

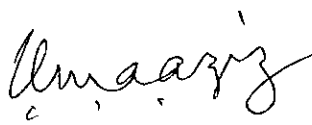
89-015

INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH, BANGLADESH

MEMO

To: Chairman, RRC

From: K.M.A. Aziz, Acting Head, CHD



Date: 23-11-89

Sub: Consideration of the protocol entitled, "A study of childhood diarrhoea treatment practices of mothers in urban slum of Dhaka, Bangladesh" by Dr. Tanjina Mirza

Dr. Tanjina Mirza a student of the University of Western Australia has submitted the above-mentioned Protocol for conducting research in ICDDR,B. This research is aimed at the partial fulfillment of a masters degree. Dr. P. Underwood who is Dr. Mirza's advisor at the University of Western Australia and Dr. Andrew Hall of ICDDR,B are the co-investigators of this protocol, and the source of funding is the University of Western Australia.

This protocol has been reviewed by two members of the CHD (copies of reviews enclosed). The points raised in these reviews were considered in the November, 1989 meeting of CHD (copy of minutes enclosed). Dr. Andrew Hall, a Co-investigator of this protocol has forwarded a copy of the minutes to the P.I. in Australia for modification of the protocol in the light of the reviewers' comments. As the submitted protocol was reviewed by the P.I.'s thesis supervisor in Australia, if she now modifies the protocol in response to the comments of the reviewers the requirement for the External Review of this protocol may be waived.

The protocol is due to start on 10 December 1989 for which it needs clearance from the Research Review Committee at an early date.

This is for your consideration and necessary action please.

Thanks.

KMAA/mb

Principal Investigator TANJINA MIRZA Trainee Investigator (if any) _____
 Application No. 89-015 Supporting Agency (if Non-ICDDR,B) UNIVERSITY OF WESTERN AUSTRALIA
 Title of Study A STUDY OF DIARRHOEA TREATMENT PRACTICES OF MOTHERS IN AN URBAN SLUM OF DHAKA Project status:
☒ New Study
☐ Continuation with change
☐ No change (do not fill out rest of form)

Circle the appropriate answer to each of the following (If Not Applicable write NA).

1. Source of Population:
 - (a) Ill subjects ☒ Yes ☐ No
 - (b) Non-ill subjects ☒ Yes ☐ No
 - (c) Minors or persons under guardianship ☐ Yes ☐ No
2. Does the study involve:
 - (a) Physical risks to the subjects ☐ Yes ☒ No
 - (b) Social Risks ☐ Yes ☒ No
 - (c) Psychological risks to subjects ☐ Yes ☒ No
 - (d) Discomfort to subjects ☐ Yes ☒ No
 - (e) Invasion of privacy ☐ Yes ☒ No
 - (f) Disclosure of information damaging to subject or others ☐ Yes ☒ No
3. Does the study involve:
 - (a) Use of records, (hospital, medical, death, birth or other) ☐ Yes ☒ No
 - (b) Use of fetal tissue or abortus ☐ Yes ☒ No
 - (c) Use of organs or body fluids ☐ Yes ☒ No
4. Are subjects clearly informed about:
 - (a) Nature and purposes of study ☒ Yes ☐ No
 - (b) Procedures to be followed including alternatives used ☒ Yes ☐ No
 - (c) Physical risks ☐ Yes ☒ No
 - (d) Sensitive questions ☐ Yes ☒ No
 - (e) Benefits to be derived ☒ Yes ☐ No
 - (f) Right to refuse to participate or to withdraw from study ☒ Yes ☐ No
 - (g) Confidential handling of data ☒ Yes ☐ No
 - (h) Compensation &/or treatment where there are risks or privacy is involved in any particular procedure ☐ Yes ☒ No
5. Will signed consent form be required:
 - (a) From subjects ☒ Yes ☐ No
 - (b) From parent or guardian (if subjects are minors) ☒ Yes ☐ No
6. Will precautions be taken to protect anonymity of subjects ☒ Yes ☐ No
7. Check documents being submitted herewith to Committee:
 - ___ Umbrella proposal - Initially submit overview (all other requirements will be submitted with individual studies)
 - ___ Protocol (Required)
 - ___ Abstract Summary (Required)
 - ___ Statement given or read to subjects of nature of study, risks, types of questions to be asked, and right to refuse to participate or withdraw (Required)
 - ___ Informed consent form for subjects
 - ___ Informed consent form for parent or guardian
 - ___ Procedure for maintaining confidentiality
 - ___ Questionnaire or interview schedule
- * If the final instrument is not completed prior to review, the following information should be included in the abstract summary:
 1. A description of the areas to be covered in the questionnaire or interview which could be considered either sensitive or which would constitute an invasion of privacy.
 2. Examples of the type of specific questions to be asked in the sensitive areas.
 3. An indication as to when the questionnaire will be presented to the Committee for review.

(PTO)

We agree to obtain approval of the Ethical Review Committee for any changes involving the rights and welfare of subjects before making such change.

Tanjina Mirza
Principal Investigator

Trainee

89-05
24/11/89

- (1) TITLE A study of childhood diarrhoea treatment practices of mothers in an urban slum of Dhaka, Bangladesh.
- (2) PRINCIPAL INVESTIGATOR: Dr. Tanjina Mirza

CO-INVESTIGATORS: Dr. P. Underwood and Dr. A. Hall

(3) STARTING DATE: 10th December 1989

(4) COMPLETION DATE: 2nd June 1990

(5) (a) TOTAL DIRECT COST: A\$ 2720.00 (excluding air travel, accommodation, food and Tuition fee.)

(b) SOURCE OF FUNDING: University of Western Australia

(6) SCIENTIFIC PROGRAMME HEAD:

This protocol has been approved by the Community Health Division

Signature of the Scientific Programme Head

Date:

(7) ABSTRACT SUMMARY:

Diarrhoea causes high mortality and morbidity among the children of Bangladesh. In order to provide an effective diarrhoea control programme it is essential to know about the childhood diarrhoea treatment practices of mothers in areas where the incidence of diarrhoea is high so that the health services don't conflict with the culture, needs and beliefs of the target population. This study has been undertaken to provide in-depth knowledge of the home therapies and the health services used for treating childhood diarrhoea by the mothers in an urban slum of Dhaka in Bangladesh and the reasons for using the therapies or the health services. This research project also aims to find out the association of diarrhoea treatment practices with the socio-demographic characteristics of the respondent as well as the association of practices with the beliefs about causation, severity and type of diarrhoea. Unlike other studies which have used retrospective data, this study has been designed to limit recall bias by interviewing and observing the mothers at the time her child has diarrhoea, which also helps to use different methods of data collection like structured and unstructured interview and direct observation. The data on the type of health services available to the people of the community will be obtained by informal interview with the members of the community.

(8) REVIEWS:

(i) Ethical Review Committee:

(ii) Research Review Committee:

(iii) Director's signature and remarks, if any.

