Sex-specific cardiovascular dispensation patterns of single and combined active substances in primary care

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Introduction

- Pharmacotherapy is used to prevent and treat cardiovascular diseases (CVDs).
- Sex-specific differences have previously been observed for single drugs.[1]
- Using multiple drugs is common for CVDs and some are already combined, which is why we use the more accurate term active substances (AS) instead.[2]

Here, we describe the sex-specific single and combined active substance dispensation prevalences in primary care, using the electronic health records from the PHARMO Data Network.

Methods

- Descriptive analysis of GP and community pharmacy data (2010-2021) from the PHARMO Data Network, stratified by CVD-status, sex, and age.
- CVD drugs were categorized into ten main AS categories based on their WHO ATC code.
- Prevalences were calculated per semester for every AS combination dispensed in the respective semester. If no dispensations were present the prevalence was treated as missing.

Prevalence (%) of single and combined active substances.

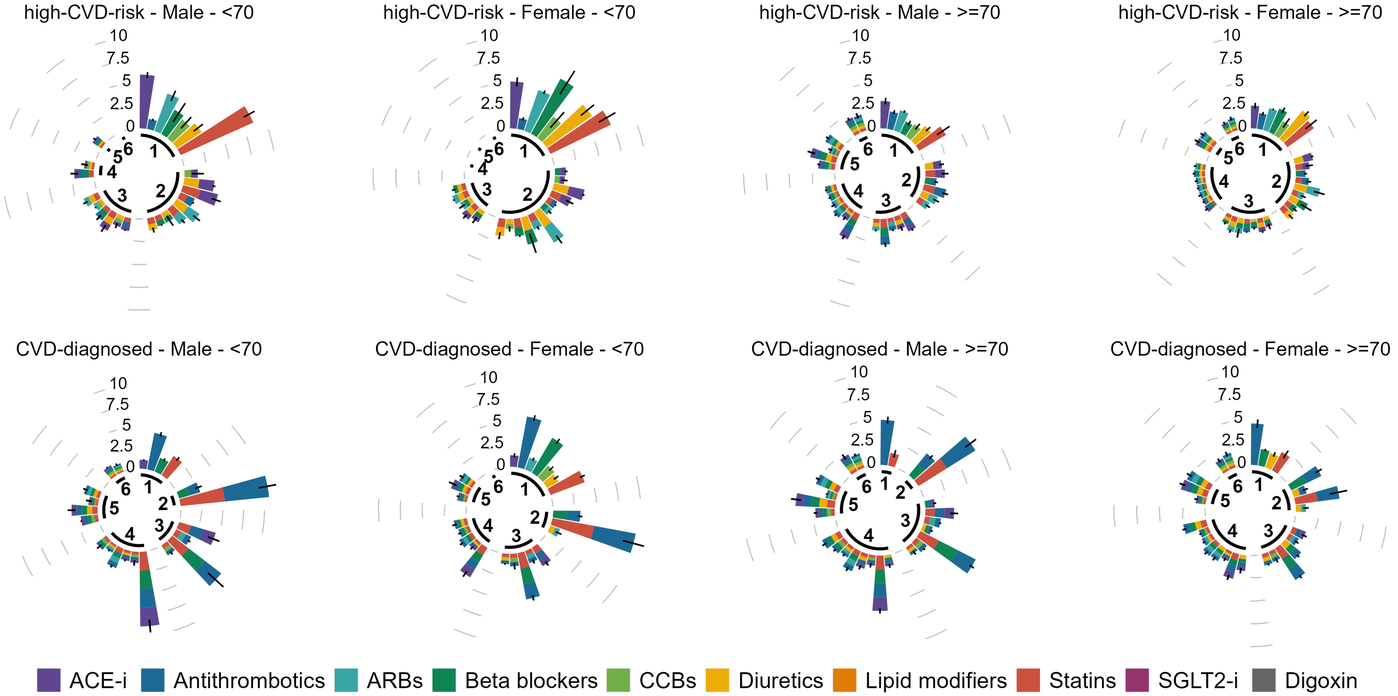

Fig. 1. Prevalence of single and combined active substances in community pharmacy dispensations from 2010 to 2021. Only prevalences ≥1% are displayed. Every bar represents a single AS or AS combination, clustered on the circular x-axis by total number of AS. The colors indicate the AS involved and are equally represented in combinations.

Table 1. Baseline table stratified on CVD status and sex. The dispensation status is the number of prescriptions in the 6 months before inclusion.

	high-CVD-risk		CVD-diagnosed	
	Male	Female	Male	Female
n	**39,455**	**44,962**	**48,060**	**35,775**
age (years (sd))	**63.9 (10.8)**	**66.4 (11.7)**	**67.3 (10.5)**	**70.3 (11.6)**
Active substance (AS) dispensations				
No AS dispensed (%)	34.5	32.0	29.7	27.2
2-4 unique AS (%)	35.7	36.9	45.0	45.2
≥5 unique AS (%)	7.8	6.2	11.9	10.5

Prevalence of single and combined active substances differs between sexes in both the number of active substances dispensed and the prevalence of specific active substance combinations.

References

1. Bjerrum, L., et al., *Polypharmacy: correlations with sex, age and drug regimen.* European Journal of Clinical Pharmacology, 1998. 54(3): p. 197-202.
2. Abolhassani, N. and P. Marques-Vidal, *Polypharmacy, defined as taking five or more drugs, is inadequate in the cardiovascular setting.* Journal of Clinical Epidemiology, 2018. 101: p. 1-4.