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Reasons for Discontinuation of Tuberculosis Treatment Provided by BRAC

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December 1996

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EXECUTIVE SUMMARY

To supplement the government tuberculosis control programme, BRAC has initiated a community-based tuberculosis programme in 10 thanas under the Women's Health and Development Programme (WHDP) (presently known as Reproductive Health and Disease Control - RHDC) since June 1992. BRAC is delivering services and following up the patients for all compliance. But, a recent study showed that the treatment completion rate achieved was up to 85% (1). Now the question arises: why the remaining 15% of the patients did not complete their treatment course? This study aimed to assess the reasons for discontinuation of treatment from BRAC's community-based TB control programme.

The study was carried out in all 10 WHDP thanas and dealt with the patients receiving only 12 months treatment regimen. The patients who enrolled and later discontinued treatment during June 1993 to May 1994 were selected for the study. Reasons for discontinuation of treatment were collected from programme records, the patient or his/her relatives, Shastho Shebikas (SSs), Programme Organisers (POs), Area Managers (AMs) and Medical Officers (MOs) through in-depth interviews during June and August 1994.

A total of 1,538 patients were enrolled between June 1993 and May 1994. Of them, only 40 patients were found to have discontinued from BRAC treatment. Among these patients, 20 (50%) defaulted or dropped out, 5 (12.5%) were migrated and the rest 15 (37.5%) were referred to TB clinic or hospital for treatment.

Reasons for dropout

The reasons recorded/stated by programme staff for dropped out cases were: side effects (11), change in regimen (2), fear of injection (2), influence of fundamentalists (2), patient believes that s/he had no TB (2), return of deposit money (1). Among the patients 8 were treated privately.

The reasons stated by patients and their relatives were: side effects (14), patients believed that they had no TB (2), fear of injection (2), influence of fundamentalists (1), and return of deposit money (1).

The reasons stated by 17 BRAC cadres (SSs/Shastho Karmis-SKs) were: side effects (8), fear of injection and demotivated by other dropped out patients (1), change in regimen (2), patients believed that they had no TB and husband opposed (2), and return of deposit money (1).

Reasons for migration

Out of 5 patients migrated, 2 patients had side effects and 2 patients could not be traced - one patient left because of loan pressure and the other murdered her own sister and became a fugitive. One patient left the programme area for better treatment at his son's residence but he died later on. Two other patients were not permanent residents of the programme area. They came for BRAC TB treatment but suddenly they left for their permanent residence, but later on both died there.

Reasons for referral

The reasons recorded/stated by programme staff for referral were: undergoing private treatment therefore referred (3), skin rash (2), fear of injection, patients were suffering from jaundice, diabetes, severe abdominal pain and difficulty in urination, unconsciousness, drug resistance, diarrhoea and vomiting (one each), vomiting and severe weakness (2).

The reasons stated by patients and their relatives for the referral were almost similar. These were: skin rash (3), fear of injection (2), severe weakness, vomiting and severe weakness (two each), jaundice, diabetes, severe abdominal pain and difficulty in urination, unconsciousness, diarrhoea and vomiting (one each).

The reasons stated by 11 BRAC cadres (SSs/SKs) were also similar to programme staff patient and their relatives. These were: skin rash (3), unconsciousness (2), fear of injection, jaundice, diabetes, severe abdominal pain, severe weakness, vomiting and severe weakness (one each).

Recommendations

- Health education to the patients on possible side effects and management of side effects may be strengthened by the POs.
- The serious cases of adverse effects and/or drug reaction should be visited by MOs at the earliest possible time, i.e. possibly within 3/4 days of the incidence.

