

MID TERM ASSESSMENT OF MASS DRUG ADMINISTRATION IN LYMPHATIC FILARIASIS ENDEMIC AREA OF DAMOH AND SAGAR DISTRICT OF MADHYA PRADESHMohan Shinde¹, Yash Saraf², Ankur Joshi³**HOW TO CITE THIS ARTICLE:**

Mohan Shinde, Yash Saraf, Ankur Joshi. "Mid Term Assessment of Mass Drug Administration in Lymphatic Filariasis Endemic area of Damoh and Sagar District of Madhya Pradesh". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 24, March 23; Page: 4121-4127, DOI: 10.14260/jemds/2015/594

ABSTRACT: BACKGROUND: Lymphatic filariasis caused by *Wuchereria bancrofti* and *Brugia malayi* is an important public health problem in India. Filariasis is a major social and the fourth most common cause of disability all over the globe. Filariasis is endemic in 17 States and six Union Territories, with about 553 million people at risk of infection. It has been a major public health problem in India. The Global Programme for Elimination of Lymphatic filariasis was launched by the WHO in 2000 with the goal of eliminating Lymphatic filariasis as a public health problem by the year 2020. For the effective control of filariasis >65% population of endemic areas should be covered by single dose of Diethylcarbamazine 6mg/kg (DEC). **OBJECTIVES:** To assess the coverage and compliance of mass drug administration in the selected District and to make independent assessment with respect to process and out-come indicators. **MATERIAL AND METHODS:** A community based cross sectional study through house to house survey method in selected clusters was adopted. An independent evaluation was done and the outcome was assessed as the coverage and compliance of mass drug administration. **RESULTS:** In both Damoh and Sagar Districts of Madhya Pradesh, the coverage level for DEC was > 80% in all the Blocks. **CONCLUSION:** The mass drug administration was aimed only to distribute the drug and the issues related to compliance, proper health education and side effects management were not given enough attention. These issues are important to make programme effective.

KEYWORDS: DEC, Elimination, Compliance, Mass drug administration.

INTRODUCTION: Lymphatic filariasis, a parasitic disease transmitted by mosquitoes, is a leading cause of permanent and long-term disability⁽¹⁾ and can potentially be eradicated.⁽²⁾ In its severest form, lymphatic filariasis leads to elephantiasis - a crippling condition in which limbs or other parts of the body are grotesquely swollen or enlarged. These conditions have a devastating effect on the quality of life of those affected, impacting them not only physically but also emotionally and economically. It has been documented that two third of endemic population resides in South East Asia and one third lives in India.⁽³⁾ Lymphatic filariasis is a major public health problem in India and the problem is increasing every year due to gross mismanagement of the environment. The National Filaria Control Programme was launched in 1955 and the National Health Policy goal is to eliminate lymphatic filariasis by 2015. The major constraint of the NFCP was that it did not cover the vast majority of the population at risk residing in rural areas and that the strategy demanded detection of parasite carriers by night blood survey, which is less sensitive, expensive, time-consuming and poorly accepted by the community.⁽⁴⁾

The mid-term assessment of drug administration is planned to study the actual situation of programme implementation and its outcome. It has been experienced that the actual drug

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administration in the past was lower than the reported coverage by health workers/ volunteers. As per the norm the drug is to be consumed by the eligible population in the presence of drug distributors but on many occasions it was not followed and the same was handed over to the family members for consumption some time later. For the effective control of filariasis >65% population of endemic areas should be covered by single dose of diethylcarbamazine citrate.⁽⁵⁾ It has been observed in many areas that the substantial portion of the population do not consume the drug and the coverage level varies from 55% to 90% in India.⁽⁶⁾ The MDA compliance should exceed 65% to 75% with five to six round of treatment is necessary for elimination.⁽⁷⁾ The distribution of the drug was ensured in most of the high risk areas of country but the adherence and compliance is still a problem.⁽⁸⁾ The study was carried out to observe the present situation MDA through a mid-term assessment.

OBJECTIVES: To assess the coverage and compliance of mass drug administration in the selected District and to make independent assessment with respect to process and out-come indicators.

MATERIALS & METHODS: A community based cross sectional study through house to house survey method was adopted by the team from Department of Community Medicine, Gandhi Medical College, Bhopal to observe the distribution and administration with DEC in selected Blocks and villages in both the Districts. The team has conducted an independent evaluation in four selected clusters in each MDA District namely Damoh and Sagar district of Madhya Pradesh. The clusture selected randomly for study were Block Hatta and three villages Tinsi, Bansa, Khamaria of District Damoh and Block Gadakota and Banda along with village Saurahi and Baharia of Sagar District. In each village 30 house hold were covered and similarly one ward selected randomly in urban area and a detailed questionnaire used for collection of information regarding MDA.

