

Effects of Weighted Blanket Use in Adolescent Dental Patients

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BACKGROUND

One of the greatest challenges in delivering effective dental care to pediatric patients is managing patient anxiety. Weighted blankets are commonly utilized to create an equal distribution of pressure to relax and calm the autonomic nervous system, release oxytocin, and reduce anxiety, often for sleep difficulties. They have been introduced in the medical setting for trauma patients, psychiatric patients, and patients receiving chemotherapy as adjunctive aids. While there are limited studies on weighted blankets in dentistry, existing studies show a decrease in dental anxiety and an increase in provider comfort.

Due to the low cost relative to other behavior management methods, ease of use, minimal patient risk, and potential benefits, using a weighted blanket may be a helpful adjunct to dental treatment, especially for pediatric patients. Further research on the effect of weighted blankets in a pediatric dental setting may help to evaluate the efficacy of this intervention in reducing stress, fear, and anxiety associated with dentistry.

Two WALLABY® weighted blankets were gifted for this study. This study is IRB approved by Pediatric Dental Associates IRB Approval Project ID: 00011770.

OBJECTIVES & HYPOTHESIS

- Is the blanket effective in decreasing dental anxiety?
- Would patients prefer to use the blanket for subsequent dental visits?
- Is the blanket easy and comfortable to use?

Hypothesis: There is a decrease in patient dental anxiety while using the Wallaby® weighted blanket.

CRITERIA & METHODS

Inclusion Criteria

- 12-16 years old
- Use of N₂O (30-40%)
- Neurotypical
- Class I or II caries requiring local anesthesia
- Caries not encroaching on the pulp
- 67-200 lbs (30-90kg)
- No additional behavior management techniques needed (OCS, GA)
- No additional treatment types to be completed (SSCs, extractions)

Pre-Operative

Pre-op surveys were administered. Patient was seated and vitals (BP, HR, MAP) were recorded prior to starting N₂O and blanket placement.

Intra-Operative

After pre-op vitals were taken, patient was reclined, N₂O and blanket were placed. Intra-op vitals were recorded every 5 minutes. Preparation time was kept <30 minutes to decrease variability in appointment length.

Post-Operative

After treatment, 100% oxygen was administered for 5 minutes. N₂O and blanket were removed. Post-op surveys were administered and post-op vitals were recorded. If a patient elected to remove the blanket, the patient was still included in the study and was still given a post-op survey.

