

REVIEWER'S REPORT

Manuscript No.: IJAR-54978

Title: Comparative assessment of BMP-9 levels and clinical implant parameters in immediately restored implants using bone compaction drilling versus conventional drilling: a randomized controlled study.

Recommendation:

Accept as it is

Accept after minor revision...Yes.....

Accept after major revision

Do not accept (*Reasons below*)

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

Reviewer Name: Dr. Sireesha Kuruganti

Detailed Reviewer's Report

Comparative assessment of BMP9 levels and clinical implant parameters in immediately restored implants using bone compaction drilling versus conventional drilling: a randomized controlled study.”

1. Title & Abstract (Lines 1–23)

Strengths:

The title is clear and specifies the intervention (bone compaction vs conventional drilling), outcome measures (BMP9, implant parameters), and study design (RCT).

Abstract provides concise background, methodology, results, and conclusion.

Weaknesses:

Abstract lacks mention of statistical tests used (though detailed later).

Clinical significance of BMP9 changes could be better explained.

Suggestion: Add a sentence on clinical implications of BMP9 variations for practitioners.

2. Introduction (Lines 26–68)

Strengths:

Comprehensive background on implantology challenges in maxilla (Lines 27–33).

Good literature review on previous techniques and limitations (Lines 34–41).

Clear rationale for osseodensification (Lines 42–48).

Weaknesses:

Some references are dated; recent systematic reviews could strengthen context.

Null hypothesis stated (Line 66–68) but could be more precise (e.g., specify BMP9 and stability outcomes).

Suggestion: Briefly highlight clinical gap in human studies earlier for stronger justification.

REVIEWER'S REPORT

3. Materials & Methods (Lines 69–154)

Strengths:

Ethical approval and trial registration mentioned (Lines 70–72).

Randomization and blinding described (Lines 73–75).

Detailed inclusion/exclusion criteria (Lines 80–93).

Clear description of OD and CD techniques (Lines 97–104).

Outcome measures well-defined: BMP9 (Lines 109–122), ISQ (Lines 123–128), CBL (Lines 130–144).

Weaknesses:

Sample size calculation formula shown (Lines 147–150) but explanation is minimal.

PICF volume not measured directly (Line 119) – potential limitation.

Suggestion: Include CONSORT flow diagram in main text (currently Figure 1 at Line 406) for clarity.

4. Results (Lines 156–181)

Strengths:

Clear presentation of BMP9 trends (Lines 157–163).

ISQ values and trends explained (Lines 165–171).

CBL differences highlighted (Lines 172–177).

Correlation analysis adds depth (Lines 179–181).

Weaknesses:

Tables (Lines 372–405) are informative but could include effect sizes.

No mention of confidence intervals for key differences.

Suggestion: Add graphical representation of BMP9 and ISQ trends for better visualization.

5. Discussion (Lines 183–241)

Strengths:

Links findings to biological mechanisms (BMP9 role, Lines 197–204).

Explains early vs late BMP9 trends (Lines 205–208).

Correlation interpretation is thoughtful (Lines 219–231).

Weaknesses:

Some statements lack direct citation (e.g., healing chambers concept, Line 206–207).

Discussion of limitations (Lines 236–240) is brief.

Suggestion: Expand on clinical implications (e.g., OD in low-density bone cases) and future research directions.

6. Conclusion (Lines 242–247)

Strengths:

Summarizes findings clearly.

Weaknesses:

Could emphasize clinical relevance and recommendations for practice.

Suggestion: Add a sentence on how OD could change implant protocols.

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REVIEWER'S REPORT

7. References (Lines 249–356)

Strengths:

Adequate number of references, covering key studies.

Weaknesses:

Some recent studies (2024 systematic review mentioned in Line 349–350) are cited but integration into discussion is limited.

Suggestion: Update with latest metaanalyses for stronger evidence base.

Overall Evaluation

Novelty: High – first clinical RCT assessing BMP9 in OD vs CD.

Methodology: Robust, but sample size and short followup limit generalizability.

Presentation: Clear, but could benefit from more visuals and confidence intervals.

Impact: Significant for implantology in lowdensity bone scenarios.