RESULTS:

Sl. No.	Name of District	Number of Families surveyed		Number of families in which DEC was distributed		Number of families in which DEC was not distributed	
		No.	Percentage	No.	Percentage	No.	Percentage
1	Damoh	120	100.00	93	77.50	27	22.50
2	Sagar	120	100.00	105	87.50	15	12.50
Total		240		198	82.50	42	17.50

Table 1: Distribution of drug (DEC)
District wise distribution of drug (DEC) in families

Sl. No	Age groups (Yrs.)	Damoh		Sagar		Total	
		No. of person Received drug	Percentage %	No. of person Received drug	Percentage %	No. of person Received drug	Percentage %
1	1-2 yr.	5	1.0	22	3.5	27	
2	3-5 yr.	17	3.5	43	6.8	60	
3	6-14 yr	68	13.9	119	18.7	187	

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4	15-60 yr	388	79.6	412	65.0	800	
5	>61 yr	10	2.0	38	6.0	48	
	Total	488	100.00	634	100.00	1122	

Table 2: Age wise distribution of the person received the drug
Age wise distribution

Sl. No.	Sex	Damoh		Sagar		Total	
		No. of person received drug	Percentage	No. of person received drug	Percentage	No. of person received drug	Percentage
1	Male	272	55.70	338	53.30	610	54.40
2	Female	216	44.30	296	46.70	512	45.60
	Total	488	100.00	634	100.00	1122	100.00

Table 3: Sex wise distribution of the person received the drug
Sex wise distribution

Sl. No	Age groups (Yrs.)	Damoh		Sagar		Total	
		No. of person Swallowed drug	Percentage %	No. of person Swallowed drug	Percentage %	No of person Swallowed drug	Percentage %
1	1-2 yr.	00	00	00	00	00	00.00
2	3-5 yr.	14	3.20	19	4.10	33	3.60
3	6-14 yr	57	12.90	28	6.00	85	9.40
4	15-60 yr	362	82.30	382	82.60	744	82.40
5	>61 yr	7	1.60	34	7.30	41	4.60
	Total	440	100.00	463	100.00	903	100.00

Table 4: Age wise distribution of drug swallowed (DEC)
Swallowed (Consumption) of drug (DEC)

Sl. No.	Reasons	Damoh		Sagar		Total	
		No. of Person	Percentage %	No. of Person	Percentage %	No. of Person	Percentage %
1	Smell of Tab	3	6.2	14	8.2	17	7.8
2	Child 1-2 yrs	5	10.4	22	12.9	27	12.3

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3	Old age/ Disease	3	6.2	29	17.0	32	14.6
4	I have no disease	6	12.5	11	6.4	17	7.8
5	He/She out of home	6	12.5	22	12.9	28	12.8
6	Not informed	2	4.2	6	3.5	8	3.6
7	Warm tablet	4	8.3	14	8.2	18	8.2
8	Forgotten	7	14.9	20	11.7	27	12.3
9	Govt. tab not good	2	4.1	8	4.7	10	4.6
10	No time to take Tab	4	8.3	13	7.6	17	7.8
11	Fever	3	6.2	8	4.6	11	5.0
12	Pregnancy	3	6.2	4	2.3	7	3.2
	Total	48	100.00	171	100.00	219	100.00

Table 5: Reason for not swallowed the drug
Reason for not swallowed the drug (DEC)

Sl. No.	Name of District	Number of families experienced the side effect of DEC		Number of families not experienced the side effect of DEC		Family members experienced side effects							
						Fever with itching		Fever with vomiting		Heat & vomiting		Giddiness & vomiting	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Damoh	06	33.33	87	48.33	04	66.67	02	33.33	00	00	00	00
2	Sagar	12	66.67	93	51.67	00	00	02	16.67	02	16.67	08	66.66
Total		18	100.00	180	100.00	04	22.22	04	22.22	02	11.11	08	44.45

Table 6: Side effect of DEC experienced by family members
Side effect of DEC experienced by family members

DISCUSSION: DISTRIBUTION OF DRUG (DEC) (TABLE 1): In both the districts the drugs were distributed in 198 (82.50%) families and have not been distributed to 42 (17.50%) families. ⁽⁹⁾ In Damoh 93 (77.50%) families and in Sagar 105 (87.50%) families were distributed drug (DEC). MDA compliance should exceed 65% to 75% with five to six round of treatment is necessary to interrupt the transmission of filariasis.⁽⁵⁾

AGE WISE DISTRIBUTION OF THE PERSON RECEIVED THE DRUG (DEC) (TABLE 2): The drug distribution was found higher in 15-60 yrs group, which was 388 (79.6%) person received the drug in Damoh and 412 (65.0%) received the drug in Sagar district. This was due to large age group and was followed by 6-14 yrs.

