



Background

Dental radiography is one of the most performed imaging procedures in the United States and worldwide¹. Advances in imaging technology and radiation safety have led to updated recommendations on the discontinuation of routine patient shielding, as it provides negligible benefit and may interfere with image quality²⁻⁵. Despite this, lead aprons remain widely used, highlighting a gap between updated clinical recommendations and real-world clinical practice^{3,6}. Here, we evaluate whether a brief educational infographic can improve caregiver acceptance of forgoing lead shielding during pediatric dental radiography.

Objective

Primary objective: To evaluate whether an educational infographic improves caregiver understanding of updated recommendations for discontinuing routine patient shielding during dental radiographs

Secondary objective: To assess caregiver comfort with forgoing lead shielding and demographic factors associated with caregiver's perceptions and acceptance

Methods

- Enrolled caregivers of patients undergoing dental radiographs (n=215)
- Administered pre-survey questionnaire: demographics, awareness, pre-infographic comfort level
- Presented educational infographic discussing updated recommendation, ALARA, relative exposure comparison, and collimation
- Administered post-survey questionnaire: assessing comfort level post-infographic
- Performed descriptive analysis (n=206) and paired pre-post comparisons (n=181)



Figure (left): Infographic used in study; Figure (above): Child wearing lead apron

Results

- Acceptance of omitting lead shielding increased significantly after viewing the infographic
- Most helpful component: explanation of updated recommendations, followed by ALARA principles
- No differences in improved comfort by caregiver education, caregiver age, child race, or child ethnicity (all $p > 0.05$)
- Indicates the infographic was broadly understandable and effective across demographic groups

