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Supplementation of Powdered Black Cumin (*Nigella sativa*) Seeds Reduces the Risk of Hypercholesterolemia

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ABSTRACT:

Background: Functional and nutraceutical foods are gaining immense popularity among the masses. Plants and their bioactive molecules are of prime importance. Although various plants from different geographical areas have been tested in the past, many horizons still need to be addressed. Black cumin (*Nigella sativa* L.) is one such example that is quite popular in South Asia and the Middle East.

Context and purpose: The present research study was designed to expedite the role of black cumin seed in reducing the risk of hypercholesterolemia. For the purpose, thirty Sprague dawley rats were procured from the National Institute of Health (NIH) in Islamabad, Pakistan, and further split up into three groups, (10 rats each). Experimental diets were prepared using powdered black cumin (PBC) at 1% and 2%, and compared with the placebo.

Results: The results revealed that PBC was effective in reducing the serum cholesterol, triglycerides, and low-density lipoproteins (LDL). Additionally, the experimental diets resulted in a non-significant increase in high-density lipoprotein (HDL). Overall, powdered black cumin at 1% and 2% reduced cholesterol level by 6.73, and 4.48%, LDL by 24.79, and 24.32% respectively. However, the supplementation of PBC at 2% resulted in marked variations as increasing tendency, which was recorded for cholesterol and triglycerides contents after 28 days of study.

Conclusion: Present research investigation brightened the prospects of using powdered black cumin seed in diet based therapies to improve the lipid profile. Further studies are still required to assess the phytochemistry of the plants and indeed the functional ingredients responsible for such health benefits. Such studies would bring meticulousness for utilization of black cumin seeds as a functional food.

Keywords: Functional foods, black cumin, lipid profile, cholesterol, triglycerides