Management of Reproductive Tract Infections in Rural Bangladesh

Mohsin U Ahmed
Tanjina Mirza
Parveen A Khanum
Mehrab A Khan
Shameem Ahmed
Mobarak H Khan

International Centre for Diarrhoeal Disease Research, Bangladesh
Mohakhali, Dhaka 1212, Bangladesh

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Fax: 880-2-871568 and 880-2-883116
E-mail: barkat@cholera.bangla.net

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Contents

List of Tables

ABSTRACT

This study was undertaken to identify existing reproductive tract infection (RTI) treatment practices of the government family planning (FP) paramedics in rural Bangladesh. It also assessed the knowledge and perceptions of the clients about RTIs as well as the service-seeking behaviour of the clients and their husbands.

Data on paramedic treatment practices were collected by observing paramedic-client interactions at the Family Welfare Centres (FWCs) and Satellite Clinics (SCs). One hundred clients seeking RTI treatment were observed. The same clients were interviewed at departure from the health care facility to assess their knowledge and perceptions about RTIs as well as service-seeking behaviour of the clients and their husbands. Twenty four village practitioners were also interviewed to assess their knowledge on the subject.

Results of the study showed that in the treatment of RTI, paramedics of government family planning services commonly: i) did not do a physical examination, ii) used a substandard dosage of drugs, and iii) made no attempt to notify or treat male partners. Thirty-one of the 97 clients reported that their husband had some kind of genital problem.

It was revealed from the study that as an alternative to the government FP services, the clients and their husbands often seek RTI treatment from the village practitioners though the village practitioners' knowledge concerning RTI, however, is poor.

Based on the findings of this study, it is recommended that the knowledge and skills of the paramedics and village practitioners for RTI treatment be strengthened. Prevention of RTI through awareness campaigns is essential for the control of RTIs, and especially of STDs.

INTRODUCTION

Background

Interest in human reproduction has broadened from a purely demographic issue to a wider concern in its connection with the overall human well-being. One element of reproductive health that directly concerns human well-being is reproductive tract infection (RTI). Women and men are vulnerable to a variety of RTIs. RTIs are defined as infections of the reproductive tract caused by endogenous and/or exogenous organisms. Endogenous infections are caused by an overgrowth of organisms normally present in the reproductive tract. In Matlab, Bangladesh, for example, village women who used home-made rags to absorb menstrual blood were almost twice as likely to have bacterial vaginosis, an overgrowth of the normal flora of the reproductive tract, compared to women who used nothing during menses (1). Exogenous infections are of two types–sexually transmitted diseases (STDs) and provider-induced infections (iatrogenic). Sexually transmitted diseases are transmitted from one infected person to his/her sexual partner, primarily through sexual intercourses. Provider-induced infections result from procedures, such as abortion, childbirth, and IUD insertion performed under the unhygienic conditions (2,3). Postpartum infection, which falls into the latter category, has been found to account for up to 30 per cent of maternal deaths in the developing countries (4).

Due to the faulty study design, difficulties in reporting and specimen collection, and need for elaborate laboratory methods, data on the prevalence of RTI in the developing world are often difficult to interpret. According to population-based studies in Asia, the general prevalence of gonococcal cervicitis is 0.3-12 per cent, and trichomoniasis ranges between 5 and 30 per cent (5). Infections of the lower tract are common. For example, in India, the prevalence of 'white discharge' was found to be as high as 50 per cent (2).

Very few studies have been undertaken on the prevalence of RTI in Bangladesh. A community-based study conducted in Matlab showed that 22 per cent of the women reported symptoms of RTI, of which 68 per cent had laboratory evidence of infection (1). A study conducted in a family planning (FP) clinic in urban Dhaka found that about 95 per cent of the female clients

had one or more complaints suggestive of RTI (6). Final diagnosis after laboratory confirmation showed that 60 per cent of clients reporting symptoms actually had RTIs. A further analysis demonstrated that there was a significant relationship between the prevalence of RTI among women, and their husbands' genital problems. This finding indicates that treatment of the affected husbands is essential for the management of RTI. Service data collected in 1994 from the Family Welfare Centres (FWCs) and Satellite Clinics (SCs) at Abhoynagar, a subdistrict of Jessore district of Bangladesh, showed that more than 5 per cent of the women came with 'white discharge' as their chief complaint.

