

Principal Investigator DR. Md. Yunus. Trainee investigator (if any) \_\_\_\_\_

Registration No 77-004 Supporting Agency (if Non-CRL) \_\_\_\_\_

Title of study A Clinical Trial of Methoprim + Sulphamethoxazole (trim) in the Treatment of Shigellosis  
Project status:  
( ) New Study  
() Continuation with change  
( ) No change (do not fill out rest of form)

- Indicate the appropriate answer to each of the following (If Not Applicable write NA):
- Source of Population:
- a) Ill subjects  Yes  No
  - b) Non-ill subjects  Yes  No
  - c) Minors or persons under guardianship  Yes  No
- Does the study involve:
- a) Physical risks to the subjects  Yes  No
  - b) Social risks  Yes  No
  - c) Psychological risks to subjects  Yes  No
  - d) Discomfort to subjects  Yes  No
  - e) Invasion of Privacy  Yes  No
  - f) Disclosure of information possibly damaging to subject or others  Yes  No
- Does the study involve:
- a) Use of records (hospital, medical, death, birth or other)  Yes  No
  - b) Use of fetal tissue or abortus  Yes  No
  - c) Use of organs or body fluids  Yes  No
- Are subjects clearly informed about:
- a) Nature and purposes of study  Yes  No
  - b) Procedures to be followed including alternatives used  Yes  No
  - c) Physical risks  Yes  No
  - d) Sensitive questions  Yes  No NA
  - 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

- 5. Will signed consent form be required:
    - a) From subjects  Yes  No
    - b) From parent or guardian (if subjects are minors)  Yes  No
  - 6. Will precautions be taken to protect anonymity of subjects:  Yes  No
  - 7. Check documents being submitted herewith to Committee:
    - Umbrella proposal - Initially submit an overview (all other requirements will be submitted with individual studies). Protocol (Required)
    - Abstract summary (Required)
    - Statement given or read to subjects on nature of study, risks, types of questions to be asked, and right to refuse to participate or withdraw (REQUIRED)
    - Informed consent form for subjects
    - Informed consent form for parent or guardian
    - Procedure for maintaining confidentiality
    - Questionnaire or interview schedule
- \*If the final instrument is not completed prior to review, the following information should be included in the abstract summary:
1. A description of the areas to be covered in the questionnaire or interview which could be considered either sensitive or which would constitute an invasion of privacy.
  2. Examples of the type of specific questions to be asked in the sensitive areas.
  3. An indication as to when the questionnaire will be presented to the Board for review.

I agree to obtain approval of the Review Board on Use of Human Volunteers for any changes involving the rights and welfare of subjects before making such change.

Principal Investigator

Trainee

Rcd. 04 JULY 1978

77-004

SECTION I - RESEARCH PROTOCOL

- 1. Title : A Clinical Trial of Trimethoprim + Sulphamethoxazole (Bactrim) in the Treatment of Shigellosis
- 2. Principal Investigator : Dr. Md. Yunus
- 3. Starting Date : October 1976
- 4. Completion Date : July 1978
- 5. Total Direct Cost : \$20,985
- 6. Abstract Summary : Various strains of shigella SP. are developing resistant to all useful antibiotics including Ampicillin. So, proven alternative antibiotic should be defined and available when ampicillin resistance is being noted. The purpose of this study is to determine the clinical and bacteriological effectiveness of Bactrim against shigellosis in comparison to ampicillin. The drugs will be compared both clinically and bacteriologically in 200 confirmed shigella bases. Case selection will be done by a preset random selection. Ill subjects clinically suggestive of shigella dysentery of all age and sex except children below 3 months of age and pregnant women, will be required for the trial. There is possibilities of some potential risks mainly of physical nature due to adverse reaction of the drug and therapeutic failure. But the likelihood of such risk is very minimum and is not severe. If any signs of adverse reaction develop or therapeutic failure is suspected, the drug will be stopped at once and an alternative drug will be prescribed. A signed informed consent statement from the subject or from the parents or the authorised legal guardian, if the subject is minor, will be obtained. If the drug is found effective, the individual subject will be benefited by being cured from the disease in particular and the society in general having a proven alternative effective drug for the disease. The study requires the use of blood, urine, stool etc.

Kind physical 6?

