

Study	Baseline Prevalence/ Infection Intensity	Outcomes
1) Nga <i>et al.</i> 2011	Infection intensity: i) 'Fortified biscuits and albendazole': 10,032 EPG for <i>A. lumbricoides</i> ; 264 EPG for <i>T. trichiura</i> ; 852 PEG for hookworm ii) 'Albendazole alone': 10,008 EPG for <i>A. lumbricoides</i> ; 312 EPG for <i>T. trichiura</i> ; 864 EPG for hookworm	<p>Primary: i) Significant^a difference in infection intensity (EPG) reduction observed for <i>A. lumbricoides</i> after 4 months <i>Differences in infection intensity between 4 months and baseline for children taking 'fortified biscuits and albendazole' versus 'albendazole alone': for A. lumbricoides: -7,728 EPG versus -4,656 EPG. For T. trichiura: -72 EPG versus -48 EPG and for hookworm: -672 EPG versus -552 EPG, but differences for T. trichiura and hookworm were not statistically significant.</i></p> <p>Secondary: Children receiving fortified biscuits i) had their mid-upper arm circumference slightly improved (+0.082 cm) and ii) scored higher (+0.34) on the digit span forward cognitive test. These improvements were statistically significant</p>
2) Nga <i>et al.</i> 2009	Prevalence: i) 'Fortified biscuits and albendazole': 68% for <i>A. lumbricoides</i> ; 58% for <i>T. trichiura</i> ; 7% for hookworm ii) 'Albendazole alone': 65% for <i>A. lumbricoides</i> ; 53% for <i>T. trichiura</i> ; 6% for hookworm	<p>Primary: i) Significant difference in prevalence reduction observed for <i>A. lumbricoides</i> and <i>T. trichiura</i> after 4 months <i>Differences in prevalence between 4 months and baseline for children taking 'fortified biscuits and albendazole' versus 'albendazole alone': for A. lumbricoides: -25% versus -9% and for T. trichiura: -19% versus -4%. For hookworm: -2% versus 0% but differences for hookworm were not statistically significant</i></p> <p>Secondary: Fortified biscuits significantly reduced the odds of i) anaemia and ii) deficiencies of zinc and iodine by 44%, 48% and 47%, respectively</p>
3) Nchito <i>et al.</i>	Prevalence of <i>A. lumbricoides</i> :	<p>Primary: i) No significant difference in re-infection rate and infection intensity of <i>A. lumbricoides</i> between the different intervention groups</p>

2009	<p>i) 'Iron only': 42%; 'multi-micronutrients only': 44%; 'placebo': 45%; 'iron with multi-micronutrients': 44%</p> <p>Infection intensity of <i>A. lumbricoides</i>:</p> <p>i) 'Iron only': 3135 EPG; 'multi-micronutrients only': 1645 EPG; 'placebo': 2655 EPG; 'iron with multi-micronutrients': 2972 EPG</p>	<p><i>Differences in prevalence between 6 months and baseline</i>: -21% in 'iron only' versus -18% in 'multi-micronutrients only', -12% in 'placebo' and -6% in 'iron with multi-micronutrients'. In all intervention arms, prevalences were back to baseline levels at 10 months</p> <p><i>Differences in infection intensity as compared to baseline</i>: at 6 months, -1,726 EPG in 'iron only' versus -1,369 EPG in 'iron with multi-micronutrients', +1,501 EPG in 'multi-micronutrients only' and +380 EPG in 'placebo' At 10 months, -1,233 EPG in 'iron only' versus -9 EPG in 'placebo', +138 EPG in 'iron with multi-micronutrients' and +983 EPG in 'multi-micronutrients only'</p> <p>ii) There was a significant interaction between iron and multi-micronutrient supplementation on re-infection rate at 6 months <i>Re-infection rate</i>: 22% in 'iron taken without multi-micronutrients' versus 38% in 'iron taken with multi-micronutrients'</p> <p>iii) A significant dose-response relationship between the number of iron tablets taken and the reduction in infection intensity was observed at 6 months. Children who took iron were re-infected with 50% of the infection intensity found in the placebo group. In a sub-group analysis, children who took more than 50 iron tablets were re-infected with 20% of the infection intensity found in children who took placebo tablets</p>
4) Long <i>et al.</i> 2007	<p>Baseline prevalence was not provided and only re-infection rates were given</p>	<p>Primary: i) 'Zinc alone' significantly increased the prevalence of <i>A. lumbricoides</i> by 51% as compared to placebo. 'Vitamin A with zinc' decreased the prevalence by 1% and 'vitamin A alone' increased the prevalence by 18% as compared to placebo. Both changes were not statistically significant</p> <p>Secondary: i) A combination of vitamin A and zinc significantly reduced</p>

