

Sesamum Indicum

Oil extracted from sesame (Family: Pedaliaceae) is honoured as a rich food because of its high nutritive quality and stability. Sesame seeds also contain two unique substances: sesamin and sesamol known to have a cholesterol lowering effect and blood glucose lowering property in humans¹.

Clinical indications

- Supports healthy blood glucose level.
- Maintains healthy cholesterol level.
- Supports heart health.
- Beneficial in weight management.

➤ **Preclinical studies**

- Administration of sesamin to hyperlipidemia rats for seven weeks showed significant reduction in serum total cholesterol, triglyceride, LDL-cholesterol and apolipoprotein-B levels; and increased high-density lipoprotein (HDL) cholesterol and apolipoprotein-A contents.⁹
- Dietary sesame appeared to exert beneficial effects on serum lipids and to improve antioxidant capacity in hypercholesterolemic patients.⁷
- Dietary supplementation with sesamin reduced plasma and liver total cholesterol and LDL cholesterol concentrations in hyperlipidemic rats.¹⁰

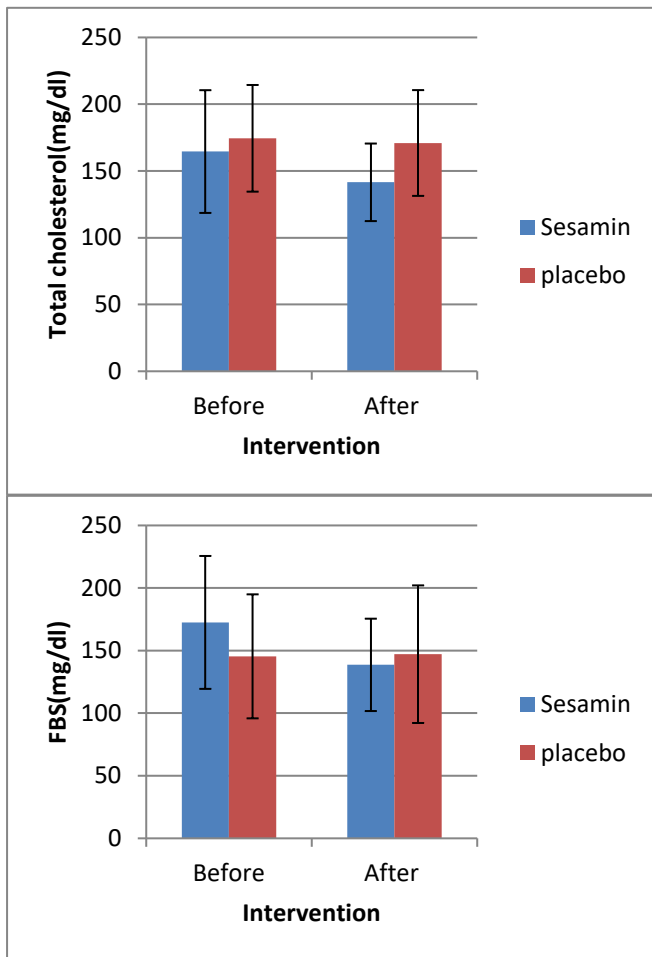


- Treatment with sesamin protein isolate (18%) for 28-days exhibited antihyperlipidemic activity by decreasing cholesterol concentration in plasma, increasing HDL-cholesterol, and also decreasing plasma and erythrocyte membrane lipid peroxidation with or without cholesterol fed diet in rats.¹¹

- Administration of sesame seed powder to hypercholesterolemic rats resulted in a significant decline in plasma, hepatic total lipid and cholesterol levels and; plasma LDL-cholesterol levels with an increase in plasma HDL-cholesterol levels.¹²

➤ **Clinical studies**

- Diet with sesame seed supplementation for 60 days significantly decreased the levels of serum total cholesterol, low-density lipoprotein cholesterol (LDL-C) and lipid peroxidation; and increased antioxidant status in hyperlipidemic patients.⁴
- Treatment with sesamin capsules for 8 weeks each containing 2.9 mg sesamin and 2.3 mg α -tocopherol in 445 mg wheat germ oil decreased serum total cholesterol (from 208.6 mg/dl to 198.2 mg/dl) and low density lipoprotein (LDL) (from 122.7 mg/dl to 111.7 mg/dl) levels in hyperlipidemic patients with non-insulin dependent diabetes mellitus.⁵
- Daily oral intake of sesamin for 4 weeks significantly decreased total and LDL-cholesterol concentrations in hypercholesterolemic patients.^{6,7}



- A double-blind clinical trial was conducted on 44 patients with type II diabetes. Patients were randomly divided into two groups of intervention and control. Patients of the intervention group received a daily dose of sesamin (200 mg capsules), and control subjects were administered with an equivalent dose of placebo. Comparison of different indices before and after the intervention indicated that sesamin significantly decreased the serum levels of Fasting blood sugar (FBS). Even a significant decrease was found in total cholesterol TC (141.50 ± 29.03 versus 164.54 ± 45.96 mg/dl) ($p=0.015$), and LDL-C (73.86 ± 18.34 versus 89.22 ± 32.96 mg/dl) ($p=0.008$) in the intervention group compared to the control group⁸.

Other pharmacological actions of sesame seeds

➤ Safety studies

- Sesame is a traditional health food and are not only rich in oil (about 50%) and protein (about 20%), but also in lignans includes sesamin and sesaminol (upto 1.5%).²
- Genotoxicity of sesamin and episesamin was evaluated through the following tests: a bacterial reverse mutation assay (Ames test), a chromosomal aberration test in cultured Chinese hamster lung cells (CHL/IU), a bone marrow micronucleus (MN) test in Crlj:CD1 (ICR) mice, and a comet assay using the liver of Sprague-Dawley (SD) rats. The findings indicate that sesamin does not damage DNA in vivo and that sesamin and episesamin have no genotoxic activity.³

Dose

200 mg/day/ adult.

Available Grades

- Sesamum indicum extract complex 70%, 90%.
- Sesamum indicum extract sesamin 90%, 95%.

References:

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