WHO/FCH/CAH/01.08
DISTR.:GENERAL
ORIGINAL:ENGLISH

REFERENCE LIBRARY OF SELECTED MATERIALS

IMCI

Integrated Management of Childhood Illness

World Health Organization
Department of Child and Adolescent Health and Development (CAH)

Unicef

PREFACE

This IMCI reference library of selected materials is intended for use by teachers at medical and paramedical schools and professionals who assist with the national adaptation of the generic IMCI clinical guidelines.

The reference library of selected materials consists of an **annotated bibliography** and a **full version of selected materials** that constitute the evidence behind the generic IMCI clinical guidelines. The reference library is not intended to be a comprehensive overview of existing materials on diseases included into IMCI clinical guidelines. It is a working document providing detailed background to the IMCI clinical guidelines that will be regularly checked and updated when necessary.

Each chapter of the annotated bibliography is divided into '*Articles,*' including published articles, reviews, letters, and editorials and '*Documents and publications'* including relevant WHO or other published materials or unpublished documents.

The section 'Articles' is further divided, where useful, into sub-sections on importance, assessment and treatment. '*Importance'* includes materials on the scope of the problem, epidemiology and etiology, type, frequency and etiology of complications. '*Assessment'* includes materials concerning clinical sign and symptoms, diagnosis, classification and assessment of the severity of the disease. '*Treatment'* includes materials on case management, drugs and remedies, sensitivity or resistance of pathogens to drugs, outcome of treatment with various drugs and regimens. In several sections '*Treatment'* also includes prevention.

INTRODUCTION

The annual number of deaths among children less than 5 years old has decreased by almost 15% since 1990, even despite the HIV/AIDS epidemic. This reduction, however, has not been evenly distributed throughout the world, and in some countries rates of childhood mortality are rising. In 1998, more than 50 countries still had childhood mortality rates over 100 per 1000 live births[1].

Every year more than 10 million children under 5 years of age die in developing countries, many during the first year of life. Seven in ten of these deaths are due to acute respiratory infections (mostly pneumonia), diarrhoea, measles, malaria, or malnutrition, or a combination of these. Projections based on the 1996 analysis *The global burden of disease* indicate that these conditions will continue to be major contributors to child deaths in the year 2020 unless significant efforts are made to control them[2].

In some countries, three in four episodes of childhood illness are caused by one of these five conditions and most sick children present with signs and symptoms related to more than one of them. This overlap means that a single diagnosis may not be possible or appropriate, and that treatment may be complicated by the need to combine therapy for several conditions. Surveys of the management of sick children reveal that many are not properly assessed and treated and that their parents are poorly advised[3].

In response to this challenge, WHO and UNICEF developed a strategy known as Integrated Management of Childhood Illness (IMCI). Although the major stimulus for IMCI may have come from the needs of curative care, the strategy combines improved management of childhood illness with aspects of nutrition, immunisations, and other important disease prevention and health promotion elements. The objectives are to reduce deaths and the frequency and severity of illness and disability and to contribute to improved growth and development.

The strategy includes three main components:

- Improvements in the case management skills of health staff through the provision of locally adapted guidelines on IMCI and through activities to promote their use

- Improvements in health system required for effective management of childhood illness

- Improvements in family and community practices.

At the core of the IMCI strategy is integrated case management of the most common childhood problems seen in low- and middle – income countries with a focus on the most

[1] World Health Organization. *World Health Report 1999: Making a difference.* Geneva: WHO 1999.
[2] Murray CJL and Lopez AD. *The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Geneva, World Health Organization, 1996.
[3] World Health Organization. *Report of the Division of Child Health and Development 1996-97*. Geneva, WHO 1998.

important causes of death. The guidelines, which are based on expert clinical opinion and research results, are designed for the management of sick children aged 1 week up to 5 years. They promote evidence-based assessment and management, using a syndromic approach that supports the rational, effective and affordable use of drugs. They include methods for assessing signs that indicate severe disease; assessing a child's nutrition, immunisations, and feeding; teaching parents how to care for a child at home; counselling parents to solve feeding problems; and advising parents about when to return to a health facility. The guidelines also include recommendations for checking the parents' understanding of the advice given and for showing them how to administer the first dose of treatment

The generic guidelines are not designed for immediate use. A guided process of adaptation ensures that the guidelines, and the training materials that go with them, are adapted to the needs of each country. The *Technical Bases* section of the *IMCI Adaptation Guide* summarizes the evidence behind the generic guidelines and gives some options that might be considered in different circumstances.

Experience shows that the WHO/UNICEF training course on IMCI improves the case management skills of a broad range of first-level health professionals. For this reason, many countries are now interested in including IMCI in the teaching agendas of medical, nursing and other health professional schools. These institutions need appropriate teaching materials, adequately trained classroom and clinical instructors, and well-prepared clinical training sites as minimum requirements.

WHO is currently developing a set of generic IMCI teaching, learning and assessment materials for instructors and students. The generic version of these materials will need to be made compatible with each country's national IMCI guidelines. In addition, the teaching materials may need to be adjusted to the type and level of medical, nursing and other health professional students.

To facilitate this task, this IMCI reference library presents an annotated bibliography and a full version of selected materials that constitute the evidence behind the generic IMCI clinical guidelines. During the development of the IMCI guidelines several elements were improved or validated by research and field-testing. These activities were summarized in a series of articles that are included in this library as well as additional relevant materials that were published since the development of the generic guidelines. The IMCI library also provides useful information to professionals adapting the IMCI generic guidelines to their countries' needs and circumstances.