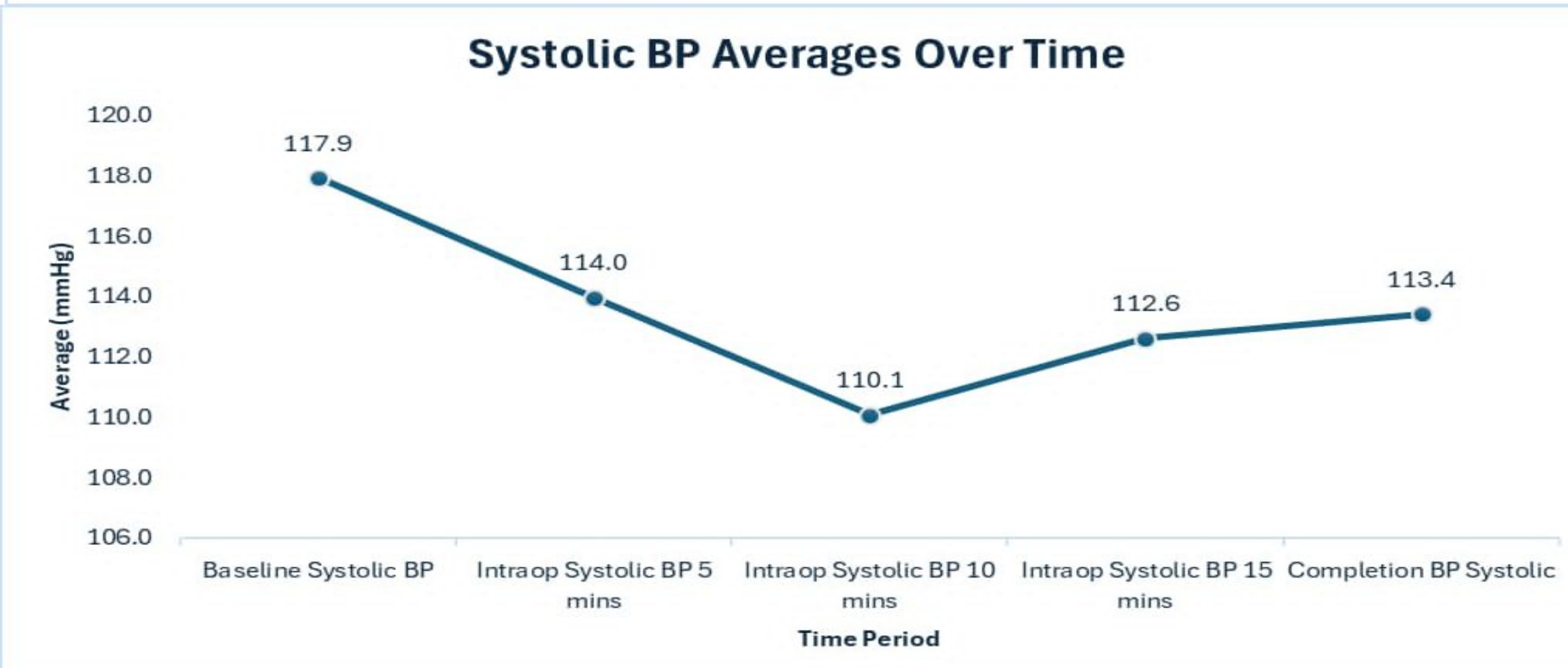
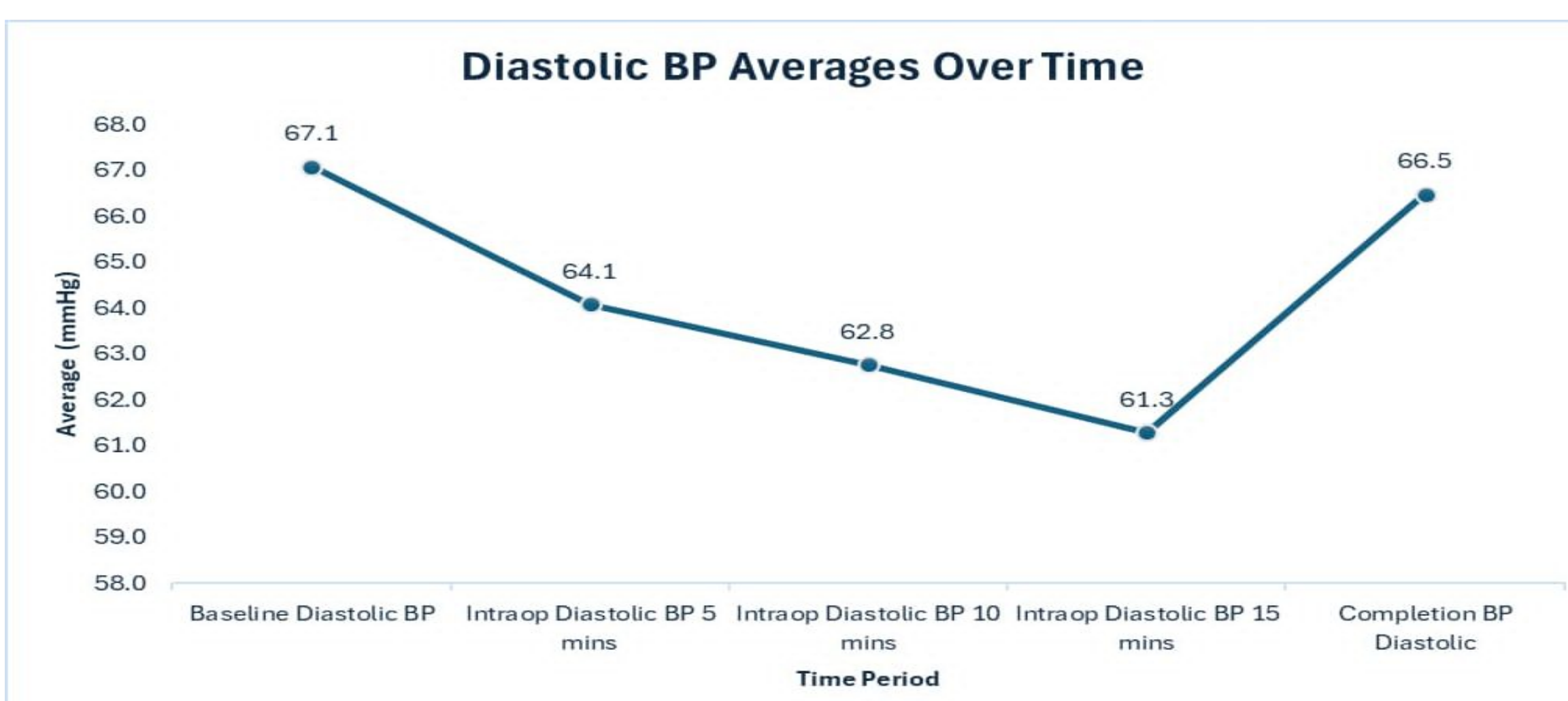