		<p>the mean duration of <i>A. lumbricoides</i> infection (3.6 days) as compared to placebo (5.5 days)</p> <p>ii) A combination of vitamin A and zinc significantly reduced the incidence of <i>A. lumbricoides</i>-associated diarrhoea by 73%</p>
5) Long <i>et al.</i> 2006	Baseline infection characteristics not provided	Secondary: i) In the event of an <i>A. lumbricoides</i> infection, vitamin A supplemented children had increased interleukin 4 (IL-4) levels compared to un-supplemented children (odds ratio = 12.06)
6) Olsen <i>et al.</i> 2003	Baseline infection characteristics not provided	<p>Primary: i) No significant difference in re-infection rate and infection intensity throughout the 11 months</p> <p><i>Differences in prevalence between 11 months and baseline for children taking 'multi-micronutrients' versus 'placebo': for A. lumbricoides: -1% versus -0.2%; for T. trichiura: -26% versus -27%; for hookworm: -37% versus -35%</i></p> <p><i>Differences in infection intensity between 11 months and baseline for children taking 'multi-micronutrients' versus 'placebo': for A. lumbricoides: -0.5 EPG versus -0.3 EPG; for T. trichiura: -4 EPG for both groups; for hookworm: -7 EPG versus -6 EPG</i></p>
7) Olsen <i>et al.</i> 2000	<p>Prevalence in children:</p> <p>i) 'Iron': 27% for <i>A. lumbricoides</i>; 41% for <i>T. trichiura</i>; 62% for hookworm</p> <p>ii) 'Placebo': 27% for <i>A. lumbricoides</i>; 38% for <i>T. trichiura</i>; 58% for hookworm</p> <p>Infection intensity in children:</p> <p>i) 'Iron': 2,630 EPG for <i>A. lumbricoides</i>; 25 EPG for <i>T. trichiura</i>; 50 EPG for</p>	<p>Primary: i) No significant difference in re-infection rate and infection intensity in children after 12 months.</p> <p><i>Differences in prevalence between 12 months and baseline for children taking 'iron' versus 'placebo': for A. lumbricoides: +15% for both groups; for T. trichiura: -11% versus -6%; for hookworm: -30% versus -25%</i></p> <p><i>Differences in infection intensity between 12 months and baseline for children taking 'iron' versus 'placebo': for A. lumbricoides: +1,115 EPG versus -1,710 EPG; for T. trichiura: +13 EPG versus -15 EPG; for</i></p>

