WORLD HEALTH ORGANIZATION
EUROPE

Inter-country technical consultation on management of diarrhoeal diseases in children in hospitals

Almaty, Kazakhstan, 16–18 May 2006

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Executive summary

According to the guidelines on the Integrated Management of Childhood Illnesses (IMCI), between 10% and 20% of sick children seen in primary care will need referral to first-referral level hospitals.

The findings of the assessment made by the WHO Regional Office for Europe of paediatric hospital care in some first-referral level hospitals in Kazakhstan, the Republic of Moldova and the Russian Federation showed that, despite good access for seriously ill children, low reported hospital case fatality rates, good health networks and skilled and committed doctors caring for children, there were a number of problems that led to the inadequate management of diarrhoea in patients.

Confirming the importance of improving the evidence-based management of diarrhoeal diseases in children in both inpatient and outpatient primary health care facilities, and the need to develop an agenda for change in national policies, protocols and guidelines, the WHO Regional Office for Europe decided to hold a technical consultation with representatives of the health ministries of the countries of the Commonwealth of Independent States, leading national experts in the area of paediatrics and epidemiology, and experts from WHO and other international organizations.

The Consultation achieved the following:

- a presentation of the evidence-based information on recent achievements and experience of management of diarrhoeal diseases in children, including the effectiveness of low-osmolarity oral rehydration salts solution and zinc;
- a review of existing practices in diarrhoea treatment, in order to identify problems and corrective actions, including improved quality, clinical effectiveness and economic efficiency;
- improved knowledge on the part of health managers, clinicians, public health specialists and academics on issues related to the inadequate management of diarrhoeal diseases in children, focusing on problems of excessive laboratory testing, unjustified and lengthy hospitalization, excessive drug administration, and legislative shortcomings, all of which lead to negative health and financial outcomes;
- a consensus on the approaches to the monitoring and practice of evidence-based diarrhoea management;
- recommendations aimed at changing national legislation, standards and practices for diarrhoea management.

Introduction

Each year, more than 10 million children in the world before die reaching the age of five. Of these deaths, more than 70% are the result of preventable or easily treatable diseases such as acute respiratory tract infection (ARI), diarrhoea, malaria, measles or malnutrition. More than 99% of the deaths occur in developing countries. The World Health Organization (WHO) has launched specific control programs for the diagnosis and treatment of diseases like diarrhoea and ARI, and the Expanded Programme of Immunization (EPI) against vaccine-preventable diseases. In many developing countries, the child mortality rate has fallen dramatically since the introduction of these vertical programs. However, the children most likely to die are those with multiple health problems that create serious difficulties for the health workers dealing with them.

To address this situation, in 1995, WHO and the United Nations Children's Fund (UNICEF) jointly launched the global strategy for the Integrated Management of Childhood Disease (IMCI), introduced in the European Region in 1997. The goal was to reduce childhood morbidity and mortality in the developing world by targeting the five major diseases: ARI, malnutrition, measles, malaria and diarrhoea. IMCI addresses childhood disease on three levels: improving the health system, improving the performance of health workers, and improving family and community practices. While IMCI has mainly focused on the delivery of primary health care, it is increasingly recognized that, for primary care to result in an optimal reduction in child mortality, effective first-referral level services, such as those that can be delivered in rural district or provincial referral hospitals, are also needed.

Background

According to IMCI guidelines, between 10% and 20% of sick children seen in primary care will need referral to first-referral level hospitals. These are the children who are most seriously ill, who will need prompt and good quality care management for their survival. In the hospitals, nurses, medical auxiliaries and/or general practitioners provide most of the care for seriously ill children.

