

# **Comparative evaluation of enamel microhardness after using two different remineralizing agents on artificially demineralized human enamel: an in vitro study**

J. Sai Sahiti, Vamsee Krishna N, S. Datta Prasad, C. Sunil Kumar, S. Sunil Kumar, K.S. Chandra Babu

Corresponding author

J. Sai Sahiti

*Department of Conservative Dentistry and Endodontics, CKS Theja institute of Dental Sciences and Research, Tirupati-517501, Chittoor District, Andhra Pradesh, India.*

---

Handling editor:

Michal Heger

*Department of Pharmaceutics, Utrecht University, the Netherlands*

*Department of Pharmaceutics, Jiaying University Medical College, Zhejiang, China*

Review timeline:

Received: November 11, 2019  
Editorial decision: January 2, 2020  
Revision received: January 30, 2020  
Editorial decision: February 3, 2020  
Revision received: February 10, 2020  
Editorial decision: February 10, 2020  
Revision received: February 16, 2020  
Editorial decision: April 18, 2020  
Revision received: May 18, 2020  
Editorial decision: June 19, 2020  
Revision received: July 6, 2020  
Editorial decision: July 28, 2020

---

1<sup>st</sup> editorial decision  
2-Jan-2020

Ref.: Ms. No. JCTRes-D-19-00025

Comparative Evaluation Of Enamel Microhardness After Using Two Different Remineralizing Agents On Artificially Demineralized Human Enamel: An Invitro Study.  
Journal of Clinical and Translational Research

Dear Dr Jaladi,

Reviewers have now commented on your paper. You will see that they are advising that you revise your manuscript. If you are prepared to undertake the work required, I would be pleased to reconsider my decision.

For your guidance, reviewers' comments are appended below. We kindly ask you that you properly address all comments from reviewers 3 and 4. Also, the manuscript must contain a consent statement and approved IRB protocol statement (preferably including IRB protocol

number) in regard to the donated teeth.

If you decide to revise the work, please submit a list of changes or a rebuttal against each point which is being raised when you submit the revised manuscript. Also, please ensure that the track changes function is switched on when implementing the revisions. This enables the reviewers to rapidly verify all changes made.

Your revision is due by Feb 01, 2020.

To submit a revision, go to <https://www.editorialmanager.com/jctres/> and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research

Reviewers' comments:

Reviewer #1: Nil

Reviewer #2: Hi,

Your study is good. Add the composition of artificial saliva and the remineralizing agents you used in materials and methods.

My suggestion is - do the hardness test at baseline, after demineralizing and remineralising (u did). This gives more clinical information regarding the action of your remineralising agents.

Reviewer #3: An original research report is presented in which an in vitro comparison was conducted to test the remineralizing potential of two remineralizing agents (Clinpro and Reminpro) against a positive and negative control of mineralized and demineralized enamel tooth surfaces respectively. The authors conclude that the two agents share equal potential in eliciting remineralization in demineralized enamel tooth surfaces in vitro.

In general, the study is interesting but the manuscript is missing key elements and is in its current condition unfortunately not of sufficient standard to merit publication. The following points should be addressed and will help improve the overall quality of the manuscript.

Basic linguistic feedback: the authors should avoid unnecessary capitalizations in the text, there are several minor punctuation errors that should be corrected and the authors should avoid writing 'etc' in their report.

## INTRODUCTION

The Introduction section is meager. The authors present no clinical problem/condition that would provide an incentive for pursuing this investigation. Also, the authors do not discuss

previous research on the topic, i.e. no other work involving remineralization and solutions (e.g. Clinpro, Reminpro, Fluoride) and no other studies using the current techniques (e.g. DIAGNOdent, Vickers micro harness tests).

A clearly stated hypothesis should be presented.

## MATERIALS AND METHODS

Organization of the M&M section should conform to the journal specifications. Subheadings should be used to separate each part of the M&M section.

