CENTRE
FOR HEALTH AND
POPULATION RESEARCH

INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH, BANGLADESH
Mail : ICDDR,B, GPO Box 128, Dhaka-1000, Bangladesh
Phone : 871751-60, Telex : 675612 ICDD BJ
Fax : 880-2-883116, 886050, 871568, 871686, Cable : Cholera Dhaka

MEMORANDUM

14 March 2001

To : Dr. Rubhana Raqib
Laboratory Sciences Division

From: Professor Mahmudur Rahman
Chairman, Ethical Review Committee (ERC)

Sub : Approval of protocol # 2000-035

I have the pleasure to inform you that your protocol # 2000-035 (REVISED) entitled "Assessment of active tuberculosis infection by T cell responses to purified antigens in tuberculosis patients: comparative study between patients and household contacts" has been approved the ERC in its meeting held on 11th March 2001.

Thanking you and wishing you success in running the said study.

cc: Acting Head
Laboratory Sciences Division

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The revised protocol has incorporated the suggested changes. Therefore the protocol may be considered for approval

11/03/2001

To: Chairperson, ERC

Through: Acting associate Director, LSD

From: Rubhana Raqib, LSD Rubhana

Subject: Protocol # 2000-035

Date: February 28, 2001

Thank you for the review of the protocol entitled "Assessment of active tuberculosis infection by T cell responses to purified antigens in tuberculosis patients: comparative study between patients and house hold contacts" (Protocol-2000-035). The title has been changed to "Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients". The responses to specific comments are given below:

a) The specific aims have been rephrased (page 6) as well as the title of the protocol as suggested to reflect the purpose of the study.

b) Patients with smear positive pulmonary tuberculosis are cases of active tuberculosis. This has now been mentioned in page 11. A family contact can only be diagnosed infected when his/her sputum is positive for AFB and radiological abnormalities consistent with tuberculosis are present. In this study using the immunological parameters we will only be able to state that a family contact showing high gamma interferon levels after stimulation of cells with ESAT-6, high ALS response and decreased CTL have high chances of getting the active or full blown infection in the near future. Such studies are going on in Ethiopia and Gambia and published papers have also reported that contacts studied over a period of 2 years who responded with high IFN-γ levels developed active disease within a span of 6 months to 2 years [Ravn P et al, J Infect Dis, 1999; Andersen P, Lancet, 2000]. Healthy family contacts will serve as controls who do not show any clinical symptoms of the disease. This information has been included in the methodology section (page 11) and the appendix (page 19).

c) This is a typographical error in the formula and has been corrected (page 12). In this study we will follow a patient to monitor therapeutic response. The drug sensitivity is required because this information is essential to find out whether a patient is recovering after treatment or whether he/she is a case of treatment failure due to drug resistant strain.

d) In tuberculosis, majority of patients have high titers of circulating antibodies against various antigens in serum. Patients with active or chronic disease or relapse cases, all show similar levels of antibody titers that persist in serum for a long period of time. With treatment no changes are seen in the titers of these antigen-specific antibodies. Therefore it is impossible to assess the outcome of the treatment. However, using the ALS method it will be possible to monitor treatment efficacy. A recent study has shown that a drastic drop in antibody secreting cells is evident within 8 days after the initiation of chemotherapy that disappear within a month [Sousa AO et al, Tubercle & Lung Dis, 2000]. However, only those patients who did not respond to the antimicrobial therapy had persistently high levels of antigen-specific-antibody secreting cells. In the ALS method (comparable to ELISPOT method), cultured lymphocytes secrete antibodies in the supernatant. Antigen specific antibody levels secreted in this supernatant will be measured by an ELSIA method. Decrease in antibody levels will reflect the effectiveness of the treatment while an increase or persistence of antibodies will reflect inefficiency of the treatment.

e) The standard cut off value of 300 pg/ml is the outcome of a number of studies carried out both in TB endemic and non endemic countries. In endemic countries, people are exposed to various pathogens and in these healthy individuals IFN-γ levels have been found to be higher than in people residing in developed countries. Based on these studies, we have decided to have the same cut off level as described for other studies. However, if levels of IFN-γ in our population is lower we will be able to have a lower cut off value based on these data.

f) We are sorry for the inadvertent discrepancies in the consent forms. We have attempted to translate the English consent form word by word into Bangla. Due to difficulty in explaining the scientific terms in English such inconsistencies were noticeable.

g) We apologize for the mistake of not including the ERC face sheet.

We hope that the protocol after modifications and incorporations of the suggested points is now acceptable in its present form.

Thanking you.

c) In this study we will follow a patient to monitor therapeutic response. The drug sensitivity is required because this information is essential to find out whether a patient is recovering after treatment or whether he/she is a case of treatment failure due to drug resistant strain. This is a typographical error in the formula and has been corrected (page 12).

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Thanking you.

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MEMORANDUM

7 February 2001

To : Dr.Rubhana Raqib
Laboratory Sciences Division

From : Professor Mahmudur Rahman
Chairman, Ethical Review Committee (ERC)

Sub : **Protocol # 2000-035**

Thank you for your protocol # 2000-035 entitled "Assessment of active tuberculosis infection by T cell responses to purified antigens in tuberculosis patients: comparative study between patients and household contacts" which the ERC considered in its meeting held on 31st January 2001. After thorough review and discussion, the Committee made the following observations on the protocol:

(a) The aims of the protocol (page # 6) are not appropriately articulated and therefore needs to be re-written. The title is not in conformity with the purpose of the study.

(b) The design and the methodologies of the study are not clear. The PI has not clearly stated the different between a case of active tuberculosis and an infected contact (page 6, para 1). The PI has mentioned that AFB positive infected contacts will be included in the study. It has not been mentioned in the protocol which group is to be used as control for comparison. It may be mentioned that in a TB endemic regions almost all become infected by adulthood though not all progress to active infection. Only a minority of infected individuals develops active disease.

(c) It is not clear why the PI wants to do the drug sensitivity. Also the methodology for calculating the resistant Mycobacteria is not correct (page 12). The denominator should be number of organisms (colonies) on the control media rather than resistant number of organisms on the control media.

(d) Determination of ALS response is not understandable. The reason for determining the antigen specific antibody in unstimulated culture supernatant is not understood (page 12). Why not serum be used?

(e) It is not understood how the value of 300 pg/ml of INF-r is taken as cut off point (page 12). The value may be different in individual residing in a TB endemic zone.

(f) Consent form: There is discrepancy in translation of all consent forms (for patient and family contacts) from English to Bangla (para 1 and 2). Also the purpose of the study is not correctly stated in the consent forms (para 2).

(g) The PI has not attached ERC Face Sheet to the protocol.

The Committee observed that it may not be ethical to use human subjects for a study, the purpose of which is not clearly defined and which would not produce any useful results due to lack of proper methodolgies. You are, therefore, advised to modify the protocol incorporating the above observations of the Committee and **resubmit** the modified copy of the protocol for consideration of the Committee.

Thank you.

cc: Chairman, Research Review Committee
Associate Director (Acting), LSD

Attachment 1

Date: 1-3-2001

(FACE SHEET) **ETHICAL REVIEW COMMITTEE, ICDDR,B.**

Principal Investigator: Rubhana Raqib

Application No. 2000-035

Title of Study:

Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

Trainee Investigator (if any): _____

Supporting Agency (if Non-ICDDR,B) _____

Project Status: _____

[✓] New Study

[ ] Continuation with change

[ ] No change (do not fill out rest of the 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) Minor or persons under guardianship — (Yes) No

2. Does the Study Involve:
   - (a) Physical risk to the subjects — (Yes) No
   - (b) Social risk — 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 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 the study — (Yes) No
   - (b) Procedures to be followed including alternatives used — (Yes) No
   - (c) Physical risk — Yes (No)
   - (d) Sensitive questions — NA 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 parents or guardian (if subjects are minor) — (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 with 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. Example 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

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

Rubhana
Principal Investigator

Trainee

Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

Abstract summary for ethical review committee

Tuberculosis (TB) is at present the world's leading cause of death from infectious diseases accounting for 8 million new cases and 2 million deaths annually. In Bangladesh, about 300,000 new cases of TB occur in a year and there are about 80,000 deaths. It is the most common cause of death from a single source of infection among adults. About 0.5% of the population suffers from smear-positive pulmonary tuberculosis; the estimated average incidence of all forms of tuberculosis is twice the incidence of smear-positive pulmonary cases. The case detection rate is still below 50%, while the cure rate is relatively low. Failure to control tuberculosis at the national level is due to poor case detection, inadequate chemotherapy, and emergence of multidrug resistant strains of *M. tuberculosis*. While BCG vaccination can protect against noninfectious forms of disease such as miliary TB and TB meningitis, it affords little or no protection against infectious, post-primary, and pulmonary diseases in adults and does not interrupt the chain of transmission.

The PPD skin test has no predictive value for tuberculosis in BCG vaccinated individuals because of cross-reactive responses to non-specific constituents of PPD. In the recent years, purified protein antigens ESAT-6 and CFP-10 specifically expressed by *M. tuberculosis* but not by BCG strains, have been evaluated in patients with TB in various countries including Denmark, Germany, USA, Kuwait and Ethiopia. The immunodiagnostic method is based on stimulation of lymphocytes from TB patients with purified proteins (a combination of ESAT-6 and CFP-10) followed by measurement of IFN-γ secreted by these stimulated lymphocytes in the culture supernatant. Most patients responded to ESAT-6 (92%) and CFP-10 (89%) by producing high levels of IFN-γ while reactivity in healthy individuals was virtually absent. BCG-vaccinated individuals as well as PPD-negative controls do not show any response. Recently, ESAT-6 has been considered as a possible candidate for use in diagnosis of TB because of its high specificity and sensitivity.

Immune mechanisms necessary for protection are poorly understood, though studies using animal models and human infections have implicated T cells as an essential component of the immune response to *M. tuberculosis*. Major effector mechanism to eradicate *M. tuberculosis* is thought to be activation of infected macrophages by IFN-γ secreted by T cells. Activated macrophages then kill the bacteria by reactive nitric oxide species or reactive oxygen radicals. Second effector cells are the cytolytic T lymphocytes (CTL) that utilize different mechanisms to kill *M. tuberculosis* infected cells (such as granzyme A & perforin mediated killing or Fas-Fas ligand mediated killing).

Aims of the present study: To assess active tuberculosis, monitor therapeutic response in patients and determine immune correlates of protection against *M. tuberculosis*, patients with clinically suspected tuberculosis receiving anti-mycobacterial therapy will be studied: (1) By measuring ESAT-6 and CFP-10 specific IFN-γ response in peripheral blood. (2) By determining ALS response at the time of first presentation and 3 and 5 months after initiation of antimycobacterial therapy. (3) By enumerating cytolytic T cells (granzyme$^+$, perforin$^+$) at the three time points. The diagnostic technique will allow detecting whether a suspected patient is infected by *M. tuberculosis* and thereby confirm disease and thus play a major role in clinical decision-making by rapidly confirming or excluding TB. In addition, the method could be used for detection of early sub clinical TB in family contacts within the study period. Determination

of antigen specific antibody concentration by ALS method and frequency of CTL (containing both granzyme A and perforin) in blood of patients early on after the onset of therapy and followed for an extended period (3 time points) may serve as a potential tool in monitoring therapeutic response. It will be possible to delineate whether a patient is capable of eradicating the pathogen as compared to a healthy family contact. In totality, these methods will help to determine the immune correlates of protection against *M. tuberculosis*. By studying both patients and family contacts, the study will enable us to ascertain the suitability of one method or a combination of methods for the determination of correlates of protection.

The knowledge will be important for the development of improved diagnostic tests and better vaccine development and assessment of the efficiency of anti-tuberculosis vaccines. Rapid and improved diagnosis will help in interrupting the chain of disease transmission.

Ethical issues:

The present study will run in parallel to the parent study entitled "Epidemiology and surveillance of multidrug resistant Mycobacterium tuberculosis and assessment of directly observed therapy short course (DOTS) programme in selected areas of Bangladesh", (Protocol # 2000-13, PI: Dr K Zaman) and will be conducted at rural Matlab and urban Dhaka. All person aged ≥15 years of age with symptoms suggestive of tuberculosis will be identified (expected number 189) in the intervention area of Matlab Health and Demographic Surveillance System. In the parent study (Protocol # 2000-13), they will be interviewed in their homes and referred to Matlab for complete physical check up and examination of sputum and X-ray. Family studies will be conducted in Matlab and Dhaka. Families of TB cases will be interviewed. Permission to draw 7 ml of blood at 3 time points from these patients and 2 time points from family contacts will be required. Relevant information will be obtained from the parent protocol (Protocol # 2000-13).

1. The study subjects will have the study explained to them and will be asked if they agree to participate in the study. Those who agree to participate will have to sign informed consents form. For the children (aged 15-17 years), signed informed consent of the parents or guardians will be required.
2. Patients will receive clinical care and therapy as per norm. The study will not in any way interfere with the management and treatment of the patients. Patients may discontinue their participation in the study at any time point. This decision will not have any influence on the clinical management or therapy of the patients.
3. The proposed study involves repeated sampling of blood from patients (Please see appendix). Approximately 7 ml of venous blood (from median cubital vein) will be taken from adults (3 times, total volume of blood, 21 ml). Drawing of 21 ml of blood over a span of 6 months will not be detrimental to the participating patients. In case of family contacts, sampling will be done twice at an interval of 3 months (Please see appendix). There may be a momentary pain and a very small chance of bruising at the site of insertion of the needles. To minimize the chance of infection, aseptic precautions will be taken and disposable, sterile syringes and needles will be used for drawing blood.
4. Every effort will be made to keep the records strictly confidential and will be kept locked in a filing cabinet. Only the investigators will be allowed access to this data. If a person is suspected of having tuberculosis, he or she will be referred to the Shyamoli TB Clinic in Dhaka or the Matlab Thana Health Complex for further clinical verification using the standard procedures described in page 11. After confirmation, standard treatment

regimens of the National Tuberculosis Control Programme (NTP) will be given. Data will be analyzed and published without reference to any name or other identity.

5. Patients and their families will be benefited from the study. The cases will be diagnosed and treatment will be given free of costs. All patients will be given appropriate drugs after having sensitivity results. Rapid and improved diagnosis will allow detection of a case early in the disease process and will help in reducing spread among the family contacts.

ICDDR,B: Centre for Health & Population Research **RRC APPLICATION FORM**

RESEARCH PROTOCOL

Protocol No.: 2000-035

FOR OFFICE USE ONLY

RRC Approval: Yes√ / No Date: 14-01-2001

ERC Approval: Yes/No Date:

AEEC Approval: Yes/No Date:

Project Title:
Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

Theme: *(Check all that apply)*

- ☐ Nutrition
- ☐ √ Emerging and Re-emerging Infectious Diseases
- ☐ Population Dynamics
- ☐ Reproductive Health
- ☐ Vaccine evaluation
- ☐ Environmental Health
- ☐ Health Services
- ☐ Child Health
- ☐ Clinical Case Management
- ☐ Social and Behavioural Sciences

Key words: Immune based diagnosis,

Principal Investigator: Dr. Rubhana Raqib **Division:** LSD **Phone:** +880-2-8811751-60/2404
Address: Immunology, LSD, ICDDR,B **Email:** rubhana@icddrb.org

Co-Principal Investigator(s):

Dr. K Zaman

Co-Investigator(s):
Sayera Banu, Md. Ziaur Rahim, A Hamid Salim, Jahanara Begum, J Chakroborty, Jan Andersson, Peter Anderson

Collaborating Institute(s):
TB Research Unit, Statens Seruminstitut, Copenhagen, Denmark
Department of Infectious Diseases, Huddinge University Hospital, Karolinska Institute, Sweden

Population: Inclusion of special groups (*Check all that apply*):

Gender
- ☐ √ Male
- ☐ √ Females

Age
- ☐ 0 – 5 years
- ☐ 5 – 9 years
- ☐ √10 – 19 years
- ☐ √20 +
- ☐ _____)
- ☐ > 65

- ☐ Pregnant Women
- ☐ Fetuses
- ☐ Prisoners
- ☐ Destitutes
- ☐ Service providers
- ☐ Cognitively Impaired
- ☐ CSW
- ☐ Others (specify
- ☐ Animal

Project / study Site (*Check all the apply*):

- ☐ Dhaka Hospital
- ☐ Matlab Hospital
- ☐ √ Matlab DSS area
- ☐ _____ Matlab non-DSS area
- ☐ Mirzapur
- ☐ _____ Dhaka Community
- ☐ Chakaria
- ☐ Abhoynagar
- ☐ Mirsarai
- ☐ Patyia
- ☐ Other areas in Bangladesh
- ☐ Outside Bangladesh name of country:
- ☐ Multi centre trial (Name other countries involved)

Type of Study *(Check all that apply)*:

- ☐ √ Case Control study
- ☐ Community based trial / intervention
- ☐ Program Project (Umbrella)
- ☐ Secondary Data Analysis
- ☐ Clinical Trial (Hospital/Clinic)
- ☐ √ Family follow-up study
- ☐ Cross sectional survey
- ☐ Longitudinal Study (cohort or follow-up)
- ☐ Record Review
- ☐ Prophylactic trial
- ☐ Surveillance / monitoring
- ☐ Others

Targeted Population *(Check all that apply)*:

- ☐ No ethnic selection (Bangladeshi)
- ☐ Bangalee
- ☐ Tribal groups
- ☐ Expatriates
- ☐ Immigrants
- ☐ Refugee

Consent Process *(Check all that apply)*:

- ☐ √ Written
- ☐ Oral
- ☐ None
- ☐ √ Bengali language
- ☐ √ English language

Proposed Sample size:

Total sample size: 378 ☐

Sub-group 189 ☐

_____ ☐

_____ ☐

_____ ☐

Determination of Risk: Does the Research Involve *(Check all that apply)*:

- ☐ Human exposure to radioactive agents?
- ☐ Fetal tissue or abortus?
- ☐ Investigational new device?
  (specify_____)
- ☐ Existing data available from Co-investigator
- ☐ Human exposure to infectious agents?
- ☐ Investigational new drug
- ☐ Existing data available via public archives/source
- ☐ √ Pathological or diagnostic clinical specimen only
- ☐ Observation of public behaviour
- ☐ New treatment regime

Yes/No

☐√ ☐ Is the information recorded in such a manner that subjects can be identified from information provided directly or through identifiers linked to the subjects?

☐ ☐√ Does the research deal with sensitive aspects of the subject's behaviour; sexual behaviour, alcohol use or illegal conduct such as drug use?

Could the information recorded about the individual if it became known outside of the research:

☐ ☐√ a. place the subject at risk of criminal or civil liability?

