

Introduction

Stainless steel crowns (SSCs) are commonly used for treatment of multi-surface carious lesions on posterior teeth in high caries risk children. Traditionally, SSCs are placed after local anesthesia administration and complete removal of caries.

In 1988, Dr. Norna Hall developed the Hall Technique, a method that does not require local anesthesia, removal of caries or reduction of tooth structure. The technique relies on the theory that caries can be arrested in a well-sealed environment and provides a more conservative and less anxiety-provoking patient experience.

Objectives

- ❖ Assess clinical and radiographic success of SSCs placed traditionally or using Hall Technique
- ❖ Discuss the risks and benefits of Hall Technique on pediatric dental patients
- ❖ Upon assessment, recommend wider use of Hall Technique to pediatric dental patients

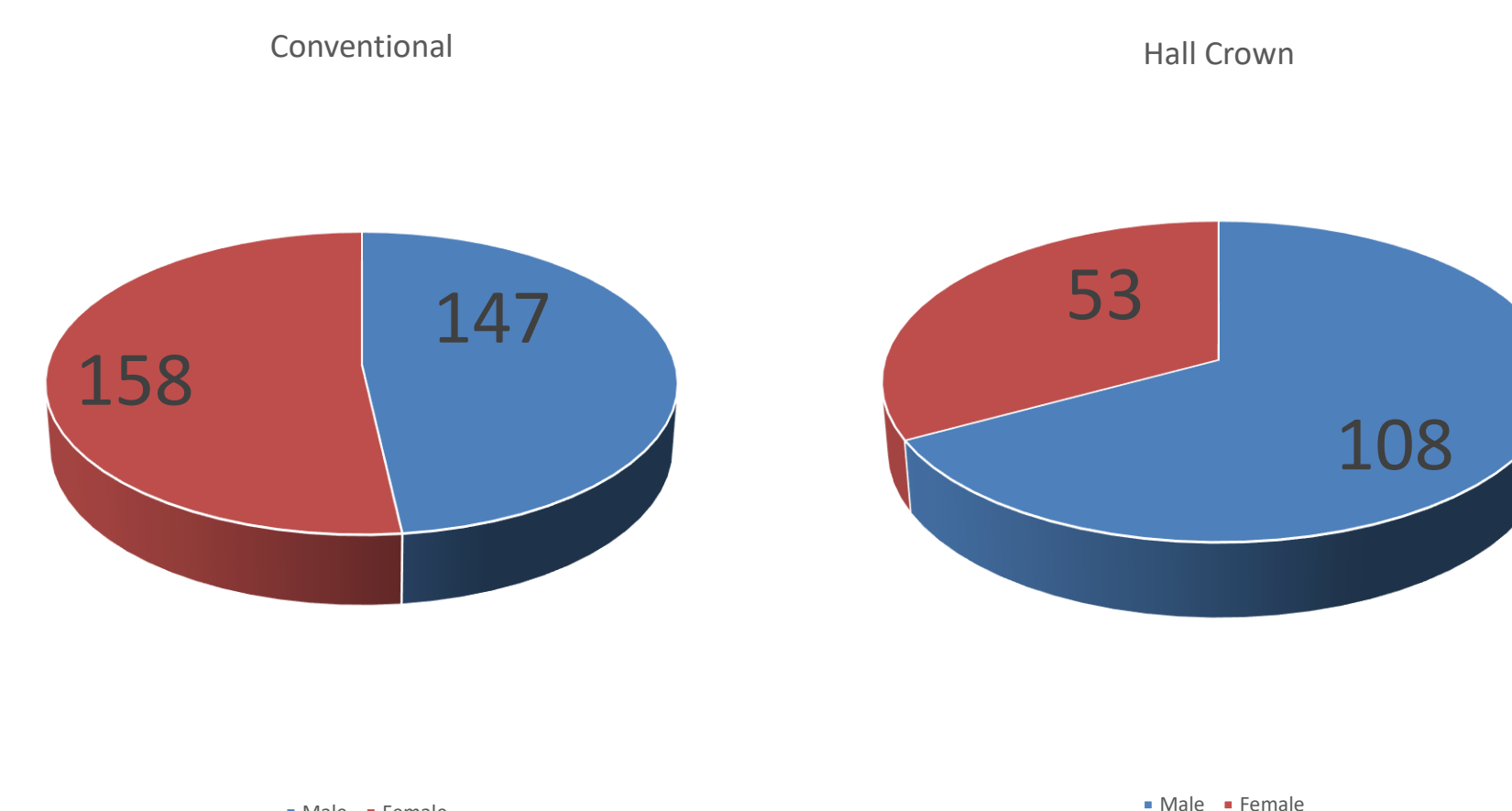
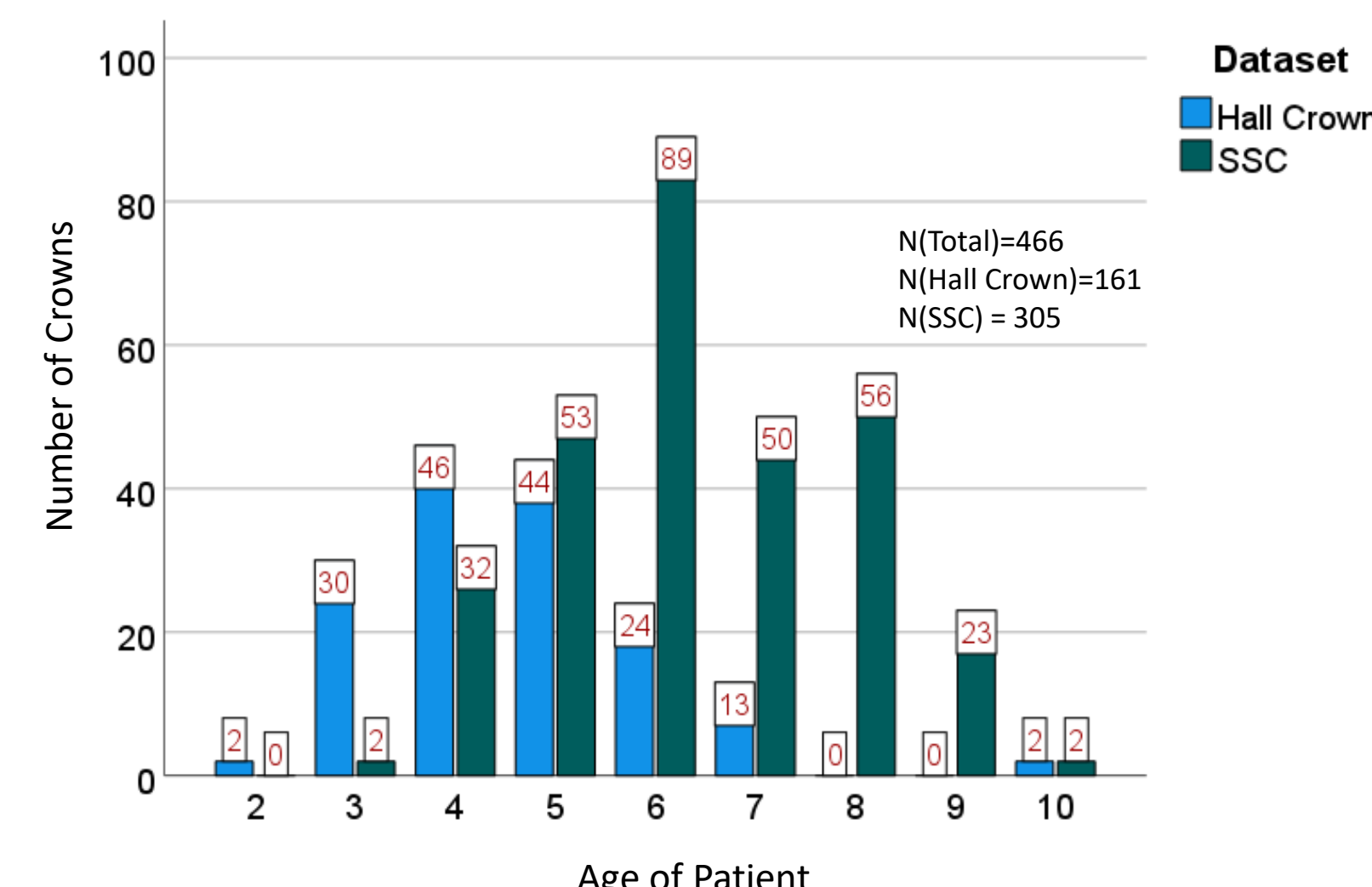
Methods