INTRODUCTION

Tuberculosis ranks seventh as the most important cause of death in Bangladesh (2). The national TB control project runs 13 hospitals and 44 clinics, which are urban based. This effort is inadequate for reducing the burden of TB cases especially in the rural areas where 85% of the total population reside. To supplement the government programme, BRAC initiated a community-based tuberculosis programme in Manikganj in 1984 with trained shastho shebikas (SSs) as the nucleus. In 1992, BRAC decided to extend the programme to 10 new thanas under the Women's Health and Development Programme (WHDP) (presently known as Reproductive Health and Disease Control - RHDC) with a population of 1.8 millions. With the experiences gained over time, new changes were made in the programme strategy. The SSs (SKs in Muktagacha) remained the nucleus of the programme (1). They identified suspected TB cases through household visits, referred such cases for sputum collection and microscopic examination and giving treatment to the positive cases under close supervision of the Programme Organisers (POs) and Medical Officers (MOs). After identification, all TB patients come under a written agreement that s/he deposits Tk. 200/- as a bond of compliance to BRAC treatment. After completion of treatment, TK. 100/- (presently Tk. 125/-) is given to the SSs as service charge and the rest is returned to the patient. Throughout this cycle of case management, the SSs/SKs, POs and MOs visited and followed-up the patients regularly (3).

Currently, the TB patients are being provided with either of the treatment regimens: 6 months, 8 months or 12 months treatment. Initially, the patients receive intensive treatment for 2-3 months followed by a continuation phase for the rest of the period. This study dealt with the patients receiving only 12 months treatment regimen.

BRAC is delivering services and following up the patients for all compliance. But, a recent study showed that the treatment completion rate achieved was up to 85% (1). Now the question arises as to why the remaining 15% of the patients did not complete their treatment course? To answer this, a study was conducted to assess the reasons for discontinuation of treatment from BRAC's community-based TB control programme.

METHODOLOGY

The study was carried out in all the 10 thanas under WHDP. The patients who enrolled and later discontinued treatment between June 1993 and May 1994 were selected for the study. The patient register kept in the thana offices was checked to identify the patients who discontinued treatment. Four POs of WHDP monitoring cell collected the data during June and August 1994. Information on socio-economic status of the patients, and reasons for discontinuation of treatment were collected from programme records, patient or his relatives, SSs, POs, Area Managers (AMs) and MOs through in-depth interviews.

Definitions:

Dropout: Referred to any patient who refused to take BRAC treatment and stopped taking drug from BRAC.

Migrated: Referred to any patient who migrated from the programme thanas.

Referred: Referred to any patient who was referred permanently to TB clinic or hospital for treatment.

RESULTS

Background of the patients

A total of 1,538 patients were enrolled between June 1993 and May 1994. Of them, only 40 patients were found to discontinue BRAC treatment. Among these patients, 20 (50%) defaulted or dropped out, 5 (12.5%) were lost or migrated and the rest 15 (37.5%) were referred to TB clinic or hospital for treatment.

Of the 40 patients who discontinued treatment provided by BRAC, the rate was highest in Bogra (47.5%) and lowest in Dinajpur region (12.5%). The majority of these patients were from TG families (55%) and were illiterate (80%). Those of age 45 years or above constitute 65% of

the patients. It was also found that 70% of the patients were male. All the females were housewives while half of the males were either day labourers or rickshaw pullers (Table 1).

Around 53% of the patients discontinued from BRAC treatment during continuous phase (Table 2). Of the discontinued patients, 16 had undergone private treatment (NTG 9) and 11 died after the discontinuation of the treatment (NTG 8). Three referred patients were followed up by the programme staff after referral (Appendix I-III).

Reasons for dropout

Among the 20 patients who dropped out from BRAC treatment, the rate was highest in Bogra (55%) and lowest in Dinajpur region (15%). The majority of these patients were from TG families (55%) and were illiterate (70%). Those of age 45 years or more constitute 65% of the patients. It was also found that 80% of the patients were male. All the 4 females were housewives while less than half of the males were either day labourers (38%) or farmers (38%) (Table 1).

Among the dropout patients, 65% (13) were of continuous phase (Table 2). Ten patients who dropped out from BRAC treatment had undergone private treatment (NTG 6) and 5 died after dropped out (NTG 4) (Appendix I).

The reasons recorded/stated by the programme staff for dropped out were: side effects (11), change in regimen (2), fear of injection (2), influence of fundamentalists (2), patient believe that s/he had no TB (2), return of deposit money (1) (Table 3). Among the patients 8 were treated privately.

The reasons stated by patients and their relatives were: side effects (14), patients believe that s/he had no TB (2), fear of injection (2), influence of fundamentalists (1), and return of deposit money (1) (Table 3).

