



Comparative Effectiveness of alpha blockers versus alpha inhibitors using patient-reported outcomes among adult men diagnosed with BPH in the USA using MEPS data (2018-2023)

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Poster code

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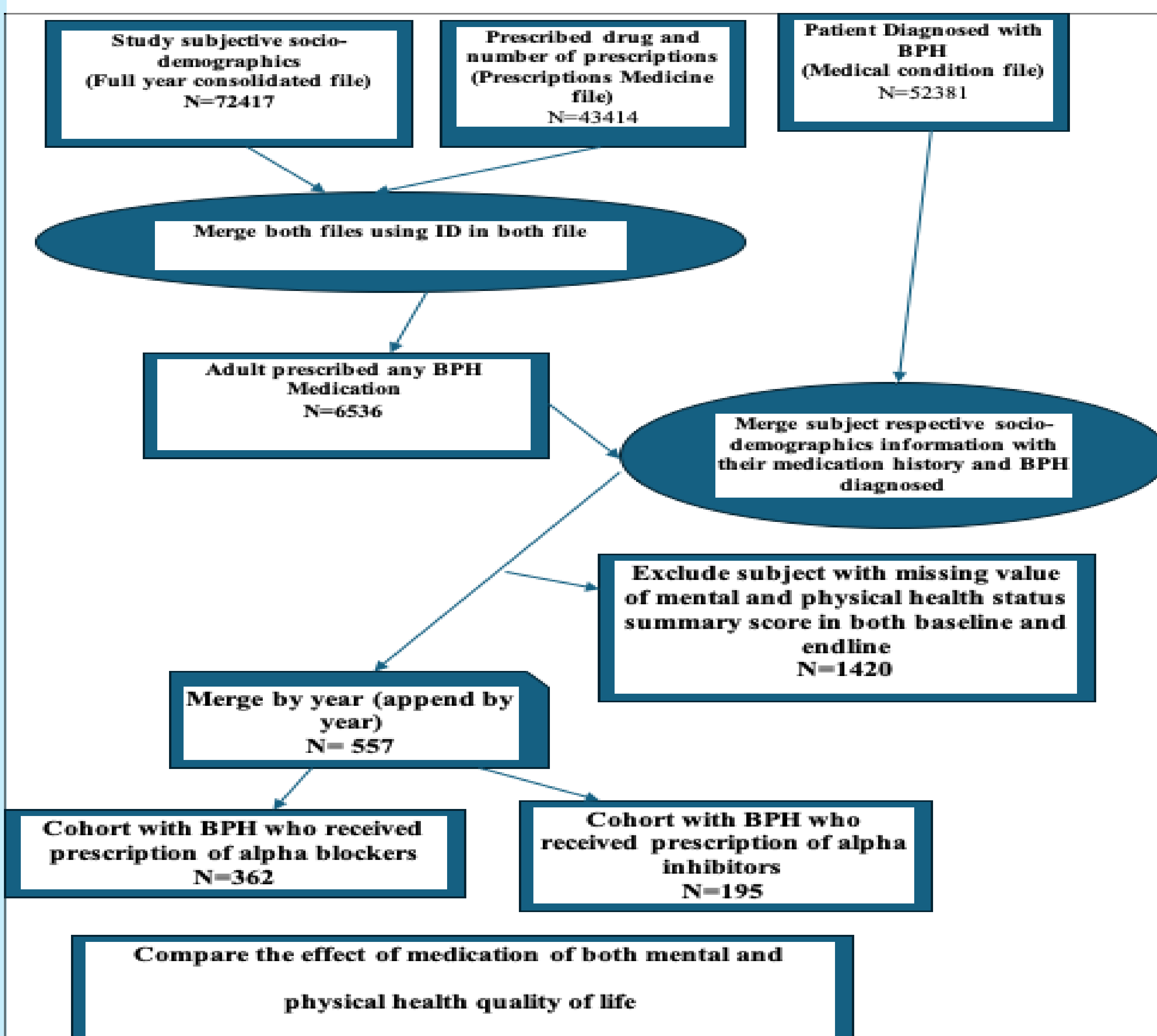
Background and objective

- BPH is the most common condition in the US, affecting more than 40 million men.
- About 60% of men aged 60 were diagnosed with BPH.
- Most medications, such as alpha-blockers (Tamsulosin, Doxazosin, and Terazosin) and alpha inhibitors (finasteride or dutasteride), are used for symptom relief over a short timeframe.
- This study aims to evaluate the comparative effectiveness of alpha blockers among adult patients with BPH in the US.

