



Glimpse

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Urban Volunteer Programme: New Flood-related Initiatives

The Urban Volunteer Programme (UVP) of the ICDDR,B initiated special flood-related activities including preventive health messages and assistance to flood victims during the 1987 monsoon (August-November). The flood-affected slum communities around Dhaka were served by nearly 1,500 active urban volunteers. Many of the volunteers themselves were affected by the flood. As the monsoon season approaches, the UVP once again is preparing itself to launch the seasonal preventive health activities to the communities it serves.

The UVP is dedicated to improving child survival in urban slum populations of the Dhaka city through a network of community volunteers. The volunteers live in the communities they serve. Many of them are illiterate or semi-literate women. These volunteers are trained to provide preventive services and key health interventions. They receive training at ICDDR,B on personal hygiene and sanitation, childhood immunisations, nutrition, family planning, and diarrhoeal disease prevention and treatment. After training, they return to their respective communities and work with nearby families to improve their health knowledge and also to provide key health interventions, especially in the areas of diarrhoeal disease and nutritional deficiencies.

The UVP now has approximately 1,550 active and trained volunteers in Dhaka metropolitan area. During the 1987 flood, over 800 of them were affected. Clearly the community work of the UVP would be severely crippled if the volunteers could not function due to their personal losses. Hence, although the UVP is not a relief agency, it sought assistance for its distressed volunteers. A volunteer catastrophe relief fund was established. In addition, various supplies like food, clothing, water purification tablets, and neem soap were obtained for the flood-affected volunteers. These supplies were received through the auspices of the

Bangladesh Volunteer Women's Association, the Directorate of Social Welfare, the Directorate of Women's Affairs, the Directorate of Health, the Ministry of Public Works (Minister's fund), the Bangladesh Red Crescent Society (erstwhile Bangladesh Red Cross Society), and the French government.

A survey conducted by the UVP indicated that diarrhoeal diseases and fever were increasing as well as flood-related accidents. The UVP then prepared a set of preventive health messages related to these conditions. The Bureau of Health

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The urban volunteers wading into the flood waters to distribute packets of oral saline and to provide preventive health messages.

Fatma

Urban Volunteer Programme

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Education had also prepared a series of flood-related health lessons. The UVP, in conjunction with the Bureau of Health Education took these messages to the flood-affected communities. The messages focused on water purification instructions, clean water sources, sanitation regarding faecal contamination, clean-up following the flood, personal hygiene, nutrition, diarrhoea prevention and treatment, immunisations, breast-feeding, and special risks during the flood such as electrocutions and snake bites. The messages were first taught to the UVP field supervisors in the flood-affected areas. The field supervisors shared the information with the volunteers in their areas. In addition, the UVP training section, in collaboration with the Bureau of Health Education, disseminated the messages by loudspeaker in the flood-affected communities.

The UVP also contacted various governmental and non-governmental organizations (NGOs) to know the relief measures undertaken by them in the urban slum areas. Both UNICEF and Australian Development Assistance Bureau were particularly helpful in this regard. The volunteers were then able to supplement and augment these relief activities. NGOs and government agencies were also asked about flood-related health messages. Through its network, the UVP supplemented this information and, whenever possible reinforced the messages in the flood-affected communities.

Distribution of Oral Rehydration Salt (ORS) packets during the flood was increased due to the UVP activities. The ORS packets were procured in advance to keep the communities well-stocked throughout the flood season. The UVP distributed 134,919 ORS packets to approximately 36,000 persons during August – October 1987, ranging between 40,000 and 52,000 ORS packets per month (whereas the range during routine distribution is between 18,000 and 33,000). Normally, the monthly recipient level ranges between 5,500 and 9,500. During this interval, a new ORS distribution system was instituted by the UVP, including established drop sites and a more orderly computerised distribution system. Hence, the programme was able to successfully respond to the needs of the communities in an efficient way.

During this disaster, the UVP's Nutrition Rehabilitation Centres (NRCs) were also directed to flood-response activities. A special extension feeding project was established in Keraniganj Upazila of Dhaka district during September– December 1987. A member of the Bangladesh Parliament provided special assistance for the extension project. In fact, the number of malnourished children reporting to the Keraniganj-Chunkutia NRC increased so greatly in September following the flood, that the Centre could not accommodate the children. Hence, an extension feeding programme was established for the period from September 19 –December 12 to prevent further malnutrition, and in some cases, to rehabilitate the severely malnourished children (aged 6–60 months) from the NRC catchment

communities. Some 42 children participated in the extension feeding programme in addition to the average of 20 children per month participating in the full-time daily NRC activities.