During the study the monitors did not find 3 SSs to interview. The reasons stated by the 17 BRAC cadres (SSs/SKs) were: side effects (8), fear of injection and demotivated by other dropped

out patient (1), change in regimen but refused to continue treatment (2), patients believe that they had no TB (5), and return of deposit money (1) (Table 3).

Reasons for migration

Among the patients (5) who discontinued BRAC treatment due to migration, the rate was highest in Bogra (60%) while none in Dinajpur region. The majority of these patients were from TG families (60%) and were illiterate (100%). Those of age 45 years or more constitute 60% of the patients. It was found that 80% of the patients were male. All the females were housewives while half of the males were day labourers (Table 1). Only 1 out of 5 patients discontinued treatment during continuous phase (Table 2).

Of the 5 patients migrated, 2 had side effects and 2 could not be traced - one patient left because of loan pressure and the other murdered her own sister and became a fugitive. One patient left programme area for better treatment at his son's residence but later he died. Two other patients were not permanent resident of programme area, they came for BRAC TB treatment but suddenly they left for their permanent residence but later on both died there (Table 4 and Appendix II).

Reasons for referral

Of the 15 patients who were referred by BRAC, the rate was highest in Mymensingh (53%) and lowest in Dinajpur region (13%). Around 53% of these patients were from TG families and male while 87% were illiterate. Those of age 45 years or more constitute 67% of the patients. All the 7 females were housewife while half of the males were day labourers (Table 1).

Around 47% (7) of the patients discontinued BRAC treatment during continuous phase (Table 2). Of the 15 patients referred, 6 had undergone private treatment (NTG 3) and 3 patients died after the referral (NTG 2). The programme staff followed up 3 referred patients (NTG 2) (Appendix III).

The reasons recorded/stated by programme staff for referral were: under-going private treatment (3), skin rash (2), fear of injection, jaundice, diabetes, severe abdominal pain and difficulty in urination, unconsciousness, drug resistance, diarrhoea with vomiting (one each), vomiting with severe weakness (2). (Table 5).

The reasons stated by patients and their relatives for referral were almost similar. These were: skin rash (3), fear of injection (2), severe weakness, vomiting with severe weakness (two each), jaundice, diabetes, severe abdominal pain and difficulty in urination, unconsciousness, diarrhoea with vomiting (one each) (Table 5).

Monitors did not find 4 SSs during interview. The reasons stated by 11 BRAC cadres (SSs/SKs) were also similar to programme staff/patient and their relatives. These were: skin rash (3), unconsciousness (2), fear of injection, jaundice, diabetes, severe abdominal pain, severe weakness, vomiting with severe weakness (one each) (Table 5).

DISCUSSION AND CONCLUSION

The present study was conducted to assess the reasons for discontinuation of treatment from BRAC's community-based TB control programme. It was revealed that the rate of discontinuation due to dropout, migration and referral was much less (2.6%) compared to the findings of another study done on BRAC's Manikganj pilot TB control project (21%) in 1991 (4) and the report of Health and Population Division for the period of April 1992 to March 1993 (8%) (5). Low discontinuation rate implies that efficiency of TB case management has improved over time.

The major reason for dropout was side effects (painful injection, vertigo, anorexia, severe weakness) of anti tuberculosis chemotherapy. This confirms the findings of previous studies (4,6). Previous experience showed that within 3 days of a side effect, 70% cases were visited by the POs (3) and 38% by the MOs (6). Thus, health education to patients on possible side effects and management of side effects within 3 days by the POs may effectively reduce the dropout rate. In

some cases, however, the side effects or drug reaction may not effectively be managed by the POs (TB). This may demotivate the patients and thereby lead to ultimate dropout. Thus, MOs should visit the serious cases at the earliest possible time or possibly within 3/4 days of the incidence. Otherwise it will be difficult to reduce the present dropout rate.

Fear of injection, influence of fundamentalists and patient's belief of having no TB were among the other reasons explored. At present, the 6-month treatment regimen excludes injection, thus, the problem of fear of injection no longer remains. The influence of fundamentalists, another problem also does not prevail as it did in the past. The problem of patient's belief of having no TB could be solved through health education and motivation of the patients, and from the assistance of local quacks, elites and doctors as well.