1

c. SECTION II: RESEARCH PLAN

A. INTRODUCTION

1. Objectives

(i). To examine the diarrhoea treatment practices of mothers when their children, less than five years of age have diarrhoea.

(ii). To identify the factors associated with the diarrhoea treatment practices in mothers for their children under five.

2. Background

Diarrhoea is a leading cause of morbidity and mortality among the children of developing countries (1). It is the leading cause of death in at least 5 countries and the second leading cause in 10 countries (2). In 1980 an estimated 4.6 million deaths in Africa, Asia (excluding China) and Latin America occurred due to diarrhoea in children less than five years of age and 744 to 1000 million episodes of diarrhoea occurred in that same age group (1).

The incidence of diarrhoea is closely related to socio-economic conditions. Where there is poverty, accompanied frequently by over-crowding and poor sanitation there is also diarrhoea (3). Although it is not classed as a "social disease", the major determining factors of diarrhoea are related to the socio-economic context of the individual. Poverty and malnutrition are frequently associated with the incidence of diarrhoea. So the incidence of this disease is high in Bangladesh. The incidence rate of diarrhoea was found to be different in different studies of Bangladesh. This could be due to differences in geographical location, socio-economic conditions and definitions of diarrhoea used by the investigators. A longitudinal study of infectious diseases in a rural area of Bangladesh among children aged 2 to 60 months showed that diarrhoea was the second most common illness with a peak prevalence rate in children 6 to 11 months of age (4). Diarrhoea was also the most common reason for hospitalisation among the 198 study children. The incidence of diarrhoea found by researchers in this study was 12.8 episodes per 100 children days.

In another study conducted in the urban slums of Dhaka, the capital of Bangladesh, the incidence rate was found to be 7.55 episodes per 100 person weeks in 1985 for children less than 6 years (5). Among the causes of death in 1986 in Teknaf in the south eastern part of Bangladesh where International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) maintains a demographic surveillance system, 23% of deaths of children aged between 1 and 59 months were due to diarrhoea and dysentery (6). An estimated 60% to 70% of diarrhoeal deaths are caused by dehydration (7). Diarrhoea is also a major factor in the

causation or aggravation of malnutrition. Such malnutrition is itself a contributing cause to a high number of deaths associated with diarrhoea in children. Furthermore diarrhoea is a major determinant of growth retardation. Of all the infectious disease diarrhoeal disease have the greatest adverse effect on the growth of children in developing countries (4).

Early and adequate treatment of diarrhoea is essential to prevent deaths due to dehydration. These interventions belong first and foremost to the home environment and therefore depend on peoples' perception and practices (8). A comprehensive understanding of the local beliefs and practices is essential so that diarrhoea control activities built upon these perceptions and practices will not conflict with the local needs and expectations. An understanding of behavioural patterns in response to diarrhoea will lead to health education messages which encourage positive practices and address useful and acceptable behavioural changes. In most places in the world the decisions regarding the treatment of children are made by the mother (9). Noting the importance of mothers in childhood diarrhoea, the Joint Statement of WHO and UNICEF has urged health planners and health workers to find out more about mothers present perceptions, attitudes and practices regarding diarrhoea (7).

The treatment practices adopted by individuals, and in the case of children by the mothers, are made from a range of therapeutic options. These options may not be mutually exclusive and a common pattern is the concurrent or serial use of many systems. This has been shown in a study conducted in the Matlab area of Bangladesh (10). The authors conclude that four different systems of treatment were used by mothers: allopathy, homeopathy, herbal and spiritual methods for measles. A combination of systems rather than a single system was preferred. The homeo-herbal combination was used by many mothers (32.5%) for the treatment of measles in their children. Apart from seeking treatment outside self treatment is prevalent everywhere and often draws on elements of many systems at the same time(8).

The treatment practices adopted by an individual can be influenced by many variables. These include:

1. Features of the disorder: aetiological concept.

Selection of care depends upon the perceived cause of illness. Often however in the same illness episode many different types of healers may be used.

2. Severity of the disorder.

The degree of impairment caused by an illness is a significant determinant of the choice of healer.

3. Features of the individual.

A number of socio-demographic variables have been associated with the choice of health care and the degree of utilisation of services, such as sex, age, education, family size, ethnicity,

income etc.

4. Features of the services.

The accessibility of health services is a major determinant of the utilisation of such services., whether accessibility is defined by distance, travel time or availability of transport. A study conducted in rural Bangladesh (11) showed a pronounced fall in attendance rates at a diarrhoea clinic with increasing distance from the clinic. Also of importance are economic barriers such as consultation fees, the cost of drugs or transport and the opportunistic cost of time lost in travel and waiting. Accessibility may also be defined in terms of social distance. Communication barriers due to differences in language, culture and status gaps are frequently ascribed to scientific medical personnel.

Many studies have been done on the diarrhoea treatment practices of mothers in different regions of the world. Findings of some of the studies are as follows :

In Zimbabwe a study was conducted in 4 diverse rural areas to gather information on perception of childhood diarrhoea and its treatment (8). Information was collected by using household based group discussions and a questionnaire survey from 367 households from two broad ethnic and cultural groups. They also conducted informal interviews in the community with key informants such as indigenous healers, health workers and community representatives to investigate in more detail issues raised in the household survey. Within each region the study areas were chosen to contrast with regard to the accessibility of the services and particularly health services. Two of the areas were remote and barren areas with poor access to services, while the other two areas were prosperous with better communications and improved access to services. The authors concluded that variables such as age of respondent, her educational status and her degree of participation in community activities were not found to influence beliefs about disease causation. In health action in response to the described illness, few respondents (6%) did not take any remedial action at all. A high proportion (53%) claimed that the child was taken to the health facility. In contrast there was a low demand for indigenous herbalist (4%) and 3% visited both indigenous and formal health services.) Home management of illness was common and comprised the administration of indigenous herbal remedies (28%), home prepared sugar and salt solution (5%), over the counter drugs (2%) and enemas (2%). These remedies were given on their own or alongside the treatment prescribed by a health worker. The study did not find that the perceived severity of the diarrhoea influenced the propensity to use formal health services. Socio-demographic characteristics of the respondent or of the child were not found to influence utilisation behaviour. None of the factors examined (ethnicity, age, educational status, degree of participation in community activities of the respondent, age and sex of the child) were found to be significant, either singly or in combination when examined by logistic regression. But the accessibility of the health

services had significant influence on the action taken during illness. The information collected in this study on diarrhoea treatment practices was obtained by recalling a past episode of diarrhoea, as a result there would be recall bias. Also it is probable that the respondents amalgamated what they thought they did with what they might do and they might have replied to please the interviewer who were also working to promote awareness of oral rehydration techniques. These factors could be responsible for the preference of treatment of health centres by a majority of the respondents.

