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ORAPIN CHOOTHAWORNCHAIKUL : EFFECT OF ISPAGHULA HUSK (FYBOGEL®) ON BODY WEIGHT AND BIOCHEMICAL PROFILES OF THE OBESE NIDDM PATIENTS. THESIS ADVISORS : SURAT KOMINDR, M.D., WINAI DAHLAN, Ph.D., ORAVAN PUCHAIWATTANANON, D.Sc, SUPUJCHARA NOPCHINDA, D.Sc. 187 p. ISBN 974-663-692-8

The present study was designed to evaluate the effect of supplementation of Ispaghula husk (Fybogel®) on body weight, fasting plasma glucose (FPG), glycosylated hemoglobin (HbA<sub>1c</sub>) and serum lipid levels. The study was a 24-week, randomized, double-blind, placebo-controlled, parallel design in 35 obese NIDDM patients with mild to moderate hypercholesterolemia. They were instructed to maintain 1,000 kcal/day diet only for 8 wks followed by 16 wks of treatment with 1 sachet of Fybogel® (3.5 g of Ispaghula) in 150 ml. of water or placebo before 3 mealtimes according to the randomization.

The result showed no statistically differences in all parameters during diet-only phase in both groups. No significant reduction on BW, FPG, HbA<sub>1c</sub>, and serum lipid levels was observed with placebo treatment. During treatment with Fybogel®, reduction of BW was observed and significant differences from wk8 ( $p < .05$ ) were seen at wk20 ( $-0.88 \pm 1.55$  kg) and wk24 ( $-1.28 \pm 1.96$  kg). Reductions of FPG and HbA<sub>1c</sub> by 16.1% and 10.12% respectively ( $p < .05$  and  $.01$ ) were found at wk24. Cholesterol lowering was seen in the moderate to high hypercholesterolemic subjects by 14.2%. In comparison to placebo, Fybogel® treatment reduced significantly in the BW at wk20 and wk24 ( $p < .05$ ), FPG at wk16 ( $P < .05$ ) and wk24 ( $P < .01$ ), TC at wk16 ( $P < .05$ ), HbA<sub>1c</sub> and LDL-C levels at wk24. Fybogel® did not affect serum levels of HDL-C and triglycerides. Vitamin and mineral status were maintained throughout Fybogel® treatment period.

The results demonstrate that Ispaghula husk (Fybogel®) 3.5 g before 3 meal-times helps to control the body weight, improve the long-term glycemic control and lower total cholesterol levels without adverse effect on vitamin and mineral status.