

ABSTRAK

Pendahuluan: Rinitis alergi merupakan penyakit inflamasi kronik pada mukosa hidung yang dimediasi imunoglobulin E (IgE) dengan prevalensi global mencapai 10–40%. Proses inflamasi pada rinitis alergi melibatkan infiltrasi eosinofil pada mukosa hidung yang berperan dalam patogenesis penyakit. *Nigella sativa* diketahui memiliki efek antiinflamasi, antioksidan, dan imunomodulator yang berpotensi digunakan sebagai terapi tambahan pada rinitis alergi. Penelitian ini bertujuan untuk menilai pengaruh pemberian *Nigella sativa* terhadap jumlah eosinofil mukosa hidung dan kualitas hidup pasien rinitis alergi persisten sedang-berat.

Metode: Penelitian *randomized double blind controlled trial* melibatkan pasien rinitis alergi persisten sedang-berat yang berobat di Divisi Alergi Imunologi THT RSUP Dr. Kariadi Semarang pada periode September 2025 hingga Februari 2026. Subjek dibagi secara acak menjadi dua kelompok, yaitu kelompok perlakuan yang mendapatkan *Nigella sativa* 1200 mg/24 jam per oral dan kelompok kontrol yang mendapatkan plasebo selama empat minggu. Luaran yang dinilai adalah jumlah eosinofil mukosa hidung dan skor kualitas hidup menggunakan kuesioner *Short Form-36* (SF-36).

Hasil: 46 diacak ke dalam kelompok perlakuan dan kontrol dengan rasio 1:1. Jumlah eosinofil mukosa hidung pada kelompok perlakuan lebih rendah secara bermakna dibandingkan kelompok kontrol ($9,57 \pm 10,19$ vs $27,57 \pm 18,89$; $p = 0,001$). Pada evaluasi kualitas hidup, terdapat perbedaan bermakna pada domain nyeri tubuh ($p = 0,049$) dan kesehatan secara umum ($p = 0,003$). Analisis komponen SF-36 menunjukkan tidak terdapat perbedaan bermakna pada *Physical Component Score* ($79,00 \pm 9,78$ vs $78,07 \pm 12,62$; $p = 0,784$), namun terdapat perbedaan bermakna pada *Mental Component Score* ($82,58 \pm 7,88$ vs $73,31 \pm 14,62$; $p = 0,011$). Pemberian *Nigella sativa* berhubungan dengan penurunan jumlah eosinofil mukosa hidung. ($\beta = 0,519$; $p < 0,001$).

Kesimpulan: Pemberian *Nigella sativa* sebagai terapi tambahan pada pasien rinitis alergi persisten sedang-berat dapat menurunkan jumlah eosinofil mukosa hidung serta memperbaiki beberapa domain kualitas hidup, terutama pada komponen mental.

Kata kunci : *Nigella sativa*, jumlah eosinofil mukosa hidung, *Short Form-36*, rinitis alergi

ABSTRACT

Introduction: Allergic rhinitis is a chronic inflammatory disease of the nasal mucosa mediated by immunoglobulin E (IgE), with a global prevalence of approximately 10–40%. The inflammatory process in allergic rhinitis involves eosinophil infiltration of the nasal mucosa, which plays an important role in the pathogenesis of the disease. *Nigella sativa* is known to possess anti-inflammatory, antioxidant, and immunomodulatory properties that may be beneficial as an adjunctive therapy for allergic rhinitis. This study aimed to evaluate the effect of *Nigella sativa* administration on nasal mucosal eosinophil counts and quality of life in patients with moderate–severe persistent allergic rhinitis.

Methods: A randomized double-blind controlled trial design was conducted involving patients with moderate–severe persistent allergic rhinitis treated at the Allergy and Immunology Division of the Otorhinolaryngology Department at Dr. Kariadi General Hospital, Semarang, from September 2025 to February 2026. Subjects were randomly assigned into two groups: a treatment group receiving *Nigella sativa* 1200 mg/day orally and a control group receiving a placebo for four weeks. The outcomes assessed were nasal mucosal eosinophil counts and quality of life scores measured using the Short Form-36 (SF-36) questionnaire.

Results: A total of 46 subjects were randomized into the treatment and control groups with a 1:1 ratio. The nasal mucosal eosinophil count was significantly lower in the treatment group compared with the control group (9.57 ± 10.19 vs 27.57 ± 18.89 ; $p = 0.001$). In the quality-of-life evaluation, significant differences were observed in the bodily pain domain ($p = 0.049$) and general health domain ($p = 0.003$). Analysis of SF-36 component scores showed no significant difference in the Physical Component Score (79.00 ± 9.78 vs 78.07 ± 12.62 ; $p = 0.784$), but a significant difference was found in the Mental Component Score (82.58 ± 7.88 vs 73.31 ± 14.62 ; $p = 0.011$). Administration of *Nigella sativa* was associated with a decrease in the number of eosinophils in the nasal mucosa. ($\beta = 0.519$; $p < 0.001$).

Conclusion: The administration of *Nigella sativa* as an adjunctive therapy in patients with moderate–severe persistent allergic rhinitis can reduce nasal mucosal eosinophil counts and improve certain domains of quality of life, particularly the mental component.

Keywords: *Nigella sativa*, nasal mucosal eosinophil counts, *Short Form-36*, allergic rhinitis