



Helminth control in school-age children

A guide for managers
of control programmes

Second edition



World Health
Organization

Helminth control in school-age children

A guide for managers
of control programmes

Second edition



**World Health
Organization**

WHO Library Cataloguing-in-Publication Data:

Helminth control in school age children: a guide for managers of control programmes - 2nd ed.

1. Helminthiasis - prevention and control 2. Helminthiasis - drug therapy. 3. Schistosomiasis - prevention and control 4. Schistosomiasis - drug therapy. 5. Helminths - growth and development. 6. Anthelmintics - therapeutic use. 7. Child. 8. National health programs - organization and administration 9. Guidelines. I. World Health Organization.

ISBN 978 92 4 154826 7

(NLM classification: WC 800)

First edition, 2002
Second edition, 2011

© World Health Organization 2011

All rights reserved. Publications of the World Health Organization are available on the WHO web site (www.who.int) or can be purchased from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int).

Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press through the WHO web site (http://www.who.int/about/licensing/copyright_form/en/index.html).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Printed in France

Contents > Highlights

Helminth control in school-age children • Second edition



P.14 ▲



P.24 ▲



P.36 ▲

14 Planning

Deworming school-age children should be conceived as a part of a larger national strategy for the integrated control and elimination of NTDs. Deworming activities should therefore be planned, implemented and monitored in coordination with other NTD control activities.

24 Implementation

The participation of the community from the start of the planning phase is a key factor in the success of the control programme. Since improving children's health is the objective of the control activity, communities are normally supportive in ensuring the necessary logistic support, providing additional practical information and helping to underpin the long-term sustainability of the programme.

36 Monitoring and evaluation

WHO sees monitoring and evaluation as an integral component of any control programme, essential to ensuring both efficient implementation and maximal benefit for infected individuals, their families and communities.

48 Collection of epidemiological data in sentinel sites

From the start of any control programme, a system must be established for the periodic collection of parasitological data for monitoring purposes. One of the most efficient methods of collecting epidemiological data is to use sentinel sites.

Preface	v
Acknowledgements	vi
Glossary	vii
1. Background	2
1.1 Schistosomiasis and soil-transmitted helminth infections in the context of neglected tropical diseases	2
1.2 Burden due to schistosomiasis and soil-transmitted helminth infections	2
1.3 Transmission and morbidity	4
1.4 Essential epidemiological data for control	6
1.5 Purpose of the control programme	8
1.6 School-age children are the major targets for deworming programmes	8
1.7 Components of a helminth control programme	9
1.8 Steps for implementing a helminth control programme in schools	10
1.9 Cost-effectiveness, sustainability and integration	10
1.10 Key stakeholders in school-based deworming programmes	11
1.11 Partnering for the control of neglected tropical diseases	11
1.12 Deworming school-age children and the Millennium Development Goals	11
References	12
2. Planning	14
2.1 Establishing of a steering committee for the integrated control of NTD	14
2.2 Situation analysis	14
2.3 Baseline epidemiological data	16
2.4 School data	19
2.5 Data from control activities for other diseases	19
2.6 Logistic opportunities	19
2.7 Health education materials	20
2.8 Model budget	20
References	23
3. Implementation	24
3.1 Community involvement	24
3.2 Pilot phase – expansion phase	24
3.3 Drug procurement, storage and distribution	26
3.4 Training	28
3.5 Delivering the intervention in schools	30
3.6 Integration with other activities	33
3.7 Outreach to non-enrolled school-age children	34
References	35
4. Monitoring and evaluation	36
4.1 Objective and cost of the monitoring and evaluation process	36
4.2 Suggested indicators	36
4.3 Process indicators	38
4.4 Performance indicators	41
4.5 Impact indicators	42
4.6 Additional indicators	45
4.7 When to reduce the frequency of drug administration	45
References	46

5. Collection of epidemiological data in sentinel sites	48
5.1 Concept.....	48
5.2 Personnel needed.....	50
5.3 Collection of biological specimens	52
5.4 Laboratory examinations.....	52
5.5 Analysis of data.....	54
References	55
6. Opportunities.....	56
Annexes	59
1. List of useful addresses and web links.....	59
2. List of materials for parasitological data collection in sentinel sites.....	64
3. Checklist.....	65
4. School form	66
5. Child form	67
6. Tally sheet for recording preventive chemotherapy treatments at drug distribution points	68
7. Drug distribution form for enrolled school-age children	69
8. Drug distribution form for non-enrolled school-age children	70
9. Drug sample collection form	71
10. Suggested changes in frequency of drug administration after 5-6 years of interventions	72

Inside Back cover: Tablet pole for dosing praziquantel

Preface

Helminth control in school-age children • Second edition

IN 2001, THE WORLD HEALTH ASSEMBLY,

with Resolution 54.19, set the global target of treatment of 75% of school-age children (usually defined as children between 5 and 14 years) at risk for schistosomiasis and soil-transmitted helminth (STH) infections by 2010. WHO estimates that more than 200 million school-age children were treated worldwide in 2009.