☐ ☐√ b. damage the subject's financial standing, reputation or employability; social rejection, lead to stigma, divorce etc.

Do you consider this research *(Check one)*:

- ☐ greater than minimal risk
- ☐ no risk
- ☐ √ no more than minimal risk
- ☐ only part of the diagnostic test

Minimal Risk is "a risk where the probability and magnitude of harm or discomfort anticipated in the proposed research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical, psychological examinations or tests. For example, the risk of drawing a small amount of blood from a healthy individual for research purposes is no greater than the risk of doing so as a part of routine physical examination".

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Yes/No

☐ ☐√ Is the proposal funded?

If yes, sponsor Name: _____

Yes/No

☐ ☐√ Is the proposal being submitted for funding ?

If yes, name of funding agency: (1) _____

(2) _____

Do any of the participating investigators and/or their immediate families have an equity relationship (e.g. stockholder) with the sponsor of the project or manufacturer and/or owner of the test product or device to be studied or serve as a consultant to any of the above?

IF YES, submit a written statement of disclosure to the Director.

Dates of Proposed Period of Support	**Cost Required for the Budget Period ($)**			
(Day, Month, Year - DD/MM/YY)	*a. Ist Year*	*2nd Year*	*3rd Year*	*Other years*
	45,514	40,300	35,525	
Beginning date As soon as possible				
End date Three years from starting	*b. Direct Cost:* 121,339	*Total Cost :* 151,674		(with 25% Overhead)

Approval of the Project by the Division Director of the Applicant

The above-mentioned project has been discussed and reviewed at the Division level as well by the external reviewers. The protocol has been revised according to the reviewer's comments and is approved.

Professor V. I. Mathan
Name of the Division Director

Signature

15/11/2000
Date of Approval

Certification by the Principal Investigator

I certify that the statements herein are true, complete and accurate to the best of my knowledge. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. I agree to accept responsibility for the scientific conduct of the project and to provide the re-

Signature of PI Rukhana

Date: 5/11/2000

Name of Contact Person (if applicable)

_____

Table of Contents

√ Check here if appendix is included

PROJECT SUMMARY: Describe in concise terms, the hypothesis, objectives, and the relevant background of the project. Describe concisely the experimental design and research methods for achieving the objectives. This description will serve as a succinct and precise and accurate description of the proposed research is required. This summary must be understandable and interpretable when removed from the main application.

Tuberculosis (TB) is at present the world's leading cause of death from infectious diseases accounting for 8 million new cases and 2 million deaths annually. In Bangladesh, about 300,000 new cases of TB occur in a year and there are about 80,000 deaths. It is the most common cause of death from a single source of infection among adults. About 0.5% of the population suffers from smear-positive pulmonary tuberculosis; the estimated average incidence of all forms of tuberculosis is twice the incidence of smear-positive pulmonary cases. The case detection rate is still below 50%, while the cure rate is relatively low. Failure to control tuberculosis at the national level is due to poor case detection, inadequate chemotherapy, and emergence of multidrug resistant strains of *M. tuberculosis*. While BCG vaccination can protect against noninfectious forms of disease such as miliary TB and TB meningitis, it affords little or no protection against infectious, post-primary, and pulmonary diseases in adults and does not interrupt the chain of transmission.

The PPD skin test has no predictive value for tuberculosis in BCG vaccinated individuals because of cross-reactive responses to non-specific constituents of PPD. In the recent years, purified protein antigens ESAT-6 and CFP-10 specifically expressed by *M. tuberculosis* but not by BCG strains, have been evaluated in patients with TB in various countries including Denmark, Germany, USA, Kuwait and Ethiopia. The immunodiagnostic method is based on stimulation of lymphocytes from TB patients with purified proteins (a combination of ESAT-6 and CFP-10) followed by measurement of IFN-γ secreted by these stimulated lymphocytes in the culture supernatant. Most patients responded to ESAT-6 (92%) and CFP-10 (89%) by producing high levels of IFN-γ while reactivity in healthy individuals was virtually absent. BCG-vaccinated individuals as well as PPD-negative controls do not show any response. Recently, ESAT-6 has been considered as a possible candidate for use in diagnosis of TB because of its high specificity and sensitivity.

Immune mechanisms necessary for protection are poorly understood, though studies using animal models and human infections have implicated T cells as an essential component of the immune response to *M. tuberculosis*. Major effector mechanism to eradicate *M. tuberculosis* is thought to be activation of infected macrophages by IFN-γ secreted by T cells. Activated macrophages then kill the bacteria by reactive nitric oxide species or reactive oxygen radicals. Second effector cells are the cytolytic T lymphocytes (CTL) that utilize different mechanisms to kill *M. tuberculosis* infected cells (such as granzyme A & perforin mediated killing or Fas-Fas ligand mediated killing).

The present study aims to: (i) evaluate the immune-based diagnostic test (IFN-γ production in response to specific antigens, ESAT-6 and CFP-10). (ii) monitor therapeutic response by ALS assay (determination of secreting antibody in lymphocyte supernatant) and enumeration of cytolytic T lymphocytes (CTL). (iii) determine immune correlates of protection using the above three methods. The diagnostic technique will allow detecting whether a suspected patient is infected by *M. tuberculosis* and thereby confirm disease and thus play a major role in clinical decision-making by rapidly confirming or excluding TB. In addition, the method could be used for detection of early sub clinical TB in family contacts within the study period. Determination of antigen specific antibody concentration by ALS method and frequency of CTL (containing both granzyme A and perforin) in blood of patients early on after the onset of therapy and followed for an extended period (3 time points) may serve as a potential tool in monitoring therapeutic response. It will be possible to delineate whether a patient is capable of eradicating the pathogen as compared to a healthy family contact. In totality, these methods will help to determine the immune correlates of protection against *M. tuberculosis*. By studying both patients and family contacts, the study will enable us to ascertain the suitability of one method or a combination of methods for the determination of correlates of protection.

The knowledge will be important for the development of improved diagnostic tests and better vaccine development and assessment of the efficiency of anti-tuberculosis vaccines.

DESCRIPTION OF THE RESEARCH PROJECT

Hypothesis to be tested:

Concisely list in order, in the space provided, the hypothesis to be tested and the Specific Aims of the proposed study. Provide the scientific basis of the hypothesis, critically examining the observations leading to the formulation of the hypothesis.

1. Patients with *M. tuberculosis* infection as well as infected contacts will respond to specific antigens (ESAT-6 and CFP-10) with high IFN-γ production while non-infected family contacts will not respond.
2. For monitoring therapeutic response, both ALS response and CTL counts are potential tools for patients undergoing treatment. ALS response will decrease in patients during recovery whereas cytolytic T lymphocyte counts will increase.

Specific Aims:

Describe the specific aims of the proposed study. State the specific parameters, biological functions/ rates/ processes that will be assessed by specific methods **(TYPE WITHIN LIMITS).**

To assess active tuberculosis, monitor therapeutic response in patients and determine immune correlates of protection against *M. tuberculosis*, patients with clinically suspected tuberculosis receiving anti-mycobacterial therapy will be studied:

(1) By measuring ESAT-6 and CFP-10 specific IFN-γ response in peripheral blood.
(2) By determining ALS response at the time of first presentation and 3 and 5 months after initiation of antimycobacterial therapy.
(3) By enumerating cytolytic T cells (granzyme$^+$, perforin$^+$) at the three time points.

To ascertain immune correlates of protection as well as assess active infection due to *M. tuberculosis*, family contacts of suspected patients will be studied by:

(1) by measuring ESAT-6 and CFP-10 specific IFN-γ response in peripheral blood.
(2) By determining ALS response at the time of first presentation of the patient and 3 months later.
(3) By enumerating cytolytic T cells (granzyme$^+$, perforin$^+$) at the above two time points.

Background of the Project including Preliminary Observations

Original protocol:

In Bangladesh, tuberculosis (TB) is considered a major public health problem. There is scarcity of epidemiological data in Bangladesh. Recent analysis of global burden of TB revealed that Bangladesh ranks as the fourth among 212 countries in 1997. An increasing level of drug resistant TB has been reported and this level is expected to rise further. Better understanding of the magnitude of TB in Bangladesh and its drug susceptibility patterns are key elements for its effective control. The study is planned to understand the epidemiology of tuberculosis, its drug susceptibility patterns and to identify risk factors for the development and transmission of tuberculosis. Recently developed rapid diagnostic tests for culture and determining drug susceptibility patterns against TB will also be used. The new tests will be validated with the conventional culture and sensitivity methods.

The study will be conducted in urban Dhaka and rural Matlab areas. All households in the ICDDR,B Matlab health and demographic surveillance system (HDSS) area will be visited monthly by a community health worker (CHW). On each visit, the CHW in the intervention area of Matlab HDSS will inquire if any member of the household aged 15 years and above has symptoms suggestive of TB (cough >3 weeks). A detailed history of illness and sociodemographic data will be collected from these suspected cases by a separate group of health workers through home visits. The CHW will refer all these cases to Matlab Thana Health Complex for doing sputum for acid-fast bacilli (AFB). Sputum samples smear positive cases will be cultured per month in the clinic. Both new test and conventional method will be used for culture and sensitivity. In addition 300 family studies will be conducted to study contact tracing and to estimate secondary spread. Timely dissemination of the findings from the project, technical assistance to build the capacity of the national institutions and improved use of data for policy decisions are important priorities of the project.

The study is expected to provide updated information in terms of incidence, prevalence, seasonality and drug susceptibility patterns of tuberculosis. It is expected that after evaluation of potential risk factors, possible intervention strategies against tuberculosis could be identified. This would help the policy makers to establish future guidelines for the control of tuberculosis in Bangladesh.

PARALLEL PROTOCOL

Tuberculosis (TB) is the world's leading cause of death from infectious diseases accounting for 8 million new cases and 3.8 million deaths annually (1-3). Eighty percent of the tuberculosis cases involve persons who are in their productive years (15 to 59 years of age) (2). Each year there are more than 6.5 million new cases of TB and more than 2 million deaths from TB worldwide (4). According to WHO predictions, without radical changes in our approach to TB, 200 million people alive today will eventually develop this disease (5). In Southeast Asian regions, total number of tuberculosis case notified to WHO was 1,380,341 (42% of global notified cases) in 1995 of which 42,610 cases (about 3%) were in Bangladesh and 1,214,876 cases (88% cases) were in India (6). However, in many developing countries only about one third of smear positive cases as transmitter of disease were diagnosed. The emergence of multidrug-resistant *M. tuberculosis*, the bacteria that causes TB, is a worldwide phenomenon that threatens to make TB an incurable disease. Multidrug-resistant TB (MDR-TB) refers to resistance to two or more first-line antituberculous medications, or resistance at least to isoniazid and rifampicin. These two drugs are very important in the treatment of TB, and the inability to use them leads to increased morbidity and mortality. Drug-resistant strains are as contagious as the susceptible tuberculosis bacillus. Cure rates up to 95% can be achieved for drug-susceptible tuberculosis but decreases to 56% or less with isoniazid and rifampicin resistance (7).

Surveillance in Bangladesh.

In Bangladesh, about 300,000 new cases of TB occur in a year and there are about 80,000 deaths. It is the most common cause of death from a single source of infection among adults. About 0.5% of the population suffers from smear-positive pulmonary tuberculosis, the estimated average incidence of all forms of tuberculosis being twice the incidence of smear-positive pulmonary cases (8). Approximately 45% of the population is tuberculin positive at the age of 14 years, around 6 million people are estimated to be suffering from tuberculosis (9), 300,000 new cases will emerge and 52,000 deaths occurring in 1997 (5). Each year nearly 80,000 deaths occur due to tuberculosis, and 150,000 additional cases are registered throughout Bangladesh (10). Unfortunately, the case detection rate is still below 50%, while the cure rate is relatively low. Failure to control tuberculosis at the national level is due to poor case detection, inadequate chemotherapy, and emergence of multidrug resistant strains of *M. tuberculosis*. Inappropriate combination and dosage of active drugs, poor compliance, and failure to continue treatment for the optimum period of time are the causes of

development of acquired or secondary drug resistance. Until now, very little is known about the extent of MDR-TB in Bangladesh. A study done on the sputum samples of 1281 cases in urban Dhaka showed that 30% of the *M. tuberculosis* strains were resistant to at least one of the antituberculosis drugs and the prevalence of MDR-TB was 5% (11). It is not possible to take appropriate measures in the TB control program without having a clear knowledge about the pattern of resistance in Bangladesh and the underlying mechanism(s) of resistance employed by *M. tuberculosis*. The WHO has declared TB to be a global health emergency in April 1993. The strategy is to have all countries provide standardized, effective short-course chemotherapy through a program called DOTS (directly observed treatment, short course) to all tuberculosis patients, with emphasis on cure of sputum-positive cases. Implementation of DOTS in 40 thanas (sub-districts) of Bangladesh has resulted in a relatively higher cure rate (12). But results are still far from being satisfactory.

Detection, techniques to study drug resistance pattern.

Key factors in the control of tuberculosis are rapid detection, adequate therapy, and contact tracing to arrest further transmission. Recent developments in DNA technology and molecular biology have led to methods for rapid detection and drug susceptibility testing of mycobacteria in clinical specimens by in vitro nucleic acid amplification (13). Furthermore, methods have been developed to trace tuberculosis transmission routes by the differentiation of clinical isolates based on polymorphism in genomic DNA of *M. tuberculosis* (14). The rapid detection of drug sensitive as well as MDR-TB is vital to the efforts to control the current surge in the incidence of tuberculosis. Susceptibility testing of *M. tuberculosis* may be performed by various conventional methods either as direct tests from smear positive specimens, or with organisms isolated from primary growth media, the so called indirect tests. While the results of direct tests are available sooner than the indirect tests, at least several weeks may be required for the detection of growth and the interpretations of results. The BACTEC 460TB system was the first rapid method developed for the detection and susceptibility testing of mycobacteria (15). This method is radioactive and requires an instrument for daily reading of vials. A method has been developed for the rapid detection and susceptibility testing of *M. tuberculosis* using the Mycobacteria Growth Indicator Tube (MGIT). It has been reported that the MGIT can detect *M. tuberculosis* resistance to rifampicin and isoniazid within 7 days (16). In vitro amplification of mycobacterial target DNA by PCR can provide a rapid result and is a very sensitive and specific diagnostic test for TB. However, recently conducted inter-laboratory comparisons of PCR-based TB diagnosis have highlighted the difficulty of obtaining reproducibility with such a sensitive technique, where false positives can be a significant problem .

Immune responses.

Immune mechanisms necessary for protection against tuberculosis are poorly understood, though studies using animal models and human infections have implicated T cells as an essential component of the immune response to *M. tuberculosis*. For a protective immune response to *M. tuberculosis* infection, an essential role for interferon-γ has been established (17). IFN-γ mediates protection by inducing NOS of macrophages thereby allowing production of reactive nitrogen metabolites, an important microbicidal mechanism (18). Recently, tuberculin IFN-γ assay (QuantiFERON-TB) was found to be a potential replacement for the Mantoux test (19). In Southern India, where BCG vaccination was a failure, evaluation of immune response was carried out in Mantoux negative and Mantoux positive individuals. It was seen that individuals in whom proliferation response to PPD was negative did not produce IFN-γ even after vaccination suggesting that BCG had little effect in driving the immune response towards a protective Th1 type response. Patients with tuberculosis frequently have depressed cellular and increased humoral immune responses against mycobacterial antigens. Several reports have shown negative tuberculin skin test reactions, changes in circulating lymphocyte populations, diminished proliferative responses to specific antigens, alteration in the production of cytokines, defects in macrophage antimycobacterial activity, decreased natural killer cell activity, and increased antibody levels in patients with TB (20).

An inverse relationship between T-cell proliferation and antibody levels to *M. tuberculosis* antigens was considered to be an indicator of defective resistance in patients with tuberculosis (21).

Cell mediated immunity is considered to be responsible for eradication of mycobacteria. Major effector mechanism is thought to be activation of infected macrophages by Th1-type cytokines, particularly IFN-γ. Most TB patients exhibit a TH2 pattern of immune responsiveness (high levels of IL-4 and IgG antibody levels) while tuberculin-positive healthy individuals have a Th1 pattern (increased proliferation to PPD, and higher levels of IL-2, IFN-γ) (20, 22, 23). The 38 Kdal antigen-specific, MHC I restricted $CD8^+$ T cells producing IFN-γ were significantly higher in healthy contacts of tuberculosis patients reflecting a protective role for these CD8+ cells (24). High frequency of IFN-γ producing CD4 cells specific for ESAT-6 were seen in mouse models of tuberculosis that were vaccinated with ESAT-6 peptides (25). Human cytolytic T cells utilize different mechanisms to kill *M. tuberculosis* infected cells. CD1-restricted T cell lines of the phenotypes $CD4^-CD8^-$ (double negative) lysed infected macrophages using the Fas-FasL interaction that had no effect on the viability of the bacteria while $CD8^+$ cells lysed infected macrophages by a Fas-independent, granules-dependent mechanism that resulted in killing of bacteria (26). Granulysin, a protein found in granules of CTLs could directly kill extracellular *M. tuberculosis*, altering the membrane integrity of the bacillus and in combination with perforin decreased the viability of intracellular *M. tuberculosis* (27). Thus, T cells directly contributed to immunity against intracellular *M. tuberculosis* that was dependent on the presence of granulysin in cytotoxic granules. Both classical and nonclassical MHC class I-restricted T cells, distinct from CD1d-restricted cells may be involved in protective immune responses against tuberculosis (28).

Antibodies. IgG1 and IgG3 subclass antibodies are considered as surrogate markers of disease progression in leprosy (29). PPD-specific IgG1 antibody subclass may enhance chronic release of TNF-α in TB patients with progressive disease and show a direct link between disease pathogenesis and raised antibody levels (30). Patients with active pulmonary and miliary tuberculosis have significantly lower levels of *M. tuberculosis*-specific IgG4 and higher IgA and IgG1 levels than patients with limited tuberculosis disease (31). In children with tuberculosis, significantly higher levels of IgG antibody levels against two glycolipids were seen than in contact children and children with non-tuberculosis disease (32). Pulmonary TB patients showed increased IgM, IgG, IgG1, and IgE relative to healthy endemic controls. An increase in IgM suggested of a recent infection and a switching of IgM to IgG1 maybe associated with disease progression (33). ELISA using three glycolipids LOS, DAT and PGLTb1 in pediatric patients with TB, in children contacts, children with non-tuberculosis showed that detection of immune complexes and IgG antibodies against these 3 glycolipid antigens was useful as a complementary technique for serodiagnosis of children with pulmonary TB (34). A recent study showed that determination of specific circulating antibody secreting cells (ASC) using ELISPOT assay early on after the onset of therapy could serve as a potential method in monitoring therapeutic response (28). A drastic drop in antibody secreting cells was evident within 8 days after the initiation of chemotherapy that disappeared within a month. Only those patients who did not respond to the antimicrobial therapy had persistently high levels of antigen-specific-antibody secreting cells due to noncompliance or multidrug resistant tuberculosis. The clearance of antigen-specific lymphocytes was associated with positive treatment response both clinically and radiologically as well as culture negativity.

