

Parental Acceptance of SDF Usage with/without Potassium Iodide

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Introduction

Interest in silver diamine fluoride (SDF) has been growing as a treatment for caries arrest. SDF has been considered as a cost-effective, easy, and simple topical cariostatic agent¹. Although the SDF treatment of ECC is more efficacious when compared with other nonsurgical approaches². The side effect of blackening carious lesions (dark marks) is a concern since it affects caregiver acceptance³. In 2018, SDI (North America), Inc announced the U.S. Food and Drug Administration (FDA) had given registration approval to market SDF and potassium iodide (K.I.) “Riva Star” in the USA⁴. By applying the K.I. solution over the SDF, a silver iodine precipitate is formed, which does not stain teeth. There are no previously published data in the literature that shows the parental acceptance of the utilization of SDF with KI on their children's anterior and posterior teeth.

Objectives

To assess parental acceptance of the utilization of Silver Diamine Fluoride (SDF) with Potassium Iodide (KI) compared to SDF without KI.

Methods

- Parents of children aged ten years and younger who received dental treatment at TUSDM Pediatric Dental Clinic were invited to participate in a Web-based questionnaire.
- The questionnaire was modified from a survey to investigate parents' demographics, perceptions of photographs of SDF/KI and SDF without KI on their children's anterior and posterior teeth, and acceptability of treatment in different behavior management scenarios.
- Sample size calculation was made in nQuery Advisor 7.0. The minimum sample size calculated for posterior teeth was 62 subjects, and for anterior teeth, 46 participants. Based on that, 62 participants were recruited for the study.

Statistical Analysis

A z-test of one proportion was used to assess parental acceptance. Associations between categorical variables was analyzed with the chi-square test and Fisher's exact test in the case of sparse cell counts. IBM SPSS 27 was used for the analysis.

