

EFFECT OF BLEACHING WITH NATURAL ENZYME ON HUMAN PRIMARY TEETH

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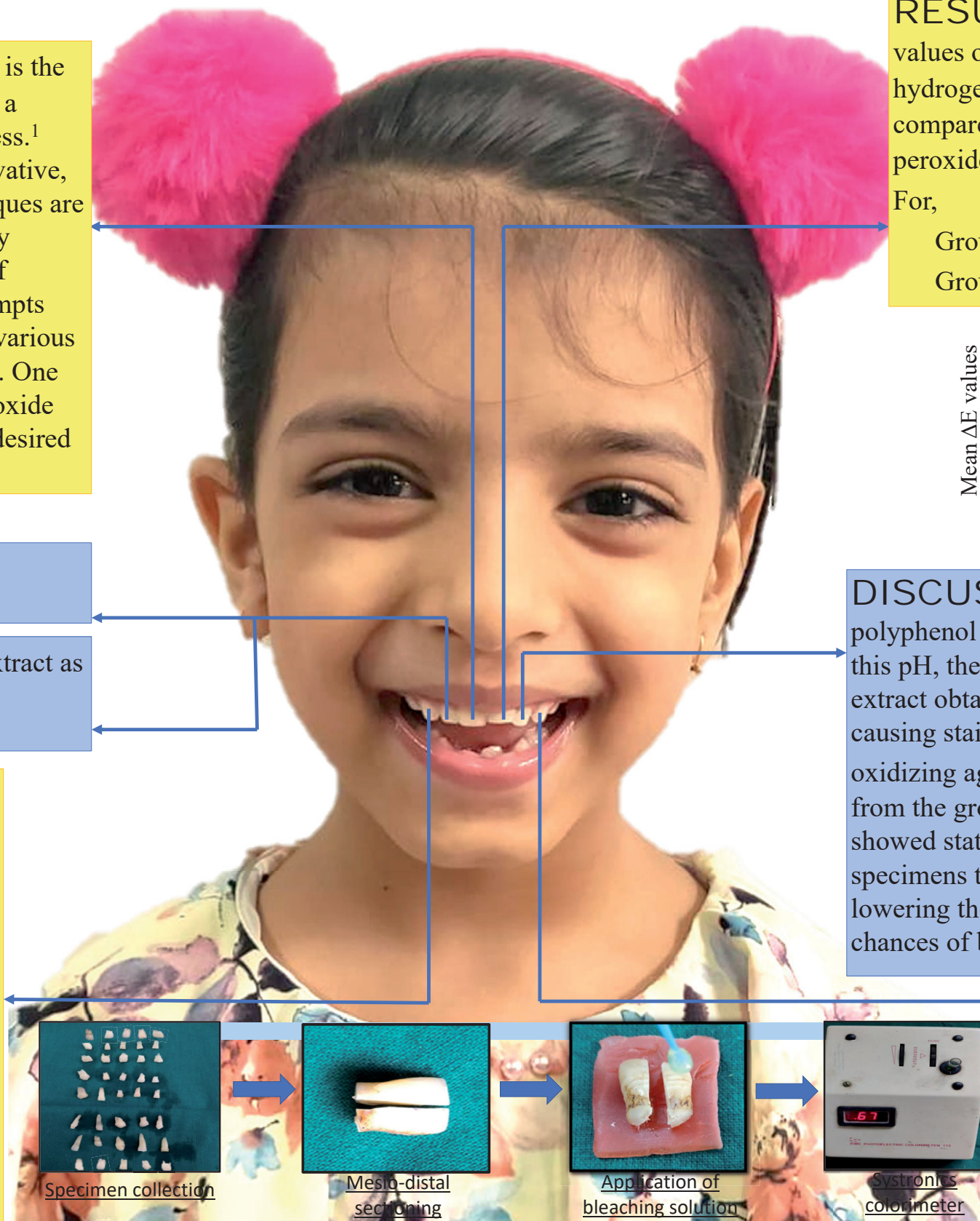
INTRODUCTION: No one ever said that “Yellow is the new White” in regards to a smile. An attractive smile plays a major role in the overall perception of physical attractiveness.¹ Bleaching is the most preferred treatment due to its conservative, non-invasive, inexpensive nature. Lot of agents and techniques are available for bleaching, but all of them directly or indirectly involve hydrogen peroxide. The higher the concentration of hydrogen peroxide, the more the side effects.² Several attempts have been made in achieving better bleaching results with various agents by reducing the concentration of hydrogen peroxide. One such attempt is to lower the concentration of hydrogen peroxide by using vegetative enzymes as an additive to achieve the desired results.

AIM: To evaluate the colour change in human primary teeth enamel bleached with natural enzyme.

OBJECTIVE: To check the efficacy of pineapple extract as an additive to hydrogen peroxide for bleaching.

MATERIAL & METHODOLOGY:

- 40 human primary teeth.
- Stained using iron supplements for 24 hrs.
- Divided into 4 groups of 10 samples each:
Group I – 30% hydrogen peroxide
Group II – 30% hydrogen peroxide + pineapple extract
Group III – 20% hydrogen peroxide
Group IV – 20% hydrogen peroxide + pineapple extract.
- Bleaching protocol followed.
- Colour change was evaluated using a Colorimeter.
- **Statistical Analysis** – Obtained data analysed using student’s unpaired *t*-test at 5% significance level using SPSS software(Version 20.0)

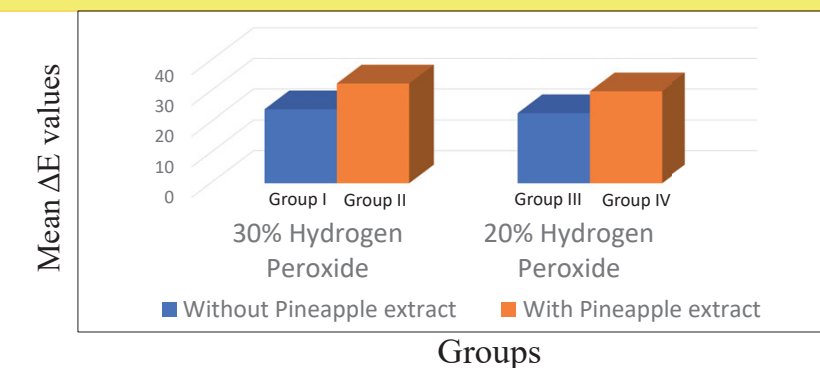


RESULTS: In the groups evaluated in the study, the mean values obtained with the use of pineapple extract along with hydrogen peroxide showed statistically significant whitening when compared to the specimens that were bleached with hydrogen peroxide only.

For,

Group I and Group II , $p=0.0344$

Group III and Group IV, $p=0.0437$



DISCUSSION: Pineapple contains bromelain, catalase, and polyphenol peroxidase. The pH of the extract ranges from 3 to 6.5. In this pH, the components of the extract are stable. At this pH, the extract obtained from pineapple causes disruption of adhered proteins causing stains. Bromelain present in this extract acts as a predominant oxidizing agent.³ The results indicate that mean ΔE values obtained from the group which used pineapple extract with hydrogen peroxide showed statistically significant whitening when compared to the specimens that were bleached with hydrogen peroxide only. Also, by lowering the concentration of hydrogen peroxide, there are less chances of burns or soft tissue injuries in the oral cavity.⁴

CONCLUSION: Hydrogen peroxide along with pineapple extract as a bleaching agent resulted in significant colour change on stained human enamel when compared to the use of hydrogen peroxide without any additives.

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