

## **Polyphytopharmaca Improving Asthma Control Test Value, Biomarker (Eosinophils and Malondialdehyde): Quasi Experimental Test in Patients with Asthma**

**Authors :** Andri Andri, Susanthi Djajalaksana, Iin Noor Chozin

**Abstract :** Background: Despite advances in asthma therapies, a proportion of patients with asthma continue to have difficulty in gaining adequate asthma control. Complex immunological mechanisms and oxidative stress affect this condition, including the role of malondialdehyde (MDA) as a marker of inflammation. This research aimed to determine the effect of polyphytopharmaca administration on the value of asthma control test (ACT), blood eosinophils level and markers of MDA serum inflammation in patients with asthma. Method: Quasi experimental approach was conducted toward 15 stable asthma patients who were not fully controlled in outpatient pulmonary clinic, Public Hospital of Dr. Saiful Anwar Malang. Assessments of ACT values, eosinophil levels, and serum MDA levels were carried out before and after administration of polyphytopharmaca which contained a combination of 100 mg *Nigella sativa* extract, *Kleinhovia hospita* 100 mg, *Curcuma xanthorrhiza* 75 mg, and *Ophiocephalus striatus* 100 mg, three times daily with two capsules for 12 weeks. The ACT value was determined by the researcher by asking the patient directly, blood eosinophil levels were calculated by analyzing blood type counts, and serum MDA levels were detected by the qPCR method. Result: There was a significant enhancement of ACT value ( $18.07 \pm 2.57$  to  $22.06 \pm 1.83$ ,  $p = 0.001$ ) (from 60% uncontrolled ACT to 93.3% controlled ACT), a significant decrease in blood eosinophils levels ( $653.15 \pm 276.15$  pg/mL to  $460.66 \pm 202.04$  pg/mL,  $p = 0.038$ ), and decreased serum MDA levels ( $109.64 \pm 53.77$  ng / ml to  $78.68 \pm 64.92$  ng/ml,  $p = 0.156$ ). Conclusion: Administration of polyphytopharmaca can increase ACT value, decrease blood eosinophils levels and reduce MDA serum in stable asthma patients who are not fully controlled.

**Keywords :** asthma control test, eosinophils levels, malondialdehyde, polyphytopharmaca

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