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কলেরা রিসার্চ

Glimpse

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NEWSLETTER

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(Compilation)

ICDDR,B BEGINS COMMUNITY-BASED MCH-FP PROGRAMME AT MATLAB IN SUPPORT OF RESEARCH AND TRAINING PROGRAMME

As an institution attempting to link scientific developments with field application, the ICDDR,B has initiated a community-based integrated MCH-FP programme providing services to a rural population of 80,000 at the Matlab field station. The programme, begun in late 1977, involves a cadre of 80 female village workers, with 7th grade education each nominated by her village and each responsible for providing basic health and family planning services to her village. These workers in turn are backed by male field assistants and lady health and family planning workers at 4 subcentres. At the Matlab thana health centre an MCH-FP clinic has been established to support these field activities.

The programme currently is providing four types of health-FP services : home-based oral hydration for diarrhoea (this is a field study comparing the efficacy and hazards of a glucose-electrolyte packet versus home-made fluids of molasses and salt) ; tetanus immunization and iron and folate supplementation for pregnant mothers ; nutrition education and promotion for mothers and children with particular focus

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DR. RITA COLWELL, PROFESSOR OF MICROBIOLOGY OF THE UNIVERSITY OF MARYLAND TELLS ICDDR,B SEMINAR THAT VIBRIO CHOLERAE IS A PROBLEM TO BE RECKONED WITH NOT ONLY IN BANGLADESH BUT ALSO THE U.S

A visit was paid to ICDDR,B by Professor Rita Colwell, Chairman of the Department of Microbiology at the University of Maryland, College Park, Maryland. Mr. James Koper a fellow from her laboratory accompanied her and carried out some studies on vibrios in surface water with Mr. Imdadul Huq in the Matlab area using new methods for this purpose developed at the University of Maryland. Using these methods Professor Colwell has found *V. cholerae* in the Chesapealic Bay where no known human cases of cholera have been seen for many years as well as in Louisiana during the recent outbreak of El Tor cholera. The vibrios seen to be associated with shell-fish or crustaceans such as crabs or shrimp. The possibility that a natural reservoir for *V. cholerae* is raised by her work.

Dr. Rita Colwell is presenting a lecture at ICDDR,B

ICDDR,B INTENSIFIES RESEARCH ON DIARRHOEA AND MALNUTRITION INTERRELATIONSHIPS

As part of the programme in attacking the diarrhoeal diseases, the ICDDR,B over the past two years has intensified its nutrition programme, particularly in relationship to diarrhoeal diseases. Recent research has demonstrated that the diarrhoeal diseases are among the most important infectious causes of malnutrition among children. Diarrhoea reduces food intake due to child anorexia or maternal withholding of food, causes malabsorption of ingested nutrients,

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and promotes the metabolic wastage of body nutrients. Research suggests that diarrhoea prevention programmes (water, sanitation, and hygiene) and the proper treatment of diarrhoea with oral hydration can result in the improved nutritional status of children.

The ICDDR,B scientific research and training programme has developed an approach to dealing with this interrelationship. First, studies on means of treating and preventing diarrhoea are incorporating a nutritional dimension to document the nutritional improvement due to proper and prompt treatment of diarrhoea and to ensure that improved nutrition is as important a therapeutic outcome as mortality prevention has been in the past. The field trial study of oral therapy in the ICDDR,B Matlab field station, delivering both an ideal glucose-electrolyte packet or a home-made fluids consisting of salt and molasses for example, is undertaking periodic nutritional assessment of the study population. Trials of antibiotics which may reduce the volume of fluid loss or shorten the duration of illness are being assessed with regard to their possible effect on improving appetite during diarrhoea and promoting child growth during diarrhoea.

Another research direction has been the development and field trial of weanling foods made of indigenous, locally available foodstuffs for promotion of food intake during diarrhoea. Through such studies it is hoped that optimal preparations of locally available foods may be developed to promote nutrient intake during diarrhoea and programmatic means of overcoming child anorexia and maternal withholding may be developed. These same studies are also focusing on feeding practices during convalescence after diarrhoea, since it may be possible to make up for the nutritional losses associated with diarrhoea if improved feeding practices are introduced immediately after the illness has subsided.

A third line of investigation has been clinical and laboratory oriented. The absorption of micro and macro-nutrients in the intestinal tract during and after diarrhoea are being investigated at the Dacca Hospital, with particular attention to gastro-intestinal and pancreatic enzyme activity. Clinical and laboratory research are essential if the basic mechanisms responsible for the malabsorption associated with diarrhoea are to be understood and effectively reversed.

In long-range terms, it seems important to study the effect of malnutrition on increasing the susceptibility of the host to diarrhoea and the potential role of direct nutritional interventions in reducing diarrhoea incidence and severity. In the ICDDR,B field stations, therefore, community-based MCH-FP programmes are being implemented on an experimental basis, including incorporating nutritional promotion activities, not only to improve the nutritional status of the study population but also to assess the potential role and mechanism of the malnutrition-diarrhoea relationship. Mechanisms such as reduced gastric acidity and compromised host immune response may be operative in these situations and, if documented, these mechanisms could suggest new therapeutic approaches to this interrelationship. Moreover, a large number of diarrhoeas in the field are not attributable to any specific enteropathogen; one of the leading hypothesis with regard to the etiology of these diarrhoea is malnutrition and imbalances in the bacterial flora of the intestinal tract.

