

The Effects of Saline Flushes on Taste and Smell

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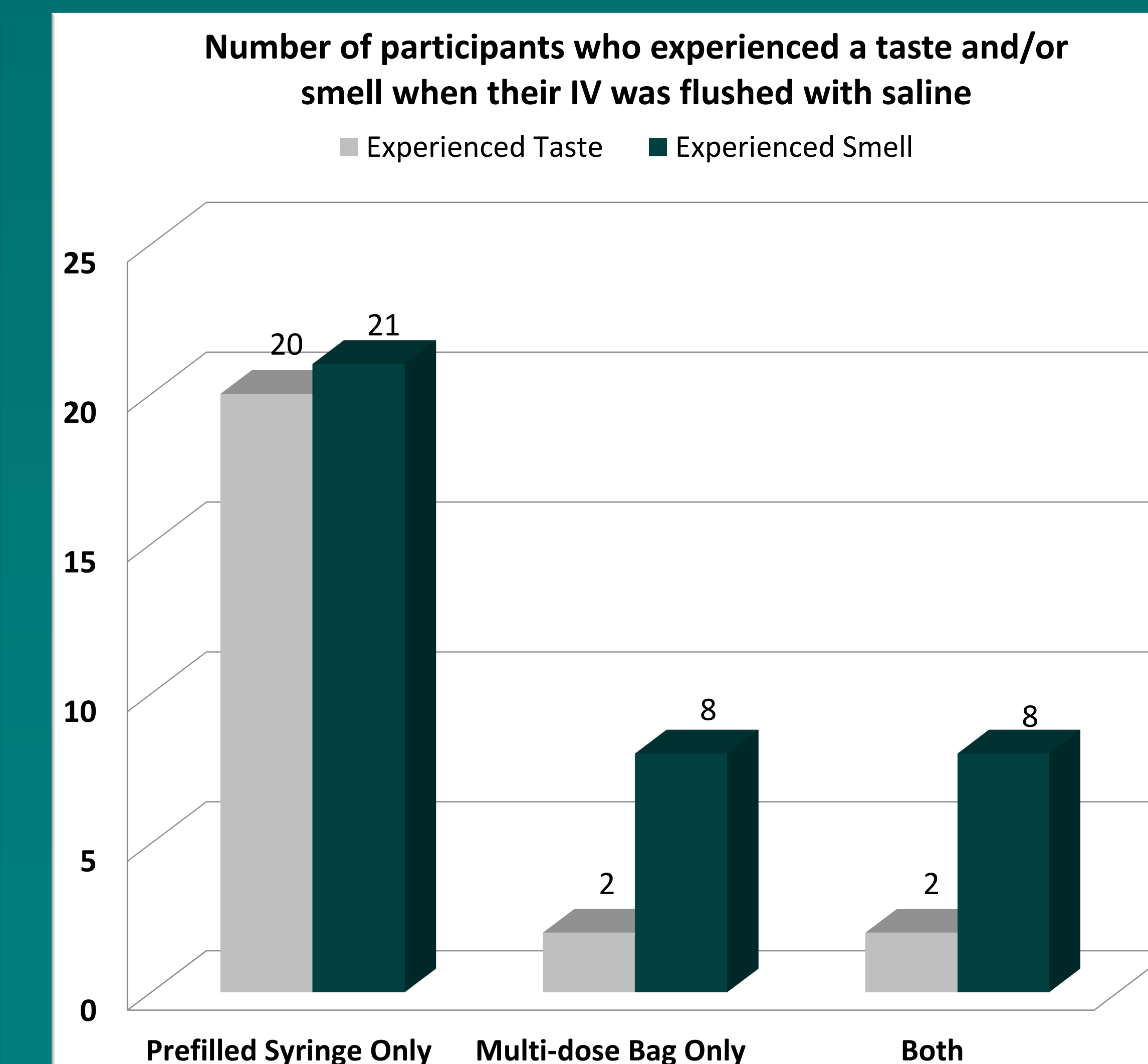