7. Reviews:

- a) Research Involving Human Subjects: \_\_\_\_\_
- b) Research Committee: \_\_\_\_\_
- c) Director: \_\_\_\_\_
- d) BMRC: \_\_\_\_\_
- e) Controller/Administrator: \_\_\_\_\_

## SECTION II - RESEARCH PLAN

### A. INTRODUCTION

1. Objective : Trimethoprim, a member of the 5-Benzyl Pyrimidines, a potent chemotherapeutic agent in its own right against a wide range of both gram positive and gram negative organism has a synergistic action when combined with sulphanomides - sulphamethoxazole which has a similar plasma half life, especially against gram negative organism. The enhanced activity is often bactericidal when the individual components are merely bacteriostatic. A 1:5 combination of trimethoprim with sulphamethoxazole has given good results in treating urinary tract infection, in chronic bronchities and pneumonia, in gonorrhoea, enteric fever and many other infections. Various authors by now have reported that this Tri + Su combination is highly effective in shigellosis too. The main objective of this study is to determine the clinical and bacteriological effectiveness of this combination against various strains of shigellosis including shigella dysenteriae type I (Shiga Bacillus).

2. Background : A high degree of in vitro sensitivity of shigellae with trimethoprim + sulphamethoxazole has among others been reported by Felix et al., (1971), Mabadeje (1974), Rudoy et al., (1974) and Titze (1971), the strains being mostly shigella Flexneri and Shigella Sonnei but including strains of shigella dysenteriae and shigella Boydii. In a study of Rudoy et al., all of the 227 strains tested were sensitive to the combination of trimethoprim + sulphamethoxazole (Bactrim) while 16% were resistant to Ampicillin and 33% to Tetracycline.

Preliminary results obtained with Trimethoprim + Sulphamethoxazole (Bactrim) in the treatment of shigellosis were very encouraging. Subsequently various authors proved that Tri + Su combination is highly effective against various strains of shigella dysenteriae including shigella dysenteriae type I (Shiga Bacillus). H. Felix et al., has obtained extremely favourable, swift and highly rewarding results with Tri + Su combination in 90 out of 94 cases consisting of Shigella Flexneri, Shigella Sonnei, Shigella Boydii and Shigella dysenteriae type I + II. Mabadeje has also confirmed effectiveness of Tri + Su combination in all strains of shigellosis without any failure. Udomlexomboon et al., have shown that Tri + Su combination (Bactrim) is superior to Furozolidine both clinically and Bacteriologically without any failure. R. A. Charagozloo et al., have also shown in a trial that out of the 65 patients 56 was cured of shigella infection with Tri + Su by an average of 3.6 days, salmonella by 5.0 days and Pathogenic E. Coli by 4.3 days. Christer Franzen et al., also reported good clinical and bacteriological results in both shigella and salmonella infection. The Shigella under his trial was Flexneri and Sonnei.

This clinical trial is an ongoing project started on October, 1976. 29 cases have been completed to-date. The data of 23 cases, 14 in Bactrim group and 9 in Ampicillin group has been analysed on a preliminary basis. From this data, it can be said that the combination of trimethoprim + sulphamethoxazole (Bactrim) is effective in shigellosis because all the patients under trial in both the groups cured without

any clinical and bacteriological failure.

Table I shows the mean duration of signs and symptoms and positive culture in days after hospitalisation.

TABLE - I  
SIGNS AND SYMPTOMS, +VE CULTURE (DAYS)

<u>Group</u>	<u>Total No. Case</u>	<u>Fever</u>	<u>Abd. Colic</u>	<u>Mucus in Stool</u>	<u>Blood in Stool</u>	<u>Fecal Leucocyte</u>	<u>Diarrhoea</u>	<u>+Ve culture</u>
Ampicillin	9	1.68	3.55	5.00	2.00	4.66	4.77	1.00
Bactrim	14	1.21	3.00	3.92	1.64	3.35	4.07	0.78

Table II shows the serotype of shigella isolates in both the groups.

TABLE - II

<u>Group</u>	<u>Total No. Case</u>	<u>Shiga</u>	<u>Flex</u>	<u>Sonnie</u>	<u>Boydii</u>	<u>Schmitz</u>
Ampicillin	9	5	4	0	0	0
Bactrim	14	*7	*6	0	2	0

\* one case has double strain, shiga + flex

All the strains of shigella isolate is sensitive to Bactrim but one flex strain is resistant to ampicillin. Ampicillin resistant flex strain is probably new in Bangladesh.

