

ABSTRAK

EFEKTIVITAS ASAM ASKORBAT DALAM EKSTRAK BUAH TOMAT (*Lycopersicon esculentum* Mill.) TERHADAP PEMUTIHAN GIGI DENGAN KONSENTRASI 30%, 70%, DAN 100%

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Pendahuluan : Perubahan warna gigi mengurangi keindahan penampilan seseorang. Perubahan warna gigi dapat dilakukan *bleaching* dengan bahan alami. Tujuan penelitian ini untuk mengetahui efektivitas asam askorbat dalam ekstrak buah tomat (*Lycopersicon esculentum* Mill.) terhadap pemutihan gigi dengan konsentrasi 30%, 70%, dan 100%.

Metode : Jenis penelitian ini *pretest-posttest group design*. Sampel yang digunakan 27 gigi premolar post-ekstraksi direndam dengan teh hitam selama 6 hari kemudian direndam dengan asam askorbat dalam ekstrak buah tomat konsentrasi 30%, 70% dan 100% selama 3 hari. Pengukuran warna gigi dengan *spectrophotometer*. Analisa data dengan uji beda *Kruskal-Wallis* dan uji beda lanjut *Post Hoc Mann-whitney*.

Hasil : Hasil uji beda *Kruskal-Wallis* menunjukkan nilai $p=0,010$ ($p<0,05$) berarti terdapat perbedaan antara sebelum dan sesudah perendaman gigi dengan asam askorbat dalam ekstrak buah tomat dengan konsentrasi 30%, 70%, dan 100%. Berdasarkan hasil uji *Post Hoc Mann-Whitney*, perbedaan antara konsentrasi 30% dan 100% mempunyai nilai $p=0,009$ ($p<0,05$) paling efektif dibandingkan perbedaan antara konsentrasi 30% dan 70% dan perbedaan antara konsentrasi 70% dan 100%.

Simpulan : asam askorbat dalam ekstrak buah tomat (*Lycopersicon esculentum* Mill.) dengan konsentrasi 30%, 70%, dan 100% efektif dalam pemutihan gigi.

Kata kunci : *bleaching*, asam askorbat, ekstrak buah tomat, *spectrophotometer*

ABSTRACT

EFFECTIVENESS ASCORBIC ACID IN TOMATO FRUIT EXTRACTS (*Lycopersicon esculentum* Mill.) ON BLEACHING TEETH WITH CONCENTRATIONS 30%, 70%, AND 100%

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Introduction : Dental discoloration reduces the beauty of someone's appearance. The changing color of teeth can be done by bleaching treatment with natural ingredients. The purpose of this study is to determine the effectiveness of ascorbic acid in tomato extract (*Lycopersicon esculentum* Mill.) to teeth whitening with concentrations of 30%, 70%, and 100%.

Method : This research type is *pretest-posttest group design*. The sample used 27 premolar post-extraction teeth soaked with black tea for 6 days then soaked with ascorbic acid in tomato extract concentration 30%, 70% and 100% for 3 days. The measurement of teeth color uses *spectrophotometer*. The data analyzing uses *Kruskal-Wallis* different test and further test of *Post Hoc Mann-Whitney*.

Result : The result of *Kruskal-Wallis* different test shows that $p = 0,010$ ($p < 0,05$) means that there is difference between before and after immersion of ascorbic acid in tomato extract with concentration 30%, 70%, and 100%. Based on the results of the *Mann-Whitney Post Hoc* test, the difference between 30% and 100% concentrations has a value of $p = 0.009$ ($p < 0.05$) most effective than the difference between 30% and 70% concentrations and the difference between 70% and 100% concentrations.

Conclusion : Ascorbic acid in tomato extract (*Lycopersicon esculentum* Mill.) With concentrations of 30%, 70%, and 100% effective in teeth whitening.

Keywords: *bleaching*, ascorbic acid, tomato extract, *spectrophotometer*