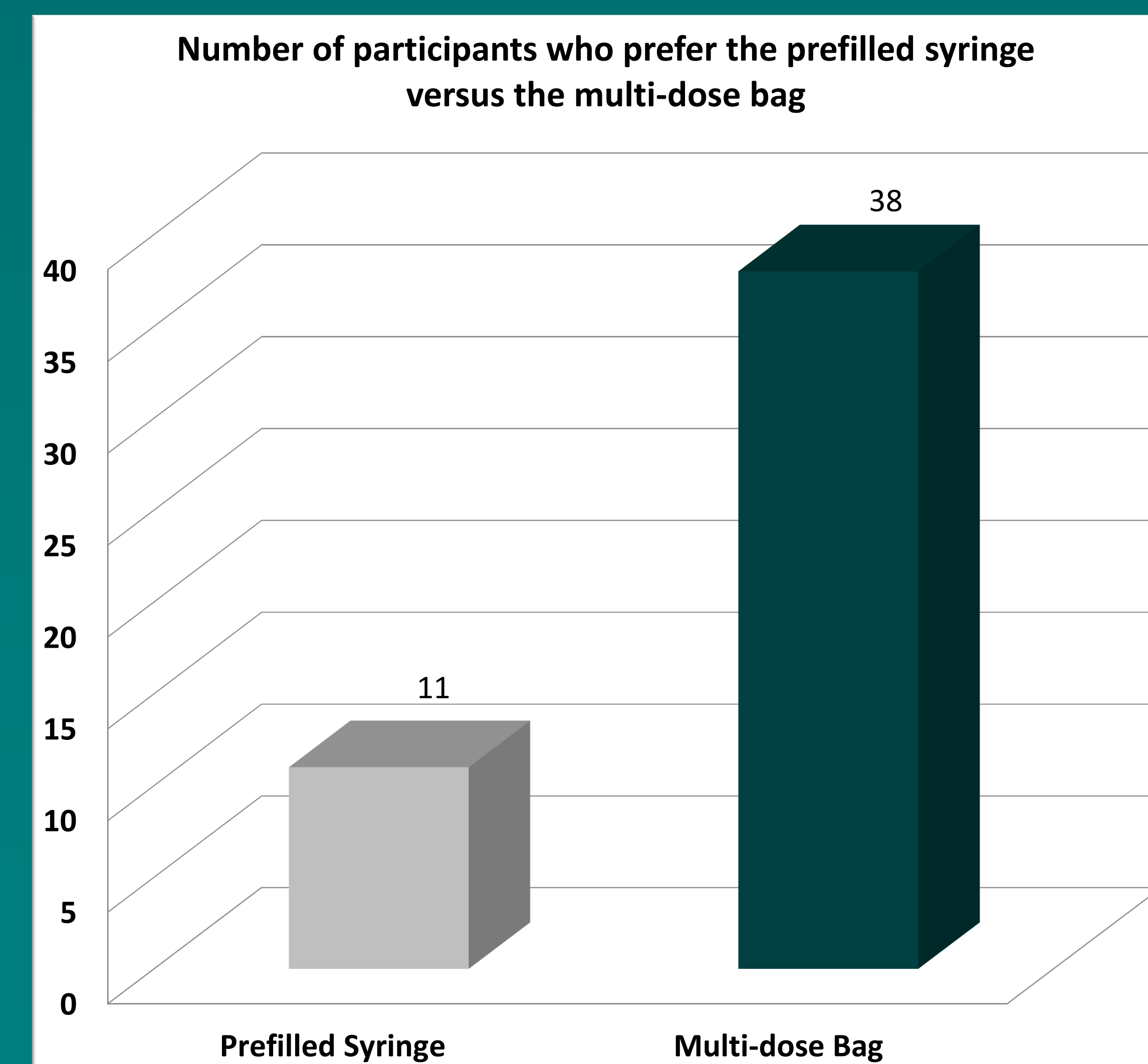
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Background