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SEX WISE DISTRIBUTION OF THE PERSON RECEIVED THE DRUG (TABLE 3): The drugs were received by male 272 (55.7%) and female 216 (44.3%) out of total person 488, who received the drugs at Damoh district and 338 (53.3%) male and 296 (46.7%) female out of total 634 person, who received the drug at Sagar district.

AGE WISE DISTRIBUTION OF DRUG SWALLOWED (DEC) (TABLE 4): Drug swallowing was found to be higher 15-60 yrs age group, which was 362 (82.3%) out of total 440 person swallowed the drug in Damoh district and 382 (82.6%) out of 463 person swallowed the drug in Sagar district. The drug was contraindicated in age group <2yrs. Swallowing of the drug was minimum 7 (1.6%) in Damoh in > 60 yrs age group and 19 (4.1%) in 3-5 yrs age group in Sagar district.

REASON FOR NOT SWALLOWED THE DRUG (TABLE 5): Out of 198 families where drugs were distributed, 903 (80.5%) family members had consumed the drug in both the districts. In Damoh district out of 488 person, 440 (90.2%) had consumed the drug while in Sagar district out of 634 person who received the drug, 463 (73.1%) had swallowed the drug.

Out of 219 person who have not swallowed the drug, maximum 32 (14.6%) were due to old age or sickness followed by 28 (12.8%) were out of home.⁽¹⁰⁾ The effectiveness of Filariasis elimination depends on the consumption of the drug by the affected population.^(11,12) Mass drug distribution is indicated in highly endemic areas.

SIDE EFFECT OF DEC EXPERIENCED BY FAMILY MEMBERS (TABLE 6): It has been observed that out of 198 families only 18 (09.09%) families have experienced the side effect of DEC and 180 (90.91%) have not experienced the side effect of DEC tablet. The family members experienced side effects were maximum giddiness and vomiting in 08 (44.45%) followed by fever & itching and fever with vomiting in 4 each (22.22%) and heat & vomiting in 02 (11.11%) families respectively. Treatments have been taken in only 07 cases and of them four cases were taken treatment at Govt. dispensary and one at private dispensary. The incidence of side effect estimates ranged from 25.4% to 82.1% in India,⁽¹³⁾ and the majority of the side effects were mild and infrequent.⁽¹⁴⁾ It has been noticed that side effects decline with the subsequent rounds of MDA.⁽¹⁵⁾

EXPLAINING THE REASON FOR DEC ADMINISTRATION TO THE COMMUNITY: In 182 (91.92%) families respondents were explained about the reason for DEC administration for filariasis elimination and 16 (8.08%) families respondent were not explained about the cause of DEC distribution.

FAMILY MEMBER'S VISIT TO SPECIFIED BOOTH FOR TAKING DEC: It has been observed that out of 198 families, only 05 (2.53%) family member's visited booth for taking DEC while in 193 (97.47%) families, members have not visited booth. None of the family who visited booth swallowed DEC at booth and all of them have brought drug at home because of instructions to swallow after meals.

CONCLUSION: In both the selected Districts where mid-term assessment was carried out, it has been observed that coverage level for drug distribution was > 80%. A house to house method was adopted to ensure the distribution of DEC in both the districts.

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Though, the camps and booths were prepared for distribution of drug but only a few family members were turned up to utilize these services despite of wide advertisement in these areas and almost in all these areas the drug distribution was assured by house to house distribution and administrations of drug. In most of the families drug distributor had given the DEC tablets and not persuade the family members to consume the drug immediately in front of him resulting most of the family members has left to consume the drug or consumed afterward in inappropriate doses. In many cases family members were not present at home and thus left undistributed with drug. The consumption of the drug is associated with not to consume empty stomach cause failure of consumption of drug in front of drug distributor or even at booth and centers. Some side effect of the drug has also been observed but in very small proportion. Community was aware with filariasis disease but details about transmission and complications of the disease were not mentioned in many families. The evaluation study should be planed early after the distribution of drug to keep hold of the memory for recall.

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