The authors should expand the information on how teeth were screened for inclusion, e.g. was a microscope used to examine the teeth for (micro-)cracks?

Make, model, city and country of origin are missing for all listed materials (e.g. pH meter, DIAGNOdent, instrument for Vicker's micro harness test, chemicals/solutions used for demineralization, artificial saliva). Also, essential information is missing regarding the composition and sourcing of Clinpro and Reminpro.

In what temperature were the immersed premolars left for 72hrs? Was that room temperature, 35-37 C degrees to mimic intraoral conditions, cold temperature?

What was the artificial saliva? How was it prepared and what solutions were used and in what concentrations? The M&M section is vague and is lacking precision and specific subheadings for each section.

A Statistical Analysis section is missing.

## RESULTS

The first two sentences should be presented in M&M under 'Statistical Analysis'. Sample size and or a power calculation should also be presented and a more detailed explanation on the statistical approach.

## DISCUSSION

In general, the authors wrote a much better Discussion section than the other parts of the manuscript. They should present some of the topics covered in this section in the Introduction section too (see comment above).

The information pertinent to Clinpro and Reminpro should be presented in M&M.

## TABLE 2

Why was standard error presented and not standard deviations?

Reviewer #4: The idea of the study is acceptable. However, I do not see clinical significance. Both products are tested and are efficient, so I am not sure what the author is trying to achieve.

The article needs MAJOR grammatical and linguistic revision, specially in the introduction and discussion sections. I suggest that the authors send it to a scientific writer to proofread it.

There is additional documentation related to this decision letter. To access the file(s), please click the link below. You may also login to the system and click the 'View Attachments' link in the Action column.

---

2nd editorial decision  
3-Feb-2020

Dear authors,

Your submission entitled "Comparative Evaluation Of Enamel Microhardness After Using Two Different Remineralizing Agents On Artificially Demineralized Human Enamel: An Invitro Study." has been reviewed by the Editorial Board. Although the editors see merit in your work, the manuscript is being returned to you for the following reason(s):

- ☒ The English language needs to be polished considerably.
- ☐ The manuscript length is not proportional to the amount of presented data.
- ☐ The conclusions of the manuscript are not supported by the data.
- ☐ Improper statistical analyses are performed.
- ☒ missing documents: point-by-point response to reviewers' comments
- ☒ missing documents: revised manuscript with tracked changes

Please address the above issue(s) prior to resubmitting your work and contact the Editorial Office at [info@jctres.com](mailto:info@jctres.com) if you have any questions regarding your submission.

Kindest regards,

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research

---

Author's rebuttal

Dr. J.Sai Sahiti  
Post graduate,  
Department of conservative dentistry and Endodontics,  
CKS.Theja Institute of Dental  
Sciences and Research,  
Tirupathi.  
Mail id: [dr.sahithijaladi@gmail.com](mailto:dr.sahithijaladi@gmail.com)

Sub: Point to point corrections

Ref: JCTRes – D-19-00025R1

Respected sir,

Whole hearted greetings for considering and reviewing the manuscript. Authors have corrected the manuscript based on the changes suggested by the reviewers and the editorial board of the Journal and we strongly agree that the changes or corrections advised are for the betterment of the manuscript. Corrections are mentioned below in red.

We look forward for your valuable comments .

1.IRB protocol statement was submitted with the IRB number in regard to extracted teeth, and also it is mentioned in the MM section of manuscript.

Reviewer# 3:

2. Corrected the basic linguistic feedback we avoided writing 'etc' in the report.

3.Introduction section was considered to be meager.

**Correction:** Discussion pertaining to the remineralizing agents was added.

The remineralization technology is advanced with new materials such as Xylitol; an ingredient in Remin Pro ® (VOCO Germany), which is believed to be associated with calcium in aqueous solution, to inhibit the dissolution of calcium and/or phosphate ions from enamel and to act as a carrier of calcium required for enamel remineralization<sup>[2]</sup>.

