



Treatment Outcomes on Teeth Treated with Silver Diamine Fluoride

Loomba S.¹, Terrell N.¹, Stewart M.¹, Huang T.², Hsu KLC.¹

¹Division of Pediatric Dentistry, University of Maryland School of Dentistry, Baltimore MD

²Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston MA

Objective

To determine whether clinical and sociodemographic factors were associated with treatment outcomes of primary teeth treated with Silver Diamine Fluoride (SDF).

Materials and Methods

- A retrospective chart review of 300 pediatric patients, treated with SDF application at UMSOD between January 2015 to December 2020 was completed.
- Patients who did not return for at least one follow-up session to assess the outcome of treatment were excluded.
- Clinical and sociodemographic data were collected including caries severity (dmft/dmfs), caries location & surfaces, oral hygiene, plaque level, and follow-up interval as well as age, sex, ethnicity, and dental insurance.
- Treatment outcomes were categorized into (1) caries that *appear arrested*, (2) lesions with findings such as abscesses, and (3) new caries lesions present at the follow-up visit (*change in dmfs*).
- Chi-Square test was used to compare individual clinical and sociodemographic variables to associated treatment outcomes.

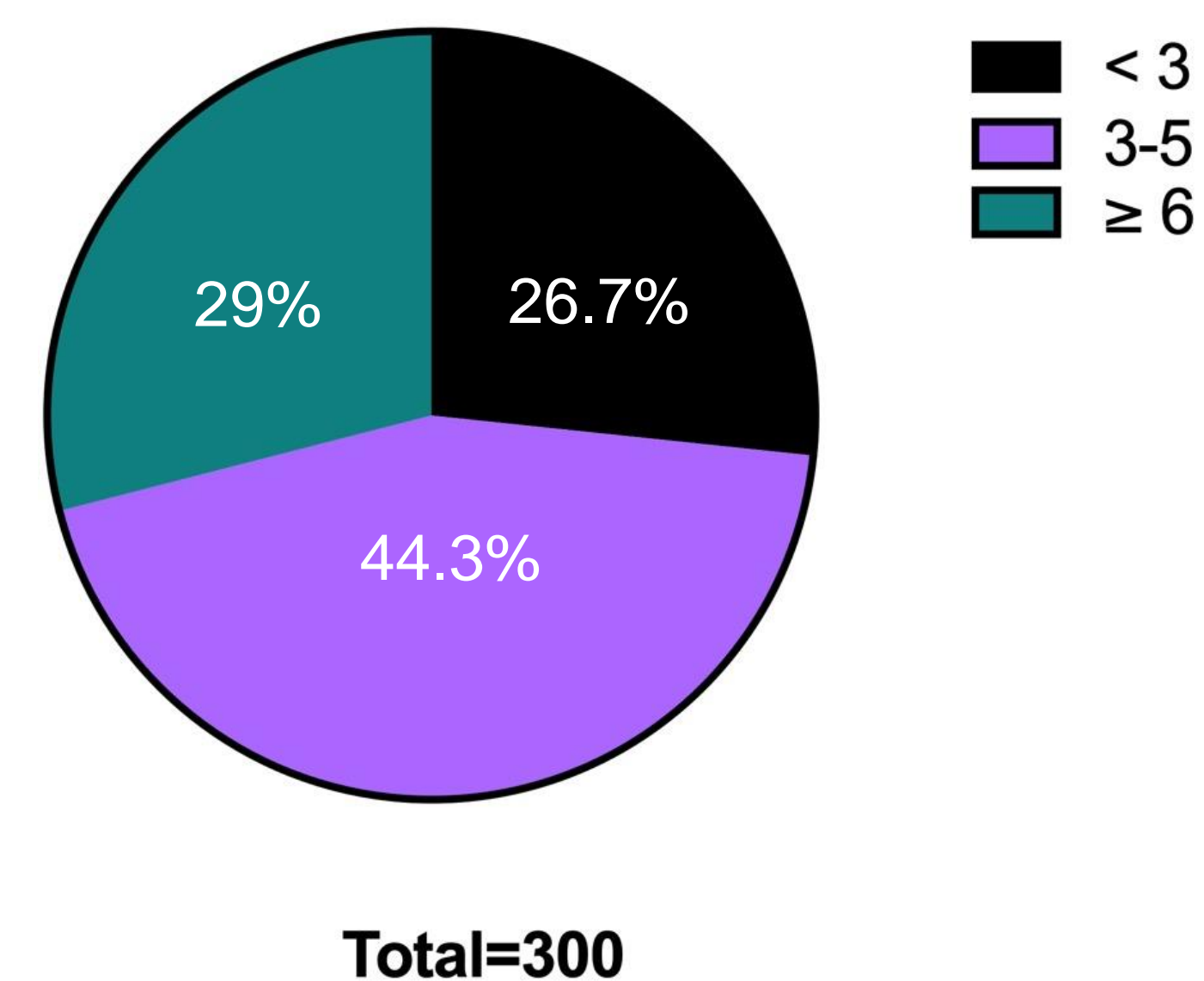


Figure 1: Age distribution

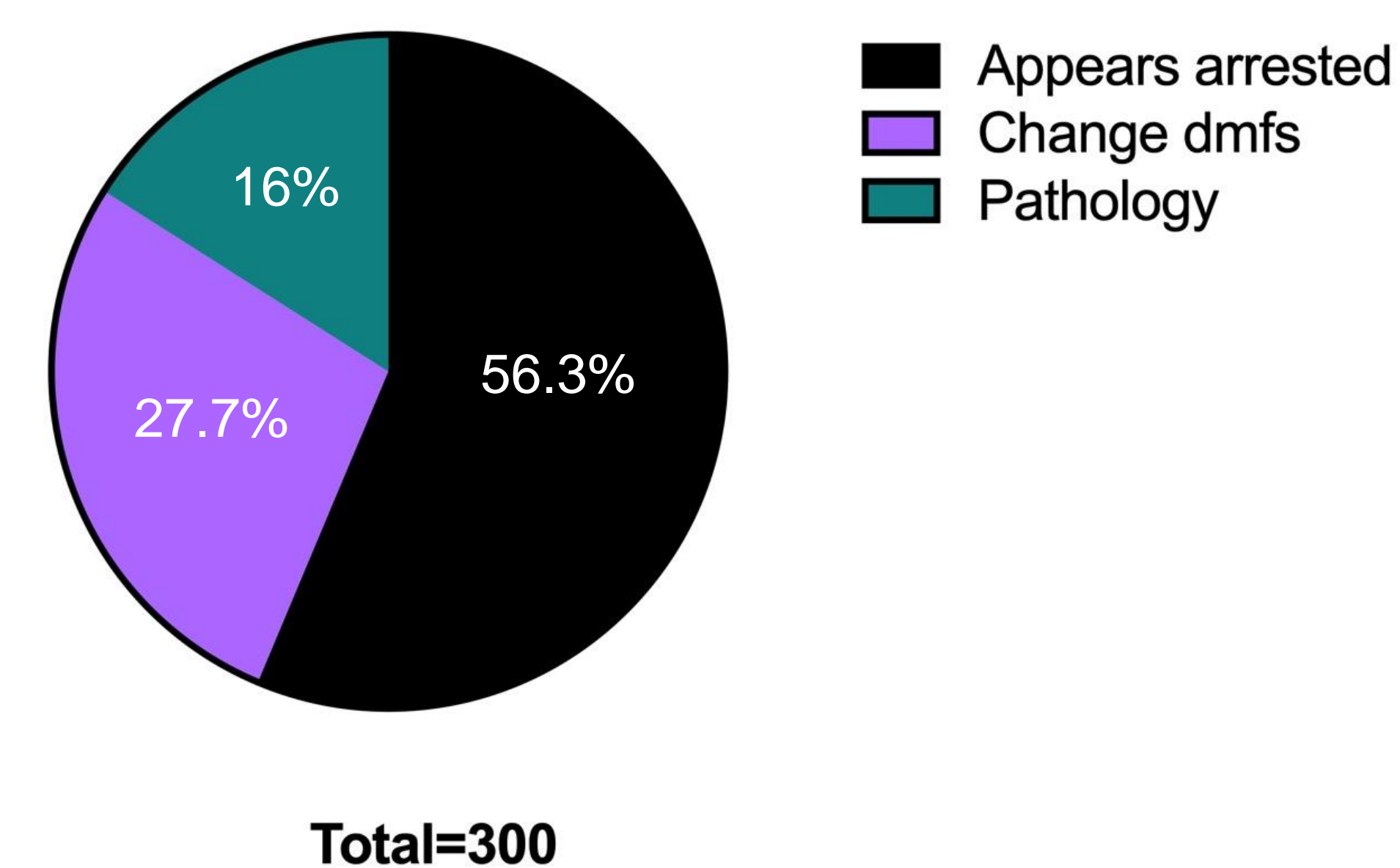


Figure 2: Treatment outcomes at follow-up

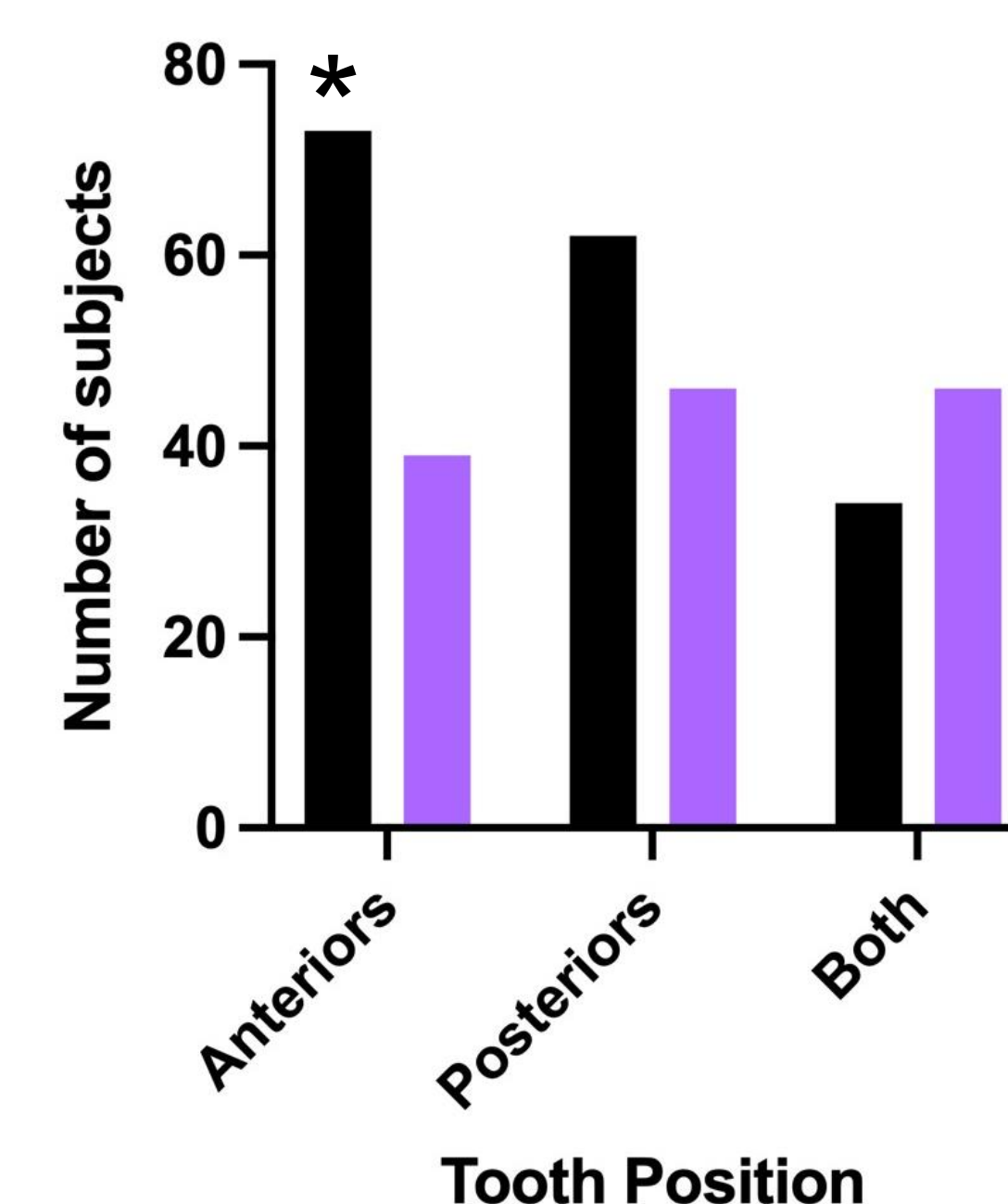


Figure 3: Caries location and treatment outcomes (Statistical significance marked as *)