The close linkages between diarrhoea and nutrition have also been recognized by the training programme of the ICDDR,B. Integrated within both the scientific research and applied training programmes of the ICDDR,B is basic information on nutrition as well as programmatic and applied information with regard to how nutritional intervention activities may be integrated effectively with diarrhoea prevention and treatment.

VISITORS DURING MARCH 1979

DACCA

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Dr. Paul Richards
South East Asia Development
Division
Bangkok, Thailand

SEMINAR AT ICDDR,B

Dr. Robert Emmerson, Lecturer in Science Education, University of Southampton, U. K. delivered a lecture on *"Science Education"* with reference to curriculum development in secondary schools of developing countries like Bangladesh on March 16, 1979. The seminar was jointly arranged by Bangladesh Association for the Advancement of Science (B.A.A.S.) and ICDDR,B.

Dr. A. Majid Molla, Senior Investigator, ICDDR,B presented a lecture on ***"Paediatric Diarrhoea and Nutrition"*** in a seminar on 19th March, 1979.

Dr. M.S. Vaidya of All India Institute of Medical Sciences, New Delhi, India presented a lecture on ***"Human Leukocytic Antigen and Tissue Immunity"*** in a seminar on 23rd March, 1979.

Dr. Rita R. Colwell, Professor of Microbiology, University of Maryland, U. S. A. gave a seminar on ***"Vibrios and Environment"*** on 23rd March, 1979.

Dr. (Mrs.) Shams N. Zaman, former Research Associate, Johns Hopkins University International Center for Medical Research, Dacca presented a lecture on ***"Protein Deficiency and Immune Responses in Relation to Mouse Hepatitis Virus Infection"*** in a seminar on 30th March, 1979.

On Friday, 6 April, 1979, Dr Q.A.M.M. Yahya, Principal Research Officer, Defence Science Organisation, Ministry of Defence, Government of the People's Republic of Bangladesh, gave a seminar on ***"Mathematical Models in Epide miology"***.

Dr. Yahya discussed the classical model of Kermack and McKendrick with a minimum of mathematical formalism. He elaborated on what conclusions can be drawn from such models and how far the epidemic data can be used in such models in order to predict the demographic spread, death toll etc. from infectivity rate, density of population and other parameters.

ICDDR,B PARTICIPATES IN THE WORKSHOP ON RECENT TRENDS OF FERTILITY AND MORTALITY IN BANGLADESH HELD IN DACCA

A workshop on ***"Recent Trends of Fertility and Mortality in Bangladesh"*** jointly organized by the National Academy of Sciences of the United States and the Bangladesh Institute of Development Studies was held on 3rd to 5th April 1979 in Dacca. The workshop, first of its kind in Bangladesh, was formally opened by Dr. A. Q. M. Badruddoza Chowdhury, Minister for Health, Population Control and Family Planning. Professionals from all over the world attended the scientific sessions in the workshop. ICDDR,B scientists presented four papers in the workshop. The papers were:

1. "Patterns and Causes of Death among Children in a Rural Area of Bangladesh: Priorities for Health Programs"—Dr. L. C. Chen, Mizanur Rahman and A.M. Sardar.
2. "Seasonality of Births"—Dr. Stanley Becker.
3. "Preliminary Review of Levels and Trends of Fertility and Mortality in Matlab: 1966-77"—Mridul K. Chowdhury and A. Kashem Sheikh.
4. "Fertility and Mortality in Teknaf"—Mizanur Rahman, Dr. M. Mujibur Rahaman and Dr. K. M. S. Aziz.

ICDDR,B SCIENTIST HONOURED

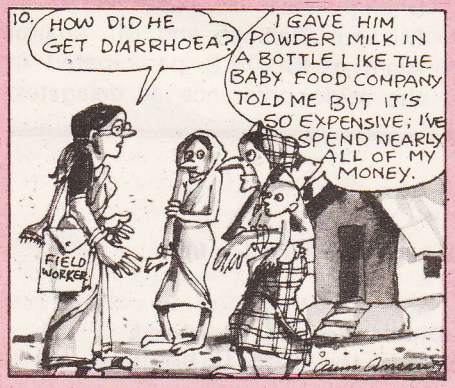
Dr. Ansaruddin Ahmed, Investigator and Head, Immunology Branch of ICDDR,B has been awarded Licentiate Membership of Bangladesh Photographic Society (BPS). The certificate of L.B.P.S. was presented by Mr. Anwar Hossain, the President of National Press Club and Editor of the Dainik Ittefaq on the memorable day of 21st February 1979 in a meeting called by BPS at the Press Club premises, Dacca.

Dr. Ahmed, over and above his normal job, has been looking after photographic and graphic arts related to the dissemination of scientific data and official and social gatherings of the Cholera Research Laboratory.