Clinpro tooth crème (3 M ESPE, Australia) is an anti-caries dentifrice containing 0.21% w/w sodium fluoride (NaF) and a functional ingredient of tricalcium phosphate (f-TCP). Positive aspects of this calcium phosphate mechanism are that it is stable in aqueous conditions and does not affect the production of fluoride incorporated in dentifrices. Nevertheless, it has been proposed that the combination of fluoride with f-TCP provides greater remineralisation in terms of fluoride absorption and micro hardness.

4.Materials and Methods:

Subheadings should be used to separate each part of

M&M section. **Correction:** Following subheadings

were added in the M&M section:

criteria for inclusion

Exclusion criteria for teeth

Preparation of Demineralizing solution

Procedure of demineralisation

Test groups

Procedure of remineralization

5. Make, Model, city, country of origin are missing for all listed instruments and materials:

**Correction:** Following corrections were done and Make, Model, city, country of origin of instruments and materials were listed.

Vickers micro hardness test (HIGHWOOD DMH7 – TTC unlimited INC – Japan, Model HWMMT-X7 Digital Micro Hardness Tester)

DIAGNOdent (KaVo, Biberach, Germany)

Clinpro (3M ESPE, Australia)

Reminpro (Voco company, Germany)

6. Temperature for immersing premolars:

**Correction:** room temperature

7. Artificial saliva composition used:

**Correction:** Commercially available artificial saliva was used which contains 0.4 g of sodium chloride (NaCl), 0.4 g of potassium chloride (KCl), 0.795 g of calcium chloride ( $\text{CaCl}_2 \cdot \text{H}_2\text{O}$ ), 0.69 g of sodium dihydrogen phosphate ( $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$ ), 0.005 g of sodium sulfide ( $\text{Na}_2\text{S} \cdot 9\text{H}_2\text{O}$ ) and 1000 ml of distilled water.

8. Statistical analysis section is missing

**Correction: STATISTICAL ANALYSIS**

SPSS version 23 program (IBM, USA) was used to calculate the descriptive statistics. The data was analyzed for intergroup comparison using one-way ANOVA. Individual pair wise comparison was performed using Post hoc LSD test.  $p < 0.05$  for being statistically significant.

9. A more detailed explanation was asked on the results:

**Correction:** There was Statistically significant difference present in mean micro hardness between four groups ( $p=0.030$ ) (Table 1). There was no statistically significant difference between groups 1-2, groups 1-3 and groups 2-3 in individual pair wise comparison but highly significant difference was present between all the study groups (Group 1,2,3) when compared with group 4-negative control (Table 2) ( $p<0.001$ ).

10. Discussion : In general, the authors wrote a much better Discussion section than the other parts of the

manuscript. They should present some of the topics covered in this section in the Introduction section too.

**Correction:** Regards for comments on discussion section. These topics were also covered in introduction section.

11. table- 2 standard error and st. deviation  
**Correction:**

| Intergroup comparison   |         | Mean Difference | Std. Deviation | Std. Error | Sig.     |
|---|---------|-----------------|----------------|------------|----------|
| Group 1   | Group 2 | -8.38           | 58.314         | 1.82067    | 0.326 NS |
|   | Group 3 | -9.09           | 32.330         | 1.82067    | 0.411 NS |
|   | Group 4 | 23.86           | 23.454         | 1.82067    | 0.016*   |
| Group 2   | Group 3 | -0.71           | 42.046         | 1.15149    | 0.852 NS |
|   | Group 4 | 32.24           | 40.911         | 1.15149    | <0.001** |
| Group 3   | Group 4 | 32.95           | 21.573         | 1.15149    | <0.001** |
| **. The mean difference is significant at the 0.001 level. *- The mean difference is significant at the 0.05 level. |         |                 |                |            |          |

