

Gender Differences in Procedural Trends, Outcomes and 90-day Readmission Rates following Transcatheter aortic valve replacement (TAVR) in the United States: Analysis of the National Readmission Database.

Background:

Given the longer life expectancy in women compared to men, and the increased prevalence of aortic stenosis with older age, the need for aortic valve intervention will continue to increase in women.

Methods: Hospitalizations for TAVR were retrospectively identified in the National readmissions database (NRD) from January 1, to September 30, between 2012-2017. Gender differences in the rates of TAVR procedure, in-hospital mortality, length of stay, and in-hospital costs of the index hospitalization, and 90-day readmission rates were analyzed in women compared with men.

Results: During the study period, an estimated 171,361 hospitalizations for TAVR were identified, including 79,722 (46.5%) procedures in women and 91,639 (53.5%) in men. Unadjusted in-hospital mortality was significantly higher for women compared with men (2.7% vs. 2.3%, $p = .002$). Additionally, women had higher 90-day all-cause readmission rates (25.1% vs. 24.1%, odds ratio [OR]: 1.05, 95% CI: 1.01-1.10; $p = .012$). After adjusting for baseline characteristics, women had greater adjusted odds of 90-day readmission compared to men (adjusted OR: 1.09, 95% CI: 1.05-1.14, $p < .001$; Table 2). During the study period, there was a steady decrease in hospital mortality (5.3% in 2012 to 1.6% in 2017; $p_{\text{trend}} < .001$) and 90-day (29.9% in 2012 to 21.7% in 2017; $p_{\text{trend}} < .001$) readmission rate, which were similar in both genders.

Conclusions: While mortality and readmission rates have decreased over time, women undergoing TAVR have higher in-hospital mortality, and 90-day readmission rates. Further research is necessary to identify the reasons for this excess risk and design appropriate interventions.

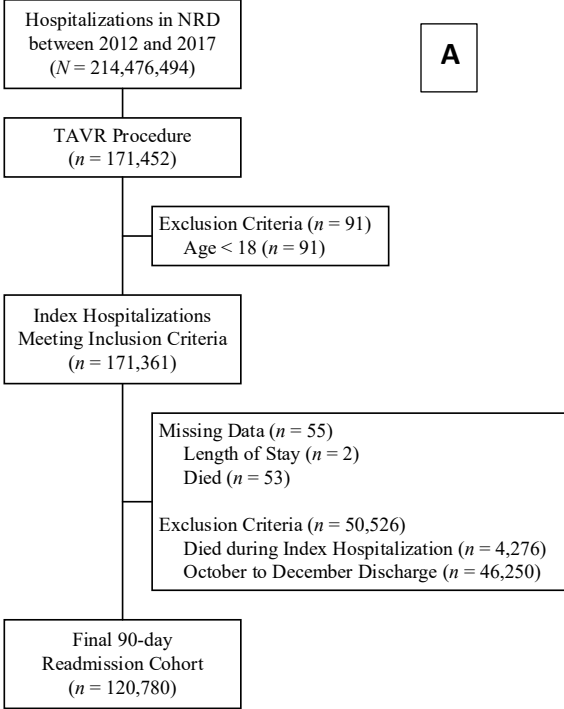
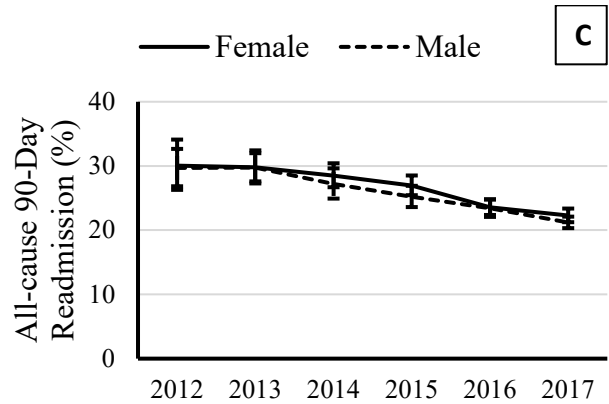


Figure 1. A) Study flow diagram showing inclusion and exclusion criteria; **B)** Trend in the in-hospital mortality rate stratified by females or males following TAVR. In both figures, error bars represent 95% confidence intervals. **C)** Trend in readmission rates for hospitalizations that included TAVR stratified by females or males for 90-day readmission rate. Error bars represent 95% confidence intervals.



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