Selected first-referral level hospitals in Kazakhstan, the Republic of Moldova and the Russian Federation were evaluated using a generic WHO hospital assessment framework that had been adapted for use in the European Region. The findings of the assessment revealed good access for seriously ill children, low reported hospital case fatality rates, good health networks and skilled and committed doctors caring for children. However, unnecessary and prolonged hospitalization of children in these countries was very common and most hospitalized children received excessive treatment using many ineffective drugs and therapies, as well as inadequate supportive treatment and monitoring. Lack of evidence-based clinical guidelines and regulations that tie excessive duration of admission to insurance or financial reimbursement are some of the reasons behind inadequate quality of care for hospitalized sick children. One of the common and widespread problems indicated both by this assessment and by the group discussions with national counterparts and paediatricians is inadequate management of diarrhoeal diseases in sick children in hospital settings.

For this reason, the WHO Regional Office for Europe decided to hold a technical consultation with representatives of the health ministries of the countries of the Commonwealth of Independent States (CIS), leading national experts in paediatrics and epidemiology, and experts from WHO and other international organizations (see annex 1). The three-day meeting, attended

by participants from 10 countries, was organized by the Regional Office for Europe in collaboration with WHO headquarters, in Almaty, Kazakhstan, from 16 to 18 May 2006.

Aim and objectives

The main aim of the consultation was to improve the management of diarrhoeal diseases in children in hospital settings on the basis of the best world practice.

The objectives of the workshop were to:

- provide updated information on recent advances in the management of diarrhoeal diseases in children;
- introduce the participants to evidence-based management of diarrhoeal diseases (admission, treatment, laboratory tests, supportive care, monitoring);
- review current practices in diarrhoea management and identify opportunities for improvement, particularly in terms of efficiency and the reduction of unnecessary costs;
- increase awareness among policy-makers and leading clinicians and academics of the problems of inadequate management of diarrhoeal diseases in hospitalized children, with focus on unnecessary stool tests and the health and economic implications;
- provide recommendations for changes to policy guidance on the management of diarrhoeal diseases for use by individual countries;
- achieve consensus on ways of monitoring change and introducing and implementing evidence-based management of diarrhoea.

Discussions

Dr Olivier Fontaine, from WHO's Department of Child and Adolescent Health and Development, explained the newest recommendations and WHO policy on diarrhoea management, with the four established key elements:

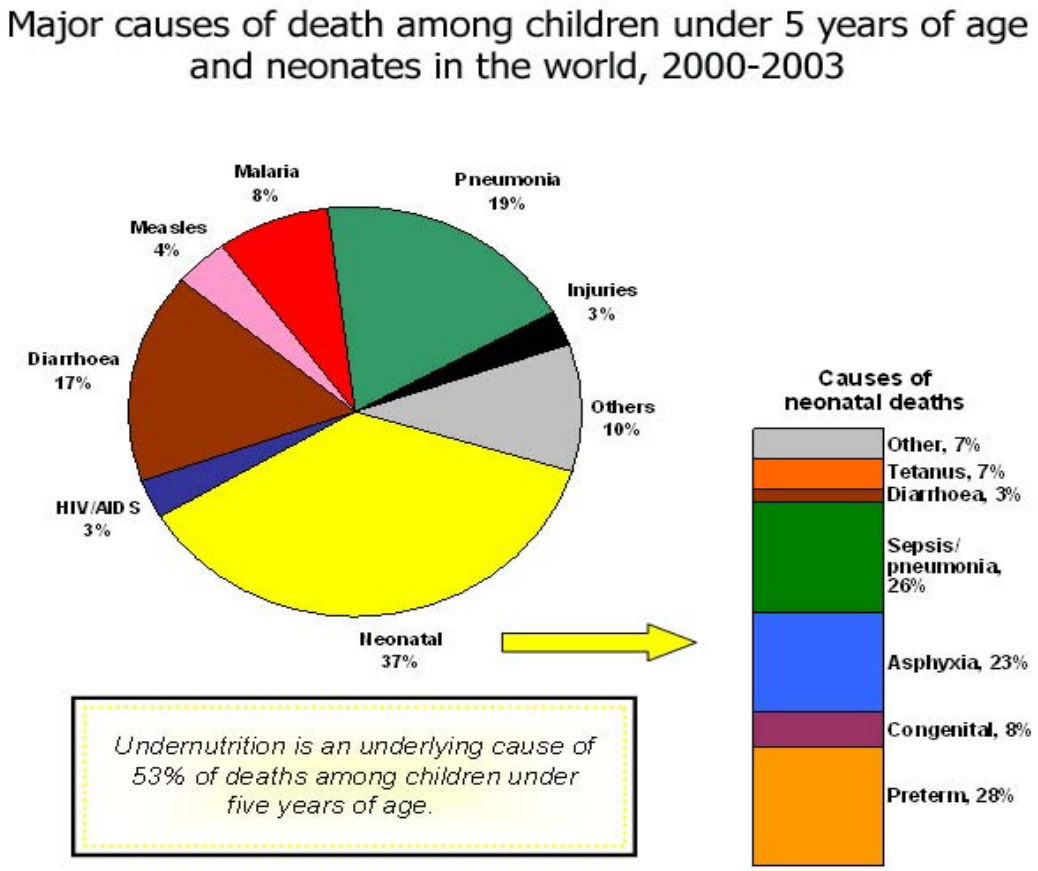
- treatment of dehydration with low-osmolarity (total osmolarity of 245 mOsmol/l) oral rehydration salts (ORS) solution (or with an intravenous electrolyte solution in cases of severe dehydration);
- continued feeding or increased breastfeeding during, and increased feeding after, the diarrhoeal episode to prevent malnutrition;
- use of antibiotics only when appropriate (i.e. bloody diarrhoea) and abstention from use of antidiarrhoeal drugs;
- advice to mothers on the need to increase fluids and continue feeding during future episodes and on signs that require professional medical assistance.

And the latest, fifth, critical element for successful diarrhoea management:

- the use of 20mg per day of zinc for 10–14 days in the treatment of both acute and prolonged diarrhoea.

Researchers have proved in recent years that low-osmolarity ORS could prevent the deaths of between 80 000 and 200 000 children each year, and zinc implementation could save another 400 000 lives. These two key components of diarrhoea treatment will help reduce the overall mortality rate from the disease and its role in the under-5 mortality rate, where it accounts for 1.8 million lives every year, as shown in figure 1 below.

Figure 1.



Dr. Aigul Kuttumuratova from the WHO European Regional Office presented the assessment that had been conducted of the quality of paediatric hospital care in Kazakhstan, the Republic of Moldova and the Russian Federation. The technical group that carried out the research came to the following conclusions:

- the quality of care is often suboptimal even in cases where structure, staffing and supplies are not a limiting factor;
- the resources currently used for unnecessary treatments could be used to improve availability and access to essential drugs and effective care;
- more effective and more child-friendly care could be provided with the existing structure, staff and facilities.

The following recommendations were made to improve the quality and effectiveness of inpatient hospital care in those countries:

- adopt/adapt international guidelines for the management of inpatient and outpatient protocols;
- reform health regulations governing hospital admission and discharge criteria;
- improve the quality of education, the availability of medical information, and systems to promote and certify the quality of primary medical care.

Dr Peter Campbell, the regional office director of the ZdravPlus/Uzbekistan project, run by the United States Agency for International Development (USAID), presented the project's experience of IMCI implementation in primary inpatient hospitals in Uzbekistan, including staff training, materials development and the introduction of quality improvement and control elements. The project had achieved the following results:

- more rational use of drugs with cost savings and better patient service;
- decreased hospitalization rates;
- improved hospital admission procedures;
- quality improvement methods used at hospital level to improve implementation of standards.

Leading national experts then went on to discuss diarrhoea management practice in Kazakhstan, Armenia and the Republic of Moldova. They stressed that the efforts that had been put into reducing child and infant mortality rates had led to significant achievements: mortality related to diarrhoea in children under the age of five had fallen dramatically over the past 10–15 years and now represented about 6% of all mortality in that age group.

