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TITLE:

**PREPARATION OF A KIND EFFERVESCENT
TABLET WITH BEE PROPOLIS EXTRACT**

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ABSTRACT

This study aimed to formulate and prepare an effervescent tablet containing extracts of bee propolis and to perform the study of effervescence time, pH, and solubility of the prepared tablet. In this study, the prototype and formulations of the effervescent tablet were calculated precisely and were prepared by using two methods which are the fusion method and the compression method. In addition, the tablets were incorporated with propolis extract that contained bioactive compounds. The prepared tablets were evaluated for their effervescence time, pH, and solubility before being determined as the best formulations tablet. The results of the effervescent tablets produced by the fusion and direct compression methods show that formulation 1 turns out to be the best formulation of the prepared tablets with effervescence time <1 minute, solution pH <6, and highest solubility which is 5.0.

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CHAPTER ONE

BACKGROUND

1.1 Introduction

Stingless bees are a wide group of bees that has about 550 different species belonging to the (Hymenoptera; Apidae) family and the tribe Meliponini (Abdullah et al., 2020). Stingless bees vary organically from honey bees, in terms of feeding habits and hive structures and are most likely to be found in a hollow tree. As the name suggests, stingless bees are not stingers and have their uniqueness which makes them vary from the common honey bees. Despite not having a sting, the unusual of stingless bees is that they can defend themselves by generating sticky-like substances known as propolis. Bees use propolis to fix cracks and damage to their hives, as well as to shield them from predators and microbial invasion (Zainal et al., 2022).

Propolis is a natural resinous mixture made up of various plant leaves, crack barks, and flower buds combined with wax and salivary enzymes produces by stingless bees (Salleh et al., 2021). The name propolis is originate from the Greek word “pro” and “polis”, which mean “at the entrance” and “community” or “city”, respectively (Wagh, 2013). Propolis is also called bee glue and is one of the by-products produced by bees. In recent years, propolis has become a new natural remedy that benefits human health due to its active bio compound. Propolis is becoming more popular and increasing growth in consumption in pharmaceutical and nutraceutical goods, making them a highly valued apiculture material. The organic compounds found in the stingless bees’ propolis are phenolic compounds and large amounts of flavonoid content. It also contains various desirable properties including antioxidant activity as well as antibacterial, anti-inflammatory, anticancer, and antifungal activities which is good for human consumption (Ibrahim & Alqurashi, 2022).