Results

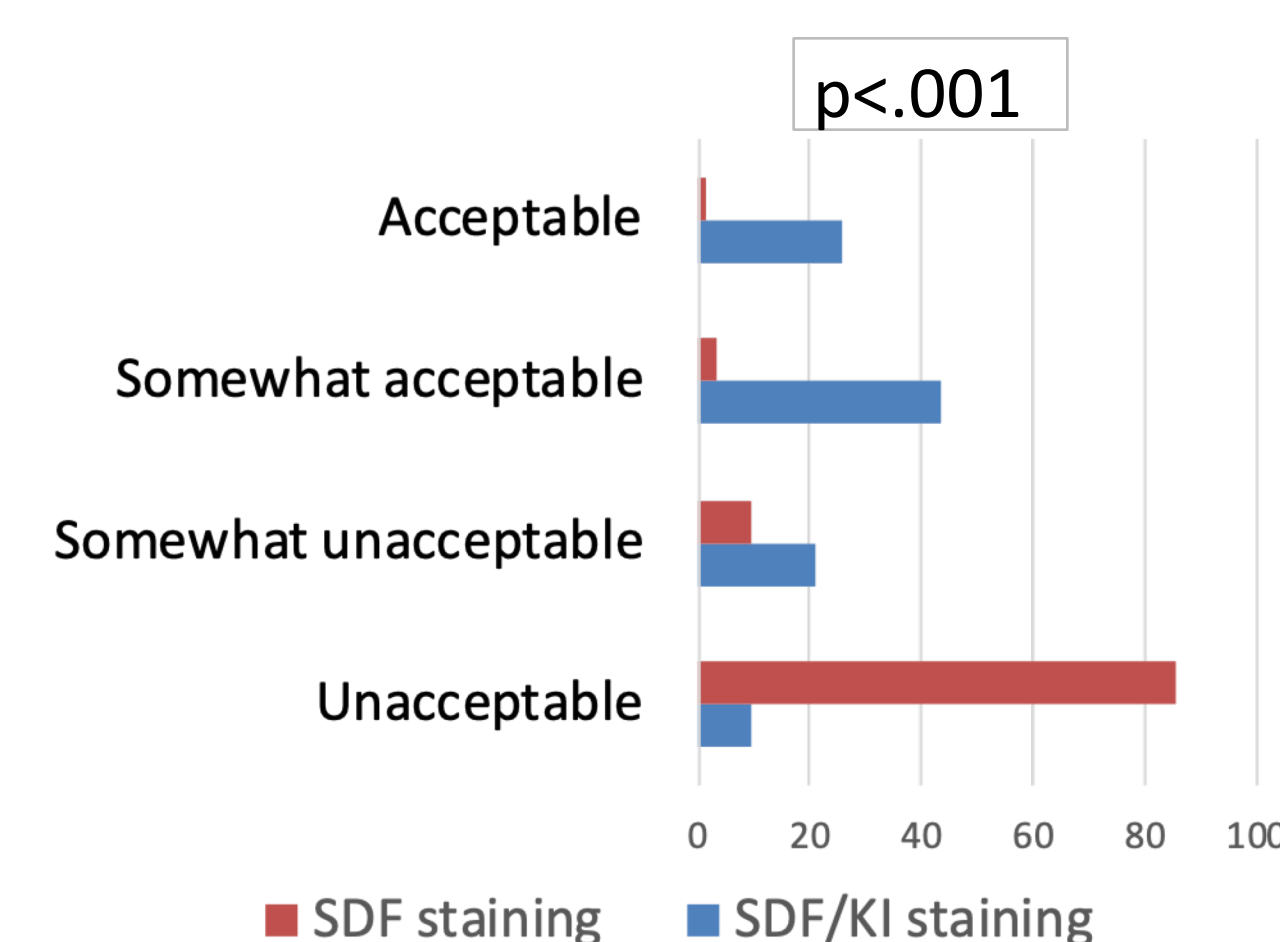


Figure 1: Acceptance of SDF Staining with/without KI on Anterior Teeth

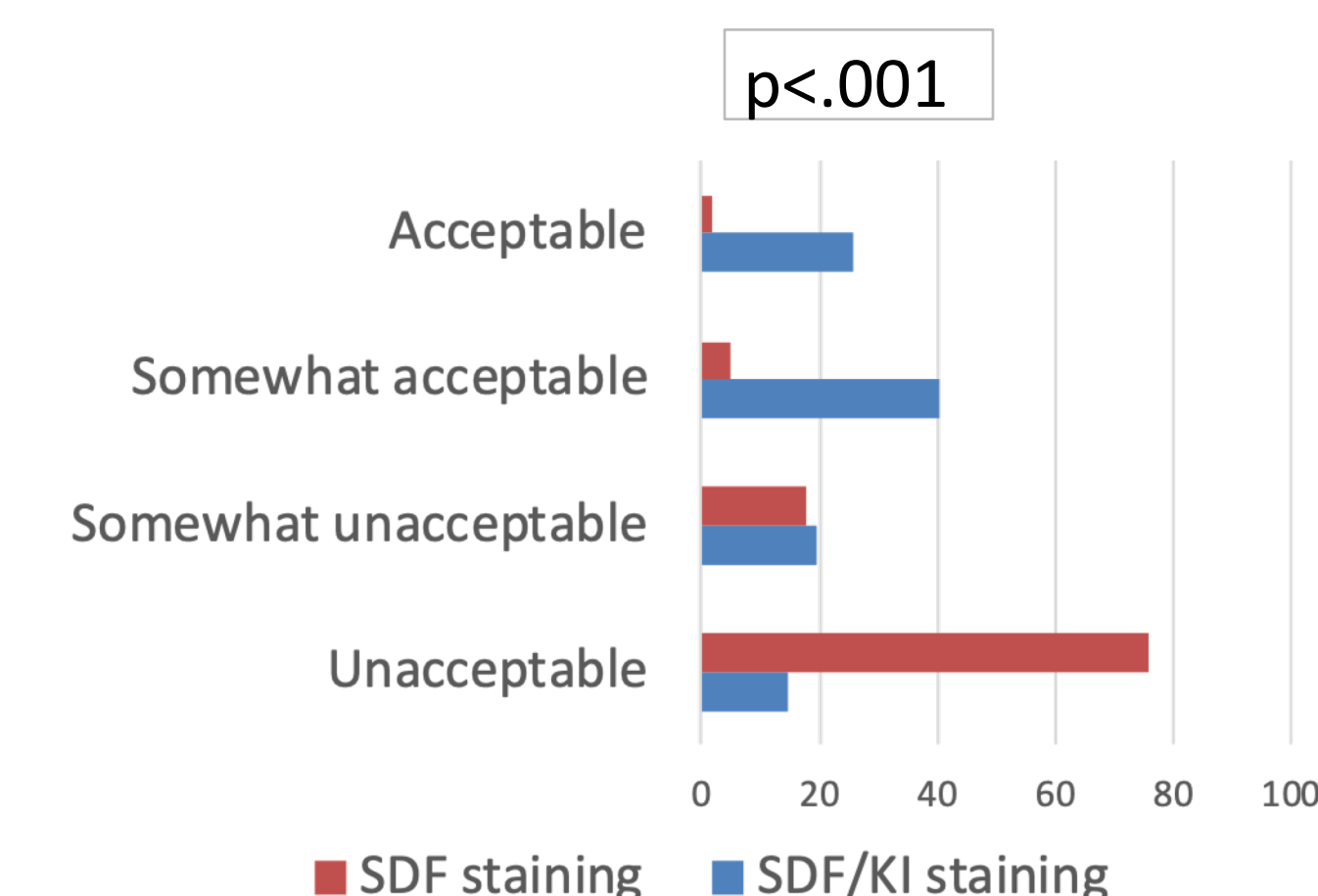


Figure 3: Acceptance of SDF Staining with/without KI on Anterior Teeth in Cases of No Behavioral Barriers to Conventional Dental Treatment

