Moringa oleifera leaf powder role in reinfection pattern of soil-transmitted helminth infection amongst children in Nigeria

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Background: There have been several efforts at controlling soil-transmitted helminth (STH) infection with deworming programmes implemented yet, the prevalence and reinfection rates are still high among poor and rural communities. Continuous exposure to the source of infection remains the plausible explanation to the high reinfection rates. Several studies done in rural area showed that STH reinfection can occur as early as 2 months after complete deworming (Norhayati et al., 1997, Luoba et al., 2005). It has also been reported that hookworm reinfection can occur soon after treatment (Haswel-Elkins et al., 1988).

Methods & Materials: A total of 420 (214 male and 206 female) primary school pupils who consented and assented orally to the study protocol after obtaining ethical approval from Nnamdi Azikiwe University Teaching Hospital (NAUTH) Nnewi. The study aimed at evaluating the use of Moringa oleifera leaf powder (MOLP) in STH reinfection interval among school children in south east Nigeria. A randomized, longitudinal, double-blind, placebo control trial with multiple follow-ups using MOLP with Modified Standardized Jollof Rice (MSJR) as treatment while MSJR as control, all served as mid day lunch packs for 10months. All the participants were dewormed with 400mg of Albendazole at the baseline before exposure.

Results: Data obtained was analysed using SPSS version 20 while proportion was used for descriptive data such as prevalence of STH. The overall STH infection prevalence rate using Kato Katz technique was 120 (28.6%), with 63 (52.5%) females and 57 (47.5%) males infected at base line. The prevalence of Ascaris lumbricoides was 61.7%, hookworm 30% while Trichuris trichiura was 8.3%. Stool analysis at the 2nd and 6th month recorded no STH infection in both the treatment and control groups. However, at the 10th month, overall prevalence reduced to 63 (15%), with 36 (30%) females and 27 (22.5%) males infected. Also, the post-treatment prevalence for A. lumbricoides was 37.5%, hookworm 0.3% while T. trichiura was 14.2%. Most reinfected children expelled the larvae. Interestingly, treatment groups (11.7%) recorded a marked reduction in STH reinfection compared with the control (40.8%).

Conclusion: MOLP has the potential of expelling the adult larvae of STH infected children with prolongation of the reinfection interval.