

Session: OS184 Parasites - so common but still so often forgotten

Category: 7d. Parasitic disease epidemiology

25 April 2017, 12:06 - 12:16
OS0897

The prevalence and impact on growth of intestinal parasites in preschool children in the Mangochi District of Malawi

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Background: Gastrointestinal parasites due to helminthic and protozoan infections are common worldwide, particularly in the developing world. An association between parasite carriage and markers of poor growth have been shown in studies. The prevalence of these pathogens and the effect that they have on growth in preschool children has never been investigated in Malawi.

Material/methods: 193 children aged 0-72 months were randomly recruited from rural villages in the Mangochi district of Malawi. Stool samples were collected, the formol-ether concentration was performed and the samples examined with a light microscope. Anthropometric data was taken for each child and the haemoglobin measured with a point of care test.

Results: The mean age of the children was 2 years 4 months. Overall prevalence of intestinal parasite infection was 37.3%. Protozoa were found in 28.5% of children, while helminths were found in 8.8%. The most commonly found organisms were *Giardia lamblia* (12.4%), *Entamoeba coli* (10.4%) and *Hookworm sp.* (3.6%). Stunting was seen in 47.8% of children, 12.9% were underweight and 5.0% were wasted. No significant association was found between markers of poor growth and infection with any intestinal parasite. A weak association was found between infection with a helminth and raised haemoglobin. ($p = 0.079$).

Conclusions: The prevalence of helminth infection was low in preschool children living in the Mangochi district. Comparing to previous prevalence studies, this suggests current control programs have been reasonably effective. A significant proportion of the population however are infected with protozoa, particularly *G.lamblia*. In this cohort despite a significant prevalence of stunting, infection was

not significantly associated with any markers of poor growth. Larger studies collecting information on confounding factors are needed to clarify if this is indeed the case, and understand other reasons for poor growth in this community.

	Mean Hb (g/dL)	95% Confidence Intervals		P value
<i>Parasite Negative</i>	10.72	[10.38	11.07]	0.25
<i>Parasite Present</i>	11.05	[10.61	11.5]	
<i>Helminth Negative</i>	10.77	[10.48	11.05]	0.079
<i>Helminth Present</i>	11.63	[10.71	12.53]	
<i>Protozoa Negative</i>	10.83	[10.51	11.15]	0.8986
<i>Protozoa Present</i>	10.87	[10.36	11.39]	
<i>Hookworm Negative</i>	10.83	[10.56	11.11]	0.764
<i>Hookworm Present</i>	11.06	[8.98	13.14]	
<i>G.Lambia Negative</i>	10.77	[10.48	11.06]	0.168
<i>G.Lambia Present</i>	11.33	[10.52	12.15]	

Table 1. Mean Hb as stratified by infective status for any parasite, any helminth, any protozoa, *Hookworm sp.* and *G. lambia*. Student t-test used as test of significance.