Migration though not so great, is still responsible for a proportion of discontinuation of treatment from BRAC. Chowdhury et al (4) reported that in addition to seasonal migration, some patients from neighbouring thanas, who took advantage of the BRAC programme with the help of their relatives living in the programme thanas, discontinued treatment when they needed to return to their homes. In this study we also found such cases, but the number was almost negligible. That the programme has succeeded to a great extent to reduce such cases is encouraging. The other reasons found were beyond the scope of the programme.

In a follow-up study on the same programme, Mahmud et al (3) found that the reasons for referral were: jaundice, vomiting, unconsciousness, skin rash, etc. We also found similar problems during our study. Besides, we found that a few patients were referred because they had already started private treatment and feared injection. The main problem found in our study was that only 3 of the 15 referred patients were followed up by the programme, 2 were dead and the rest were not taking TB treatment. All the referred patients should be followed up so that they complete the treatment course. If these patients stop treatment there will be a possibility that they will develop drug resistance, and such TB patients will be a threat for the society. The other consequence may be that these patients may influence other patients not to take BRAC treatment as well.

As more than half of the patients discontinued BRAC treatment during continuation phase, so each and every patient with side effects and other problems should be cared with due importance. If we can reduce discontinuation at this phase, the overall discontinuation rate will be reduced to a marginal level. Incomplete treatment is responsible for multiple-drug resistant TB (7) and incompletely treated patients living in the society can infect 10-14 people a year (8). Though the rate of treatment discontinuation was found very low, this issue should not be neglected.

Recommendations

- Health education to the patients on possible side effects and management of side effects may be strengthened by the POs.
- The serious cases of adverse effects and/or drug reaction should be visited by MOs at the earliest possible time, i.e. possibly within 3/4 days of the incidence.

Acknowledgment

We are grateful to Mr. Hasan Shareef Ahmed, Chief, Editor and Publication of Research and Evaluation Division (RED), BRAC for editorial help. Special thanks to Dr. Syed Masud Ahmed, Dr. FM Kamal, Fehmin Farashuddin of RED and Mr. Akramul Islam, Sector Specialist TB of Health and Population Division for valuable comments.

References

1. Chowdhury AMR, Islam MN, Islam A, Afsana K, Mahmud SN, Ali A, Karim F, Chowdhury SA and Islam MS. The forgotten disease: an evaluation of a community based tuberculosis control programme in rural Bangladesh. Paper presented at the 18th Eastern Conference of the International Union against tuberculosis and lung disease, Dhaka, 28-31 October. 1995. 1
2. BRAC. Women's Health and Development Programme (proposal). 1991. Tuberculosis Intervention Extension (Annex IV). vii
3. Mahmud SN, Islam MN, Ali A and Karim F. A follow-up of the community based TB control programme of BRAC. BRAC Health Studies. 1995. Vol. XI. 12-15
4. Chowdhury AMR, Ishikawa N, Alam A, Islam MS, Hossain A, Cash RA and Abed FH. Controlling a forgotten disease. Using voluntary health workers for tuberculosis control programme in rural Bangladesh. IUATLD Newsletter. 1991 December. 2-5.
5. BRAC. Health and Population Programme. July 1993 - December 1994 Report. 1995. Part II: Women's Health Development Programme. 6
6. Mahmud SN, Islam MN, Karim F, Ali A and Afsana K. Assessment of community based TB control programme. BRAC Health Studies. 1994. Vol. X. 21
7. Hanson C. Imagine victory over tuberculosis. World Health. 1995; 48 (2):22-3.
8. Sudarshan H and Sridharan VS. Tuberculosis programme in Rural Area: Experience from field. Health for the Millions. 1995. 21(1):49-52.

Table 1. Background of the TB patients who discontinued treatment.

