



Silver Diamine Fluoride's Impact on Comprehensive Dental Treatment: A Retrospective Chart Review

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BACKGROUND

- Dental caries = most common chronic disease of childhood
- Dental treatment requires patient cooperation
- Young patients** and **patients with special healthcare needs (SHCN)** may not cooperate for traditional dental restorations
- Silver diamine fluoride (SDF)** is FDA approved for dentin hypersensitivity
 - Utilized off label as an **interim** and **nonsurgical** method to *arrest and remineralize carious lesions*
 - Advantages:** slowing caries progression, caries arrest, ease of use, cost effectiveness
 - Disadvantages:** dark staining

OBJECTIVES

To determine the relationship between silver diamine fluoride (SDF) application and treatment outcomes

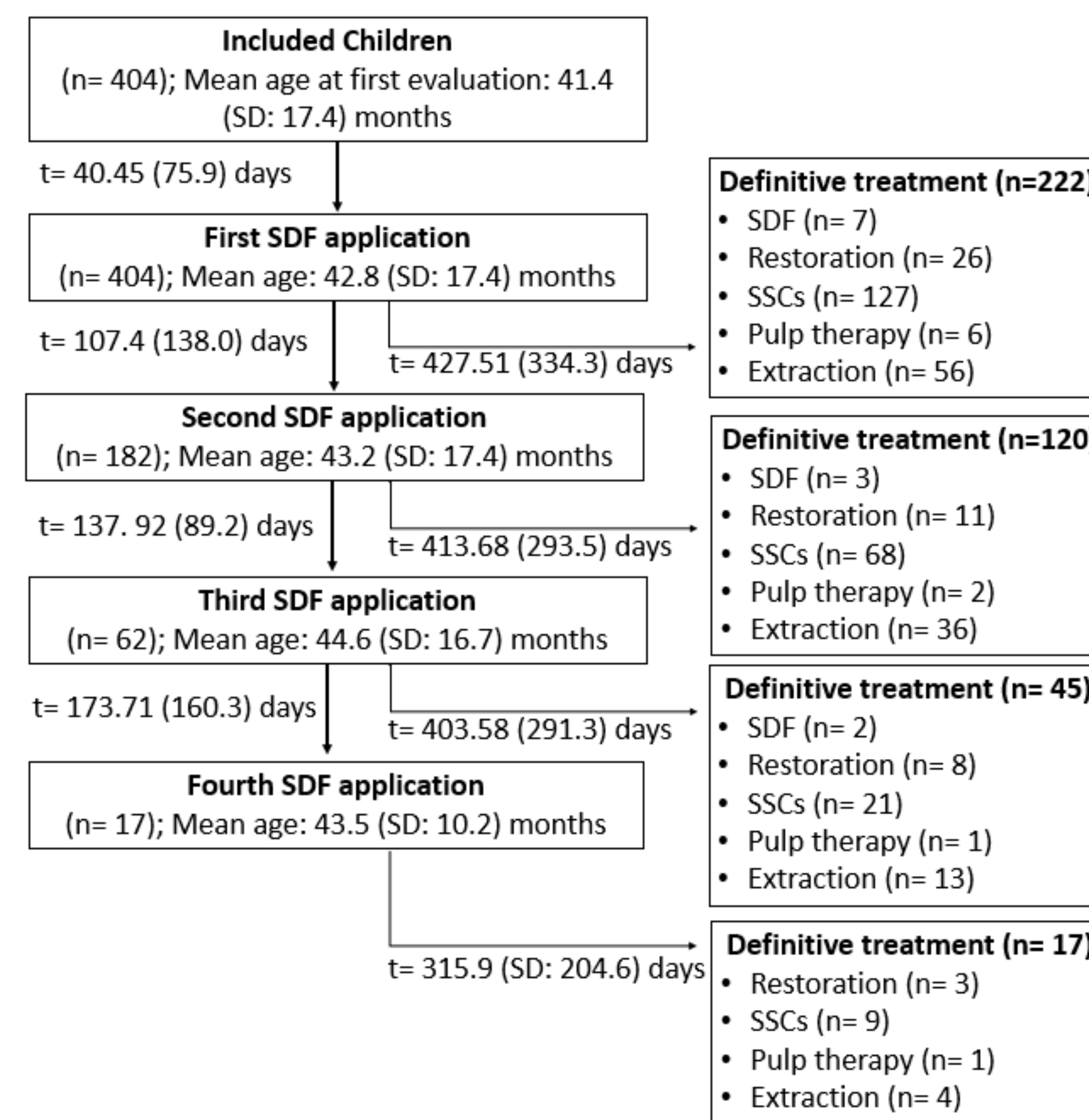
- I. Most likely definitive treatment
- II. Time lapse
- III. Behavioral guidance
- IV. Survival rates

METHODS

- 544 patient charts reviewed
- Inclusion Criteria:** Riley Dental Clinic patients
 - Ages 0-11
 - SDF treatment from 1/20/2016 to 12/31/2022
 - 1st primary molars (#B, I, L, S)