(a) Caregiver Comfort Levels Pre & Post Infographic

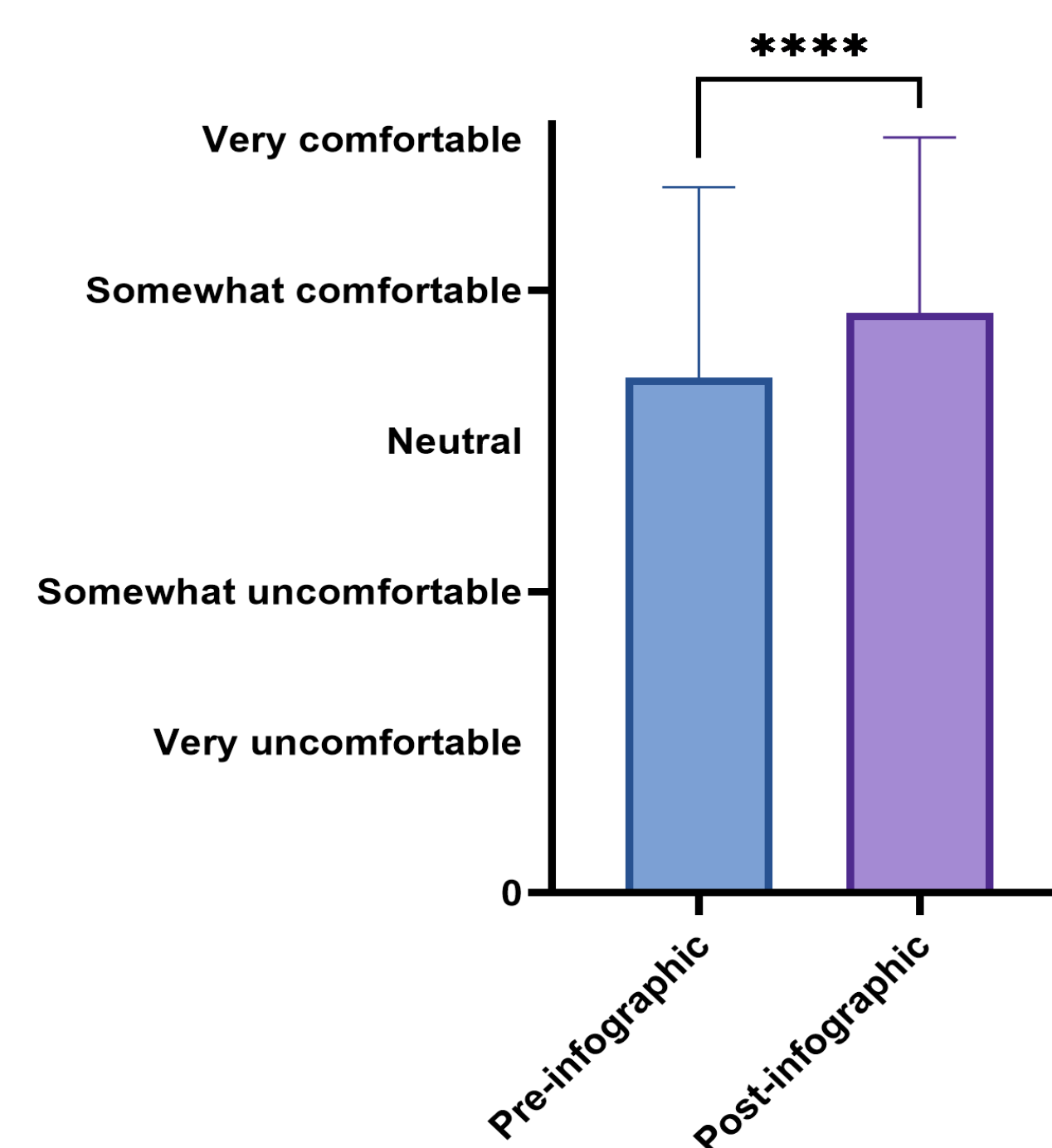


Figure (a): Caregiver comfort level before and after viewing the infographic (n=181)

(b) Was the Infographic Helpful?

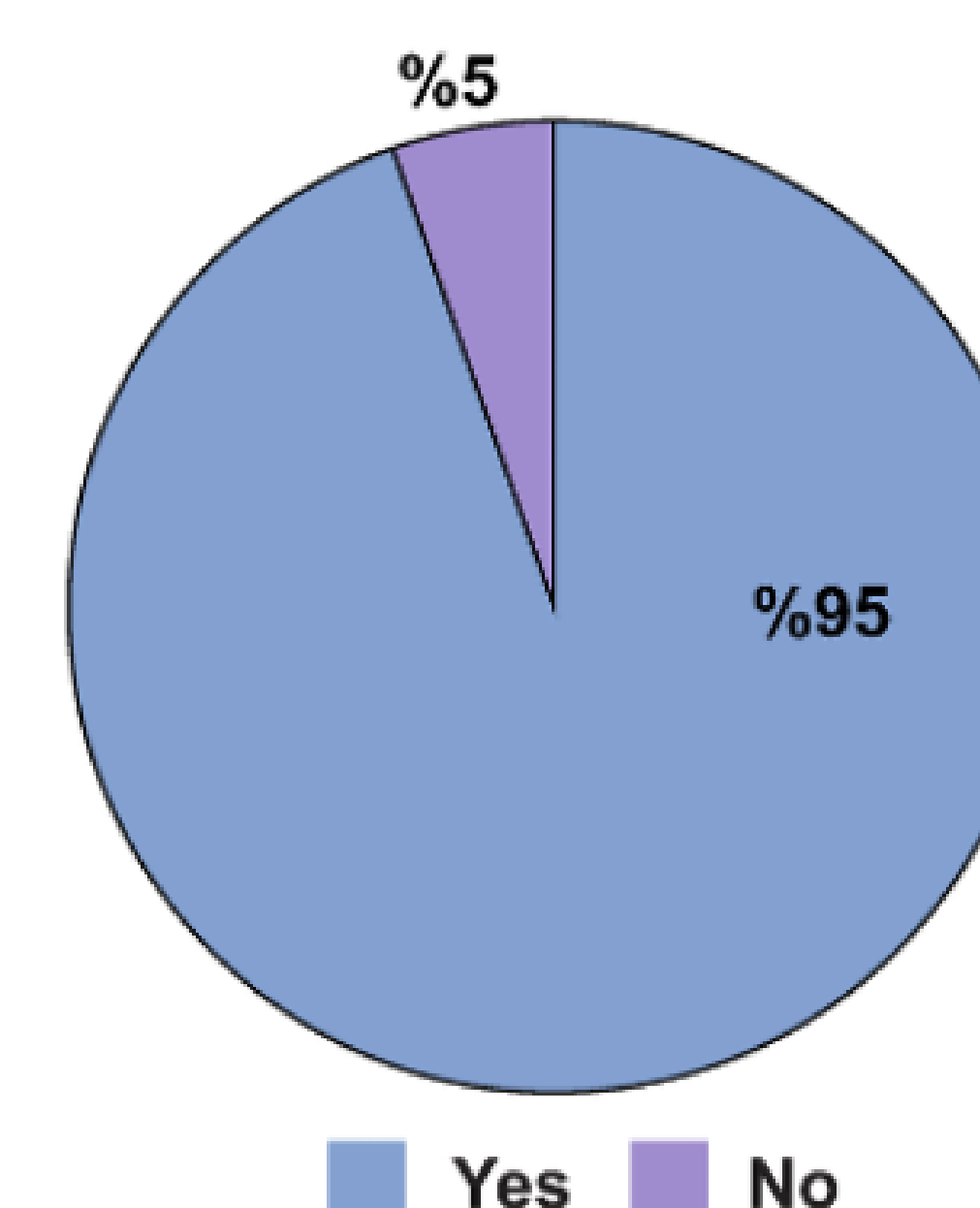


Figure (b): Percentage of caregivers who found the infographic helpful (n=191), no responses not counted for analysis (n=15)