#### Reviewer 4:

| Location (line) | Original                | Change to               | Correction              |
|-----------------|-------------------------|-------------------------|-------------------------|
| Abstract / 7    | Invitro                 | In vitro                | In vitro                |
| Abstract / 13   | The present study aimed | The present study aimed | Remineraliation outcome |

|               |   |   |                              |
|---------------|---|---|------------------------------|
|               | to compare the remineralization potential                                   | to compare the remineralization Outcome                       |                              |
| Abstract / 21 | premolars were selected for the study and randomly divided into four groups | Why would you need to mention that they are randomly divided? | <del>Randomly selected</del> |

|                 |   |  |  |
|-----------------|---|--|--|
| Abstract / 36   | Both the experimental groups were showing statistically significant difference compared with demineralized samples. | Delete   |  |
| Abstract / 36   |   | Mention results between the two tested materials . or compare results between remineralized surface and natural enamel before demineralization | Vicker's hardness number values were analysed using One-way ANOVA and samples in the experimental groups (I & II) have shown a statistically significant difference with that of the control groups.(p<0.05). Remineralization was higher in Reminpro group followed by Clinpro group. |
| Introduction/ 8 | To get back the lost enamel,  | To remineralize  | Remineralising enamel  |
| 18              | Clinical management of tooth demineralization should focus on early detection and prevention                        | Delete the word prevention and rephrase sentence, it sounds inaccurate   | Clinical tooth demineralization management should concentrate on early detection and care i.e.,  |
|                 |   |  | remineralization of the tooth before degradation leads formation of cavity.  |



|                             |  |   |   |
|-----------------------------|--|---|---|
| 21                          | which dissolve the tooth minerals making up the basic calcium, phosphate and hydroxyl crystals   | Delete and replace with "which dissolves organic and inorganic content .."    | which dissolves the organic and inorganic content of the tooth minerals that make up the basic calcium, phosphate and hydroxyl crystals of enamel, dentin and cementum. |
| 32                          | Demineralization is not actually damage to tooth enamel, instead it is the first sign that such damage may be coming soon among other problems with no earliest care provided. | Revise language, it is not clear  | Demineralization is damage to enamel of the tooth, which can be stopped or reversed.  |
| 37                          | stopped or reversed  | And/or  | Stopped and/or reversed   |
| 53                          | This study has been done   | This study aimed  | This study aimed  |
| Materials and Method/<br>13 | total of 40 freshly extracted  | Replace "Freshly" with "recently"   | 60 recently   |
| 26                          | • Teeth belonging to healthy donors  | Donnors? what is the reason of extracting the teeth, is there a consent form? |   |
| 44                          | middle one-third of the crown.   | Which surface?  | buccal surface in the middle one-third of the crown.  |
| 20 (page 6)                 | subjected to Vickers micro hardness test under 200gm load for 15 seconds   | How were the teeth stabilized during the test ? special Jig made?             | were mounted in acrylic blocks and  |
| Discussion/10               | in pH of the oral cavity   | Incorrect statement.  | Oral cavity is a constamtly   |

|           |   |   |   |
|-----------|---|---|---|
|           | results in demineralization, which if continues leads to loss of minerals from the tooth structure resulting in dental caries | Caries as a disease needs bacteria and not just low ph. I believe the author means demineralization rather than caries  | demineralizing and Remineralizing warfare. With changes in the Ph of the oral cavity and other risk factors, the tooth is demineralised. If pH increases resulting in deposition of calcium, phosphate, and fluoride a reversal may occur |
| 24        | The present study was carried out to evaluate the efficacy of Reminpro and Clinpro  | I am not sure if this is the aim of the study. These are tested products and they are efficient. I believe the study is comparing the outcome of both products? | The present study was carried out to evaluate the remineralization outcome of Reminpro and Clinpro  |
| 37        | Researchers   | Researchers   | Researchers   |
| 48        | non-destructive   | How is it non-destructive? It creates an indentation in the surface   | <del>Non-destructive</del>  |
| 55        | chair side  | This is not chairside it is in vitro  | <del>Assess chairside</del><br>DIAGNOdent has been used in this analysis to test the demineralization and remineralization while VMH has been used to Verify tooth's hardness.  |
| 58        | Vickers micro hardness  | Change to VMH   | Changed to VMH  |
| Page 9/38 | DIAGNOdent laser  | I am not sure Diagnodent  | DIAGNOdent laser  |