Beliefs about a disease are not the only factor which influence an individual's practice in treating a disease. This fact becomes obvious in a study of Akamba mothers in Kenya regarding beliefs and practices about measles and diarrhoea (12). The incidence rate of diarrhoea in this region was 10.5%. Despite their belief that diarrhoea is a Gods disease among the 121 mothers interviewed, 63% of the mothers used modern care only, 28% used modern and indigenous medicine and only 9% preferred indigenous care alone. A mother's decision can also be influenced by other family members. Thus among these mothers the younger mothers had a trend of withholding milk during diarrhoea because they were influenced by their mothers-in-law. The older and less educated mothers preferred traditional practices. The preference for traditional healers is not only due to the beliefs of a mother in traditional medicine but also due proximity of the healer and convenience. Thus mothers in Swaziland preferred nearby traditional healers for advice for their children with diarrhoea before going to a clinic (9).

Another survey of diarrhoea mortality and morbidity was carried out among the mothers of the Gondar region, Ethiopia, amongst a population of 6236. A single visit to 1309 households was made to obtain information regarding age, religion, occupation, educational status, sanitation and water supply (13). A pretested questionnaire was used to interview 1103 mothers examining their knowledge, attitude and practices related to diarrhoea diseases. They found that 33.1% of the mothers attributed the cause of diarrhoea to the "will of God", 11.5% to sorcery, 29.5% to poor sanitation while the rest of the mothers blamed worms, faulty feeding habits and the rainy season. Despite these beliefs, 67.7% of mothers utilised modern medical facilities. However, the authors did not examine associations between beliefs and practices and the age, occupation, religion, income, education, sanitary standards or water supply. The authors mentioned that modern medical care was popular among literate young mothers but the strength or significance of the association was not measured. In the same study the food habits were not changed after the onset of diarrhoea. This finding is in contrast with a study done in Goa in India where it was found that 83% of mothers stopped feeding during diarrhoea as it was believed to increase diarrhoea (14). The study in Goa concerned peoples' knowledge, beliefs, feeding practices and treatment during diarrhoea, among families with a child below five years of age in an urban community. Thirty percent of mothers felt that

diarrhoea was related to the child's or the mother's diet. Certain types of food were thought to be responsible for this diarrhoea. Nine percent attributed diarrhoea to superstitious beliefs, 26% to worm infestation and 1.6% to a dirty environment. Seventy seven percent of the women said that they would try home remedies first. This study also found that there was an increase in the use of modern medicine with a rise in literacy but the difference was not statistically significant.

Similar results are found in Northern India (15). Researchers compared results from four villages in northern India, with or without health facilities, to results from an urban area. Mothers of children less than three years of age were interviewed with a pretested questionnaire containing partly structured and partly open ended questions to determine the mothers' beliefs regarding the causation of diarrhoea, its complications, danger signals in diarrhoea, prevalent practices of food and fluid restrictions during illness and therapeutic preferences. They found that 41.6% of the mothers thought that they knew the cause of diarrhoea. It was thought to be caused by excessive heat in the body (38.4%), teething (20.4%), over-eating (11.7%) and infection (11.4%). Partial or total restriction of food was widely practised. More than 65% of women believed in reducing fluid intake during diarrhoea because they thought fluids given orally would come out in the form of liquid stool. Treatment of diarrhoea in children by modern medicine was preferred by 70.4% of mothers and home remedies by 19.2%. There were considerable and significant differences about beliefs and therapeutic preferences for management of diarrhoea between literate and illiterate, urban and rural, and rural with health centre and rural without health centre. For example, home remedies were preferred significantly ($P = 0.01$) by illiterate mothers, harmful drugs like opium and purgatives were preferred by illiterate and rural women. The women living in the areas where there was a health centre were more familiar with rehydration therapy. Thus according to the authors, irrational beliefs and inappropriate therapeutic preferences were common among women who were illiterate and living in rural areas where there is no health centre. But they have not taken into account an important confounding factor: income. This could be responsible for the use only of home remedies by illiterate women and those living in areas without health centres.

As in other regions of the world, in Bangladesh the responsibility for managing childrens' illnesses lies with the mother, although Islamic purdah means that men tend to be the ones who travel away from home to buy medicine (including ORS) and initially consult practitioners (16). In a study on diarrhoea and the social marketing of ORS in Bangladesh the author (16) has selected 240 respondents from 5 widely separated districts of Bangladesh to gather information on diarrhoea and the use of oral rehydration therapy. Of the respondents who were all parents of under five children, 66% were women and 85% lived in rural areas. The author found that diarrhoea was defined by the respondents as passing of loose watery stools and they used several Bengali

terms for the disease. Very few respondents were able to attribute different causes or different treatments for the various types of diarrhoea recognised. Instead, respondents mentioned general causes and treatments for diarrhoea. The most common cause was bad, spoiled or indigestible food (60%), followed by dirty or contaminated water (23%), heat or hot weather (7%), flies or exposed food (7%), worms (6%), evil spirits, evil eye, bad air or Gods will (4%), bad or spoiled breast milk (3%), and dirty hands or body (2%), while 17% of respondents did not know the cause of diarrhoea. The impression gathered by the author after a survey using in-depth interviews was that respondents appeared to lack self-confidence in health matters, which is not surprising because sickness, poverty and lack of education do not inspire self confidence. This feeling of helplessness was reflected in the treatment of childhood diarrhoea. Forty two percent of the respondents claimed that they did not do any thing to treat diarrhoea. Among the 150 respondents who did something 53% claimed that they used ORS, 24% used gruel, coconut water and porridges, 21% used herbal medicine such as leaves of pine apple, spinach or cucumber and the remainder preferred diet therapy or mystical or religious treatment by practitioners who visited the home. When the respondents were asked about treatment of child diarrhoea outside the home or involving outside help, 80% said that they sought allopathic practitioners or medicos, 30% consulted mystical or religious practitioners and 7% said that they used homeopathic treatment. Virtually all the mothers restricted certain foods and preferred other food known collectively as "pathy" and thought to be appropriate for diarrhoea. Some mothers gave their children herbal remedies first, then they tried ORS, then took the child to an unqualified allopath and finally if the condition persisted the mother or another person may decide (depending on the cause) to take the child to a mystical or religious practitioner. A practitioner such as Moulana, Kobiraj, Fakir, Ojha or Mulla then gives "holy water" and prays over the child and may give a "Tabiz" containing Koranic inscriptions to be worn by the child. Some mystical practitioners, notably Kobiraj may give Ayurvedic or Yunanic herbal medicine. Among the non biomedically trained practitioners relied upon for various illness including diarrhoea are: Daktars or allopaths who are not formally trained in medicine; Homeopaths to whom 14% of the diarrhoea patients turned to; Religious or faith healers; Kobiraj or totka who are herbalists.