APPROVED RESEARCH PROTOCOLS OF ICDDR,B

The Research Review Committee and the Review Board on the Use of Human Subjects of the ICDDR,B have approved the following research protocols :

1. Pathophysiology of rotavirus diarrhoea. Principal Investigator : Dr. David Sack
2. Travelers' disease in Dacca : epidemiologic, clinical, immunological and treatment aspects. Principal Investigator : Dr. David Sack
3. Digestive enzyme activities during diarrhoeal diseases. Principal Investigator : Dr. Ayesha Molla.



To be continued

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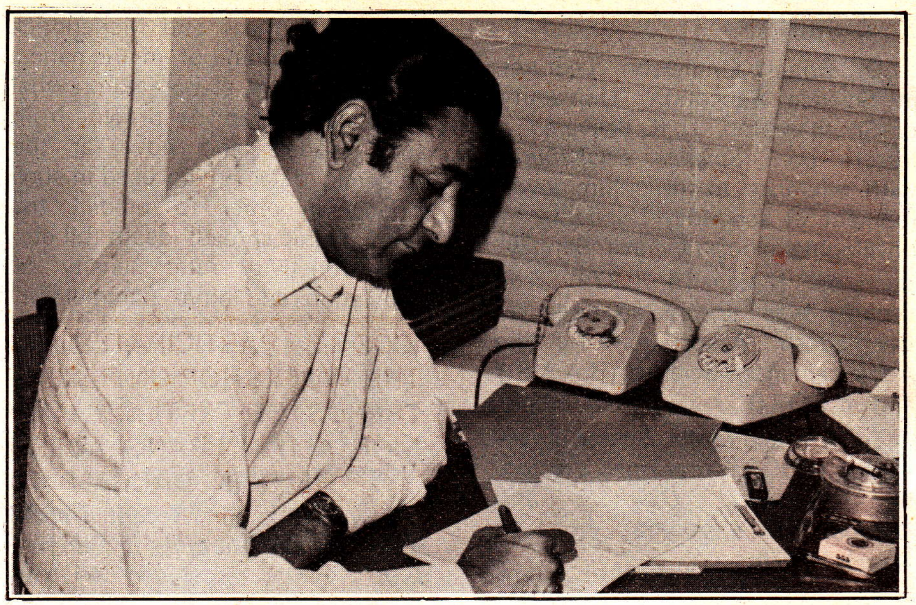
on pregnancy and the early weaning period; and the delivery of an array of modern contraceptive services. Because of the operations of an independent demographic surveillance system, monthly monitoring of births, deaths and other selected health parameters are being maintained. Already in the last four months of 1978, the birth rate has shown a significant decline and the death rate also declined, particularly among infants. Analyses are underway currently to determine the specific services responsible for these declines.

The objectives of the development of the village-based MCH-FP programme are several fold. First, an applied setting has been considered essential for ICDDR, B operational research, attempting to delineate the efficacy of specific health intervention technologies as well as various systems of service delivery. Secondly, it is appreciated that diarrhoeal services in most less developed countries would not be delivered in isolation of other primary health services. The Matlab MCH-FP programme therefore permits and facilitates the development of operational research examining diarrhoeal services in conjunction with (synergism and constraints) other basic health services. Thirdly, it has been considered essential that the ICDDR,B develop operational experience and facilities to ensure that its scientific priorities are meeting health needs of less developed countries and to provide a useful site for training.



DEVELOPMENT DIRECTOR APPOINTED AT ICDDR,B

Mr. M. R. Bashir has been appointed to the position of Development Director in ICDDR,B effective 15 March, 1979.

As Development Director, Mr. Bashir will be responsible to the Director for all matters relating to developing national and international participation in, and support to the ICDDR,B.

ICDDR,B SCIENTIST PARTICIPATES IN COSTED MEETINGS

Dr. K. M. S. Aziz, Scientific Director, International Centre for Diarrhoeal Disease Research, Bangladesh, has left to attend meetings of the Committee on Science and Technology in Developing Countries (COSTED) of the International Council of Scientific Unions. The meetings will be held in Kuala Lumpur (Malaysia) and Singapore between 27 and 30 April, 1979. During these meetings final documents will be prepared for discussion in the forthcoming *UN Conference on Science and Technology* to be held in Vienna in August 1979.

Dr. Aziz will also attend an expert group meeting to identify "Bioscience Research Priorities in Developing Countries" to be held in Bogor, Indonesia from 2-4 May, 1979, on invitation from COSTED and UNESCO.

ICDDR,B PARTICIPATION IN THE FIRST CONFERENCE OF BANGLADESH SOCIOLOGY ASSOCIATION

Mr. K.M.A. Aziz, Investigator of ICDDR,B presented a paper entitled *"Significant Divisions of the Kindred in a Rural Area of Bangladesh"* in the First Conference of Bangladesh Sociology Association held in the Teacher-Student Centre, Dacca University during April 1-2, 1979. Mr. Aziz was elected as a member of the Executive Committee of Bangladesh Sociology Association. Besides Mr. Aziz, Messrs M. Shafiqul Islam, M. Nurul Huda, M. Mizanur Rahman and M. Khairul Alam of ICDDR,B participated in the said conference as delegates.

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