Variables	Dropped out	Migrated	Referred	All
Regions				
Dinajpur	15.0(3)	-	13.3(2)	12.5(5)
Bogra	55.0(11)	60.0(3)	33.3(5)	47.5(19)
Mymensingh	30.0(6)	40.0(2)	53.3(8)	40.0(16)
Sex				
Male	80.0 (16)	80.0 (4)	53.3(8)	70.0 (28)
Female	20.0 (4)	20.0 (1)	46.7 (7)	30.0 (12)
Social status				
TG	55.0 (11)	60.0 (3)	53.3(8)	55.0 (22)
NTG	45.0 (9)	40.0 (2)	46.7(7)	45.0 (18)
Age (year)				
25-34	15.0(3)	40.0(2)	13.3(2)	17.5(7)
35-44	20.0(4)	-	20.0(3)	17.5(7)
45-54	20.0(4)	20.0(1)	40.0(6)	27.5(11)
55+	45.0(9)	40.0(2)	26.7(4)	37.5(15)
Education				
No education	70.0(14)	100.0(5)	86.7(13)	80.0(32)
Primary	25.0(5)	-	-	12.5(5)
Post-primary	5.0(1)	-	13.3(2)	7.5(3)
N	20	5	15	40
Occupation				
House wife	100.0(4)	100.0(1)	100.0(7)	100.0(12)
N (Female)	4	1	7	12
Farmer	37.5(6)	25.0(1)	37.5(3)	35.7(10)
Day/agri labourer	37.5(6)	50.0(2)	50.0(4)	42.9(12)
Rickshaw puller	12.5(2)	-	-	7.1(2)
Retired	12.5(2)	-	12.5(1)	10.7(3)
Beggar	-	25.0(1)	-	3.6(1)
N (male)	16	4	8	28

Table 2. Time of discontinuation.

Discontinued at/ after (month)	Dropped out	Migrated	Referred	All
<1	5.0(1)	-	20.0(3)	10.0(4)
1	20.0(4)	20.0(1)	20.0(3)	20.0(8)
2	40.0(8)	-	6.7(1)	22.5(9)
3	20.0(4)	20.0(1)	33.3(5)	25.0(10)
4	10.0(2)	20.0(1)	6.7(1)	10.0(4)
5	-	20.0(1)	6.7(1)	5.0(2)
8	5.0(1)	20.0(1)	6.7(1)	7.5(3)
N	20	5	15	40

Table 3. Reasons for dropout of TB patients from BRAC treatment.

Reasons	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
Fear of injection	2(10.0)	2(10.0)	1(5.9)
Influence of fundamentalists	2(10.0)	1(5.0)	-
Patient believe that s/he had no TB	2(10.0)	2(10.0)	5(29.4)
a) treated privately	1(5.0)	1(5.0)	-
b) did not treat privately	-	1(5.0)	4(23.5)
c) husband opposed	-	-	1(5.9)
d) fear of injection	1(5.0)	-	-
Refused to continue BRAC treatment due to side effects	11(55.0)	14(70.0)	8(47.1)
a) treated privately	7(35.0)	7(35.0)	6(35.3)
b) did not treat privately	4(20.0)	7(35.0)	2(11.8)
Regimen changed but refused to continue treatment	2(10.0)	-	2(11.8)
Return of deposit money	1(5.0)	1(5.0)	1(5.9)
N	20	20	17

Table 4. Reasons for migration of TB patients from BRAC treatment.

Reasons	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
No side-effect but return to permanent residence	1(20.0)	-	-
No side-effect, migrated due to personal/family problems	2(40.0)	-	2(50.0)
Side-effect and personal problems	-	1(33.3)	-
Side-effect and patient felt that BRAC treatment make him weak thus return to his permanent residence	1(20.0)	1(33.3)	1(25.0)
Side-effect and went to son's house for better treatment	1(20.0)	1(33.3)	1(25.0)
N	5	3	4

Table 5. Reasons for referral of TB patients from BRAC treatment.

Reasons	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
Jaundice	1(6.7)	1(6.7)	1 (9.1)
Diabetes	1(6.7)	1(6.7)	1 (9.1)
Severe abdominal pain	1(6.7)	1(6.7)	1(9.1)
Difficulty in urination	1(13.3)	1(6.7)	-
Skin rash	2(13.3)	3(20.0.7)	3(27.3)
Unconsciousness	1(6.7)	1(6.7)	2(18.2)
Unconsciousness and drug resistant	1(6.7)	-	-
Treating privately	3(20.0)	-	-
Diarrhoea with vomiting	1(6.7)	1(6.7)	-
Vomiting with severe weakness	2(13.3)	2(13.3)	1(9.1)
Severe weakness	-	2(13.3)	1(9.1)
Fear of injection	1(6.7)	2(13.3)	1(9.1)
N	15	15	11