	<p>hookworm</p> <p>ii) 'Placebo': 7,615 EPG for <i>A. lumbricoides</i>; 45 EPG for <i>T. trichiura</i>; 35 EPG for hookworm</p> <p>Prevalence in adults:</p> <p>i) 'Iron': 8% for <i>A. lumbricoides</i>; 17% for <i>T. trichiura</i>; 72% for hookworm</p> <p>ii) 'Placebo': 6% for <i>A. lumbricoides</i>; 19% for <i>T. trichiura</i>; 67% for hookworm</p> <p>Infection intensity in adults:</p> <p>i) 'Iron': 1,395 EPG for <i>A. lumbricoides</i>; 15 EPG for <i>T. trichiura</i>; 75 EPG for hookworm</p> <p>ii) 'Placebo': 4,205 EPG for <i>A. lumbricoides</i>; 20 EPG for <i>T. trichiura</i>; 88 EPG for hookworm</p>	<p>hookworm: -10 EPG <i>versus</i> +10 EPG</p> <p>ii) Significant difference in re-infection rate observed in adults at 4 or 12 months</p> <p><i>Differences in prevalence as compared to baseline for adults taking 'iron' versus 'placebo':</i> at 4 months for hookworm: -61% <i>versus</i> -67%. Re-infection rates for <i>A. lumbricoides</i> and <i>T. trichiura</i> at 4 months were not reported. At 12 months, for <i>A. lumbricoides</i>: + 9% <i>versus</i> +26%; for <i>T. trichiura</i>: -11% <i>versus</i> + 2%; for hookworm: -37% for both groups but not statistically significant</p> <p>iii) No significant difference in infection intensity in adults at 12 months.</p> <p><i>Differences in infection intensity between 12 months and baseline for adults taking 'iron' versus 'placebo':</i> for <i>A. lumbricoides</i>: -1,085 EPG <i>versus</i> -3,795 EPG; for <i>T. trichiura</i>: +8 EPG <i>versus</i> +5 EPG; for hookworm: -45 EPG <i>versus</i> +58 EPG</p>
<p>8) Grazioso <i>et al.</i> 1993</p>	<p>Prevalence (stratification of helminthic species not done):</p> <p>i) 'Zinc': 43%; 'placebo': 41%</p>	<p>Primary: i) No significant difference in re-infection rate and infection intensity at the end of 120-150 days</p> <p><i>Difference in prevalence between end of 120-150 days and baseline for children taking 'zinc' versus 'placebo':</i> -65% <i>versus</i> -66%. Specific prevalences of <i>A. lumbricoides</i> and <i>T. trichiura</i> after the mebendazole therapy were not mentioned. Actual values of infection intensity were also not reported</p>

9) Halpenny *et al.* 2013

Cycle 1:

i) Prevalence of whole cohort:

A. lumbricoides: 20%; Hookworm: 5%;
T. trichiura: 1%

ii) Infection intensity of whole cohort:

A. lumbricoides: 3,000 EPG; Hookworm:
250 EPG; *T. trichiura*: 50 EPG

Cycle 2:

i) Prevalence of whole cohort:

A. lumbricoides: 18%; Hookworm: 23%;
T. trichiura: 10%

ii) Infection intensity of whole cohort:

A. lumbricoides: 10,000 EPG; Hookworm:
200 EPG; *T. trichiura*: 450 EPG

Primary: i) Children with higher height-for-age (HAZ) score have hookworm infection intensity 0.49 times that of their peers with lower HAZ score at the end of cycle 2. This was statistically significant

ii) Children with higher HAZ score have *A. lumbricoides* infection intensity 0.15 times that of their peers with lower HAZ score at the end of cycle 1. This was statistically significant

10) Hesham Al-Mekhlafi *et al.* 2008

Prevalence of whole cohort:

i) *A. lumbricoides*: 66%; Hookworm: 11%;
T. trichiura: 98%

Primary: i) **Three months after de-worming with albendazole, stunted children had a higher re-infection rate (61%) with soil-transmitted helminths (stratification of species not done) than non-stunted children (40%) only in the univariate analysis.** This significant difference was lost in the multivariate analysis. Also at 3 months, children with underweight *versus* non-underweight have re-infection rates of 51% *versus* 43% but this was not statistically significant
Re-infection rates at 6 months: stunted children *versus* non-stunted children were 88% *versus* 73%, while underweight *versus* non-underweight were 86% *versus* 75%. However, these observations were not statistically significant