Immunodiagnosis. PPD skin test remains unreliable in countries where individuals are vaccinated with BCG and cannot distinguish between tuberculosis infection, BCG vaccination or exposure to environmental nonpathogenic mycobacteria (35). The recent identification of regions of the *M. tuberculosis* genome that are not present in BCG and non-tuberculous mycobacteria provides a unique opportunity to develop new highly specific diagnostic reagents. Recently two proteins namely, early-secreted antigenic target 6-kDa protein (ESAT-6) and the newly identified culture filtrate protein 10 (CFP-10), specifically expressed by *M. tuberculosis* but not by BCG strains were found to be highly specific and sensitive antigens for diagnosis of tuberculosis (36). These antigens

were highly specific for detection of infection with MTB and were markedly discriminative between patients with TB disease and non-infected individuals (37). T cell response to ESAT-6 and CFP-10 in PPD-positive TB contacts and absence of T cell response in PPD-negative and non-BCG-vaccinated individuals suggested that response to ESAT-6 were associated with the risk of developing active TB (P. Andersen, personal communications). Vaccination of mouse model of tuberculosis with two peptides from ESAT-6 showed strong and similar magnitude of immunogenicity and cellular responses of the peptides (25). The level of protective immunity was equivalent to that achieved by BCG. A study in cattle experimentally infected with *M. bovis* after vaccination with BCG demonstrated that establishment of infection and the presence of viable bacilli was necessary for ESAT-6 immune reactivity (38). This immune-based method using specific purified antigens would be able to detect whether a patient's immune system is sensitized by *M. tuberculosis* and confirm disease without a need to detect mycobacteria in sputum, gastric lavage or biopsy. This assay detects latent infection as well as active disease (36, 39). For low TB endemic areas, this method will serve to trace contacts however, for high endemic areas, it will support a rapid TB diagnosis in an individual with symptoms (39). In addition, ESAT-6 specific T cells were enumerated by an IFN-γ specific ELISPOT assay by Pathan et al and a diagnostic sensititvity of more than 90% was found while no responses were observed in unexposed healthy donors (40). MPT64 antigen has produced controversial results in human studies. Several studies have shown that this antigen induced modest lymphocyte responses and in a low percentage of TB patients. In contrast, according to a more recent evaluation of a high dose of MPT64 applied as a patch test, this antigen discriminated between patients and healthy donors with a specificity of 100% and a sensitivity of 98% (41). Further studies are needed to resolve the discrepancy.

Vaccines. With the advent of the TB genome sequencing product, rapid identification and expression of proteins from *M. tuberculosis* with vaccine potential, species specific antigens for diagnostic use and construction of living vectors for vaccination has occurred. Most laboratories have focused their attention providing effective stimulation for CD4 and CD8 T cells by peptide antigens in new vaccines (42). Many live vaccines are being studied based on avirulent or nonpathogenic mycobacteria. Auxotrophic mutants having reduced virulence are also being studied. Some BCG mutants have been shown to be safe in immunodeficient mice SCID mice, while replication is inhibited, challenge with virulent *M. tuberculosis* gave significant protection (43-45). Adjuvanted subunit vaccines are also being studied. Recently, a single defined antigen ESAT-6 administered in a mixture of DDA and MPL induced similar level of protection against challenge with virulent *M. tuberculosis* as a standard BCG vaccination. However, the ESAT-6 antigen delivered in either adjuvant alone, primed neither significant immune parameters nor protective immunity (46). Another vaccine candidate Ag85B gave substantial response and protection in all combination. Thus, the study suggests that vaccine candidates should be evaluated in optimal adjuvant mixtures before a conclusion on their protective efficacy can be reached. Some success with DNA vaccination has been achieved in animal models of infectious diseases that seem to hold potential for the induction of both CD4 and CD8 responses by directly delivering DNA encoding the gene of interest (42). DNA vaccination with genes for two proteins present in *M. tuberculosis* stimulated neither detectable CD8 responses nor protective immunity. However, vaccine constructs containing genes for the *M. tuberculosis*-derived secreted proteins Ag85B and ESAT-6 demonstrated protection against challenge while MPT64 containing construct did not (47). The results suggest that the choice of antigens is also important for DNA vaccination as it is for adjuvanted protein vaccines.

The lethality of TB is due to both the absences of an effective vaccine and to the poor understanding of how the mycobacteria escape immune surveillance. Efficacious control of tuberculosis is best achieved by a combination of chemotherapy and vaccination. Though the current vaccine BCG protects against miliary TB and TB meningitis, it fails to prevent infectious, post-primary, and pulmonary TB in adults, which is the most prevalent form of this disease. Therefore, the design of novel vaccines is urgently required. Because the acquired immune response is mediated

by different T-cell subsets, stimulation of a combination of these populations by a vaccine is required for an optimum protective immune response. The generally accepted explanation for regional variation in protective efficacy of BCG vaccine and its effectiveness in young children is that- older children and adults are primed for either protective or tissue-necrotizing immune responses by prior contact with various population of mycobacteria in the environment. BCG vaccination boosts the pre-selected response (48). Since one third of the world's population is already infected with *Mycobacterium tuberculosis*, according to the experts, two types of vaccines may be required: one for eradication of already established infection and the other for timely encounter of invading microbes. The rational design of a more effective vaccine and chemotherapeutic agents against tuberculosis requires a better understanding of the pathogenesis of infection and the early steps in immune activation.

Research Design and Methods

Study site and population

The sites for patient selection will be two clinics, namely (1) National Tuberculosis Control Center, Shyamoli in Dhaka; and (2) Matlab Thana Health Complex in Matlab. Patients within the age range of 15-55 years attending the outpatient with the following criteria of inclusion will be selected initially. Since the study will run in parallel to the original study, a subgroup of the patients recruited in the parent study and their family contacts will be studied in the present study.

Selection criteria: Patients with clinically suspected tuberculosis presenting with fever, chronic cough, hemoptysis, lymphoadenopathy, respiratory distress, chest pain, weight loss and anorexia. Further confirmation will be done by radiology and hematological findings.

Smear positive pulmonary tuberculosis will be defined as: at least two sputum specimens positive for acid fast bacilli (AFB) or one sputum positive for AFB and radiological abnormalities consistent with tuberculosis (49).

Treatment failure will be defined as: a smear positive patient who is smear positive at 5 months or later after starting treatment or a patient who was initially smear negative and becomes positive during treatment (50).

Relapse will be defined as: a patient who has been declared cured of any form of tuberculosis and reports back and is found smear positive on at least two sputum (50).

The above patients with sputum positive for AFB will be considered as active cases of pulmonary tuberculosis. Patients will receive the standard treatment regimens of the National Tuberculosis Control Programme (NTP). The following regimens will be used for smear positive cases: ethambutol, rifampicin, pyrazinamide and thioacetazone.

A family contact can only be diagnosed infected when his/her sputum is positive for AFB and radiological abnormalities consistent with tuberculosis are present. Thereafter, family contacts suspected of having TB will be referred to the TB clinic for treatment. During the study period, information will be recorded for patients and family contacts having intermittent infections as well as drugs taken for the ailment.

In this study using the immunological parameters we will only be able to state that a family contact showing high gamma interferon levels after stimulation of cells with ESAT-6, high ALS response and decreased CTL have high chances of getting the active or full blown infection in the near future (few months to a year).

Family contacts will serve as healthy controls as long as they are not diagnosed as infected when his/her sputum is positive for AFB and radiological abnormalities consistent with tuberculosis are present.

Exclusion criteria: Individuals (i) below 15 yrs, (ii) having chronic infections (iii) having any disabling diseases (iv) taking immunosuppressive medications (v) with HIV infection will be excluded from the study.

Samples. List of samples to be collected and the schedule for sample collection is given in the appendix (tables 1 and 2).

Sputum: Sputum from the patients will be collected in sterile universal containers as per schedule of National Tuberculosis Control Program (NTP). Smear will be prepared from each sputum sample and stained with Zeihl-Neelson method (51) and will be examined under microscope for AFB. Sputum will be processed and decontamination and concentration will be done according to N-acetyl-L-cysteine sodium hydroxide (NALC-NaOH) method (51).

Conventional culture and sensitivity tests: Two loops full of digested and decontaminated sputum will be inoculated on the slopes of L-J media with glycerol and L-J media with pyruvate. Culture bottles will be incubated at 37 C in slanted position and examined after 48 hr to exclude contamination followed by weekly examination up to 9 weeks. Drug susceptibility test will be done by indirect proportion method. Suspensions will be made in sterile saline with colonies from the culture bottles. The suspension of the test organism will be adjusted with the turbidity of McFarland standard 1. Suspensions will be further diluted to 10^{-2} to 10^{-4}. Five antituberculosis drugs will be tested for sensitivity in conventional Lowenstein-Jensen (L-J) media. These are Isoniazid (INH), Rifampicin (RMP), Ethambutal (EMB), streptomycin (SM), and Pyrazynamide (PZA). The drugs will be added in the L-J media in following concentrations- INH, 0.2 μg/ml; RMP, 40 μg/ml; EMB, 2 μg/ml; SM, 4 μg/ml; PZA, 100 μg/ml. All drug containing media will be inoculated by standardized inoculating loop. One set of drug containing media will be inoculated by lower dilution bacterial suspension and 2 drug-free L-J media will be inoculated by higher and lower dilutions (10^{-2} to 10^{-4}) (51). All inoculated media will be incubated at 37 C in slanted position and examined after 48 hr to exclude contamination followed by reading of drug susceptibility after 3 weeks. The result will be expressed in proportion method and any strain containing at least 1% resistant bacilli is considered as resistant. Similarly culture and drug susceptibility test will also be done in MGIT as per manufacturer's instructions. Following formula will be used for calculating the percentage of resistant organism.

$$\frac{\text{No. of colonies on the drug media}}{\text{No. of colonies on the control media}} \times 100 = \text{Percentage of resistance}$$

Identification of the mycobacterium, maintenance and storage: Identification will be done by the rate of growth, pigment production, niacin test, nitrate-reduction test, twin-hydrolysis test as per standard method (51). All samples will be stored in MB 7H9 with 30% glycerol in –70° C.

Immune parameters

Blood samples from patients will be collected in heparin coated tubes (Vacutainer System; Becton Dickinson, Rutherford, NJ) and will be brought to ICDDR,B in ice. For clinical evaluation, blood at each time point will be examined for total and differential leukocyte count, hemoglobin, hematocrit and ESR.

Immunodiagnostic method: ESAT-6 and CFP-10 specific IFN-γ production. Mononuclear cells separated from whole blood will be stimulated with the purified proteins ESAT-6 and CFP-10 (at 5

μg/ml concentrations) for 3 days in 37° C with 5% CO_2. Supernatant will be collected and quantitative determination of IFN-γ in culture supernatant will be carried out using commercial enzyme immunoassay kit (R&D Systems, Minneapolis, USA). The cut off value is considered to be >300 pg/ml of IFN-γ based on earlier studies carried out in both TB endemic and non-endemic countries (39, 52).

Therapeutic response: ALS response: Mononuclear cells will be separated from blood upon ficoll-hypaque centrifugation and cells will be suspended in RPMI 1640 medium with 10% fetal calf serum, 2% L-Glutamine and penicillin-streptomycin-Amphostericin B (1%) (53). One ml of 10^7 cells will be added to the wells of a 24 well tissue culture plate and the cells will be incubated for 96 hours at 37°C with 5% CO_2. At the end of the incubation period, supernatant will be collected and kept in -20°C. Antigen specific antibodies will be measured in the culture supernatant by ELISA method (34, 54). Immulon 4 plates (Dynatech, Chantilly, VA) will be coated with 38 kDa protein and lipoarabinomannan (LAM) purified from *M. tuberculosis* in coating buffer (0.1 M carbonate buffer, Ph 9.6) at concentrations of 10 μg/ml and 1 μg/ml respectively overnight at4°C. For standard curve, 12 wells will be coated with goat antibodies specific for human IgG $F(ab')_2$ fragment (Sigma) at 1.7 μg/ml concentrations. Supernatant (100 μl/well) will be added to the antigen-coated wells in duplicates and incubated for 3 hours at room temperature. Standard IgG protein will be added in anti $F(ab')_2$ antibody coated wells in different concentrations. After washing the plates with PBS-Tween (0.05% Tween 20), bound IgG will be revealed by sequential probing for 1 h at room temperature with anti-γ_MoAb (Sigma, St Louis, MO) and horseradish peroxidase conjugated rabbit anti-mouse IgG antibody preabsorbed with cross reacting human serum protein (Jackson Immunochemicals). Substrate solution consisting of 0.33 mg/ml o-phenylenediamine (Sigma), 0.01% hydrogen peroxide in 0.1 M sodium citrate pH 5 will be added to each well and the reaction will be stopped after 15 min with 50 μl/well of 4N sulphuric acid. ODs will be recorded at 490 nm. Concentrations of specific antibodies for each sample will be calculated using the corresponding standard curve after blank subtraction using program Multi (DataTree Inc., Watthams, Mass.). Determination of ALS response will mean current antigenic stimulation or the antigenic load. Thus, using the ALS method it will be possible to monitor treatment efficacy.

Therapeutic response: Perforin and granzyme B in cytolytic T lymphocytes (CTL): Cytolytic T lymphocytes will be isolated from mononuclear cells separated from blood by plating the cells on 24 well plates to separate the monocytes from other cells. The non-adherent cells will be centrifuged and the pellet will be suspended in PBS 0.1%BSA. Cells will be treated with mouse anti-CD19 antibody for 30 min on ice, then washed two times in PBS/0.1% BSA and treated with goat anti-mouse antibody diluted in ferrofluid (Sigma) for 15 min on ice. B cells will be removed from cell suspension by beading technique. Remaining T cells (2 x 10^5 cells/well) will be added to individual wells in Bio-Rad adhesion slides, fixed and stained for CD8, perforin and granzyme B (55). Mononuclear cells separated from blood will be frozen in liquid nitrogen and will be carried to Karolinska Institute, Sweden for FACS analysis using cytotoxic T cell-, perforin- and granzyme specific antibodies.

Time frame

	1st year	2nd Year	3rd Year
Recruitment of staff	---		
Training of staff	-----		
Enrolment of subjects	----------	----------	------
Data management and analysis		------	----------
Writing up of report, papers		---	----------

Facilities Available

Describe the availability of physical facilities at the place where the study will be carried out. For clinical and laboratory-based studies, indicate the provision of hospital and other types of patient's care facilities and adequate laboratory support. Point out the laboratory facilities and major equipments that will be required for the study. For field studies, describe the field area including its size, population, and means of communications. **(TYPE WITHIN THE PROVIDED SPACE).**

A P2 safety level laboratory for tuberculosis research is being set up at ICDDR,B. The National Tuberculosis Control Center, Shyamoli is going to be provided with a biohazard safety cabinet by the parent study. A light microscope, an ultralow freezer will be needed at the ICDDR,B. Tissue culture facilities are there at ICDDR,B for carrying out in vitro experiments. However, training on newly developed rapid diagnostic techniques, *in vitro* immunological studies are needed for upgrading the set up at ICDDR,B. Purified antigens for carrying out various immunological assays will be provided by professor Peter Andersen, TB Research Unit, Statens Seruminstitut, Copenhagen, Denmark.

Data Analysis and Sample Size

Describe plans for data analysis. Indicate whether data will be analyzed by the investigators themselves or by other professionals. Specify what statistical softwares packages will be used and if the study is blinded, when the code will be opened. For clinical trials, indicate if interim data analysis will be required to monitor further progress of the study. **(TYPE WITHIN THE PROVIDED SPACE).**

For sample size calculations, the following outcome variables will be measured:

1. Concentration of gamma interferon (IFN-γ) in culture supernatant of stimulated lymphocytes.
2. Concentration of secreting antibody in lymphocyte supernatant (ALS).
3. Frequency of cytotoxic T lymphocytes (CTL) containing both granzyme and perforin.

However, it will not be possible to estimate sample size for CTL count because either gene knock-out animal based studies were carried out (56) or human T cell lines have been used (26, 27).

Estimation of sample size for two-sample comparison of means:
Test H_0:m1=m2, where m1 is the mean of cytokine concentration (IFN-γ, pg/ml) in population 1 (patients) and m2 is the mean of IFN-γ in population 2 (controls) (57).

Assumptions:

Alpha= 0.0500 (two-sided)
Power= 0.9000
m1= 639
m2=5
sd1=2550
sd2=3
n2/n1= 1.00

Estimated required sample sizes: n1= 170, n2= 170. Considering a 10% dropout the required sample size is 189 that will be sufficient for determination of IFN-γ.

For another estimation of sample size for two-sample comparison of means:
Test H_0:m1=m2, where m1 is the mean of concentration of secreting antibody in lymphocyte supernatant in population 1 and m2 is the mean in population 2 (54).

Assumptions:

Alpha= 0.0500 (two-sided)
Power= 0.9000
m1= 174
m2=61
sd1=137
sd2=28
n2/n1= 1.00

Estimated required sample sizes: n1= 17, n2= 17. Considering a 10% dropout the required sample size is 19. This sample size will be sufficient for determination of ALS response.

Data analysis will be done using the software package JMP (SAS Institute Inc., Carey, NC, USA) and SPSS. For normally distributed data we will use appropriate parametric test (eg. t test) to compare between the groups. In case the data distribution is skewed, log transformation will be tried to normalize the data and to do parametric test. If the data are not normally distributed even after transformation, we will use nonparametric tests (sign-rank test).

Ethical Assurance for Protection of Human Rights

Describe in the space provided the justifications for conducting this research in human subjects. If the study needs observations on sick individuals, provide sufficient reasons for using them. Indicate how subject's rights are protected and if there is any benefit or risk to each subject of the study.

Permission to draw 5 ml of blood from adult patients will be required.
The ethical implications are outlined below.