The studies reviewed above all depended upon retrospective interviews with mothers on what they did in the past, or what they would do if their child has diarrhoea. It is very difficult for a person to remember in detail what they did in the past, and also there is a difference between what a person wants to do and what he or she actually does. This could have been avoided if the mothers were interviewed at the time their child had diarrhoea. In this way different methods of data collection can be used thereby ensuring greater reliability. Physical evidence is always a good proof to support the statement made by a mother. So if a mother is interviewed at the time her child has diarrhoea she can

easily recall all the practices carried out to give relief to the child during the present episode and also remember the reasons for giving such treatment. The investigator can also observe the various charms, bottles, ORS, herbal medicines etc being given to the child. In the Principal Investigators's experience of working with mothers in urban slums, practices in treating childhood diarrhoea depend on practical facts like availability of money for treatment, presence of grandmothers in the family, previous experience with the different healers, severity of the diarrhoea, type of diarrhoea and the belief in the cause of the diarrhoea.

From the literature reviewed by the P.I. no descriptive data is available on mother's diarrhoea treatment practices for their children in urban slums in Bangladesh. Therefore, the present study will be undertaken to provide a description of the diarrhoea treatment practices of mothers in an urban slum. Previous studies, some of which are described above, obtained retrospective information by interviewing mothers. In contrast the mothers in this study will be observed and interviewed at the time her child has diarrhoea. This study also aims to determine the socio-demographic factors and beliefs about the causation, type and severity of diarrhoea which are responsible for such practices.

3. Rationale

Health services must suit the culture and life style of the target population. So to provide effective health services for the control of diarrhoea in children it is essential to know about the treatment practices of diarrhoea among the mothers of the target population and to know the reasons for choosing those therapies or health services. This study will be undertaken to provide in depth qualitative data on diarrhoea treatment practices of the mothers of under five children living in an urban slum of Dhaka, Bangladesh. The mothers of children under five have been selected because they usually decide about the treatments to be given to children, who are also at a high risk of developing the disease. Urban slums have been selected as a study site because the incidence of diarrhoea is high in poor, over crowded slums, where there is lack of safe water and sanitary disposal of excreta.

Most of the studies conducted to collect information on diarrhoea treatment practices gather retrospective data or ask mothers what they would do if their children have diarrhoea. Both of these designs have bias because people tend to forget what they did in the past and there is a difference between what they want to do with what they will actually do. To overcome these bias the proposed study has been designed to interview and observe the diarrhoea treatment practices of only those mothers whose children have diarrhoea. This method increases the reliability of the data collected.

B. RESEARCH QUESTIONS

1. What type of treatments for diarrhoea are practised by the mothers for their children under five years of age at home? (Rice water, coconut milk, oral rehydration solution, herbal medicine etc.)
2. What health facilities do mothers use, if any, when their children have diarrhoea (modern medicine, traditional cures, Homeopathic and other sources?)
3. What socio-demographic factors are associated with the diarrhoea treatment practices of the mothers, including income, education, occupation and age of the parents, the age of the child, sex of the child, number of siblings and their sex, other family members, cost of treatment, distance to the health centre?
4. Is there any association between the type of treatment and age, income, education and occupation of the parents?
5. Is there any association between type of treatment and sex of the child, number of siblings, sex of siblings and other family members?
6. Is there any association between type of treatment, cost of treatment and the distance to the health centre?
7. What are the mother's beliefs about causation, types and severity of the diarrhoea.
8. Is there any association between type of treatment and beliefs about the causation, types and severity of diarrhoea?

C. METHODS OF PROCEDURE

RESEARCH DESIGN

The proposed study is a cross sectional descriptive study of diarrhoea treatment practices of mothers in an urban slum in Dhaka. The slum will be divided into clusters of houses from which a sample of clusters will be randomly drawn. Health workers will visit every household in a cluster to find out the number of children below five years of age who have diarrhoea at the time of case detection. The health workers will be provided with a check list for the detection of cases of diarrhoea. At the end of each day the health workers will notify the investigator of any cases detected. The investigator will visit the mother of the child with diarrhoea on the next day to gather information on diarrhoea treatment practices which the mother has given to alleviate the disease. If the case of diarrhoea is of one day duration when detected, then the child will be visited by the investigator on the second day to allow the mother to do something for the child. If the child has moderate or severe diarrhoea or dehydration then he or she will be referred to a hospital immediately. The advantages of this research design are as follows :

1. The proposed design limits recall bias as the mother is asked to describe a current event.

2. As information is gathered at the time the child has diarrhoea different methods of data collection can be used, for example direct observation, structured and unstructured interviews.

3. Better data on diarrhoea treatment practice can be obtained by following a child with diarrhoea to observe the practices but such research design would be unethical.

4. The presence of the investigator will influence the diarrhoea treatment practices of the mother, so information is gathered about the episode of diarrhoea before the arrival of the investigator.

5. This design requires less time and money than a cohort study.

STUDY POPULATION

The study population will be mothers of children less than five years of age having diarrhoea at the time of case detection and who live in an urban slum of Dhaka, Bangladesh. Mothers of under five children have been selected because they are first providers of health care for their children. Also children below five are at high risk of developing the disease.

SAMPLE

A slum will be selected after discussions with scientist working at the ICDDR,B. The number of households in the slum will be determined it will be divided into clusters of households from which a random sample of clusters will be selected. Health workers will visit each and every household of the cluster selected to determine the number of children less than five years of age who have diarrhoea at the time of case detection. If the sample contains mothers who have more than one child less than five years and both of them have diarrhoea than only the youngest child will be selected, because the youngest child is at more risk of diarrhoea.

SAMPLE SIZE

The main aim of the study is to provide descriptive, qualitative data on diarrhoea treatment practices of the mothers of children under five years of age. The other aims of the study are to examine the association of the practices with socio-demographic factors and beliefs about causation, type and severity of diarrhoea. However due to the constraints of time and resources a sample size which would provide ideal data can not be selected. Since the incidence of diarrhoea in an urban slum of Dhaka is about 7.55 per 100 persons week (5) in children less than five

years of age, then an expected 120 cases of diarrhoea may be detected in four months by two health workers. In this study cluster sampling technique will be used. The number of clusters to be randomly selected will depend on the number of cases that can be identified in the first cluster. If the number of cases is high, then it will only be possible to select a sample of clusters. If the number of cases of diarrhoea are less than expected then all clusters in that slum will be included in the study. If necessary, another slum will be selected to obtain a sufficient number of cases of children with diarrhoea. The sample size will thus depend on the number of cases of diarrhoea in children less than five years of age which can be detected within the four months allocated for data collection.

DATA COLLECTION

A rough map of the area will be made by determining the boundary of the area. The area will then be divided into smaller parts with the help of land marks such as shops, banana trees, communal water taps etc. During this stage informal interviews will be conducted by the researcher with different members of the community on terminology of diarrhoea, the type of health facility available (both traditional and western), the distance to these facilities, cost of treatment and transportation to these facilities. This will help the researcher to gather knowledge about the terminology of different types of diarrhoea, find out where the people take their children for treatment of diarrhoea and who provides the medical or the traditional or the spiritual care for the people in that community. This will also allow the people of the community to become familiar with the researcher.

During the next stage the health workers will visit all the households of the cluster selected to record the number of children under five years of age. The health workers will be provided with a checklist for the identification of cases of diarrhoea in children under five. At the end of the day the health workers will meet with the investigator to report the cases of diarrhoea detected.

