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Tropical Medicine and Health

Vol. 37 (2009) , No. 2 p.43

Effect of communal piped water supply on pattern of transmission of schistosomiasis haematobia in an endemic area of Kenya

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(Accepted March 12, 2009)

Abstract: An attempt was made to examine the long-term impact of communal piped water supply on pattern of water use and transmission of schistosomiasis haematobia in an endemic area of Kenya. In the study area, Mtsangani program based on repeated selective mass-chemotherapy had been

from 1987 to 1993. The pre-treatment overall prevalence and intensity were 59.2% and 10.9 eggs/10 ml of urine (Muhoho *et al.*, 1997). In the program, the prevalence was kept at a low range of 20 to 40%. At the end of the program, in 1994, gravity-fed water supply was provided. Although the water facilities were damaged by flooding in 1998, new gravity-fed water supply facilities consisting of 7 standpipes were installed. A follow-up survey done in 1999 revealed reduced prevalence and intensity of 23.0% and 1.2 eggs/10 ml of urine (unpublished data). The present study in 2006, 6 years after the last mass-chemotherapy. Urine examination showed prevalence and intensity of infection had returned to 52.2% and 7.4 eggs/10 ml, the same level as the pre-treatment level. The results of our study demonstrate that, in the long-term, the gravity-fed water supply facilities had little impact on the prevalence and intensity of infection in this village. However, an analysis of the spatial observation of human water contact at the river and a questionnaire on the possible impact of water supply on human water contact. The study (10-15 years old) with easy access to the standpipes showed a lower prevalence of infection, while the relationship was not clear in other age groups. The result of the questionnaire indicated that the long distance from the standpipes was the major factor limiting the use of the communal tap water. Most of the people who used piped water as the main source of water lived within 800 m of the standpipes, and villagers who used river water exclusively lived beyond that distance. The frequency of water-related activities at the communal water facilities also indicated that villagers who lived near standpipes used the piped water more frequently. The frequency of total visits to river water sites did not differ between those who lived near and far from the standpipe. However, water contact in the form of high-risk behavior, was observed exclusively among children who lived far from the standpipes, although the number of observations was small. The present study demonstrated that the water facilities had little effect on the whole population but might have a beneficial effect on some villagers given their proximity to the standpipes.

Key words: [control of schistosomiasis haematobia](#), [safe water supply](#), [water contact](#), [spatial analysis](#), [Kenya](#)

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Mayumi Abe, Ngethe D. Muhoho, Toshihiko Sunahara, Kazuhiko

Yoshiki Aoki: "Effect of communal piped water supply on pattern of transmission of schistosomiasis haematobia in an endemic area of F and Health, Vol. **37**, pp.43-53 (2009) .