3. Rationale : The incidence of shigellosis has markedly increased in the last few years and has become a major health problem in Bangladesh. Various strains of shigella Sp. are developing resistance to common antibiotics. Particularly shigella dysenteriae type I (shiga

Bacillus) has already developed multiple resistance to all useful antibiotics except ampicillin. Ampicillin resistant shigella dysenteriae type I has also been reported in Bangladesh and is common elsewhere. Moreover, Ampicillin cannot be used on patients who are allergic to penicillin group of drugs. Consequently the choice of the optimal antibiotic should be defined and available when Ampicillin resistance is being noted.

#### B. SPECIFIC AIMS

The specific objective is (i) to determine the clinical and bacteriological effectiveness of Tri + Su combination (Bactrim) against various strains of shigellosis. (ii) To compare this combination drug with Ampicillin in respect of clinical and bacteriological cure. (iii) To determine the duration of course of treatment for both clinical and bacteriological cure. (iv) To assess the nature and degree of possible side effects that may develop during the course of treatment.

To determine the effectiveness of the drug, the following parameters will be used and compared with that of Ampicillin which is the drug of choice for shigellosis.

- i. Duration of diarrhoea.
- ii. Volume of stool.
- iii. Duration of fever.
- iv. Duration of passage of blood.
- v. Duration of passage of mucus.
- vi. Duration and intensity of abdominal colic.

- vii. Duration of persistence of fecal leucocytes.
- viii. Duration of persistence of high blood count.
- ix. Duration of positive stool culture after commencement of therapy.
- x. In vitro sensitivity of the drug to the shig. strains.  
Particularly whether any resistant strain emerge or not.
- xi. Drug level in the serum will be determined to see whether effective drug level is obtained and maintained or not.
- xii. Assessment of nature and degree of side effects which may develop during the course of treatment.

#### C. METHODS OF PROCEDURE

All clinically suggested shigella cases (H/O 4 or more loose motions with mucus and or blood, vomiting, abdominal colic, tenesmus, fever with or without dehydration) except pregnant women and children below 3 months of age who have not been treated outside with any antibiotic will be included in the trial. The patients in the trial may be directly admitted or may be admitted from the out patient department according to the clinical condition. The patients will be randomly assigned to one of the two treatments groups listed below by a preset random selection by coin method. So that all grades of patients are evenly distributed to both the groups. Severity of illness will be determined clinically and by proctoscopic appearance of rectal mucosa, Fecal Leucocyte count and T.W.B.C. count. Patients with T.W.B.C. above 50,000/cumm (Leukomoid) will be excluded from the trial as they may develop Haemolytic Uraemic Syndrome later because Tri + Su combination

(Bactrim) has a sulpha (sulphamethoxazole) component which is contraindicated in kidney disfunction.

The Specific Treatment Group Are

Group A : Ampicillin Group.

Group B : Bactrim Group.

Each group will be subdivided into Children and Adult.

One will be considered as a child if his weight is less than 15 kg and an adult if it is 15 kg and above.

Group A (Ampicillin) : This group of patients will receive ampicillin in doses of 50 mgm/kg/day 6 hourly for patients weighing 15 kg and above, 100 mgm/kg/day 6 hourly below 15 kg.

Group B (Bactrim) : This group will receive the combination of Trimethoprim + Sulphamethoxazole (Bactrim). The doses schedule will be 8 mgm Trimethoprim + 40 mgm Sulphamethoxazole per kg per day divided into two 12 hourly doses with a maximum of 320 mgm Trimethoprim and 1600 mgm of sulphamethoxazole which is equivalent to 4 adult tablets. In both the groups, the drug will be continued for 5 days.

A total of 200 cases will be required to complete the trial, 100 in each treatment group, 50 in each sub-group of children and adult. This number will be required to have statistically significant answers of each of the 12 specific questions (aims) to compare the two different drugs. A period of approximately 12 months may be required to complete the trial. This is because of the fact that although Matlab Cholera Hospital receives about 500 - 600 shigella cases in a year, many of the



shigella patients admitted in O.P.D. do not present as clinically suggested shigella cases.

All the patients under trial will be treated by I/V fluid only for correction of dehydration, if any. The patients will be kept in the hospital for some 10 days or till they become fully symptoms free. End of diarrhoea will be taken as when a patient either passes soft stool free of mucus and blood or passes no stool for 3 consecutive 8 hour output period. Some patients may require antispasmodic drug if there is severe abdominal colic. Some may require iron and multivitamin therapy for correction of anaemia and vitamin deficiency. Blood transfusion may also be required if there is gross anaemia due to blood loss or subsequent haemolysis. Special diets consisting of high proteins may be necessary for patients with severe malnutrition. All other routine procedure existing in the hospital will be followed.

