

Date Oct. 13, 1983

ETHICAL REVIEW COMMITTEE, ICDDR,B.

9

Principal Investigator Dr. Lee Riley / Dr. Stephen Waterman Trainee Investigator (if any) _____

Application No. 83-038(P) Supporting Agency (if Non-ICDDR,B) _____

Title of Study Study of Temporal Trends Project status:

in Post-Monsoon El Tor and Classical
Biotype Cholera in Bangladesh
 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 an overview (all other requirements will be submitted with individual studies).
 - Protocol (Required)
 - Abstract Summary (Required)
 - Statement given or read to subjects on 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 Cttee. for review.

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

Lee W. Riley
Principal Investigator

Trainee

REF
WC 262. JB2
R 573s
1983

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SECTION-I

PILOT PROTOCOL

1. Title : Study of Temporal Trends in Post-Monsoon El Tor and Classical Biotype Cholera in Bangladesh.

2. Principal Investigators : Dr. Lee W. Riley, Dr. Stephen H. Waterman

Co-Investigators : Dr. A.S.G. Faruque, Dr. John Clemens, Dr. Nigar S. Shahid, Dr. A.H. Baqui, Dr. Jeffrey R. Harris, Dr. Mary E. Chamberland & Dr. M.I.Huq.

- Consultants : Dr. W.B. Greenough, Dr. M.U. Khan

3. Starting Date : Beginning of 1983 Post-Monsoon Cholera Season.

4. Completion Date : End of 1983 Post-Monsoon Cholera Season.

5. Scientific Program Head :

6. Total Direct Cost : \$ 3,006.00

This protocol has been approved by the

Working Group.

Signature of Scientific Programme Head

Date

REVIEWS

(i) Ethical Review Committee : _____

(ii) Research Review Committee : _____

(iii) Director : _____

7. Abstract Summary:

The recent appearance of a new classical biotype of V. cholerae during the 1983 cholera season will provide an opportunity to conduct a series of epidemiologic investigations during separate outbreaks in Bangladesh. Two case-control studies will be conducted during each outbreak in discrete villages or unions to determine if epidemiologic patterns of each biotype change over time during the cholera season. One study will determine possible vehicle(s) for primary infection and the other will examine risk factors for secondary transmission within households. By comparing results of these studies from each outbreak during the entire season, we will define the temporal trend of Classical and El Tor cholera and attempt to examine if such data will provide possible explanation(s) for the reappearance of a classical biotype, and hence possible environmental factors related to cholera.

SECTION-IIPILOT PLANPROPOSAL FOR A STUDY OF TEMPORAL TRENDS
IN POST-MONSOON EL TOR AND CLASSICAL
BIOTYPE CHOLERA IN BANGLADESH(A). INTRODUCTION1. Objectives:

This project will examine 2 epidemiologic questions in a temporal fashion. (i) To identify possible source(s) or risk factor(s) for an illness caused by El Tor or new classical strain in an index case in a household and determine if such risk factors change over the course of one season. (ii) To identify specific risk factors for occurrence of secondary transmission within a household during an epidemic in a single union and determine if these risks are different for El Tor or classical biotype and if they are affected by change in risk factors for primary infections.

2. Background:

During the cholera season in 1982, the classical strain of Vibrio cholerae O1 became the predominant biotype of epidemic cholera in Bangladesh for the first time in nearly 10 years, almost replacing the El Tor biotype by the end of the season(1). Several investigations have been already under taken at ICDDR,B to study this phenomenon. One study showed that despite indistinguishable biochemical markers of the current and previous epidemic classical strains, the two are

not identical organisms (2). A recent hospital surveillance-based study suggested that the new classical strain is more virulent than the concurrent epidemic El Tor strain (personal communication: Dr. N. Shahid, ICDDR-B). These preliminary reports, and works done in the early 1970's in Bangladesh (3,4) suggest that the epidemiologic, microbiologic, and clinical features of the 2 biotypes are indeed different. A series of investigations of outbreaks under more controlled situations will help to elucidate those differences.