Appendix I: Reasons for dropout

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's target group			
26 F HW	Pain from injection, vertigo, severe burning sensation, fear of injection, patient believe that she had no TB, feared that she will die if treated from BRAC	Pain from injection, can't work and sleep, vomiting, can't tolerate injection, fear of injection, treated privately	Pain from injection, can't work and sleep, patient believe that she had no TB, husband opposed
35 F HW	Severe vertigo, abdominal pain, mental illness, fear of injection	Severe vertigo, abdominal pain, feared that BRAC treatment will deteriorate her condition	Severe vertigo, abdominal pain, mental illness, patient believe that she had no TB
26 M DL	Weakness, influence of fundamentalists	Severe weakness, vertigo, went to Tablig Jamaat	-
32 M DL	Diarrhoea, vomiting, anorexia, oedema, treated privately	Weakness, fever, anorexia, diarrhoea, dropsy, treated privately	Weakness, fever, anorexia, diarrhoea, treated privately
39 M DL	Weakness, pain from injection, wanted deposit money return	Severe weakness, wanted deposit money return, went to TB clinic but did not take drug	Severe weakness, Very poor economic condition, want deposit money return, went to TB clinic
40 M RP	Weakness, vertigo, irregular in drug intake, patient believe that he was better before BRAC treatment	Weakness, vertigo, dropsy, difficulty in respiration, can't tolerate drug	Weakness, dropsy, can't swallow foods, can't tolerate drug
45 M RP	Anorexia, heart burn, irregular in drug intake, refused to take thiazide	Weakness, vertigo, headache, heart burn, can't swallow foods, can't tolerate medicine	Vertigo, heart burn, can't swallow foods, irregular in drug intake, patient believe that he had no TB

Appendix I: Reasons for dropout (contd.)

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's target group			
75 M AL	Weakness, vertigo, fever, mental illness, regimen changed but patient refused to take drug	Weakness, giddiness, burning sensation, mental illness, can't swallow foods	Weakness, mental illness, fear of injection, regimen changed but complications arise
77 M RP (died after drop out)	Severe weakness, bed ridden, anorexia, very serious condition, relatives started crying, homeopathic treatment	Severe weakness, bed ridden, anorexia, condition deteriorated, can't swallow foods and tablets, homeopathic treatment	Severe weakness, anorexia, can't swallow foods and tablets, homeopathic treatment
79 M AG	Severe weakness, bed ridden, vertigo, anorexia, mental illness, irrelevant and unreasonable complains, patient believe that he had no TB, treated privately	Severe weakness, bed ridden, vertigo, patient believe that he had no TB, feared that he will die if treated from BRAC, BRAC want to kill him	Severe weakness, dysentery aggravated as the patient taken milk, patient believe that he had no TB
80 M DL	Severe weakness, bed ridden, vertigo, headache, increased cough, fever, diarrhoea, talk faintly, pain from injection, irregular in drug intake, regimen changed but refused to take drug	Severe weakness, bed ridden, vertigo, talk faintly, pain from injection, can't swallow foods	Severe weakness, bed ridden, vertigo, can't swallow foods, talk faintly, pain from injection, regimen changed but refused to take drug
BRAC's non-target group			
52 F HW	Severe weakness, vertigo, difficulty in respiration, tinnitus, mental illness, severe anorexia, treated privately by quack	Severe weakness, severe vertigo, severe anorexia, difficulty in respiration, can't swallow foods or drinks, treated privately	Severe weakness, severe vertigo, severe anorexia, flatulence, mental illness, can't swallow foods or drinks, treated privately

Appendix I: Reasons for dropout (contd.)