Common complications of RTI include infertility, ectopic (tubal) pregnancy, and cervical cancer, the most common cancer of women in the Third World (3,7). RTI also causes foetal wastage, low-birth weight, and congenital infection. Furthermore, STD facilitates the transmission of HIV. The risk of HIV transmission increases three- to ten-fold if an individual has an STD (8).

Evidence suggests that a series of complicated relationships exist between RTI and contraceptive use (8). RTI may lead to low acceptance and low continuation of contraceptive methods in two ways: directly, when a contraceptive user believes that the symptoms of infection are contraceptive-related side- effects; and indirectly, by creating a fear of limiting or delaying fertility in the face of frequent RTI complications (3). Studies in Bangladesh show that the most common reason given for discontinuing a contraceptive method is concern about its associated side-effects (9,10).

In Bangladesh, contraceptive discontinuation is a major concern (11). The results of the 1993-1994 Bangladesh Demographic and Health Survey indicate that one-half of the contraceptive users discontinue use within 12 months of starting a given method (12). Side-effects of the method or other health reasons are by far the most commonly cited reasons (21%) for discontinuation. Women with RTIs cannot be provided an IUD, and hence, are denied a long-term contraceptive option. Screening for RTI before IUD insertion is, therefore, essential in family planning services. RTIs themselves can also be caused by the improper insertion of an IUD.

Patients with RTIs can be treated at the Primary Health Care (PHC) facilities by general clinicians and paramedics, using a syndrome-based

approach, following the STD guidelines proposed by WHO. Where neither examination nor laboratory facilities are available, treatment must be based on the patient's history and on the prevalence of different types of infection in the community (13). In settings where a pelvic examination is possible, but laboratory facilities are not available, several authors have recommended treatment algorithms that use examination findings (such as the gross characteristics of the vaginal discharge and the location of abdominal tenderness), in addition to the patient's symptoms and the prevalence and morbidity of RTI (14).

Control of RTI caused by STD cannot be achieved by merely treating patients who attend health facilities. Partners need to be informed of their probable exposure to infection and offered medical and counselling services. The objective of partner notification is to break the disease transmission chain. Counselling and health education are equally important (15). Improving personal hygiene, avoidance of re-exposure, use of condoms, and referral of partners are the key aspects of counselling.

The FP service of the Ministry of Health and Family Welfare (MOHFW) of the Government of Bangladesh has an extensive network throughout the country. The availability of both male and female care-givers is the potential strength of service-delivery to the rural men and women. A static centre, called a Family Welfare Centre (FWC), serves every union (the smallest administrative unit of Bangladesh), with an average population of nearly 25,000. At each FWC there are two paramedics–one female Family Welfare Visitor (FWV) and one, usually male, Medical Assistant (MA). FWVs have 18 months' basic training in MCH-FP. MAs are trained for three years on managing general health problems. FWC is the focal point for providing of MCH-FP services. But, due to its static nature and distance from many of the union inhabitants, along with the limited mobility of Bangladeshi women, the government has mandated FWVs to organize satellite clinics twice a week at various sites in each union. The performance of the union paramedics is supervised by a thana manager and a medical officer.

It is the responsibility of FWVs to provide health education and care to pregnant and post-partum women and treat mothers and children suffering from minor ailments at FWCs and SCs. FWVs also insert IUDs, provide menstrual regulation services, and treat contraceptive-related side-effects.

MAs provide services at FWCs, but they also participate in the school health education forum. The services of FWCs and SCs are used primarily by women and children. Males comprise only 12 per cent and 3 per cent of the clients at FWCs and SCs respectively (16).

Three-to-four female field-workers (Family Welfare Assistants; FWAs) work at the grassroots level in each union and visit homes, providing MCH-FP counselling, oral contraceptives and condoms.

At present, FWVs are primarily responsible for the management of RTIs. The Bangladesh government has provided FWVs with an IUD manual which contains a screening protocol for RTI. This protocol includes pelvic examination. The manual recommends that a supply of doxycycline be reserved at FWCs for the management of RTIs resulting from IUDs. Mycostatin pessaries (vaginal suppositories) are also available for the treatment of RTI. There is also a supply of other drugs, like metronidazole and gentian violet, which can similarly be used for the management of RTIs.

