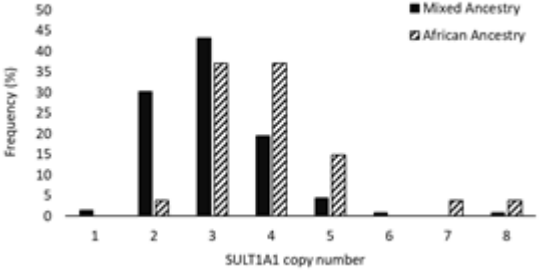
Pharmacogenomics of Hypertension, dyslipidaemia and breast cancer treated with tamoxifen: African-specific variants

***Collet Dandara*[1,2]**, Jonathan Katsukunya[1,2], Binca Kruger[1,2], Nyarai Soko[1,2,3], Brian Rayner[2,4], Phumla Sinxadi[2,5], Emile Chimusa[6], Erika Jones[2,4], Dirk Blom[2,7,] Cape Town, WC, Observatory, South Africa

Introduction. Hypertension and dyslipidaemia are major public health problems globally and in Africa, 1 in 2 males is thought to carry undiagnosed hypertension. Breast cancer is the leading cancer among women and the treatment of ER-positive breast cancer with tamoxifen is associated with variable response.

Aims: We set out to investigate the pharmacogenes gene biomarkers associated with responses to antihypertensives, statins and tamoxifen, as use in the treatment of hypertension, dyslipidaemia and ER-+ breast cancer.

Methods: We retrospectively recruited participants for all the three arms of the study (hypertension, dyslipidaemia and breast cancer). We clearly defined phenotypes associated with response as development of resistant hypertension, the report of statin-associated-myopathy, and disease-free survival, respectively.



Results: We report on significant association of NOS3 and CYP3A5 with reduced risk of resistant hypertension and significant association of genetic variation in ABRB1 and NEDD4L being associated with increased risk. For dyslipidaemia, unlike in European and Asian populations, SLCO1B1 and ABCG2, seem not to be the genetics determinants of SAMS. We also report on the distribution of SULT1A1 CNV distribution among breast cancer patients.

Discussion: This presentation will highlight the qualitative and quantitative differences in markers of differential susceptibility and response to treatment. We report of a profile of important variants that is different from what is observed or reported in other populations across the world.