The patients who will be positive for cholera or NAG or any other enteropathogen in both direct and enrichment culture of the initial rectal swab/stool will be dropped from the study. The study will be confined on only those patients whose stool/rectal swab culture will be bacteriologically confirmed pure shigella cases without any severe concurrent illness like pneumonia or urinary tract infection or any parenchymal disease of the liver.

Laboratory tests : The following laboratory tests will be done for confirmation of diagnosis and to evaluate and compare the effectiveness of the drug for both clinical and bacteriological improvement or cure.

i. Stool M/E : Will be done on admission and daily for 3 consecutive days to exclude Amoeba and Giardia. If vegetative form of E. Histolytica or Giardia is found in any of the stool M/E, the patient will be dropped from the study.

ii. Fecal Leucocytes count will be done on admission and daily till it becomes free of fecal leucocytes to determine the severity of illness and to see the signs of improvement.

iii. Rectal swab/stool culture : Routine rectal swab culture and stool culture on S.S. and MacConkeys plates will be done on admission for diagnosis. Thereafter daily stool culture or rectal swab culture, if no stool available, on S.S. and MacConkeys will be done till it becomes negative for 3 consecutive days to see the duration of positivity in both the groups.

iv. Haematological tests : Full blood count which includes T.W.B.C. differential count, R.B.C. morphology particularly for fragmentation, platelet count, Hct%, serum solid on admission. Blood tests will be repeated on 4th and 6th hospital day to see any signs of improvement like reduction of T.W.B.C. count or any change in the blood picture particularly like leukopenia or thrombocytopenia developing due to the drug.

v. Urinalysis : Daily urinalysis will be done for protein and leucocytes to see any change in the kidney function due to the drug or otherwise.

vi. Other tests : Estimation of blood urea and creatinine will be

done if any signs of kidney disfunction or hypofunction like anuria or scanty micturation develop and appropriate measures will be taken.

vii. Drug level in the serum will be estimated in both the groups to see whether or not effective drug level is attained and maintained. For this, two samples of venus blood, one predose and one post dose ( 2 hours after a given dose ), 2 ml in each sample, will be taken on 3rd hospital day after the diagnosis is confirmed.

viii. In vitro sensitivity test : Sensitivity of all strains of shigella isolates will be done for standards antibiotics by Baur, Kirby method in Mucller Hinton Agar medium.

ix. Height and Arm circumferance will be taken on discharge to ascertain the status of nutrition particularly for the children.

Data collection and analysis : A proforma consisting of questions relating to all specific aims is pretested and developed. ( the proforma is attached ). The data will be coded and punched in I.B.M. cards and the analysis will be done with the help of computer. The findings will be presented mostly in marginal tables and where data permits chi-square test ( $\chi^2$ ) and t test for difference between means of two groups will be attempted.

#### D. SIGNFICANCE

If Trimethoprim + Sulphamethoxazole is found effective against shigellosis and if the efficacy is as good as Ampicillin, a definitely

effective alternative drug will be available for the treatment of shigellosis at such a moment when all useful antibiotics particularly Ampicillin is developing resistant at home and abroad in one hand and the incidence of shigella infection is markedly increasing on the other hand.

The 12 hourly doses of Bactrim will be more convenient in hospital treatment in general and in home treatment in particular than other antibiotics which have to be used as 6 hourly doses. A 6 hourly doses regimen appears to be bothersome to the patients as well as to his attendant. If the efficacy of Bactrim is found better than Ampicillin, then a more effective alternative drug will be available for the treatment of shigellosis with more convenient doses schedule with slight or no increase in the treatment cost.

#### E. FACILITIES REQUIRED

- |                                   |  |   |
|-----------------------------------|--|---|
| 1. Office space.                  |  |   |
| 2. Laboratory space.              |  | Already exist in CRL, Matlab                            |
| 3. Hospital resources.            |  |   |
| 4. Animal resources:              |  | Not required  |
| 5. Logistical support:            |  | Not needed  |
| 6. Major items of equipment:      |  | One Microscope  |
| 7. Other specialized requirement: |  | a. Special diets consisting of high protein and calory. |
|                                   |  | b. Iron-vitamin.  |
|                                   |  | c. Antispas modic drug.                                 |
|                                   |  | d. Blood Transfusion.                                   |

F. COLLABORATIVE ARRANGEMENT

A collaborative arrangement has earlier been made with the manufacturing company, HOFFMAN-LA-ROCHE - Switzerland for the supply of drug Bactrim and it has already donated sufficient quantities of drug for the study.

