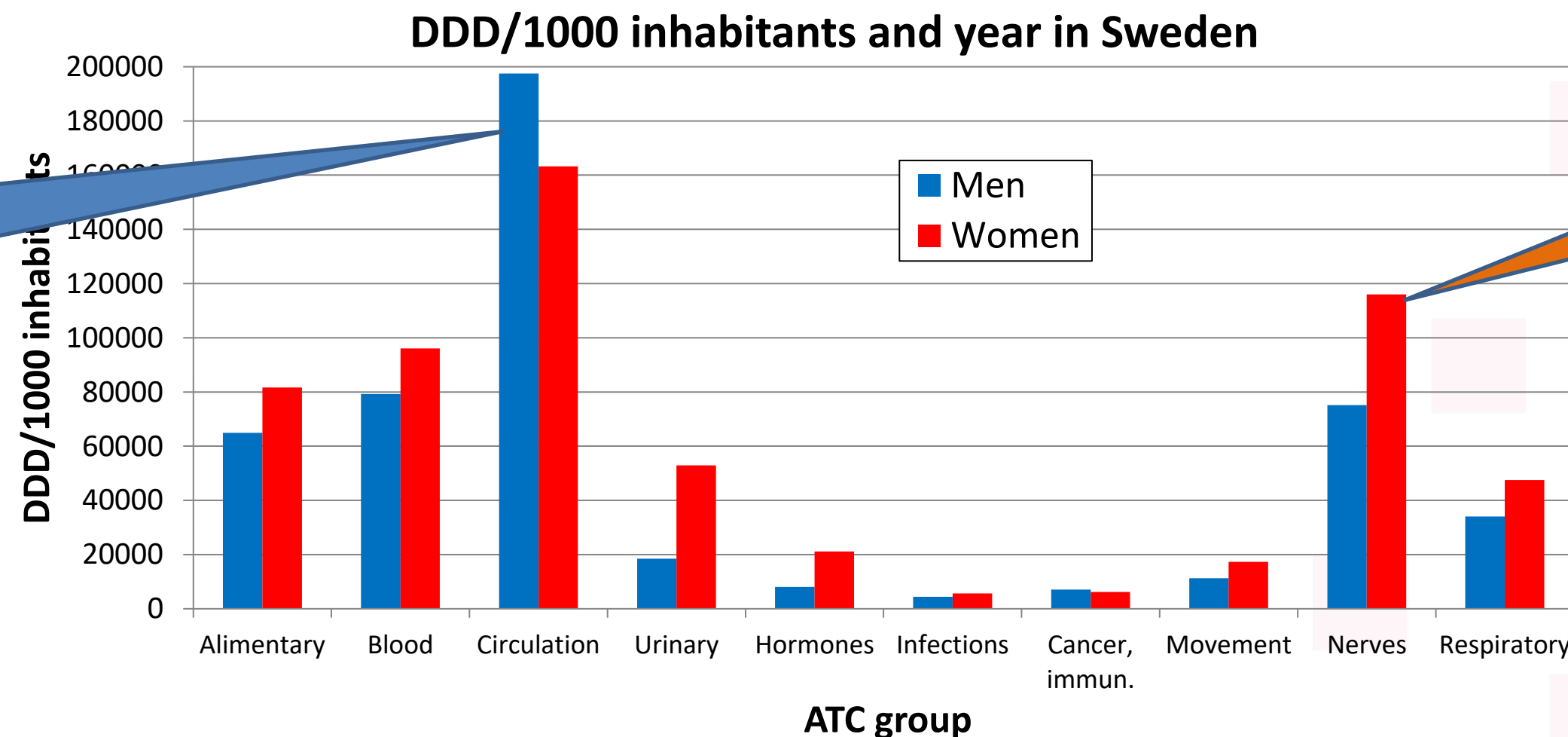
“Sex differences in pharmacokinetics predict adverse drug reactions in women”
Zucker I, Prendergast B, BMC Biology of sex differences 2020;11



Gender in drug treatment




There are prominent differences in drug prescribing to men and women. To what extent are these differences motivated by biological differences in disease patterns and to what extent are they related to gender, eg differences in how often we diagnose men and women with the same disease?



Men have earlier onset of heart disease

Are women really more depressed?



Sex and gender differences
in drug treatment
—should we be concerned?

Yes, we should!
*Unjustified gender differences may
be a larger problem, than the lack
of sex adapted treatment guidelines*

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Thank You!