Higher-level treatment of RTIs is available at the thana health complex (THC), a 31-bed general hospital which acts as the first referral hospital of the unions under its jurisdiction.

Rationale for the Study

RTIs are common in Bangladesh, and their management is an essential component of reproductive health services. Management of RTIs are also important because of their relationship with STDs and AIDS. Currently, the union-level FP providers, FWVs, and MAs are treating female clients for RTI. Identification of the treatment practices of these providers will provide us with a base, with which to work, to facilitate improvement in the quality of services.

Effective management of RTI requires treatment of the problems of the husbands too, but their use rate of union-level government FP services is currently very low. The existing service-seeking patterns of husbands, therefore, need to be explored. Being a disease of silence, RTI demands the exploration of client knowledge, service-seeking patterns, and perceptions. The disease can only be prevented and controlled once these factors are properly addressed.

OBJECTIVES

The overall objective of this study was to strengthen the management of RTIs through the use of the FP service-delivery system. The specific objectives were to identify:

i. existing treatment practices for RTIs among the union-level FP service providers;
ii. client knowledge and perceptions of RTIs; and
iii. service-seeking behaviour of clients and their husbands.

METHODOLOGY

Study Design

In the present descriptive study, data were collected from four sources: i) through observation of the interactions between RTI clients and paramedics of the union-level government FP services; ii) through exit interviews taken with RTI clients; iii) through interviews of the village practitioners; and iv) the service registers. Information collected through client-provider observation included physical examination, history, and advice given by the provider. For these clients, the register was consulted for the drugs used in the treatment of RTI. Exit interviews were taken since the same clients left the service centres. Clients were asked questions to determine their knowledge and perceptions about RTIs, as well as their service-seeking behaviour. Information about husbands was collected from the clients, and represents information from a wife's perspective.

Study Site

The study was conducted at Mohakal and Paira unions of Abhoynagar thana, Jessore district in south-western Bangladesh. Abhoynagar has a high-contraceptive prevalence rate (CPR). At the time of the study, the literacy rate of both males and females was higher than that of the national average (Census 1991). Abhoynagar thana is one of the field sites of the MCH-FP Extension Project (Rural) of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B).

Sample Size

One hundred clients who attended the two FWCs and 16 SCs (50 from each union) for treatment of RTI were observed and interviewed during June-October, 1995. These cases were observed on an experimental basis to fulfil the objectives of the study. Twenty-four village practitioners were also interviewed.

Instruments and Data Collection

Client-provider interactions were observed and recorded using a checklist. The list of drugs used by the providers was collected from the service

registers using a pre-designed form. A questionnaire containing both closed and open-ended questions was used for collecting information from individual clients. A structured questionnaire was also used to conduct interviews with village practitioners. Observations of client-provider interactions, exit interviews, and data from the service registers were collected by two female Senior Field Research Assistants (SFRAs). Interviews of the village practitioners were conducted by two male Field Research Officers (FRO). All were trained in conducting interviews, and had good working experiences, while SFRAs were also paramedics, having 18 months of Family Welfare Visitor's basic training from government institutions. The information collection were coded by the investigators and analyzed by using the statistical software package (SAS).

Variables

The following were the key variables of the study:

i. General characteristics of the clients and their husbands;
ii. Reproductive characteristics of the clients;
iii. Symptoms of the clients and their husbands;
iv. Service-seeking behaviour of the clients and their husbands;
v. Client knowledge and perceptions about RTI;
vi. Knowledge of village practitioners about RTI.

Limitations

Information was collected from areas where ICDDR,B has been involved for more than 10 years. Many interventions have previously been implemented in these areas for the improvement of the performance of paramedics in management and FP service-delivery. But prior to this study, the clinical work of FWVs and MAs, especially in the treatment of RTI, has not been the target of intervention or training. Information about the husbands of the clients were not collected directly from the husbands, and must therefore be treated as secondary. Since only one geographical area was considered for the study, findings may not represent the whole country. Moreover, the sample size is extremely small, so the findings should be interpreted as suggestive rather than as constituting statistical proof.