TABLES AND FIGURES

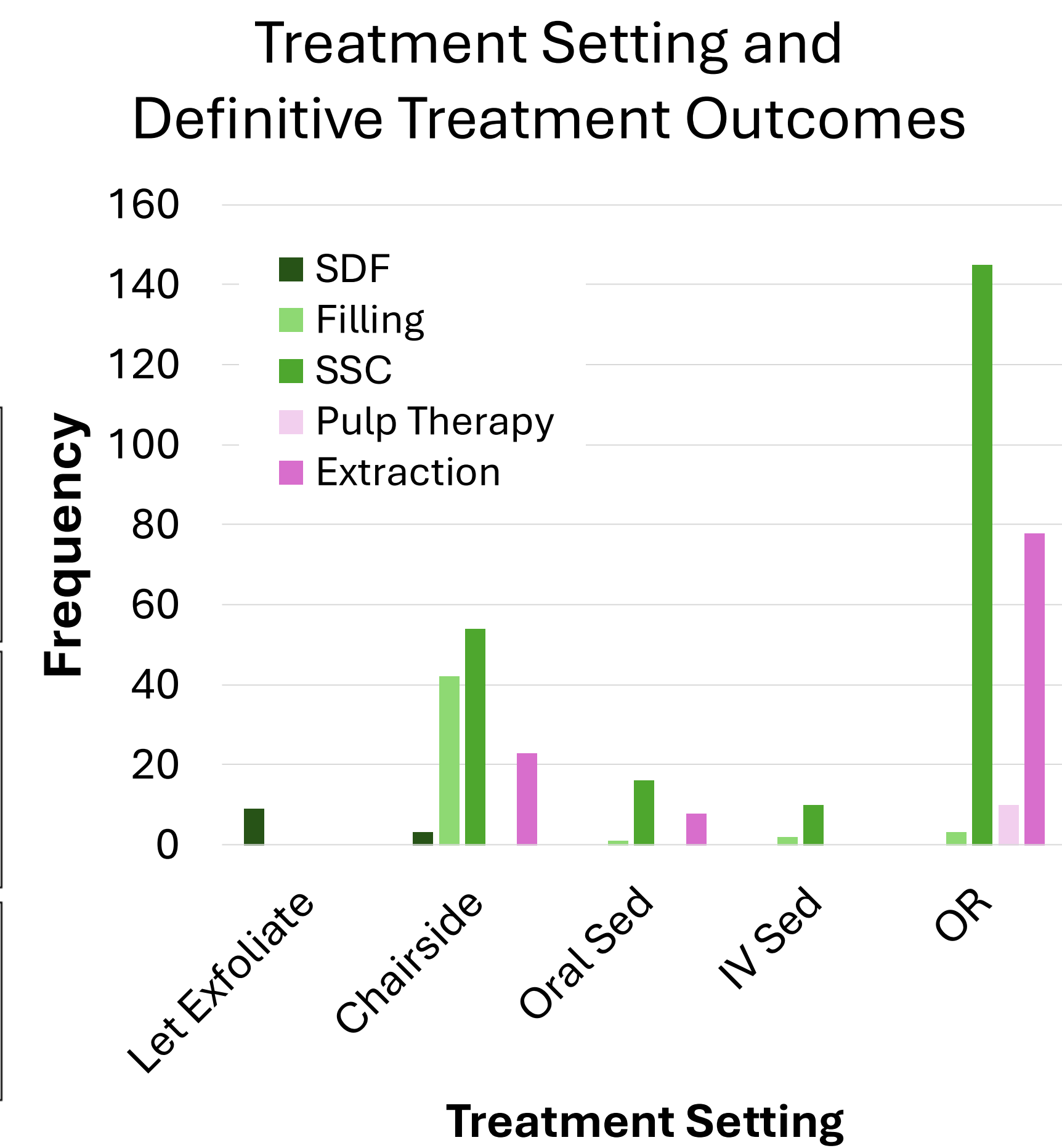
Figure 1



Table

	First SDF application (n= 404)	Second SDF application (n= 182)	Third SDF application (n= 62)	Fourth SDF application (n= 17)
Gender (n, %)				
Females	175 (43.3%)	84 (46.2%)	28 (45.2%)	8 (47.1%)
Males	229 (56.7%)	98 (53.8%)	34 (54.8%)	9 (52.9%)
Special Health care needs (n, %)				
Yes	108 (26.7%)	53 (29.1%)	15 (24.2%)	3 (17.6%)
No	296 (73.3%)	129 (70.9%)	47 (75.8%)	14 (82.4%)
Frankl rating at evaluation (n, %)				
1	133 (35.1%)	66 (8.2%)	26 (43.3%)	5 (29.4%)
2	152 (40.1%)	72 (41.6%)	27 (45.0%)	11 (64.7%)
3	65 (17.2%)	27 (15.6%)	5 (8.3%)	1 (5.9%)
4	29 (7.7%)	8 (4.6%)	2 (3.3%)	0 (0%)

Figure 2



RESULTS

- 404 patients included
- Definitive treatment outcomes after first SDF application**
 - Significant:** Behavior ratings (p = .008)
 - Not significant:** Gender (p = .927), ASA classification (p = .106), SHCN (p = .151)
- Significant difference between **definitive treatment setting and the outcome** (p < 0.001)
 - OR = most common treatment setting
 - SSC = most common treatment in OR
- Survival Outcomes
 - 285 Successes** (SDF, filling, SSC)
 - 119 Failures** (Pulpal therapy, extraction)
- 75.2% of patients treated with SDF had a **Frankl rating 1 or 2** at evaluation

DISCUSSION AND CONCLUSION

- At time of first SDF application, majority of patients were unable to tolerate chairside treatment (per Frankl rating)
 - Majority of patients were seen in OR setting
 - Most definitive tx was SSC or extraction
- The 4th SDF application had a younger mean age
 - Initial SDF application at a younger age
 - Possibly due to continuing inadequate cooperation and extensive needs
- SDF is being used mostly as an interim therapy
- SDF can be a useful adjunct in pre-cooperative patients and those with SHCN