3. Rationale:

Seasonality is one peculiar feature of cholera. Previous epidemiologic studies of cholera have been conducted during different periods of a cholera season and in different years. Some studies analysed data obtained for an entire season (1,4). These studies produced varying results. It is possible that epidemiologic features of V. cholerae infections in early phase of a cholera season is quite different from later periods. During the beginning of a season, a common-source vehicle may be important, whereas during later periods, human behavior pattern that predisposes to person-to-person transmission may become more important. A series of separate investigations

of discrete outbreaks would also provide a greater chance for identifying risk factors for primary infections, which will facilitate clearer family transmission studies. If each of these investigations can begin as soon as outbreaks occur and if such outbreaks involve one, the other, or both biotypes, the epidemiologic and possibly microbiologic features of each biotype over time can be better understood.

(B) SPECIFIC AIMS

To determine epidemiologic characteristics of El Tor and current classical cholera in a temporal fashion.

(C) METHODS OF PROCEDURE

The Ministry of Health of Bangladesh has requested ICDDR,B to assist in the national surveillance and control of cholera during the anticipated season. As a part of this project, ICDDR,B has trained and organized a team of Government physicians and health workers, ICDDR,B physicians and epidemiologists, and Centers for Disease Control medical epidemiologists to investigate and control outbreaks, and to assess the current national surveillance system. The study proposed in this protocol can be appropriately incorporated into this Government project, since the study will involve collection of data necessary for the execution and evaluation of the Government surveillance activity in each outbreak investigation.

After notification of the team of a cholera outbreak, following investigations will be conducted:

I. Case finding and ascertainment:

Members of the team will record all cases of suspected cholera cases seeking medical attention at hospitals, health centers, or temporary treatment centres. The number of persons with recent diarrhoea (onset within the 2-week period before arrival of the team on the scene) will be determined and characterized in terms of time, place, and person. In addition, the number of suspected cases not seeking medical attention will be estimated by 1) asking those seeking medical attention (or their family members) the number of diarrhoea cases in other members of the family in the previous 2 weeks, and (2) surveying the affected union (s) for additional cases that did not seek medical attention. (The Government is already conducting an emergency daily surveillance of diarrhoeal diseases in diarrhoea and flood-affected areas, so this activity poses no additional work for the team). All deaths due to diarrhoea will be recorded. Information obtained on all suspected cholera cases and deaths will be recorded on a line list. Such information will include demographic data, time and date of onset of diarrhoea (and/or death), duration, occurrence and number of cases of diarrhoea in other family

members, treatment given at the health centre , and laboratory data (stool culture, serology).

II. Case-control study to examine risk factors for symptomatic primary infection:

1. Case definition of a symptomatic primary infection (Primary case):

- (A) Diarrhoea (as defined by WHO) in a household member who has had no other family member with diarrhoea in the 2 weeks preceding the case's onset of diarrhoea, and
- (B) V. cholerae O1 is isolated from diarrhoeal stool and/or 4-fold or greater rise in paired-serum vibriocidal anti⁴⁷ body is demonstrated.

2. Selection of a primary case: Since at the time of the outbreak

investigation, diagnosis of cholera in every diarrhoea case can not be confirmed, all suspected cholera cases meeting part A of the case-definition will be initially selected. These presumptive cases will be selected from the line list generated during the case-ascertainment phase of the investigation. If, at the time of selection, the case is having active diarrhoea, swab/stool culture will be performed. If the selected case is no longer having diarrhoea, but the onset of diarrhoea was less than 7 days before interview, finger stick blood specimen

will be obtained. All presumptive cases must be confirmed as cholera to be ultimately included in the case-control analysis.

