

Prospective Observational Study of Post Surgical Pain in Women undergoing Mastectomy Surgery: Post Surgical Pain After Mastectomy (PPAM) Study

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INTRODUCTION

- Breast cancer survivors who have undergone mastectomy with and without chemotherapy and radiation are at risk of developing Post Mastectomy Pain Syndrome (PMPS).
- Socio-demographic factors such as race, ethnicity, and neighborhood disadvantage are risk factors for the development of PMPS.
- This observational study assessed development of PMPS across different race, ethnic and socio-demographic categories such income, education, employment, insurance type and marital status for women undergoing mastectomy.

METHODS

1

Two center, prospective, observational study supported by the NIH HEAL initiative (award # UH3CA261067) and approved by the University of Utah IRB

2

The study included women between 18 and 85 years of age, undergoing mastectomy surgery

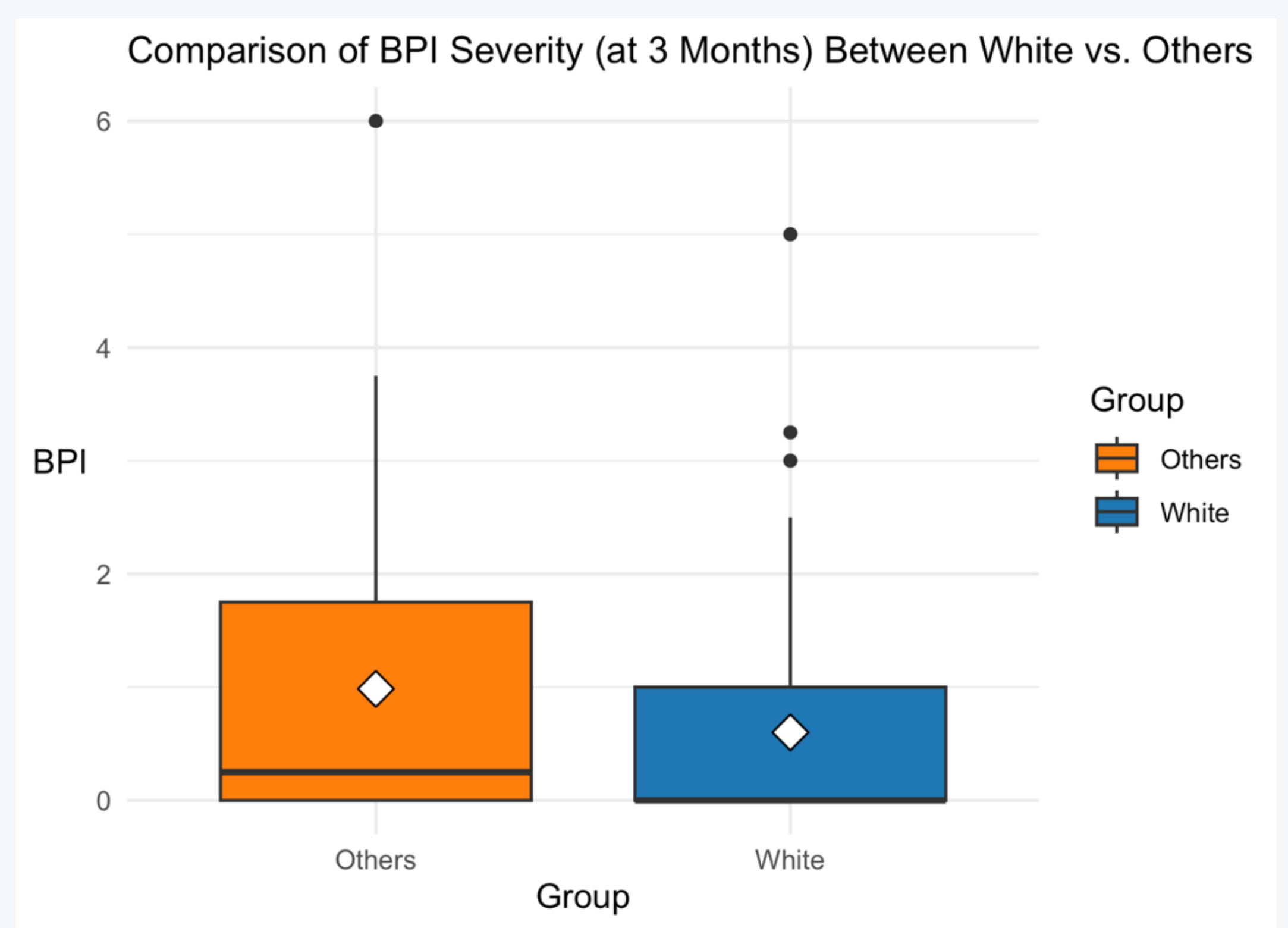
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The primary outcomes were the Brief Pain Inventory (BPI) pain severity subscale and the presence of PMPS, defined as the binary indicator of BPI average item score > 0, at 3 months post-surgery

