Vital Pulp Therapy Success Rate in Community Health Centers

Hara Webster[1,2,3], Joseph Wilson[1,3]

[1]Yakima Valley Farm Workers Clinic-ViewCrest Pediatric Dentistry, Yakima, WA, [2]Children's Village, Yakima, WA
[3]NYU Langone Hospitals-Advanced Education in Pediatric Dentistry, Brooklyn, NY

NYU Langone Dental Postdoctoral Residency Programs

INTRODUCTION

- Yakima Valley Farm Worker's Clinics are federally qualified health centers, and serves many low-socioeconomic children with high burden of dental disease
- Vital pulp therapy (VPT) is a well-established treatment for preserving primary molars affected by deep caries, with the goal of maintaining pulp vitality until natural exfoliation[1]
- Mineral trioxide aggregate (MTA) has demonstrated superior clinical and radiographic outcomes compared with traditional pulpotomy medicaments such as formocresol and ferric sulfate[2,3,4,5]
- There is limited evidence evaluating outcomes in Community Health Center (CHC) populations, where children often present with higher caries burden and barriers to care[6, 7]

PURPOSE

The purpose of this retrospective chart review was to evaluate clinical and radiographic outcomes of pulpotomy in pediatric patients treated at a rural CHC in Central Washington

METHODS

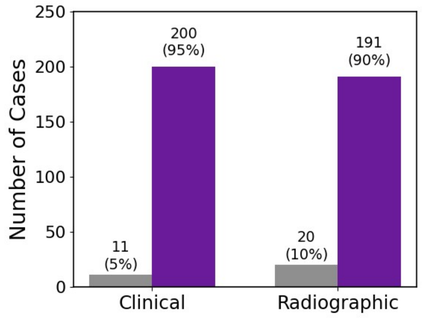
- A retrospective chart review was conducted of pulpotomies performed between 7/1/2019 and 6/30/2024, using CDT code D3220
- Variables include clinical and radiographic success/failure, age, treatment modality and clinic location Lincoln Ave Dental Clinic (LA), Children's Village (CV), Toppenish Dental Clinic (TDC)
- Clinical failure was defined as pain, abscess, pathologic mobility, or extraction
- Radiographic failure was defined as radiolucency (furcal or periapical) and extraction
- Descriptive statistics were calculated, and associations between variables were analyzed using Fisher's exact test (α = 0.05)

FIGURES

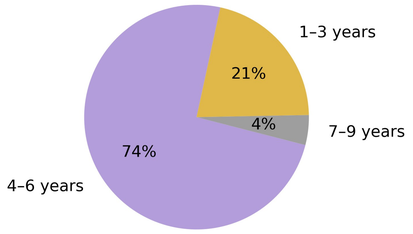
Sample size
n=211

Failure Success

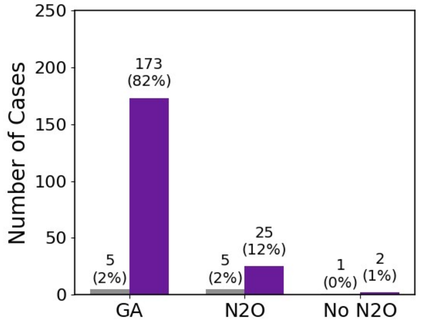
Clinical and Radiographic Outcomes of Pulpotomy



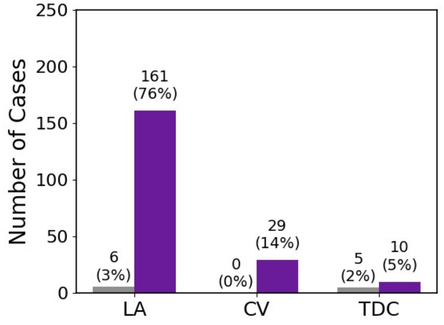
Age Distribution of Patients



Clinical Outcomes by Treatment Modality



Clinical Outcomes by Location



RESULTS

- A total of 211 pulpotomy procedures met inclusion criteria
- Most patients were between 4-6 years of age (74.4%), followed by 1-3 years (21.3%) and 7-9 years (4.3%)
- Gender distribution was similar, with 103 males (48.8%) and 108 females (51.2%)
- Majority of procedures were completed under general anesthesia (84.4%)
- Clinical success was observed in 200 cases (94.8%), while 11 cases (5.2%) demonstrated clinical failure
- Radiographic success was observed in 191 cases (90.5%), while 20 cases (9.5%) demonstrated radiographic failure
- No statistically significant associations were noted between success and: age, gender, tooth type, treatment modality and location (P < .05)

CONCLUSIONS

- MTA pulpotomy demonstrates high clinical and radiographic success rates and remains a reliable treatment for managing deep caries in primary molars, even in high-risk pediatric populations treated in CHC settings
- Although slightly lower success rates were observed in children aged 7-9 years, this group represented a small proportion of the sample, and no statistically significant association was identified
- The predominance of cases in children aged 4-6 years reflects the high need for vital pulp therapy in this age group in rural CHC
- Further research is warranted to evaluate long-term outcomes across age groups and treatment settings

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