|           |                                |  |  |
|-----------|--------------------------------|--|--|
|           | fluorescence is a noninvasive  | is the best, in the authors sample the lesions are bacterial free i.e. minimal organic content | fluorescence is a noninvasive method used to measure early demineralization of tooth. The surface of the tooth absorbs laser light and emit fluorescence in the Spectrum's infrared field. |
| Page 10/7 | effective chair side equipment | Disagree, evidence?  | Provided reference Reference-11  |
|           |                                |  |  |
|           |                                |  |  |

All the reasons mentioned in the mail were considered and corrections were done accordingly in the manuscript:

- ✓ The English language needs to be polished considerably.
- ✓ The manuscript length is not proportional to the amount of presented data.
- ✓ The conclusions of the manuscript are not supported by the data.
- ✓ Improper statistical analyses are performed.
- ✓ missing documents: point-by-point response to reviewers' comments

✓ missing documents: revised manuscript with tracked changes

Thanking you

On behalf of the authors,  
Kindest Regards,  
Dr.J.Sai Sahiti

---

3<sup>rd</sup> editorial decision  
18-Apr-2020

Ref.: Ms. No. JCTRes-D-19-00025R2  
Comparative Evaluation Of Enamel Microhardness After Using Two Different  
Remineralizing Agents On Artificially Demineralized Human Enamel: An Invitro Study.  
Journal of Clinical and Translational Research

Dear Dr Jaladi,

Reviewers have now commented on your paper. You will see that they are advising that you revise your manuscript. If you are prepared to undertake the work required, I would be pleased to reconsider my decision.

For your guidance, reviewers' comments are appended below.

If you decide to revise the work, please submit a list of changes or a rebuttal against each point which is being raised when you submit the revised manuscript. Also, please ensure that the track changes function is switched on when implementing the revisions. This enables the reviewers to rapidly verify all changes made.

Your revision is due by Mar 11, 2020.

To submit a revision, go to <https://www.editorialmanager.com/jctres/> and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research

Reviewers' comments:

Dear authors,

Thank you for resubmitting your paper. However, the reviewers' comments have not been sufficiently addressed, especially with respect to linguistic modifications. To demonstrate this, I have corrected more than 20 errors in the manuscript you resubmitted, which I have attached to my decision letter. Please have your manuscript proofread by a native speaker because in

its current form we cannot send it out for re-review.

There is additional documentation related to this decision letter. To access the file(s), please click the link below. You may also login to the system and click the 'View Attachments' link in the Action column.

---

#### Author's response

Dr. J.Sai Sahiti  
Post graduate,  
Department of conservative dentistry and Endodontics,  
CKS.Theja Institute of Dental  
Sciences and Research,  
Tirupathi.  
Mail id: dr.sahithijaladi@gmail.com

Sub: Point to point corrections

Ref: JCTRes – D-19-00025R1

Respected sir,

Whole hearted greetings for considering and reviewing the manuscript. Authors have corrected the manuscript based on the changes suggested by the reviewers and the editorial board of the Journal and we strongly agree that the changes or corrections advised are for the betterment of the manuscript. Corrections are mentioned below in red.

We look forward for your valuable comments .

1.IRB protocol statement was submitted with the IRB number in regard to extracted teeth, and also it is mentioned in the MM section of manuscript.

Reviewer# 3:

2. Corrected the basic linguistic feedback we avoided writing 'etc' in the report.

3.Introduction section was considered to be meager.

**Correction:** Discussion pertaining to the remineralizing agents was added.

The remineralization technology is advanced with new materials such as Xylitol; an ingredient in Remin Pro ® (VOCO Germany), which is believed to be associated with calcium in aqueous solution, to inhibit the dissolution of calcium and/or phosphate ions from enamel and to act as a carrier of calcium required for enamel remineralization<sup>[2]</sup>.

