

Original Article**Year: 2016 | Volume:4 | Issue-2****Assessing Coverage and Compliance of Mass Drug Administration under Elimination of Lymphatic Filariasis Program in Malda District, West Bengal****Dr. Louis Tirkey¹, Dr Debjani Sengupta¹, Dr Subhrajyoti Naskar¹, Dr Sarmistha Ghosh², Dr Md Naimul Hoque³, Dr Moumita Goswami³, Dr. Nirmal Kumar Mandal⁴**¹Assistant professor, ³Demonstrator, ⁴Professor & Head, Department of Community Medicine, Malda Medical College, Malda.²Demonstrator, Department of Community Medicine, Medical College, Kolkata.**Corresponding author:**

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Abstract:

Background: Lymphatic filariasis, commonly known as elephantiasis, is a neglected tropical disease. Evaluation of mass drug administration (MDA) is done internally by the health authorities and externally by independent agencies. This paper reports the findings of evaluation of MDA conducted in Malda district of West Bengal state in May-June 2015. **Objectives:** To assess the

Coverage & Compliance rates of MDA against lymphatic filariasis and to study the factors influencing non-coverage and non-compliance in Malda district. **Materials & Methods:** A Community based cross-sectional study was conducted in three selected rural blocks and one municipality. Family was the unit of sampling in the current MDA coverage survey. 30 families in each of four clusters were taken

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as samples. Cluster sampling technique was adopted. The data was collected in a pre-designed semi-structured proforma from 120 households. **Results:** 564 eligible population 120 families were studied and 50.53% of them were males. Predominant respondents were male (92%) with average age 40.7 years. The Diethylcarbamazine citrate plus Albendazole coverage rate was 95% and the compliance rate was 71.6%. The major reason for non-compliance was due to fear of side effects amounting to 58%. Only 4 persons reported adverse effects after drug consumption. **Conclusion:** Though distribution was high,

Introduction:

Lymphatic filariasis, commonly known as elephantiasis, is a neglected tropical disease. The painful and disfiguring visible manifestations of the disease, lymphoedema, elephantiasis and scrotal swelling occur later in life and lead to permanent disability. These patients are not only physically disabled, but suffer mental, social and financial losses contributing to stigma and poverty. Currently, 1.23 billion people in 58 countries are living in areas where lymphatic filariasis is transmitted and are at risk of being infected. Approximately 80% of these people are living in 10 countries including India¹.

The World Health assembly took the resolution in 1997 for Global elimination of Lymphatic filariasis. AS signatory to this resolution the Government of India took steps towards elimination of the disease in India by 2015. In pursuit of the goals, the Government

many people were not consuming drugs. Consumption was not properly supervised and there was misconception prevailed among workers about time of consumption. A high level of motivation and commitment from the drug distributors with adequate training is required for ensuring a high coverage and compliance rates. Supervision should be strengthened to improve consumption and misconception should be eliminated through training.

Key words: Lymphatic Filariasis; Coverage, Mass Drug Administration, Diethylcarbamazine citrate

of India launched in 2004 nationwide Annual Mass Drug Administration (MDA) of single dose of DEC (Diethylcarbamazine citrate) and Albendazole for 5 years or more to the eligible population (except pregnant women, children below 2 years of age and seriously ill persons) to interrupt transmission of the disease as well as home based morbidity management, scaling up hydrocelectomies in hospitals and CHCs. The population coverage during MDA has improved from 73% in 2004 to 83% in 2013 (Prov.) which has resulted in the overall reduction of microfilaria rate from 1.24% in 2004 to 0.29% in 2013 (Prov.). Intensive social mobilization during MDA, have been carried out by various states/ UTs involving political/ opinion leaders, decision makers, local leaders and community. All the districts have completed more than 5 rounds of MDA by the end of 2013².

In May-June 2015, few weeks after one such MDA, a household survey was conducted in

the Malda district of West Bengal to evaluate coverage and compliance.

Objectives:

Objectives of the survey were as follows:

1. To calculate the coverage of the MDA for Filaria in the area under survey.
2. To identify the adverse effect following drug consumption

3. To identify the reasons for non-consumption of MDA drugs.

4. To find out any loopholes of the programme.

Materials & Methods:

Type: A community based cross-sectional study was done.