The purpose of this book is to offer guidance to planners and programme managers in the health and education sectors with responsibility for these control programmes and to provide encouragement to those who will be instrumental in achieving this global target.

The school-based control of schistosomiasis and STH infections is of proven cost effectiveness. This book describes an approach in which epidemiological data are used to select the control strategy to be applied to the school-age population and shows how periodic data collection from sentinel sites can be used to monitor the progress of control activities.

The first edition of this book was published in 2002. This second edition incorporates more recent experience and lessons learnt from school-based control programmes in several countries not previously reported. It also includes references to web sites where useful information is available.

The book is intended to help managers plan, implement and monitor programmes for deworming school-age children using methods based on the best current evidence and experience. It covers the following topics:

- A summary of the relevant health risks caused by schistosomiasis and STH infections, modes of transmission of the infections and public health measures that can be applied to control the risks.

- Guiding principles for school health programme design and budgeting, including details of procurement of drugs and other materials and of the organization of training activities.
- Guiding principles for the implementation of school health programmes, including logistics management in the school system, the administration of deworming drugs to the children and the management of adverse events.
- Suggestion for the integration of schistosomiasis and STH control activities with onchocerciasis and filariasis control/elimination programmes in the context of the national control of neglected tropical diseases.
- The most useful indicators for monitoring and evaluating the progress of the programme, including guidelines for the collection of epidemiological data and for reducing the frequency of drug administration.

WHO is currently supporting endemic countries in preparing integrated plans for control of neglected tropical diseases in which these aspects are considered. Managers of control programmes should contact WHO's Department of Control of Neglected Tropical Diseases (see list of useful addresses in *Annex 1*) for support and for information about integrated control.

Control and the sustainable interruption of transmission will depend on the successful implementation of deworming programmes and on intersectoral collaboration to improve basic hygiene and living conditions.

Nine examples from existing school health programmes are presented to illustrate specific aspects of the deworming intervention. This book is a source of guidance; regional and national factors will influence the actual control strategies to be implemented; the illustrative examples are a means of sharing practical and specific experience.

Helminth control in school-age children • Second edition

THE WORLD HEALTH ORGANIZATION WOULD LIKE

to express special thanks to all those who contributed to the production of this manual.

The writing committee comprised the following individuals:

Dr Antonio Montresor, Control of Neglected Tropical Diseases, WHO, Geneva, Switzerland

Dr Marco Albonico, Ivo de Carneri Foundation, Milan, Italy
Dr Meklit Berhan, Children Without Worms, Atlanta, GA,
USA

Dr Lester Chitsulo, Control of Neglected Tropical Diseases,
WHO, Geneva, Switzerland

Professor David Crompton, University of Glasgow, Glasgow,
Scotland

Dr Abdoulaye Diarra, WHO Inter-country Support Team for
Central Africa, Libreville, Gabon

Dr Dirk Engels, Control of Neglected Tropical Diseases,
WHO, Geneva, Switzerland

Dr Albis Gabrielli, Control of Neglected Tropical Diseases,
WHO, Geneva, Switzerland.

Professor Theresa W. Gyorkos, McGill University, Montreal,
Canada

Dr Pamela Mbabazi, Control of Neglected Tropical Diseases,
WHO, Geneva, Switzerland

Dr Eric Ottesen, Emory University, Atlanta, USA

Dr Lorenzo Savioli, Control of Neglected Tropical Diseases,
WHO, Geneva, Switzerland

Dr Aya Yajima, Control of Neglected Tropical Diseases,
WHO, Geneva, Switzerland

Thanks are due to the following people for their contributions, suggestions and support:

Dr Simon Brooker, KEMRI-Wellcome Trust Research Programme, Kenya

Professor Nilanthi de Silva, University of Kelaniya, Kelaniya,
Sri Lanka

Dr Jonathan D. King, The Carter Center, Atlanta, GA, USA

Ms Kim Koporc, Children Without Worms, Atlanta, GA, USA

Dr Patrick Lammie, Centers for Disease Control and
Prevention, Atlanta, GA, USA

Ms Seung Lee, Save the Children US, Washington, DC, USA

Dr Frank O. Richards Jr. , The Carter Center, Atlanta, GA,
USA

Dr Francesco Rio, Control of Neglected Tropical Diseases,
WHO, Geneva, Switzerland

Mrs Natalie Roschnik, Save the Children US, Washington,
DC, USA

Dr Muth Sinuon, National Malaria Center, Ministry of Health
of Cambodia, Phnom Penh, Cambodia

Grateful acknowledgement is also due to the United States Agency for International Development (USAID) and the Global Network for Neglected Tropical Diseases (GNNTD) for financial assistance with the publication of this document.

预览已结束，完整报告链接和二维码

<https://www.yunbaoqao.cn/report/index/report?repo>