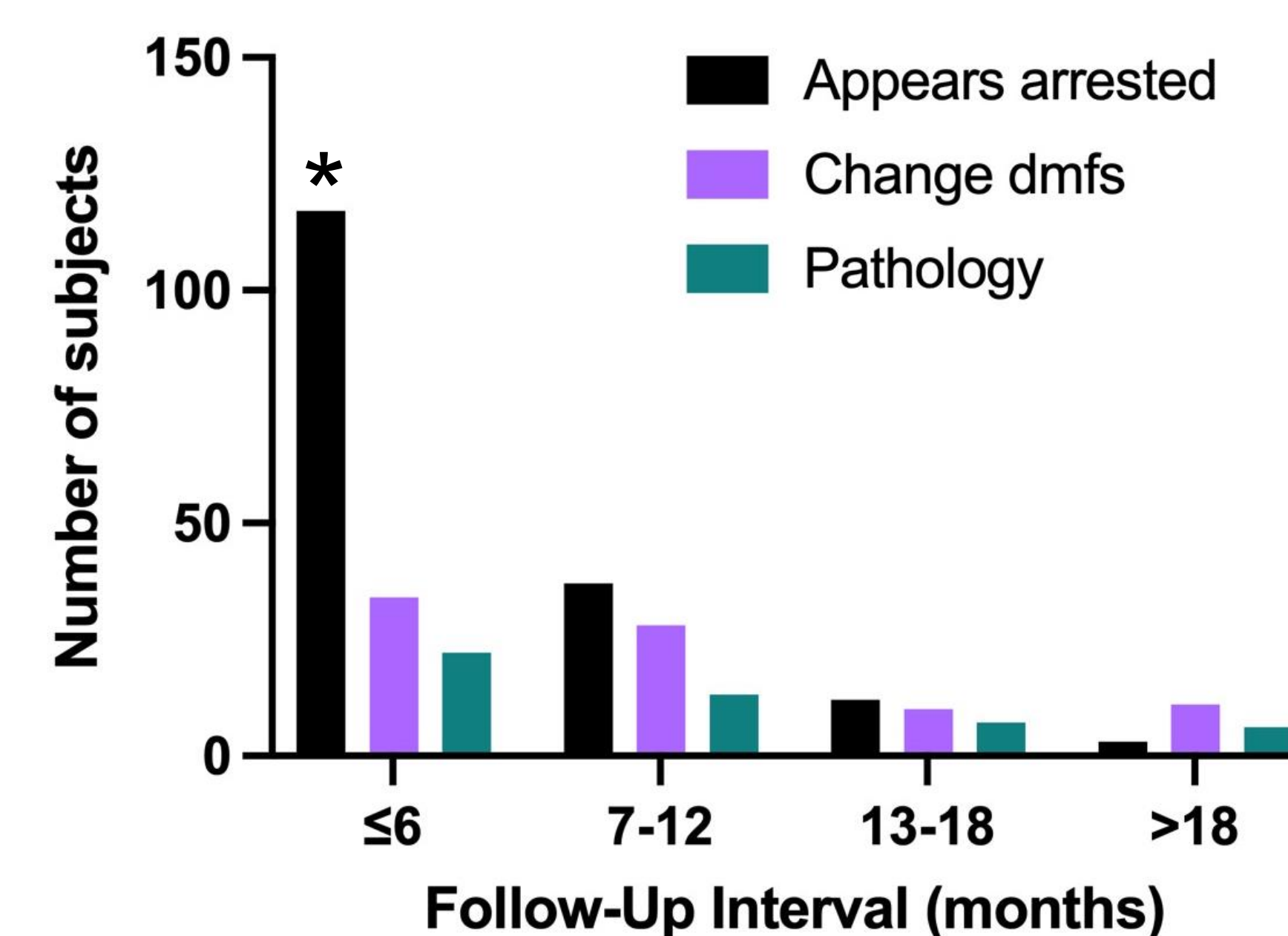