(c) Caregiver Perception of Most Helpful Infographic Component

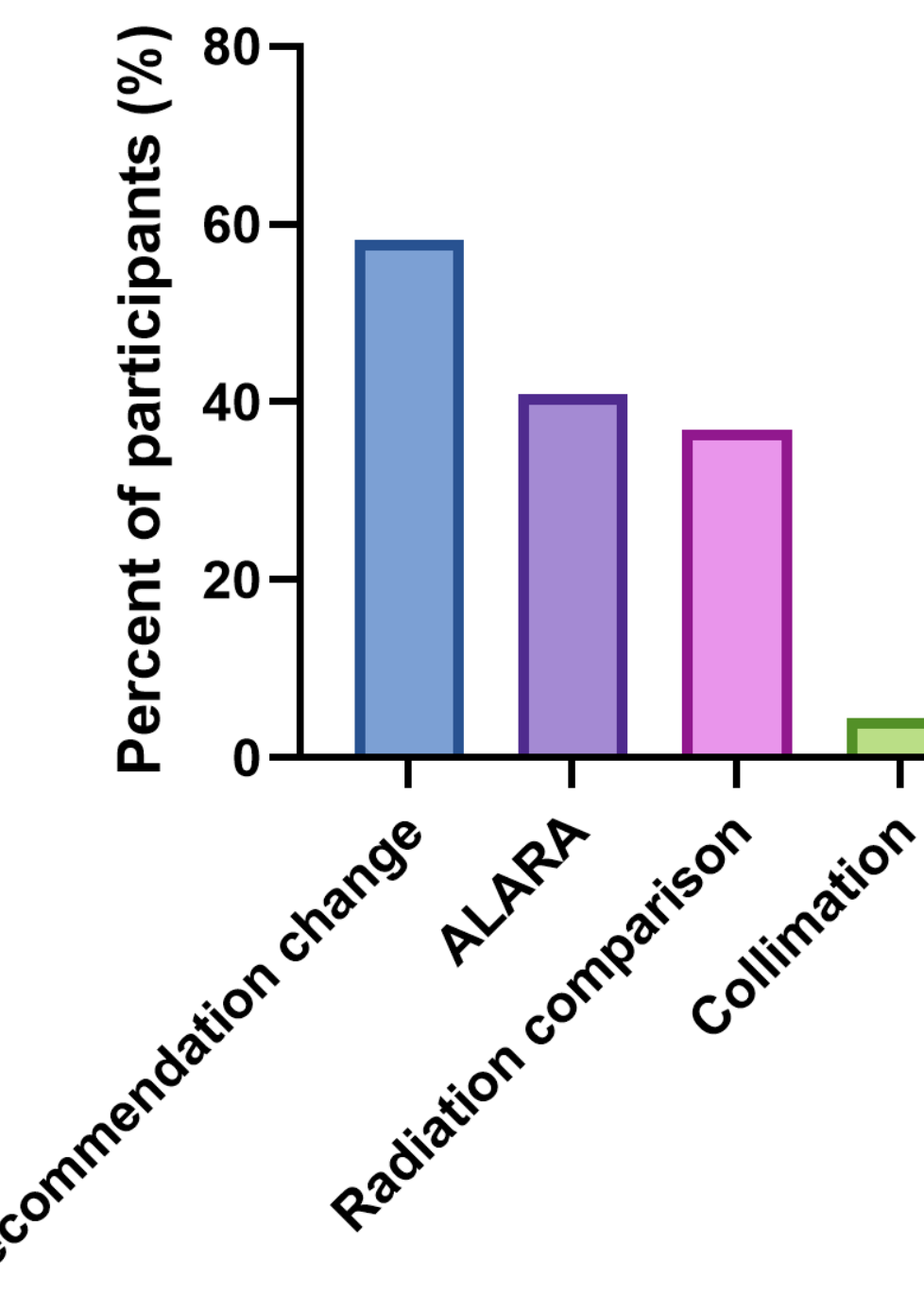


Figure (c): Components of the infographic reported by caregivers as most helpful in improving understanding of recommendation change (n=206)

Key Findings and Implications

Main finding: Caregiver comfort with omitting lead shielding increased significantly after viewing the infographic; 95% reported it was helpful, with consistent effects across demographic groups.

Implications: A brief educational infographic can effectively increase caregiver comfort with forgoing lead shielding during routine pediatric dental radiographs



Scan for References and Expanded Methodology