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The Difference is Research

Background

Smokers with cardiovascular disease who continue to smoke are at increased risk of recurrent events and mortality.(1)



The hospital discharge period presents a window of opportunity to cease smoking after a cardiovascular event.(2)

Smoking cessation pharmacotherapies (SCP) are the most effective treatment for smoking cessation.(3)



Varenicline and Nicotine Replacement Therapy (NRT) patches are safe and effective among cardiovascular patients.(4) In Australia, bupropion is also available as SCP but is very low utilisation, therefore we do not focus on it in this study.

Previous research has demonstrated that women are less likely to receive recommended secondary prevention after cardiovascular disease.(5)



Aims

i) To measure the utilisation of SCPs after hospital admission for a major cardiovascular disease (MCD) and,

ii) to determine whether sex differences exist in the utilisation of these pharmacotherapies

Methods

- A retrospective population-based cohort study
- Hospital admissions from the Admitted Patient Data Collection (APDC) and prescription medicine records from the Pharmaceutical Benefits Scheme (PBS)
- All patients admitted to a **New South Wales** hospital with a **diagnosis of a major cardiovascular disease** and a secondary diagnosis of **current tobacco use**.
- Excluded patients with a five year history of a major cardiovascular disease, those who died in hospital and those who were dispensed bupropion (the third SCP available in Australia).
- Outcome was dispensing of **Varenicline or Nicotine Replacement Therapy within 90 days** after discharge.

Statistical Methods

- Proportions of any SCP and each SCP separately in total and by sex.
- Logistic regression models to determine odds ratios for women vs men in the likelihood of being dispensed any SCP and each SCP separately
- Analyses adjusted for comorbidities or use of medicines that had a known association with sex and were conceivably related to use of SCPs.

Results

In 20,282 of the 252,939 hospitalisations for a cardiovascular disease, the patient had a current tobacco use diagnosis.



This comprised 13,996 males and 6,286 females.

The most common diagnosis among both genders was Acute Coronary Syndrome (48% among men vs 40% among women), followed by cerebrovascular disease (25% among men vs 35% among women).



More women than men were born in Australia (74% vs 65%).

More women than men had anxiety disorders (16% vs 8%) or mood disorders (35% vs 19%).



10.8% of men and 12.3% of women received a SCP within 90 days post-discharge. NRT patches were used by three-quarters of SCP users among both sexes.

Women were **16% more likely** to receive **any SCP** (95%CI 1.05-1.27) compared to men.

Women were **11% more likely** to receive **varenicline** than men (95%CI 0.93-1.31); however not statistically significant.



Women were **16% more likely** to receive **NRT** (95%CI 1.05-1.29) compared to men.



Sex disparities **did not maintain** after adjustment for confounders.

Upon stratification by type of cardiovascular disease, sex differences were only apparent among those with acute coronary syndrome. No sex differences in other ischemic heart disease, cerebrovascular disease, peripheral arterial disease.

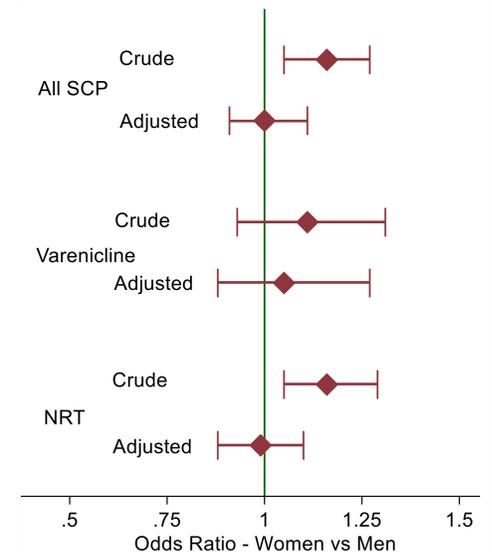


Figure 1. Odds ratios (crude and adjusted) of use of any SCP and each SCP individually.

Implications

This study provides new evidence relating to the quality use of SCPs. The limited use of SCP among both sexes indicates that more can be done to assist with smoking cessation among cardiovascular patients upon discharge from hospital.

Conclusion

- Close to 10% of people who smoke and are admitted to hospital in NSW with cardiovascular disease are dispensed a SCP within 90 days after discharge.
- Sex differences exist although not in the hypothesised direction.
- These sex differences were not maintained after adjusting for confounders.

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Disclosure of Interest Statement:

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