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's non-target group			
75 F HW (died after drop out)	Severe weakness, thin, itching, can't walk or talk, treated privately	Severe weakness, vertigo, itching, can't walk or talk, treated privately, diagnosed by a doctor non TB	Severe weakness, vertigo, itching, can't walk or talk, pain from injection, treated privately, diagnosed by a doctor as non TB
39 M AG	Severe weakness, anorexia, irregular in drug intake, treated privately	Weakness, can't swallow foods, treated privately	Weakness, anorexia, fever, cough, can't swallow foods, treated privately
50 M AG (died after drop out)	Weakness, vertigo, anorexia, difficulty in respiration, fear of injection	Severe weakness, very thin, fear of injection	Severe weakness, fear of injection, refused to take BRAC treatment from the start
48 M AL	Diarrhoea, unconsciousness, mental illness, MO advised to send Dinajpur Sadar Hospital after return refused to take drug	Severe weakness, Unconsciousness, abdominal pain, burning sensation, rash, skin turned pinkish black, mental illness, treated at Dinajpur Sadar Hospital and privately	Severe weakness, rash, skin turned black, unconsciousness, burning sensation, patient believe that he had no TB
60 M AG	Vomiting, difficulty in respiration, anorexia, regimen changed but refused to take drug	Weakness, severe anorexia, difficulty in respiration, vomiting tendency, itching, fever, increased cough, can't tolerate thiazide	Weakness, severe anorexia, fever, increased cough, itching, difficulty in respiration, vomiting tendency, can't tolerate drug
60 M AG	Severe weakness, vertigo, tinnitus, giddiness, severe anorexia, difficulty in respiration due rifampicin, regimen changed but no improvement, treated privately	Severe weakness, bed ridden, vertigo, tinnitus, severe anorexia, difficulty in respiration, can't swallow foods, regimen changed but no improvement, treated privately by quack	-

Appendix I: Reasons for dropout (contd.)

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's non-target group			
64 M AG (died after drop out)	Severe weakness, influence of fundamentalists	Severe weakness, bed ridden, vertigo, burning sensation, can't swallow foods	-
65 M RT (died after drop out)	Severe weakness, polyp, lymph gland enlarged, can't swallow foods or drinks, unconsciousness, MO suggested for private treatment, treated privately	Severe weakness, severe anorexia, can't swallow foods or drinks, throat swelling, difficulty in respiration due to polyp, patient treatment that he had no TB, treated privately	Severe weakness, severe anorexia, can't swallow foods or drinks, throat swelling, difficulty in respiration due to polyp, MO suggested for private treatment, treated privately

AG - agriculture, AL - agri labourer, DL - day labourer,
HW - housewife, RP- rickshaw puller, RT- retired

Appendix II: Reasons for migration

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's target group			
27 F HW	No side effect, Patient's husband was a rickshaw puller and had a loan and suddenly they left the area because of loan pressure	-	No side effect, Patient lived in a rented house and her husband was a rickshaw puller and had a loan and suddenly they left the area because of loan pressure
30 M AL	No side effect, quarrel with mother-in- law then left for his permanent residence, murderer and fugitive	Vertigo, tinnitus, night blind, patient's parent brought him to his permanent residence, murderer and fugitive	-
45 M DL (died after migration)	No side effect, patient left for his permanent residence	-	No side effect, family and other problems thus left for his permanent residence
BRAC's non-target group			
55 M BEG (died after migration)	Vertigo, very weak, patient's felt that BRAC treatment make him weak thus patient left for his permanent residence	Vertigo, anorexia, very weak, patient left for his permanent residence	Adverse effect, patient left for his permanent residence
60 M AG (died after migration)	Weak, itching, vomiting tendency, asthma, oedema, condition deteriorated, patient went to his son's residence for better treatment	Very weak, patient went to his son's residence for better treatment	Very weak, patient went to his son's residence for better treatment

AG - agriculture, AL - agri labourer, DL - day labourer,
HW - housewife, RP- rickshaw puller, RT- retired