Clinpro tooth crème (3 M ESPE, Australia) is an anti-caries dentifrice containing 0.21% w/w sodium fluoride (NaF) and a functional ingredient of tricalcium phosphate (f-TCP). Positive aspects of this calcium phosphate mechanism are that it is stable in aqueous conditions and does not affect the production of fluoride incorporated in dentifrices. Nevertheless, it has been proposed that the combination of fluoride with f-TCP provides greater remineralisation in terms of fluoride absorption and micro hardness.

#### 4. Materials and Methods:

Subheadings should be used to separate each part of

M&M section. **Correction:** Following subheadings

were added in the M&M section:

criteria for inclusion

Exclusion criteria for teeth

Preparation of Demineralizing solution

Procedure of demineralisation

Test groups

Procedure of remineralization

#### 5. Make, Model, city, country of origin are missing for all listed instruments and materials:

**Correction:** Following corrections were done and Make, Model, city, country of origin of instruments and materials were listed.

Vickers micro hardness test (HIGHWOOD DMH7 – TTC unlimited INC – Japan, Model HWMMT-X7 Digital Micro Hardness Tester)

DIAGNOdent (KaVo, Biberach, Germany)

Clinpro (3M ESPE, Australia)

Reminpro (Voco company, Germany)

#### 6. Temperature for immersing premolars:

**Correction:** room temperature

#### 7. Artificial saliva composition used:

**Correction:** Commercially available artificial saliva was used which contains 0.4 g of sodium chloride (NaCl), 0.4 g of potassium chloride (KCl), 0.795 g of calcium chloride ( $\text{CaCl}_2 \cdot \text{H}_2\text{O}$ ), 0.69 g of sodium dihydrogen phosphate ( $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$ ), 0.005 g of sodium sulfide ( $\text{Na}_2\text{S} \cdot 9\text{H}_2\text{O}$ ) and 1000 ml of distilled water.

#### 8. Statistical analysis section is missing

**Correction: STATISTICAL ANALYSIS**

SPSS version 23 program (IBM, USA) was used to calculate the descriptive statistics. The data was analyzed for intergroup comparison using one-way ANOVA. Individual pair wise comparison was performed using Post hoc LSD test.  $p < 0.05$  for being statistically significant.

9.A more detailed explanation was asked on the results:

**Correction:** There was Statistically significant difference present in mean micro hardness between four groups( $p=0.030$ ) (Table 1). There was no statistically significant difference between groups 1-2, groups 1-3 and groups 2-3 in individual pair wise comparison but highly significant difference was present between all the study groups(Group 1,2,3) when compared with group 4-negative control (Table 2) ( $p<0.001$ ).

10. Discussion : In general, the authors wrote a much better Discussion section that the other parts of the manuscript. They should present some of the topics covered in this section in the Introduction section too.

**Correction:** Regards for comments on discussion section. These topics were also covered in introduction section.

11. table- 2 standard error and st. deviation

**Correction:**

| Intergroup comparison |         | Mean Difference | Std. Deviation | Std. Error | Sig.     |
|-----------------------|---------|-----------------|----------------|------------|----------|
| Group 1               | Group 2 | -8.38           | 58.314         | 1.82067    | 0.326 NS |
|                       | Group 3 | -9.09           | 32.330         | 1.82067    | 0.411 NS |
|                       | Group 4 | 23.86           | 23.454         | 1.82067    | 0.016*   |
| Group 2               | Group 3 | -0.71           | 42.046         | 1.15149    | 0.852 NS |
|                       | Group 4 | 32.24           | 40.911         | 1.15149    | <0.001** |
| Group 3               | Group 4 | 32.95           | 21.573         | 1.15149    | <0.001** |

|  |  |
|--|--|
|  | <p><b>**</b>. The mean difference is significant at the 0.001 level. <b>*</b>-<br/>The mean difference is significant at the 0.05 level.</p> |
|--|--|

