High mortality in SUT Patients, particularly among women, and regional variations in mortality risks

Mortality following substance use disorder treatment: population-based record-linkage retrospective cohort design

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Background

- Chile has one of the highest alcohol consumption in the continent[1] and one of the highest rates of high school cocaine, coca paste, and marijuana use in the Americas[2]
- Had over 170% growth in drug-related mortality, 2000 vs 2019 [3]
- In 2020, 6% of Chileans (12-64) had a problematic substance (alcohol & drug) use [4]
- Chilean government funds substance use treatments (SUT) for all with public health insurance (~81% of the population) [5]
- There is limited information regarding short-term, medium-term, and long-term mortality risks
- Analyzing mortality among administrative regions may reveal disparities in post-treatment outcomes
- Regional data can inform policy and resource allocation

Objectives

To describe the standardized mortality ratios (SMRs) for all adult patients in publicly funded SUT within 2010-2022, along with regional specificities

Methods

Design: a population-based retrospective cohort of adults enrolled in Chilean SUT programs (18-65) with national mortality data (2010-2020).

Analysis plan:
- Calculated SMRs by comparing observed vs. expected deaths within regions, age groups, periods, and sexes
- Stratum-specific population estimates obtained from National Institute of Statistics projections[6]
- Regional data on substance use from 2020 Chile National Drug Study by National Drug and Alcohol Prevention and Rehabilitation Service[4]
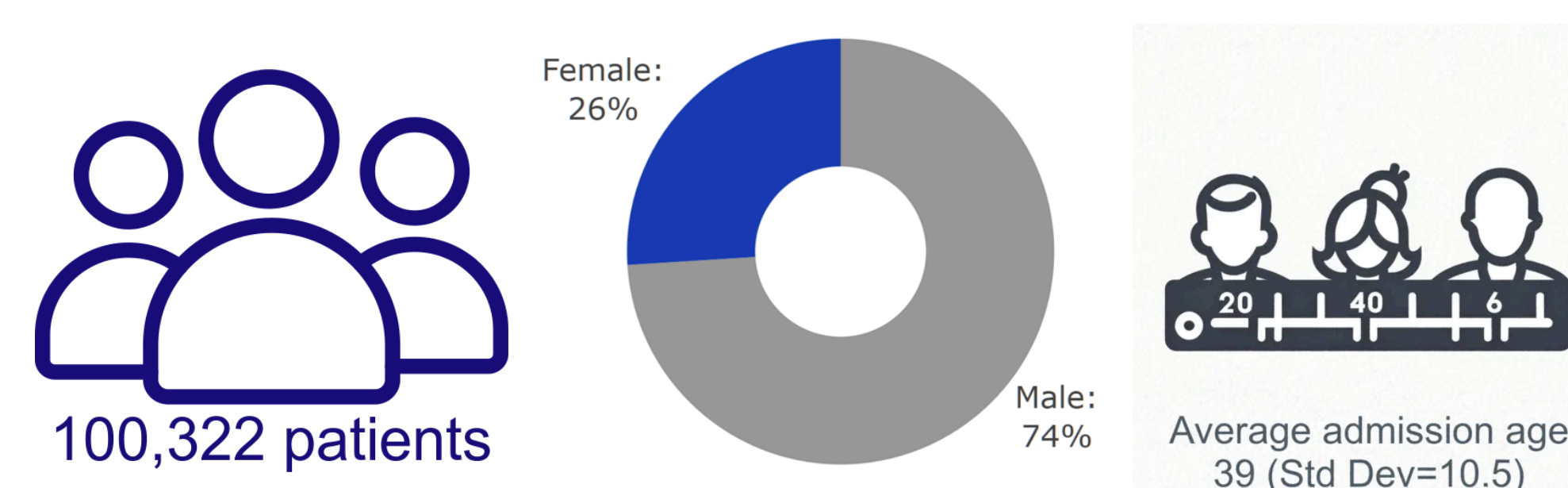- Calculated 95% confidence intervals using Vandenbroucke's method[7]

Preliminary Results

100,322 patients
Female: 26%
Male: 74%
Average admission age 39 (Std Dev=10.5)