After the identification of cases the investigator will visit the household of the child with diarrhoea next day to interview the mother regarding the treatment practices carried out to provide relief to the child. If the diarrhoea case identified by the health worker is of less or equal to twenty four hours duration, then the investigator will visit that child on second day so that the mother has time to carry out treatment practices to provide relief to the child.

During the visit the investigator will interview the mother and observe the bottles, charms, prescriptions, herbal medicine, different food preparations etc which are being used to provide relief to the child. The interview schedule will contain both open-ended as well as close-ended questions. Socio-demographic data will be collected by on the following variables.

1. Age of the child.
2. Sex of the child.
3. Birth order.
4. Age of the mother.
5. Father's occupation.
6. Mother's occupation.
7. Father's education.
8. Mother's education.
9. Marital status
10. Number of family members who share food.
11. Family income.
12. Number of siblings (Their age, sex, alive/dead.)
13. Type of health facility available, both distance and cost of traditional, homeopathic, home remedies, modern medicine or any other form of treatment available to the slum people.

The rest of the interview schedule will contain semi-structured questions. The open ended questions will allow the mother to speak and discuss the situation. Data will be collected on the following variables.

1. The symptoms of diarrhoea as described by the mother.
2. The type of diarrhoea as described by the mother.
3. Severity of the diarrhoea as assessed by the mother.
4. Belief about the causation of the diarrhoea.
5. The type of treatment given at home, if any.
6. The reason for giving that treatment.
7. The type of health facilities used, if any.
8. The reason for using that service.
9. Changes in the diet of the child made to alleviate diarrhoea.

Observation of the conditions will provide more information on the treatment practices such as medicine bottles, charms, home remedies etc. These observation will be used to confirm data obtained from interview as well as provide new information. The child's condition can be noted down as assessed by the researcher. The mother may be visited by the investigator more than once to collect further information in detail.

The health workers will require training so that they can detect cases of diarrhoea. They will also be trained to recognise the signs of dehydration so that if a child has moderate or severe dehydration at the time of case detection the health workers can notify the investigator immediately. The interview of the mother will be carried out by the researcher who is trained in qualitative data collection techniques.

D. SIGNIFICANCE

The study will provide knowledge on the diarrhoea treatment practices of mothers for children under five of age. This knowledge is essential for health planners to enable them to

design acceptable and appropriate diarrhoea control programmes in similar situations. Health services must suit the life style and the culture of the target population. The present study will provide an insight into the factors associated with the use of appropriate health services for diarrhoea. The results will also enable health workers designing health education programmes to understand which practices need to be encouraged or discouraged and to understand the situations responsible for such behaviour in an urban slum.

E. FACILITIES REQUIRED

Space in the ICDDR,B and computer facilities.

F. COLLABORATIVE ARRANGEMENTS

This research project is a requirement for the completion of a Masters Degree of Medical Science in Community Health at the University of Western Australia, Perth.

d. REFERENCES

1. John D.Snyder and Michael H.Merson. The magnitude of the global problem of acute diarrhoeal disease: review of active surveillance data. Bulletin Of World Health Organization.1982;60(4):605-613.
2. Mata L.Epidemiology of acute diarrhoea disease in childhood; An overview. In Acute diarrhoea, its nutritional consequences in children. New York 1983; Nestle, Vevey/Raven Press. 3_22.
3. J.E.Rohde and R.S.Northrup. Acute Diarrhoea in childhood. Ciba Foundation Symposium (new series) Elsevier Excerpta medica. North Holland. 1976 pp339-366.(Taking science where the diarrhoea is).
4. Robert E.Black, Kenneth H.Brown, Stan Becker and M.Yunus. Longitudinal studies of infectious diseases and physical growth of children in rural Bangladesh. American Journal of Epidemiology March 1982; 3(115): 305-314.
5. Stanton B.Diarrhoea and hygiene education. Annual Report 1986.I.C.C.D.D.R,B.
6. Wojtyniak B .Demographic Surveillance System. Annual Report 1986. I.C.C.D.D.R,B.
7. The management of diarrhoea and use of oral rehydration therapy. 2nd Edition A Joint W.H.O./U.N.I.C.E.F. Statement. 1985.
8. Issabelle De Zoysa, Debbie Carson, Richard Feachem, Betty Kirkwood, Euan Lindsay-Smith and Rene Loewenson. Perception of childhood diarrhoea and its treatment in rural Zimbabwe. Social Science and Medicine 1984; 7(19): 727-734.

9. Edward C.Green. Traditional healers, mothers and childhood diarrhoeal disease in Swaziland: the interphase of Anthropology and health education. *Social Science and Medicine* 3(20):1985; 277-285.
10. Nigar S.Shahid, A.S.M.Mizanur Rahman, K.M.A.Aziz, A.S.G.Faruque and M.A.Bari. Beliefs and treatment in diarrhoea with measles. *Tropical and Geographical Medicine* 35(1983): 151-156.
11. M.Mujibur Rahman, K.M.S.Aziz, M.H.Munshi, Yakub Patwari and Mizanur Rahman. A diarrhoea clinic in rural Bangladesh: Influence of distance, age and sex on attendance and diarrhoeal mortality. *American Journal of Public Health* October 1982. (72)10; 1124-1128.
12. B.Maina-Ahlberg. Beliefs and practices concerning treatment of measles and acute diarrhoea among the Akamba. *Tropical and Geographical Medicine* 31(1979):139-148.
13. Sirkar BK and Dagnow MB. Beliefs and practices related to diarrhoea diseases among mothers in Gondar region, Ethiopia. *Trop.Geogr.Med.*1988; (40): 259_263.
14. Sirinivas DK, Afonso E. Community perception and practices in childhood diarrhoea. *Indian Paediatrics* 1983; November(20); 859_64.
15. Kumar V, Clements C, Marwah K, Diwedi P. Beliefs and therapeutic preferences of mothers in management of acute diarrhoea disease in children. *Journal of Tropical Pediatrics* 1985; April(31)2 : 109_112.
16. Edward C.Green. Diarrhoea and Social Marketing of ORS in Bangladesh. *Social Science Medicine* 1986; (23)4: 357-366.

e. ABSTRACT SUMMARY

TITLE:

A study of childhood diarrhoea treatment practices of mothers in an urban slum of Dhaka, Bangladesh.

AIMS:

1. To examine the diarrhoea treatment practices of mothers when their children, less than five years of age have diarrhoea.
2. To identify the factors associated with the diarrhoea treatment practices in mothers for their children under five.