Two NRCs were forced to find new locations following the flood. Hence, short-term facilities were established in nearby community centres. During this interval, both the centres continued to provide services to the malnourished children. One of the NRCs in Lalbagh, Dhaka was permanently destroyed by the flood. Another facility is now being established at a new site.

In summary, the UVP was able to provide specific and new preventive services and intervention programme in diarrhoeal diseases and child nutrition by using its outreach system of field supervisors and volunteers. The UVP can play a valuable role, not only in preventive health strategies and associated research during normal conditions, but also in directed services during a health crisis situation. ●

Effects of Breast-feeding and Nutrition on Fertility

Breast-feeding plays a major role in extending the interval between births. In Bangladesh, breast-feeding has been shown to be the major determinant of fertility levels, because of the low practice of contraception. Under such conditions of natural fertility, it is important for the policy makers of health care delivery to know the biological and behavioural mechanisms that extend the duration of post-partum amenorrhoea. Mothers' nutritional status has been shown to be significantly related to the duration of amenorrhoea. Feeding practices, including timing and type of supplementation, have also been shown to be related to the length of post-partum amenorrhoea. The length of amenorrhoea in Bangladesh is one of the longest recorded and the prevalence of chronic malnutrition among women is high. Using the longitudinal data gathered in Matlab, Bangladesh, Huffman *et al.* examined the role of biological and behavioural factors with the duration of post-partum amenorrhoea. A total of 2,445 women were included for study during October 1975 – January 1980 (Huffman SL, *et al.* Nutrition and Fertility in Bangladesh: breast-feeding and post partum amenorrhoea. *Pop Stud* 1987;41:447-62).

Results of a previous longitudinal study conducted in Matlab differed from those obtained in the present study on the average duration of amenorrhoea and supplementation practices. In 1969–70, Chen *et al.* conducted a longitudinal study of 209 women living in Matlab area. Half of them were Hindus and the rest were Muslims. The median duration of amenorrhoea for 87 lactating women, whose child did not die during lactation, was 17 months (1½ months longer than observed in the Huffman study). For

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Fakrul

Professor K Gyr of the University of Basel, Switzerland is seen delivering lectures in a theoretical session of the International Course on Diarrhoeal Diseases: Clinical Aspects, held during 17-28 April 1988.

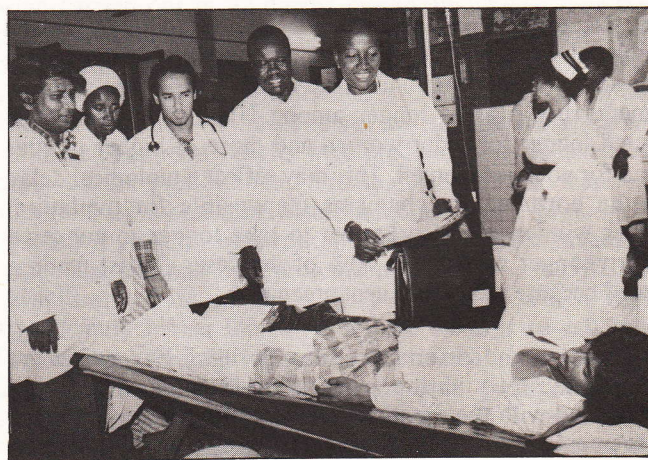
An International Course on Diarrhoeal Diseases held

Training is one of the important mandated activities of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B). Every year, the ICDDR,B organises 10 - 12 national and 7 - 8 international courses on different aspects of diarrhoeal diseases and related subjects.

This year the first International Course on Diarrhoeal Diseases: Clinical Aspects, attended by 13 participants, was held during 17-28 April 1988. The course was designed to meet the requirements of the participants from Africa and gave special emphasis on chronic diarrhoea and nutritional management of diarrhoea. The objective of the course was to train the participants to competently diagnose patients suffering from diarrhoea and dehydration and provide adequate treatment. Ten participants came from Nigeria, Zimbabwe, Sudan, Somalia and Botswana; and three from different units of ICDDR,B. Three of them were nurses and the rest were physicians with varied background but currently involved either with control of diarrhoeal disease activities, diarrhoeal disease training units, or community medicine.