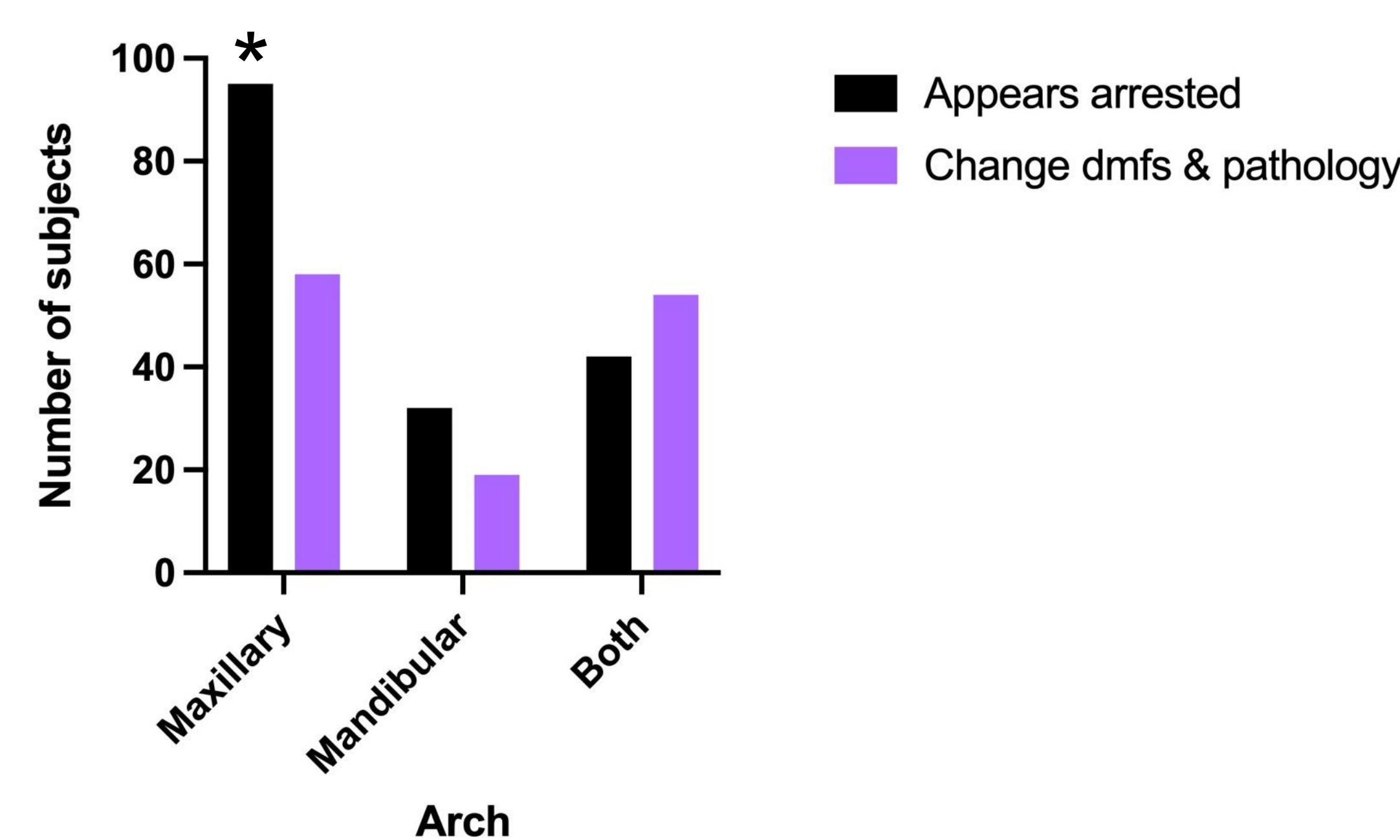


