Comparison Of Antibacterial... Endah Rismawati E.S., et al

COMPARISON OF ANTIBACTERIAL ACTIVITY AGAINST Escherichia coli AND TOTAL TANNINS CONTENTS BETWEEN DECOCTA AND STEEPINGS OF AGARWOOD (AquilariamalaccensisLamk.) LEAVES

1Endah RismawatiEka Sakti, 2Elsa Wulandari, 3Undang Ahmad Dasuki

Program StudiFarmasi,
FMIPA - Universitas Islam Bandung
Jl. Ranggagading no. 8 Bandung
endar.res@gmail.com

ABSTRACT

Background: Agarwood plant (AquilariamalaccensisLamk.) so far is only used its trunk for incense material and air freshener. Other parts of this plant, especially leaves are still underutilized, whereas according to the empirical treatment, it can be used as an antidiarrheal drug.

Objective: This study has been carried out antibacterial activity test against Escherichia coli and determination of total tannins content from steeping and decoct of agarwood leaves.

Outcome: Antibacterial activity and content tannins

Methods: Antibacterial activity test was carried out using agar diffusion method with chloramphenicol as standard comparator. Determination of the total tannins content was done by using spectrophotometer UV-visible, Folin Ciocalteu reagents and tannic acid as standard comparator at 740 nm.

Result: The result showed antibacterial effects of Agarwood leaves in decocta was achieved at concentration 3%-6%, while in leaves steeping was achieved at concentration 4%-6%. Decocta of agarwood leaves had 1,42% of tannins contents, while leaves steeping had 0,942%.

Conclusion: Decocta of agarwood leaves had stronger antibacterial activity and content more total tannins than its steeping.

Key words: Agarwood leaves, AquilariamalaccensisLamk., antibacterial activity, tannin, agar diffusion, FolinCiocalteu.

INTRODUCTION

Traditional therapy by using medicinal plant has been used since long time ago before chemical medicine was founded. The development of life style back to nature increases human desire to utilize natural resources mainly which is derived from plants. Indonesian traditional medicinal plants are very numerous in nature, one of them is agarwood. Agarwood (AquilariamalaccensisLamk.) is a member of genus Thymelaeaceae, which is found on the island of Sumatra. So far most people only use stem part of agarwood as incense material and air freshener, while the leaves of aloes underutilized. In fact, empirically leaves part of this plant are used to treat variety of diseases, such as rheumatism, cancer, malaria, antimicrobial, abdominal pain, asthma and diarrhoea. Utilization of agarwood leaves as anti-diarrhoea in community, usually by boiling or steeping with hot water.

Previous research about Gyrinopsversteegii species of agarwood leaves showed that active compounds contained in this plant are phenolic compounds, flavonoid and terpenoid compounds (Mulyaningsih and Parman, 2005 in Mega and Swastini, 2010: 13