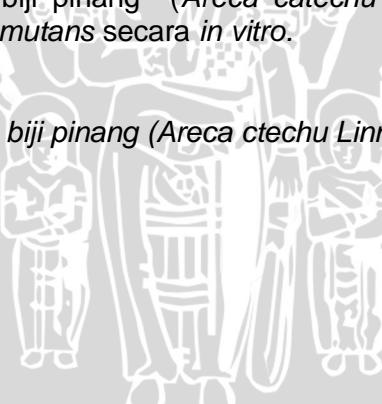


## ABSTRAK

Asdyaksa, Hirzi. 2013. **Efektivitas Ekstrak Etanol Biji Pinang (*Areca catechu Linn*) terhadap pertumbuhan bakteri *Streptococcus mutans* secara In Vitro.** Tugas Akhir. Program Studi Pendidikan Dokter Gigi. Fakultas Kedokteran Universitas Brawijaya. Pembimbing : (1) Prof. Dr. dr. Sanarto Santoso, DTM&H, SpMK(K). (2) drg Kuni Ridha Andini Sp. Ort.

*Streptococcus mutans* merupakan bakteri patogen pada mulut yang merupakan agen penyebab utama karies. Proses karies ditandai dengan terjadinya demineralisasi pada jaringan keras gigi, diikuti dengan kerusakan bahan organiknya. Hal ini akan menyebabkan terjadinya invasi bakteri dan kerusakan jaringan pulpa serta penyebaran ke jaringan periapikal dan menimbulkan rasa sakit atau nyeri. Biji pinang (*Areca catechu Linn*) mengandung alkaloid seperti *arecoline*, *arecoldine*, *arecaine*, *guvacoline*, *guvaccine*, *homoarecoline*, dan *isoguvaccine* serta *proantosianidin* yang memiliki daya anti mikroba. Tujuan penelitian ini adalah mempelajari efektivitas ekstrak etanol biji pinang (*Areca catechu Linn*) terhadap pertumbuhan bakteri *Streptococcus mutans* secara in vitro. Penelitian ini dilakukan menggunakan design eksperimental laboratoris yaitu, *True Experiment-Post Only Control Group Design*. Sampel yang digunakan dalam penelitian ini adalah bakteri *Streptococcus mutans* yang dikultur oleh Laboratorium Mikrobiologi Universitas Brawijaya Malang. Sampel kemudian dibiakkan dan diberi ekstrak biji pinang (*Areca catechu Linn*) dengan konsentrasi 0,5%, 1%, 1,5%, 2%, 2,5% dengan metode dilusi agar. Kemudian diinkubasi selama 24 jam lalu dilihat pertumbuhan bakteri dan ketebalan bakteri dengan kasat mata. Di dalam penelitian ini didapatkan KHM adalah 1,5%. Dari hasil penelitian dapat disimpulkan bahwa ekstrak etanol biji pinang (*Areca catechu Linn*) dapat menghambat pertumbuhan bakteri *Streptococcus mutans* secara in vitro.

**Kata kunci :** *Streptococcus mutans*, *biji pinang (Areca ctechu Linn)*.



## ABSTRACT

Asdyaksa, Hirzi. 2013. . **The Effectivity Test of Areca Seed (*Areca catechu* Linn) Ethanolic Extract on the Growth of *Streptococcus mutans* Bakteria In vitro**  
Final Assignment. Dentist Program. Faculty of Medicine Brawijaya University.  
Supervisors: (1) Prof. Dr. dr. Sanarto Santoso, DTM&H, SpMK. (2) drg Kuni Ridha Andini Sp.Ort.

*Streptococcus mutans* is a pathogenic bacteria in the mouth which is the primary causative agent of dental caries. Caries process is characterized by the occurrence of demineralization in dental hard tissues, followed by damage to organic materials. This will lead to bacterial invasion and damage to the pulp tissue and spread to the periapical tissues and cause pain or pain. Areca seed (*Areca catechu* Linn) contains alkaloids such as arecoline, arecoldine, arecaine, guvacoline, guvacine, homoarecoline, and isoguvacine and proanthocyanidin which has an anti-microbial. The purpose of this research is to study the effectiveness of ethanol extracts from areca seed (*Areca catechu* Linn) against pertumbuhan bacterium *Streptococcus mutans* in vitro. This study was conducted using a laboratory experimental design ie, True Experiment-Post Only Control Group Design. The sample used in this study is the bacterium *Streptococcus mutans* were cultured by the Microbiology Laboratory of the University of Brawijaya Malang. Samples were then cultured and areca nut extract (*Areca catechu* Linn) with a concentration of 0.5%, 1%, 1.5%, 2%, 2.5% with that dilution method. Then incubated for 24 hours and then seen the growth of bacteria and thickness of bacteria with the naked eye. In this study, the MIC was 1.5% From the results it can be concluded that the ethanol extract of areca seed (*Areca catechu* Linn) can inhibit the growth of *Streptococcus mutans* bacteria in vitro.

**Keywords :** *Streptococcus mutans*, areca seed (*Areca catechu* Linn).