Appendix III: Reasons for referral

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's target group			
34 F HW (died after refer)	Jaundice, severe weakness, referred to hospital	Jaundice, severe weakness, referred to hospital	Jaundice, severe weakness, oedema, can't swallow foods, referred to hospital
50 F HW	Restlessness, unconsciousness, fear of injection, referred to Jalsatra Mission hospital as per request	Vertigo, restlessness, fear of injection, treated from Mission hospital	Vertigo, restlessness, fear of injection, unconsciousness, treated from Mission hospital
53 F HW	Severe weakness, severe vertigo, vomiting, regimen changed but no improvement therefore referred to TB clinic	Severe weakness, referred to TB clinic	Severe weakness, regimen changed but no improvement therefore referred to TB clinic
30 M DL (followed up by BRAC)	Severe weakness, fever, vomiting, oedema, diarrhoea, can't swallow foods, referred to SK hospital, Mymensingh	Severe weakness, fever, vomiting, diarrhoea, can't swallow foods or drinks, referred to SK hospital, Mymensingh	-
35 M DL	Before BRAC treatment he was treated in a hospital, Fear of injection therefore referred	Fear of injection, Wanted hospital treatment	Fear of injection, another dropped out patient motivated not to take BRAC treatment
46 M DL	Severe headache, vertigo, can't walk, presence of other disease, treated privately therefore referred	Weakness, vertigo, Bed ridden, severe anorexia, vomiting, can't swallow foods, patient felt that he had no TB, treated privately by quack	-
50 M DL	Itching, dropsy, treated privately therefore referred	Vertigo, mental illness, dropsy, scaling of skin, rash, treated privately, diagnosed by a doctor as non TB	Vertigo, mental illness, dropsy, scaling of skin, rash, itching, treated privately

Appendix III: Reasons for referral (contd.)

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's target group			
63 M RT	Severe weakness, bed ridden, vertigo, anorexia, mental illness, cough, unconsciousness, drug resistant, referred to TB clinic but treated privately	Severe weakness, vertigo, mental illness, unconsciousness, cough, treated privately by homeopath	Unconsciousness, vertigo, bed ridden, can't swallow foods, afraid about further deterioration, treated privately
BRAC's non-target group			
42 F HW (Followed up by BRAC)	Severe cough, weakness, fever, anorexia, vomiting tendency, treated privately therefore referred	Severe weakness, fever, anorexia, chest pain, can't swallow foods, treated privately with 6 month regimen	-
50 F HW (died after refer)	Abdominal pain, referred to THC then to Rajshahi Medical College hospital, diagnosed abdominal cancer	Weak, vertigo, anorexia, difficulty in respiration, vomiting, abdominal pain, referred to THC then to Rajshahi Medical College hospital, diagnosed abdominal cancer, patient believe that she had no TB	Severe weakness, abdominal pain, referred to THC then to Rajshahi Medical College hospital, diagnosed abdominal cancer, patient believe that she had no TB
50 F HW	Fever, itching, cough, rash, anorexia, regimen changed but refused to take drug therefore referred to THC	Weakness, bed ridden, vertigo, itching, dropsy, rash, no faith on BRAC treatment therefore referred to THC	Vertigo, itching, dropsy, rash, no faith on BRAC treatment therefore referred to THC

Appendix III: Reasons for referral (contd.)

Age sex Occupn	Programme record/ personnel's	Patient/relatives	Cadres (SS/SK)
BRAC's non-target group			
55 F HW	Before treated from private doctor, diabetes, weakness, headache, vertigo, chest pain, don't want to continue BRAC treatment therefore referred to TB clinic	Weakness, fever, chest pain, vertigo, diabetes, refused to take BRAC treatment therefore referred to TB clinic	Weakness, fever, chest pain, vertigo, diabetes, refused to take BRAC treatment referred to TB clinic
40 M AG (followed up by BRAC)	Severe anorexia, vomiting, abdominal pain, fever, cough, difficulty in respiration, referred to SK hospital, Mymensingh but treated privately	Severe weakness, chest pain, fever, cough, anorexia, vomiting, difficulty in respiration after taking one injection and two tablets therefore referred to SK hospital, Mymensingh but treated privately	-
60 M AG	Severe weakness, vertigo, itching, rash, anorexia, can't swallow foods, mental illness, referred to TB clinic but treated privately	Bed ridden, itching, rash, can't swallow foods, feared about BRAC treatment therefore treated privately	Bed ridden, vertigo, itching, rash, can't swallow foods, fear about BRAC treatment therefore treated privately
60 M AG (died after refer)	Severe weakness, can't swallow foods, urinary tract infection, referred to Mymensingh Medical College hospital	Severe weakness, can't swallow foods or talk, referred to Mymensingh Medical College hospital, diagnosed kidney problem	Severe weakness, anorexia, headache. Vomiting, can't swallow foods, referred to Mymensingh Medical College hospital

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