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Prevalence of hookworm in a rural community in the northwestern Ethiopia

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Background: Soil transmitted helminths (STH), which includes *Ascaris lumbricoides*, *Trichuris trichiura* and hookworm, are among the most common neglected tropical diseases (NTDs) worldwide. They are transmitted by eggs, in human faeces, in areas where poor sanitation and hygiene condition. The WHO treatment guidelines for the soil-transmitted helminths (STH) focus on targeting preschool and school-aged children and women of childbearing age. Periodic mass drug administration (MDA) is implemented in endemic areas. However, unlike the other STHs, the majority of hookworm infections are hidden by adults. Thus, even though the current guidelines may be effective on reducing the morbidity in children, they may not be as effective for breaking the transmission, as an important reservoir is ignored.

STH are widely distributed in Ethiopia. A master plan for NTDs was launched in 2013 and has been reviewed in 2016. Related to STH, the aimed goal is to eliminate STH as a public health problem by 2020. A large-scale mapping of STH infection is almost finished in the country.

Material/methods: We checked the prevalence of STH in a rural area of Amhara, in north-west Ethiopia. From March to June 2016, people living in a community were randomly selected, house by

house. Inclusion criteria were: people more than 5; and people who were living in the area at least in the previous year. Stools were examined by Formol ether concentration (FEC).

Results: 793 people were included, 43.7% male, 57.3 female. The age ranged from 5 up to 85 (mean 24.4, SD 16.6), 37.1% ≤ 14 . The prevalence of hookworm in our population was 78.5%, while *T. trichiura* and *A. lumbricoides* was 0.63% and 2.5% respectively. Related to the age, hookworm were isolated in 37% of the group ≤ 14 and in 63% of adult population (>14), ($p=0.07$).

- **Conclusions:** In our sample, the disease burden is higher in adults than in children.
- If this figure is reflecting the full area, the current STH control strategy, which focuses on targeting children, is ineffective in reducing the overall burden of hookworm infection. Also, the control of the transmission in endemic areas will be difficult by focussing only on children.
- Treating adults for hookworm will strength the economic development in endemic countries.
- Further studies are needed, for supporting control policies and strategies in the country.