3. Control definition: A well person from a neighbouring household who does not share the same dwelling, matched by age.
4. Selection of control: One control fitting the above definition will be selected at random from a household in the neighbourhood of the selected primary case. If the outbreak community is a bari, all matched case-control pairs should be selected from the same bari. If the control's stool cultures are shown later to be positive for V.cholerae, or the paired sera show 4-fold or greater rise in vibriocidal antibody, the selected person will be dropped as a control.

III. Case-control study to examine risk factors for secondary transmission within a family.

1. Definition of a family: All members of a household who eat and sleep in the same dwelling.
2. Definition of a case-family: A family with a primary case selected in the first case-control study (see definition II-1) that has secondary cases, which will be defined as other cases of diarrhoea with onset 3-14 days after onset of diarrhoea of the primary case.

3. Selection of a case-family: Families that have 2 or more suspected symptomatic cholera cases, including the primary case from the first case-control study, will be selected as case-families. If a secondary case is later shown to have negative stool culture for V. cholerae and/or paired-sera do not show 4-fold or greater rise in vibriocidal antibody, he or she will be dropped as a secondary case. Asymptomatic persons who have positive stool cultures for V. cholera or asymptomatic persons whose stool is negative for V. cholerae but has 4-fold or greater rise in vibriocidal antibody will not be included in the case control analysis.
4. Definition of a control family: A family with the primary case selected in the first case-control study (see definition II-1) that has no secondary cases.
5. Selection of a control family: A neighbourhood household that meets the above definition will be selected as soon as the case-family is identified. It can be identified from the line-list generated earlier.

IV. LABORATORY EXAMINATIONS

(1) Environmental sampling: Suspect foods, leftover foods, recently-used utensils drinking, cooking, washing, bathing, and swimming water (from tubewells, surface water), will be sampled to examine for the presence of V. Cholerae O1 in both case and control family households. Water and foods will be sampled once, on the day of the interview, and will be done by the laboratory technician. Moore swab will be used to isolate V. cholerae from water. Flowing water will be sampled by leaving the swab attached to string overnight. Standing water will be sampled by filtering 5 liters through the swab, or if stored water, the entire amount in the storage container. The swabs will be placed in sterile glass container with single-strength bile-peptone medium. Swabs soaked in bile-peptone medium will be used to scrub inside surfaces of cooking utensils. Sampling will not be done for the household that had no cases (that is, households from which control for the first case-control study was selected). More intensive effort will be made to culture sources if a preliminary analysis of the data shows association with particular sources.

(2) Human specimens: Stool cultures (rectal swab/fresh stool) in the primary infection case control study will be done on all selected cases and controls. The primary case will be cultured for 10 consecutive

days, whereas its matched control will be cultured for 3 consecutive days, beginning the same day of culture of the case. In the secondary transmission study, stool cultures will be done only for symptomatic cases for 3 consecutive days as soon as possible after diarrhoea begins.

Paired serum 0.05 ml by finger stick will be obtained 10-14 days apart from every member of the case and control family in the secondary transmission case-control study. The drop of blood suctioned into a capillary tube will be transferred immediately into a sterile glass vial containing 0.45 ml normal saline.

V. INTERVIEWS:

(1) Questionnaire: Part of the interview questionnaire will be designed in the field at the time of the outbreak to include questions appropriate for the situation. The attached questionnaire (appendix A) will be used for the case-control pairs in the primary infection case-control study, as well as for the family transmission study.

(2) Home visits: Members of the team that includes at least 1 health worker to perform environmental sampling and specimen collection will visit the selected households.

VI. DATA ANALYSIS:

Each outbreak will be analysed separately. At the end of the cholera season, results of these separate analyses will be compared to examine for temporal trends in clinical, microbiologic, and epidemiologic characteristics. Cluster analysis will be used for family transmission study.

VII. SIGNIFICANCE:

This study will provide for the first time a temporal trend in the epidemiology of El Tor and the new classical cholera in Bangladesh. This may provide information that could lead to the understanding of the relationship between this disease and the environment which in turn, may provide better ways to control the disease.