RESULTS

General Characteristics of Clients and their Husbands

One hundred clients attended FWCs and SCs for the treatment of RTIs. Ninety-seven of these were currently married. Two clients were widows, and one never married. Husbands of 12 of the clients had at least one other wife, and 20 husbands were required, by their occupations, to spend some nights away from home (Table 1).

Table 1: General characteristics of clients and their husbands

Characteristic	No. of clients (n = 100)	No. of husbands (n = 97)
Age (years)	06	
< = 20	76	Not available
21-35	18	
36-45 +		
Education		
No schooling	47	43
1-5 years	35	24
5 + years	18	30
Occupation		
Housewife	90	-
Small business	08	-
Agriculture	-	47*
Business	-	26*
Service/professional	02	25
Labour	-	17
Other	-	02
Religion		
Muslim	75	75
Hindu	25	22

* Multiple responses counted

Reproductive Characteristics of Clients

Table 2 shows that one-half of the clients who attended for RTI services were mothers who had children aged less than one year. This could be due to unsafe delivery practices in rural Bangladesh. Sixty-nine clients were currently using a contraceptive method. At Abhoynagar, the rate of IUD use, as a method mix, was 6.5 per cent in 1995. The proportion of IUD users seeking RTI services was much higher than that of other methods. This disproportion could be due to a lack of prior screening and/or unhygienic insertion of IUDs. Alternatively, IUDs may make clients more sensitive to the symptoms of RTIs. None of the clients were condom-users.

Table 2: Reproductive characteristics of clients

Characteristic		No. of clients
No. of pregnancies		**n=99**
0		6
1-2		47
3-4		29
5-5+		17
Age of last living child (years)		**n=93**
<1		50
1-2		16
3-4		08
5-5+		19
Current contraceptive method-mix	**Study area**	**Abhoynagar***
Oral pill	30.4%	39.8%
Injectable	30.4%	27.9%
IUD	27.5%	6.5%
Sterilization	11.7%	16.8%
Condom	00.0%	9.0%

* Entire thana

Symptoms of Clients and their Husbands

White discharge was the most common symptom of the clients, followed by lower abdominal pain and itching genitalia. Both white and colourless discharges were recorded as "white discharge" for the purpose of this study. Thirty-one clients reported that their husbands had some symptoms suggestive of an STD. The most common symptom was itching. Clients were also asked about the duration of their suffering. Most clients reported that they did not suffer continuously, but had intermittent periods of well-being. Taking into consideration the continuity of the disease and the possibility of reinfection, the total period, or duration of suffering, was calculated. The mean duration of suffering was 4.5 years for the clients, and 4 years for their husbands (Table 3).

Table 3: Clients and their husbands' RTI symptoms

Symptoms	No. of clients (n = 100)	No. of husbands (n = 31)
White discharge	98*	-
Lower abdominal pain	30	-
Blood stained discharge	05	-
Itching genitalia	30	23
Burning during micturition	06	10
Ulcerous genitalia	01	01

* Multiple responses counted

Service-seeking Behaviour of Clients and their Husbands

Clients were asked about the RTI treatment methods they had previously used. Ten of the clients reported that they had tried home remedies. Among these, three clients had reportedly tried 'local application of a paste made from the leaves or peels of the plants, *Neem* and *Helancha*. Two other clients reported drinking 'water soaked overnight with *Neem/Henna* leaves'. Another client said that she drank 'the juice/extract of roots of *Shish*

Akand'. Drinking holy water, a mixture made from coconut water, *'misree'* (unrefined sugar), and herbal substances made from *Hartaki* (Myrobalan), *Amloki* (Emblic Myrobalan) were also tried by some clients. Washing the genitalia with a solution of common salt or potassium was also reported. None of the clients mentioned the use of home remedies by their partners for RTI/STD.

Thirty-three of the 100 clients interviewed did not seek any treatment previously from other sources; the current visit to FWC/SC was their first attempt outside the home. Table 4 shows that 67 clients sought some kind of services prior to their current visit to FWC/SCs. Of them, 31 (18+13) sought services from qualified providers, including paramedics of FWC/SC and MBBS private practitioners. None of the husbands, however, visited a FWC/SC for their problems, but 12 were treated by qualified practitioners. Clients reported that they visited non-qualified village practitioners, such as herbal (kabiraj), quack (practising allopathic) and untrained homeopath practitioners, with their husbands for RTI treatment.