Area of study: The study was conducted in English Bazar Municipality and three rural blocks at Manikchak, Ratua - II, and Kaliachak-1 of Malda District.

Period: Study was conducted in May-June 2015.

Sample size & technique: Family was the unit of sampling in the current MDA coverage survey. 30 families in each of four clusters were taken as samples. Cluster sampling technique was adopted. Pregnant women, children less than 2 years and severely ill were excluded from the study.

Study tools: A predesigned semi-structured questionnaire was used for data collection.

Procedure: Before data collection permission was sought from the Principal, Malda Medical College & Hospital. The faculties were divided into four teams and each team comprised of two faculty members. The study subjects were briefed about the purpose of the study. The interview was done using pre-designed semi-structured schedule and data was collected form 120 household by house to house visit by the faculties from English Bazar Municipality and the three rural blocks of Malda district.

Data analysis: Collected data were put in excel sheet & simple proportion was calculated.

Results:

A total of 564 constituted the study population of 120 families residing in four selected areas, of them, 285(50.53%) were males & 279

((49.47%) were females. 86 (15.25%), 127(22.52%) & 351 (62.23%) were belonging

to 2-5 yrs, 6-14 yrs & ≥15 yrs age group respectively. [Table-1]

Table 1: Age group-wise distribution of the population under study.

Block/ Municipality	2-5 yrs			6-14 yrs			≥ 15 yrs			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
EBM	12	8	20	13	20	33	43	46	89	68	74	142
Manikchak	15	9	24	8	13	21	48	43	91	71	65	136
Ratua -II	12	5	17	23	20	43	47	48	95	82	73	155
Kaliachak-I	13	12	25	14	16	30	37	39	76	64	67	131
Total	52	34	86	58	69	127	175	176	351	285	279	564
	(60.47)	(39.53)	(100)	(45.67)	(54.33)	(100)	(49.86)	(51.14)	(100)	(50.53))	(49.47)	(100)

Number in parenthesis indicates percentage

97.5% families received drugs, 85.8% consumed, but only 43.3% family members consumed drugs immediately. One family in Ratua II & 2 families in Kaliachak-I did not receive any

drugs. Consumption was maximum in Manikchak (96.67%) & minimum in English Bazar Municipality (73.33%), where no one was found to consume it immediately. [Table-2]

Table 2: Distribution of families according to drugs distribution & consumption

	EBM n=30	Manikchak n=30	Ratua –II n=30	Kaliachak-I n=30	Total n=120
Drugs received	30 (100.00)	30 (100.00)	29 (96.67)	28 (93.33)	117 (97.5)
Drug consumed	22 (73.33)	29 (96.67)	27 (90.00)	25 (83.33)	103 (85.83)
Drug consumed immediately	0 (0.00)	20 (66.67)	21 (70.00)	11 (36.67)	52 (43.33)

Values in parenthesis are percentages

The coverage rate for DEC plus albendazole was 95% & the compliance rate was

71.63%. Compliance refers to actual consumption of the drug by the community.

Only 25% got these under supervision. Out of 142 eligible persons in EBM, 100% received both of the drugs, but 71% consumed them, which were supervised only in 17.6% cases. In Kaliachak, out of 131 eligibles, 83.9%

received both of the drugs, but only 33.6% consumed them, while supervision was much less (only 22%). Supervised drug consumption was not reported in Ratua-II block. [Table-3]

Table 3: proportion of eligible persons receiving & consuming drugs

	Total eligible persons	Both drug received No (%)	Both drugs consumed No (%)	Both supervised No (%)
EBM	142	142(100.00)	101(71.13)	25(17.60)
Manikchak	136	134(98.53)	121(88.97)	88(64.70)
Ratua -II	155	150(96.77)	138(89.00)	0(0.00)
Kaliachak-I	131	110(83.97)	44(33.59)	29(22.14)
Total	564	536(95.00)	404(71.63)	142(25.18)

Values in parenthesis are percentages

The reasons quoted by the individuals for non-consumption of drugs, maximum responses were ‘not necessary’, ‘no knowledge why

tablets were given’ & ‘fear of side effects’. [Table-4]

Table 4: Reason of non-consumption of MDA drugs in families surveyed in different blocks of Malda districts.