REFERENCES:

1. Samadi AR, Huq MI, Shahid N, Khan MU et al. Classical Vibrio cholerae biotype displaces El Tor in Bangladesh. Lancet 1983; 1:805-808.
2. Huq MI, Sanyal SC, Samadi AR, Monsur KA. Comparative behaviour of classical and El Tor biotypes of Vibrio cholerae O1 isolated in Bangladesh during 1982. J. Diar Dis Res. 1983; 1:5-9.
3. Bart KJ, Huq Z, Khan M, Mosley WH. Seroepidemiologic studies during a simultaneous epidemic of infection with El Tor Ogawa and Classical Inaba V. cholerae. J. Infect. Dis. 1970; 121:S17-S24.
4. Woodward WE, Mosley WH. The spectrum of cholera in rural Bangladesh. II. Comparison of El Tor Ogawa and Classical Inaba infection. Am. J. Epid. 1972; 96:342-351.

SECTION III
A DETAILED BUDGET

			<u>PROJECT REQUIREMENTS</u>	
<u>1. PERSONNEL SERVICES</u>			<u>AMOUNT IN</u>	<u>AMOUNT IN</u>
<u>Name</u>	<u>% Time</u>	<u>Duration</u>	<u>TAKA</u>	<u>US \$</u>
Dr. Lee W. Riley			Already covered	
Dr. Stephen H. Waterman				
Dr. A.S.G. Faruque				
Dr. John Clemens				
Dr. Baqui				
Dr. Nigar S. Shahid				
Dr. M.I.Huq				
Dr. M.U. Khan (Consultant)				
Dr. W.B.Greenough (Consultant)				
Microbiology Technician (Field)	50%	6 months		492.50
Microbiology Technician (Laboratory)	50%	6 months		492.50
Immunology Technician (Laboratory)	20%	6 months		<u>197.00</u>
				1182.00
<u>2. SUPPLIES & MATERIALS</u>				
Transport media, culture plates for <u>V. cholerae</u> , rectal swabs 1000 X 11			Tk.11,000.00	
Water samples cultured 3 X 50 X 2 X 11 =			Tk. 3,300.00	
Food samples cultured 3 X 50 X 2 X 11 =			Tk. 3,300.00	
<u>3. EQUIPMENT</u>				
20 boxes of vials, lancet, gauze, cotton, spirit, micropipette, strings, labels				200.00

PROJECT REQUIREMENTS

	<u>AMOUNT IN TAKA</u>	<u>AMOUNT IN US \$</u>
4. <u>PATIENT HOSPITALIZATION</u>		
None		
5. <u>OPD CARE</u>		
100 patients X 20 Taka	Tk. 2,000.00	
6. <u>ICDDR,B TRANSPORT</u>		
700 miles at 8 Taka/mile	Tk. 5,600.00	
Driver charge: 7 X18X24	<u>Tk. 3,024.00</u>	
	Tk. 8,624.00	
7. <u>TRAVEL & TRANSPORTATION</u>		
None		
8. <u>TRANSPORTATION OF THINGS</u>	Tk. 1,000.00	
9. <u>RENT, COMMUNICATION & UTILITIES</u>		
Stay at Government Bungalows		
14 days X 2 X 250	Tk. 7,000.00	
10. <u>PRINTING & REPRODUCTION</u>		50.00
11. <u>OTHER CONTRACTUAL SERVICES</u>		
None		
12. <u>CONSTRUCTION & RENOVATION</u>		
None		
13. <u>MISCELLANEOUS</u>		
Boatmen, Richshaw, etc.		100.00
	<u>Total Tk. 36,224.00</u>	<u>US \$1,532.00</u>

