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SCIENTIFIC WORKING GROUP ON DIARRHOEAL DISEASE
RESEARCH
Alexandria, 1980

Introduction

The first meeting of the Regional Scientific Working Group on Diarrhoeal Diseases Research was held in Alexandria from 19 to 22 August 1980. It was attended by experts from some of the Member Countries and WHO staff members from Geneva and the Regional Office.

The participants were given a brief history of the WHO Diarrhoeal Diseases Control Programme since its initiation two years ago and the activities of its two components, i.e. the health service delivery component dealing with the development of national Diarrhoeal Diseases Control Programmes, and the research component concerned with support of research to improve means of applying new and existing knowledge for Diarrhoeal Diseases Control and to develop new tools for prevention and treatment. UNDP, UNICEF and World Bank, Governments and Voluntary Agencies are actively collaborating with WHO in this programme.

The Group was also informed about the state of implementation of the Regional Medium-term Programme of Diarrhoeal Diseases Control, which in the main aims at reducing mortality and morbidity from acute diarrhoeal diseases.

The participants reported on the various activities related to diarrhoeal diseases in their respective countries. These activities included Seminars, Workshops, preparation of material for dissemination of information and education, manufacturing of oral rehydration salts and testing various innovations for its distribution.

Recommendations

The group recommended that a research component for the Regional Diarrhoeal Disease Control Programme be established to complement the action oriented implementation programme and respond to the operational needs of national diarrhoeal disease control programmes. To this effect the group recommends the following:

I FORMULATION OF A REGIONAL RESEARCH PLAN IN DIARRHOEAL DISEASES (1980-1983)

The group recommends that areas for research in diarrhoeal diseases during this period should include epidemiological studies and studies related to implementation, utilization and evaluation of national CDD programmes.

1. Epidemiological Studies

The group feels that epidemiological studies should be given particular attention and high priority especially as epidemiology is the essential tool for planning, implementation and evaluation of Diarrhoeal Diseases Programmes, through providing information on the incidence and aetiology of diarrhoeal diseases in different population groups.

The following areas of research were recommended.

1.1 Studies on the epidemiological pattern of diarrhoeal diseases under different ecological and cultural conditions particularly with regard to identification of children at highest risk

1.2 Studies to identify the relative importance of aetiological agents of diarrhoea (viral, bacterial and parasitic) in different countries of the Region. These studies should be carried out in conjunction with other related aspects, such as clinical features and sensitivity to anti-microbial agents with the objective of identifying possible correlation which can be used for clinical management.

1.3 Studies on the modes of transmission Although they need rather sophisticated designs and laboratory support, the group feels that such studies should be under-

taken as they will indicate possible intervention tools. These should be undertaken with the relevant Global Scientific Working Groups.

1.4 Studies directed towards development of simplified and reliable methods of surveillance of diarrhoeal diseases, in time for action, including simplified methods of identifying pathogens

1.5 The association between malaria and diarrhoea which was recently observed needs further investigation

2 Studies Related to CDD Programme Implementation

A number of research issues were identified that were felt to be directly related to implementation of national CDD programmes

2.1 Strategies for Oral Rehydration Therapy

2.1.1 Complete Formula

There is universal agreement that the complete rehydration formula recommended by WHO/UNICEF is ideal for treatment and prevention of clinically apparent dehydration and that priority in all national CDD programmes should be directed towards delivery of the complete formulation to the mothers via the most efficient method throughout the national health services, using all available approaches (e.g. WHO/UNICEF type packets, cottage industry packets, etc). Studies should be done to determine the alternative approaches to delivery of the complete formulation including studies to determine optimal methods for mixing preparation of the solution. In countries where paediatricians are still questioning the well-established safety of the WHO-recommended composition for use in infants, studies should be done again to demonstrate in a local situation the safety and efficacy of this solution in treatment of infantile diarrhoea.

1.2 Early Home Therapy

Studies are needed to determine the safest and most effective way by which

mothers can give oral rehydration therapy at the household level early in diarrhoea. This includes comparative evaluation of the safety and efficacy of liquids readily available in the home (such as rice water, tea, egg albumin water, etc.), with special "Salt and Sugar" solutions made by different methods (e.g. domestic spoons, pinch and scoop, plastic spoons) and the complete formulation.

2.2 Approaches for Post-Diarrhoeal Rehabilitation

Three approaches have been used for post-diarrhoeal (nutritional) rehabilitation: hospitalization, nutrition rehabilitation centres and ambulatory treatment and surveillance. The relative cost-effectiveness of these methods needs to be compared under different situations. Related studies should also be done to determine the best means to ensure that locally available foods are best utilized for feeding during and after a diarrhoeal episode.

2.3 Pharmacological Treatment of Diarrhoea

In many countries anti-diarrhoeal mixtures and antibiotics are routinely distributed and used for treatment of diarrhoea. These should be evaluated for their efficacy and to determine whether a considerable amount of money can be saved to national health budgets by stopping the utilization of those drugs which prove useless.