1. For inclusion of patients and healthy family contacts, informed consents will be required according to the guide lines of the local ethical committee at ICDDR,B. For the children, the informed consent of the parents or guardians will be required.
2. Patients will receive clinical care and therapy as per norm. The study will not in any way interfere with the management and treatment of the patients. Patients may discontinue their participation in the study at any time point. This decision will not have any influence on the clinical management or therapy of the patients.
3. The proposed study involves repeated sampling of blood from patients (Please see appendix). Approximately 7 ml of venous blood (from median cubital vein) will be taken from adults (3 times, total volume of blood, 21 ml). Drawing of 21 ml of blood over a span of 6 months will not be detrimental to the participating patients. In case of family contacts, sampling will be done twice at an interval of 3 months (Please see appendix). There may be a momentary pain and a very small chance of bruising at the site of insertion of the needles. To minimize the chance of infection, aseptic precautions will be taken and disposable, sterile syringes and needles will be used for drawing blood.
4. The data obtained from this study will be kept strictly confidential and will be kept locked in a filing cabinet. Only the investigators will be allowed access to this data. If a person is suspected of having tuberculosis, he or she will be referred to the Shyamoli TB Clinic in Dhaka or the Matlab Thana Health Complex for further clinical verification using the standard procedures described in page 11. After confirmation, standard treatment regimens of the National Tuberculosis Control Programme (NTP).

Literature Cited

Identify all cited references to published literature in the text by number in parentheses. List all cited references sequentially as they appear in the text. For unpublished references, provide complete information in the text and do not include them in the list of Literature Cited. There is no page limit for this section, however exercise judgment in assessing the "standard" length.

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Dissemination and Use of Findings

The study will help in evaluating immunodiagnostic methods to detect whether a patient is infected by *M. tuberculosis* and thus confirm diseases without a need to detect mycobacterium in sputum, gastric lavage or biopsy material. In addition, the method could be used for detection of early sub clinical TB in family contacts within the study period. Thus, results of the study are expected to help in better understanding the transmission dynamics of TB in Bangladesh using conventional and newly developed tools. These results will help the government of Bangladesh in modifying its strategy for containing the ever-increasing problem of TB and MDR-TB and policy decisions. Determination of antigen specific antibody concentrations by ALS method and frequency of CTL may serve as a potential tool in monitoring therapeutic response in patients. It will be possible to delineate whether a patient is capable of eradicating the pathogen as compared to a healthy family contact. By following both patients and family contacts, the study will enable us to ascertain the suitability of one method or a combination of methods for the determination of immune correlates of protection against *M. tuberculosis*. Results will be disseminated by presenting at local, regional and international conferences, and by publication in peer-reviewed journals.

Appendix

Table 1. Schedule of sample collection from patients

Study days, after identification and recruitment	Sputum	Blood
0	+	–
1	+	+
30	+	–
60	+	–
90	–	+
150	–	+

Note: Patients, age range 15-55 years.

Table 2. Schedule of sample collection from household contacts

	Study days after recruitment	Sputum	Blood
House hold contacts	0	+*	+
	90	+*	+

Note: Patients and controls, age range 15-55 years. *Sputum will be collected from healthy contacts if productive cough is present. Family contacts will serve as healthy control as long as they are not diagnosed as infected when his/her sputum is positive for AFB and radiological abnormalities consistent with tuberculosis are present.

Project title: Assessment of active tuberculosis infection by T cell responses to purified antigens in tuberculosis patients: comparative study between patients and house hold contacts

PI: Rubhana Raqib

Detailed Budget

Personnel	Percent time	1st year	2nd Year	3rd year	Total 3 yrs
Dr. Rubhana Raqib	25	3,042	3,194	3,354	
Dr. K. Zaman	15	2,304	2,419	2,540	
Mr. Ziaur Rahim	5	829	870	914	
Dr Sayera Banu	5	395	415	435	
Mr J Charaborty	5	834	876	919	
Dr. Jahanara Begum	10	1,200	1,260	1,323	
Research officer (1)	100	4,338	4,555	4,783	
Research Assistant (1)	100	2,772	2,911	3,056	
Subtotal		**15,714**	**16,500**	**17,325**	**49,539**
International travels		0	5,000	4,000	
Local Transport to Shyamoli TB Clinic and Matlab		500	800	500	
Patient care/medication		2,000	2,000	1,500	
Follow-up and wage loss		2,000	2,000	1,000	
Subtotal		**4,500**	**9,800**	**7,000**	**21,300**
Supplies and Materials					
Reagents, supplies		10,000	10,000	6,500	
Disposables, glassware		1,000	900	600	
Interdepartmental services		800	1,000	1,000	
Miscellaneous		500	500	500	
Subtotal		**12,300**	**12,400**	**8,600**	**33,300**
Equipments					
Ultra-low temp freezer		10,000	0	0	
Light microscope		2,000	0	0	
Spare parts & replacement		200	300	100	
Subtotal		**12,200**	**300**	**100**	**12,600**
Repair, Maintenance		300	300	500	
Printing, Publication		500	1,000	2,000	
Subtotal		**800**	**1300**	**2500**	**4,600**
Total		**45,514**	**40,300**	**35,525**	**121,339**
Overhead 25%		11,379	10,075	8,881	30,335
Grand total		**56,893**	**50,375**	**44,406**	**151,674**

S. Moin
15/Jan/2001
Shamima Moin
Controller, Budget & Costing

Biography of the Investigator

Give biographical data in the following table for key personnel including the Principal Investigator. Use a photocopy of this page for each investigator.

NAME	Rubhana Raqib
DATE OF BIRTH	October 19, 1961
CITIZENSHIP	Bangladeshi
PRESENT POSITION	Assistant Scientist, LSD

ACADEMIC QUALIFICATION:

Degree	Year	Class / Division	University
PhD	1995	-	Karolinska Institute Sweden
M. Sc.	1988	First Class	Dhaka University
B. Sc.	1985	First Class	Dhaka University
H. S. C.	1979	First Division	Dhaka University
S. S. C.	1977	First Division	Dhaka University

Research and Professional Experience

Concluding with the present position, list, in chronological order, previous positions held, experience, and honours. Indicate current membership on any professional societies or public committees. List, in, chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. **(DO NOT EXCEED TWO PAGES, USE CONTINUATION SHEETS).**

For masters degree, research acitivities involved extraction, purification and study of the immunogenic properties of outermembrane proteins from *Shigella dysenteriae* type 1 and *Shigella flexneri* strains using immunoelectrophoresis, SDS-PAGE and Western blot.

For phD. dissertation, research activities were focussed on the study of the pathogenic mechanisms and immune responses in adult patients with shigellosis. Samples such as plasma, peripharal blood mononuclear cells, stools and rectal biopsies were collected from patients and healthy subjects and were analysed for cytokines (protein and mRNA), cytokine receptors and phenotypes of various cells and activation markers. The techniques used were ELISPOT, ELISA, immunohistochemistry, quantitative analysis of video microscopic images and *in situ* hybridization.

Present position

Assistant Scientist, Immunology Laboratory, Laboratory Sciences Division, ICDDR,B

Publications

1. Raqib R, Mia SMS., Qadri F, Alam TI, Alam NH, Chowdhury AK, Mathan MM, Andersson J. **2000**. Innate immune responses in children and adults with shigellosis. Infect Immun. 68(6):3620-3629.
2. Raqib R, Gustafsson A, Andersson, J. and Bakheit M. **1997**. A. A systemic downregulation of gamma interferon production is associated with acute shigellosis. Infect. Immun. 65:5338-5341.

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11. Raqib R, Tzipori S, Islam M and Lindberg A. **1993**. Immune responses to *Shigella dysenteriae* type 1 and *Shigella flexneri* lipopolysaccharide and polysaccharide antigens in Bangladeshi patients with shigellosis. Serol Immun Infect Dis. 1:37-45.
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13. Qadri F, Raqib R, Hussain IA, Ciznar I. **1990**. Cell surface proteins from *Shigella dysenteriae* type 1. Zentralblatt für Bakteriologie Mikrobiologie und Hygiene, Series A. 273:1287-1299.

REQUEST FOR INCLUSION IN TB PROJECT
CONSENT FORM, PATIENTS

Title: Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

Principle Investigator: Dr. Rubhana Raqib, Dr. K. Zaman , ICDDR,B. Mohakhali, Dhaka-1212.

Study Location: Dhaka

In Bangladesh, tuberculosis (TB) is considered as a major public health problem. It is the common cause of death from a single source of infection among adults. A recent analysis of global burden of TB revealed that Bangladesh rank as the fourth highest among 212 countries in 1997. In Bangladesh about 300,000 new cases of TB occur in a year and there are about 80,000 deaths. Failure to control tuberculosis at the national level is due to poor case detection, inadequate chemotherapy, and emergence of multidrug resistant strains of *M. tuberculosis*. Rapid and improved diagnosis and a better understanding of the therapeutic response are very important for its effective control.

We are conducting a study to evaluate a rapid diagnostic method for TB among patients, a predictive method for detecting infection in family contacts and a correlate of protection against this disease among the contacts (family members). Prolonged cough is one of the important symptoms of TB. You have prolonged cough and we would like to know more about its causes. If you agree to participate, we will ask you some questions regarding your illness. It will take about 15 minutes to answer the questions. You will be required to give 3 samples of sputum for the examination. We will culture your sputum samples for isolation of TB bacilli and determine its sensitivity patterns. This will facilitate to select appropriate drugs against TB. If you are diagnosed as a case of TB, you will be given treatment of TB free of costs. We will request you to give 3 blood samples (7 ml) at day 1 (day of initiation of treatment), 3 months and 5 months later.

There are minimal risks involved in it. You and your family members will be benefited from the study. Your participation is completely voluntary. You are at liberty to decide not to participate in the study at all or to withdraw from the study at any time without jeopardizing your medical care and treatment. Your identity will remain strictly confidential, but the authorities supporting this study may review the results.

If you are voluntarily willing to participate in the study, then please sign your name or give left thumb impression (LTI) below.

Consent: The study described above has been explained to me and I voluntarily consent to participate in it.

Signature of the interviewer
Date .....

Signature or LTI of the person
Date .....

REQUEST FOR INCLUSION IN TB PROJECT
CONSENT FORM, PATIENTS

Title: Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

Principle Investigator: Dr. Rubhana Raqib, Dr. K. Zaman , ICDDR,B. Mohakhali, Dhaka-1212.

Study Location: Matlab

In Bangladesh, tuberculosis (TB) is considered as a major public health problem. It is the common cause of death from a single source of infection among adults. A recent analysis of global burden of TB revealed that Bangladesh rank as the fourth highest among 212 countries in 1997. In Bangladesh about 300,000 new cases of TB occur in a year and there are about 80,000 deaths. Failure to control tuberculosis at the national level is due to poor case detection, inadequate chemotherapy, and emergence of multidrug resistant strains of *M. tuberculosis*. Rapid and improved diagnosis and a better understanding of the therapeutic response are very important for its effective control.

We are conducting a study to evaluate a rapid diagnostic method for TB among patients, a predictive method for detecting infection in family contacts and a correlate of protection against this disease among the contacts (family members). Prolonged cough is one of the important symptoms of TB. You have cough for more than three weeks and we would like to know more about its causes. If you agree to participate we will ask you some questions regarding your illness. This will take about 15 minutes to answer the questions. We will also refer you to the Matlab Thana Health Complex for complete physical examination, examination of sputum (3 samples), chest X ray free of costs. If you are diagnosed a case of TB, necessary treatment will be provided free of costs. We will request you to give 3 blood samples (7 ml) at day 1 (day of initiation of treatment), 3 months and 5 months later.

There are minimal risks involved in it. You and your family members will be benefited from the study. Your participation is completely voluntary. You are at liberty to decide not to participate in the study at all or to withdraw from the study at any time without jeopardizing your medical care and treatment. Your identity will remain strictly confidential, but the authorities supporting this study may review the results.

If you are voluntarily willing to participate in the study, then please sign your name or give left thumb impression (LTI) below.

Consent: The study described above has been explained to me and I voluntarily consent to participate in it.

Signature of the interviewer
Date .....

Signature or LTI of the person
Date .....

REQUEST FOR INCLUSION IN TB PROJECT
CONSENT FORM, FAMILY MEMBERS

Title: Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

Principle Investigator: Dr. Rubhana Raqib, Dr. K. Zaman , ICDDR,B. Mohakhali, Dhaka-1212.

Study Location: Matlab and Dhaka

In Bangladesh, tuberculosis (TB) is considered as a major public health problem. It is the common cause of death from a single source of infection among adults. A recent analysis of global burden of TB revealed that Bangladesh rank as the fourth highest among 212 countries in 1997. In Bangladesh about 300,000 new cases of TB occur in a year and there are about 80,000 deaths. Failure to control tuberculosis at the national level is due to poor case detection, inadequate chemotherapy, and emergence of multidrug resistant strains of *M. tuberculosis.* Rapid and improved diagnosis and a better understanding of the therapeutic response are very important for its effective control.

We are conducting a study to evaluate a rapid diagnostic method for TB among patients, a predictive method for detecting infection in family contacts and a correlate of protection against this disease among the contacts (family members). One of the family members has been suffering from TB. We are interested to know whether any other family members have any symptoms suggestive of TB. Prolonged cough is one of the important symptoms of TB. We will refer you/your child (aged ≥15 yrs) to the hospital (Matlab THC for Matlab and Shymoli TB clinic for Dhaka family studies) if you/your child have any cough for more than 3 weeks. The sputum samples (3 samples) will be examined in the hospital for AFB (Matlab & Dhaka) and cultured for TB bacilli to determine its sensitivity patterns (Dhaka). If you agree to participate we will ask you some questions regarding your illness. This will take about 15 minutes to answer the questions. All treatment and investigations will be free of costs. You will be requested to give 2 blood samples (7 ml) at day 1 (day of initiation of treatment) and 3 months later.

There are minimal risks involved in it. You and your family members will be benefited from the study. Your participation is completely voluntary. You are at liberty to decide not to participate in the study at all or to withdraw from the study at any time without jeopardizing your medical care and treatment. Your identity will remain strictly confidential, but the authorities supporting this study may review the results.

If you /your child are voluntarily willing to participate in the study, then please sign your/guardians name or give left thumb impression (LTI) below.

Consent: The study described above has been explained to me and I voluntarily consent/allow my child to participate in it.

Signature of the interviewer
Date .....

Signature or LTI of the person/guardian
Date .....

যক্ষা প্রকল্পে অন্তর্ভূক্তিকরণের অনুরোধ
সম্মতিপত্র, রোগী

Title: Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

প্রধান গবেষকঃ ডঃ রুবহানা রাকীব, ডাঃ কে জামান, আই.সি.ডি.ডি.আর,বি, মহাখালি,ঢাকা।
প্রকল্পের অবস্থানঃ ঢাকা।

বাংলাদেশে যক্ষা একটি অন্যতম প্রধান স্বাস্থ্য সমস্যা। সংক্রামক রোগের কারণে প্রাপ্ত বয়স্কদের মৃত্যুর প্রধানতম কারণ হচ্ছে যক্ষা । সাম্প্রতিক এক সমীক্ষাতে দেখা গেছে যে পৃথিবীর ২১২টি দেশের মধ্যে ১৯৯৭ সালে যক্ষা জনিত উদ্ভূত সমস্যাগুলোর ক্ষেত্রে বাংলাদেশ চতুর্থ স্থানে অবস্থান করছে। বাংলাদেশে প্রতি বছরে প্রায় তিন লক্ষ মানুষ যক্ষায় আক্রান্ত হয় এবং যক্ষা জনিত কারণে ৮০ হাজার রোগীর মৃত্যু ঘটে। জাতিয় পর্যায় যক্ষা প্রতিরোধ না করতে পারার প্রধান কারণ হচছে স্বল্প রোগী সনাক্তকরণ, অপর্যাপ্ত ঔষধ সেবন/প্রয়োগ এবং বর্ধিত হারে ঔষধ প্রতিরোধী যক্ষার জীবানুর আবির্ভাব। দ্রুত এবং উননত রোগ নির্নয় এবং ঔষুধের কার্যকারিতা সমপর্কে সঠিক ধারনা যক্ষা নিয়ন্ত্রণে অতীব জরুরী ।

আমরা দ্রুত যক্ষা রোগ নির্নয়, সংস্পর্শে আসা পারিবারিক সদস্যদের যক্ষা সংক্রমনের অগ্রিম নির্ণয় পদ্ধতি এবং এর সাথে সংক্রমিতদের এই রোগ প্রতিরোধ ক্ষমতা নির্ধারণের জন্য একটি গবেষণা করছি। দীর্ঘস্থায়ী কাশি যক্ষার অন্যতম প্রধান উপসর্গ। আপনার দীর্ঘস্থায়ী কাশি আছে এবং আমরা এর কারণ সমন্ধে আরও জানতে চাই। আপনি যদি এই গবেষনায় অংশগ্রহনে ইচ্ছুক থাকেন তাহলে আপনার অসুস্থতা সম্পর্কে আমরা আপনাকে কিছু প্রশ্ন করব । এর উত্তর দিতে আপনার ১৫ মিনিটের মত সময় লাগবে। পরীক্ষার জন্য আপনার নিকট হতে কফের ৩টি নমুনা নেয়া হবে এবং কালচার করা হবে যক্ষা জীবানু সনাক্তকরণ এবং ঔষধে উহার সংবেদনশীলতা জানার জন্য। এটা আপনার জন্য উপযুক্ত ঔষধ নির্বাচনে সহায়ক হবে। পরিক্ষায় যদি আপনার যক্ষা রোগ ধরা পড়ে তাহলে বিনা মূল্যে আপনাকে চিকিৎসা প্রদান করা হবে। গবেষণায় অন্তর্ভূক্তির ১ম দিন (চিকিৎসা শুরু করার দিন), ৩ মাস পর এবং ৫ মাস পর ৭ সি.সি করে রক্ত দেয়ার জন্য আমরা আপনাকে অনুরোধ করব।

এই গবেষনায় ঝুঁকির সম্ভাবনা খুবই কম বরং আপনি ও আপনার পরিবারের সদস্যরা এর মাধ্যমে উপকৃত হবেন। এতে আপনার অংশগ্রহন সম্পুর্ণভাবে স্বেচ্ছামূলক। আপনি এই গবেষণায় অংশগ্রহন নাও করতে পারেন অথবা অংশগ্রহন করার পরেও যে কোন সময় নিজেকে প্রত্যাহার করতে পারেন ; এতে আপনার চিকিৎসার কোন ত্রুটি হবে না। আপনার পরিচয় ও রোগ সংক্রান্ত তথ্য সম্পুর্ণভাবে গোপন রাখা হবে। কাজের খাতিরে প্রাপ্ত তথ্যসমূহ সংশ্লিষ্ট প্রতিনিধিগণ পরীক্ষা করে দেখতে পারেন।

আপনি যদি স্বেচ্ছায় এই গবেষণায় অংশগ্রহনে ইচ্ছুক থাকেন তাহলে নিম্নে আপনার স্বাক্ষর অথবা বাম বৃদ্ধাঙ্গুলীর ছাপ দিন।

