

**EFFICACY OF ALBENDAZOLE, ALBENDAZOLE-LEVAMISOLE  
AND MEBENDAZOLE-LEVAMISOLE AGAINST  
SOIL-TRANSMITTED HELMINTH INFECTION IN  
SCHOOL CHILDREN, DELI SERDANG, NORTH SUMATERA**

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**ABSTRACT**

**BACKGROUND:** Intestinal worm infection in particular of Soil Transmitted Helminth (STH) remained an important global public health problem, with high prevalence existed in the tropic and sub-tropic regions, including Indonesia. The prevalence was higher in rural than urban community. Helminthiasis (worm infection) is a chronic infection of nematode worm, which comprised *A. Lumbricoides*, *T. trichiura*, *N. Americanus*, and *A. duodenale*. This infection can cause physical and intellectual retardation in children. This study aimed to examine the efficacy of Albendazole, Albendazole-Levamisol, and Mebendazole-Levamisol in intestinal worm eradication.

**SUBJECT AND METHODS:** This was a double-blind randomized controlled trial, conducted in Deli Serdang, North Sumatera, from April to June 2015. A sample of 180 primary school children was allocated in 3 groups: (1) Albendazole 400 mg; (2) Albendazole 400 mg-Levamisol 50 mg/ 100 mg; and (3) Mebendazole 500 mg-Levamisol 50 mg/ 100 mg. The independent variable was anti-helminthiasis consisting of Albendazole 400 mg, Albendazole 400 mg-Levamisol 50 mg/ 100 mg, and Mebendazole 500 mg-Levamisol 50 mg/ 100 mg. The dependent variable was STH infection, which was examined from the stool using Kato-Katz method. The stool was collected and examined on day-7, day-14, and day-21 after treatment. The other dependent variable was side effect of the treatment.

**RESULTS:** The types of STH infection were as follows: 92 (51.11%) Ascariasis, 37 (20.55%) Trichuriasis, and 51 (28.33%) mixed infection. The cure rate for *A. lumbricoides* infection was 100% in all groups. The cure rate of *T. trichiura* infection was 66.7% for Albendazole, 94.7% for Albendazole-Levamisol, and 92.3% for Mebendazole-Levamisol, and this difference was statistically significant ( $p < 0.001$ ). The cure rate for mixed infection was 28.6% for Albendazole, 85.7% for Albendazole-Levamisol, and 66.7% for Mebendazole-Levamisol and this difference was statistically significant ( $p < 0.001$ ). The cure rate of mild *T. trichiura* infection by single-dose Albendazole-Levamisol was better than either Albendazole or Mebendazole-Levamisole ( $p = 0.010$ ). Nausea and diarrhea were present in all treatment groups, but the difference was not statistically significant.

**CONCLUSION:** Albendazole was more efficacious than either Abendazole-Levamisol or Mebendazole-Levamisole to *T. trichiura* and mixed infection. All anti-helminthic cure 100% of *A. lumricoides*. The best treatment for mild *T. trichiura* infection is single dose Albendazole-Levamisol.

**Keywords:** Soil Transmitted Helminth, Albendazole, Albendazole-Levamisol, Mebendazole-Levamisol