

UNIVERSITI TEKNOLOGI MARA

**EFFECT OF BLACK MULBERRY (*Morus nigra* L.)
LEAVES INFUSION ON ANXIETY IN CAPTIVE
MICE**

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ABSTRACT

Anxiety is an adaptive reaction of which human and animal adapt to potential danger or threat and it is the most common outcomes when human and animal experience repetitive stress. Research done on anxiety had suggested that some anxiety is important as it avoid individual from harmful situation. However, continuous of anxiety can cause anxiety disorder which can be harmful. Mulberry leaves are believed to have many health benefits and it is traditionally used in some cultures in the world. It is predominantly found in subtropical region including India and China. There are three types of mulberry plant which are white (*Morus alba L.*), black (*Morus nigra L.*) and red (*Morus rubra L.*). The leaves of mulberry plant were primarily used to feed silkworm. Previous study on mulberry leaves has shown the anxiolytic effect of the white mulberry leaves (*Morus alba L.*) in mice. The present study aimed to determine the anxiolytic effect of black mulberry leaves (*Morus nigra L.*) infusion in mice. The mulberry leaves infusion was prepared by infusing 20 grams of grinded mulberry leaves in 800 millilitres of water. Twelve mice were randomly divided into control group (n=6) and mulberry group (n=6). The control group was given plain water to drink, while the mulberry group was given mulberry infusion. The elevated plus maze (EPM) paradigm was used to assess the anxiolytic activity of mulberry leaves infusion in mice. Each mouse from each group was tested for 5 minutes twice (end of 1st week and end of 2nd week). The result showed that the mulberry leaves infusion of black mulberry (*Morus nigra L.*) does not increase the exploration of the open arm in EPM. The results of the present study suggest that a mulberry leaves infusion of black mulberry (*Morus nigra L.*) does not possess an anxiolytic effect.

Keywords: Mulberry, *Morus nigra L.*, anxiolytic, elevated plus maze (EPM)

CHAPTER 1

INTRODUCTION

1.1 Background of study

Anxiety is an adaptive reaction when human and animal face with potential danger or threat (Marks, 1994). It helps an individual to avoid facing the danger and adapt to environmental challenges (Livesey & Lawrence Erlbaum, 1986). Anxiety is one of the most common outcome when human and animal experience repetitive stress. Anxiety is related to a response towards potential threat or danger and involve the expectancy to potential threat and danger (Baldwin D. A., 2005). There are five types of clinical anxiety, namely generalized anxiety disorder (GAD), panic disorder (PD), obsessive-compulsive disorder (OCD), social anxiety disorder (SAD) and post-traumatic stress disorder (PSTD).