SECTION III - BUDGET

A. DETAILED BUDGET

PERSONNEL SERVICES

<u>Name</u>	<u>Position</u>	<u>% of Nos. of days</u>	<u>Annual Salary</u>	<u>Project Requirements</u>	
				<u>TAKA</u>	<u>DOLLARS</u>
Dr. Md. Yunus	Dy. Chief Physician	40%	48,396	12,358	-
Dr. A.S.M. Mizanur Rahman	Chief Physician	25%	60,252	15,053	-
Dr. A.S. Golam Farooq	Physician	25%	29,332	7,083	-
Mr. Habibur Rahman	Lab. Technician	65 days	10,872	2,718	-
Mr. Niranjan Sarker	Lab. Technician	65 "	7,824	1,956	-
Mr. K.M. Belayet Hossain	Sr. Lab. Technician	65 "	12,888	3,222	-
Mr. Golam Kibriya	Sr. Res. Assistant	60 "	35,820	7,164	-
Mr. A.R.M. Abdul Alim	Sr. Res. Assistant	26 "	26,028	2,603	-
Mr. Sharifuddin Ahmed	Asstt. Staff Nurse	26 "	15,608	1,361	-
Mr. Chowdhury Shah Alam	Typist Clerk	13 "	17,592	880	-
<u>Overtime Compensation</u>					
Mr. Habibur Rhaman	Lab. Technician	15 "	10,872	627	-
Mr. Niranjan Sarker	Lab. Technician	15 "	7,824	451	-
Sub Total:				62,486	-

SUPPLIES AND MATERIALS

<u>Items</u>	<u>Unit Cost</u>	<u>Amount Required</u>		
Petri Dish	13.50	10	-	135.00
Tube Culture	2.50	40	-	100.00
Tube Culture S/Cap	4.56	5	-	22.80
Tube Capillary Heper	2.69	8	-	21.52
Slide Microscope	1.87	20	-	37.40
Cover glass	1.86	80	-	148.80

SUPPLIES AND MATERIALS (CONTD.)

<u>Items</u>	<u>Unit Cost</u>	<u>Amount Required</u>	<u>Project Requirements</u>	
			<u>TAKA</u>	<u>DOLLARS</u>
Acid Acetic	1.40	1	-	1.40
Benedict's Solution	12.00	10	120.00	
Buffer Solution	2.33	1		2.33
Ieto Test Reagent	7.35	10	-	73.50
Oil Immersion	0.50	5	-	2.50
Paraffin Liquid	21.00	1	21.00	-
Wright's Stain	3.24	4	-	12.96
Specimen Container with ldd	0.04	4000	-	160.00
Glass plastic disp.	8.65	2	-	17.30
Syringe disp. 5 ml	3.01	10	-	30.10
Paper P.H.	1.16	3	-	3.48
Syrup Multi vitamin with Mineral	1.79	30	-	53.70
Tab. Fersolate/Fercoper	-	1	12.00	-
Syrup & Cap. Ampicillin				Included in pt. care
Syrup & Cap. Bectrine				Donated by Manufacture
T.T.G.A: (Monsur's Agar)	0.75	200	150.00	-
S.S. Agar	0.85	2000	1,700.00	-
MacConkey	0.65	2000	1,300.00	-
Mueller Hinton Agar	0.68	200	136.00	-
Bile Peptone	0.15	200	30.00	-
Mueller Hinton Broth	0.12	200	24.00	-
Kligler Iron Agar	0.20	1400	280.00	-
Motility Indole Urea	0.12	1400	168.00	-
Forms Lab. Report Requisition	13.00	12	156.00	-
Papers (approx)			200.00	-
Sensitivity Dish (approx)				30.00

SUPPLIES AND MATERIALS (CONTD,)

<u>Items</u>	<u>Unit Cost</u>	<u>Amount Required</u>	<u>Project Requirements</u>	
			<u>TAKA</u>	<u>DOLLARS</u>
Stock Culture	0.50	200	100.00	-
		Sub Total:	4,397.00	852.79

EQUIPMENT

<u>Items</u>	<u>Unit Cost</u>	<u>Amount Required</u>		
Microscope*	1,600	1	-	800.00
Filing Cabinet	1,100	1	1,100	-
*50% of cost will be shared by the project and 50% by Matlab Hospital General.				
		Sub Total:	1,100	800.00

PATIENT HOSPITALIZATION

Number of patient days - 171 X 10 = 1710 (171 pts X 10 days)	222,300	
Sub Total:	222,300	-

OUTPATIENT CARE

Number of patient days - None.