(B) BUDGET SUMMARY

<u>CATEGORY</u>	<u>AMOUNT IN TAKA</u>	<u>AMOUNT IN DOLLAR</u>
1. Personnel Services	-	1182.00
2. Supplies & Materials	17,600.00	-
3. Equipment	-	200.00
4. Patient Hospitalization	-	-
5. Outpatient Care	2,000.00	-
6. Transport	8,624.00	-
7. Travel and Transportation of persons	-	-
8. Transportation of things	-	-
9. Rent, Communication, and utilities	7,000.00	-
10. Printing and reproduction	-	-
11. Other contractual services	-	-
12. Construction and renovation	-	-
13. Miscellaneous	-	-

TOTAL TK.36,224.00 US\$ 1,532.00
 \$ 1474.00

Grand Total \$ 3006.00

ABSTRACT SUMMARY

Two case-control studies will be conducted during outbreaks in discrete villages or unions to determine if epidemiologic patterns of El Tor or classical biotype cholera change over time during one cholera season. One study will determine possible vehicle(s) for primary infection and the other will examine risk factors(s) for secondary transmission within each household. We will examine if these risk factors change over the course of the post-monsoon cholera season.

In order to assure appropriate selection of controls in each outbreak, serologic criterion, based on vibriocidal antibody level will be used to eliminate asymptotically-infected persons. This will require fingerstick blood samples from the study population. Environmental and food sampling will also be conducted to determine if epidemiologic findings are supported by laboratory findings.

This epidemiologic study is part of a project established by the government of Bangladesh with the assistance of ICDDR,B to combat cholera epidemics. The primary objective of the program involves prevention of deaths and treatment of severe dehydration due to cholera. The epidemiologic study is to be conducted to search for possible sources of the disease and factors that lead to secondary transmission in the field so that preventive measures can be quickly established. Hence each outbreak investigation is a necessary component of the program.

1. The population will be from all ages, religions and both sexes of areas where outbreaks of cholera are occurring. Both ill and non-ill controls will be studied.
2. No major risk is involved in this study. Rectal swabs are harmless procedures and finger stick blood samples, though momentarily uncomfortable, are also benign and have been performed on thousands in serosurveys (including WHO serosurveys for EPI programs) without any ill effect whatsoever.
3. Rectal swab will be soaked in sterile saline to minimize discomfort. Candy will be given to children to help them quickly forget their finger sticks.
4. The purpose of the study will be explained to the subject or the guardians of the subjects right in their own premises. A consent form will be signed by every family (see attached consent form). They will be at liberty to withdraw at any time from the study. Their refusal or withdrawal will not bar them from obtaining hospital treatment in anyway.
5. Interviews will be conducted with patients selected from line listings. Interviews will also be conducted with members of case control households at their homes. In the index case study, one control individual will be interviewed at his home. The study will be explained to the individuals or households involved and if they agree, consent forms will be signed. The interview may take about 30 minutes.
6. All cases will be treated at the established outbreak treatment center or for those milder cases, treatment will be at home.

If risk factors for index case infection and secondary transmission can be identified, then preventive measures may be taken to prevent spread of cholera in the same and other community. The treatment provided by the epidemic control team and the possibility of improved cholera prevention should outweigh the minor inconvenience.

7. We will ask for names, age, sex, religion, number of member in the family, water use pattern, diet and person to person contacts such as caring for ill members of the family. We doubt if any of those matters will be considered confidential by the family involved. However, even if they are, the records will be treated confidentially and will not be available to anyone outside of the investigator group at ICDDR,B.

CHOLERA EPIDEMIC QUESTIONNAIRE

Case ? _____
 Check one: Control? _____
 ID Number _____
 Household Member's Name: _____

Cholera vaccination in the last 2 weeks ?