Table 4: Service-seeking behaviour of clients and their husbands

Service provider	Clients (n = 100)	Husbands (n = 31)
Qualified	18	05
Unqualified	36	12
Qualified + unqualified	13	07
Never visited/don't know	33	07

Treatment by Paramedics

The treatment practices of the paramedics were assessed against four criteria: i) history-taking procedure, ii) physical examination, iii) drugs used, and iv) advices given to the clients. It was observed that in only 30 of the 100 cases, paramedics requested information regarding the history of the diseases. Even in these cases, the discussion was limited to the duration of

suffering. The tendency was to prescribe drugs immediately after knowing the complaints. Although facilities for pelvic examination are available at all FWCs, none of the clients were physically examined - either externally or internally. Facilities are limited in SCs, since these are held in households. However, in some SCs of the study area, IUD insertion has been done.

Information on types of drugs and dosage prescribed for the 100 clients were collected from the service registers. Table 5 shows the drugs prescribed for RTIs by the number of clients. The '+' sign indicates the use of some additional drugs, such as paracetamol, spasmolytic, iron, penicillin, etc. The most commonly prescribed drug was metronidazole tablet. The other three clients were referred to Abhoynagar Thana Health Complex (THC). Doxycycline should have been available at the static centres for the management of IUD-related side-effects, but in practice, it was only sporadically supplied. Of the clients who were treated with metronidazole 400 mg, three-fourths were prescribed less than the 14-tab standard dose.

Table 5: Types of drugs prescribed by paramedics

Name of drug	No. of clients (n = 100)
Metronidazole 400 mg	53
Metronidazole +	10
Nystatin vaginal pessaries	18
Nystatin vaginal pessaries +	02
Gentian violet	10
Gentian violet +	01
Cotrimoxazole 480 mg	03
Others	03

Observation of the client-provider interactions revealed that paramedics provided some sort of advice to more than half of the clients. However, the advices were mainly drug-related. Table 6 shows the advices provided by paramedics. Personal hygiene-related advice was to use clean water and wear clean clothes. No advice was given regarding treatment of the husbands or safe sex.

Table 6: Providers' advice to clients

Advice	No. of clients (n = 100)
Drug intake	47
Personal hygiene	09
Referral	00
Follow-up visit	01
Advice not given	43

Client Knowledge and Perception about RTI

All 100 clients who attended for RTI services were asked questions to identify their knowledge and perception about RTIs. Local terms used for white discharge include 'Dhatu bhanga', 'Sada srab', 'Kuskee dhatu'. Findings showed that about two-thirds of the clients were not familiar with the causes of RTI. 'Physical weakness' (undernutrition) and 'dryness' (wasting malnutrition/dehydration) were perceived as causes of RTI by 16 clients. Nine clients mentioned that contraceptives (injectable and IUD) caused RTI. Using an infected person's cloths, unclean menstrual rags, and bathing in unclean water were other reasons given by the clients.

Table 7 shows perceptions of clients. Three-fourths of the clients did not know how RTIs are transmitted. Further analysis show, however, that when sexual transmission was suggested, the response went up by more than 33 clients. Some of the clients mentioned that men who visit "red light"

areas or have extramarital sex, transmit RTI to their partners. Two-thirds of the clients did not know how RTI is prevented. Ideas, such as using clean menstrual rags, washing genitalia after sex and using clean water after defaecation were all recorded as "maintaining personal hygiene."

Table 7: Transmission and prevention of RTI as perceived by clients

Means of transmission/prevention	No. of clients (n = 100)
Transmission	
Using clothes of infected person	21
Sexual contact with infected person	16
Using public toilet	03
Others	04
Don't know	75
(Multiple responses counted)	
Prevention	
Maintaining personal hygiene	20
Abstinence	05
Avoidance of multiple partners	03
Use of condom	01
Others	04
Don't know	47
(Multiple responses counted)	

'Durbolata' (general weakness) was reportedly experienced by 94 clients. Client perception surrounding the 'white discharge' was that it "drains away all 'shokty' (strength) leading to 'neeshokty' (weakness)". Over one-half of those questioned reported that RTIs cause blurring of vision, dizziness and burning hands and feet. Six clients mentioned that "discharge

causes sores at 'nareer mukh' (opening of the uterus, cervix)". Clients were also asked about social notions surrounding RTI. The majority of the clients expressed that it is a matter of shame and guilt. Two of the clients said that their husbands were dissatisfied with sexual intercourse since they had contracted RTIs. Decreased libido and discomfort during sex were reportedly felt by three other clients.