CRL TRANSPORT

None

TRAVEL AND TRANSPORTATION OF PERSONSLOCAL TRAVEL

Transport: Dacca/Baushia/Dacca - 68 miles @ 1.40 = Tk.95.00	
Ferry Toll charges = Tk.20.00	
Baushia/Matlab/Baushia	
2 hr @ 98.84 = Tk198.00	
	313 X 4
	1,252



TRAVEL AND TRANSPORTATION OF PERSONS (CONTD.)

Project Requirements  
TAKA      DOLLARS

LOCAL TRAVEL

Perdiem/Expenses: Dr. Yunus's 4 trips  
Matlab/Dacca      4 days X 4 = 16 days

Perdiem @ 25 per day      400.00  
30% Diff. Allow for 16 days @ 32.31      516.00

INTERNATIONAL TRAVEL      -      None

Sub Total:      2,168.00      -  
=====

TRANSPORTATION OF THINGS

Import of Supplies:      25% of cost  
Import of Equipments:  
Local Shipments:

-      213.00  
-      200.00  
200.00

Sub Total:      200.00      413.00  
=====

RENT COMMUNICATION & UTILITIES

Postage:      approximately  
Telephone:      None  
Cables:      None  
Rent, etc:      None

100.00

Sub Total:      100.00      -  
=====

10. PRINTING AND REPRODUCTION

Report/Forms/etc.      approximately

500.00

Sub Total:      500.00      -  
=====

11. OTHER CONTRACTUAL SERVICES      -      None

12. CONSTRUCTION, RENOVATION, ALTERATIONS      -      None

B. BUDGET SUMMARY

<u>Category</u>	<u>Year 1</u>	
	<u>Taka</u>	<u>Dollars</u>
1. Personnel	62,486	-
2. Supply	4,397	853
3. Equipment	1,100	800
4. Hospitalization	222,300	-
5. Outpatients	-	-
6. CRL Transport	-	-
7. Travel Persons	2,168	-
8. Transportation Things	200	413
9. Rent/Communication	100	-
10. Printing/Reproduction	500	-
11. Contractual Services	-	-
12. Construction	-	-
Total:	<u>293,251</u> =====	<u>2,066</u> =====

Total \$  $(293251 \div 15.5) = 18,919 + 2066 = \$ \underline{\underline{20,985}}$

Total Taka  $(2066 \times 15.5) = 32,023 + 293251 = \text{Tk. } \underline{\underline{325,274}}$ .

REFERENCES :

1. Roth B., Falco H. A., Hitchings G.H., Bushby S.R.M., J. med. Pharm. Chem. 5, 1103 (1962).
2. Bushby S.R.M., Hitchings G.H., Brit. J. Pharmacol. Chemother. 33, 72 (1968)
3. Bushby S. R. M., Postgrad. med. J. 45 (November Suppl.) 10 (1969).
4. Reeves D. S., Fajers M. C., Pursell R. E., Brumfitt W.: Brit.med. J.1 541 (1969).
5. O'Grady E., Chamberlain D.A., Slark J.E., Cattell W. R., Sardeson J.M., Fry I. K., Spiro F.I., Walter A.H.: Postgrad. med. J. 45 (November Suppl.) 61 (1969).
6. Grunberg R.N., Kolbe R.: Brit. med. J.1, 545 (1969).
7. Hughes D.T.D.: Brit. med. J. 4, 470 (1969).
8. Hughes D.T.D., Drew C.D.M., Johnson T.B.W., Jarvis J.D.: Chemotherapy, 14, 151 (1969).
9. Csonka G. W., Knight G. J.: Brit. J. vener. Dis. 43, 161 (1967).
10. Kamal S.A.: Brit. med. J. 3, 320 (1970).
11. Farid Z., Hassan A., Wahab M.F.A., Sanborn W.R., Kent D.C., Yassa A., Hathout S. E., Brit.med. J. 3, 323 (1970).
12. Akinkugbe, O.O., Lewis, E.A., Montefiore, D. and Okubadojo, O.A. (1968).
13. Proceedings 5th International Congress of Chemotherapy, Vienna, June 25 July 2, 1967, vl. 753.
14. Darrell J. H., Garrod L.P., Waterworth P.M.: K.clin. Pathol. 21, 202 (1968).
15. Csonka, G/ W. (1969) Postgrad. Med. J., V45, Suppl. (NOV.), 77.
16. Darrell, J. H., Garrod, L.P. and Waterworth, P.M. (1968). J. Clin. Path., v21, 202.
17. Drew, C.D.M., Hughes, D.T.D., Fowle, A. SE. and Cassell, M. A. (1967) Proceedings of 5th International Congress of Chemotherapy, Vienna, June 25 - July 2, 1967, vl, 293.
18. Francis, T. I., Lewis, E. A., Oyediran, A.B.O.O., et al (1971) J.trop Med. Hyg., v74 172.
19. Charagosloo, R. A., Naficy, K., Mouin, M/ et al. (1970) Br.Med. J., v4 281.