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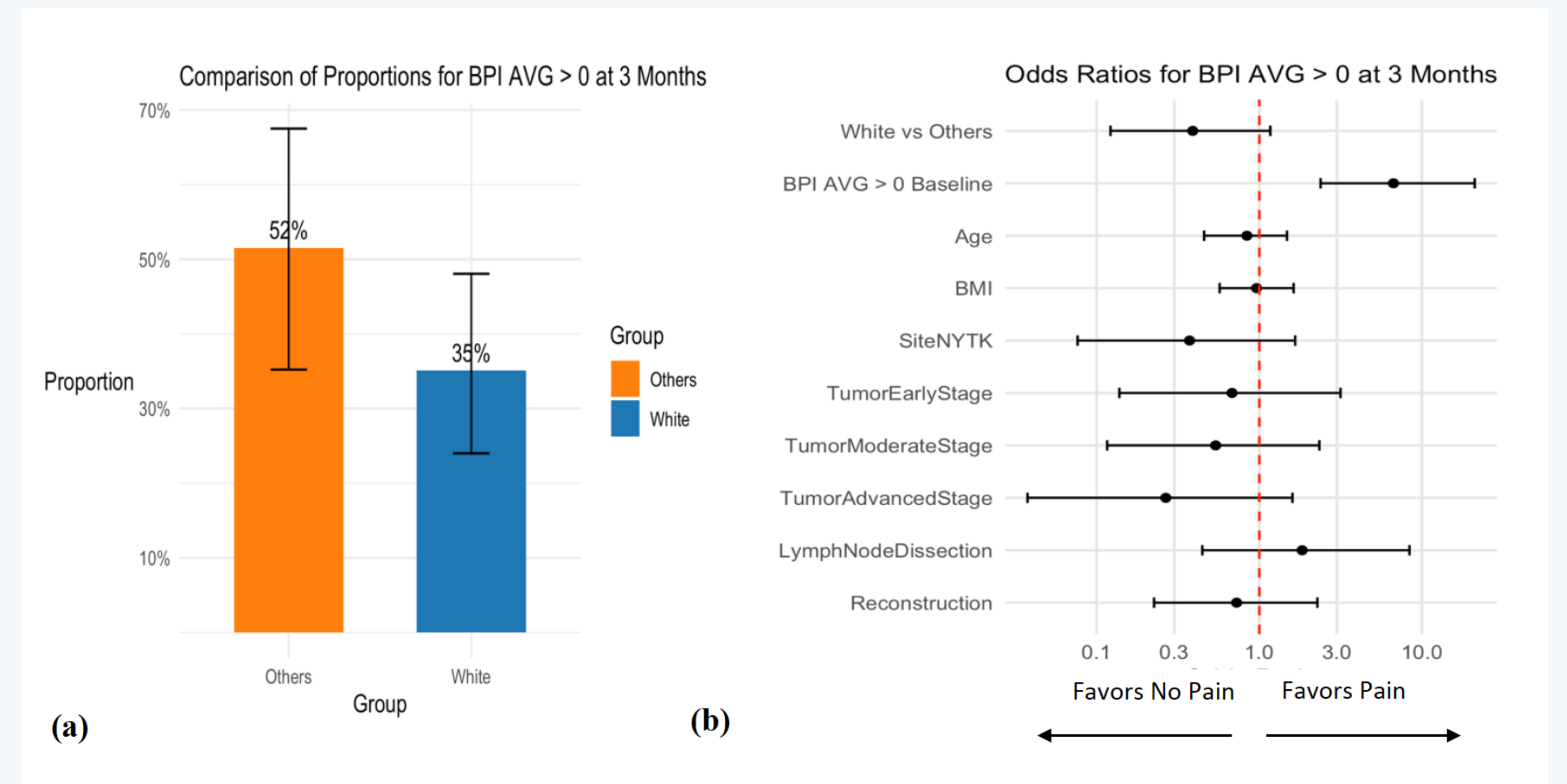
All analyses were conducted in R Statistical Software

Figure 1



Boxplots of BPI severity at 3 months comparing White vs. All Others. The white diamond represents the mean, the horizontal black line indicates the median, boxes show the interquartile range (IQR), and whiskers extend up to 1.5×IQR.

Figure 2



(a) Proportion of participants with BPI AVG > 0 at 3 months comparing White vs. All Others. Bars represent proportions with 95% confidence intervals. (b) Forest plot of odds ratios for BPI AVG > 0 at 3 months, adjusted for covariates. Points represent odds ratios with 95% confidence intervals. The dashed red line indicates OR = 1.

RESULTS

- 100 women were recruited and enrolled into the study and 89 completed the primary outcome assessment at 3 months.
- For the primary outcome, non-White group had higher BPI pain severity subscale at 3 months (mean: 0.99, SD: 1.37) compared to the White group (mean: 0.60, SD: 1.03) (Wilcoxon rank-sum test: P=0.062). (**Fig 1**) In multivariable regression adjusting for potential confounders, this difference was not statistically significant (P=0.263).
- At 3 months, 52% of the non-White group had PMPS compared to 35% of the White group. (**Fig 2**) There were no significant differences in BPI pain severity across income , educational status (high vs. lower), insurance type or marital status.

DISCUSSION

- There is limited data on the role that race/ethnicity and other sociodemographic factors play on the development of persistent pain syndromes in patients after mastectomy surgery.
- There was no significant differences between pain scores and rate of development of PMPS at 3 months between White and non-White participants at $\alpha = 0.05$. However, some findings reached statistical significance at $\alpha = 0.1$, suggesting potential trends that warrant further exploration.
- Limitations: Recruitment at 2 sites (NYU Langone and MD Anderson); Enrolled patients were not socioeconomically diverse; Participants may not be representative of overall US population; Study was likely underpowered.

References →