RESEARCH QUESTIONS:

1. What types of treatments of diarrhoea are practised by the mothers for their children under five years of age at home: Rice water, coconut milk, oral rehydration solution, herbal medicine etc.
2. What health facilities do mother use, if any when their children have diarrhoea: modern medicine, traditional cures, Homeopathic and other sources?
3. What socio-demographic factors are associated with the diarrhoea treatment practices of the mothers, including income, education, occupation and age of the parents, the age of the child, sex of the child, number of siblings and their sex, other family members, cost of treatment, distance to the health centre?
4. Is there any association between the type of treatment and the age, income, education and occupation of the parents?
5. Is there any association between the type of treatment and sex of the child, number of siblings, sex of siblings and other family members?
6. Is there any association between the type of treatment, the cost of treatment and the distance to the health centre?
7. What are the mother's beliefs about causation, types and severity of the diarrhoea.
8. Is there any association between the type of treatment and beliefs about causation, types and severity of diarrhoea?

RESEARCH DESIGN

The proposed study is a cross sectional descriptive study providing in depth qualitative data on diarrhoea treatment practices of mothers in an urban slum of Dhaka. A cluster sampling technique will be used to select households for detection of cases of diarrhoea. Two health workers will visit every household in a cluster for detection of cases with the help of a check-list. The health workers will be trained to detect

cases and to learn to look for signs of dehydration. If they find any child with moderate or severe dehydration they will report the investigator immediately who will refer the case to a hospital. At the end of the day the health workers will notify the investigator of all the cases detected. The investigator will visit, interview and observe the mother of the child with diarrhoea on the next day with her consent. Information will be collected on treatment practice for the episode of diarrhoea until the arrival of the investigator because the presence of investigator may influence the treatment practice of the mother and also it is unethical to follow a child with diarrhoea for the purpose of research. If the child has moderate or severe dehydration he or she will be referred to a hospital and the mothers of children with mild dehydration will be advised on oral rehydration therapy.

Following paragraphs answer the questions written in Attachment 1a.

1. The study population are the mothers of children under five having diarrhoea at the time of case detection. The mothers have been selected because they are not only the first providers of health care for their children, they also make decisions regarding the treatment practices to be given to the children. The reason for selecting under five children is that they are at high risk of developing the disease. The data on treatment practices can be collected with less bias if the mother is observed and interviewed at the time her child has diarrhoea.

The study population (mothers) will be required to give an interview to the investigator only if she gives her consent. The respondent has a right to refuse to answer the questions in the interview schedule at any point she wants. Thus the investigator will demand her time and cooperation in providing information on treatment practices as well socio-demographic information about her family.

2. The research will not create any type of risk so the question is not applicable.
3. There are no perceived physical, psychological, social or legal risks associated with the project. However it is worth noting, if a case of diarrhoea with moderate or severe dehydration is detected the child will be referred to a hospital immediately.
4. Methods for safeguarding confidentiality or protecting anonymity:
 - i. The respondents will be kept anonymous by using identity number so that the individuals will be identified by numbers.
 - ii. Data will be locked safely, so that only the investigator no one will have access to it. Files of data and codes will be kept separately.
 - iii. At no point during the thesis writing or the published data will not contain any names.
5. There are no potential risks to subjects. Confidentiality will be safe guarded. A consent form will given to the respondent or will be read to her before conducting the interview. The interview will be conducted only if she gives her signed consent.
5. (a), (b) and (c) N.A.
6. The study involves an interview which will take approximately 45 minutes. The mother has option to stop the interview at any time she wants. The interview will be conducted in her house at any time convenient to her. The mother will be questioned regarding the treatment given to

her child for diarrhoea and the health services utilised to cure the child.

7. The individual subject will not get any direct benefits, but the ultimate aims of this research is to have improved health services for the people in similar conditions.

8. N.A.

f. SECTION III: BUDGET

The research project will be funded by The University of Western Australia. Air travel and living allowance will be paid by Australian International Development Assistance Bureau (A.I.D.A.B). The currency shown in the budget is Australian Dollars.

(A) Personnel

1. Health Workers 2

The two health workers will work from 1st January 1989 to 31st May 1990. They will work 8 hours a day for five days a week. They will be paid \$150 a month for 5 months. So 2 health workers will need

3 Reporters (\$15 per month *3 for 4months)	\$1500
	\$180

Subtotal	\$1680

(B) Consumables

1. Stationary (pens, notebook, clip boards etc)	\$50
2. Advertisement (for employing health workers)	\$20
4. Photo- copying forms	\$150
5. Field bag for health workers	\$45
6. O.R.S. for diarrhoea children	\$100
7. Tape recorder	\$55

Subtotal	\$420

(C) Communication

1. Health Workers (2) \$2 per day for 5months	\$200
2. Investigator \$1 per day for 6moths	\$120
3. Communication with supervisor in Australia	\$100
4. Cost of bringing questionnaires and other papers. from Dhaka to Perth	\$200

Subtotal	\$620
	=====
Total	\$2720

g. CONSENT FORM

Assalamalaikum

I am a student gathering information on diarrhoea treatment practices of mothers, for their children under five years of age.

As you know, diarrhoea is a widespread problem affecting the life and growth of many young children. In order to provide better health facilities and to prevent deaths due to diarrhoea, I am trying to find out how mothers of under five children treat diarrhoea and where they take their children to receive treatments for diarrhoea.

I would like to interview you regarding your family and the treatment practices you have done to reduce diarrhoea in your child. You can stop from the interview any time you wish. The interview will take approximately one hour but if you do not have enough time now, I can come back later.

Confidentiality will be safe guarded and no names will be used in published data.

If you are willing to talk and answer my questions, will you please sign here.

(If the mother is unable to sign put her thumb print.)

Thank you

मन्त्रा ३

ਆਲਾਪਨ - (ਮੇਰਾ) ਸਿਤਾਰਾ - ਆਪਣਾ ਆਖਿਆ -
 ਆਪਣੇ ਆਪ, 100 ਅੰਗ, ਫੀਰਤ 3 ਪ੍ਰਾਪਤ, ਅੰਤ -
 ਅੰਤ 25 ਦਾਫ਼ਤ। 100 ਸਿਤਾਰਾ - ਆਪਣਾ ਆਖਿਆ -
 ਅੰਤ 100 ਚਿਕਿਤਸਾ ਅੰਗ - 100 ਅੰਗ -
 ਕੁਝ 25 + ਆਲਾਪਨ ਆਪਣੇ 25, ਆਪਣੇ ਸਿਤਾਰਾ -
 ਅੰਤ 100 ਆਪਣਾ ਆਖਿਆ - ਅੰਤ 25 ਕੁਝ ਅੰਤ 100 ਚਿਕਿਤਸਾ -
 100 ਸਿਤਾਰਾ - (ਮੇਰਾ) ਚਿਕਿਤਸਾ ਅੰਤ 100 ਆਖਿਆ -

12. 12. 1970
 13. 12. 1970
 14. 12. 1970

— ۱۲۷ —

विज्ञान

Wm

QUESTIONNAIRES

QUESTIONNAIRE FOR THE DETECTION OF UNDER FIVE CHILDREN IN THE SLUM

Household number _____

1. Does this house have children less than five years of age?

Yes No

2. Can I speak with the mother please?

Yes No

(Record the name of the mother .)

Please can you tell me the names of those children who are under
five years of age?

i.

ii.

iii.