#### Reviewer 4:

| Location (line) | Original                | Change to               | Correction              |
|-----------------|-------------------------|-------------------------|-------------------------|
| Abstract / 7    | Invitro                 | In vitro                | In vitro                |
| Abstract / 13   | The present study aimed | The present study aimed | Remineraliation outcome |

|               |   |  |  |
|---------------|---|--|--|
|               | to compare the remineralization potential   | to compare the remineralization<br><b>Outcome</b>  |  |
| Abstract / 21 | premolars were selected for the study and randomly divided into four groups   | Why would you need to mention that they are <b>randomly</b> divided?   | <del>Randomly selected</del>   |
| Abstract / 36 | Both the experimental groups were showing statistically significant difference compared with demineralized samples. | Delete   |  |
| Abstract / 36 |   | Mention results between the two tested materials . or compare results between remineralized surface and natural enamel before demineralization | Vicker's hardness number values were analysed using One-way ANOVA and samples in the experimental groups (I & II) have shown a statistically significant difference with that of the control groups.(p<0.05). Remineralization was higher in Reminpro group followed by Clinpro group. |



|                 |  |  |   |
|-----------------|--|--|---|
| Introduction/ 8 | To get back the lost enamel,   | To remineralize  | Remineralising enamel   |
| 18              | Clinical management of tooth demineralization should focus on early detection and prevention | Delete the word prevention and rephrase sentence, it sounds inaccurate | Clinical tooth demineralization management should concentrate on early detection and care i.e., |

|                             |  |   |   |
|-----------------------------|--|---|---|
|                             |  |   | remineralization of the tooth before degradation leads formation of cavity.   |
| 21                          | which dissolve the tooth minerals making up the basic calcium, phosphate and hydroxyl crystals   | Delete and replace with "which dissolves organic and inorganic content .."    | which dissolves the organic and inorganic content of the tooth minerals that make up the basic calcium, phosphate and hydroxyl crystals of enamel, dentin and cementum. |
| 32                          | Demineralization is not actually damage to tooth enamel, instead it is the first sign that such damage may be coming soon among other problems with no earliest care provided. | Revise language, it is not clear  | Demineralization is damage to enamel of the tooth, which can be stopped or reversed.  |
| 37                          | stopped or reversed  | And/or  | Stopped and/or reversed   |
| 53                          | This study has been done   | This study aimed  | This study aimed  |
| Materials and Method/<br>13 | total of 40 freshly extracted  | Replace "Freshly" with "recently"   | 60 recently   |
| 26                          | • Teeth belonging to healthy donors  | Donnors? what is the reason of extracting the teeth, is there a consent form? |   |

|               |  |   |   |
|---------------|--|---|---|
| 44            | middle one-third of the crown.   | Which surface?  | buccal surface in the middle one-third of the crown.  |
| 20 (page 6)   | subjected to Vickers micro hardness test under 200gm load for 15 seconds   | How were the teeth stabilized during the test ? special Jig made?   | were mounted in acrylic blocks and  |
| Discussion/10 | in pH of the oral cavity   | Incorrect statement.  | Oral cavity is a constantly   |
|               | results in demineralization, which if continues leads to loss of minerals<br><br>from the tooth structure resulting in dental caries | Caries as a disease needs bacteria and not just low ph. I believe the author means demineralization rather than caries  | demineralizing and Remineralizing warfare. With changes in the Ph of the oral cavity and other risk factors, the tooth is demineralised. If pH increases resulting in deposition of calcium, phosphate, and fluoride a reversal may occur |
| 24            | The present study was carried out to evaluate the efficacy of Reminpro and Clinpro   | I am not sure if this is the aim of the study. These are tested products and they are efficient. I believe the study is comparing the outcome of both products? | The present study was carried out to evaluate the remineralization outcome of Reminpro and Clinpro  |
| 37            | Researchers  | Researchers   | Researchers   |
| 48            | non-destructive  | How is it non-destructive? It creates an indentation in the surface   | <del>Non-destructive</del>  |