- IV catheters are routinely flushed with saline to maintain IV patency, which is standard of care practice
- Some patients have experienced a taste and/or smell when their IV catheter is flushed with saline
- IV catheters are flushed with saline from a commercially prefilled syringe and/or saline from a multi-dose vial or bag depending on unit policy/procedure and/or nurse preference
- Commercially Prefilled Saline Syringes
 - Advantages:
 - Allows nurses to be more efficient in their work flow
 - Manufacture labeling increases patient safety
 - Decreased risk of infection
 - Decreased medication errors
 - Disadvantages:
 - Can cause the patient to experience a taste and/or smell when their IV is flushed
 - Some reports of infectious outbreaks have been reported due to poor compliance with the FDA's quality system regulations and Good Manufacturing Practices
- Multi-dose Bags or Vials of Saline
 - Advantages:
 - Cost effective
 - Patients are less likely to experience a taste and/or smell when their IV is flushed
 - Disadvantages:
 - Increased risk of infection

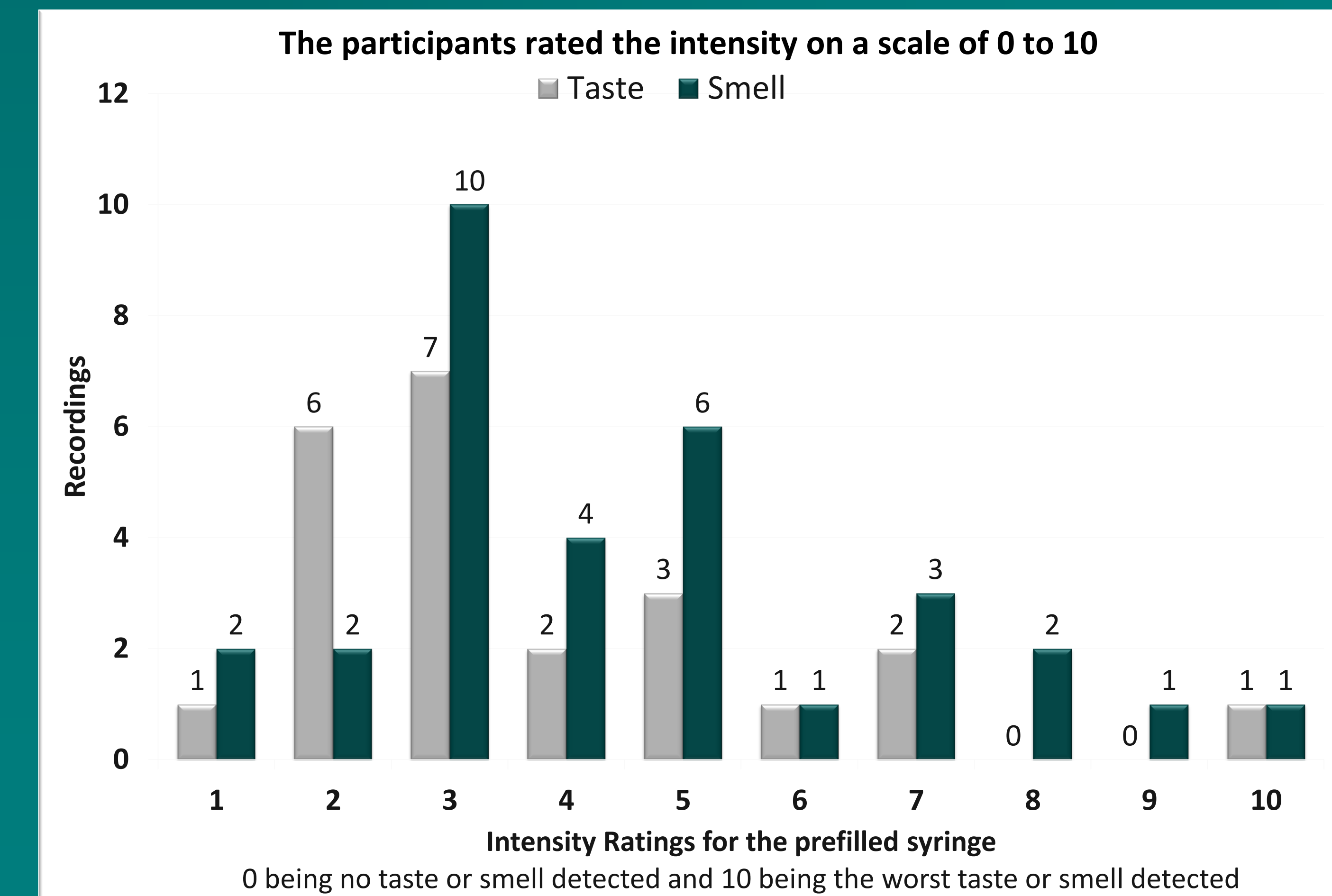
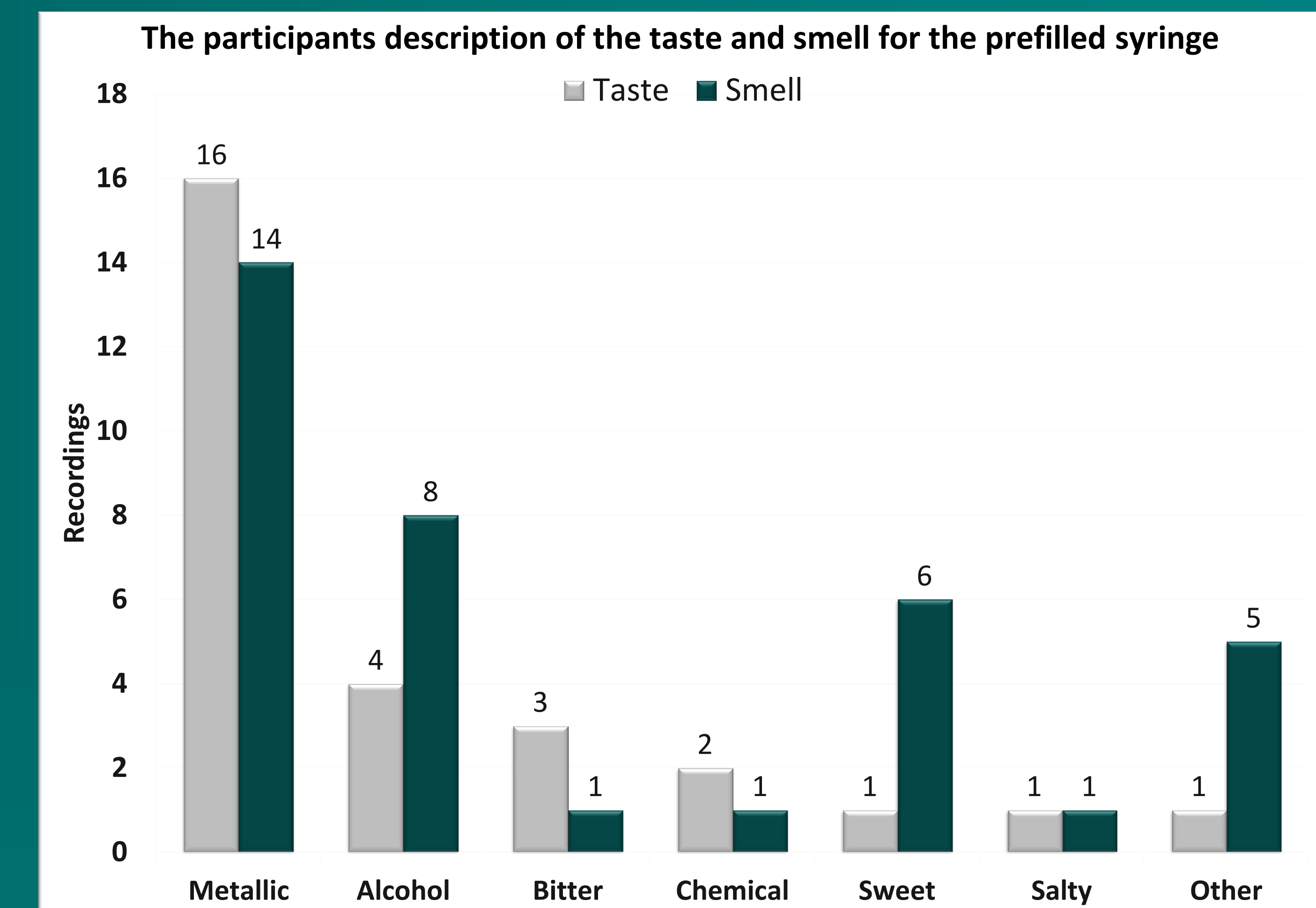


Results



- 7.3 times more likely to experience a taste with the prefilled syringe when compared with the multi-dose bag ($p < 0.001$ McNemar's Chi-squared test)
- 10.4 times more likely to experience a smell with the prefilled syringe when compared with the multi-dose bag ($p < 0.001$ McNemar's Chi-squared test)
- 38 of the participants (77.6%) preferred the multi-dose bag of saline when compared with the prefilled syringe ($p < 0.001$ McNemar's Chi-squared test)

Results



Hypothesis

Prefilled saline syringes will cause the patient to experience a taste and/or smell after their IV catheter is flushed with saline.

Methods

- **Design:** randomized, double blinded crossover study
- 49 participants were given three 10 ml injections of saline from a commercially prefilled syringe and saline from a multi-dose bag
- Each injection was separated by 30 minutes and given over 15 seconds
- Each participant received saline from both the commercially prefilled syringe and multi-dose bag
- At the completion of each flush the participants were given a questionnaire to evaluate their experience
 - Participants were asked to choose which injection they preferred

Conclusion

Prefilled saline syringes cause the patient to experience a taste and/or smell after their IV catheter is flushed with saline.

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