If the mother does not know the age, use event calender to
determine the age of the children as accurately as possible.

QUESTIONNAIRE FOR THE DETECTION OF DIARRHOEA CASES BY
THE HEALTH WORKERS

(For each child one questionnaire)

Household number _____

1. Does your (----) child have diarrhoea now? ___/
If no go to question number 2.
2. Did your child have more than 3 loose motions in the last 24
hours ? ___/
If no go to question number 3
3. Did your child have blood in stool in the last 24 hours? ___/
If no go to question number 4.
4. Did your child have mucus in stool in the last 24 hours ? ___/

Note for health worker: If a mother has more than one child
under five repeat the questions for each child.

INTERVIEW SCHEDULE FOR THE MOTHER
(Mother of the child with diarrhoea)

The final instrument is not complete yet, but the following information will be included.

Household number _____
Identity number _____
Mother's name _____
Child's name _____
Child's age _____
(Use event calender to record the age. If possible try to collect evidence of age.)
Sex of the child. _____
Mother's age _____
Father's age _____
(A rough estimate will do if the age is not known)
Father's occupation _____
Father's income _____ Takas per month
(rough estimate)
Father's education _____
Mother's education _____
Mother's occupation _____
Mother's income _____ Takas per month
(rough estimate)
Marital status _____
Number of children born _____
Number of children alive _____
Number of sons _____
Number of daughters _____
Birth order of the child with diarrhoea _____
Are you pregnant now? _____
What are the ages of your children? (A rough estimate)

i.	ii.	iii.
iv	v.	vi..
vii.	viii.	ix.
x.	xi.	

How many people eat from your cooking pot?
Apart from your children who else shares the cooking pot?
Does any body else earn money for your family apart from you or your husband?
How much do they earn per month? _____ Takas per month
(A rough estimate)
Does your family get any other financial help from other sources?
If yes what are they? (Food from place of work, money from relatives etc.)
What are the symptoms of the diarrhoea which your child is having now?
(Number of motions, odour, colour, presence of blood or mucous.consistency and any other accompanying symptoms.)
What is the name of this diarrhoea?
(Diarrhoea, blood dysentery, mucus dysentery, cholera etc.)
How severe is this diarrhoea? (Mild, moderate, severe.)
What is the condition of the child?

What do you think is the cause of this diarrhoea?
 Have you done any thing to reduce this diarrhoea?
 If yes, what have you done at home?
 (Please can you tell me in detail). If necessary probe the mother for details. Describe in chronological order.
 Why did you give this treatment?
 Who gave this treatment?
 If the remedy was made at home who made this remedy?
 From where did you obtain the material to make this remedy?
 Who advice you to give this treatment?
 How much did it cost you to make this remedy or to buy the drug?
 (in Takas)
 How long did it take you to make the remedy or buy the drug?
 Did you bring any person home to treat your child for the diarrhoea?
 If yes, who was that person?
 What did he/she do to reduce the diarrhoea?
 (Pease describe in detail. If necessary probe for more information)
 Do you have to pay him or her?
 If yes, did you pay him in cash?
 If yes, how much did you pay him?
 Did you pay him or her in kind? (Food, gifts etc.)
 Did you do any thing else to reduce this diarrhoea at home?
 (Write in detail the practices in chronological order.)
 Did your child improve after giving all these therapies at home?
 Did you take (name of the child) outside for treatment?
 If yes, where did you take _____?
 Why did you take _____ there?
 How did you take _____ there?
 Who accompanied _____ there?
 How long did it take you reach there?
 How much did it cost you to take _____ there?
 How long did you wait to get the treatment?
 Can you describe what happened there?
 What treatment was given there?
 How much did you pay the doctor/healer?
 Did he/she give you the medicine/herbs/potions/tabiz?
 If not from where did you buy or get the drugs/herbs/tabiz?
 How much did it cost you to buy the drugs potions or herbs or tabiz?
 How did the healer or the doctor behave with you?
 Did _____ receive treatment from different sources simultaneously?
 If the child was taken to more than one place for treating the diarrhoea give description of each place taken in chronological order.
 If the child was taken to more than one place what are the reasons for taking the child to these places?
 (Write each reason for each place separately.)
 Did you change the diet of the child to reduce the diarrhoea?
 If yes, what are those changes? (Write the dietary changes in detail)
 Please can you describe what you are feeding _____ after the onset of diarrhoea?

Why did you change the diet?

What is wrong with the usual diet you give _____?

Who advice you to change the diet?

Are you giving _____ more fluid?

If the child is breast fed ask the following questions.

Did you continue to breast feed after the onset of diarrhoea? If yes, why? If no, why?

Did you change your diet after the onset of _____ diarrhoea?

If yes, what are those changes you made in your diet?

Why did you make these changes?

REVIEW OF DR. TANJINA MIRZA'S PROTOCOL :- A study of childhood diarrhoea treatment practices of mothers in an urban slum of Dhaka, Bangladesh.

- Sushila Zeitlyn

(1) DESCRIPTION: The protocol states that early treatment of diarrhoea is essential to prevent deaths due to dehydration. Because such treatment is usually undertaken in the home by the patient's kin it is essential to have an understanding of the existing beliefs and practices relating to diarrhoea, so that effective, acceptable and appropriate interventions can be devised that do not conflict with peoples' expectations. This study aims to provide descriptive, qualitative data on diarrhoea treatment practices of the mothers of children under five. Children suffering from diarrhoea will be selected from a randomly selected sample of household clusters in Dhaka slums. The PI will interview the mothers about their responses to the diarrhoea using a questionnaire containing many open questions. This method will limit recall bias and should provide very accurate data because mothers will be discussing an event that is not only current but of direct prime concern to them. The PI also plans to gather SES data in order to identify factors that may influence treatment.

(2) BACKGROUND

The protocol contains a very interesting and good review of the background literature. If the PI has not already read them she might find the following studies relevant: (1) Ashraf, A Health Disease and Health Care in Rural Bangladesh. Soc.Sci. Med.16, 2041-2054 (2) Aziz, KMA et al Study of the interpersonal spread of human faeces in rural Teknaf of Bangladesh. Proceedings of an International Conference. Shigellosis : A continuing global problem.

(3) RATIONALE

The rationale argues that because health services must suit the culture of the target population, more descriptive data is needed about existing treatment practices and the reasons behind them. As indicated in the review of the literature this kind of descriptive data is lacking so that this study could fulfill a need.

Towards the end of the literature review the PI quotes from her own experience a number of factors that influence the treatment of diarrhoea one of which is the "presence of grandmothers". It is not explained why this might be influential and little else is written in the protocol to suggest how household composition or kinship might influence diarrhoea treatment. The rationale refers only to mothers. This is, however a minor point and the overall aims are well defined and logical.

It is proposed to gather data on various socio-economic variable including the age of the child. The age of all the selected children will be under five, nevertheless within this age range there may be considerable age related variations in the way diarrhoea is perceived and treated. Thus a breast fed infant with

diarrhoea may be treated very differently to a fully weaned four year old. This should be taken into consideration when selecting children for inclusion so that the whole age range is adequately represented.