2.4 Evaluation of Traditional Diarrhoea Remedies

A number of traditional remedies are used in different countries for the treatment of diarrhoea. These should be evaluated for their safety and efficacy.

2.5 Methods and Materials for Training

Research is needed into the attitudes and practices of medical and other health staff related to diarrhoeal disease treatment and prevention. This information

should be used to develop training methodologies and materials for national diarrhoeal disease control programmes and should be used in evaluating their utility and benefit of these methodologies and materials so developed

2 6 Sewage Treatment

Studies are needed to devise and assess low-cost technologies for treatment of sewage in the countries of the Region. These should include those looking at the dissemination of faecal pathogens through excreta re-use systems.

2 7 Economic Studies

A limited number of economic studies is recommended to be undertaken to demonstrate the potential savings from instituting oral rehydration therapy programmes and the alternative ways by which the delivery of oral rehydration can be linked with other health interventions and programmes such as the Expanded Programme of Immunization (EPI)

3 Studies Related to CDD Programme Utilization

In the area of CDD national programme utilization, two research areas were identified

3 1 Beliefs and Practices

Information is needed on (a) - the inter-relationship between individual and family behaviour patterns of defaecation, water usage, food preparation, child hygiene and infant feeding practices and the risk of developing diarrhoeal diseases, and, (b) - the beliefs and practices followed in treatment of diarrhoea. This information should be based both on observed and expressed behaviour. The effect of established intervention programmes on diarrhoea-related behaviour should be measured. Standardized research designs should be used.

3 2 Breast-Feeding

The epidemiological characteristics of breast-feeding patterns in the countries of the Region and the impact of breast-feeding promotional programmes need to be measured. Reasons for lactation failures, in particular, need to be determined and ways of preventing and reversing these failures assessed. (It is recognized that this research area may primarily be undertaken by the Scientific Working Group on Breast Feeding being organized in the Region in early 1981).

4 CDD Programme Evaluation

It is recognized that national CDD programmes will be regularly evaluating their impact on diarrhoeal diseases mortality and morbidity and revising programme targets as required. These activities should not be considered "research" but rather as an inherent part of national programmes. However, there are two related research areas that are related to programme evaluation

4 1 Survey Design

Some research is required to determine the best survey techniques for evaluating national programmes. This should include studies to determine how evaluation of other national health programmes (e.g. EPI) can be linked to evaluation of CDD programmes

4 2 Environmental Health Impact Studies

It is anticipated that during the coming International Drinking Water Supply and Sanitation Decade, a number of water and sanitation development and improvement projects will be undertaken in the Region. In such circumstances the impact of these projects on diarrhoeal disease morbidity should be assessed, especially when they might provide answers to specific questions.

The group recommends close liaison between diarrhoeal disease control activities including research and the opportunities available within the International Drinking Water Supply and Sanitation Decade

II. ESTABLISHMENT OF PRIORITIES

The group feels that it would be very difficult to test or rank the recommended research areas, as their relative priority depends very much on the status of GDD programme development in the countries of the Region. For example, in countries where oral rehydration has not been implemented in any way as yet, studies to demonstrate its benefit would deserve the highest priority, while in countries where programmes are already being developed, studies of early home therapy and of the usefulness of any drugs presently being used might deserve the highest attention. Similarly, epidemiological studies designed to determine the causes of diarrhoea in a country could only be carried out in countries which have adequate laboratories and manpower.

The group agreed, however, that the highest research priority for a specific country should be those project(s) most directly linked to the formulation of a national GDD programme or to the activities of an on-going programme.

III. RESEARCH MANAGEMENT

The group discussed the present procedure for inviting, reviewing and supporting research proposals in the Regional Office and possible future approaches by which the diarrhoeal disease research could be supported. It was agreed that the research funded should be scientifically sound and should meet the needs of national diarrhoeal disease control programmes.

The group agreed on and recommended the following steps:

- 1 To disseminate information about the research priorities in diarrhoeal diseases to potential institutes and research workers in the Region.
- 2 To arrange consultant visits to selected institutes within the Region to assess the potential and stimulate interest of investigators to submit research proposals.

and review any on-going research. These consultants will also take the opportunity to review the potential of these investigators to undertake research under the Global Scientific Working Groups.

3. For some of the research priority areas, the group recommends to devise a standardized protocol and subsequently distribute it for consideration to investigators in the Region.

Considering the possibility that there is a good chance for extra-budgetary funds being available for Regional Diarrhoeal Diseases Research Activities and in view of the recommendations made by the Global ACMR, the Technical Advisory Group and donors, on the establishment of a suitable peer-review mechanism, it is recommended that consideration be given to establishing a Steering Committee of the Regional Scientific Working Group on Diarrhoeal Diseases which should meet periodically and be responsible for the following functions:

1. Reviewing research proposals and making recommendations for their support based on their relevance, scientific quality and budget;
2. To evaluate the technical and scientific progress of each supported project;
3. To coordinate regional diarrhoeal diseases research with other regional and global scientific working groups in diarrhoeal diseases and other related fields such as Maternal and Child Health and Environmental Health.

The rules of procedure for this Committee should be established as soon as possible.