

Soy husk extract improves physical and biochemical parameters of obese-diabetic rats through the regulation of PPAR-gamma expression

ABSTRACT

Unhealthy eating habits and lack of physical activities are among the contributing factors for obesity and diabetes. It has been reported that consumption of naturally occurring phenolics could exert beneficial effects toward these diseases. Therefore, this study aims to evaluate the ability of phenolic-rich soy husk powder extract (SHPE) in modifying the physical and biochemical parameters for obesity and diabetes. Forty-nine Sprague Dawley rats were divided into seven groups, including three supplementary/treatment groups. Rats in supplementary/treatment groups were provided with either 4 mg/kg BW Rosiglitazone Maleate, 250 mg SHPE/kg BW, or 500 mg SHPE/kg BW. The effectiveness of SHPE in alleviating obesity-diabetes was evaluated by measuring body weight (physical parameter), blood glucose metabolisms (biochemical parameters), and PPAR γ expression. Findings in the present study revealed that short-term SHPE and Rosiglitazone Maleate administration improved the physical and biochemical parameters of obese-diabetic rats. In addition, SHPE was also demonstrated to upregulate PPAR γ expression in adipocytes. These findings suggest that soy husk could emerge as a potential hypoglycemic and anti-adipogenic nutraceutical in future. **PRACTICAL APPLICATIONS:** This was the first study to evaluate the potential effects of soy husk against the parameters of obese-diabetes in rats. In addition, promising effects derived from this study might explore the possibility of soy husk to be utilized as an antidiabetes nutraceutical.

Keyword : PPAR γ ; Obese-diabetes; Phenolics; Soy husk.