

# Lymphatic Filariasis (LF): Treatment Receiving Types in Bangladesh

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## ABSTRACT

**Background:** Lymphatic filariasis impairs the lymphatic system and can lead to the abnormal enlargement of body parts, causing pain, severe disability and social stigma. 856 million people in 52 countries worldwide remain threatened by lymphatic filariasis and require preventive chemotherapy to stop the spread of this parasitic infection. Lymphatic filariasis can be eliminated by stopping the spread of infection through preventive chemotherapy with safe medicine combinations.

**Objectives:** This survey based experiment was designed to assess the type of treatment received by filariasis patients in Bangladesh.

**Materials and Methods:** The study was a cross sectional descriptive type of case-control study. 102 patients and 82 controls were participated in this survey. The collected data was entered in MS Excel 2007 and further analysed for the descriptive statistics as well as students t-test was performed by using SPSS 16.0.

**Results:** It was found that 85 patients among 102 case respondents took allopathic, homeopathic, kabiraj, peer-fakir (spiritual), quack and others types of treatments 88.2%, 3.5%, 2.4%, 0.0%, 3.5% and 2.4% respectively. 17 patient among 102 case respondents and 14 controls among 82 control respondents did not took different types of medications due to financial problem, negligence, lack of knowledge and others.

**Conclusion:** The present study showed that 11.2% patients took alternative medicine by avoiding allopathic medications. The finding of the present study is helpful to make a national plan or guideline for medication to eradicate Lymphatic filariasis.

**Key words:** Treatment Types and Lymphatic Filariasis.

## INTRODUCTION

Lymphatic filariasis is widespread throughout the tropical and subtropical areas of Asia, Africa, the Western Pacific and some parts of the Americas, <sup>(1)</sup> where it is a major cause of acute and chronic morbidity affecting persons of all ages and both sexes. Not only does it lead to great personal suffering from its disabling and disfiguring

lesions, but it is also a significant impediment to socioeconomic advancement, both locally and nationally. <sup>(2)</sup>

More than 1.1 thousand million people (20% of the world's population) now live in areas where they are at risk of infection with lymphatic filarial parasites, <sup>(1)</sup> and a minimum of 120 million people are currently infected (about 107 million with

*Wuchereria bancrofti* and 13 million with *Brugia malayi* or *Brugia timori*). A total of 44 million persons currently suffer from one or more of the overt manifestations of the infection: lymphoedema and elephantiasis of the limbs or genitals, hydrocele, chyluria, pneumonitis, or recurrent infections associated with damaged lymphatics. The remainder of the 120 million infected have "preclinical" hidden damage of their lymphatic and renal systems;<sup>(3)</sup> and to this burden of disease must also be added the serious psychosocial consequences that these profoundly disabling lesions often have, including the seldom mentioned sexual/social dysfunction of men of all ages afflicted with hydroceles or other genital abnormalities and of young women with lymphoedema of the breasts or genitals.<sup>(4)</sup>

Lymphatic filariasis (LF) is a disease not just treatable or controllable; it is a disease that can be eliminated. Indeed, LF is currently the target of a major global initiative to do just that; a few visionaries of the past 50 years did hypothesize that LF elimination was feasible. However, for most of the scientific and global health communities, the elimination of such a broadly disseminated, mosquito-borne disease has seemed highly unlikely. During the past decade, however, both the treatment strategies and the control strategies for LF have undergone profound paradigm shifts—all because of a rapid increase in knowledge and understanding of LF that derived directly from a series of remarkable achievements by the scientific and medical research communities. Global community is working hard to eliminate and control this health burden issue via medication. Situation in respect of medication types among the filariasis affected people are largely unknown.<sup>(5)</sup> No such study has yet been carried out in Bangladesh. This study was designed to assess the medication receiving types followed by filariasis patients in Bangladesh. 102 case respondents and 82 control respondents were participated in this study.

## **MATERIALS AND METHODS**

**Study Design:** The study was a cross sectional descriptive type of case-control study. The component of the study was to assess the types of medications received by the filariasis affected people.