The proposed methodology is adequately described and interview guidelines are included. The PI plans to interview mothers about their responses to diarrhoea and the emphasis is on the mother's account of what she does rather than observation. There is less emphasis on why treatments are used or how they are believed to work, such data might strengthen the study. As dehydration is a cause of death it might be useful to know more about how the symptoms of dehydration are perceived and how the concept of rehydration is understood. It is proposed that health workers should make an initial assessment to detect diarrhoea. Questions 2,3 and 4 establish certain characteristics of the diarrhoea. This could have the effect of biasing the way that the mother perceives and classifies the diarrhoea when she is interviewed on the following day by the PI. This will make it harder to understand which symptoms and indicators are considered important and what principles organise the classification of diarrhoea in the community. The open ended questions proposed for the main interview should produce fascinating data that will be time consuming to analyse. The time frame for analysis is not discussed in the proposal.

(4) ASSESSMENT AND RELEVANCE

This is an unusual study because it aims to describe beliefs and practices relating to diarrhoea treatment in the community. The proposed methodology is qualitative and should provide interesting and useful data. I enjoyed reading this proposal and I look forward to reading the results of the research as soon as possible.

INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH, BANGLADESH

MEMO

To: Acting Head, CHD

Date: 6-11-89

From: Md. Shafiqul Islam



Sub: Protocol review, "A study of childhood diarrhoea treatment practices of mothers in urban slum of Dhaka, Bangladesh" by Dr. Tanjina Mirza

1. Description

This research proposes to assess the home-therapies and the health services used to treat childhood diarrhoea by mothers and the reasons for using therapies or the health services. This research also aims to find out the association of diarrhoea treatment practices with socio-demographic characteristics as well as with the beliefs about causation, severity and type of diarrhoea. Mothers having children under five years of age will be interviewed and observed at the time when children have diarrhoea. The members of the Community will be informally interviewed to obtain data on the type of health services. The study slum will be divided into clusters of houses from which a sample of clusters will be randomly drawn. At the end of each day the health workers will notify the investigator of any diarrhoea case detected. The investigator will visit the mother of the child with diarrhoea on the next day to gather information.

2. The protocol indicated a thorough understanding of the state of knowledge in the field. However, some of the ICDDR,B works thought relevant have been omitted, namely, as follows:

- i. Faruque et al. Young childhood diarrhoea management by mothers and village practitioners in rural Bangladesh, Trop. Geogr. Med. 37, 223-226, 1985
- ii. Aziz. Present trends in medical consultation prior to death in rural Bangladesh. Bangladesh Med. J. 6:53-58, 1977.
- iii. Ashraf. Health, disease and child care in rural Bangladesh. Soc. Sci. Med. 16, 2041-54, 1982
- iv. Islam, et al. Socioeconomic differentials of diarrhoea morbidity and mortality in selected villages of Bangladesh. J. Diar. Dis. Res. 2,

232-237, 1984

- v. Shahid et al. Beliefs and treatment related to diarrhoeal episodes reported in association with measles. Trop. Geogra. Med. 35,151-156, 1983
 - vi. Khan et al. Withdrawal of food during diarrhoea: major mechanism of malnutrition following diarrhoea in Bangladesh children. J. Trop. Pediat. 32, 57-61, 1986
3. Critique of research plan

The rationale for the research is clearly stated and supported by the background information given.

The experimental design is not adequately stated. Sample size selection is vaguely described. Plan of data collection appears to be very lengthy. Mother's occupation, mother's income, father's age, father's income, father's education, family income, distance of health facilities, cost of medicines, severity/type/symptoms of diarrhoea assessed by the mother, etc. are included in the list. There appears to be many overlaps and confounding variables in such a listing. These should be limited keeping in view the practicability of a mother's patience to respond. Not enough has been stated about details and procedures of data analysis. Statistical problems in study design and data analysis have not been given due attention.

4. The budget appears to be justified

I recommend this protocol for approval and congratulate the author for the efforts put into, in this regard. I hope she will improve the protocol by including the points which have been raised.

MSI/mbs

cc: Dr. Tanjina Mirza

Minutes of CHD Meeting

The November meeting of the CHD was held on 12.11.1989 from 2:00 p.m. to 3:30 p.m. with Dr. K.M.A. Aziz in the chair.

Following members were present:

1. Syed Mizan Siddiqi
2. R. Boiragi
3. V. Fauveau
4. Bilqis Amin Hoque
5. Md. Yunus
6. Andrew Hall
7. Abu Eusof
8. A.I. Chowdhury
9. Kh. Zahid Hassan
10. M.A. Wahed

Following agenda were discussed:

1. Minutes of the last meeting was approved. The Secretary was requested to give some more information about protocols and presentations.

2. Protocol presentation:

Dr. Andrew Hall presented the protocol entitled, "A study of childhood diarrhea treatment practices of mothers in an urban slum of Dhaka, Bangladesh" - Drs. Tanjina Mirja, P. Underwood and A. Hall.

The protocol was reviewed by Dr. Sushila Zetline and Mr. M. Shafiqul Islam. The protocol aims to look at the perception of diarrhea and its treatment by the mothers in urban slums of Dhaka. Slum cluster will be randomly selected. He also mentioned that this is a qualitative and descriptive study for a masters dissertation of Dr. Tanjina who is studying at Perth in West Australia. Children (1-5 years) will be recruited. Data on family influence, socioeconomic, demographic, cost of treatment and the behaviour of mother immediately after diarrhea will be collected. Dr. Silimperi will be contacted for selection of slums and clusters.

On this protocol CHD group members expressed their views on the following points:

- a) Age bias should be looked into. Age group may be 3-5 years because of sample size constraints.
- b) Sample size should be calculated.
- c) Diarrhea episode should be well defined.
- d) More reference is needed.
- e) Data analysis plan should be included.
- f) Mother's characteristics and birth order of the child should be considered.
- g) Data available in Urban Volunteer Program for different rates could be used for sample size calculation.
- h) The protocol should go to the reviewers with the CHD minutes signed by Acting CHD Head to make the process faster. Due to time constraint the external reviewers for the protocol may be selected from Bangladesh.
- i) Student's proposals may be considered in a different way and be discussed with the decision makers.

3. Review of paper of Mr. Shafiqui Islam

Review : Drs. Aziz, Shakuntala and K. Stewart

Mr. Shafiqui Islam requested to consider his protocol next month. This was agreed.

4. Consultative Management Committee

The following persons were nominated to be the members of the Consultative Management Committee for a one year period:

1. Dr. K.M.A. Aziz
2. Dr. A.K.M. Siddique
3. Dr. Md. Yunus
4. Dr. Diana R. Silimperi

It was resolved that one of the members will be dropped through a decision by the CHD when the Associate Director of the Division is appointed.

5. Mr. Neaz Ahmed was accepted for Associate member