Efficacy of Aquilaria malaccensis aqueous extract supplementation on physical, behavioural assessment and growth performance of adult female Sprague Dawley rats

ABSTRACT

Aquilaria malaccensis leaves known as Karas leaves are widely used in ethno medicine. Recently, this plant has caught attention among manufacturers on its pharmacological values for human health. As there are limited studies on its toxicology profile, consumption of Aquilaria malaccensis at a higher concentration might have long term significant detrimental concerns that could affect the normal physiology and the growth performance. This study was conducted to evaluate the toxicity effects of supplementing Aquilaria malaccensis aqueous leaves extract as feed on physical, behavioural and growth performance parameters (Body weight gain, feed intake, relative organs weights' and feed conversion ratio) in female Sprague Dawley rats. This 28-days oral toxicity study allocated twenty four (n=24; n=6 per group) female Sprague Dawley rats to four treatment groups that consist of Control (0 g Aquilaria malaccensis/kg body weight), T1 (1 g of Aquilaria malaccensis /kg body weight), T2 (2 g/ of Aquilaria malaccensis /kg body weight), and T3 (3 g of Aquilaria malaccensis /kg body weight). Results obtained from daily treatment of aqueous extract of Aquilaria malaccensis has shown that the selected dose, T3 dose had significantly decreased the mean of liver weight and increased mean weight of uterus when compared to the control group. Weekly food intake and body weight gains of the rats in all treatment groups (T1, T2, T3) did not vary significantly ($p>0.05$) when compared to control (C) group in week 1, week 2, week 3 and week 4. In conclusion, this study suggests that the higher daily dose of Aquilaria malaccensis, did not show any delayed toxicological indicators on behavioural, physical and growth parameters within the treatment period. Nevertheless, it is suggested that the usage of Aquilaria malaccensis aqueous extract at higher dose within a longer period should be administered carefully as it could alter the mean of the organs weights.