Village Practitioners' Knowledge of RTI

Twenty-four unqualified village practitioners (13 practising allopathy, 11 practising homeopathy) of the study area were interviewed to assess their knowledge about RTI/STD. It was revealed from the interviews that RTI was not well understood among the respondents. None of the practitioners mentioned a microorganism as the cause of infection. Many of them mentioned the terms 'syphilis' and 'gonorrhoea' but could not relate these terms with symptoms. Some misconceptions regarding the effects of RTI were found among them. These included early ejaculation, impotency and changes in shape of the genitalia. Perceived means of transmission and prevention are presented in Table 8. It can be concluded that knowledge of the unqualified practitioners was limited, but virtually all recognized that RTIs are often sexually transmitted, and safe sex is a means of prevention.

In comparison to the unqualified village practitioners, paramedics serving at FWCs and SCs received basic training, which includes the study of RTI. The IUD manual, available at the health centres for the use of the paramedics, emphasizes screening for RTI and procedures for hygienic IUD insertion. Knowledge of the paramedics was not assessed in this study because they were small in number. Their knowledge, however, is reflected in their use of drugs.

Table 8: Transmission and prevention of RTI as perceived by village practitioners

Means of Transmission/Prevention	Unqualified practitioners	
	Allopathy (n = 13)	Homeopathy (n = 11)
Transmission		
Sexual contact	13	09
Clothing	04	07
Using unclean water	01	01
Passes through urine	03	02
Hereditary	00	01
Frequent sex	00	01
Food	00	01
(Multiple responses counted)		
Prevention		
Avoid multiple partners	12	08
Avoid clothing	01	01
Condom use	05	00
Don't know	00	03
(Multiple responses counted)		

DISCUSSION

Clients of this study generally share one of the following two characteristics - having a child aged less than one year, and IUD use. The high incidence of RTIs among these clients could be due to unhygienic delivery practices and improper IUD insertion. In Bangladesh, home delivery is almost universal (96%). The Bangladesh Demographic and Health Survey 1993-1994 showed that the majority of deliveries (90%) were attended by traditional birth attendants or relatives. Poor delivery practices may be assumed to be a major potential source of RTIs. Poor hygiene during IUD insertion appears also to contribute to RTIs. About 37 per cent of the IUD users have the device removed within the first year of use. The findings of this study strengthen the association between unhygienic practice of delivery and IUD insertion with RTI.

Knowledge of the clients about RTI is low. Less than one-third of the clients did not have any idea of causes, means of transmission, or prevention of RTIs. About one-third of the husbands reportedly had some kind of genital problem. One-fifth of the husbands, due to the nature of their work, occasionally spent nights outside the home. Some of the husbands had other wives, and some of the women believe that their husbands were involved in extra-marital sex. These factors may be the indicators of high-risk sexual practice.

Clients and their husbands sought services from both the qualified and unqualified providers. The findings reveal that the unqualified providers were consulted more by the clients and their husbands. Regardless of the lack of their training, however, most unqualified allopathic and homeopathic providers have correct but limited knowledge about the transmission and prevention of RTIs. The scope of this study does not include examination of the rationale of drug use, but the level of village practitioner's knowledge observed during the study indicates that they are able to absorb new ideas.

FP paramedics have not been providing adequate RTI services to the clients, probably due to the limited facilities and the depth of training they

have received. Steps, such as history-taking and physical examination, are critical in the proper diagnosis of a patient's problem. Paramedics did not ask about the duration or course of the problem, history of treatment, contraceptive use or husband characteristics, resulting in diagnosis taking place without any adequate information. Physical examinations reveal invaluable information. A simple abdominal examination can confirm lower abdominal pain associated with pelvic inflammatory disease (PID). Speculum examination permits the inspection of the cervix, and pelvic examination also helps diagnose. The duration of suffering of the clients studied, was long, which means one of two things: either the infection was chronic in nature, or reinfection occurred. Physical examinations would allow the provider to more readily identify the type and degree of the problem, which would subsequently help in drug choice.