- ❖ Retrospective chart review of Woodhull Medical Center pediatric dental patients ages 3-9 from 2016-2022
- ❖ Data sorted into 3 categories
 - (1) Successful – no intervention needed before natural exfoliation,
 - (2) Minor failure – fracture or wear, restorable without requiring pulpotomy or extraction
 - (3) Major failure - irreversible pulpitis, root resorption or non-restorable tooth requiring pulpotomy or extraction

Results

- ❖ Conventional SSCs
 - ❖ 305 crowns placed
 - ❖ Average age: 6.85
 - ❖ 158 F/147 M
 - ❖ Failure rate: 3.28%
 - 9 minor, 1 major
- ❖ Hall Technique
 - ❖ 161 crowns placed
 - ❖ Average age: 5.20
 - ❖ 53 F/108 M
 - ❖ Failure rate: 3.11%
 - 4 minor, 1 major

Results

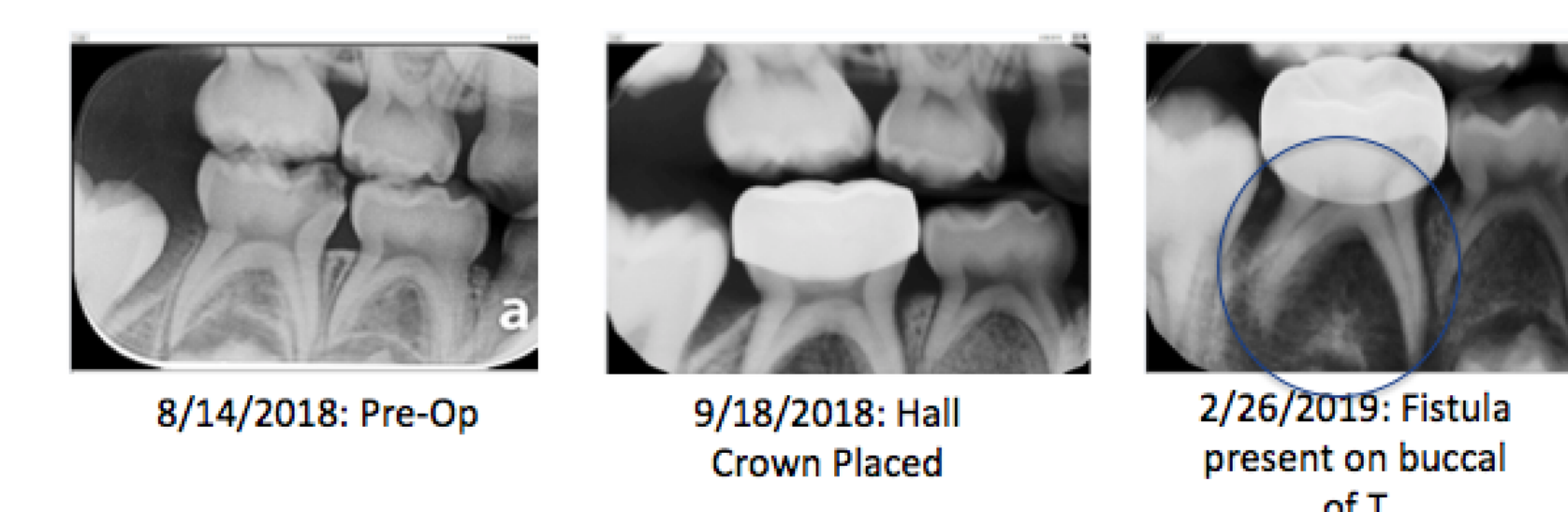


Dataset	Value	df	Asymptotic Significance (2-sided)
Hall Crown	Pearson Chi-Square	1.987 ^b	.370
	Likelihood Ratio	2.341	.310
	Linear-by-Linear Association	1.867	.172
	N of Valid Cases	161	
SSC	Pearson Chi-Square	4.215 ^a	.239
	Likelihood Ratio	5.073	.167
	Linear-by-Linear Association	.010	.921
	N of Valid Cases	307	
Total	Pearson Chi-Square	3.702 ^a	.296
	Likelihood Ratio	4.865	.182
	Linear-by-Linear Association	.671	.413
	N of Valid Cases	468	

Conventional SSC Failure



Hall Crown Failure



Conclusion

Null Hypothesis: There is no statistically significant difference in clinical or radiographic success of traditional vs. Hall Technique Stainless Steel Crown placement

We accept the null hypothesis, as there is no statistically significant difference in clinical or radiographic success of traditional vs. Hall Technique Stainless Steel Crown placement (<.05).

Further studies needed to observe long-term effects and outcomes of Hall Crowns regarding wear resistance or effects on occlusion.

References

- ❖ Altoukhi, Doua H, and Azza A El-Housseiny. "Hall Technique for Carious Primary Molars: A Review of the Literature." Dentistry journal vol. 8,1 11. 17 Jan. 2020, doi:10.3390/dj8010011
- ❖ Ayedun OS, Oredugba FA, Sote EO. Comparison of the treatment outcomes of the conventional stainless steel crown restorations and the hall technique in the treatment of carious primary molars. Niger J Clin Pract. 2021 Apr;24(4):584-594. doi: 10.4103/njcp.njcp_460_20. PMID: 33851682.
- ❖ Clark, Walker, et al. "Success rates of Hall technique crowns in primary molars: a retrospective pilot study." Gen Dent 65.5 (2017): 32-5.
- ❖ Ludwig, Kevin H., et al. "The success of stainless steel crowns placed with the Hall technique: a retrospective study." The Journal of the American Dental Association 145.12 (2014): 1248-1253.