**Study Location:** Two Unions, namely Satpoa and Mohadan of Sharishabari upazila under Jamalpur district which in as endemic area of filariasis.

**Study Subjects:** The study subjects included filariasis affected patients as case subjects and normal persons matched with age and sex as well as occupation (if possible) as control subjects.

**Selection of Households and Subjects:** The study households were selected purposively. The households having filariasis affected person were selected as case households and the affected person was treated as case subject. The households, without any filariasis affected person, with same socio-economic status, but with a counter normal person of same age, sex as well as occupation if possible, adjacent to the case households were selected as control households and normal counterpart was treated as control subject. The case subjects were selected through physical and clinical examination of all the case household members, through visiting door to door by the trained health assistants. Any affected person irrespective of age and sex if found in any household was selected as case household and listed serially. In this way the selection of case households was going on until the requisite member of 102 cases were reached. The selection case households were done prior to the data collection by the survey team on a later period. But the control households and control subjects were selected during survey from adjacent area/para by matching their age, sex and occupation with those of case subjects by visiting door to door and in this way 82 control households were selected.

**Survey Instrument:** One printed structured questionnaire in Bengali was used for data collection. The questionnaire was consisted of quarries on treatment types.

**Method of Data Collection:** Both the teams were deployed in Sharishabari Upazila at a time. Both teams stayed together in the Upazila health complex compound during the whole period of data collection and they conducted the survey in one union by one team. In each union data was collected by 5 female enumerators under close supervision of the field supervisor. One senior official from INFS, Dhaka University was accompanied with the teams for proper supervision of data collection and he stayed with the teams for about 7 days. Information regarding treatment were collected by a personal interview with the filariasis affected respondents as well as control subjects. In case of children respondent, data was collected by interviewing their mothers.

**Data Management and Analysis:** Data analysis was carried out according to the detail tabulation plan using standard computer package the findings of case respondents were compared with the. Individual means were tested by using simple t-test, and the prevalence between two groups was tested using Pearson Chi-square. The results were presented in tabular form.

## RESULTS

In this study a total of 300 households were surveyed of which 150 were case households with filariasis patients and 150 households were control without filariasis. Table1 shows the socio-demographic and economic characteristics of the 150 filariasis patients as case group and 150 counter parts without having filariasis. Mean age was 36.3 years in case and 36.0 years in control groups. By sex, 82.7% of the case respondents were male and 17.3% were female, compared to 84.0% and 16.0% respectively in control group which were similar in nature (Figure-1). The differences in education level between case and control group were not significant ( $p>0.05$ ). By occupation, among the case respondents, 10.7% were farmer, 12.7% labor, 12.7% businessman, 13.3% service

holder, 12.7% students and 14.0% housewife. The corresponding percentages of control respondents having these occupations were 14.0%, 10.0%, 16.0%, 12.7%, 13.3 and 15.3% respectively and the differences between groups were not significant ( $p>0.05$ ) (Table-1)

**Table1. Socio demographic and economic characteristics of the study subjects**

Characteristics	Case		Control		P value
	No.	%	No.	%	
<b>Age group (Years):</b>					1.000
6 – 10 (children)	15	10.0	15	10.0	
10 – 19 (adolescent)	23	15.3	24	16.0	
20-29	10	6.7	10	6.7	
30-49	63	42.0	64	42.7	
50-59	24	16.0	22	14.7	
60 & above	15	10.0	15	10.0	
Total	150	100.0	150	100.0	
Mean age	36.3±19.1		36.0 ±19.0		
<b>Sex:</b>					
Male		82.7		84	
Female		17.3		16	
<b>b. Marital status:</b>					0.652
Unmarried	48	32.0	44	29.3	
Married	97	64.7	101	68.7	
Others	5	3.3	3	2.0	
Total	150	100.0	150	100.0	
<b>c. Educational status</b>					0.840
Illiterate	31	20.7	34	22.7	
Can sign only	39	26.0	41	27.3	
Primary level	35	23.3	28	18.7	
Secondary level	25	16.7	31	20.7	
SSC	6	4.0	5	3.3	
HSC	3	2.0	1	0.7	
Graduate	11	7.3	10	6.7	
Total	150	100.0	150	100.0	
<b>d. Occupation</b>					0.275
Farmer	16	10.7	21	14.0	
Labour	19	12.7	15	10.0	
Driver	10	6.7	1	0.7	
Business man	19	12.7	24	16.0	
Service	20	13.3	19	12.7	
Student	19	12.7	20	13.3	
Professional	2	1.3	1	0.7	
skilled labour	4	2.7	8	5.3	
Housewife	21	14.0	23	15.3	
Others	20	13.3	18	12.0	
Total	150	100.0	150	100.0	