সম্মতিদান ঃ- উপরে বর্ণিত গবেষণা প্রকল্প আমাকে ব্যাখ্যা করা হয়েছে এবং আমি স্বেচ্ছায় এই গবেষণা প্রকল্পে অংশগ্রহন করতে সম্মতিদান করলাম।

তথ্য সংগ্রহকারীর স্বাক্ষর
তারিখঃ-

অংশগ্রহনকারীর/অবিভাবকের স্বাক্ষর অথবা বাম বৃদ্ধাঙ্গুলীর ছাপ
তারিখঃ-

যক্ষা প্রকল্পে অন্তর্ভূক্তিকরণের অনুরোধ
সম্মতিপত্র, রোগী

Title: Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

প্রধান গবেষকঃ ডঃ রুবহানা রাকীব, ডাঃ কে জামান, আই.সি.ডি.ডি.আর,বি, মহাখালি,ঢাকা।

প্রকল্পের অবস্থানঃ মতলব।

বাংলাদেশে যক্ষা একটি অন্যতম প্রধান স্বাস্থ্য সমস্যা। সংক্রামক রোগের কারণে প্রাপ্ত বয়স্কদের মৃত্যুর প্রধানতম কারণ হচ্ছে যক্ষা । সাম্প্রতিক এক সমীক্ষাতে দেখা গেছে যে পৃথিবীর ২১২টি দেশের মধ্যে ১৯৯৭ সালে যক্ষা জনিত উদ্ভূত সমস্যাগুলোর ক্ষেত্রে বাংলাদেশ চতুর্থ স্থানে অবস্থান করছে। বাংলাদেশে প্রতি বছরে প্রায় তিন লক্ষ মানুষ যক্ষায় আক্রান্ত হয় এবং যক্ষা জনিত কারণে ৮০ হাজার রোগীর মৃত্যু ঘটে। জাতিয় পর্যায় যক্ষা প্রতিরোধ না করতে পারার প্রধান কারণ হচছে স্বল্প রোগী সনাক্তকরণ, অপর্যাপ্ত ঔষধ সেবন/প্রয়োগ এবং বর্ধিত হারে ঔষধ প্রতিরোধী যক্ষার জীবানুর আবির্ভাব। দ্রুত এবং উননত রোগ নির্নয় এবং ঔষুধের কার্যকারিতা সমপর্কে সঠিক ধারনা যক্ষা নিয়ন্ত্রণে অতীব জরুরী ।

আমরা দ্রুত যক্ষা রোগ নির্নয়, সংস্পর্শে আসা পারিবারিক সদস্যদের যক্ষা সংক্রমনের অগ্রিম নির্ণয় পদ্ধতি এবং এর সাথে সংক্রমিতদের এই রোগ প্রতিরোধ ক্ষমতা নির্ধারণের জন্য একটি গবেষণা করছি। দীর্ঘস্থায়ী কাশি যক্ষার অন্যতম প্রধান উপসর্গ। আপনার তিন সপ্তাহেরও বেশী সময় ধরে কাশি আছে এবং আমরা এর কারণ আরও জানতে চাই। আপনি যদি এই গবেষনায় অংশগ্রহনে ইচ্ছুক থাকেন তাহলে আপনার অসুস্থতা সম্পর্কে আমরা আপনাকে কিছু প্রশ্ন করব । এর উত্তর দিতে আপনার ১৫ মিনিটের মত সময় লাগবে। আমরা মতলব স্বাস্থ্য কমপ্লেক্সে বিনামুল্যে আপনার স্বাস্থ্য পরীক্ষা, কফ পরীক্ষা (৩টি নমুনা) এবং এক্স-রে করার জন্য প্রেরন করবো। পরিক্ষায় যদি আপনার যক্ষা রোগ ধরা পড়ে তাহলে বিনা মুল্যে আপনাকে চিকিৎসা প্রদান করা হবে। গবেষণায় অন্তর্ভূক্তির ১ম দিন (চিকিৎসা শুর করার দিন), ৩ মাস পর এবং ৫ মাস পর ৭ সি.সি করে রক্ত দেয়ার জন্য আমরা আপনাকে অনুরোধ করব।

এই গবেষনায় ঝুঁকির সম্ভাবনা খুবই কম বরং আপনি ও আপনার পরিবারের সদস্যরা এর মাধ্যমে উপকৃত হবেন। এতে আপনার অংশগ্রহন সম্পুর্ণভাবে স্বেচ্ছামূলক। আপনি এই গবেষণায় অংশগ্রহন নাও করতে পারেন অথবা অংশগ্রহন করার পরেও যে কোন সময় নিজেকে প্রত্যাহার করতে পারেন ; এতে আপনার চিকিৎসার কোন ত্রুটি হবে না। আপনার পরিচয় ও রোগ সংক্রান্ত তথ্য সম্পুর্ণভাবে গোপন রাখা হবে। কাজের খাতিরে প্রাপ্ত তথ্যসমূহ সংশ্লিষ্ট প্রতিনিধিগণ পরীক্ষা করে দেখতে পারেন।

আপনি যদি স্বেচ্ছায় এই গবেষণায় অংশগ্রহনে রাজি থাকেন তাহলে নিম্নে আপনার স্বাক্ষর অথবা বাম বৃদ্ধাঙ্গুলীর ছাপ দিন।

সম্মতিদান ঃ- উপরে বর্ণিত গবেষণা প্রকল্প আমাকে ব্যাখ্যা করা হয়েছে এবং আমি স্বেচ্ছায় এই গবেষণা প্রকল্পে অংশগ্রহন করতে সম্মতিদান করলাম।

তথ্য সংগ্রহকারীর স্বাক্ষর
তারিখঃ-

অংশগ্রহনকারীর/অবিভাবকের স্বাক্ষর অথবা বাম বৃদ্ধাঙ্গুলীর ছাপ
তারিখঃ-

যক্ষা প্রকল্পে অন্তর্ভূক্তিকরণের অনুরোধ
সম্মতিপত্র, পারিবারিক স্টাডি

Title: Assessment of active tuberculosis and determination of immune correlates of protection in Bangladeshi patients.

প্রধান গবেষকঃ ডঃ রুবহানা রাকীব, ডাঃ কে জামান, আই.সি.ডি.ডি.আর,বি, মহাখালি,ঢাকা।

প্রকল্পের অবস্থানঃ মতলব ও ঢাকা।

বাংলাদেশে যক্ষা একটি অন্যতম প্রধান স্বাস্থ্য সমস্যা। সংক্রামক রোগের কারণে প্রাপ্ত বয়স্কদের মৃত্যুর প্রধানতম কারণ হচ্ছে যক্ষা । সাম্প্রতিক এক সমীক্ষাতে দেখা গেছে যে পৃথিবীর ২১২টি দেশের মধ্যে ১৯৯৭ সালে যক্ষা জনিত উদ্ভূত সমস্যাগুলোর ক্ষেত্রে বাংলাদেশ চতুর্থ স্থানে অবস্থান করছে। বাংলাদেশে প্রতি বছরে প্রায় তিন লক্ষ মানুষ যক্ষায় আক্রান্ত হয় এবং যক্ষা জনিত কারণে ৮০ হাজার রোগীর মৃত্যু ঘটে। জাতিয় পর্যায় যক্ষা প্রতিরোধ না করতে পারার প্রধান কারণ হচছে স্বল্প রোগী সনাক্তকরণ, অপর্যাপ্ত ঔষধ সেবন/প্রয়োগ এবং বর্ধিত হারে ঔষধ প্রতিরোধী যক্ষার জীবানুর আবির্ভাব। দ্রুত এবং উননত রোগ নির্নয় এবং ঔষুধের কার্যকারিতা সমপর্কে সঠিক ধারনা যক্ষা নিয়ন্ত্রণে অতীব জরুরী ।

আমরা দ্রুত যক্ষা রোগ নির্নয়, সংস্পর্শে আসা পারিবারিক সদস্যদের যক্ষা সংক্রমনের অগ্রিম নির্ণয় পদ্ধতি এবং এর সাথে সংক্রমিতদের এই রোগ প্রতিরোধ ক্ষমতা নির্ধারণের জন্য একটি গবেষণা করছি। আপনার পরিবারের একজন সদস্য যক্ষা রোগে ভূগছেন । আপনার পরিবারের অন্য কোন সদস্যের যক্ষার মত উপসর্গ আছে কিনা তা আমরা জানতে চাই। দীর্ঘস্থায়ী কাশি যক্ষার অন্যতম প্রধান উপসর্গ। আপনার/আপনার সন্তানের (≥ ১৫ বৎসর) যদি তিন সপ্তাহের বেশী সময় ধওে কাশি থাকে তাহলে আপনাকে/ আপনার সন্তানকে হাসপাতালে প্রেরণ করা হবে (মতলব স্বাস্থ্য কম্প্লেক্সে/ শ্যামলী স্বাস্থ্য কম্প্লেক্সে)। মতলব ও ঢাকা হাসপাতালে কফ (৩টি নমুনা) পরীক্ষা করা হবে (এ এফ বি) এবং যক্ষা রোগের জীবানু সনাক্তকরণ এবং ঔষধে উহার সংবেদনশীলতা জানার জন্য ঢাকায় কালচার করা হবে। আপনি যদি এই গবেষনায় অংশগ্রহনে রাজি থাকেন, তাহলে আপনার অসুস্থতা সম্পর্কে আমরা আপনাকে কিছু প্রশ্ন করব । এর উত্তর দিতে আপনার ১৫ মিনিটের মত সময় লাগবে। সকল চিকিৎসা এবং প্রয়োজনীয় পরীক্ষা বিনামূল্যে করা হবে। গবেষণায় অন্তর্ভূক্তির ১ম দিন (চিকিৎসা শুরু করার দিন) এবং ৩ মাস পর ৭ সি.সি করে রক্ত দেয়ার জন্য আমরা আপনাকে অনুরোধ করব।

এই গবেষনায় ঝুঁকির সম্ভাবনা খুবই কম বরং আপনি ও আপনার পরিবারের সদস্যরা এর মাধ্যমে উপকৃত হবেন। এতে আপনার অংশগ্রহন সম্পুর্ণভাবে স্বেচ্ছামূলক। আপনি এই গবেষণায় অংশগ্রহন নাও করতে পারেন অথবা অংশগ্রহন করার পরেও যে কোন সময় নিজেকে প্রত্যাহার করতে পারেন ; এতে আপনার চিকিৎসার কোন ত্রুটি হবে না। আপনার পরিচয় ও রোগ সংক্রান্ত তথ্য সম্পুর্ণভাবে গোপন রাখা হবে। কাজের খাতিরে প্রাপ্ত তথ্যসমূহ সংশ্লিষ্ট প্রতিনিধিগণ পরীক্ষা করে দেখতে পারেন।

আপনি/আপনার সন্তানকে (১৫ বৎসর এবং উর্ধে) যদি স্বেচ্ছায় এই গবেষণায় অংশগ্রহনে রাজি থাকেন তাহলে নিম্নে আপনার স্বাক্ষর অথবা বাম বৃদ্ধাঙ্গুলীর ছাপ দিন।

সম্মতিদান ঃ- উপরে বর্ণিত গবেষণা প্রকল্প আমাকে ব্যাখ্যা করা হয়েছে এবং আমি স্বেচ্ছায় এই গবেষণা প্রকল্পে অংশগ্রহন করতে সম্মতিদান করলাম।

তথ্য সংগ্রহকারীর স্বাক্ষর
তারিখঃ-

অংশগ্রহনকারীর/অবিভাবকের স্বাক্ষর অথবা বাম বৃদ্ধাঙ্গুলীর ছাপ
তারিখঃ-

Annex -

Form **Information of suspected cases of TB - Matlab Household level TB Surveillance Study**

Identification

1.1 Case serial number |__|__|__|__|__|

1.2 Date of interview (dd/mm/yy) |__|__|__|__|__|__|

1.3 Name and number of interviewer _____ |__|__|

1.4 Address of the patient

Name _____
Vill _____
P.O _____
Thana _____
Dist _____

1.5 Patient CID |__|__|__|__|__|__|__|__|__|__|

1.6 Patient RID |__|__|__|__|__|__|__|__|__|__|

1.7 Date of birth (dd/mm/yy) |__|__|__|__|__|__|

1.8 Patient sex (male =1, female =2) |__|

1.9 Religion (muslim = 1, hindu =2, others = 3) |__|

Socio demographics

2.1 Number of persons in the household |__|__|

2.2 Occupation of the patient |__|__|

2.3 Is the person head of the household? (no=1, yes=2) |__|

2.4 Occupation of the head of the household |__|__|

2.5 Education of the patient (in years) |__|__|

2.6 Education of the head of the household (in years) |__|__|

2.7 Number of under 5 children |__|

2.8 Average household income per month (in taka) |__|__|__|__|__|

2.9 Number of living rooms |__|

2.10 Does the family own house ? (no=1, yes = 2) |__|

2.11 Does the family own land? (no=1, yes = 2) |__|

Type of household

2.12. 1 Type of walls |__|
(straw = 1, jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.12.2 Type of roof |__|
(straw = 1, jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.12.3 Type of floor |__|
(mud =1, cement =2, others =3)

Water source
(river = 1, canal = 2, pond = 3, tube well = 4, others = 5)
2.13.1 Drinking |__|
2.13.2 Washing |__|
2.13.3 Cooking |__|
2.13.4 Bathing |__|

2.14 Tubewell in the courtyard (no =1, yes=2) |__|

2.15 Type of latrine |__|
(dug hole = 1, water-seal = 2, sanitary = 3, others = 4)

2.16 Animal in the household (no=1, yes=2)
Cow |__| Goat |__| Dog |__| Cat |__| Chicken |__| Duck |__|

2.17 Amount of land (in decimal)
Housing |__|__|__|
Cultivable |__|__|__|

BCG vaccination status

3.1 Did the patient receive BCG vaccine? (no=1, yes=2) |__|

3.2 Presence of scar (no=1, yes=2) |__|

Family Illness history

4.1 Does any of the family members have the following complaints?

Relation	Complaints	Duration	Treatment source
|__|	|__|__|__|	|__|
	|__|	|__|__|__|	
	|__|	|__|__|__|	
|__|	|__|	|__|__|__|	|__|
	|__|	|__|__|__|	
	|__|	|__|__|__|	
|__|	|__|	|__|__|__|	|__|
	|__|	|__|__|__|	
	|__|	|__|__|__|	
|__|	|__|	|__|__|__|	|__|
	|__|	|__|__|__|	
	|__|	|__|__|__|	

4.2 Does any family members had TB? (no=1, yes=2) |__|
4.3 If so, relationship with the patient |__|__|
4.4 Does any of the family members are currently suffering from TB? |__|
(no=1, yes=2)
4.5 Does any family members died with symptoms suggestive of TB (prolonged cough, fever, wasting of the body) ? (no=1, yes=2) |__|
4.5.1 If yes, relationship with the patient |__|

Illness History

Past illness history

5.1 Any illness in last 5 years (no=1, yes=2) |__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

Presenting complains

6.1 Cough (no=1, yes=2, recurrent =3) |__| If yes, duration in days |__|__|__|
6.2 Breathing difficulty (no=1, yes=2, recurrent =3) |__| If yes, duration in days |__|__|__|
6.3 Fever (no=1, yes=2, recurrent = 3) |__| If yes, duration in days |__|__|__|
6.4 Sputum (no=1, yes=2) |__| If yes, duration in days |__|__|__|
6.5 Anorexia (no=1, yes=2) |__| If yes, duration in days |__|__|__|
6.6 Night sweating (no=1, yes=2) |__| If yes, duration in days |__|__|__|
6.7 Haemoptysis (no=1, yes=2) |__| If yes, duration in days |__|__|__|
6.8 Loss of body weight (no=1, yes=2) |__| If yes, duration in days |__|__|__|
6.9 Chest pain (no=1, yes=2) |__| If yes, duration in days |__|__|__|
6.10 Difficulty in swallowing (no=1, yes=2) |__| If yes, duration in days |__|__|__|
6.11 Abdominal pain (no=1, yes=2) |__| If yes, duration in days |__|__|__|

Information of suspected cases of TB - Matlab Thana Health Complex

TB Surveillance Study

1.1 Case serial number |__|__|__|__|__|

1.2 Date of interview (dd/mm/yy) |__|__|__|__|__|__|

1.3 Name and number of interviewer _____ |__|__|

1.4 Address

Name _____
Vill _____
P.O _____
Thana _____
Dist _____

1.5 Patient CID |__|__|__|__|__|__|__|__|__|

1.6 Patient RID |__|__|__|__|__|__|__|__|__|

1.7 Date of birth (dd/mm/yy) |__|__|__|__|__|__|

1.8 Patient sex (male =1, female =2) |__|

Past illness history

2.1 Any illness in last 5 years (no=1, yes=2) |__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) | | | days |__|__|
Drug name |__| duration (months) | | | days |__|__|
Drug name |__| duration (months) | | | days |__|__|
Drug name |__| duration (months) | | | days |__|__|

If so, name of the illness _____
duration of illness (months) | | | days | | |

Treatment received
Drug name |__| duration (months) | | | days | | |
Drug name |__| duration (months) | | | days | | |
Drug name |__| duration (months) | | | days | | |
Drug name |__| duration (months) | | | days | | |

Past TB treatment history

3.1 Did the patient receive any treatment of TB before ? | |
(no = 1, yes = 2)
If yes, when (dd/mm/yr) | | | | | | |
from where | | |
Was the patient under DOTS programme? (no = 1, yes = 2) | |

3.2 How long the patient has been receiving treatment (yr-mm/dd)? | | | | | |
Name of the drugs INH |__| for (months) | | | days | | |
(no =1, yes=2) RIF |__| for (months) | | | days | | |
ETH |__| for (months) | | | days | | |
PYR |__| for (months) | | | days | | |
THI |__| for (months) | | | days | | |
__	for (months)			days		
__	for (months)			days		
__	for (months)			days		
__	for (months)			days		
__	for (months)			days		

3.3 Was the sputum examined ? (no=1, yes=2) | |
If so, result of sputum smear examination | |

3.4 Was X ray done ? (no=1, yes=2) | |
If yes, X ray findings Abnormality (no =1, yes=2) | |
Pulmonary TB left lung | | right lung | | both lungs |__|

3.5 Did the patient discontinue treatment ? (no = 1, yes = 2) | |

If so, when (dd/mm/yr) |__|__|__|__|__|__|

3.6 Reasons for discontinuation |__|
(side effects =1, feeling better = 2, tastes bad =3, too many medicines/doses=4
Non-availability = 5)

