

Efficacy of Chromium Supplementation and Nutrition Counseling on Glycemic Index and Lipid Profile in Male NIDDM Patients

Kanchan Sandhu* and Rajbir Sachdeva

**KVK Nurmahal (Punjab Agriculture University), Jalandhar City, Punjab, India
Telephone: 91-0181-9417203777, Mobile: 91-0181-2258000*

E-mail: kanchansandhu@yahoo.com

*Department of Food and Nutrition, College of Home Science, Punjab Agriculture University,
Ludhiana 141 004, Punjab, India*

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ABSTRACT A total of ninety NIDDM male patients aged 35-50 years, were studied for this work and equally divided into three groups viz. Nutrition Counseling Group (NCG) that imparted nutrition counseling through lectures, demonstrations and visual aids etc. along with prescribed medication, Chromium Supplementation Group (CSG) that was given chromium picolinate (CrPic) capsules (200µg/day) along with prescribed medication and Only Medication Group (OMG) that was on prescribed medication. After a period of three months, a significant ($p \leq 0.01$) improvement in the fasting blood glucose and post prandial glucose levels was observed in both NCG and CSG patients. There was a significant decrease in HbA1c values among the subjects in NCG ($P \leq 0.01$) and CSG ($p \leq 0.05$). Serum analysis showed that the chromium content of 0.54 ± 0.14 ppb significantly ($p \leq 0.01$) increased to 2.42 ± 0.55 ppb after the study. The findings of the present study revealed that chromium supplementation and nutrition counseling, independently and significantly ($p \leq 0.01$) decreased TC, TG, LDL-C and VLDL-C and increased HDL-C in three months time. The reduction in TG and VLDL-C was less significant ($p \leq 0.01$) in CSG as compared to NCG. The HDL / TC ratio significantly ($p \leq 0.01$) improved in both the NCG (0.19 to 0.23) and CSG (0.21 to 0.23), indicating the lower risk of heart attack. Hence, chromium supplementation is suggested in diabetes as it is effective in improving glycemic index and lipid profile and nutrition counseling should be intensively imparted for a longer period and delivered by a dietician.