20. Gharagozloo, R. A., Naficy, K., Mouin, M. et al. (1971) Pahlavi Med. J., v2 347.
21. Lal, S. and Bhalla, K. K. (1969). Postgrad. Med. J., v45, Suppl. (Nov.) 91.
22. Laxomboon, U., Mansuwan, P., Duangmani, C., Benjadol. P. and Ma Mim M. T. (1972). Br. Med. J., v3, 23.
23. Mabadeje, A. F. B. (1971). J. Nigeria med. Ass., vl. 61.
24. Mabadeje, A.F.B., Johnson, T.O. and Ogunbi, O. (1970). J. Nigeria med. Ass., v7, 48.
25. Sardesai, H.V., Melinkere, R.D. and Diwate, A.B. (1971). Trans. R. Soc. trop. Med. Hyg., v65, 189.
26. Schwartz, D.E. and Ziegler, W.H. (1969). Postgrad. Med. J., v45 Suppl. (Nov.), 32.
27. Soriano, V. B., Lucindo, A.M., Santiago, L. and Uylangoo, C.V. (1970). J. Manila Med. Soc., v8, 260.
28. Gharagozloo R, Naficy K, Badalian K, Najafi A., Salimpour R, Vosough P, and Hedayati, B. Proceedings 7th int. Congr. Chemotherapy VI, Part 2, PP-23-26. (1972)
29. Mabadeje, A.F.B. J. trop. med. 77 (1974).
30. Felix, H., Mora, M, Castets, M, Duval, J. Lafaix, eli Proceedings 7th Int. Congr. Chemotherapy vol. 1, Part 2, P-773-76 (1972)
31. Laxomboon, U. Mansuwan, P. Duangmani, C, Bengadal P, and McMinn, M.T. Brit. med. J. 3: 23-26.
32. Franzen, C., Lidin-Janson, Ct. and Nygren, B. Second J. Infect. Dis. v4, 231-40, 1972.
33. Rudoy, Raulc, Nelson, John, D., Haltalin, Kenneth, C. Antibierotial agents and Chemotherapy. P-439-443, 1974.
34. Ross, S., Ct. Controni and W. Khan.
35. Jarvis, K. J. and Ct. Scrimgeour. J. Med. Microbial 3: 554-557(1970).
36. Harbin, R. L., H. B. Ratner and W. Schaffaer. J. tenn. med. ass. 65 : 999-1006.
37. Barsily, S. Farid Z, Lehman, J. S. and sarenson K. Brit. Med. J. 1 : 230, 1971.