BCG vaccination status

4.1 Did the patient receive BCG vaccine ? (no=1, yes=2) |__|

4.2 Presence of scar (no=1, yes=2) |__|

Clinical examination findings

5.1 Date of examination (dd/mm/yy) |__|__|__|__|__|__|

5.2 General appearance (normal =1, ill looking =2) |__|

5.3 Weight (kg) |__|__|__|.|__|__|

5.4 Height (cm) |__|__|__|

5.5 Anaemia (no=1, yes=2) |__|

5.6 Pulse (/min) |__|__|__|

5.7 Temperature (°C) |__|__|.|__|

5.8 Jaundice (no=1, yes=2) |__|

5.9 Oedema (no=1, yes=2) |__|

5.10 Muscle wasting (no=1, yes=2) |__|

5.11 Lung

Wheeze (no=1, yes=2) |__|
Rales (no=1, yes=2) |__|
Rhonchi (no=1, yes=2) |__|

5.12 Heart sound (normal =1, added sound =2) |__|

5.13 Liver (not palpable =1, palpable =2) |__|

5.14 Lymph nodes (not palpable =1, palpable =2) |__|

5.15 Abdomen (soft =1, distended =2) |__|

5.16 Eyes (normal =1, conjunctivitis=2, catarract =3) |__|

5.17 Ear (Normal=1, discharge =2) |__|

5.18 Skin (normal =1, rash =2) |__|

5.19 Breathing difficulty (no=1, yes=2) |__|

5.20 Chest indrawing (no=1, yes= 2) |__|

6.1 Provisional diagnosis _____

7.1 Treatment given

Name of the drugs (no =1, yes=2)							
	INH |__|	for	(months) |__|__|	days |__|__|
	RIF |__|	for	(months) |__|__|	days |__|__|
	ETH |__|	for	(months) |__|__|	days |__|__|
	PYR |__|	for	(months) |__|__|	days |__|__|
	THI |__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|

Laboratory Results - Matlab
TB Surveillance Study

1.1 Case serial number |__|__|__|__|__|

1.2 Address

Name _____
Vill _____
P.O _____
Thana _____
Dist _____

1.3 Patient CID |__|__|__|__|__|__|__|__|__|

1.4 Patient RID |__|__|__|__|__|__|__|__|__|__|

1.5 Date of birth |__|__|__|__|__|__|

1.6 Patient sex (male =1, female =2) |__|

Laboratory results

2.1 Sputum sent to the Matlab lab for AFB examination (no=1, yes=2) |__|

2.2 Visual appearance of sputum Muco-purulent |__| Blood stained |__| Saliva |__|

Microscopic Examination

Specimen	Date Sample Received	Date Sample Examined	Results Write Positive or Negative	Positive grading			
				+++	++	+	scanty
1							
2							
3							

2.3 Was X ray done ? (no=1, yes=2) |__|

If yes, X ray findings. Abnormality (no=1, yes=2) |__|

Pulmonary TB

Left lung (no=1, yes=2) |__|
Right lung (no=1, yes=2) |__|
Both lungs (no=1, yes=2 |__|

2.4 Was blood examined for CBC ? |__|
(no=1, yes=2)

If yes, results

2.5.1 TBC - 0000/dl |__|__|__|__|
2.5.2 Poly (%) |__|__|
2.5.3 Lymp (%) |__|__|
2.5.4 Mono- (%) |__|__|
2.5.5 Eosino (%) |__|__|

2.6 ESR (mm 1st hr) |__|__|__|

2.7 Hb (gm %) |__|__|.|__| 2.8 HCT (%) |__|__|

2.9 Has the sputum sample been sent to Dhaka? |__|
(no=1, yes=2)

Family Studies - Matlab
TB Surveillance Study

Identification

1.1 Case serial number |__|__|__|__|__|

1.2 Date of interview (dd/mm/yy) |__|__|__|__|__|__|

1.3 Name and number of interviewer _____ |__|__|

1.4 Address

Name _____
Vill _____
P.O _____
Thana _____
Dist _____

1.5 CID |__|__|__|__|__|__|__|__|__|

1.6 RID |__|__|__|__|__|__|__|__|__|

1.7 Date of birth (dd/mm/yy) |__|__|__|__|__|__|

1.8 Sex (male =1, female =2) |__|

1.9 Religion (muslim = 1, hindu =2, others = 3) |__|

Socio demographics

2.1 Number of persons in the household |__|__|

2.2 Occupation of the individual |__|__|

2.3 Is the person head of the household ? (no=1, yes =2) |__|

2.4 Occupation of the head of the household |__|__|

2.5 Education of the individual (in years) |__|__|

2.6 Education of the head of the household (in years) |__|__|

2.7 Number of under 5 children |__|

2.8 Average household income per month (taka) |__|__|__|__|__|

2.9 Number of living rooms |__|

2.10 Does the family own house? (no=1, yes = 2) |__|

2.11 Does the family own land? (no=1, yes = 2) |__|

Type of household

2.12.1 Type of walls |__|
(straw= 1, jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.12.2 Type of roof |__|
(straw= 1, Jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.12.3 Type of floor |__|
(mud =1, cement=2)

Water source
(river = 1, canal = 2, pond = 3, tube well = 4, other = 5)
2.13.1 Drinking |__|
2.13.2 Washing |__|
2.13.3 Cooking |__|
2.13.4 Bathing |__|

2.14 Tubewell in the courtyard (no=1, yes=2) |__|

2.15 Type of latrine |_ _|
(dug hole = 1, water-seal = 2, sanitary = 3, other = 4)

2.16 Animal in the household (no=1, yes=2) |__|
cow |__| goat |__| dog |__| cat |__| chicken |__| duck |__|

BCG vaccination status

3.1 Did the patient receive BCG vaccine? (no=1, yes =2) |__|

3.2 Presence of scar (no=1, yes=2) |__|

Illness History

Past illness history

4.1 Any illness in last 5 years (no=1, yes=2) |__|

If so, name of the illness ____________________
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness ____________________
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness ____________________
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

Presenting complains

5.1 Cough (no=1, yes=2, recurrent =3) |__| If yes, duration in days |__|__|__|
5.2 Breathing difficulty (no=1, yes=2, recurrent =3) If yes, duration in days |__|__|__|
5.3 Fever (no = 1, yes = 2, recurrent = 3) |__| If yes, duration in days |__|__|__|
5.4 Sputum (no = 1, yes = 2 |__| If yes, duration in days |__|__|__|
5.5 Anorexia (no = 1, yes = 2) |__| If yes, duration in days |__|__|__|
5.6 Night sweating (no=1, yes=2) |__| If yes, duration in days |__|__|__|
5.7 Haemoptysis (no=1, yes=2) |__| If yes, duration in days |__|__|__|

5.8 Loss of body weight (no=1, yes=2) |__| If yes, duration in days |__|__|__|
5.9 Chest pain (no = 1, yes = 2) |__| If yes, duration in days |__|__|__|
5.10 Difficulty in swallowing (no=1, yes=2) |__| If yes, duration in days |__|__|__|
5.11 Abdominal pain (no=1, yes=2) |__| If yes, duration in days |__|__|__|

Current illnesses

6.1 Is the person suffering from any illness now |__|
(no=1, yes=2)

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

6.2 Treatment receiving

Drug name |__| duration (months) |__|__| days |__|__| Source |__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

Information of suspected cases of TB - Shymoli TB Clinic
TB Surveillance Study

1.1 Case serial number |__|__|__|__|__|

1.2 Date of interview (dd/mm/yy) |__|__|__|__|__|__|

1.3 Name and number of interviewer _____ |__|__|

1.4 Address

Name _____
Vill/Road /House# _____
P.O _____
Thana _____
Dist _____

1.5 Date of birth (dd/mm/yy) |__|__|__|__|__|__|

1.6 Patient sex (male =1, female = 2) |__|

Past illness history

2.1 Any illness in last 5 years (no=1, yes=2) |__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

Past TB treatment history

3.1 Did the patient receive any TB treatment before ? (no=1, yes=2) |__|
If yes, when (dd/mm/yr) |__|__|__|__|__|__|
from where |__|__|

Was the patient under DOTS program ? (No=1, yes=2) |__|

3.2 How long the patient has been receiving treatment ?

Name of the drugs (no =1, yes=2)

INH |__| for (months) |__|__| days |__|__|
RIF |__| for (months) |__|__| days |__|__|
ETH |__| for (months) |__|__| days |__|__|
PYR |__| for (months) |__|__| days |__|__|
THI |__| for (months) |__|__| days |__|__|
|__| for (months) |__|__| days |__|__|
|__| for (months) |__|__| days |__|__|
|__| for (months) |__|__| days |__|__|
|__| for (months) |__|__| days |__|__|
|__| for (months) |__|__| days |__|__|

3.3 Was sputum smear examined ? (no=1, yes=2) |__|
If so, result of sputum smear examination |__|
(AFB negative =1, positive =2)

3.4 Was X ray done ? (no=1, yes=2) |__|
If yes, X ray findings Abnormality (1=no, 2 =yes) |__|
Pulmonary TB left lung |__| right lung |__| both lungs |__|
(no=1, yes =2)

3.5 Did the patient discontinue treatment ? (no=1, yes=2) |__|
If so, when (dd/mm/yr) |__|__|__|__|__|__|

3.6 Reasons for discontinuation |__|
(side effects =1, feeling better = 2, tastes bad = 3. too many medicines/doses = 4, non availability=5, preoccupation =6)

BCG vaccination status

4.1 Did the patient receive BCG vaccine ? (no =1, yes =2) |__|

4.2 Presence of scar (no=1, yes=2) |__|

Clinical examination findings

5.1 Date of examination (dd/mm/yy) |__|__|__|__|__|__|

5.2 General appearance (normal =1, ill looking =2) |__|

5.3 Weight (kg) |__|__|__|.|__|__|

5.4 Height (cm) |__|__|__|

5.5 Anaemia (no=1, yes=2) |__|

5.6 Pulse (/min) |__|__|__|

5.7 Temperature (°C) |__|__|.|__|

5.8 Jaundice (no=1, yes=2) |__|

5.9 Oedema (no=1, yes=2) |__|

5.10 Muscle wasting (no=1, yes=2) |__|

5.11 Lung

Wheeze (no =1, yes =2) |__|
Rales (no=1, yes =2) |__|
Rhonchi (no=1, yes =2) |__|

5.12 Heart sound (normal =1, added sound =2) |__|

5.13 Liver (not palpable =1, palpable =2) |__|

5.14 Lymph nodes (not palpable =1, palpable =2) |__|

5.15 Abdomen (soft =1, distended =2) |__|

5.16 Eyes (normal =1, conjunctivitis =2, cataract =3) |__|

5.17 Ear (normal=1, discharge =2) |__|

5.18 Skin (normal =1, rash =2) |__|

5.19 Breathing difficulty (no=1, yes=2) |__|

5.20 Chest indrawing (no=1, yes= 2) |__|

6.1 Provisional diagnosis _____

7.1 Treatment given

Name of the drugs (no =1, yes=2)								
	INH |__|	for	(months) |__|__|	days |__|__|
	RIF |__|	for	(months) |__|__|	days |__|__|
	ETH |__|	for	(months) |__|__|	days |__|__|
	PYR |__|	for	(months) |__|__|	days |__|__|
	THI |__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|
	|__|	for	(months) |__|__|	days |__|__|

Family studies - Dhaka
TB Surveillance Study

Identification

1.1 Case serial number |__|__|__|__|__|

1.2 Date of interview (dd/mm/yy) |__|__|__|__|__|__|

1.3 Name and number of interviewer _____ |__|__|

1.4 Address

Name _____
Vill/Road/House # _____
P.O _____
Thana _____
Dist _____

1.5 Date of birth (dd/mm/yy) |__|__|__|__|__|__|

1.6 Sex of the person (male =1, female =2) |__|

1.7 Religion (muslim =1, hindu =2, others = 3) |__|

Socio demographics

2.1 Number of persons in the household |__|__|

2.2 Occupation of the person |__|__|

2.3 Whether the person is the head of the household (no=1, yes=2) |__|

2.4 Occupation of the head of the household |__|__|

2.5 Education of the individual (in years) |__|__|

2.6 Education of the head of the household (in years) |__|__|

2.6 Number of under 5 children |__|

2.7 Average household income per month (taka) |__|__|__|__|__|

2.8 Number of living rooms |__|

2.9 Does the family own house ? (no=1, yes = 2) |__|

2.10 Does the family own land ? (no=1, yes=2) |__|

Type of Housing

2.11.1 Type of walls |__|
(straw= 1, Jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.11.2 Type of roof |__|
(straw= 1, Jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.11.3 Type of floor |__|
(1= mud =1, cement =2)

Water source
(river = 1, canal = 2, pond = 3, tube well = 4, Other = 5)
2.12.1 Drinking |__|
2.12.2 Washing |__|
2.12.3 Cooking |__|
2.12.4 Bathing |__|

2.13 Tubewell in the courtyard (no=1, yes=2) |__|

2.14 Types of latrine |__|
(dug hole = 1, water-seal = 2, sanitary = 3, other = 4)

2.15 Animal in the household (no=1, yes=2)
cow |__| goat |__| dog |__| cat |__| chicken |__| duck |__|

BCG vaccination status

3.1 Did the patient receive BCG vaccine? (no=1, yes=2) |__|

3.2 Presence of scar (no=1, yes=2) |__|

Illness History

Past illness history

4.1 Any illness in last 5 years (no=1, yes=2) |__|

If so, name of the illness ____________________
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness ____________________
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

If so, name of the illness ____________________
duration of illness (months) |__|__| days |__|__|

Treatment received

Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

Presenting complains

5.1 Cough (no=1, yes=2, recurrent =3) |__| If yes, duration in days |__|__|__|
5.2 Breathing difficulty (no=1, yes=2, recurrent =3) If yes, duration in days |__|__|__|
5.3 Fever (no = 1, yes = 2, recurrent = 3) |__| If yes, duration in days |__|__|__|
5.4 Sputum (no = 1, yes = 2) |__| If yes, duration in days |__|__|__|
5.5 Anorexia (no = 1, yes = 2) |__| If yes, duration in days |__|__|__|
5.6 Night sweating (no=1, yes=2) |__| If yes, duration in days |__|__|__|
5.7 Haemoptysis (no=1, yes=2) |__| If yes, duration in days |__|__|__|

5.8 Loss of body weight (no=1, yes=2) |__| If yes, duration in days |__|__|__|
5.9 Chest pain (no = 1, yes = 2) |__| If yes, duration in days |__|__|__|
5.10 Difficulty in swallowing (no=1, yes=2) |__| If yes, duration in days |__|__|__|
5.11 Abdominal pain (no=1, yes=2) |__| If yes, duration in days |__|__|__|

Current illnesses

6.1 Is the person suffering from any illness now |__|
(no=1, yes=2)

If so, name of the illness _____
duration of illness (months) |__|__| days |__|__|

6.2 Treatment receiving

Drug name |__| duration (months) |__|__| days |__|__| Source |__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|
Drug name |__| duration (months) |__|__| days |__|__|

Laboratory Results - Shymoli
TB Surveillance Study

1.1 Case serial number |__|__|__|__|__|

1.2 Address

Name _____

Vill/Road/House# _____

P.O _____

Thana _____

Dist _____

1.3 Date of birth |__|__|__|__|__|__|

1.4 Patient sex (male =1, female =2) |__|

Laboratory results

2.1 Visual appearance of sputum Muco-purulent |__| Blood stained |__| Saliva |__|

Microscopic Examination

Specimen	Date Sample Received	Date Sample Examined	Results Write Positive or Negative	Positive grading			
				+++	++	+	scanty
1							
2							
3							

2.4 Was X ray done ? (no=1, yes =2) |__|

If yes, X ray findings Abnormality (no=1, yes =2) |__|

Pulmonary TB

Left lung (no=1, yes =2) |__|

Right lung (no=1, yes =2) |__|

Both lungs (no=1, yes =2) |__|

2.5 Has blood examined for CBC ? |__|

(no=1, yes =2)

If yes, results

2.5.1 TBC - 0000/dl |__|__|__|__|
2.5.2 Poly (%) |__|__|
2.5.3 Lymp (%) |__|__|
2.5.4 Mono- (%) |__|__|
2.5.5 Eosino (%) |__|__|

2.6 ESR (mm 1st hr) |__|__|__|

2.7 Hb (gm %) |__|__|.|__| 2.8 HCT (%) |__|__|

2.8 Culture result

L-J medium (no growth =1, TB growth =2) |__| time for growth (days) |__|__|
MODS (no growth = 1, TB growth =2) |__| time for growth (days) |__|__|

2.9 Sensitivity results

(sensitive = S, resistant = R)

	INH	RIF	ETH	PYR	THI		
Sensitivity							

Questionnaire for assessment of DOTS
TB Surveillance Study

Identification

1.1 Serial number |__|__|__|__|__|

1.2 Date of interview (dd/mm/yy) |__|__|__|__|__|__|

1.3 Name and number of interviewer _____ |__|__|

1.4 Address of the patient

Name _____
Vill _____
P.O _____
Thana _____
Dist _____

1.5 Patient CID |__|__|__|__|__|__|__|__|__|

1.6 Patient RID |__|__|__|__|__|__|__|__|__|__|

1.7 Date of birth (dd/mm/yy) |__|__|__|__|__|__|

1.8 Patient sex (male =1, female =2) |__|

1.9 Religion (muslim = 1, hindu =2, others = 3) |__|

Socio demographics

2.1 Number of persons in the household |__|__|

2.2 Occupation of the patient |__|__|

2.3 Is the person head of the household? (no=1, yes=2) |__|

2.4 Occupation of the head of the household |__|__|

2.5 Education of the patient (in years) |__|__|

2.6 Education of the head of the household (in years) |__|__|

2.7 Number of under 5 children |__|

2.8 Average household income per month (in taka) |__|__|__|__|__|

2.9 Number of living rooms |__|

2.10 Does the family own house ? (no=1, yes = 2) |__|

2.11 Does the family own land? (no=1, yes = 2) |__|

Type of household

2.12. 1 Type of walls |__|
(straw = 1, jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.12.2 Type of roof |__|
(straw = 1, jute = 2, bamboo= 3, tin = 4, brick = 5, others= 6)

2.12.3 Type of floor |__|
(mud =1, cement =2, others =3)

Water source
(river = 1, canal = 2, pond = 3, tube well = 4, others = 5)
2.13.1 Drinking |__|
2.13.2 Washing |__|
2.13.3 Cooking |__|
2.13.4 Bathing |__|