Appropriate balance between theoretical classes and practical work was maintained to provide adequate knowledge and skill to the participants in diagnosing and treating patients with watery, invasive and protracted diarrhoea, and to enable them to prescribe required dietary regimen for preventing malnutrition and as therapy for severely malnourished children.

The results of pre- and post-test exercises given to the participants showed that the participants were amply benefitted from the course. At the end of the course the participants evaluated the course with a questionnaire. Their evaluation revealed that all the participants found the course objectives relevant to their work. Nine participants felt that the objectives were met, while four felt that the objectives were not met because of the time constraint. All the participants, however, felt that they were benefitted from the course and would be able to use most of the skills they developed. Nearly half of the participants felt that the time was not enough for learning all the essentials and suggested more time for hands-on-practical sessions. ●

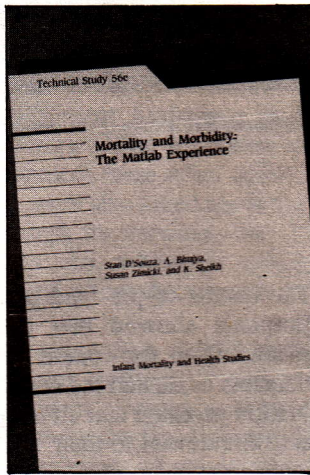


Fakrul

The trainees visited the hospital wards during the practical sessions. Dr A S G Faruque (extreme left) of the ICDDR,B is seen describing the treatment given to a diarrhoeal patient.

Mortality and Morbidity: the Matlab Experience

The International Development Research Centre (IDRC) of Canada has recently published their technical study 56e entitled 'Mortality and morbidity: the Matlab experience' by S.D'Souza, *et al.* The purpose of this paper is to present examples from a field station set up by the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) showing how mortality and morbidity processes can be studied within a "small area". This paper presents an updated and abbreviated version of existing documentation and aims at illustration rather than presentation of research results. Recent efforts to ensure timely processing and linkage of data, through the use of an appropriate numbering system and new approaches in data base technology, have been provided. The possibility of grafting small studies at relatively little cost onto an ongoing longitudinal system is described. The paper attempts to establish that although cost considerations prevent population laboratories like that of Matlab being replicated in every developing country regional centres particularly in Africa could be usefully considered.



Effects of Breast-feeding and Nutrition

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non-lactating women (including those with foetal losses and neonatal mortality) it was 2 months, similar to the values found in the Huffman study. In both the studies, amenorrhoea lasted longer among Hindus. Amenorrhoea lasted longer for older women and those of higher parities than for younger women. This may reflect a biological delay in the hormonal mechanisms responsible for ovulation. Older women are also known to take longer to conceive than younger women. In 60% of the cases, breast-feeding ended because of a subsequent pregnancy.

Mothers' nutritional status, defined by weight at pregnancy termination, was found to be negatively associated with the duration of post-partum amenorrhoea in this population. The median duration of amenorrhoea is 4 months longer among women with weights in the lowest quartile (<38 kg) compared to those in the highest quartile (>44 kg). Malnourished mothers produce less milk and

might thus have hungrier infants who suckle more frequently and more intensely. Other studies on Bangladeshi mothers showed that mother's nutritional status is directly associated with breast-milk output. Heavier women or those with larger arm circumferences produced more milk, and milk with a higher fat content, than those with lower measures (Brown KH, 1986).

In rural Bangladesh, breast-feeding is prolonged and the median length of post-partum amenorrhoea is 18 months for women with a surviving child (Huffman SL, 1978). It was found in a contraceptive study in Matlab that women who accept contraception during lactational amenorrhoea may become pregnant sooner than those who do not accept fertility regulation (Mosley WH, 1977). In Bangladesh, post-partum amenorrhoea is long, and contraceptive pill continuation rates are relatively low. Bhatia *et al.*, in another study in Matlab, found that accepting oral contraception during post-partum amenorrhoea decreased the interval to the next pregnancy. Thus, fertility in this group increased compared to a matched group of non-acceptors. The study also revealed that women who initiated contraception later in the post-partum period become pregnant more rapidly than those who were early acceptors. But neither early nor late acceptors in the post-partum amenorrhoeic period could delay their next pregnancy longer than the matched non-acceptors. Breast-feeding status at the time of pill acceptance was found not to be statistically different between acceptors and non-acceptors (Bhatia S, *et al.* The effect of oral contraceptive acceptance on fertility in the post-partum period. *Int J Gynaecol Obstet* 1987;25 (Suppl):1-11).

