

Controlling bilharzia in schools

Successes and lessons learned from Mangochi District, Malawi, September 2008

BACKGROUND

Bilharzia is a disease caused by worms called schistosomes that infect people who swim or bathe in infected water. Lake Malawi is heavily contaminated by schistosomes and as a consequence, bilharzia is endemic in most coastal communities. Save the Children's 1998 survey of schoolchildren in Mangochi found that the overall prevalence of bilharzia in coastal and upland schools was 36 percent. Some coastal schools saw an infection rate as high as 87 percent.¹ Save the Children identified school-aged children as the target group for intervention because they often experience infection at higher rates than other groups and they are easy to reach through schools. When left untreated, bilharzia can affect the bladder, causing blood in the urine and anemia. Over the long term, the disease can negatively affect children's health, educational achievement, and cognitive development.² Infected children miss more days of school and demonstrate developmental delays of up to six months when compared with their uninfected peers.³

However, the consequences of bilharzia can be controlled easily through routine mass treatment in high-risk areas and behavior change, especially ending the practice of urination in rivers and lakes. These two interventions reduce transmission and burden of disease among children, preventing them from developing the more serious health and educational consequences of the disease.

APPROACH

Since 1999, Save the Children, together with the Malawian Ministry of Education, has organized bilharzia treatment days annually in coastal schools, and once every two years in upland schools, following WHO recommendations.⁴ Treatment was part of Save the Children's comprehensive School Health and Nutrition (SHN) program, aimed at addressing all key health and nutrition problems that prevent children from fully participating in school.

Save the Children trained Primary Educational Advisors, Health Surveillance Assistants, and teachers to administer praziquantel to treat children for bilharzia. School Management Committee members also received training to assist in the administration of the medication. We raised community awareness of the program to encourage children in and out of school to participate in treatment days. We used radio broadcasts and taped messages for classrooms to raise children's awareness and dispel myths.

With technical support from the Manoff Group, Save the Children developed communications materials aimed at schoolchildren following a behavior change communication approach. These included large billboards displayed along roads and congregation areas, pamphlets on how to answer children's questions about bilharzia, and notes with key messages for teachers and parents.



A teacher measures a student using a paper tablet pole to determine the correct praziquantel dose for treatment of bilharzia.

On established treatment days, community members perform dramas, poems, and songs to celebrate the day. Praziquantel is given as a single dose. Teachers estimate the number of pills required from the child's height using a specially-made tablet pole, then record children's names and appropriate doses. Parents and other community members help teachers distribute tablets to the children. Teachers compile summary records of all children who received treatment for review by their peers, Health Surveillance Assistants and Primary Education Advisors. The group discusses what went well, what was challenging, and how the process might be improved. Schools that reach 80 percent of the students and a good number of out-of-school children, receive prizes like a world map, clock, or sports uniforms.

COVERAGE

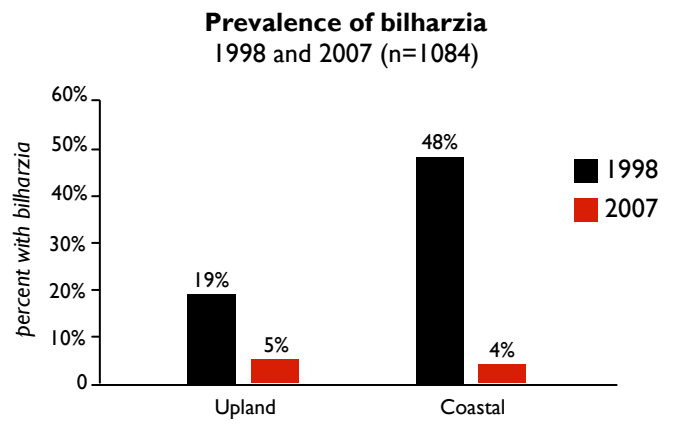
Until 2006, Save the Children annually targeted 130,000 children for deworming in 171 schools in Mangochi and Balaka districts. In the first few years, coverage was poor, with only half of children agreeing to take the treatment. After raising community awareness of the benefits of treatment, we saw coverage improved to 82 percent.