Table-2 shows that 85 patients among 102 case respondents and 68 controls among 82 control respondents took allopathic, homeopathic, kabiraji, quack and others types of treatments respectively. Among 85 patients of 102 case respondents 88.2%, 3.5%, 2.4%, 3.5% and 2.4% took allopathic, homeopathic, kabiraji, quack and others types of treatments respectively. Among the control respondents it was found that they 75%, 19.1%, 4.4%, 1.5% and 0.0% took allopathic, homeopathic, kabiraji,

quack and others types of treatments respectively. Here the significance level between two groups found significant.

**Table2. Distribution of respondents by type of treatment received**

Type of treatment received	Case		Control		Significance level
	No	%	No	%	
Allopathic treatment	75	88.2	51	75.0	0.015
Homeopathic treatment	3	3.5	13	19.1	
Kabiraji treatment	2	2.4	3	4.4	
Peer-fakir/spiritual	0	0.0	0	0.0	
Quack doctor	3	3.5	1	1.5	
Others	2	2.4	0	0.0	
Total	85	100.0	68	100.0	

Table-3 presents 17 patients among 102 case respondents and 14 controls among 82 control respondents did not take any treatment like allopathic, homeopathic, kabiraji, quack and others. Among 17 case respondents 35.3%, 35.3%, 17.6%, 0.0% and 11.8% did not take any type of treatment due to poor socio-economic condition, negligence, lack of knowledge, lack of communication or transportation and others respectively. Among the control respondents it was found that they 21.4%, 42.9%, 7.1%, 7.1% and 21.34% did not take any type of treatment due to poor socio-economic condition, negligence, lack of knowledge, lack of communication or transportation and others respectively. Here the significance level between two groups found non-significant (0.568 in lieu of >0.05).

**Table3. Distribution of respondents according to the reasons of not taking treatment**

Reasons of not taking treatment	Case		Control		Significance level
	No	%	No	%	
Poor socio-economic condition	6	35.3	3	21.4	0.568
Negligence	6	35.3	6	42.9	
Lack of knowledge	3	17.6	1	7.1	
Lack of communication / transportation	0	0.0	1	7.1	
Others	2	11.8	3	21.34	
Total	17	100.0	14	100.0	

## DISCUSSION

In recent years, globally more attention has been brought to bear on eliminating the so-called neglected tropical diseases (NTDs), one of them is LF. This recognition has brought to the fore the fact that, although human immunodeficiency virus/AIDS, malaria and tuberculosis kill millions, about a billion more people are at risk and many more millions are infected with NTDs, with many being infected with more than one. Thus, any community/societal development that would improve the health infrastructure that could help combat the big three tropical diseases would be hindered if NTDs were not targeted as well. (6-7) this study showed that in Bangladesh many patients neglect this disease regarding treatment or control. From this study it was found that 17 patient among 102 case respondents and 14 controls among 82 control respondents did not take different types of medication due to financial problem, negligence, lack of knowledge and others.

## CONCLUSION

Patent asymptomatic infection (microfilaraemia) of lymphatic filariasis often generates acute and consequently chronic disease. Acute disease causes severe disability and incurs considerable treatment costs. (8) However, these studies showed that majority of the patients seek allopathic treatment. Lymphatic filariasis impairs economic activity in 53% to 88% of the patients in the form of working fewer hours, altered activity, changing jobs and stopping work. (9) As such if proper awareness regarding treatment as well as suitable facilities is not established then chances of more infected people will increase. This will increase family burden and eventually social burden.

## Conflict of Interest

The authors declared none of the conflicts of interest.

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