Yes/ No

1. What source of water do you use for the following activities? (check all appropriate lines)

	<u>Tubewell</u>	<u>River/Canal</u>	<u>Pond</u>	<u>Tank</u>	<u>Dug Well</u>	<u>Ditch</u>	<u>Other (specify)</u>	<u>Donot Do</u>
A. Drinking:	_____	_____	_____	_____	_____	_____	_____	_____
B. Bathing:	_____	_____	_____	_____	_____	_____	_____	_____
C. Swimming:	_____	_____	_____	_____	_____	_____	_____	_____
D. Washing Mouth	_____	_____	_____	_____	_____	_____	_____	_____

2. What source of water do you most frequently use for these activities ? (check 1 category for each activity)

	<u>Tubewell</u>	<u>River/Canal</u>	<u>Pond</u>	<u>Tank</u>	<u>Dug Well</u>	<u>Ditch</u>	<u>Other (specify)</u>	<u>Don't Do</u>
A. Drinking:	_____	_____	_____	_____	_____	_____	_____	_____
B. Bathing:	_____	_____	_____	_____	_____	_____	_____	_____
C. Swimming:	_____	_____	_____	_____	_____	_____	_____	_____
D. Washing Mouth	_____	_____	_____	_____	_____	_____	_____	_____

3. If you swim, how long do you usually swim ? (circle only 1):

(a) less than 1 hour, (b) 1-2 hrs. (c) more than 2 hrs.

4. How often do you swim ? (circle only 1):

(a) once a week or less, (b) 2-4 times a week (c) 5 or more times a week.

5. If you bathe, how long do you usually bathe ? (circle only 1)

(a) less than 5 minutes (b) 5-15 minutes (c) if more than 15 minutes,
specify how long: _____

6. Did you work with jute in the water in the last 2 weeks ? : Yes / No.

7. In the 3 days before _____, did you eat any of the following
foods ? (check all appropriate lines)

(a) Rice _____	(e) _____
(b) Dal _____	(f) _____
(c) Fish eggs _____	(g) _____
(d) Shrimp _____	(h) Other, specify: _____

8. Were any of the foods you ate in the past 3 days stored overnight ? (circle 1)

Yes / No / Don't know	Were these recooked before eating ? _____
If yes, specify foods: _____	-- Yes / No / Don't know
_____	-- Yes / No / Don't know
_____	-- Yes / No / Don't know

9. Where did you obtain the food items you ate above ? (check lines)

	<u>Home (own land)</u>	<u>Market</u>	<u>Hawker</u>	<u>Other (specify)</u>
(a) Rice	_____	_____	_____	_____
(b) Lentils	_____	_____	_____	_____
(c) Fish eggs	_____	_____	_____	_____
(d) Shrimp	_____	_____	_____	_____
(e) _____	_____	_____	_____	_____
(f) _____	_____	_____	_____	_____
(g) Other (specify)	_____	_____	_____	_____

10. Do you wash your hands ? If yes, what do you use? (circle)
- a) before eating ? (circle 1): Always/sometimes/never -- water only/soap/ash
- b) before preparing food ? : Always/sometimes/never -- water only/soap/ash
- c) after defaecating ? : always/sometimes/ never -- water only/soap/ash

11. Have you had any of the following types of contact with a family member(s) during the time he or she was having diarrhoea:

<u>Contact</u>	<u>Name</u>		
a) Fed this person	1. _____	2. _____	3. _____
b) Slept next to this person	_____	_____	_____
c) Touched this person's hands	_____	_____	_____
d) Changed clothes of this person	_____	_____	_____
e) Bathed this person	_____	_____	_____
f) This person bathed you	_____	_____	_____
g) This person changed your clothes	_____	_____	_____
h) This person fed you	_____	_____	_____
i) Ate food prepared by this person	_____	_____	_____
j) Other (specify)	_____	_____	_____

12. If you had contact with person(s) outside of your family while this person had diarrhoea what type of contact did you have ? (circle all):

a) fed this person, b) played with this person, c) touched this person's hands, d) changed clothes, e) bathed this person, f) this person bathed you, g) this person changed your clothes, h) this person fed you, i) you ate food prepared by this person, j) other (specify) _____

