

Mr. B. M. Gandhi

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Title of Paper: EFFECT OF WHOLE BUCKWHEAT FLOUR ON SERUM LIPID PROFILE AND GLUCOSE TOLERANCE

Name(s) of author(s): R.L. BIJLANI, B.M. GANDHI, B.N. SANDHU.

Laboratory: Department of Physiology & Human Nutrition Unit All India Institute of Medical Sciences New Delhi 110 029

Name of Presenting author: R.L. Bijlani

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ABSTRACT

Buckwheat (Fagopyrum esculentum) is a millet with a remarkably high crude fibre content (8.6%). The study was conducted in two phases on healthy young male volunteers. The experimental design of the two phases was identical except for the duration of the study, the first phase lasting 12 weeks and the second 4 weeks. The only dietary change during the study was at breakfast, which included two 'parenthas' made from 100 g whole buckwheat flour. Lipid profile and glucose tolerance were assessed periodically. In Phase I, changes in lipid profile were observed 4 weeks after buckwheat supplementation. Further prolongation, in fact, confused the results due to change of season and a few other confounding factors. The 4 wk data of both phases revealed a trend towards fall in total cholesterol and LDL cholesterol, and a rise in HDL cholesterol. The rise in HDL/total cholesterol ratio from $19.1 \pm 4.8\%$ to $22.5 \pm 4.0\%$ was statistically significant ($P < 0.05$). The fasting blood sugar as well as the sugar level at 1.0 and 1.5 hr after ingestion of 100 g glucose were significantly lower ($P < 0.02$) after buckwheat supplementation. The study suggests that buckwheat has a 'favourable' influence on lipid profile and glucose metabolism.