Figure 1: Characteristics of SUT patients

Standardized Mortality Ratios (SMR)
Sex: Men, Women
Age Group: 18-29, 30-44, 45-59, 60-65
Y-axis was log-transformed. Dashed yellow lines represent the null value.
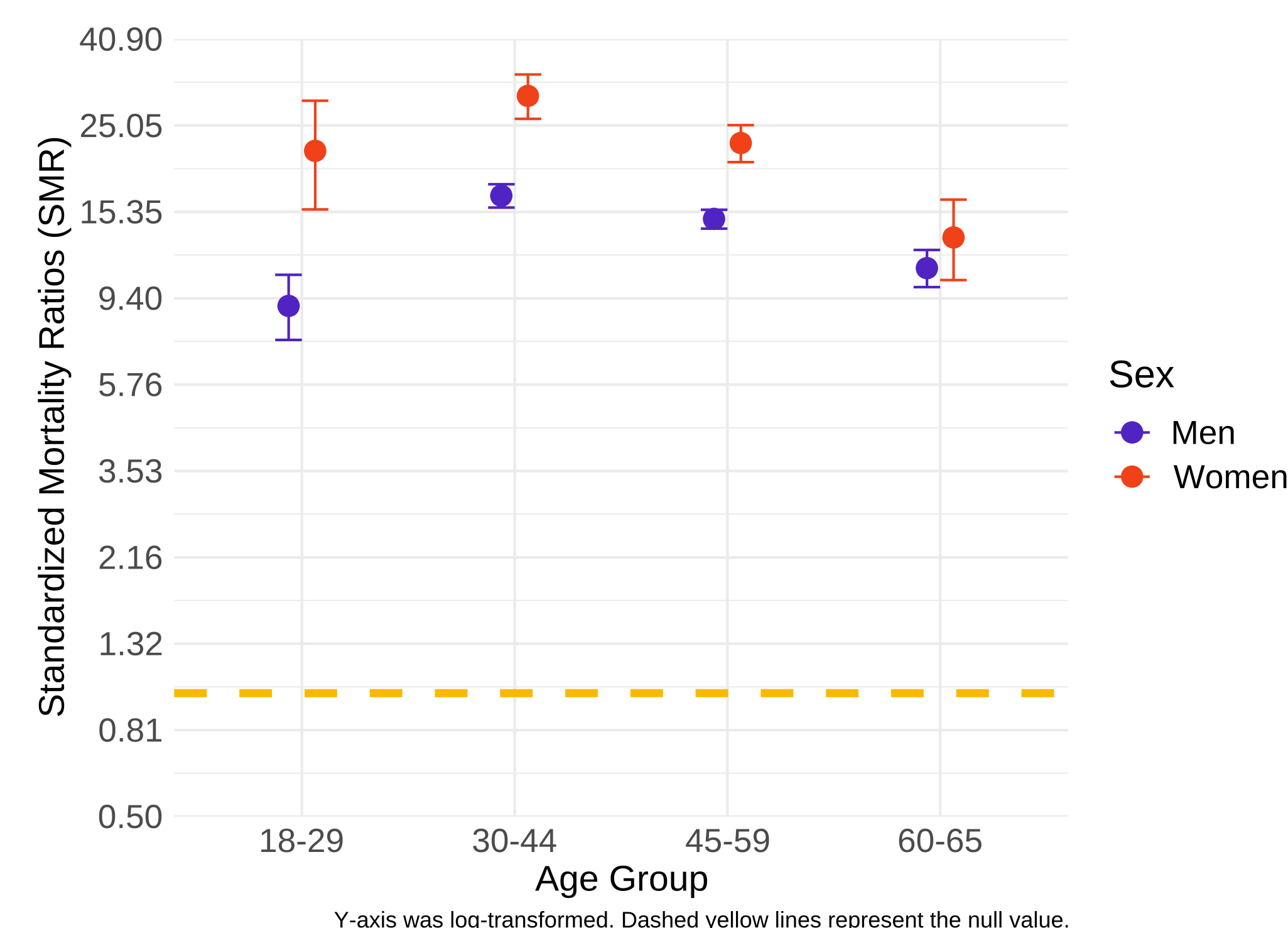
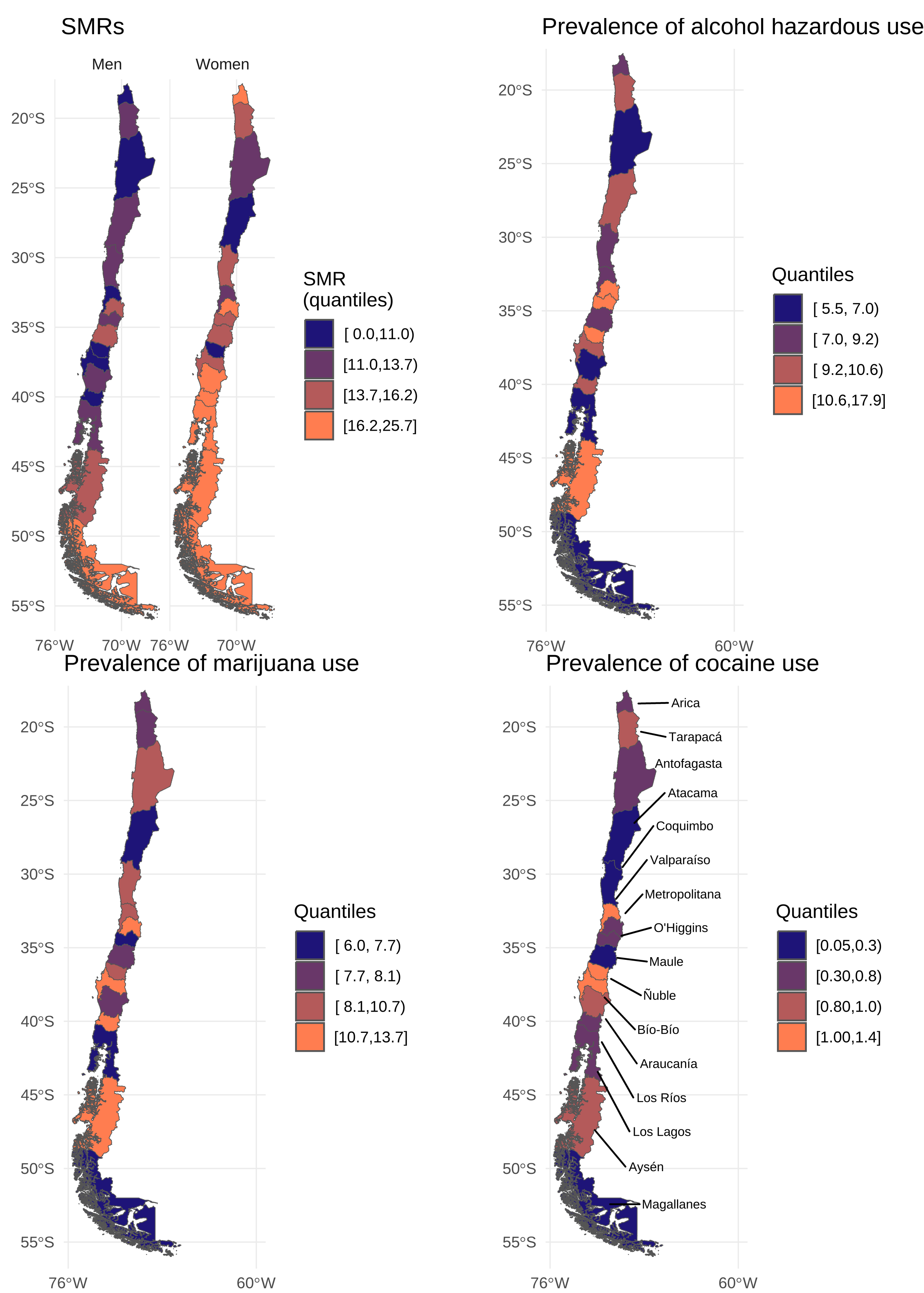*Figure 2: Standardized mortality ratios for people in SUT, by age group and sex*

Figure 3: Regional data in quartiles

- The SMR in the SUT population was 15.5 (95%CI 15.0, 16.1) times higher than expected based on the general population.
- Women aged between 30-44 had a mortality risk up to 29.6 times (95%CI 26.0, 33.5) higher than expected.
- Regions with high SMRs for men also have high SMRs for women.
- Ñuble showed some intervals with zero values due to its establishment in 2018.
- There were regional variations in mortality risks post-SUT.
- The regional prevalence of problematic substance use does not appear to be related to SMRs.

Discussion

- High cumulative mortality risk in SUT patients vs. general population
- Higher risk particularly among women
- Largest sex gap at younger ages [8]
- Further exploration of substance use's contribution to elevated risk
- Mortality risks were higher in areas influenced by ethnic and cultural barriers, discrimination, or geographical isolation, which hinder access to treatment [9;10]
- Future studies should address the causes of these disparities beyond aggregated problematic substance use

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