Studies in Bangladesh (5,6) indicate that the most common type of infection for female RTI is bacterial vaginosis, which is sensitive to metronidazole. The clinics have been dispensing metronidazole, but in substandard dosages. Since they are trained paramedics, it can be assumed that they are aware of the proper dose. Substandard dosages may be due to the shortage of supply. A recent study, conducted on the disease patterns, treatment practices and drug requirements (14), has recommended a revision in the drugs supplied to FWCs and SCs.

Other deficiencies exist in the present FP programmes, which need to be addressed. Paramedics, in their current practice, do not provide health education to their clients regarding RTI. Their advice is limited to drug dosage, and needs to include such recommendations as husband notification and treatment. Since male paramedics are now only available at FWCs and not at SCs, the accessibility to service centres run by qualified providers is minimal for males. More emphasis on males by the FP programmes would help eliminate this inordinate segregation of services.

RECOMMENDATIONS

RTI is prevalent in Bangladesh and it is considered a disease of silence. Although RTI predominantly affects women, some of RTIs are also STDs, which are transmitted from and to husbands (male partners). In Bangladesh, HIV infection is emerging, and the presence of RTIs will indeed facilitate HIV transmission. Hence, it is essential that women and men increase their knowledge about RTIs. The frontline workers of the government health and family planning programme can be used to disseminate required information.

Unqualified village practitioners have traditionally been involved with the RTI/STD management. Women, and specially their husbands, seek services from such providers. Training at the local level (THC) can improve the knowledge and skills of the village practitioners. A mechanism for referral could also be established from the village practitioners to THC.

The family planning programme of Bangladesh has reached a transition level. The national contraceptive prevalence rate (CPR) is 45 per cent. Increasing or even maintaining this rate will demand more better quality of service. Furthermore, the International Conference on Population Development (ICPD, Cairo, 1994) has designated RTI management as a component of reproductive health services. Thus, measures to prevent provider-induced RTIs and promote proper management of RTI cases, (including partner treatment) will be necessary to complete the constellation of family planning services.

Based on the findings of the study, it is recommended:

i. To organize an appropriate, awareness-raising campaign, targeting both rural males and females;

ii. Involve village practitioners in referral; and

iii. Organize refresher training of paramedics with emphasis on RTI management guidelines.

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A Brief History of ICDDR,B

1960	Cholera Research Laboratory established
1963	Matlab field station started
	First of a series of cholera vaccine trials launched
1966	Demographic Surveillance System established
1968	First successful clinical trials of Oral Rehydration Solution (ORS)
1969	Relationship between stopping breast-feeding and resumption of menstruation demonstrated
1971	Independence of Bangladesh
1973	Shift from Classical to El Tor cholera identified
1977	Maternal Child Health and Family Planning interventions began in Matlab
1978	Government of Bangladesh Ordinance establishing ICDDR,B signed
1981	New Dhaka hospital built
	Urban Volunteer Programme initiated
1982	Classical cholera returned
	Field testing of cereal Oral Rehydration Solution began
	Clinical sub-centres established in Matlab
	MCH-FP Extension Project began
1983	First issue of the Journal of Diarrhoeal Disease Research
	Epidemic Control Preparedness Programme initiated
1984	ICDDR,B received UNICEF's Maurice Pate award
1985	Full Expanded Programme of Immunization activities tested in Matlab
	WC/BS cholera vaccine trial launched
1987	ICDDR,B received USAID's "Science and Technology for Development" award
1988	Treatment of and research into Acute Respiratory Infection began
1989	The Matlab record keeping system, specially adapted for Government use, extended to the national family planning programme
1990	The new Matlab Health and Research Centre opened
1992	ICDDR,B-Bangladesh Rural Advancement Committee study commenced
1993	New laboratories built and equipped
	New *Vibrio cholerae* 0139 - Bengal identified and characterized, work on vaccine development began
1994	Twenty fifth anniversary of ORS celebrated
	ICDDR,B epidemic response team goes to Goma to assist cholera-stricken Rwandan refugees, identifies pathogens, and helps reduce mortality from as high as 48.7% to < 1%
1995	Maternal immunization with pneumococcal polysaccharide vaccine shown to protect infants up to 22 weeks