Methods

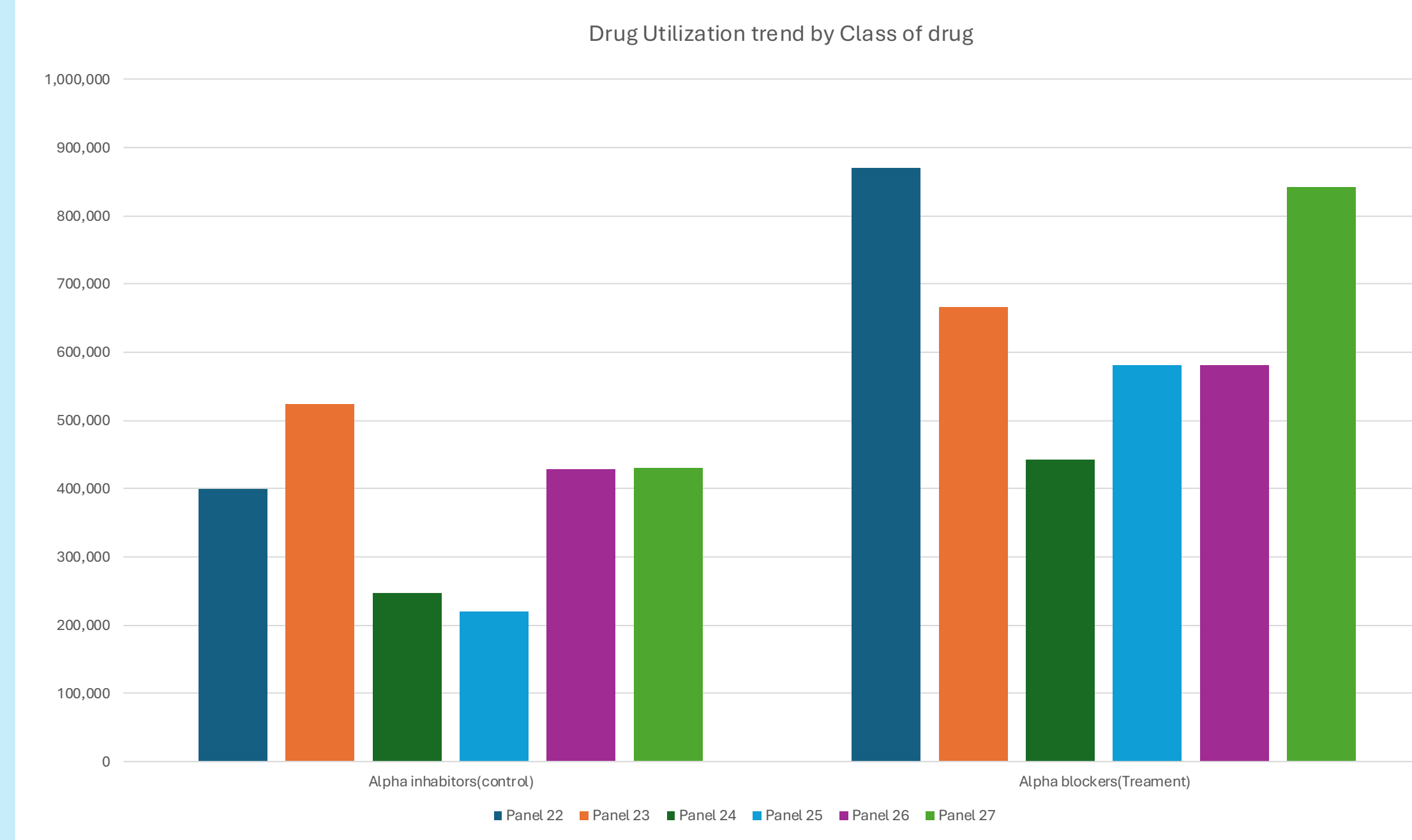
- A retrospective cohort study design using historical data from the MEPS database spanning panels 22-27 was employed.
- The outcome indicator used the physical and mental health summary score from patient-reported outcomes in each panel, round 2, as the baseline and round 4 as the follow-up. The alternative comparator group is patients with BPH who received treatment with 5-alpha reductase inhibitors.
- To avoid confounding bias due to subject assignment to the treatment group, propensity score matching was used, including variables such as race, age, comorbidities, and insurance status.
- We then used linear regression to estimate the treatment effect on health-related quality of life.