In one study John AM, *et al.* examined the waiting time to conception in a poorly nourished group of women in rural Bangladesh by focusing on the monthly probability of conceiving, or fecundability. They wanted to know whether or not fecundability varies among women, and, if so, to what extent a woman's fecundability depends upon her nutritional status and upon her breast-feeding behaviour during her menstruating interval. Applying multivariate hazard models to the study of fecundability, they examined these relationships and, in addition, the relationships between the duration preceding post-partum amenorrhoea and the length of the waiting time to conception (John AM, *et al.* The effects of breast-feeding and nutrition on fecundability in rural Bangladesh: a hazards-model analysis. *Pop Stud* 1987;41:433-46).

John AM, *et al.* found that nutrition above famine or starvation levels is not a significant determinant of the capacity of a woman to conceive. The strong seasonal patterns of conception observed in Bangladesh can more plausibly be attributed to seasonal variations in coital frequency than to seasonality in nutritional status. The importance of coital frequency is illustrated by the inverse relationship between the number of days each month that a couple are separated and the probability of conceiving in that month. The seasonality of separation does not, however, account entirely for the variation in conceptions over the years. ●

Potable Water: the Egyptian Experience

It has hitherto been an article of faith, accepted virtually without question by many health planners, that the improvement of water supplies and sanitary conditions of rural populations inevitably leads to a corresponding decrease in infant morbidity and mortality. To the authors of the present study of various environmental programmes in Egypt it obviously came as a surprise to find that no striking reductions in the prevalence of childhood disease were recorded as a result of environmental improvements. Their report includes an analysis of the reasons for this, and suggests factors for further study to correct the situation [White GF, White AU. Potable water for all: the Egyptian experience with rural water supply. *Wat Int* 1986;11(2):54-63].

Egypt, although today classed as a "middle-income" country by the World Bank, has experienced the problems of developing countries over the past half a century and has tackled these by a combination of crash programmes and steady environmental development which are carefully considered in the report. Large sums have been expended from international and national sources, so that now Egypt is probably the best served of all comparable countries in terms of urban and rural populations equipped with water supplies and environmental health facilities.

Despite this, there are still major problems to be solved if the achievements of the past are to be translated into substantial improvements in the health statistics. These problems are identified by the authors as the quality of local participation, pricing policy, the allocation of revenues, the constraints of design aims, the quality of community health services and their user-education programmes, and the patterns of household behaviour.

[Source: *Trop Dis Bull* 1987;84(10):688]

Editor-in-Chief's Note on Flavoured ORS

Preparation of flavoured oral rehydration solution (ORS) is still under trial. It is being tested in some places with the hypothesis that the addition of commonly used flavours may enhance the acceptability of ORS by children and promote early rehydration. But, due to its taste, it may also lead to overconsumption and consequent hypernatraemia. We have published two items in "GLIMPSE" on flavouring ORS (vol. 9, no 6, 1987, p 1; and vol. 10, no.1, 1988, p 3). In light of the study from Karachi, Pakistan reported in "Glimpse" and in the absence of any other definitive studies, one can argue for considerable caution in endorsing a flavoured product.

ICDDR,B Publications

Phillips JF. Translating pilot project success into national policy development: two projects in Bangladesh. *Asia-Pacific Pop J* 1987;2 (4): 3-28.

Operations research often generates prescriptions for policy change that fail to influence what bureaucracies actually do. This article reviews the experience of two pilot projects in Bangladesh that have addressed the question of how such research can be designed to foster its use. In a rural field experiment in Matlab Upazila of Chandpur district, research has demonstrated that contraceptive services, if carefully designed and properly implemented, can influence demographic dynamics even where social and economic circumstances are not conducive to fertility change. Despite the success that Matlab represents, the project was not systematically utilized for policy until a second study was launched to address government questions concerning its replicability in the public sector programme. Results suggest that pilot projects, if fielded in conjunction with research systems for testing their replicability, can foster organisational development in contexts that are not conducive to bureaucratic change.

Wanke C, Butler T, Islam M. Epidemiologic and clinical features of invasive amebiasis in Bangladesh: a case-control comparison with other diarrheal diseases and postmortem findings. *Am J Trop Med Hyg* 1988;38(2): 335-41.

