Black Cumin Extract as Denture Cleaner in Slowing down The Micro Bacteria Inhibition

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Abstract

This study aims to determine the ability of black cumin as an artificial tooth cleanser to inhibit microbial growth. This research applied clinical laboratories with pre and post control group design. Four groups were analyzed on the base of immersion duration during 2, 4, 6 and 8 minutes with five samples for each cluster. T paired test statistic followed by Tukey test was performed to examine the difference in each treatment group. The decrease of Candida albicans and Streptococcus sp. in the treatment group displayed after soaking with the extract of flavonoid black cumin.

Key Words: Black cumin extract, stickiness, Streptococcus sp, Candida albicans

1. Introduction

One of the causes of the decline in the quality of life in the elderly is toothless which results in decreasing function of chewing, talking nutritional intake and the ability to communicate as well as aesthetic look.1 The denture is usually the shortcut to solve this problem. Currently, artificial teeth still uses acrylic resin material as it is easy to mold, to repair as well as cheap. 2,3 But the denture from this material is very susceptible to plaque. Plaque is a term used to describe the collection of various microorganisms (mainly bacteria) on tooth surfaces within a bacterial and salivary matrix polymer [4,5].

Streptococcus mutants is a bacterium initiator of plaque formation and are most commonly found in dental plaque. Streptococcus mutants will convert sucrose to extracellular glucose polymer (glucan) through the glucosyltransferase enzyme. Glucans will be used by other microorganisms to perform congregation, including Candida albicans [6] which are causes of candidiasis and denture stomatitis. Denture wearers typically use denture cleansers with chemical cleaning solutions to remove plaque formation, mucin, endogenous