# অনুমতি পত্ৰ

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বক্তৃতা আধাংশ (Shigella dysentery / Bacillary dysentery) বোলা  
প্রচলিত ঔষধ অধুনা কাৰ্যক্ষমতা দিন দিন উল্লেখযোগ্য  
ভাৱে কমিছে আৰু নূতন ঔষধৰ কাৰ্যক্ষমতা  
ঘাটাই কৰিবৰ বিশেষ অধ্যয়নৰ তাৎপৰ্য  
দিয়ে। বিভিন্ন ব্ৰহ্মণৰ গৱেষণা হৈছে  
অন্যান্য ঔষধ যেন Bactrim / Septrin (বেকট্ৰিম)  
বক্তৃতা আধাংশ বোলাৰ ক্ষেত্ৰে একেটা বাস্তব  
কাৰ্যক্ষম ঔষধ। ব্যক্তি, ব্ৰহ্মণ আৰু ব্ৰহ্মণৰ উপকাৰক  
আধাংশৰ ব্ৰহ্মণও এই ঔষধৰ কাৰ্যক্ষমতা  
ঘাটাই কৰিবৰ তাৎপৰ্য অধ্যয়নৰ তাৎপৰ্য  
অন্যান্য কৰিবৰ তাৎপৰ্য এই ঔষধৰ পৰীক্ষা-  
অনুকূল কাৰ্য হৈছে নিশ্চিত।

## উপৰ বৰ্ণিত ঔষধৰ

উপকাৰক আৰু ইয়াৰ গৱেষণাৰ অধ্যয়নৰ  
উপলব্ধি কৰিবৰ আৰু ব্ৰহ্মণ আধাংশ বা  
আধাংশ পৰিবাৰৰ অন্যান্য অধ্যয়নৰ বা আধাংশ  
আধাংশৰ আধাংশ অধ্যয়নৰ আধাংশ  
বক্তৃতা ইত্যাদি পৰীক্ষাৰ ক্ষেত্ৰে ব্ৰহ্মণৰ  
আধাংশ অন্যান্য অধ্যয়ন - যেন ব্ৰহ্মণৰ  
ব্ৰহ্মণ ইত্যাদি আধাংশ অধ্যয়ন হৈছে।  
তবে আধাংশ ও আধাংশ পৰিবাৰৰ  
অধ্যয়নৰ বা আধাংশ আধাংশ অধ্যয়নৰ  
আধাংশ এই গৱেষণাঅনুকূল নিশ্চিত হৈছে  
যে ব্ৰহ্মণ অধ্যয়ন কৰিব হৈছে নূতন  
আধাংশৰ বহিঃ।

প্ৰধান গৱেষকৰ স্বাক্ষৰঃ

অনুমতি প্ৰদানকাৰীৰ  
স্বাক্ষৰ / চিহ্নঃ



The incidence of Shigella dysentery has markedly increased in the last few years and has become one of the major health problem in Bangladesh particularly in children due to its high morbidity and mortality.

Various strains of Shigella SP. are developing resistance to common antibiotics. Particularly Shigella dysentery type I (Shigella bacillus) has already developed multiple resistance to all useful antibiotics except Ampicillin. Ampicillin resistant Shig. dysentery type I has also been reported in Bangladesh and is common elsewhere. Moreover, Ampicillin can not be used on patients who are allergic to penicillin group of drugs. Consequently the choice of the optimal antibiotic for Shigella dysentery may become difficult and proven alternative antibiotic should be defined and available when ampicillin resistant is being noted.

Various Investigators have shown by both in vitro and in vivo studies that 1.5 combination of Trimethoprim + Sulphamethoxazole (Bactrim) is effective against a wide range of gram positive and gram negative infection including shigella dysentery. The purpose of this study is to determine the clinical and bacteriological effectiveness of bactrim against shigellosis in comparison to ampicillin which is the drug of choice for all shigella dysentery. The drug will be compared both clinically and bacteriologically in 200 confirmed shigella cases. Case selection will be done by a preset random selection by coin method.

All subjects clinically suggestive of shigella dysentery of all age and sex except children below 3 months of age and pregnant women, will be required for the trial.

There is possibilities of some potential risks mainly of physical nature due to adverse reaction of the drug and therapeutic failure. But the likelihood of such risk is very minimum and is not severe.

If any signs of adverse reaction develops or therapeutic failure is suspected, the drug will be stopped at once and an alternative drug will be prescribed.

After discharge from the hospital, all the records of the study patients will be kept in a safe custody where nobody will have access except the Investigators. The data analysis will be done by hospital numbers. So, anonymity will be protected.

A signed informed consent statement from the subject or from the parents or the authorized legal guardian, if the subject is minor, will be obtained at the time of inclusion into the study. (The informed consent form in Bangali is attached) .

The study involves no interview.

If the drug is found effective, the individual subject will be benefited by being cured from the disease in particular and the society in general having a proven alternative effective drug for the disease.

The study requires the use of blood, urine, stool etc.