Anti-obesity property of the brown seaweed, Sargassum polycystum using an in vivo animal model

Abstract

Obesity has reached epidemic proportions in many countries around the world. Preventing and treating obesity is becoming an increasing priority due to dissatisfaction with high costs and hazardous side effects of anti-obesity drugs. This study was designed to investigate the anti-obesity properties of the Sabah brown seaweed, Sargassum polycystum, on body weight and blood plasma levels of rats fed a high-fat diet supplemented with different doses of the seaweed powder. Male Sprague Dawley rats were divided into five groups, representing control negative (CN) group, control positive (CP) group, low dosage group (LDG), medium dosage group (MDG) and high dosage group (HDG). The study duration was 8 weeks. All groups were fed highfat diet throughout the study except for CN group, which was fed normal rat chow. LDG, MDG and HDG were supplemented high-fat diet with 2.5, 5.0 and 10.0 % seaweed powder, respectively. By comparing with the CP group, it was found that the HDG (10.0 % seaweed treatment diet) showed the greatest effect in suppressing weight gain, followed by the MDG (5.0 % seaweed treatment diet) and LDG (2.5 % seaweed treatment diet). The HDG decreased the levels of plasma total cholesterol and triglycerides. This finding shows that *S. polycystum* powder treatment had a positive effect on the inhibition of weight gain and has a promising value in preventing obesity.