

The Effect of 2% White Turmeric (*Curcuma zedoaria*) Gel as Adjunctive Therapy of Scaling and Root Planing Treatment towards the Interleukin 6 Level in Chronic Periodontitis

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Abstract: Chronic periodontitis is an infectious disease caused by plaque bacteria that leads to an increasing proinflammatory cytokines Interleukin-6 (IL-6). White turmeric is one of the herbal remedies with anti-inflammatory properties. The objective of this study was to determine the effect of white turmeric gel as adjunctive therapy towards the Interleukin-6 levels in the gingival sulcus fluid after scaling and root planing treatment in chronic periodontitis patients.

Methods: This research was performed with the randomised controlled trial technique and the split-mouth design by analysing the gingival sulcus fluid of 22 chronic periodontitis patients who have pocket with the depth of ≥ 5 mm. The 2% white turmeric gel was applied towards the treatment side on day 0 and day 7. The gingival sulcus fluid was taken on day 0 and day 14 for Interleukin-6 level analysis on both the treatment side and the control side. The Interleukin-6 level was then analysed with the ELISA method. The data obtained were then processed statistically using the Wilcoxon and Mann-Whitney test with the significance values of $p < 0.05$.

Results: The results showed a decreasing level of Interleukin-6 both on the treatment side and the control side. The average difference of Interleukin-6 level before and after treatment on the treatment side was 8.807 pg/mL and as much as 1.675 pg/mL on the control side. There was a significant difference in the IL-6 level decrease between the treatment and control side ($p = 0.011$).

Conclusion: The 2% white turmeric gel was proven to be effective in decreasing the Interleukin-6 level after scaling and root planing treatment in chronic periodontitis patients.

Keywords: Chronic periodontitis, Interleukin-6 level, White turmeric gel.

AgusSusanto *et al* /International Journal of ChemTech Research, 2018,11(08): 182-187.

DOI= <http://dx.doi.org/10.20902/IJCTR.2018.110820>
