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ANTIBACTERIAL ACTIVITY OF METHANOL AND WATER EXTRACT OF *Hibiscus rosa-sinensis* LEAVES AGAINST ORAL BACTERIA

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ABSTRACT

H. rosa- sinensis is a member of the Malvaceae family. The extract preparations of the different parts of *H. rosa- sinensis* have been widely used for medicinal purposes. In this study, the antibacterial activity of the methanol and water extracts of *H. rosa- sinensis* leaves against oral bacteria such as *Streptococcus mutans* and *Lactobacillus casei* was evaluated. Oral bacteria can cause oral diseases such as dental caries and it is a major health problem that can influence general quality of life. The antibacterial assay was carried out by using disc diffusion method to determine the inhibition zone of the antibacterial activities with the 10 mg/ml and 50mg/ml of concentration of leaves extract. From the result obtained, all the tested bacteria were resistant to the methanol and water extracts of *H. rosa- sinensis* leaves. Therefore, it is concluded that the extract of *H. rosa- sinensis* leaves has no antibacterial properties toward oral bacteria such as *Streptococcus mutans* and *Lactobacillus casei.*

CHAPTER 1

INTRODUCTION

1.1 Background and problem statement

The range of pathogenic bacteria is wide and so is the variety of diseases caused by them. Despite the existence of potent antimicrobial agents, resistant or multi-resistant strains are continuously emerging, imposing the need for a continuous search and development of new drugs (Uddin et al., 2010).

Oral diseases such as dental caries are major health problems and oral health influences the general quality of life. In most developing countries, expenditure in oral health care is low, access to dental healthcare is limited and is generally restricted to emergency dental care or pain relief (Palombo, 2011). Poor oral health is linked to chronic conditions and systemic diseases. The development of dental caries is associated with gram positive bacteria such as *Streptococcus mutans* and *Lactobacillus casei.*