2.14 Tubewell in the courtyard (no =1, yes=2) |__|

2.15 Type of latrine |__|
(dug hole = 1, water-seal = 2, sanitary = 3, others = 4)

2.16 Animal in the household (no=1, yes=2)
Cow |__| Goat |__| Dog |__| Cat |__| Chicken |__| Duck |__|

2.17 Amount of land (in decimal)
Housing |__|__|__|
Cultivable |__|__|__|

BCG vaccination status

3.1 Did the patient receive BCG vaccine? (no=1, yes=2) |__|

3.2 Presence of scar (no=1, yes=2) |__|

Past TB treatment history

3.1 Did the patient receive any TB treatment before ? (no=1, yes=2) |__|
If yes, when (dd/mm/yr) |__|__|__|__|__|__|
from where |__|__|

Was the patient under DOTS program ? (No=1, yes=2) |__|

Are you regularly taking treatment from Matlab THC ? (No=1, yes=2) |__|

If yes,

3.2 How long the patient has been receiving treatment ?

Name of the drugs (no =1, yes=2)						
	INH |__|	for	(months) |__|__|	days	|__|__|
	RIF |__|	for	(months) |__|__|	days	|__|__|
	ETH |__|	for	(months) |__|__|	days	|__|__|
	PYR |__|	for	(months) |__|__|	days	|__|__|
	THI |__|	for	(months) |__|__|	days	|__|__|
	|__|	for	(months) |__|__|	days	|__|__|
	|__|	for	(months) |__|__|	days	|__|__|
	|__|	for	(months) |__|__|	days	|__|__|
	|__|	for	(months) |__|__|	days	|__|__|
	|__|	for	(months) |__|__|	days	|__|__|

3.3 Was sputum smear examined ? (no=1, yes=2) |__|
If so, result of sputum smear examination |__|
(AFB negative =1, positive =2)

3.4 Was X ray done ? (no=1, yes=2) |__|
If yes, X ray findings Abnormality (no=1, yes=2) |__|
Pulmonary TB left lung |__| right lung |__| both lungs |__|
(no=1, yes =2)

3.5 Did the patient discontinue treatment ? (no=1, yes=2) |__|
If so, when (dd/mm/yr) |__|__|__|__|__|__|

3.6 Reasons for discontinuation |__|
(side effects =1, feeling better = 2, tastes bad = 3, too many medicines/doses = 4, non availability of drugs =5, preoccupation =6)

Annex –

সম্ভাব্য যক্ষ্মা রোগীর তথ্য--মতলব
যক্ষ্মা সার্ভেলেন্স প্রকল্প

রোগীর পরিচিতিঃ

১.১ রোগীর ক্রমিক নাম্বার |__|__|__|__|__|

১.২ সাক্ষাৎকারের তারিখ(দিন/মাস/বৎসর) |__|__|/|__|__|/|__|__|

১.৩ সাক্ষাৎকার গ্রহনকারীর নাম ও নাম্বার _____ |__|__|

১.৪ রোগীর ঠিকানাঃ

নাম: _____

গ্রাম: _____

পো: অফিস: _____

থানা: _____

জেলা: _____

১.৫ রোগীর সি.আই.ডি |__|__|__|__|__|__|__|__|__|__|

১.৬ রোগীর আর.আই.ডি |__|__|__|__|__|__|__|__|__|__|

১.৭ জন্মের তারিখ(দিন/মাস/বৎসর) |__|__|__|__|__|__|

১.৮ রোগীর লিঙ্গ(পুরুষ=১,মহিলা=২): |__|

১.৯ ধর্ম (মুসলিম=১,হিন্দু=২,অন্যান্য=৩) |__|

আর্থসামাজিক অবস্থা:-

২.১ বাড়ীর লোকসংখ্যা:- |__|__|

২.২ রোগীর পেশা: |__|__|

২.৩ রোগী কি নিজেই গৃহকর্তা ? (না=১,হাঁ=২) |__|

২.৪ গৃহকর্তার পেশা |__|__|

২.৫ রোগীর শিক্ষাগত যোগ্যতা (বৎসর হিসাবে) |__|__|

২.৬ গৃহকর্তার শিক্ষাগত যোগ্যতা(বৎসর হিসাবে) |__|__|

২.৭ অনুর্ধ পাঁচ বৎসরের শিশুর সংখ্যা |__|__|

২.৮ গড় মাসিক আয়(টাকা) |__|__|__|__|__|

২.৯ বাসযোগ্য ঘরের সংখ্যা |__|__|

২.১০ পরিবারের নিজস্ব বাড়ী আছে কি ?(না=১, হাঁ=২) |__|

২.১১ পরিবারের নিজস্ব জমি আছে কি ?(না=১, হাঁ=২) |__|

বাসগৃহের ধরণ

২.১২.১ দেয়ালের ধরণ |__|

(খড়=১, পাট=২, বাঁশ=৩, টিন=৪, ইট= ৫ অন্যান্য=৬)

২.১২.২ ছাদের ধরণ |__|

(খড়=১, পাট=২, বাঁশ=৩, টিন=৪, ইট= ৫ অন্যান্য=৬)

২.১২.৩ মেঝের ধরণ |__|

(মাটি=১, সিমেন্ট=২, অন্যান্য=২)

পানির উৎস:-

(নদী=১, খাল=২, পুকুর=৩, টিউব ওয়েল/চাঁপ কল=৪, অন্যান্য=৫)

২.১৩.১ পান করার জন্য |__|

২.১৩.২ ধৌত করার জন্য |__|

২.১৩.৩ রান্না করার জন্য |__|

২.১৩.৪ গোসল করার জন্য |__|

২.১৪ বাড়ীর আঙ্গীনায় টিউব ওয়েল/চাঁপ কল আছে ? (না=১,হাঁ=২) |__|
২.১৫ পায়খানা ঘরের ধরণ ? |__|
(গর্ত করা=১, ওয়াটার সীল=২, স্যানিটারী=৩, অন্যান্য=৪)
২.১৬ গৃহপালিত জীব-জন্তুর বিবরণ(না=১,হাঁ=২) |__|
(গরু|__|, ছাগল|__|, কুকুর|__|, বিড়াল|__|, মুরগী|__|, হাঁস|__|)
২.১৭ সর্বমোট জমির পরিমাণ (শতকে)
বাসগৃহ |__|__|__|
চাষাবদযোগ্য |__|__|__|
বি.সি.জি. টিকার বিবরণ:-
৩.১ রোগী কি বি.সি.জি. টিকা নিয়েছে ? (না=১,হাঁ=২) |__|
৩.২ রোগীর শরীরে কি বি.সি.জি. টিকার দাগ আছে ? (না=১,হাঁ=২) |__|

অসুস্থতার বিবরণ

পারিবারিক অসুস্থতার বিবরণ:-
৪.১ পরিবারের অন্য কারো কি কি সমস্যা আছে ?

সম্পর্ক	শারীরিক সমস্যা	স্থায়িত্ব	চিকিৎসার উৎস
|__| |__|__| |__|__|__| |__|
	|__|__| |__|__|__|	
	|__|__| |__|__|__|	
|__| |__|__| |__|__|__| |__|
	|__|__| |__|__|__|	
	|__|__| |__|__|__|	
|__| |__|__| |__|__|__| |__|
	|__|__| |__|__|__|	
	|__|__| |__|__|__|	
|__| |__|__| |__|__|__| |__|
	|__|__| |__|__|__|	
	|__|__| |__|__|__|	

৪.২ পরিবারের কোন সদস্যের কি যক্ষ্মা হয়েছিল ? (না=১,হাঁ=২) |__|
৪.৩ উত্তর হাঁ হলে, রোগীর সাথে সম্পর্ক |__|
৪.৪ পরিবারের কোন সদস্য কি বর্তমানে যক্ষ্মা রোগে ভুগছেন ? (না=১,হাঁ=২) |__|
৪.৫ পরিবারের কোন সদস্য কি যক্ষ্মা রোগের অনুরূপ উপসর্গসহ (দীর্ঘস্থায়ী কাশি, জ্বর ও ওজন হ্রাস)মৃত্যুবরণ করেছেন (না=১,হাঁ=২) |__|
৪.৬ উত্তর হ্যা হলে, রোগীর সাথে সম্পর্ক|__|

অতীতের অসুস্থতার বিবরণ
৫.১ বিগত পাঁচ বছরে কি কোন উল্লেখ যোগ্য অসুস্থতা হয়েছিল ? (না=১,হাঁ=২)
উত্তর হ্যা হলে, রোগের বিবরণ

- রোগের নাম _____

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম _____

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম _____

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

বর্তমানে শারীরিক সমস্যা

৬.১ কাশি (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.২ শ্বাস কষ্ট (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.৩ জ্বর (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.৪ কফ (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.৫ ক্ষুধামন্দ্যা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.৬ রাত্রীকালীন ঘাম (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.৭ কাশির সাথে রক্ত (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.৮ শরীরের ওজন হ্রাস (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.৯ বুকে ব্যথা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.১০ গিলতে অসুবিধা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৬.১১ তলপেটে ব্যথা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|

সম্ভাব্য যক্ষ্মা রোগীর তথ্য--মতলব থানা সাস্থ্য কমপ্লেক্স
যক্ষ্মা সার্ভেলেন্স প্রকল্প

রোগীর পরিচিতিঃ

১.১ রোগীর ক্রমিক নাম্বার |__|__|__|__|__|
১.২ সাক্ষাৎকারের তারিখ(দিন/মাস/বৎসর) |__|__|/|__||__|/|__||__|
১.৩ সাক্ষাৎকার গ্রহনকারীর নাম ও নাম্বার ______________________ |__|__|
১.৪ রোগীর ঠিকানাঃ
নাম: ______________
গ্রাম: ______________
পো: অফিস: ______________
থানা: ______________
জেলা: ______________
১.৫ রোগীর সি.আই.ডি |__|__|__|__|__|__|__|__|__|
১.৬ রোগীর আর.আই.ডি |__|__|__|__|__|__|__|__|__|
১.৭ জন্মের তারিখ(দিন/মাস/বৎসর) |__|__|__|__|__|__|
১.৮ রোগীর লিঙ্গ(পুরুষ=১,মহিলা=২): |__|

বিগত অসুস্থতার বিবরণ:-

২.১ বিগত পাঁচ বছরে আপনি অসুস্থ হয়েছেন কি ?(না=১, হাঁ=২) |__|
উত্তর হ্যা হলে, রোগের বিবরণ

- রোগের নাম ______________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ______________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ______________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

অতীতে যক্ষ্মা চিকিৎসার বিবরণ

৩.১ আপনি কি পূর্বে কখনও যক্ষ্মার চিকিৎসা করেছেন ? |__|

(না=১, হাঁ=২)

৩.২রোগী কতদিন চিকিৎসা পেয়েছে ? (দিন/মাস/বৎসর)|__||__||__||__||__||__|

ওষধের নাম (না=১, হাঁ=২)			
	INH|__|	মাস|__||__|	দিন |__||__|
	RIF|__|	মাস|__||__|	দিন |__||__|
	ETH|__|	মাস|__||__|	দিন |__||__|
	PYR|__|	মাস|__||__|	দিন |__||__|
	THI|__|	মাস|__||__|	দিন |__||__|
	|__|	মাস|__||__|	দিন |__||__|
	|__|	মাস|__||__|	দিন |__||__|
	|__|	মাস|__||__|	দিন |__||__|
	|__|	মাস|__||__|	দিন |__||__|
	|__|	মাস|__||__|	দিন |__||__|

৩.৩ কফ পরীক্ষা করা হয়েছে ? (না=১, হাঁ=২) |__|

উত্তর হা হলে কফ পরীক্ষার ফলাফল |__|

৩.৪ এক্স-রে করা হয়েছিল কি ?(না=১, হাঁ=২) |__|

উত্তর হা হলে এক্স-রের ফলাফলঃ অস্বাভাবিক(না=১, হাঁ=২) |__|

ফুসফুসে যক্ষাঃ বাম ফুসফুস |__| ডান ফুসফুস |__| উভয় ফুসফুসে |__|

৩.৫ রোগী কি চিকিৎসা বন্ধ করে দিয়েছিল ? (না=১, হা=২) |__|

উত্তর হা হলে, কখন বন্ধ করেছিল ? (দিন/মাস/বৎসর) |__|__|/|__|__|/|__|__|

৩.৬ চিকিৎসা বন্ধের কারণঃ |__|

(পার্শ্ব প্রতিক্রিয়া=১, ভাল অনুভব করা=২, ঔষধ বিস্বাদ বোধ করা=৩, অনেকগুলো ওষধ=৪ ওষধ না পাওয়া=৫)

বি.সি.জি. টিকা

৪.১ রোগী কি বি.সি.জি. টিকা নিয়েছে ? (না=১, হাঁ=২) |__|

৪.২ বি.সি.জি. টিকার ক্ষত আছে ?(না=১, হাঁ=২) |__|

ডাক্তারী পরীক্ষার ফলাফল:-

৫.১ পরীক্ষার তারিখ (দিন/মাস/বৎসর) |__|__||__|__||__|__|

৫.২ রোগীর সামগ্রিক চেহারা (স্বাভাবিক=১, রুগ্ন=২) |__|

৫.৩ ওজন(কে.জি) |__|__|__|.|__||__|

৫.৪ উচ্চতা(সে.মি) |__|__|

৫.৫ রক্ত শুন্যতা(না=১, হাঁ=২) |__|

৫.৬ শিরা (বার/মিনিট) |__||__|

৫.৭ তাপমাত্রা (সেন্টিগ্রেডে) |__||__||__|.|__|

৫.৮ জন্ডিস/পান্ডু রোগ(না=১, হাঁ=২) |__|

৫.৯ শরীরে পানি আসা (না=১, হাঁ=২) |__|

৫.১০ মাংশপেশীর ক্ষয়(না=১, হাঁ=২) |__|

৫.১১ ফুসফুস Wheeze(না=১, হাঁ=২) |__|

Rales(না=১, হাঁ=২) |__|

Rhonchih(না=১, হাঁ=২) |__|

৫.১২ হৃদস্পন্দনের শব্দ(স্বাভাবিক=১, অতিরিক্ত শব্দ=২) |__|

৫.১৩ যকৃত (হাতে অনুভব করা যায়না=১, যায়=২) |__|

৫.১৪ লিম্ফনোড (অনুভব করা যায় না=১, যায়=২) |__|

৫.১৫ পেট (স্বাভাবিক=১, প্রসারিত=২) |__|

৫.১৬ চোখ(স্বাভাবিক=১, কঞ্জাক্টিভাইটিস=২, ছানি=৩) |__|

৫.১৭ কান (স্বাভাবিক=১, ক্ষরণ=২) |__|
৫.১৮ ত্বক(স্বাভাবিক=১, গোটা=২) |__|
৫.১৯ শ্বাস কষ্ট(না=১, হাঁ=২) |__|
৫.২০ শ্বাসের সময় বুক দেবে যাওয়া (না=১, হাঁ=২) |__|

৬.১ প্রাথমিকভাবে সনাক্তকৃত রোগ _____

৬.২ প্রদত্ত চিকিৎসাঃ

ওষধের নাম (না=১, হাঁ=২)			
	INH|__|	মাস|__|__|	দিন |__|__|
	RIF|__|	মাস|__|__|	দিন |__|__|
	ETH|__|	মাস|__|__|	দিন |__|__|
	PYR|__|	মাস|__|__|	দিন |__|__|
	THI|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|

পরিবারিক স্টাডি--মতলব
যক্ষ্মা সার্ভেলেন্স প্রকল্প

পরিচিতিঃ

১.১ ব্যক্তির ক্রমিক নাম্বার |__|__|__|__|__|
১.২ সাক্ষাৎকারের তারিখ(দিন/মাস/বৎসর) |__|__|/|__||__|/|__||__|
১.৩ সাক্ষাৎকার গ্রহনকারীর নাম ও নাম্বার _____ |__|__|
১.৪ ঠিকানাঃ
নাম: _____
গ্রাম: _____
পো: অফিস: _____
থানা: _____
জেলা: _____
১.৫ সি.আই.ডি |__|__|__|__|__|__|__|__|__|__|
১.৬ আর.আই.ডি |__|__|__|__|__|__|__|__|__|__|
১.৭ জন্মের তারিখ(দিন/মাস/বৎসর) |__|__|__|__|__|__|
১.৮ লিঙ্গ(পুরুষ=১,মহিলা=২): |__|
১.৯ ধর্ম (মুসলিম=১,হিন্দু=২,অন্যান্য=৩) |__|

আর্থসামাজিক অবস্থা:-

২.১ বাড়ীর লোকসংখ্যা:- |__|__|
২.২ ব্যক্তির পেশা: |__|__|
২.৩ ব্যক্তি কি নিজেই গৃহকর্তা ? (না=১,হাঁ=২,) |__|
২.৪ গৃহকর্তার পেশা |__|__|
২.৫ শিক্ষাগত যোগ্যতা (বৎসর হিসাবে) |__|__|
২.৬ গৃহকর্তার শিক্ষাগত যোগ্যতা(বৎসর হিসাবে) |__|__|
২.৭ অনুর্ধ পাঁচ বৎসরের শিশুর সংখ্যা |__|
২.৮ গড় মাসিক আয়(টাকা) |__|__|__|__|__|
২.৯ বাসযোগ্য ঘরের সংখ্যা |__|
২.১০ পরিবারের নিজস্ব বাড়ী আছে কি ?(না=১, হাঁ=২) |__|
২.১১ পরিবারের নিজস্ব জমি আছে কি ?(না=১, হাঁ=২) |__|

বাসগৃহের ধরণ

২.১২.১ দেয়ালের ধরণ |__|
(খড়=১, পাট=২, বাঁশ=৩, টিন=৪, ইট= ৫ অন্যান্য=৬)
২.১২.২ ছাদের ধরণ |__|
(খড়=১, পাট=২, বাঁশ=৩, টিন=৪, ইট= ৫ অন্যান্য=৬)
২.১২.৩ মেঝের ধরণ |__|
(মাটি=১, সিমেন্ট=২)

পানির উৎস:-

(নদী=১, খাল=২, পুকুর=৩, টিউব ওয়েল/চাঁপ কল=৪, অন্যান্য=৫)
২.১৩.১ পান করার জন্য |__|
২.১৩.২ ধৌত করার জন্য |__|
২.১৩.৩ রান্না করার জন্য |__|

২.১৩.৪ গোসল করার জন্য |__|

২.১৪ বাড়ীর আঙ্গীনায় টিউব ওয়েল/চাঁপ কল আছে ? (না=১,হাঁ=২) |__|
২.১৫ পায়খানা ঘরের ধরণ ? |__|
(গর্ত করা=১, ওয়াটার সীল=২, স্যানিটারী=৩, অন্যান্য=৪)
২.১৬ বাড়ীতে গৃহপালিত জীব-জন্তুর বিবরণ(না=১,হাঁ=২) |__|
(গরু|__|, ছাগল|__|, কুকুর|__|, বিড়াল |__|, মুরগী|__|, হাঁস|__|)

