

## REVIEWER'S REPORT

Manuscript No.: IJAR-51750

Date: 22-05-2025

**Title: Comparison Of The Debonding Characteristics of Conventional And Laser Aided Debonding of Ceramic Brackets- An In-Vitro Study**

### Recommendation:

**Accept as it is.....YES.....**

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		√		
Techn. Quality		√		
Clarity		√		
Significance		√		

**Reviewer's Name:** Dr Aamina

**Reviewer's Decision about Paper:** **Recommended for Publication.**

**Comments** (*Use additional pages, if required*)

### Reviewer's Comment / Report

#### Abstract Review:

The abstract effectively outlines the clinical problem associated with the debonding of ceramic brackets—specifically, enamel surface loss and adhesive residue. The rationale for exploring alternative techniques, particularly CO<sub>2</sub> laser-assisted debonding, is clearly stated. The aim of the study is well-articulated, focusing on the comparative assessment of enamel damage and adhesive remnant index (ARI) between two techniques. The writing is clear and purpose-driven, aligning well with scientific communication standards. Overall, the abstract provides a succinct and informative snapshot of the research.

#### Keywords Review:

The keywords are specific and relevant. Terms like “dental debonding,” “laser debonding,” “CO<sub>2</sub> laser,” and “orthodontic adhesive” enhance searchability and accurately reflect the study's core components.

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## **REVIEWER'S REPORT**

### **Introduction Review:**

The introduction presents a well-structured background that transitions from the general rise in esthetic orthodontic demand to the specific technical challenge of debonding ceramic brackets. The clinical concerns—such as brittleness of ceramic material, enamel fractures, and adhesive remnants—are explained in context with current practices. The discussion of traditional methods versus emerging laser-assisted alternatives provides an insightful comparison that justifies the research question.

By including references to Er:YAG and diode lasers, the introduction demonstrates awareness of the broader technological landscape, even though the study focuses on CO<sub>2</sub> lasers. This offers a well-rounded foundation for readers, showing both the need for innovation and the existing efforts in this area. The clinical and patient-centered implications of improved debonding techniques are implicit throughout, enhancing the relevance of the study.

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### **Overall Impression:**

This in-vitro study is well-conceived and clearly justified by both clinical necessity and advancements in laser technology. The focus on enamel preservation and reduced adhesive remnants makes it a timely and practically valuable contribution to orthodontic research. The document demonstrates coherence, a sound understanding of orthodontic procedures, and a clear research objective. The integration of scientific terminology with clinical reasoning ensures its appeal to both academic and professional audiences.