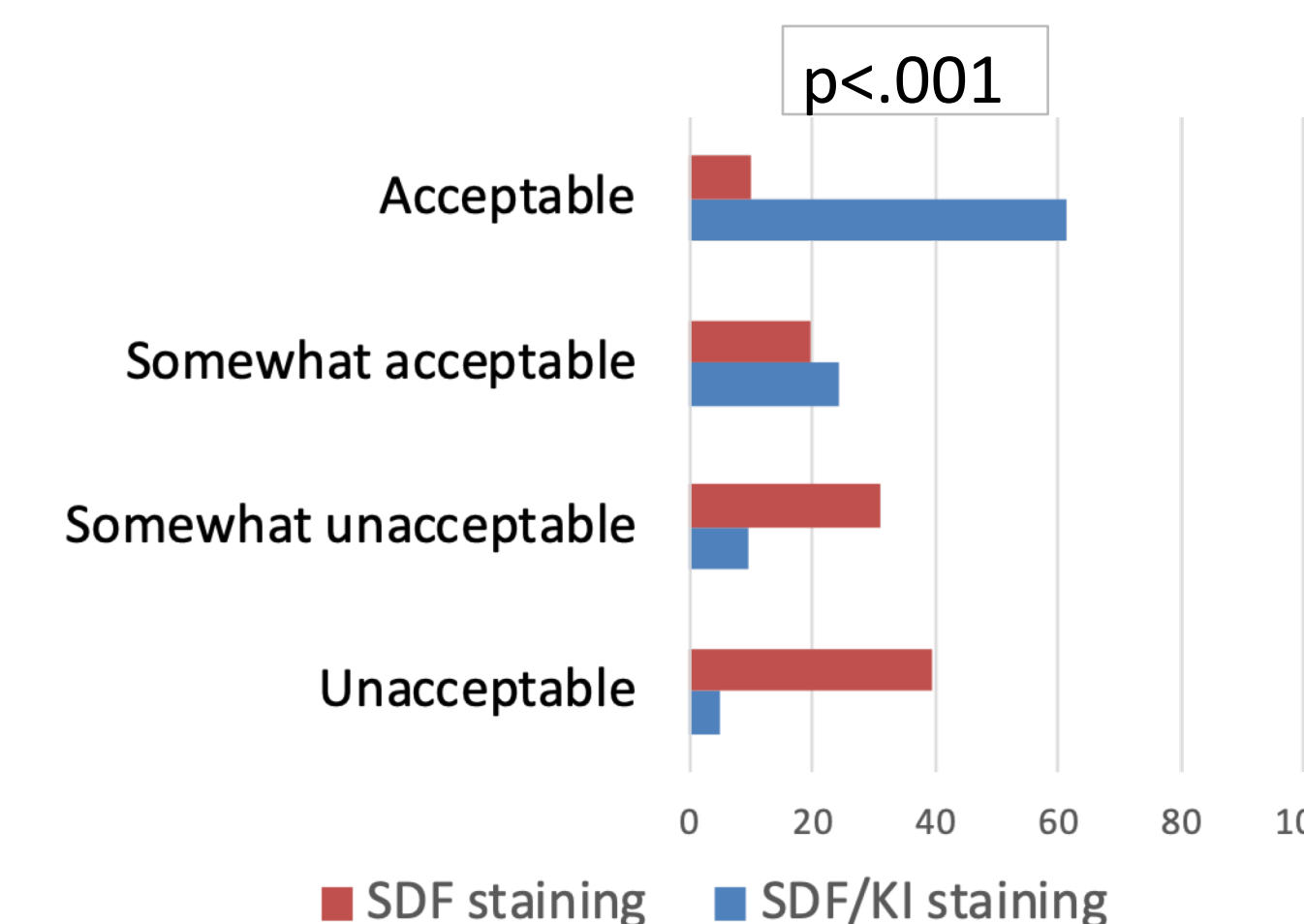


Figure 5: Acceptance of SDF Staining with/without KI on Anterior Teeth in Cases Where More Advanced Behavior Guidance Methods Were Needed