|           |                                |  |  |
|-----------|--------------------------------|--|--|
| 55        | chair side                     | This is not chairside it is in vitro   | <del>Assess chairside</del><br>DIAGNOdent has been used in this analysis to test the demineralization and remineralization while VMH has been used to Verify tooth's hardness.             |
| 58        | Vickers micro hardness         | Change to VMH  | Changed to VMH   |
| Page 9/38 | DIAGNOdent laser               | I am not sure Diagnodent   | DIAGNOdent laser   |
|           | fluorescence is a noninvasive  | is the best, in the authors sample the lesions are bacterial free i.e. minimal organic content | fluorescence is a noninvasive method used to measure early demineralization of tooth. The surface of the tooth absorbs laser light and emit fluorescence in the Spectrum's infrared field. |
| Page 10/7 | effective chair side equipment | Disagree, evidence?  | Provided reference Reference-11  |
|           |                                |  |  |
|           |                                |  |  |

All the reasons mentioned in the mail were considered and corrections were done accordingly in the manuscript:

- ✓ The English language needs to be polished considerably.
- ✓ The manuscript length is not proportional to the amount of presented data.
- ✓ The conclusions of the manuscript are not supported by the data.
- ✓ Improper statistical analyses are performed.
- ✓ missing documents: point-by-point response to reviewers' comments
- ✓ missing documents: revised manuscript with tracked changes

Thanking you

On behalf of the authors,  
Kindest Regards,  
Dr.J.Sai Sahiti

---

#### 4<sup>th</sup> Editorial decision

Ref.: Ms. No. JCTRes-D-19-00025R4  
Comparative Evaluation Of Enamel Microhardness After Using Two Different Remineralizing Agents On Artificially Demineralized Human Enamel: An Invitro Study.  
Journal of Clinical and Translational Research

Dear author(s),

Reviewers have submitted their critical appraisal of your paper. The reviewers' comments are appended below. Based on their comments and evaluation by the editorial board, your work was FOUND SUITABLE FOR PUBLICATION AFTER MINOR REVISION.

If you decide to revise the work, please itemize the reviewers' comments and provide a point-by-point response to every comment. An exemplary rebuttal letter can be found on at <http://www.jctres.com/en/author-guidelines/> under "Manuscript preparation." Also, please use the track changes function in the original document so that the reviewers can easily verify your responses.

Your revision is due by Jul 19, 2020.

To submit a revision, go to <https://www.editorialmanager.com/jctres/> and log in as an Author.

You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely,

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research

Reviewers' comments:

Reviewer #2:

Your study is good. There are few corrections (grammatical) in lines 50 (beta TCP), 54 (indent, area), 86 (delete of), 192, 230 and 231.

I didnt understand which numbering system (references) u followed.

The study would have been better if u have done the microhardness tests at baseline, after demineralisation and remineralisation. This would have given more clinical relevance.

Reviewer #6: Kindly make the minor changes suggested

There is additional documentation related to this decision letter. To access the file(s), please click the link below. You may also login to the system and click the 'View Attachments' link in the Action column.

---

5<sup>th</sup> editorial response  
28-Jul-2020

Ref.: Ms. No. JCTRes-D-19-00025R5  
Comparative Evaluation Of Enamel Microhardness After Using Two Different Remineralizing Agents On Artificially Demineralized Human Enamel: An Invitro Study.  
Journal of Clinical and Translational Research

Dear authors,

I am pleased to inform you that your manuscript has been accepted for publication in the Journal of Clinical and Translational Research.

You will receive the proofs of your article shortly, which we kindly ask you to thoroughly review for any errors.

Thank you for submitting your work to JCTR.

Kindest regards,

Michal Heger  
Editor-in-Chief  
Journal of Clinical and Translational Research