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REVIEWER'S REPORT

Manuscript No.: 50084

Date: 30/01/25

Title: Survey of challenges and mistakes in root canal preparation

Recommendation:

- Accept as it isYes.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

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

Reviewer Name: Dr. Sireesha Kuruganti

Date: 30/01/25

Reviewer's Comment for Publication.

(To be published with the manuscript in the journal)

The reviewer is requested to provide a brief comment (3-4 lines) highlighting the significance, strengths, or key insights of the manuscript. This comment will be Displayed in the journal publication alongside with the reviewers name.

.. Strengths:

- ✓ Clear structure with well-defined sections.
- ✓ Strong use of statistical analysis.
- ✓ Relevant comparison with prior research.

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Detailed Reviewer's Report

Title & Abstract

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Title (Line 1): The title, Survey of challenges and mistakes in root canal preparation: A study from Bulgaria, is clear but could be more specific by explicitly mentioning "Bulgarian dentists" for better context.

Abstract (Lines 2-16):

The abstract effectively summarizes the study but could be more structured, ensuring clearer differentiation between the background, methodology, results, and conclusion.

Line 5: "An original questionnaire consisting of five questions" seems vague. Mentioning the exact categories of questions could enhance clarity.

Lines 9-12: The percentages provided are valuable but lack a deeper statistical insight. It would be helpful to specify how these results compare to existing literature.

Introduction (Lines 20-40)

The introduction is well-structured, providing necessary background information.

Line 22: "Necrotic tissues, bacteria, and infected dentin" – While accurate, citing a reference here would strengthen the claim.

Lines 27-29: The discussion on procedural mistakes is relevant, but the phrase "procedural mistakes such as ledge formation, apical canal transportation, and instrument breakage still persist" could be better supported with specific studies.

Line 36: "Knowledge of common procedural mistakes, especially during root canal shaping..." – This statement is important but could benefit from a reference or example.

Materials and Methods (Lines 43-51)

Line 44: "An individual survey was conducted using a questionnaire specifically developed for this study." This needs more details—was it pilot-tested for reliability? How was validity ensured?

Line 45: "Five questions addressing the frequency of patients requiring root canal treatment, the challenges encountered, and the instrument systems used." A table summarizing these five questions would be beneficial.

Lines 48-49: Mentioning that the survey was distributed at congresses and through email is good, but was there any risk of selection bias?

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Results (Lines 53-131)

The results section presents well-organized numerical data but lacks a deeper discussion on why these complications occur.

Lines 63-64: The sample size (213 dentists) is reasonable, but additional demographic details (years of experience, urban vs. rural practice) would enhance the analysis.

Lines 69-71: The frequency distribution of cases is well-explained, though a comparison with global trends would add value.

Lines 81-83: The finding that 65.8% of dentists reported only one complication is interesting but would benefit from a discussion on whether these numbers align with findings from other regions.

Lines 85-98 (Table 1):

"Instrument separation (24.9%)" and "dentinal mud accumulation (24.4%)" are key findings, but it would be helpful to discuss whether these issues are linked to training levels or specific techniques.

Strip perforation (0.5%) is rare, but could this be due to underreporting?

Lines 108-116 (Figure 2 analysis):

"No significant association" between machine-driven systems and complications ($p=0.691$) is important but should be further explored—are there operator-dependent factors?

Discussion (Lines 132-150)

Lines 133-136: The comparison with Azeez et al.'s study is valuable but needs further elaboration. What were the differences in their methodology?

Lines 137-140: "Threshold" (ledge formation) being reported at 10% is significant, but why is it lower than Azeez et al.'s 49.5%? Could it be due to differences in manual vs. rotary instrumentation?

Lines 145-150: The explanation about instrument separation due to improper technique is insightful, but more discussion on fatigue resistance of NiTi files would be useful.

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Conclusion (Lines 152-161)

The conclusion is concise and summarizes key findings well.

Lines 157-159: Stating that "combining instruments from different systems did not show a notable impact on complication rates" is a valuable insight but should be linked to a broader discussion in the field.

A recommendation section would be beneficial—what best practices should be adopted based on these findings?

References (Lines 163-183)

The references appear relevant but are slightly outdated, with most sources predating 2020. Incorporating newer studies would strengthen the literature review.

Lines 168-170: The reference by Nagy et al. (1997) is insightful, but a more recent study on the impact of root canal morphology would be beneficial.

Areas for Improvement:

Provide more details about the questionnaire design and validation process.

Expand the discussion on why certain complications occur more frequently.

Enhance the references with more recent studies.

Include recommendations for practitioners to mitigate complications.