

Success of Resin Sealants on First Permanent Molars: A Retrospective Chart Review



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INTRODUCTION

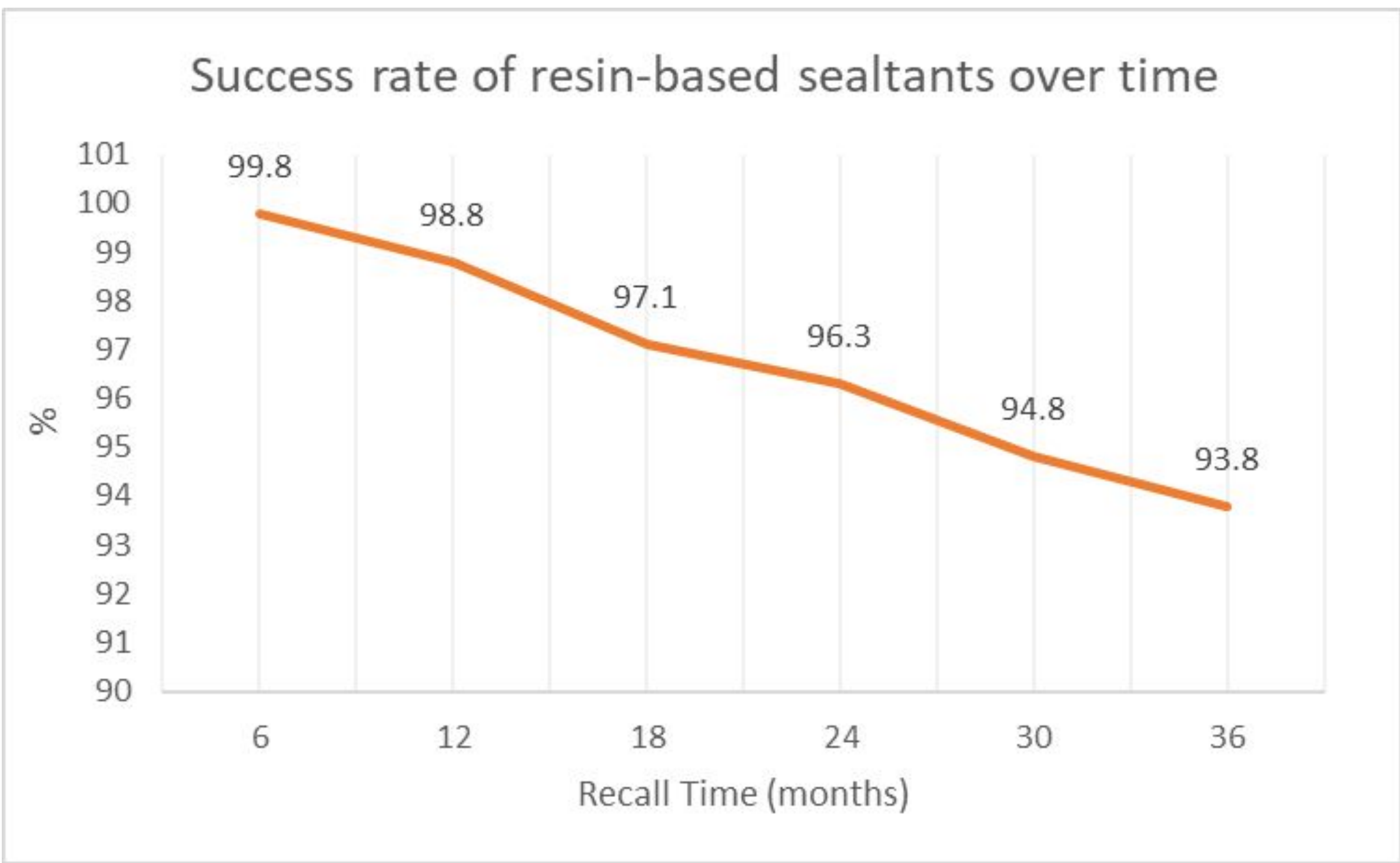
The most caries-susceptible period of the occlusal surface of the permanent first molar is during the long eruption phase as the enamel is still immature. Preventive measures such as control of bacterial plaque and topical application of fluoride have shown little effect. More effective measures, such as application of occlusal sealants, are necessary. While pit and fissure sealants have been demonstrated to be effective in occlusal caries prevention, incorrect application could result in microleakage, larger restorations, endodontic treatment, sealant loss, and failure.

PURPOSE

The purpose of this study is to assess the success of resin-based sealants placed by pediatric dental residents from 2015-2019 on first permanent molars in Hispanic patients at 6,12,18,24,30, and 36-month recall intervals at El Rio Community Health Center.

METHOD

Electronic chart records of Hispanic patients who had 1st molar resin sealants placed from 2015-2019 at El Rio Community Health Center were examined. Data including patient’s age, sex, ethnicity, Frankl score, isolation used, recall interval, type of sealant, and tooth number were collected. Sealant success was determined by absence of dental caries or dental treatment at the respective recall intervals.



| Success of resin-based sealants over time | | | | | | |
|---|----------------------|------|------|------|------|------|
| | Recall Time (months) | | | | | |
| | 6 | 12 | 18 | 24 | 30 | 36 |
| % Successful | 99.8 | 98.8 | 97.1 | 96.3 | 94.8 | 93.8 |
| p-value | - | 0.16 | 0.10 | 0.26 | 0.26 | 0.08 |

A total of 93.8% of resin-based sealants placed were successful and didn’t need restorative treatment at 36 months recall

RESULTS

- 149 charts were reviewed
- 64 (43%) males and 85 (57%) females were included in the study
- The mean age 7.4 years old
- The mean Frankl score 3.7
- 100% of the sealants placed were Embrace (Pulpdent)
- Isolation type: 111 (74.5%) cotton roll and 38 (25.5%) isovac
- The success of the sealants placed at recalls was:
 - 6 month (99.8%)
 - 12 month (98.8%)
 - 18 month (97.1%)
 - 24 month (96.3%)
 - 30 month (94.8%)
 - 36 month (93.8%)

CONCLUSIONS

Success of resin based sealants was greatest at the 6 month recall, and continued to decrease until the 36 month recall. Results were not statistically significant.

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