To describe the epidemiologic and clinical features associated with invasive amoebiasis in Bangladesh, 85 hospitalised diarrhoea patients with haematophagous trophozoites of *Entamoeba histolytica* in their stools were compared to a control group of 84 hospitalised diarrhoeal patients without amoebiasis. Post-mortem examinations were carried out in 22 deaths due to amoebiasis. For the patients with amoebiasis, there was a bimodal age distribution with peaks at 2-3 years and over 40 years, whereas the control patients had a unimodal distribution with the peak at 0-1 year. The sex distribution was equal in childhood but young adults were predominantly female and older adults predominantly male. The clinical features significantly associated with amoebiasis were prolonged dysentery, prior measles rash, malnutrition, hyponatraemia, hypokalaemia, and hypoproteinaemia (all $p < 0.05$). The case-fatality rate in amoebiasis was 29%, which was significantly higher than 11% for the controls ($p < 0.05$). Post-mortem findings included extensive colitis with deep ulcers and complications, including colonic perforation in 2 cases, peritonitis in 4 cases, pneumonia in 9 cases, and septicaemia in 5 cases. These results indicate that invasive amoebiasis in this population differs from other diarrhoeal

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ICDDR,B Publications

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diseases, affecting mainly children over 2 years and adults and causing severe and fatal illness characterised by extensive colitis with diverse systemic consequences.

Siddique AK, Akram K, Islam Q. Why cholera still takes lives in rural Bangladesh: study of an epidemic. *Trop Doct* 1988;18:40-2.

The purpose of this investigation was to identify the constraints which prevent cholera patients from receiving life-saving care. Some of the findings are presented in this communication. In October 1985, an outbreak of acute watery diarrhoea was reported in *Barura*, a rural area in the south-eastern part of Bangladesh with a population of 253,108. The local diarrhoeal disease surveillance system, based at the government Upazila Health Complex, reported 795 attacks and 51 deaths for that month. Rectal swab analysis showed that *Vibrio cholerae* El Tor accounted for 87% of the positive isolates. The homes of each of the 51 fatal cases were visited and parents of the deceased were in most cases interviewed. Of the 795 cases, only 95 (11.9%) utilised the Upazila health facility. Two of fatal cases and seven of the survivors had utilised the treatment facilities at the health complex, while 84.6% of the fatal cases and 41.9% of the survivors were treated by the village practitioners. A significantly higher proportion of survivors (54.8%) were treated by qualified doctors, compared to the fatal cases (5.1%). About 59% of these survivors were referred by village practitioners to qualified doctors. The survivors sought care from physicians significantly more often than did the fatal cases ($p < 0.01$). It was further observed that 48.7% of the fatal cases and 45.2% of the survivors were children aged under five.

All 7 (100%) fatal cases and 7/17 (41.2%) of the survivors, having higher socio-economic status, were treated by village practitioners. This study has suggested that lower socio-economic status and relative distance of the health centre are some of the constraints that prevents cholera patients seeking life-saving care from health facilities.

Mitra AK. An approach to protect workers' health. *In: Proceedings of third workshop and training programme on workers' health, Dhaka, 6-10 Jul 1987. Technical session III. Dhaka: National Institute of Preventive and Social Medicine, 1987:13-5.*

This paper recommends some basic steps to protect workers' health in Bangladesh. The term workers referred to those people who are involved in factories, fields, and in different other professions. There are more than 13,000

registered factories in Bangladesh wherein 10 or more workers are employed. The workers are continuously exposed to occupational hazards resulting in diseases, or injuries, or accidents related to occupation. The author recommends to establish a separate directorate by the government for monitoring workers' health; provide physicians and health services - both preventive and curative; adopt protective clothing and other safety measures; and to provide health education.

ABSTRACTS from Ongoing Research

The application of microbial genetics in the study of pathogenesis and transmission of neonatal diarrhoea in Rangoon. April 1986-August 1988. *Daw Tin Aye, Daw Tin Kye, Sack DA, Wachsmuth. *Bacteriology Research Division, Department of Medical Research, No. 5 Zafar Shah Road, Rangoon, Burma.