Reason for non-consumption	EBM	Manikchak	Ratua - II	Kaliachak-1	Total
Does not know what for the tablets are given	5	-	-	1	6
Not necessary	2	4	-	2	8
Fear of side effect	1	1	3	-	5
Fear of side effect in children	-	-	-	1	1
Not present at home	-	-	-	2	2
On homeopathy treatment	-	-	-	-	-
Illness	-	2	-	4	6

Total	8	7	3	10	28
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11.7% of surveyed families mentioned some side effects. Out of 103 families (members of these families actually consumed drugs) 14(13.59%) showed some side effects following consumption of drugs, which

included dizziness, nausea, vomiting & pain abdomen. Most of the cases either no treatment was required, or village quacks were consulted. [Table-5 & 6]

Table 5: Distribution of side effect among surveyed population

Municipality/blocks	Side effects			Total No. (%)
	Yes No. (%)	No No. (%)	Not applicable No. (%)	
EBM	3(10.00)	19(63.33)	8(26.67)	30(100.00)
Manikchak	5(16.67)	24(80.00)	1(3.33)	30(100.00)
Ratua -II	3(10.00)	24(80.00)	3 (10.00)	30 (100.00)
Kaliachak-I	3(10.00)	22(73.33)	5 (16.67)	30 (100.00)
Total	14(11.67)	89(74.16)	17(14.17)	120(100.00)

Values in parenthesis are percentages

Table 6: Side effect pattern among surveyed families

Side effects	EBM	Manikchak	Ratua -II	Kaliachak-I	Total
Dizziness	-	4	-	1	5
Flatulence	-	-	-	-	-
Nausea	-	-	3	-	3
Nausea, pain abdomen	1	-	-	2	3
Nasea & Vomiting	2	1	-	-	3
Total	3	5	3	3	14

Discussion:

Lymphatic filariasis is one of the diseases which creates a major public health concern and elimination of it becomes a priority even

at the international level. Lot of time and money has been spent over years to reduce the burden of filariasis. The key strategy to

eliminate filariasis is to achieve a coverage rate of 85% for at least 5 years along with good compliance and active community participation. In our study the coverage rate for DEC plus albendazole was 95%. In studies conducted by Pattanshetty S et al and Ranganath BG the coverage rates were 83% and 85% respectively^{3,4,5}. The motivated health officials and field workers might be the reason for good coverage obtained in our study.

The compliance rate reported in our study was 71.63%. Compliance rates of 74% and 69% were reported by Mukhyopadhyay and Karmakar in their studies^{6,7}. As the awareness about the MDA program was poor, earning persons in the households were not available at home during the distribution of drugs. Alternatively, other member at home or their neighbours had collected the drugs on their behalf and had forgotten to inform the same to the absentees. Drug consumption in front of the drug distributors was not ensured for those who received the drugs directly from the drug distributors, as the members of the households quoted reasons like lack of proper food intake, fear of taking all the drugs at once and

consuming drugs in divided doses over few days. All these hindered direct observed treatment which is essential for ensuring a good compliance. The report of side effects after consumption of DEC in the past had created a fear among people regarding the consumption of drugs. A good Information, Education and Communication (IEC) and community awareness about the drugs would have improved the compliance rate. The failure of community awareness and lack of rapid response team to tackle the side-effects resulted the main reason for non compliance in this study and similar findings have been noted in studies by Karmakar PR et al, Kumar A et al and Kumar P et al^{7,8,10}.

The success of any national health programme directly depends on active community participation. The path to achieve it is through community awareness about the disease and its complications. 68.33% head of the families had some idea about the disease for which drugs were distributed through interpersonal communication, which is higher to similar study conducted by Lahariya & Mishra and also of Karmakar et al where the awareness was only 21.08%^{7,9}.

Conclusion:

The major challenge of MDA programme is to sustain a high level of coverage (>85%) for a period of at least five years. Our study reported coverage rate of 95% and compliance of 71.63% depicting the limitation of the program to be poor compliance and lack of proper supervision, appropriate counselling

and community awareness. Even though very few and minor side effects were reported in our study, they need to be addressed as they may constitute cause for future non-compliance. This shows that there is a need to strengthen the programme in terms of creating awareness through appropriate media in the

community with efficient microplan, supply of blister package MDA drugs, improved supervision, intersectoral co- ordination, teaching and training of health workforce to make filariasis to enter the oblivion like many other diseases in the past.

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