13. Did you travel outside of the village in the past 2 weeks ? Yes/ No

14. If yes, where ? (village, thana, district): _____

15. Have you attended any large community gathering in the past 2 weeks ?

Yes / No. If yes, a) What was it ? _____

b) Where was it ? _____

c) Where was it ? _____

THE FOLLOWING QUESTIONS ONLY HAVE TO BE ANSWERED ONCE FOR EACH HOUSEHOLD:

16. Is there a tubewell near your house ? Yes/ No

If yes, has it been functional in the last 2 weeks, Yes/No

Was it submerged by flood water ? Yes/ No

17. What water source is most frequently used for following activities ?

check ✓ one only)

	<u>Tubewell</u>	<u>River/Canal</u>	<u>Pond</u>	<u>Tank</u>	<u>Dugwell</u>	<u>Ditch</u>	<u>Other (specify)</u>	<u>Do</u>
A. Washing dishes and utensils	_____	_____	_____	_____	_____	_____	_____	_____
B. Cooking	_____	_____	_____	_____	_____	_____	_____	_____

18. Are there any cattle in your bari ? Yes / No.

19. What kind of feed has been given to them in the last 2 weeks ?

a) grass, b) water hyacinth, c) both, d) don't know, e) other specify) _____

20. Who usually handles cattle dung in your home ? Name: 1. _____

2. _____

3. _____

CONSENT FORM

There is now a cholera epidemic in this neighborhood. You are/may be affected with the cholera germ. This disease can spread to other members of your family, to your neighbors, or to other relatives. We would like to examine your stool/rectal swab and samples of water and foods in your home. We would also like to obtain 1 drop of finger tip blood on 2 occasions. This will help us determine if you have been infected with the cholera germ. The history of your illness and stool examination results will not be disclosed to other people. We will arrange treatment of diarrhea if any member of your family is affected.

Treatment will not be denied to you even if you do not participate in our study. Please put your L.T.I. or signature if you agree to our proposal.

I/I on behalf of my dependents hereby agree to cooperate with this study.

Signature/LTI of

Mr./Mrs. _____

Patient No. _____

Date. _____

স্বচ্ছাতিপত্র

এই অঞ্চলে বর্ধমান কালের ব্যবসায়ি দেখা দিয়াছে। আপনি এখন অথবা আর কালের জীবন দ্বারা অক্ষয় হতে পারেন। এই যোগটি আপনার পরিবারের সদস্যদের স্বার্থ, প্রতিবেশীদের স্বার্থ অথবা অস্বার্থীদের স্বার্থ বিস্তার লাভ করতে পারে। আমরা আপনার সামর্থ্য অথবা কৃতি দ্বারা মূল্যবান (যেহেতু সামর্থ্যের ন্যূনতা, আপনার স্বাস্থ্যের মান, ও স্বাস্থ্যের ন্যূনতা পরীক্ষা করে দেখাযে। আমরা ২ বার আপনার অক্ষয় থেকে ২ ফোর্টস করে শুরু দেব। এই পরীক্ষা দ্বারা আমরা জানতে পারবো আপনি এই কালের জীবন দ্বারা অক্ষয় হতে পারেন। আপনার স্বাস্থ্যের বিবরণ এবং সামর্থ্যের পরীক্ষার ফলাফল অন্য কোনো ক্ষেত্রে জরুরি হলে তাই। আপনার পরিবারের কোন সদস্যের জর্জরিত হলে আমরা তার চিকিৎসা করব।

আপনি এই সারসংক্ষেপ অংশগ্রহণ না করলেও আপনার চিকিৎসা করা হবে। আপনি অক্ষয় প্রক্রিয়ার ব্যক্তি হলে তাই স্বাস্থ্যের / চিকিৎসা গ্রহণ দিল।

আমি / আমি আমার পরিবারের জন্য যেকোন অস্বাস্থ্যকর করতে স্বাস্থ্য গ্রহণ।

স্বাস্থ্য/চিকিৎসা গ্রহণ _____

নাম _____

বাসস্থান নং _____

তারিখ _____