

Use of Evidence-based Medications for Coronary Artery Disease and Diabetes in Women and Men with Out of Hospital Sudden Unexpected Death in the Sudden Unexpected Death in North Carolina (SUDDEN) Study

Author Block Zachariah Deyo, Mitchell Conover, Irion Pursell, Sarah Chen, Brooke Namboodri, Ross Simpson, University of North Carolina, Chapel Hill, NC, USA

Abstract:

Background:

The SUDDEN study aims to clarify risk factors for out-of-hospital sudden unexpected death (OHSUD) in a diverse population of men and women. Studies have shown that women are prescribed and report use of more medications than men but are less likely to receive guideline-directed medications for cardiovascular disease and diabetes (DM).

Methods:

We analyzed 187 adjudicated cases of OHSUD in Wake County, North Carolina for 2013. These cases represent 14% of all natural deaths in adults under age 65. Medications were collected from available medical examiner reports and medical records and grouped using the third level of the Anatomical Therapeutic Chemical Classification System (ATC) codes. A sensitivity analysis was conducted to restrict to subjects with available medication records. We assessed the hypothesis that women are prescribed more medications than men overall but fewer guideline-directed medication therapies in those with coronary artery disease (CAD) and DM.

Results:

Among 70 female and 117 male OHSUD cases, women were prescribed more medications than men (5.34 vs 3.59, $p = 0.05$) but the use of guideline-directed therapies was not different between genders for either CAD or DM. In the sensitivity analysis, women were prescribed 9.08 medications and men 5.86 ($p = 0.0081$). Overall use of antiplatelet agents, angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin receptor blockers and statins was low. In the primary analysis, only 15.4% of women and 26.9% of men with CAD were prescribed a statin. Only 56.1% of subjects with DM were prescribed any antidiabetic medication. Women were more commonly prescribed antidepressants, ACEIs, opioids and anxiolytics.

Conclusions:

Women were prescribed numerically more medications, yet overall use of guideline-directed medications was low. These findings highlight the importance of 1) addressing reasons for under treatment with evidence based therapies in men and women with CAD and DM at the community level and 2) exploring the relationship between under treatment and out-of-hospital sudden unexpected death. The higher use of antidepressants, opiates and anxiolytics in women warrants further investigation.