WALLABY® WEIGHTED BLANKET

RESULTS

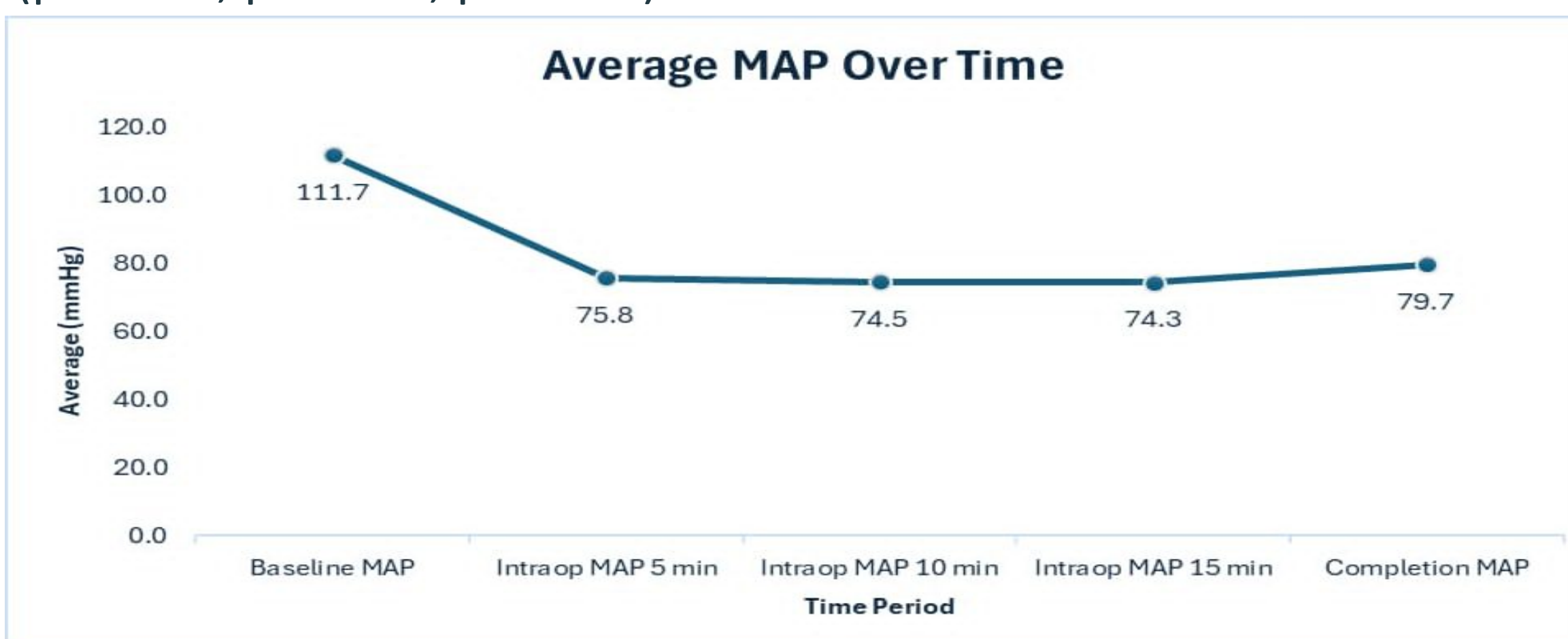
Blood Pressure

- Baseline Blood Pressure v. 5 minutes showed no significant difference ($p=0.15$) while v. 10 and 15 minutes showed a **statistically significant difference** ($p=0.046$ and $p=0.049$).



