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How effective is *Nigella sativa* in the management of type-2 diabetes?

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Introduction & Aim: Global prevalence of diabetes is alarmingly high. Moreover, global economic burden of diabetes is striking. With respect to these, more cost-effective approaches are required. *Nigella sativa* (*N. sativa*), a popular herb in Asia, is reviewed as a miraculous top rank herbal medicine and widely used in folk medicine. However, any study has assessed the pooled effect of *Nigella sativa* on glycemia and serum lipids in diabetes. The present meta-analysis investigates the effectiveness of *N. sativa* in type-2 diabetes (T2D).

Method: Literature search was conducted covering PubMed/Medline, Scopus and Cochrane Registry of Clinical Trials up to February 2017 to obtain the relevant published intervention studies. Two researchers (RD and MG) were involved in the identification of eligible studies. Heterogeneity was assessed using I-squared (I^2) statistics test. Subgroup analysis was done to assess type of *Nigella sativa* supplement as source of heterogeneity. Effect sizes of eligible studies were pooled using STATA software version 12 (STATA corp, College Station, TX, USA).

Result: Seven trials were included in the meta-analysis of glycemic and serum lipid profile end points. Supplementation with *Nigella sativa* significantly improved Fasting Blood Sugar (FBS), HbA1c, Total-Cholesterol (TC) and LDL-cholesterol (LDL-c). The overall effects for Triglyceride (TG) and HDL-cholesterol (HDL-c) were insignificant. Subgroup analysis revealed significant reduction on TG with *N. sativa* seed oil, while TG was increased with seed powder. All measures, but HbA1c, showed no evidence of publication bias.

Conclusion & Discussion: To the best of our knowledge, this is the first meta-analysis investigating the effectiveness of *Nigella sativa* in T2D. Promising benefits of *Nigella sativa* on glycemia (FBS and HbA1c) and lipid parameters (TC and LDL-c) provides robust evidence for the incorporation of *Nigella sativa* as an adjunct therapy in diabetes.

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