Seventy infants with diarrhoea and 70 age- and sex-matched controls were admitted in the study. The stools of the children and mothers were cultured for routine enteric pathogens, and 8 colonies of *Escherichia coli* were selected for DNA probe analysis. Two strains of *Shigella* sp. and two strains of *Salmonella* sp. were isolated from mothers' stool. Rotavirus was isolated from 14 patients, 27 controls and one mother.

Community-based prospective study of rotavirus diarrhoea in children under two years of age in Rangoon. October 1985-August 1988. *Kyaw Moe, Aung Myo Han. *Virology Research Division, Department of Medical Research, No. 5 Zafar Shah Road, Rangoon, Burma.

The aim of the study is to obtain base-line information on rotavirus diarrhoea in the community. The objective of the study is also to determine the age-specific, season-specific, and serotype-specific incidence of diarrhoea in the community. The study involves active diarrhoea surveillance in children aged 0-23 months living in the community. Stool samples were collected from episodes of diarrhoea and tested for the presence of rotavirus. In the later part of the study, rotavirus-positive stool samples were also tested for the presence of bacterial pathogen to determine the incidence of mixed infection. Also the clinical severity of diarrhoeal episodes were assessed to determine the incidence of clinically severe rotavirus diarrhoea in the community. On completion, this study is expected to provide important information for a rotavirus vaccine trial planned in 1988.

Comparative evaluations of the WHO and Dakatts ELISA kits for rotavirus detection.

April 1987–September 1988. *Kyun Moe, MM Khin. *Virology Research Division, Department of Medical Research, No. 5 Zafar Shah Road, Rangoon, Burma.

A total of 112 stool specimens were tested for the presence of rotavirus by the Dakopatts Rotavirus ELISA kit and the WHO Rotavirus ELISA kit. Of the 112 stool samples, 46 samples were from children aged 1–17 months suffering from acute diarrhoea, 20 from asymptomatic neonates, and remaining 46 from diarrhoeic neonates.

Clinical and pathophysiological determinants of non-dehydration deaths from acute childhood diarrhoea, June 1986–March 1988. *Khin Maung U, Zin Thet Khine, Myo Khine, Nyunt Nyunt Wai, Myat Thi. *Clinical Research Division, Department of Medical Research, Rangoon, Burma.

Twenty-eight male children with 3rd degree malnutrition and diarrhoea, and 27 male children with acute diarrhoea without malnutrition admitted to a general hospital were enrolled for the study. More severe negative sodium balance during the first 24 and 48 hours of hospitalisation was

observed in malnourished children. This negative sodium balance was present both as gut net sodium balance and as total body sodium balance, calculated from sodium values of all intake (oral fluids, ORS, and I.V. fluids) and all losses

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ICDDR,B Scientists Awarded PhD

Dr (Mrs) Khaleda Haider, an assistant scientist working in the Laboratory Sciences Division of the ICDDR,B has recently been awarded PhD degree by the University of Dhaka. Congratulations to Dr Haider. The title of her PhD thesis is "Plasmid analysis of *Shigella* strains isolated in Bangladesh with special reference to drug resistance and invasive character". Dr Haider has joined the ICDDR,B in 1981. She was also awarded M Phil in 1983 by the same University for her thesis entitled "Studies on shigellosis in malnourished and well-nourished children".

Dr Md Sirajul Islam, an assistant scientist working in the Laboratory Sciences Division of the ICDDR,B was awarded PhD degree in September 1987 by the London School of Hygiene and Tropical Medicine, University of London, U.K. Congratulations to Dr Islam. The title of his PhD thesis is "Studies of aquatic flora as possible reservoirs of toxigenic *Vibrio cholerae* 01". Dr Islam joined the ICDDR,B in 1978.

Dr Mridul Kanti Chowdhury, an assistant scientist working in the Data Management Branch of the ICDDR,B has recently been awarded PhD degree by the Banaras Hindu University, India. Congratulations to Dr Chowdhury. His subject of study was 'Statistics--preventive and social medicine'. The title of his PhD thesis is "Multivariate analysis of diarrhoeal morbidity and mortality due to all causes among the under-five children--a longitudinal study in rural Bangladesh". Dr Chowdhury joined the ICDDR,B in 1979. He was also awarded M Phil in 1977 by the University of Dhaka. ●

Seminar at ICDDR,B

Dr AKM Qamaruzzaman, a renowned psychiatrist of Bangladesh, gave a seminar on a case study of 50 drug addicts in Dhaka city on 25 February 1988 at the ICDDR,B's Clinical Research Centre. The study showed that most of them (84%) were heroin addicts. But addiction to multiple drugs is not uncommon. The average daily expenditure was about Tk.300 (equivalent to US \$ 10) by each addict. Sixty-two per cent of the addicts were in the 21-30 years age-group, 92% male, 60% married, 50% businessmen, and 64% belonged to middle class. Addicts felt that this habit was due to personal choice (88%), and severe punishment to traffickers can reduce the addiction drastically.



