(f) to promote research on the development of therapeutic agents and vaccines, simian retroviruses, and epidemiologic and behavioral aspects of LAV/HTLV-III infection;

(g) to coordinate collaborative clinical trials of antiviral and other drugs that have been demonstrated in human early-phase trials to show efficacy in the treatment of AIDS and/or the AIDS-related complex;

(2) to seek additional funds from extrabudgetary sources for the support of national and collective programs of surveillance and epidemiology, laboratory services, clinical activities, and prevention and control measures.

Source: World Health Organization, *Weekly Epidemiological Record* 61(5):35, 1986.

THE CHEMOTHERAPY OF SCHISTOSOMIASIS CONTROL

Schistosomiasis is a complex disease transmitted to man by infection with the freshwater parasites *Schistosoma japonicum*, *S. haematobium*, *S. intercalatum*, *S. mansoni*, and *S. mekongi*. Today approximately 200 million people are infected and 500–600 million are exposed to the threat of infection. Schistosomiasis is widely distributed geographically, ranging across China, the Philippines, Indonesia, the Arabian peninsula, various countries of North Africa, the whole of sub-Saharan Africa, several South American countries, and certain Caribbean islands. Furthermore, with the increase in the number of agricultural, hydroelectric, and other water resource projects in endemic countries, transmission of the disease is increasing.

The primary objective of chemotherapy in schistosomiasis control is to reduce human morbidity from the disease to levels that do not present a threat to public health. In general, this goal is achieved when all remaining infections caused by *S. haematobium* are below 50 eggs per 10 ml in a random sample of urine, or when all remaining infections from *S. mansoni* are below 100 eggs per gram of feces.

After 70 years' experience with chemotherapeutic agents for the control of schistosomiasis, some of which were toxic, the recent development of safe and effective oral drugs makes possible a strategy aimed at the direct and rapid control of the disease. Currently the following three drugs are available for this purpose:

(1) Metrifonate: This compound has specific activity against *S. haematobium*. The standard drug regimen is 7.5–10 mg/kg body weight administered in three doses at two-week intervals. The drug is well tolerated. Cure rates observed in schistosomiasis control programs range from 40% to 65% with a 90% reduction in egg count for those who are not cured.

(2) Oxamniquine: This compound is effective only against *S. mansoni*. The dose varies according to geographic area. For example, in Brazil and West Africa *S. mansoni* infections in adults respond well to 15 mg/kg body weight in a single oral dose, which results in a cure rate of 60–90%. In contrast, in Central and East Africa the effective dose is in the range 30–45 mg/kg, while in Egypt doses of up to 60 mg/kg (given over three days) are required. The drug is well tolerated, especially if administered after a meal. Cure rates of 60–80% have been observed in schistosomiasis control programs, with an observed reduction in egg counts of over 90% in those not cured after one year of treatment.

(3) Praziquantel: This compound is effective against all five parasites causing schistosomiasis and also against most other trematodes and cestodes. The drug is taken orally in single or divided doses. For *S. mansoni* or *S. haematobium* infections, a single dose of 40 mg/kg is recommended, and this dose is also effective against combined *S. mansoni* and *S. haematobium* infections. The cure rate for *S. haematobium* infections is 80–95% at three months and about 80% one year after treatment. The reduction in egg count for those not cured is usually 90–95% after one year. A similar cure rate and reduction in egg count is observed for *S. japonicum* infections, but a lower cure rate is found for combined *S. mansoni* and *S. haematobium* infections.

A single treatment with an antischistosomal drug should never be expected to achieve a permanent cure or to prevent infection. In general, within populations with a high prevalence of schistosomiasis (>50%) a planned assessment of the treatment program is required after six months or a year. However, if it is foreseen that no reexamination of the population or of a representative sample thereof will be possible within a year of treatment, the program should be appropriately modified within the limits of available personnel and resources to ensure reliable evaluation.

Although there is great interest in antischistosomal drugs, there is concern about their expense for large-scale use. Cost estimates should therefore be weighed in favor of treatment of children, who represent the greatest portion of the infected population. In most control programs the cost of the drug comprises 10–30% of that of the program. However, WHO has made an agreement with the manufacturer of praziquantel whereby the drug will be made available at a low price if it is to be used in large-scale national control programs. This agreement has been extended to other United Nations agencies. It is emphasized, however, that the cost of the drug should not be the limiting factor in determining its proper use; if funds are restricted, it may be appropriate to limit control operations to smaller geographic areas rather than to attempt indiscriminate coverage of a large area.

Source: World Health Organization, *Bulletin of the World Health Organization* 64(1):23–24, 1986. This report is based on an unpublished WHO document entitled "The Role of Chemotherapy in Schistosomiasis Control" (WHO/SCHISTO/83.70). Inquiries and comments should be addressed to the Parasitic Diseases Program, World Health Organization, 1211 Geneva 27, Switzerland.