SUCCESSSES

In July 2007, Save the Children conducted an endline survey in the same 12 schools investigated in the 1998 baseline survey, using the same sampling and survey methodologies (reagent strip and microscopy).

The results showed that the overall prevalence of bilharzia in upland and coastal schools fell by 86 percent.⁵ The drop was particularly impressive in coastal schools (see chart at right). These results were not surprising since sampling occurred only a month after deworming. However, for partners at district and community level, it was important to see evidence that the tablets work.

After the first deworming days, communities, teachers and children noticed the difference in the children who were treated. At a sensitization meeting, one community member reported, "Children no longer have blood stains on their pants." A teacher at Mpale School noted, "Fewer pupils now complain about pains from the schistosomiasis.... Treatment of bilharzia has boosted



pupils' zeal to be in school."

In 1998, only 6.4 percent of children mentioned stopping urinating in the water as a way of preventing bilharzia; more talked about not swimming in the river (44 percent). However, in 2007, 70 percent of children mentioned not urinating in the lake or river as a way to prevent bilharzia.

CHALLENGES AND LESSONS LEARNED

In the first couple of years, children were suspicious of the treatment and less than half took the medication. Some children were scared because of the smell or large size of the tablets, or because their classmates felt dizzy after taking the pills. Community members were also suspicious, either because they did not trust medication in general or because they believed the pills were contraceptives. Furthermore, many community members considered bilharzia normal, and did not understand the need for treatment. Some parents prevented their children from attending school on treatment day for these reasons.

To reduce suspicion and raise awareness of the importance of bilharzia treatment, Save the Children sensitized the community through radio broadcasts reminding parents of dates and importance of treatment; community awareness meetings with senior chiefs, school communities, and surrounding villages; notes to parents encouraging them to participate in the distribution; and notes to head teachers asking them to remind children of the importance and safety of the treatment.

To encourage children to take the medication on deworming day, Save the Children trained parents and

other community members to participate and help teachers administer the treatment. They also provided fortified porridge for children to eat prior to receiving the treatment, to minimize side effects and the feelings of dizziness. Community members also performed dramas, songs, and poems to increase participation of all children by making treatment day more of a celebration.

The combined activities had a huge effect on coverage, which gradually increased to 82 percent. Communities are now familiar with the treatment and are convinced by its benefits. The participation of community members was a huge help to teachers who are often overwhelmed with large classes due to teacher shortages. The presence of community members also helped attract and reach more out-of-school children, whom teachers alone would be unable to include.

Save the Children's 2007 endline survey showed that most children (87 percent) now say they urinate in the bush or on the beach rather than in the water when they need to urinate while swimming. However, 9 percent still admitted to urinating in the water in the last two weeks.

NEXT STEPS

In 2007, the Ministry of Education began implementation of a nationwide SHN program that includes routine deworming. Unfortunately the cost of praziquantel is high compared to other deworming tablets and the government has not yet been able to provide bilharzia treatment. Save the Children is phasing SHN programming out of Mangochi and Balaka districts and will therefore no longer support this project. Appropriate stock levels of praziquantel should be maintained to meet the enormous need for bilharzia treatment. Unless the government can take on this activity, infection rates and intensities are likely to increase again.

HIGHLIGHT

Twelve-year old Gerald used to enjoy swimming in the cool waters of Lake Malawi. Then he got sick and began to lose weight. He had blood in his urine and heart palpitations. Fortunately, Gerald's school provided free bilharzia treatment and Gerald was able to receive medicine at school. His mother Margret says, "After taking the medications, I observed that he got better and has also gained weight. Let me advise all parents that they should send their children to school, so that they can get medications during the deworming exercise." Since then, Gerald has also changed his behavior so that he reduces his exposure to bilharzia. "I am not bathing in the lake any more," says Gerald.

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Photos by
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- ²Deworming at a Glance, Bundy, D.A.P., WHO, March 2003.
- ³*Ibid.*
- ⁴WHO (1993). The Control of Schistosomiasis. Second report of the WHO Expert Committee.
- ⁵Save the Children. Mangochi Endline Survey Report, September 2007.



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