বি.সি.জি. টিকার বিবরণ:-
৩.১ রোগী কি বি.সি.জি. টিকা নিয়েছে ? (না=১,হাঁ=২) |__|
৩.২ রোগীর শরীরে কি বি.সি.জি. টিকার দাগ আছে ? (না=১,হাঁ=২) |__|

অসুস্থতার বিবরণ

অতীতের অসুস্থতার বিবরণ
৪.১ বিগত পাঁচ বছরে কি কোন উল্লেখ যোগ্য অসুস্থতা হয়েছিল ? (না=১,হাঁ=২)
উত্তর হ্যা হলে, রোগের বিবরণ

- রোগের নাম ____________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ____________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ____________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

বর্তমানে শারীরিক সমস্যা
৫.১ কাশি (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.২ শ্বাস কষ্ট (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৩ জ্বর (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৪ কফ (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৫ ক্ষুধামন্দ্যা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৬ রাত্রীকালীন ঘাম (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|

৫.৭ কাশির সাথে রক্ত (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৮ শরীরের ওজন হ্রাস (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৯ বুকে ব্যথা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.১০ গিলতে অসুবিধা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.১১ তলপেটে ব্যথা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|

বর্তমানে অসুস্থতা:-

৬.১ ব্যক্তি কি বর্তমানে কোন অসুস্থতাতে ভুগছেন ? |__|
(না=১,হাঁ=২)

উত্তর হাঁ হলে রোগের নাম _____
রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

৬.২ প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__| উৎস |__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

ল্যাবরেটরী পরীক্ষার ফলাফল-মতলব
যক্ষ্মা সার্ভেলেন্স প্রকল্প

রোগীর পরিচিতিঃ

১.১ রোগীর ক্রমিক নাম্বার |__|__|__|__|__|

১.২ রোগীর ঠিকানাঃ

নাম: _____

গ্রাম: _____

পো: অফিস: _____

থানা: _____

জেলা: _____

১.৩ রোগীর সি.আই.ডি |__|__|__|__|__|__|__|__|__|

১.৪ রোগীর আর.আই.ডি |__|__|__|__|__|__|__|__|__|

১.৫ জন্মের তারিখ(দিন/মাস/বৎসর) |__|__|__|__|__|__|

১.৬ রোগীর লিঙ্গ(পুরুষ=১,মহিলা=২): |__|

ল্যাবরেটরী পরীক্ষার ফলাফল:-

২.১ মতলবে কফ AFB পরীক্ষার জন্য পাঠানো হয়েছিল ?(না=১, হাঁ=২) |__|

২.২ চোখে দেখতে কফের প্রকৃতি Muco-Purulent|__| Blood stained|__| Saliva|__|

২.৩ অণুবিক্ষণিক পরীক্ষার ফলাফল:-

নমুনা	নমুনা গ্রহনের তারিখ	নমুনা পরীক্ষার তারিখ	ফলাফল= পজেটিভ / নেগেটিভ	পজেটিভ ফলাফলের গ্রেড			
				+++	++	++	অতি সামান্য
১							
২							
৩							

২.৩ এক্স-রে করা হয়েছিল ?(না=১, হাঁ=২) |__|

উত্তর হাঁ হলে, এক্স-রেতে প্রাপ্ত অস্বাভাবিকতা (না=১, হাঁ=২) |__|

ফুসফুসে যক্ষাঃ

বাম ফুসফুস (না=১, হাঁ=২) |__|

ডান ফুসফুস (না=১, হাঁ=২) |__|

উভয় ফুসফুসে(না=১, হাঁ=২) |__|

২.৪ রক্ত CBC-র জন্য পরীক্ষা করা হয়েছিল ?(না=১, হাঁ=২) |__|

উত্তর হাঁ হলে, প্রাপ্ত ফলাফল:-

২.৫.১ TBC - 0000/dl |__|__|__|__|

২.৫.২ Poly (%) |__|__|

২.৫.৩ Lymp (%) |__|__|

২.৫.৪ Mono (%) |__|__|

২.৫.৫ Eosino (%) |__|__|

২.৬ ই.এস.আর(ESR- mm in 1st hr) |__|__|__|

২.৭ হিমোগ্লোবিন (%) |__|__|.|__|

২.৮ HCT(%) |__|__|

২.৯ কফের নমুনাটি কি ঢাকায় পাঠানো হয়েছে ? (না=১, হাঁ=২) |__|

সম্ভাব্য যক্ষ্মা রোগীর তথ্য--শ্যামলী যক্ষা ক্লিনিক
যক্ষ্মা সার্ভেলেন্স প্রকল্প

রোগীর পরিচিতিঃ

১.১ রোগীর ক্রমিক নাম্বার |__|__|__|__|__|__|
১.২ সাক্ষাৎকারের তারিখ(দিন/মাস/বৎসর) |__|__|/|__||__|/|__||__|
১.৩ সাক্ষাৎকার গ্রহনকারীর নাম ও নাম্বার ______________________ |__|__|
১.৪ ঠিকানাঃ
নাম: ______________________
গ্রাম: ______________________
পো: অফিস: ______________________
থানা: ______________________
জেলা: ______________________
১.৫ জন্মের তারিখ(দিন/মাস/বৎসর) |__|__|__|__|__|__|__|
১.৬ রোগীর লিঙ্গ(পুরুষ=১,মহিলা=২): |__|

অতীতের অসুস্থতার বিবরণ

২.১ বিগত পাঁচ বছরে কি কোন উল্লেখ যোগ্য অসুস্থতা হয়েছিল ? (না=১,হাঁ=২)
উত্তর হাঁ হলে

- রোগের নাম ______________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ______________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ______________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
প্রাপ্ত চিকিৎসা:
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

অতীতে যক্ষ্মা চিকিৎসার বিবরণ

৩.১ আপনি কি পূর্বে কখনও যক্ষ্মার চিকিৎসা পেয়েছেন ? (না=১, হাঁ=২) |__|
উত্তর হাঁ হলে কখন থেকে চিকিৎসা পেয়েছেন ? (দিন/মাস/বৎসর)|__|__|/|__|__|/|__|__|
কোথা হতে |__|__|

রোগী কি DOTS প্রোগ্রামে আছেন ? (না=১, হাঁ=২) |__|

৩.২রোগী কতদিন চিকিৎসা পাচ্ছেন ?

ঔষধের নাম			
(না=১, হাঁ=২)	INH|__|	মাস|__|__|	দিন |__|__|
	RIF|__|	মাস|__|__|	দিন |__|__|
	ETH|__|	মাস|__|__|	দিন |__|__|
	PYR|__|	মাস|__|__|	দিন |__|__|
	THI|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|

৩.৩ কফ পরীক্ষা করা হয়েছিল কি ? (না=১, হাঁ=২) |__|

উত্তর হাঁ হলে কফ পরীক্ষার ফলাফল(AFB ছিল না=১,AFB ছিল=২) |__|

৩.৪ এক্স-রে করা হয়েছিল কি ?(না=১, হাঁ=২) |__|

উত্তর হাঁ হলে এক্স-রের ফলাফলঃ অস্বাভাবিক(না=১, হা=২) |__|

ফুসফুসে যক্ষাঃ বাম ফুসফুস |__| ডান ফুসফুস |__| উভয় ফুসফুসে |__|

৩.৫ রোগী কি চিকিৎসা বন্ধ করে দিয়েছিল ? (না=১, হাঁ=২) |__|

উত্তর হা হলে, কখন বন্ধ করেছিল ? (দিন/মাস/বৎসর) |__|__||__|__||__|__|

৩.৬ চিকিৎসা বন্ধের কারণঃ |__|

(পার্শ্ব প্রতিক্রিয়া=১, ভাল অনুভব করা=২, ঔষধ বিস্বাদ বোধ করা=৩, অনেকগুলো ওষধ=৪
ওষধ না পাওয়া=৫)

বি.সি.জি. টিকা

৪.১ রোগী কি বি.সি.জি. টিকা নিয়েছে ? (না=১, হাঁ=২) |__|

৪.২ বি.সি.জি. টিকার ক্ষত আছে ?(না=১, হাঁ=২) |__|

ডাক্তারী পরীক্ষার ফলাফল:-

৫.১ পরীক্ষার তারিখ (দিন/মাস/বৎসর) |__|__||__|__||__|__|

৫.২ রোগীর সামগ্রিক চেহারা (স্বাভাবিক=১, রুগ্ন=২) |__|

৫.৩ ওজন(কে.জি) |__|__|__|.|__||__|

৫.৪ উচ্চতা(সে.মি) |__|__|

৫.৫ রক্ত শুন্যতা(না=১, হাঁ=২) |__|

৫.৬ শিরা (বার/মিনিট) |__||__|

৫.৭ তাপমাত্রা (সেন্টিগ্রেডে) |__||__||__|.|__|

৫.৮ জন্ডিস/পান্ডু রোগ(না=১, হাঁ=২) |__|

৫.৯ শরীরে পানি আসা(না=১, হাঁ=২) |__|

৫.১০ মাংশপেশীর ক্ষয়(না=১, হাঁ=২) |__|

৫.১১ ফুসফুস Wheeze(না=১, হাঁ=২) |__|

Rales(না=১, হাঁ=২) |__|

Rhonchih(না=১, হাঁ=২) |__|

৫.১২ হৃদস্পন্দনের শব্দ(স্বাভাবিক=১, অতিরিক্ত শব্দ=২) |__|

৫.১৩ যকৃত (হাতে অনুভব করা যায় না=১, যায়=২) |__|

৫.১৪ লিম্ফনোড(অনুভব করা যায় না=১, যায়=২) |__|

৫.১৫ পেট (স্বাভাবিক=১, প্রসারিত=২) |__|

৫.১৬ চোখ(স্বাভাবিক=১, কঞ্জাক্টিভাইটিস=২, ছানি=৩) |__|
৫.১৭ কান (স্বাভাবিক=১, ক্ষরণ=২) |__|
৫.১৮ ত্বক(স্বাভাবিক=১, গোটা=২) |__|
৫.১৯ শ্বাস কষ্ট(না=১, হাঁ=২) |__|
৫.২০ শ্বাসের সময় বুক দেবে যাওয়া (না=১, হাঁ=২) |__|

৬.১ প্রাথমিকভাবে সনাক্তকৃত রোগ _____

৬.২ প্রদত্ত চিকিৎসাঃ

ওষধের নাম (না=১, হাঁ=২)			
	INH|__|	মাস|__|__|	দিন |__|__|
	RIF|__|	মাস|__|__|	দিন |__|__|
	ETH|__|	মাস|__|__|	দিন |__|__|
	PYR|__|	মাস|__|__|	দিন |__|__|
	THI|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|
	|__|	মাস|__|__|	দিন |__|__|

পরিবারিক স্টাডি ঢাকা
যক্ষ্মা সার্ভেলেন্স প্রকল্প

রোগীর পরিচিতিঃ

১.১ ব্যক্তির ক্রমিক নাম্বার |__|__|__|__|__|

১.২ সাক্ষাৎকারের তারিখ(দিন/মাস/বৎসর) |__|__|/|__||__|/|__||__|

১.৩ সাক্ষাৎকার গ্রহনকারীর নাম ও নাম্বার _____ |__|__|

১.৪ ঠিকানাঃ

নাম: _____

গ্রাম/রাস্তা/বাড়ী #: _____

পো: অফিস: _____

থানা: _____

জেলা: _____

১.৫ জন্মের তারিখ(দিন/মাস/বৎসর) |__|__|__|__|__|__|__|__|

১.৬ রোগীর লিঙ্গ(পুরুষ=১,মহিলা=২): |__|

১.৭ ধর্ম (মুসলিম=১,হিন্দু=২,অন্যান্য=৩) |__|

আর্থসামাজিক অবস্থা:-

২.১ বাড়ীর লোকসংখ্যা:- |__|__|

২.২ ব্যক্তির পেশা: |__|__|

২.৩ তিনি কি নিজেই গৃহকর্তা ? (না=১,হ্যা=২) |__|

২.৪ গৃহকর্তার পেশা |__|__|

২.৫ ব্যক্তির শিক্ষাগত যোগ্যতা (বৎসর হিসাবে) |__|__|

২.৬ গৃহকর্তার শিক্ষাগত যোগ্যতা(বৎসর হিসাবে) |__|__|

২.৭ অনুর্ধ পাঁচ বৎসরের শিশুর সংখ্যা |__|

২.৮ গড় মাসিক আয়(টাকা) |__|__|__|__|__|

২.৯ বাসযোগ্য ঘরের সংখ্যা |__|__|

২.১০ পরিবারের নিজস্ব বাড়ী আছে কি ?(না=১, হাঁ=২) |__|

২.১১ পরিবারের নিজস্ব জমি আছে কি ?(না=১, হাঁ=২) |__|

বাসগৃহের ধরণ

২.১২.১ দেয়ালের ধরণ |__|

(খড়=১, পাট=২, বাঁশ=৩, টিন=৪, ইট= ৫ অন্যান্য=৬)

২.১২.২ ছাদের ধরণ |__|

(খড়=১, পাট=২, বাঁশ=৩, টিন=৪, ইট= ৫ অন্যান্য=৬)

২.১২.৩ মেঝের ধরণ |__|

(মাটি=১, সিমেন্ট=২)

পানির উৎস:-

(নদী=১, খাল=২, পুকুর=৩, টিউব ওয়েল/চাঁপ কল=৪, অন্যান্য=৫)

২.১৩.১ পান করার জন্য |__|

২.১৩.২ ধৌত করার জন্য |__|

২.১৩.৩ রান্না করার জন্য |__|

২.১৩.৪ গোসল করার জন্য |__|

২.১৪ বাড়ীর আঙ্গীনায় টিউব ওয়েল/চাপ কল আছে ? (না=১,হাঁ=২,) |__|

২.১৫ পায়খানা ঘরের ধরণ ? |__|

(গর্ত করা=১, ওয়াটার সীল=২, স্যানিটারী=৩, অন্যান্য=৪)

২.১৬ গৃহপালিত জীব-জন্তুর বিবরণ(না=১,হাঁ=২) |__|

(গরু|__|, ছাগল|__|, কুকুর|__|, বিড়াল|__|, মুরগী|__|, হাঁস|__|)

বি.সি.জি. টিকার বিবরণ:-

৩.১ রোগী কি বি.সি.জি. টিকা নিয়েছে ? (না=১,হাঁ=২) |__|

৩.২ রোগীর শরীরে কি বি.সি.জি. টিকার দাগ আছে ? (না=১,হাঁ=২) |__|

অতীতের অসুস্থতার বিবরণ

৪.১ বিগত পাঁচ বছরে কি কোন উল্লেখ যোগ্য অসুস্থতা হয়েছিল ? (না=১,হাঁ=২)

উত্তর হ্যা হলে, রোগের বিবরণ

- রোগের নাম ______________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ______________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

- রোগের নাম ______________________

রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

বর্তমানে শারীরিক সমস্যা

৫.১ কাশি (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.২ শ্বাস কষ্ট (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৩ জ্বর (না=১, হাঁ=২, মাঝেমাঝে=৩) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৪ কফ (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৫ ক্ষুধামন্দ্যা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৬ রাত্রীকালীন ঘাম (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৭ কাশির সাথে রক্ত (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.৮ শরীরের ওজন হ্রাস (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|

৫.৯ বুকে ব্যথা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.১০ গিলতে অসুবিধা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|
৫.১১ তলপেটে ব্যথা (না=১, হাঁ=২) |__| উত্তর হাঁ হলে, স্থায়িত্ব (দিন) |__|__|__|

বর্তমানে অসুস্থতা:-

৬.১ ব্যক্তি কি বর্তমানে কোন অসুস্থতাতে ভুগছেন ? |__|
(না=১,হাঁ=২)

উত্তর হাঁ হলে রোগের নাম _____
রোগের স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

৬.২ প্রাপ্ত চিকিৎসা:

ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__| উৎস |__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|
ঔষধের নাম|__| স্থায়িত্ব (মাস) |__|__| (দিন) |__|__|

ল্যাবরেটরী পরীক্ষার ফলাফল-শ্যামলী
যক্ষ্মা সার্ভেলেন্স প্রকল্প

রোগীর পরিচিতিঃ

১.১ রোগীর ক্রমিক নাম্বার |__|__|__|__|__|

১.২ রোগীর ঠিকানাঃ

নাম: _____

গ্রাম/রাস্তা/বড়ী #:_____

পো: অফিস: _____

থানা: _____

জেলা: _____

১.৩ জন্মের তারিখ(দিন/মাস/বৎসর) |__|__|__|__|__|__|

১.৪ রোগীর লিঙ্গ(পুরুষ=১,মহিলা=২): |__|

ল্যাবরেটরী পরীক্ষার ফলাফল:-

২.১ চোখে দেখতে কফের প্রকৃতি Muco-Purulent|__| Blood stained|__| Saliva|__|

২.২ আণুবিক্ষণিক পরীক্ষার ফলাফল:-

নমুনা	নমুনা গ্রহনের তারিখ	নমুনা পরীক্ষার তারিখ	ফলাফল= পজেটিভ / নেগেটিভ	পজেটিভ ফলাফলের গ্রেড			
				+++	++	++	অতি সামান্য
১							
২							
৩							

২.৩ এক্স-রে করা হয়েছিল ?(না=১, হাঁ=২) |__|

উত্তর হাঁ হলে, এক্স-রেতে প্রাপ্ত অস্বাভাবিকতা (না=১, হাঁ=২) |__|

ফুসফুসে যক্ষাঃ

বাম ফুসফুস (না=১, হাঁ=২) |__|

ডান ফুসফুস (না=১, হাঁ=২) |__|

উভয় ফুসফুসে(না=১, হাঁ=২) |__|

২.৪ রক্ত CBC-র জন্য পরীক্ষা করা হয়েছিল ?(না=১, হাঁ=২) |__|

উত্তর হাঁ হলে, প্রাপ্ত ফলাফল:-

২.৫.১ TBC - 0000/dl |__|__|__|__|

২.৫.২ Poly (%) |__|__|

২.৫.৩ Lymp (%) |__|__|

২.৫.৪ Mono (%) |__|__|

২.৫.৫ Eosino (%) |__|__|

২.৬ ই.এস.আর(ESR- mm in 1st hr) |__|__|__|

২.৭ হিমোগ্লোবিন (%) |__|__|.|__|

২.৮ HCT(%) |__|__|

২.৯ কালচারের ফলাফল:

L-J মিডিয়া (কোন গ্রোথ নাই=১, যক্ষ্মা = ২) গ্রোথের সময় (দিন) |__||__|

MODS (কোন গ্রোথ নাই=১, যক্ষ্মা = ২) গ্রোথের সময় (দিন) |__||__|