However, the issues highlighted by the assessment of the quality of paediatric hospital care, including those related to diarrhoea management, are common to the countries of the region. In particular, oral rehydration is still not considered as the therapy of choice, there are high levels of unnecessary hospitalization and laboratory tests, and improper use of antibacterial drugs, overprescription of often inefficient and potentially dangerous medicines, and lack of attention to adequate nutrition.

In Kazakhstan, a national standard on diarrhoea management in hospitals and outpatient clinics was passed and approved by an order of the Minister of Health in 2005. It was a compromise between the approach used in the past, based on the detection and treatment of the etiological factor (and use of antibacterial drugs), and the modern approach, that considers most of the diarrhoeal diseases as disorders of the absorbing power of the small intestine, regardless of the causal agent, and thus requiring rehydration.

The term "functional diarrhoea" has been introduced into clinical practice, thereby meaning that laboratory testing is no longer obligatory. IMCI strategy is included in the basic training for medical staff, the IMCI-recommended drugs are included on the list of basic drugs, and children under the age of five are provided with drugs free of charge, both in hospitals and at outpatient clinics.

Despite this, in most cases of diarrhoea, children are treated as if there were acute enteric infection, and referred to inpatient hospitals for the following reasons:

- low staffing levels in primary health facilities;
- absence of a protocol on initial emergency treatment of diarrhoea;
- lobbying by pharmaceutical companies and wide availability of antibacterial and antidiarrhoeal drugs;
- existing regulations and the general practice of the sanitary and epidemiological services;
- the labour required to ensure liquid intake in outpatient conditions.

Group work

1. RECOMMEND that all concerned countries should:
   - develop, approve and implement a national strategy on child and adolescent health (incorporating IMCI);
   - review enabling legislation including that on intersectoral collaboration, standards and protocols, supervision (quality assurance) and epidemiological monitoring;
   - carry out budgeting estimates for the implementation of clinical standards as part of a guaranteed package of health services (population or target groups);
   - incorporate WHO recommendations on the management of diarrhoeal diseases in children into the undergraduate and postgraduate training curricula of medical universities and colleges;
   - introduce IMCI protocols, including those on management of of diarrhoeal diseases in children at the primary level outpatient clinics and hospitals;
   - review/develop and implement monitoring and evaluation indicators to assess the effectiveness and quality of health services, including those concerning the licensing of health providers;
   - develop and implement a programme to improve parental knowledge and skills related to childcare, with the involvement of health/healthy lifestyle centres, nongovernmental organizations, communities, local governments and the media;
   - develop and implement programmes aimed at improving public knowledge on issues related to hygiene, nutrition and water, using an intersectoral approach, involving sectors such as health, education, culture, information and agriculture;

2. REQUEST the WHO Regional Office for Europe to prepare and disseminate to all the participants and the ministries of health of the region a report on the outcomes of the meeting in order to identify priorities and help to develop national plans for improving the management of diarrhoeal diseases in children.

