SSRI/SNRI in the 6 Months Prior to Primary Total Knee Arthroplasty Increases the Risk of Postoperative Infection and Complications: A Global Database Analysis

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Introduction

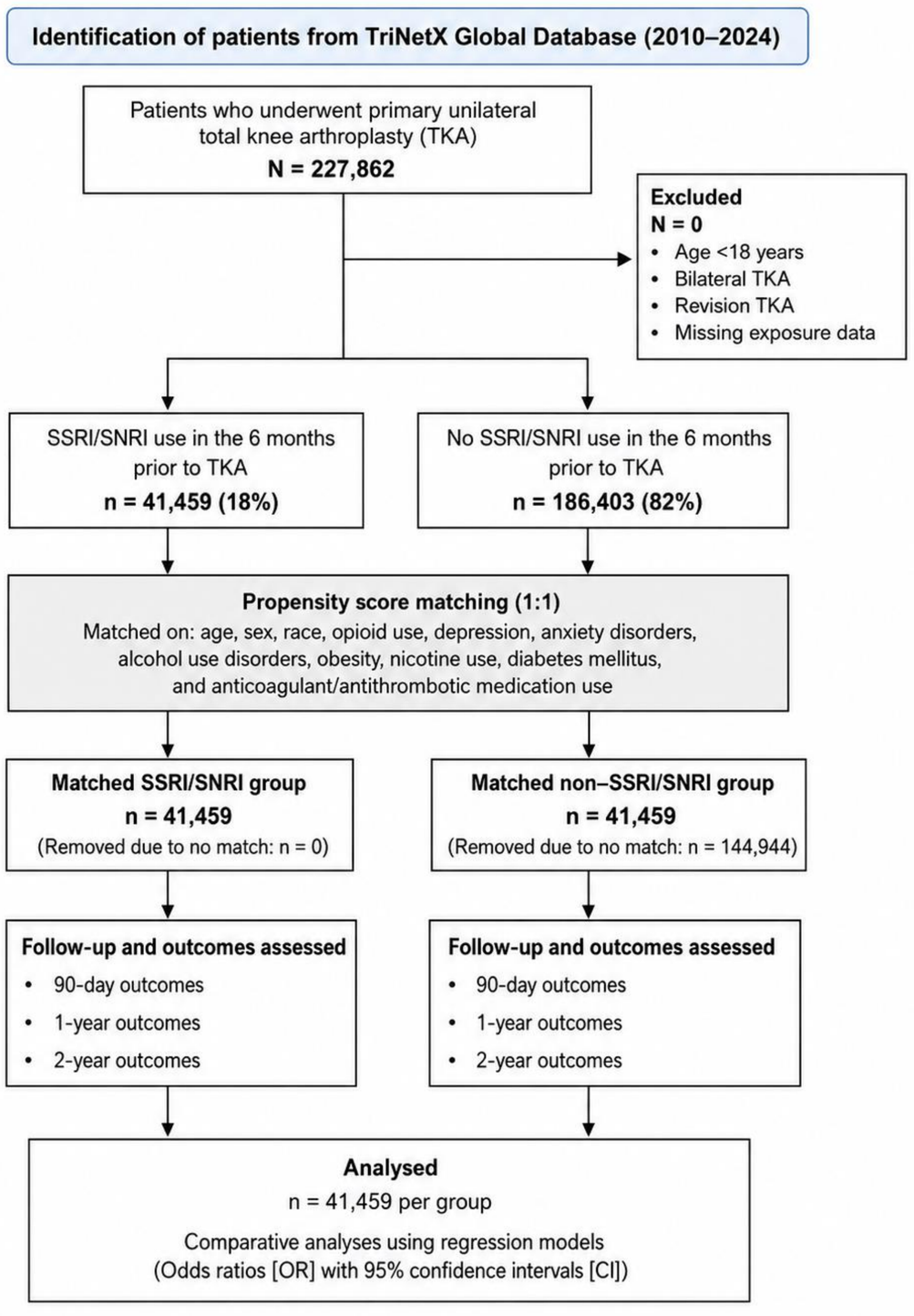
•Selective serotonin and serotonin-norepinephrine reuptake inhibitors (SSRIs/SNRIs) are commonly used among patients undergoing primary total knee arthroplasty (TKA).

•However, the association of preoperative SSRI/SNRI use on postoperative outcomes following TKA remains incompletely understood.

•**Aim:** To evaluate whether SSRI/SNRI use within 6 months before surgery is associated with differences in short- and mid-term postoperative outcomes following primary unilateral TKA.

Methods

- A retrospective cohort study using TriNetX Global Database (2010-2024).
- The database was reviewed to identify patients who underwent primary unilateral TKA (n=227,862) and included patients that have been using SSRI/SNRI within 6 months before surgery (n=41,459), and patients without SSRI/SNRI use (n=186,403).
- Propensity score matching done for both the cohorts on age, sex, race, opioid use, depression, anxiety disorders, alcohol use disorders, obesity, nicotine use, diabetes mellitus, and anticoagulant/antithrombotic use.
- Outcomes were compared at 90 days, 1 year, and 2 years after TKA.



Results

Overall

- **18%** (41,459/227,862) had a SSRI/SNRI use within 6 months prior to TKA.
- After propensity score matching, preoperative SSRI/SNRI use was associated with increased 90-days odds of: PJI, emergency department (ED) visits, readmission, pulmonary embolism, transfusion, and wound dehiscence.
- Superficial infection, deep vein thrombosis, hematoma, myocardial infarction, and delirium were not significantly different.

90-days	Odds Ratio	95% CI	P Value
PJI	1.593	1.421–1.786	**<0.001**
ED visit	1.051	1.006–1.098	**0.026**
Readmission	1.117	1.078–1.157	**<0.001**
Pulmonary embolism	1.245	1.079–1.437	**0.003**
Transfusion	1.325	1.145–1.534	**<0.001**
Wound dehiscence	1.301	1.151–1.470	**<0.001**
Sepsis	1.295	1.000–1.678	**0.050**

- **At 1-year**, SSRI/SNRI use was associated with increased odds of **PJI, revision, periprosthetic fracture, opioid prescription, and opioid dependence/abuse.**

1-year outcomes	Odds Ratio	95% CI	P Value
PJI	1.522	1.384–1.674	**<0.001**
Knee revision	1.381	1.236–1.542	**<0.001**
Periprosthetic fracture	1.674	1.396–2.007	**<0.001**
Opioid prescription	1.688	1.610–1.769	**<0.001**
Opioid dependence/ abuse	1.218	1.066–1.392	**0.004**

- Same associations persisted at **2-years after surgery.**

2-year outcomes	Odds Ratio	95% CI	P Value
PJI	1.498	1.373–1.635	**<0.001**
Knee revision	1.273	1.160–1.397	**<0.001**
Periprosthetic fracture	1.595	1.367–1.861	**<0.001**
Opioid prescription	1.723	1.637–1.813	**<0.001**
Opioid dependence/ abuse	1.210	1.080-1.355	**<0.001**

Conclusion

- Preoperative SSRI/SNRI use within 6 months of primary TKA was associated with higher rates of short-term complications and worse 1- and 2-year outcomes, including infection, even after matching for psychiatric comorbidities, opioid use, and other key patient factors.
- SSRI/SNRI use may be an important preoperative risk marker for postoperative morbidity after TKA.

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