Figure 1. Analysis Conceptual Framework



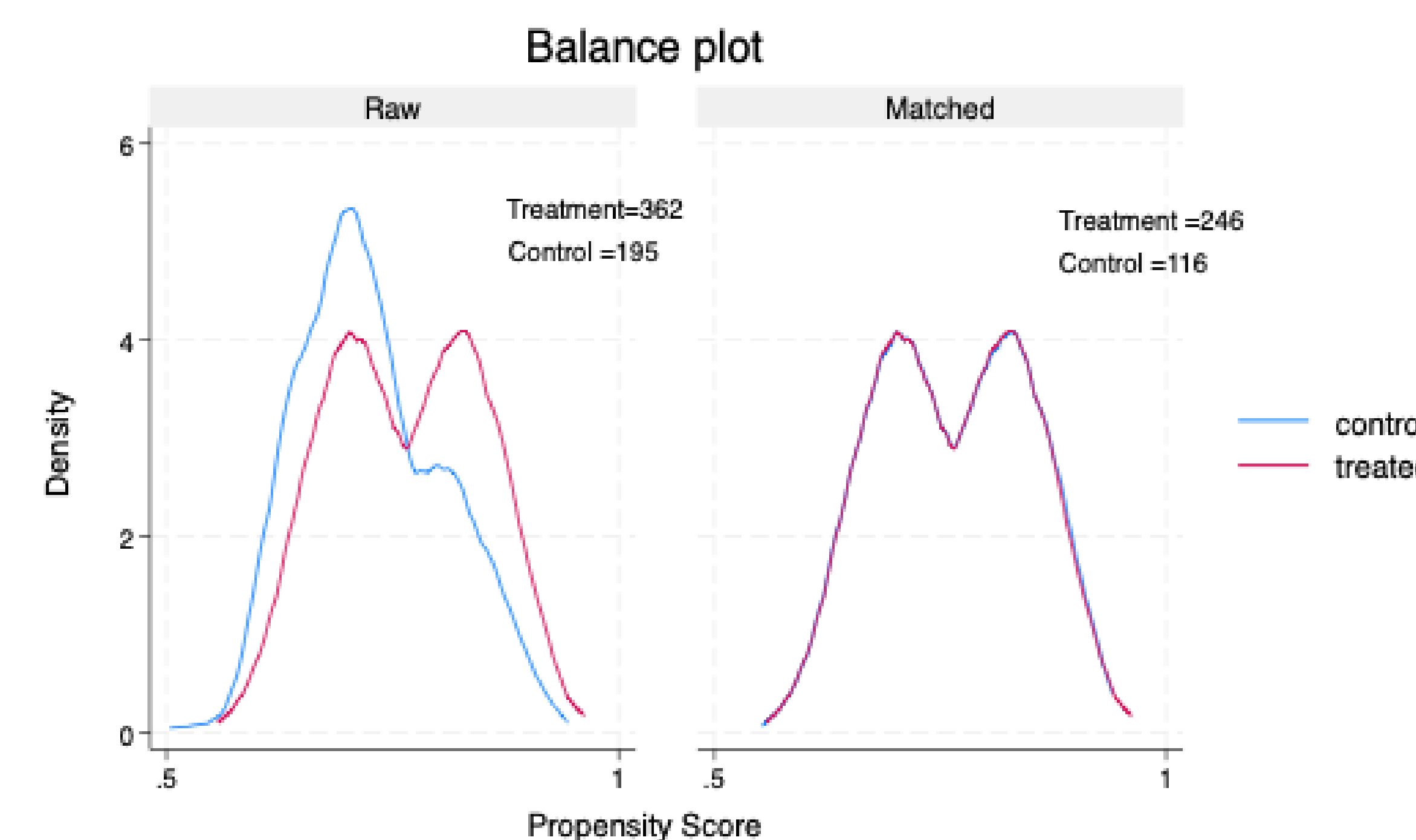
Results

Figure 2. Trend of drug utilization by class



- Both drug classes show a decline in the middle panels and recovery toward the end, but Alpha blockers consistently have higher utilization than Alpha inhibitors across all panels.

Figure 3. covariate balance plot



- The total number of patients in the final sample who meet the inclusion criteria before matching is 557, and after matching, there are 362 matched samples.
- Matching substantially improved the balance of covariates, reducing bias and making the treated and control groups more comparable for causal analysis.

Table 1. . Treatment effect on mental health estimation regression

Mental Health	Coefficient	Std. err.	t	P>t	[95% conf. interval]
Treatment	-0.1900391	0.9541185	-0.2	0.842	-2.066679 1.686601

- There is no statistically significant difference in physical health-related quality of life between alpha blocker users and their matched controls (alpha inhibitor users).

Table 2. Treatment effect on physical health estimation regression

Physical health	Coefficient	Std. err.	t	P>t	[95% conf. interval]
Treatment	0.1774756	0.9462409	0.19	0.851	-1.68367 2.038622

- The result shows that the alpha blocker effect was not statistically significant $\beta = 0.851$, within a 95% confidence interval of -1.68 to 2.04).
- Implying that there is no statistically significant difference in physical health-related quality of life between alpha blocker users and their matched controls (alpha inhibitor users).

Limitations

- The data collection tool used in this study is not disease-specific, which may affect the confidence in obtaining an unbiased result.
- The follow-up period was insufficient to evaluate the long-term effect, and the outcome may vary by severity level.
- However, patient-reported outcomes were collected from all patients regardless of severity level, which may introduce bias.

Conclusion

- Other studies suggest that alpha-receptor blockers are necessary for short-term symptom relief in BPH. However, as the findings indicate, there is no long-term effect on patients' health quality.
- Therefore, future research should consider patient-reported symptom burden and psychological distress as outcome indicators, specifically by designing disease-specific burden assessments, extending follow-up periods, and examining differential effects by disease severity.

References

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