Controlling intestinal helminths while eliminating lymphatic filariasis

EDITED BY L. S. STEPHENSON, C. V. HOLLAND *and* E. A. OTTESEN
CO-ORDINATING EDITOR L. H. CHAPPELL

PREFACE

The Programme to Eliminate Lymphatic Filariasis (LF), launched in 1997, is a public-sector/private-sector partnership organized as a Global Alliance, with the World Health Organization serving as secretariat. Its principal purpose is to carry out the mandate of the 50th World Health Assembly (1997) to eliminate lymphatic filariasis as a public health problem worldwide, but its tools and strategies for achieving this end also have important additional public health benefits. Foremost among these are the effects the Programme can have on the control of intestinal helminth infections in treated populations, largely because of certain similarities, or overlaps, of the drugs and strategies used in the public health approaches to these parasitic infections. The principal health benefits from treating these intestinal helminth infections are reviewed in detail below, but in addition there might even be an entirely new justification for aggressive treatment and control of these infections if the recently described effects they have on potentiating HIV infections in affected populations can also be further substantiated and extended.

This supplement, consisting of 10 up-to-date review articles, provides important data for both recognizing and gauging the magnitude of the ancillary public health benefit LF elimination programmes can have on the control of intestinal helminths. The first six contributions focus on global malnutrition and on the public health importance and benefits of treating and controlling the three major intestinal nematodes (hookworm, *Ascaris lumbricoides*, and *Trichuris trichiura*) that are widely prevalent in the 80 countries where lymphatic filariasis is endemic (and in hundreds of millions of people elsewhere as well). The first review (L. S. Stephenson *et al*.) describes the current state of global malnutrition particularly in relation to protein-energy malnutrition, iron deficiency and anaemias, vitamin A deficiency, iodine deficiency disorders, and zinc deficiency. The second review (L. S. Stephenson *et al*.) explores the links between malnutrition and parasitic helminth infections, emphasizing in particular mechanisms through which parasites may cause or aggravate malnutrition. Three reviews on the public health importance of hookworm (D. W. T. Crompton), *Ascaris* (P. O'Lorcain and C. V. Holland), and *Trichuris* (L. S. Stephenson *et al*.) describe the epidemiology, pathophysiology and public health benefits of treating and controlling these infections, emphasizing their impact on maternal and infant morbidity and mortality, child growth and appetite, physical fitness and activity, and cognition and educational outcomes. The use of animal models to study human intestinal nematode infections is also reviewed in detail by J. Boes and A. B. Helwigh. The final four articles extensively review the principal chemotherapeutic tools that will be used in the programmes to eliminate LF and that will confer additional public health benefits from treating and controlling intestinal helminth infections; namely, albendazole (J. Horton), ivermectin (K. R. Brown *et al*.), diethylcarbamazine (R. Houston), and the safe use of these drugs in 2-drug co-administration regimens (Horton *et al*.).

There are many people without whom production of this supplement would not have been possible. The editors gratefully thank Manouchehr Yazhari, Helen Guyatt, Andrew Hall, Jaap Boes, Simon Brooker, Renu Manjrekar, David Addiss, Michael Beach, Richard Guerrant, and colleagues in WHO, at Cornell University, in Denmark, and at Smith-Kline Beecham PLC in the UK for their conversations, reprints, criticisms and moral support during preparation of the ms. Thanks are also due to the editors of *Parasitology* for giving us the opportunity to compile this supplement and to L. H. Chappell for steadfast effort in the role of co-ordinating editor. We also thank Sonya Rabeneck and Judy Pojda at ACC/SCN for advance access to the *Fourth Report on the World Nutrition Situation*, and Tabinda Faizi, Barb Seely, Desho Sahonta, Patricia Peters, Clair Witt, Andy Crump, and Charles Hunt for excellent technical help. L. Stephenson most gratefully acknowledges the WHO Programme to Eliminate Lymphatic Filariasis for providing the consultant assignment to produce the supplement, the Division of Nutritional Sciences, Cornell University for institutional support and its graduate students in Savage Hall for moral support, and the Centre for Experimental Parasitology, Royal Veterinary & Agricultural University, Frederiksberg, Denmark, for institutional and financial support during its preparation while a Visiting Professor there.

L. S. STEPHENSON, C. V. HOLLAND and
E. A. OTTESEN
November 2000

https://doi.org/10.1017/S0031182000009410