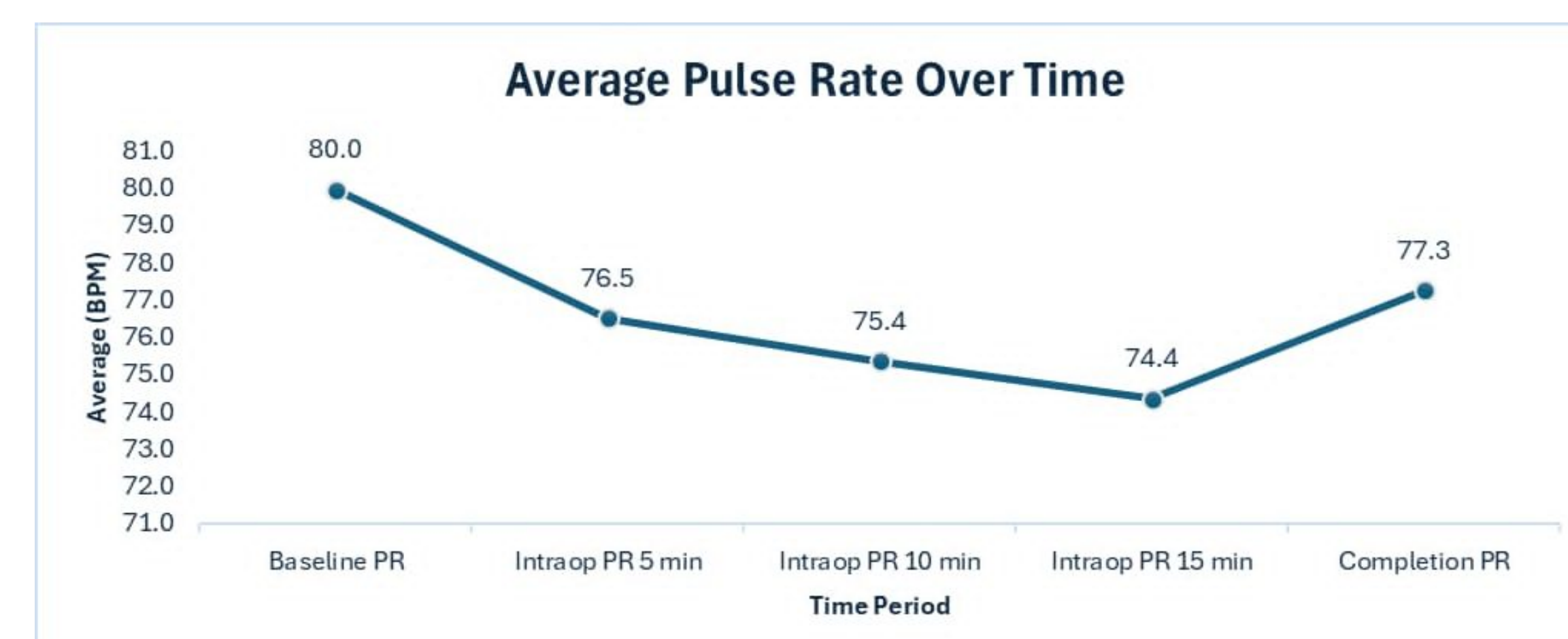
Mean Arterial Pressure

- **Significantly reduced at all time points** compared to baseline.
 - ($p=0.024$, $p=0.003$, $p=0.016$)