Feeding rice-ORS to a diarrhoea patient.

Campaign to Withdraw Anti-diarrhoeal Drugs

A global campaign by Health Action International (HAI) aimed at the withdrawal of over 200 anti-diarrhoeal drugs containing antibiotics has been launched.

"Nearly two out of every three anti-diarrhoeal drugs contain an antibiotic and are mainly found in Africa, Asia and Latin America", said a recent report released by HAI. The organisation estimates that about \$ 150 million per year spent on these products could be used to encourage the use of Oral Rehydration Therapy. The report lists products containing neomycin, streptomycin, chloramphenicol, and the sulphonamides as the "worst of a bad lot".

The report, which is being launched in more than 20 countries will be sent to health ministries, drug regulatory agencies and medical schools around the world as the first step towards the campaign.

[Courtesy: Pharmacy World Journal 1987; 4(6): 6]

ABSTRACTS from Ongoing Research

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(in stool, vomitus, and urine). An adaptive homeostatic response by production of significantly high levels of cortisol in the first 24 and 48 hours of diarrhoea was observed in a sub-sample of children with malnutrition compared to children with diarrhoea who did not have malnutrition. But this adaptation was not adequate to achieve a reduction in net gut and body negative sodium balances.

1. Genetic vaccine of group A and group B (ADRV) rotaviruses. 2. Epidemiology, ecology and laboratory studies of adult diarrhoea rotavirus (ADRV). 1985-1990. *Hung Tao, Chen Guangmu, Fong Zhaoyin, Wang Changan, Glass R, Greenberg H. *Department of Viral Morphology & Viral Diarrhoea, Institute of Virology, Chinese Academy of Preventive Medical Sciences, 100 Ying Xing Jie, Beijing 100052, People's Republic of China.

1. Several cDNA clones of adult diarrhoea rotavirus (ADRV) have been obtained. A research is on-going to establish, within two years, the use of adenovirus 5 and 7 recombinant vectors for use as vaccines prepared by such genetic manipulation.

2. For diagnosing diarrhoea caused by rotavirus, ELISA and Latex kits (using monoclonal antibodies) have been available. Sero-epidemiology showed high ADRV positivity in domestic animals. Human sera collected from abroad (UK, USA, Canada, Australia, Hong Kong, etc.) showed positivity to ADRV, as the Chinese sera did. Pools of gamma globulin samples (Chinese bioproduct) collected since 1977 were found to be positive to ADRV, indicating that the virus emerged earlier than 1982, when the nationwide outbreak occurred.

Forthcoming International Meetings and Conferences

SYMPOSIUM ON "THE MOLECULAR BASIS OF PATHOGENESIS IN PARASITIC DISEASES", Hong Kong, December 12-14, 1988. Contact: Dr Ronald Ko, Department of Zoology, University of Hong Kong, Hong Kong.

THIRD INTERNATIONAL CONFERENCE ON "TRACE ELEMENTS IN HEALTH AND DISEASE", Adana, Turkey, April 1989. Contact: Prof GT Yuregir, Cukurova University, Institute of Health Sciences, Balcali, Adana 01330, Turkey.

XIV INTERNATIONAL CONGRESS OF NUTRITION, Seoul, Korea, August 20-25, 1989. The Congress will be sponsored by the International Union of Nutritional Sciences, and hosted by the Korean Nutrition Society. For further information please contact: Prof. Sook He Kim, The Secretariat, XIV International Congress of Nutrition, C/o. The Korean Nutrition Society, Ewha Womans University, Seoul 120, Korea.

SECOND MEETING OF THE INTERNATIONAL SOCIETY FOR TRACE ELEMENT RESEARCH IN HUMANS (ISTERH), Tokyo, Japan, Aug 28-Sep 1, 1989. Contact: Secretary-General Prof Kazuo Nomi-yama, Department of Environmental Health, Jichi Medical School, Minamikawachi-Machi, Tochigi-Ken, Japan 329-04.

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