

New research debunks merits of global deworming programmes

Re-analysis of existing studies finds that deworming schemes may not improve educational attainment as previously claimed

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Deworming children, once ranked by Nobel laureates as the fourth most effective intervention to solve the health problems of the whole world, offers very little benefit despite the millions of dollars spent on it, according to a re-analysis of evidence.

The World Bank and the UK government are among the big funders of deworming programmes that were claimed to improve not only children's health and growth, but also their educational attainment and ultimately their country's economic prosperity.

However, much of that optimism rests on one particular study carried out in Kenya in 1998-99, which reported that deworming improved attendance not only in schools where children were treated and taught about avoiding worms, but also in other schools, because of an apparent reduction in transmission.

Researchers from the London School of Hygiene and Tropical Medicine (LSHTM) have now re-analysed the trial data and published two papers in the *International Journal of Epidemiology*. They found, as the original researchers had found, that there had been a decrease in worm infections, some evidence of small improvements to nutritional status and no benefit on exam results in the schools.

But there had been no increased attendance in the schools where children had not been treated or taught about worms as the original study said - that was down to calculation errors and was wrong.

For the second paper, the LSHTM researchers used methods common to health research, rather than those used in economic research, as the original paper had. They found there was missing data and some evidence of bias in the finding that school attendance improved. And there was no effect - as had been claimed - on exam results.

The team chose to re-analyse the Kenya study because it had been so influential, said Calum Davey, research fellow at LSHTM and one of the authors. "I can't speak [on] why it was so influential. Partly I think it was because of the optimism built on the findings - a golden bullet for some problems like attainment and education in low-income settings.

“Deworming is cheap. That’s probably been an important factor. It is relatively uncomplicated, especially when delivered through schools.”

Questions have been asked for some years, however. The LSHTM findings have now fed into an updated Cochrane review of deworming,. The independent and highly respected Cochrane collaboration reviews all the available evidence for particular medical treatments and health interventions and provides guidance on what works. For 15 years, Cochrane has been saying that the evidence for deworming is not clear, causing controversy and clashing with convinced defenders of the programmes.

The new Cochrane review, having absorbed the re-analysis of the Kenya trial, concludes that the big claims for deworming are inappropriate. “Treating children known to have worm infection may have some nutritional benefits for the individual,” it says. “However, in mass treatment of all children in endemic areas, there is now substantial evidence that this does not improve average nutritional status, haemoglobin, cognition, school performance, or survival.”

Professor Paul Garner from the Liverpool School of Tropical Medicine, and coordinating editor for the Cochrane Infectious Diseases Group, called the current promotion of deworming “a panacea”. Their view, he writes in a commentary on the two new papers in the International Journal of Epidemiology, is that it is “a single solution to multiple problems in low- and middle-income countries, and that the belief that deworming will impact substantially on economic development seems delusional when you look at the results of reliable controlled trials”.

He said: “I’m the first person to want it to work. We’re not saying children with worms should not be treated. It’s just that there is a particular emphasis on the deworming programme.” India, he said, was talking of extending deworming to 200 million children. “The deworming community says it doesn’t cost very much, but talk to the administration in India and it is a massive scale-up. It is country’s money. It is people’s resources that are involved. It is not cheap to deliver. There are other things to do in the world.”

The problems in schools were not just the absences of children, but the absence of teachers. A World Bank study said about a third of teaching staff were usually absent. “These are the problems in schools in Africa - not the worms,” he said.

The push for deworming had even involved Cherie Booth, wife of Tony Blair, in Davos in January 2008. She took part in an initiative dreamed up by an organisation called Deworm the World. According to Time magazine at the time, she pretended to be an intestinal worm chasing people pretending to be schoolchildren, while a member of the Clinton administration, posing as a teacher, raced her to reach them first with a deworming tablet.

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