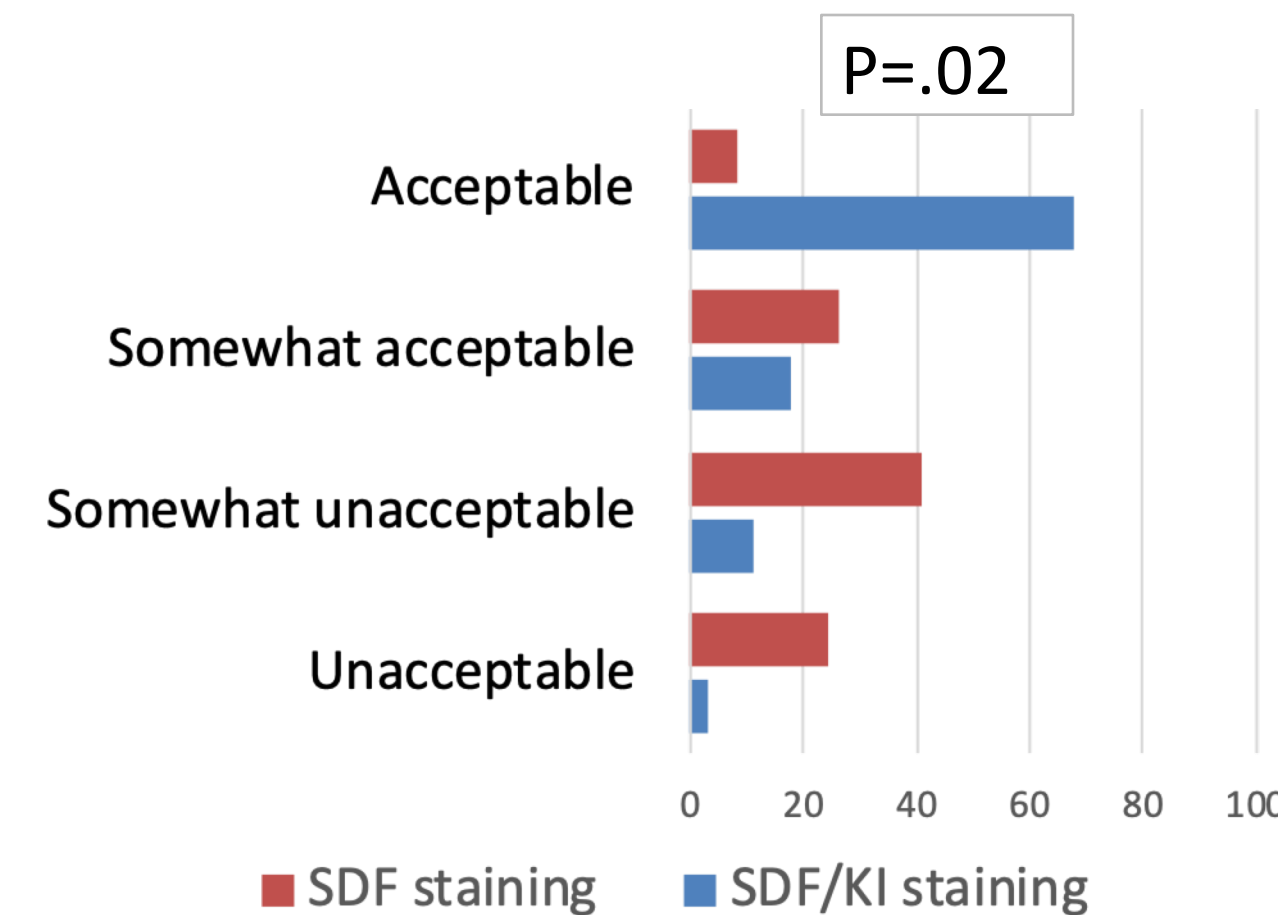


Figure 2: Acceptance of SDF Staining with/without KI on Posterior Teeth

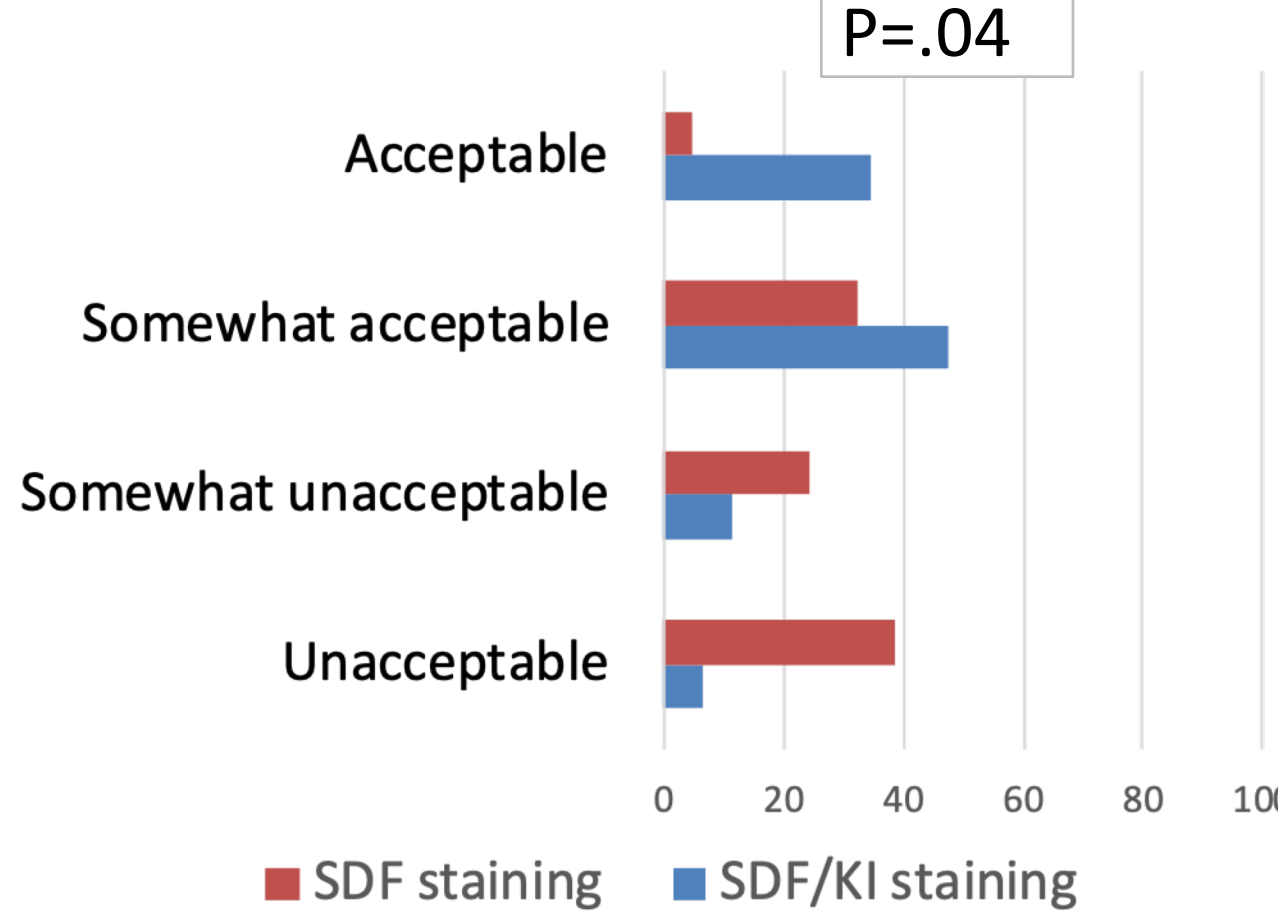


Figure 4: Acceptance of SDF Staining with/without KI on Posterior Teeth in Cases of No Behavioral Barriers to Conventional Dental Treatment