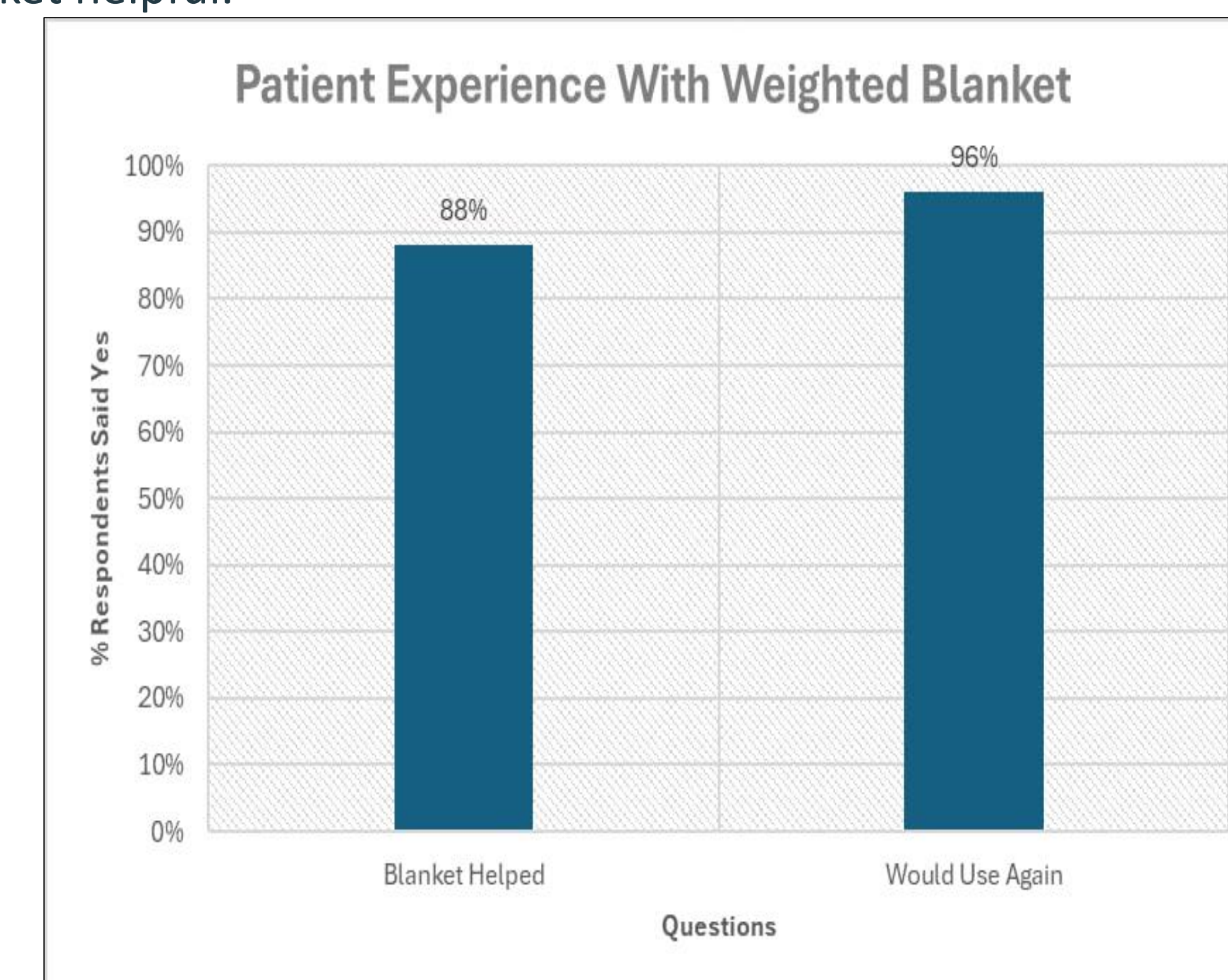


Pulse

- Baseline pulse rate v. 5 minutes ($p=0.15$) and 10 minutes ($p=0.07$) did not show a significant difference while at 15 minutes a **significant difference** ($p=0.04$) was shown.



- Baseline dental anxiety compared to whether weighted blanket helped during treatment **showed a significant difference** ($p=0.047$).
- Patients with **low or moderate prior anxiety** experienced high success with the weighted blanket.
 - **100% (5/5)** of low anxiety patients and **94% (16/17)** of moderate anxiety patients reported the blanket helped.
 - Only **33%** of patients with high baseline anxiety found the blanket helpful.



CONCLUSIONS

- A majority of patients **96% (24/25)** indicated they would like to use the weighted blanket for **future dental appointments** – several patients have even already asked to do so.
- The blanket helped **88% (22/25)** of patients during restorative treatment.
- No patients requested to take the blanket off during treatment.
- These findings show a high acceptance and satisfaction with the blanket.
- Future studies may consider altering criteria and methods, including blanket use during sedation and for neurodivergent patients.

LIMITATIONS

- Patients who denied N₂O use
- Limited sample size
- Restricted age of patient pool
- Exclusion of neurodivergent patients
- Patients with extensive dental treatment
- Patients needing additional behavior management techniques (OCS, GA)
- N₂O as a confounder for results obtained in the study