Lofexidine and Opioid Withdrawal: Beyond the Impact of Blood Pressure

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Reexamining Previous Study

- Lofexidine: mitigates opioid withdrawal
- Reduces withdrawal severity with fewer side effects compared to similar treatments
- Current Knowledge: Lofexidine found to lower blood pressure (BP)

Our Study

- Goal: Does Lofexidine impact withdrawal beyond blood pressure?
- Impact: There may be better (cheaper or more targeted) treatments for withdrawal

Data

- Predominantly male sample (87%)
- Small sample size (68), limits generalizability
- Participants have a history of opioid dependence

Linear Regression Model

$$y_i = \alpha + \beta z_i + \gamma^T x_i + \epsilon_i, \qquad i = 1, 2, \ldots, 44,$$

Model Parameters

- Intercept: α
- Treatment effect: β
- Regression coefficients: γ

Variables

- MHOWS: y_i
- Treatment: $z_i \in \{0, 1\}$
- Covariates: $x_i \in R^2$
- Error: $\epsilon_i \overset{\text{i.i.d.}}{\sim} N(0, \sigma^2)$

Cohort Mean for Potential Covariates

Covariate	Lofexidine	Placebo	Total
Age*	42.0	40.5	41.3
% Male	88.6%	84.8%	86.8%
Opioid Use	29.4	29.2	29.3
Tobacco Use*	19.43	19.48	19.46
Baseline BP	123.0	123.2	123.1

***Chosen for final model**

Response Variable

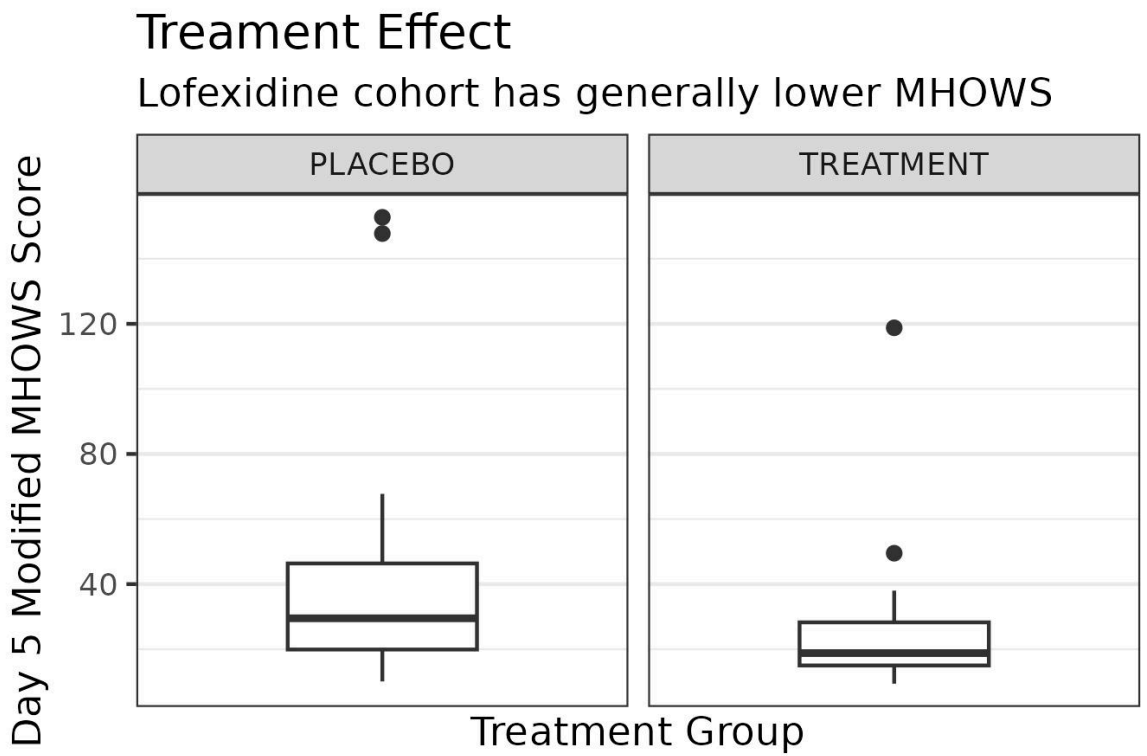
Composite MHOWS score excluding blood pressure

- Day 5
- Discrete MHOWS variables
  - anorexia score imputation
  - conversion to factors
- Continuous MHOWS variables
  - imputation of missing values
  - calculate comparisons to baseline (day 1 and/or 2)

Results

Treatment Visualization

Sensitivity Analysis



Discussion

- Does Lofexidine impact withdrawal beyond blood pressure?
  - The effect of Lofexidine is not statistically significant
- Future Work:
  - Larger sample size
  - Better patient retention
  - Modelling dropout

Thank you! Questions?