Anti-obesity effects of *Ficus benghalensis* Linn. bark extract in a progesterone-induced model: A biochemical and histological study

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Received 28 April 2025; revised 20 June 2025

Obesity, particularly in women, has become a growing global concern, often linked to hormonal imbalances such as elevated progesterone levels. Current pharmacological interventions for hormone-induced obesity may pose limitations due to side effects or inconsistent outcomes. Therefore, there is an increasing interest in exploring natural and plant-based alternatives with potential anti-obesity effects. To study the progesterone-linked obesity, this study was conducted in female Swiss albino mice. This study evaluated the anti-obesity potential of *Ficus benghalensis* bark extract in female Swiss albino mice using a progesterone-induced obesity model. Twenty-five mice were divided into five groups (n=5) and treated for 29 days. Group A (Normal Control) received saline. Group B (Obese Control) received progesterone (10 mg/kg, s.c.). Group C received progesterone with Orlistat (10 mg/kg, oral). Groups D and E were administered 200 mg/kg and 400 mg/kg of *Ficus benghalensis* extract, respectively, alongside progesterone. Parameters such as food intake, body weight, liver weight, adipose tissue, blood glucose, and lipid profile were monitored. Histological analyses of liver and fat pads were also performed. Mice treated with the extract showed reduced food intake, body weight, fat accumulation, blood sugar, and improved lipid profiles compared to the obese group. Phytochemical analysis confirmed the presence of quercetin, flavonoids, and saponins. Histology showed reduced fat buildup and healthier liver and kidney structures. These findings suggest *Ficus benghalensis* extract may offer protective and therapeutic effects against hormone-related obesity.

Keywords: BMI, Atherogenic index, Cardiac risk factor, Lipid glucose metabolism, Liver function test