11) Payne <i>et al.</i> 2007	<p>Prevalence of <i>A. lumbricoides</i>:</p> <p>i) 'Vitamin A': 71%; 'non-Vitamin A': 86%</p> <p>ii) 'Stunted': 84%; 'non-stunted': 77%</p> <p>Infection intensity of <i>A. lumbricoides</i>:</p> <p>i) 'Vitamin A': 949 EPG; 'non-Vitamin A': 3416 EPG</p> <p>ii) 'Stunted': 2956 EPG; 'non-stunted': 2026 EPG</p>	<p>Primary: i) Vitamin A supplemented children had significantly lower (-3.6 EPG) infection intensity at 3 months as compared to non-supplemented ones. However, infection intensity for supplemented children was already significantly lower (-6.3 EPG) at baseline</p> <p>ii) Stunted children had significantly higher <i>A. lumbricoides</i> infection intensity than non-stunted at both 3 (+1.6 EPG) and 5 (+2.0 EPG) months, regardless of vitamin A supplementation</p> <p>iii) In non-stunted children, prevalence and infection intensity of <i>A. lumbricoides</i> were significantly lower in supplemented children (13% and 1 EPG) than non-supplemented ones (45% and 32 EPG) at 3 months. At 5 months, the differences were 50% and 54 EPG <i>versus</i> 55% and 147 EPG but they were not statistically significant anymore</p> <p>iv) In stunted children, prevalence and infection intensity of <i>A. lumbricoides</i> between supplemented and non-supplemented ones were not statistically significant at 3 and 5 months. At 3 months: 38% and 19 EPG <i>versus</i> 50% and 39 EPG. At 5 months, 73% and 544 EPG <i>versus</i> 70% and 102 EPG</p> <p>v) In stunted children, infection intensity of <i>A. lumbricoides</i> at 3 months was significantly lower (6 EPG) in children who received vitamin A within 6 weeks of de-worming as compared to children who received vitamin A between 6 and 12 weeks before de-worming (122 EPG)</p> <p>vi) The 3-month re-infection rate of <i>A. lumbricoides</i> increased significantly as the interval between supplementation and de-worming increased. Exact figures are not reported</p>
12) Saldiva <i>et al.</i> 2002	<p>Baseline infection characteristics not provided</p>	<p>Primary: i) After 1 year of follow-up, 38% of the undernourished children were re-infected with helminths, in particular <i>A. lumbricoides</i></p>

		and <i>T. trichiura</i> , while only 25% of eutrophic children were re-infected. However, this statistically significant difference was lost once maternal literacy and per capita incoming rate were controlled for
13) Hagel <i>et al.</i> 1999	Baseline infection characteristics not provided	Primary: i) At 8 months after the end of the 12-month treatment period, children $\leq 10^{\text{th}}$ percentile for height and weight/age (68% and 87%, respectively) showed significantly higher re-infection rates with <i>A. lumbricoides</i> than children $> 10^{\text{th}}$ percentile (32% and 13%, respectively). However, this observation could be confounded by socio-economic factors (not accounted for in the analysis), as there were a significantly higher proportion of children at or below the 10 th percentile for height or weight/age in extreme poverty as compared to children in critical poverty
14) Kightlinger <i>et al.</i> 1996	Infection intensity of 2765 EPG for the whole cohort	Primary: i) After 12 months, the best-nourished children had lower <i>A. lumbricoides</i> egg counts than children with reduced growth indicators, but these differences were not statistically significant <i>Egg counts for best-nourished versus under-nourished children:</i> in terms of weight-for-age, 1,995 EPG <i>versus</i> 3,162–6,310 EPG and in terms of height-for-age, 3,162 EPG <i>versus</i> 3,981–5,012 EPG iii) Difference in worm burden (geometric mean number of worms per child) among children with normal growth (12.5) <i>versus</i> stunted and underweight (11.5) <i>versus</i> stunted, underweight and wasted (16.0) was not significant.
15) Hagel <i>et al.</i> 1995	Baseline infection characteristics not provided	Secondary: i) No significant change in anti-<i>Ascaris</i> IgE levels was observed in undernourished children, while levels in well-nourished children increased significantly <i>Differences between 12 months and baseline for under-nourished versus</i>

well-nourished: in terms of weight-for-age, -0.10 pru/mL *versus* +0.55 pru/mL; in terms of height-for-age, -0.05 pru/mL *versus* +0.65 pru/mL