TABLE OF CONTENTS

1. ABOUT IMCI

Heiby JR

Quality improvement and the integrated management of childhood illness: lessons from developed countries.

The Joint Commission Journal on Quality Improvement, 1998 May, 24(5): 264-79

BACKGROUND: The World Health Organization (WHO) and the United Nations Children's Fund have launched a global initiative to reform the health care received by sick children in developing countries. The core of this initiative, known as Integrated Management of Childhood Illness (IMCI), is a clinical practice guideline. The guideline addresses the case management of clinically ill children under the conditions typical of peripheral facilities, focusing on the most common serious conditions, such as pneumonia and malaria. WHO estimates that up to 70% of childhood deaths in developing countries are attributable to conditions addressed by IMCI. About 40 developing countries have made commitments to implementing IMCI in public-sector programs. QUALITY IMPROVEMENT STRATEGIES AND GUIDELINES IN DEVELOPING COUNTRIES: Like other clinical guidelines, which are increasingly accepted in developing countries' health programs, IMCI raises difficult quality issues. High levels of guideline compliance are needed for IMCI to be effective. However, many developing countries have achieved relatively low levels of compliance with far simpler guidelines, such as those for diarrhoea case management. Despite obvious differences, the experience of developed countries in quality improvement (QI) offers a wide range of promising strategies for IMCI, including (1) developing standards, (2) communicating those standards to providers, (3) monitoring quality and providing feedback, (4) team-based QI problem solving, (5) designing processes conducive to high levels of quality, and (6) regulating providers and institutions. MORE LESSONS FROM DEVELOPED COUNTRIES FOR IMCI: Only recently have QI strategies been adapted for use in developing countries, and virtually none of the early experience has dealt with IMCI. Indirect evidence suggests that a wide range of QI approaches will prove suitable for IMCI. However, it will be important to carefully evaluate the cost-effectiveness of early applications. The experience of developed countries also provides useful models for important issues that have not yet been addressed by the IMCI initiative. These issues include (1) the review and possible modification of the current guideline, (2) extending IMCI into the private sector through regulatory strategies, and (3) institutionalising QI.

Publication Types: Review, Review, tutorial

Lejnev I, Bailey R

Integrated management of childhood illness (IMCI): A challenge for both health professionals and teaching institutions

Towards Unity for Health, April 2000 p 18-19

The WHO Department of Child and Adolescent Health and Development, together with its partners, is working to develop and introduce approaches to combat childhood illness and to promote healthy growth and development of children. These efforts have resulted in the Integrated Management of Childhood Illness (IMCI) strategy that focuses on the child as a whole, rather than on a single disease or condition. Action is being taken to introduce the teaching of IMCI in medical schools to ensure that future doctors know proven methods for preventing and managing major childhood illnesses and have the skills to apply them.

Among the numerous challenges that must be overcome in a country before health professionals and teaching institutions are able to practice and teach the IMCI are: reaching consensus on health priorities in the country, strengthening the health system to allow graduates to practise newly acquired skills, reshaping the way paediatrics is taught including giving priority to interactive and skill-oriented teaching, and ensuring co-ordination between disease specific programmes and between different teaching units.

Nicoll A

Integrated management of childhood illness in resource-poor countries: an initiative from the World Health Organization.

Transactions of the Royal Society of Tropical Medicine and Hygiene 2000 Jan-Feb; 94(1): 9-11

It is estimated that each year around 12 million children aged < 5 years die in resource-poor countries and that 70% of these deaths are due to communicable diseases and/or malnutrition. The same conditions are responsible for an even higher percentage of childhood illness. Since the mid-1990s the World Health Organization has been leading the development of an integrated approach to care for ill children at the primary care level, a programme know as Integrated Management of Childhood Illness (IMCI). The approach essentially combines improved management of childhood illness with aspects of nutrition, immunization and maternal health. IMCI replaces or complements a number of 'vertical' child health programmes aimed at specific groups of conditions including control of diarrhoeal diseases (CDD), acute respiratory infections (ARI) and the Expanded Programme on Immunization (EPI). As of late 1998 the programme, at various stages of development, had been introduced to 51 countries: Introduction (19 countries), Early Implementation (29 countries) or Expansion (9). The approach has many advantages not least that it is well accepted by tropical country paediatricians because it conforms to practice in secondary care. In some countries paediatricians are playing a greater leadership role than they did with previous specific programmes. Many problems remain: programmatic issues, probable over-diagnosis of malaria, relationships with other specific initiatives ('Roll Back Malaria' and new-born care) and how to integrate HIV infection into the diagnosis and care 'package'. However the initiative deserves support by paediatricians and public health specialists in industrialized countries.

Tulloch J

Integrated approach to child health in developing countries.

Lancet 1999 Sep;354 Suppl 2:SII16-20

Publication Types: Review, Review, tutorial

The integrated approach to child health embodied in IMCI focuses on the diseases of childhood that cause the greatest global burden, while allowing for the content to be adapted to an individual country's needs. An integrated approach is justified by good clinical practice; it is important to treat the child as a whole and not simply his or her most obvious disease. The strategy involves not only curative care but also interventions to promote healthy growth and development and to prevent diseases. Often, these too are aimed at more than one disease. In health facilities, the IMCI strategy promotes the accurate identification of childhood illness in outpatient settings, ensures appropriate combined treatment of all major illnesses, strengthens the counselling of caretakers and the provision of preventive services, and speeds up the referral of severely ill children. The strategy also aims to improve the quality of care of sick children at the referral level. In the home settings, it promotes appropriate early home care and care seeking, improved