Figure 4: Follow-up interval and treatment outcomes

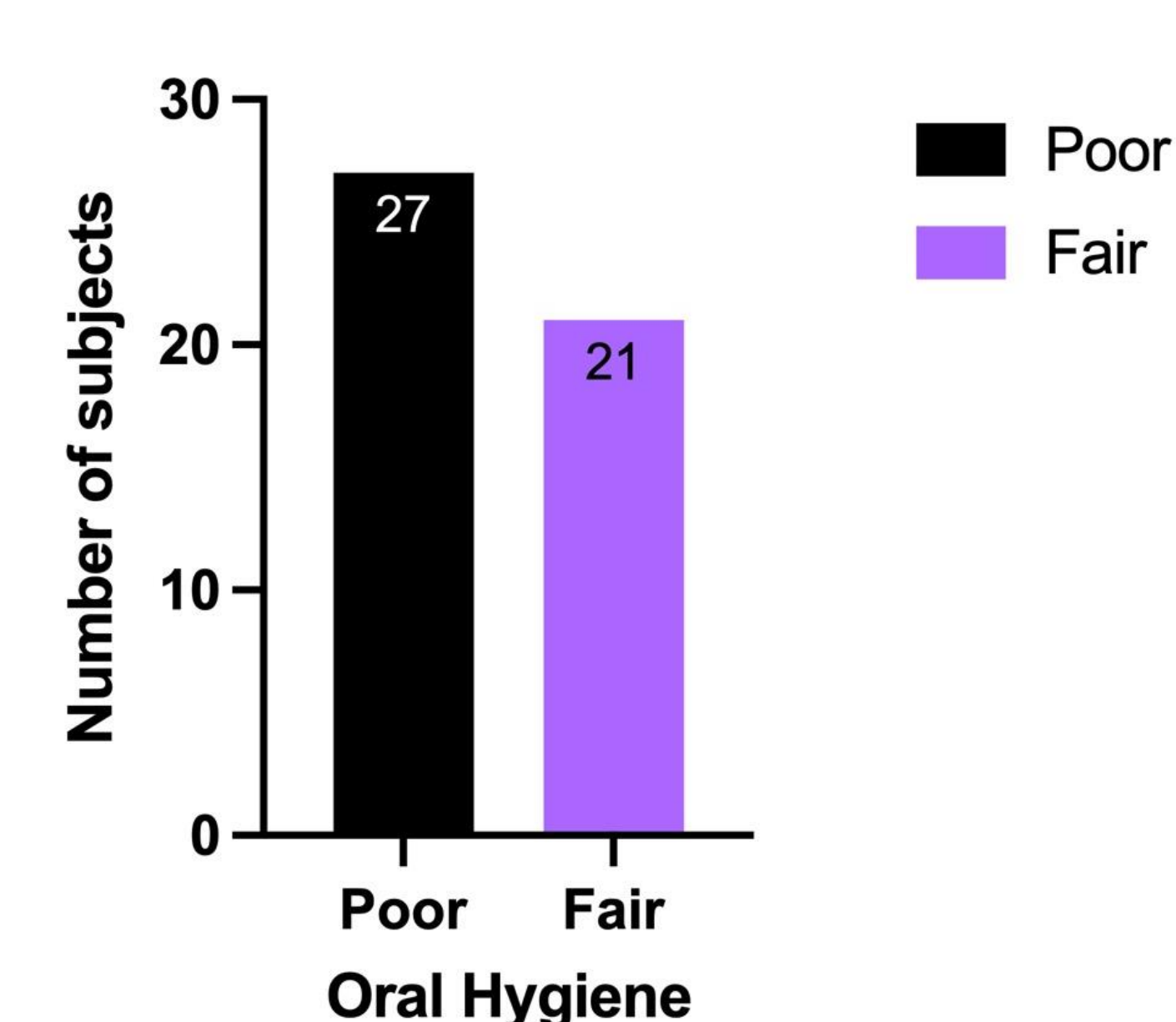


Figure 5: Oral hygiene of subjects with pathology outcomes (N=48)

Results

- Caries lesions appeared to be arrested in more than half of the subjects. However, there were 16% of the subjects presented with pathology (Fig. 2).
- There was no statistical significance among all the sociodemographic factors and SDF treatment outcomes.
- Cariou lesions on anterior teeth ($p < 0.05$) and Maxillary teeth ($p < .05$) were significantly higher to appear arrested (Fig. 3).
- Although carious lesions on the interproximal surface appeared to have a greater percentage of arrestment compared to other surfaces, there was no statistical significance.
- Cariou lesions that appeared arrested were found significantly higher ($p < 0.0001$) in the follow-up intervals of 6 months or shorter (Fig. 4).
- Among all the subjects with pathology after SDF treatment, oral hygiene appeared to be either poor or fair, as opposed to good (Fig. 5).
- Another interesting finding among all the subjects with pathology outcomes, carious lesions on smooth surfaces appeared to be the least percentage compared to other surfaces.

Conclusions

- Follow-up intervals of 6 months or less have a significant association with caries arrestment after SDF application.
- Caries location (maxillary and anterior teeth) was significantly associated with caries arrestment.