Almaty, Kazakhstan,
18 May 2006

Annex 1

LIST OF PARTICIPANTS

№	Name	Position
1.	Kozhapova Rosa Abthalovna	Kazakhstan Ministry of Health Epidemiological Control Office chief
2.	Nurgozhina Akzhanar Seitzhanovna	Kazakhstan SES Epidemiological Office chief
3.	Imangalieva Ocsana Victorovna	Kazakhstan SES Epidemiological Office epidemiologist
4.	Tuleusheva Gulvira Adilovna	Kazakhstan SES Epidemiological Office epidemiologist
5.	Naurizbaeva Madina Sabitovna	Kazakhstan National IMCI and Research Center Of Paediatrics and Children Surgery centers chief
6.	Golovenko Marina Valeryevna	Almaty State University Of Doctors Improvement children disease chair assistant professor
7.	Kuttikuzhanova Galiya Gabdulaevna	Kazakhstan National Medical University Children disease chair chief
8.	Ospanova Zaure Muratovna	Kazakhstan National Medical University Children disease chair assistant professor
9.	Alibi Erzhan Koshtaevich	State Children Disease Hospital №1 head doctor assistant
10.	Babaeva Bayan Namanovna	Shimkent disease hospital head doctor assistant
11.	Sisemaliev Raimbek	UNICEF/Kazakhstan
12.	Nugmanova Azhar	ZdravPlus/USAID, Central Asian Republics and Kazakhstan Office, program officer
13.	Campbell Peter	Regional ZdravPlus/USAID office, Healthcare quality improvement, director
14.	Fountain Olivio	WHO HQ, Children and adolescent health office, medical officer
15.	Kuttumuratova Aigul	WHO European regional office, Children and adolescent health office, medical officer
16.	Abuova Gauhar	WHO coordinator, Kazakhstan
17.	Dicanbaeva Saule Alkeevna	Paediatrics and children surgery research center, director Kazakhstan
18.	Kasparova Laura	Armenia Ministry of Health Hygienic and contra-epidemiological inspection deputy director
19.	Saribekyan Karine	Armenia Ministry of Health Mother and children health department, director
20.	Galkevich Natalie	Byelorussia Ministry of health ,chief paediatrician
21.	Pashkovich Vladimir Vladimirovich	The Byelorussian republic center of epidemiological hygiene, epidemiology and public health
22.	Manjavidze Tamara	Georgia Labor, health and social protection , adviser to Minister
23.	Sharangia Ketevan	National IMCI coordinator, Georgia Ministry of labor, health and social protection
24.	Jumabaev Abdimomun	Kyrgyzstan Ministry of Health chief expert
25.	Nurmatov Zuridin	Kyrgyzstan Republic SES Epidemiological control office, head
26.	Russu Galina	Kishinev State Medical University, Children Disease Chair, head
27.	Sohotsky Vasile	Moldova practical medicine research center, deputy chief on epidemiology
28.	Bobohojaeva Lola	Tajikistan Republic center of IMCI, director
29.	Rusiev Murodali	Tajikistan Ministry of Health sanitary-epidemiological office, chief

№	Name	Position
30.	Pedan Valentina	Ukraine Ministry of Health mother and children health protection office, chief paediatrician
31.	Bulavka Ludmila	Ukraine Ministry of Health disease prevention department, chief
32.	Jubatova Rosa	Tashkent Paediatric Medical Institution emergency chair, assistant professor, Uzbekistan
33.	Radzhabov Gulyam	Uzbekistan Ministry of Health, chief specialist
34.	Stasii Ekaterina	WHO consultant, Moldova, Chief paediatrician of the MoH
35.	Mahmudova Dilbar	WHO consultant, Uzbekistan Ministry of Health paediatrics research Institution, director
36.	Sheenko Olga	Russian Federation Ministry of Health and Social Development medic-social problems of families, childhood and motherhood department, chief expert
37.	Osokina Galina	Paediatrics and children surgery research Institution, Chief doctor, Russian Federation
38.	Abdullaev Nasir	"Healthy family" project USAID, Uzbekistan, senior manager
39.	Ayupova Sophia Khaldinovna	IMCI national center, Specialist, Kazakhstan
40.	Chekmezova Olga Borisovna	IMCI national center, Specialist, Kazakhstan
41.	Kitarova Gulzhan	Kyrgyzstan Ministry of Health chief paediatrian
42.	Ivasiv Ivan Vasilyevich	Epidemiologist, CDC, USAID for Central Asia and Kazakhstan office
43.	Yergozhina Aisulu	UNICEF Kazakhstan
44.	Mahmudova Cholpan	USAID for Central Asia and Kazakhstan office