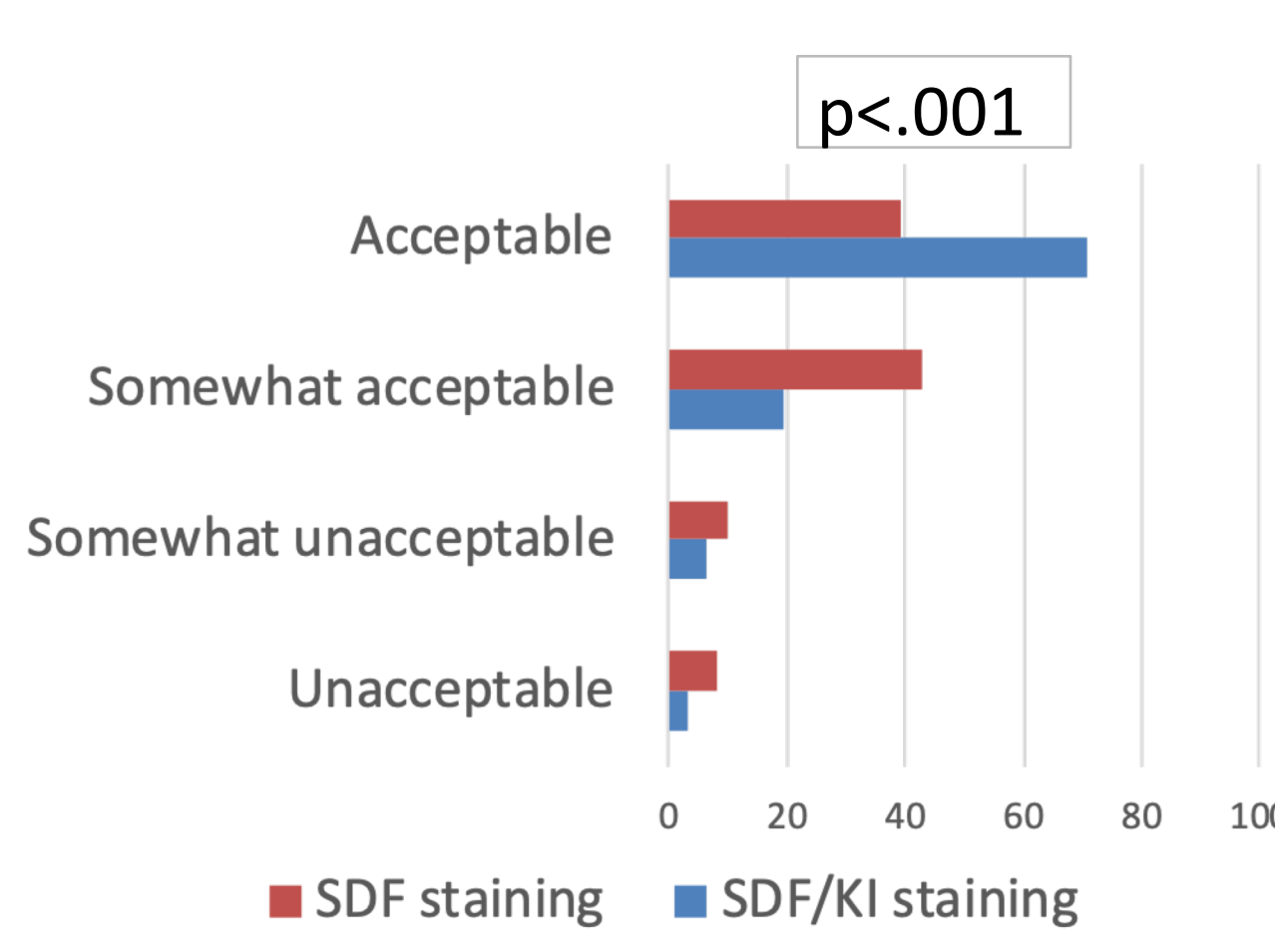


Figure 6: Acceptance of SDF Staining with/without KI on Posterior Teeth in Cases Where More Advanced Behavior Guidance Methods Were Needed

- Sixty-two parents from diverse backgrounds participated.
- SDF/KI staining (25.81%) on anterior teeth was more acceptable to parents when compared to SDF staining (1.61%) ($p < .001$).
- SDF/KI staining (67.74%) on posterior teeth was also more acceptable than SDF staining (8.20%) ($p = .02$).
- In cases of no behavioral barriers to conventional dental treatment, SDF/KI staining (25.81%) on anterior teeth was more acceptable when compared to SDF staining (1.61%) ($p < .001$). SDF/KI staining (34.43%) on posterior teeth was more acceptable than SDF staining (4.84%) ($p = .04$).
- In cases where more advanced behavior guidance methods were needed, such as oral sedation, parents' acceptance rate of SDF/KI on anterior teeth increased to (61.29%) and (9.84%) for SDF ($p < .001$). SDF/KI staining (70.97%) on posterior teeth was more acceptable than SDF staining (39.34%) ($p < .001$).

Conclusion

- Parental acceptance of SDF/KI staining on anterior and posterior teeth was greater than acceptance of SDF staining.
- Acceptance of SDF/KI staining in cases of no behavioral barriers to conventional treatment was greater for posterior teeth than anterior teeth.
- Parental acceptance level was greater for children that required more advanced behavior guidance methods.

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