



A mid term assessment and evaluation of coverage and compliance of mass drug administration programme 2012 for elimination of lymphatic filariasis in Madhya Pradesh, India

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Abstract:

Background: Lymphatic Filariasis (LF) is a serious socio-economic & public health problem in the world. As on December 2006 the total population at risk for LF was estimated to be 1254 million in 83 endemic countries of which 64% contributed by South-East Asia Region alone. In India, it is estimated that 554.2 million populations are at risk of LF infection in 2433 implementation units (districts). **Objective:** The present study was aimed to evaluate coverage and compliance rate of Mass Drug Administration for Lymphatic Filariasis in Rewa and Chhindwara districts of Madhya Pradesh, India. **Methods:** It is a community based cross-sectional study which was undertaken in four clusters (3 Rural and 1 Urban) in each of two districts from April to June 2012. In each district 120 households were surveyed (30 households from each cluster). From each cluster, one village was selected randomly for household survey. In each village, 30 households were surveyed randomly. **Results:** The average family size was 4.9 and the respondent males and females were almost equal. The eligibility coverage of District A and District B were 80.42% and 95.01% respectively and on spot consumption of two districts were 84.5% and 85.55% respectively. IEC activity was reported to be seen by 70.83% and 95% in District A & B respectively. **Conclusion:** This evaluation study noted that MDA is restricted to tablet distribution only and the major issues of implementation in compliance, in health education, side effects and morbidity management and the logistics were not been given due attention. The implementation should be strengthened immediately in the MDA Programme in India to achieve the goal of LF elimination by 2015.

Key words: Compliance; Di- Ethyl-Carbamazine; Filariasis; Mass Drug Administration; Mid Term Assessment

Introduction

Lymphatic Filariasis (LF), a vector-borne neglected tropical disease, is currently in tropic and sub-tropics of Africa, Asia, western pacific and part of the America. Worldwide, 1254 million people are at risk of LF infection in 83 endemic countries. About 64% of these people are living in South-East Asia Region only. It is estimated that 554.2 million people are at risk of LF infection in 243 districts across 20 states and union territories of India [1]. Madhya Pradesh, Bihar, Jharkhand & Andhra Pradesh are amongst the worst effected states in the country [2]. National Health Policy 2002 aims at elimination of transmission of disease and prevention of disability due to LF by the year 2015 [3].

Out of 48 districts of Madhya Pradesh state of India LF is endemic in eleven districts. The state had adopted MDA approach for elimination of LF in 2004. It was observed that the drug should be consumed by the eligible population in the presence of drug distributors, but on many occasions, the drug was handed over to the family members for consumption later. Therefore the state government proposed an evaluation of MDA activities with the objectives to review the progress of activities of single dose of DEC mass administration in Madhya Pradesh; and to understand the functioning of the programme and suggest necessary steps for further course of action.

Material & Methods

Study Area: The two districts namely Rewa and Chhindwara of Madhya Pradesh state were selected for this study. The study districts have been described as District A and District B respectively.

Study Period: May-July 2012

Study Team: The study team was faculty from Department of PSM / Community Medicine.

Sample Size: The study was conducted as per the standard guidelines prepared by the National Vector-Borne Disease Control Programme [4].

In every district four clusters (three rural and one urban) of 30 households each were selected. For selection of rural sites on the basis of reported MDA coverage in the last round all Primary Health Centers (PHC's) were stratified into three groups: (1) PHC with coverage below 50%, (2) PHC with coverage between 50-80% and (3) PHCs with coverage above 80%. Thereafter, one PHC from each category was selected for MDA evaluation. From each of the selected PHC a complete list of the names of villages

was prepared. One village was selected randomly, using currency note for random number generation. The household survey in each selected village was conducted covering 30 households, using standard questionnaire developed for MDA evaluation. In urban areas, the list of the wards was used for the selection of the cluster. One ward was selected randomly for the evaluation of the programme, using currency note for random number generation. In the next step, in the selected ward in the urban area, 30 household were covered.

Study Tool:- The in depth interview of the persons was used by pre-tested semi structured interview schedule (standardized by NVBDCP, Delhi)

Results

A total of 2 districts were studied. These 2 districts covered a total of 240 households (180 rural and 60 urban) and yielded a total population of 1174 (667 in district A and 507 in district B). As shown in Table No.1.

Table 1: Showing frequency distribution of eligible persons for MDA

S. No.	Name of the District	Total Population Surveyed	Eligible Persons (%)
1.	A. Rewa	667	618 (92.65)
2.	B. Chhindwara	507	481 (94.87)

Table 2: Showing Groups for Non-Eligibility for DEC Tablet

S. No.	Non-Eligible	District A (n=49)	District B (n=26)
1	< 2 years	22	9
2	Pregnant	6	2
3	Illness	5	3
4	Extreme Age	16	12

Out of the total population surveyed, 92.65% and 94.87% people were found eligible for the consumption of drug in District A and B respectively. The main group for non-eligibility was "children < 2 years" followed by "extreme age" in both the districts.

Table 3: Showing Age and Sex-wise Distribution of Coverage & Consumption of DEC Tablets

District	Eligible Persons (a)	Tablet Received (b)	Persons Swallowed Tablet (c)	Coverage % (b/a)	Compliance % (c/b)
(A)	618	497	420	80.42	84.50
Sex					
Males	316	261	197	82.59	75.48
Females	302	236	223	78.14	94.49
Age (in yrs.)					
2-5	54	43	33	79.62	76.74
6-14	109	91	78	83.48	85.71
>15	455	363	309	79.78	85.12
(B)	481	457	391	95.01	85.55
Sex					
Males	233	223	183	95.71	82.06
Females	248	234	208	94.35	88.88
Age (in yrs.)					
2-5	28	21	19	78.00	90.47
6-14	78	75	64	96.15	85.33
>15	375	361	308	96.27	85.32

Table 4:

S. No.	Showing Details of Drug Distributor	Yes	No
1.	Drug-Distributor visited to the families		
	A	94 (78.33%)	26 (21.66%)
	B	114 (95.00%)	6 (5.00%)
2.	Drug-Distributor Persuaded Swallowing of drug in his presence		
	A	47 (39.16%)	73(60.84%)
	B	84 (70.00%)	36 (30.00%)
3.	Any member of the family Swallowed Drug in Presence of Distributor		
	A	19 (15.83%)	101 (84.16%)
	B	37 (30.83%)	83 (69.16%)
4.	Helped Drug- Distributor from Public for Drug Compliance		
	A	00 (00.00%)	120 (100.00%)
	B	00 (00.00%)	120 (100.00%)
5.	Any reservations for Drug- Distributors		
	A	5 (4.16%)	115(95.83%)
	B	00 (00.00%)	120 (100.00%)

Table 5: Showing the Drug- Distributor explanation in families

S. No.	Explanation	District A	District B
1.	Why DEC is Administered	89 (74.16%)	110 (91.67%)
2.	About Lymphatic Filariasis	83 (59.16%)	107 (89.16%)
3.	About Transmission of Disease	33 (27.50%)	66 (55.00%)

Table 6: Showing awareness regarding DEC

S. No.	Explanation	District A	District B
1.	Mass DEC administration	66 (55.00%)	111 (92.50%)
2.	Recommended Dosage	51 (42.50%)	89 (74.16%)
3.	Contra- Indications of Drug	34 (28.33%)	66 (55.00%)
4.	Side Effects of Drug	16 (13.33%)	45 (37.50%)

The coverage of DEC tablets in districts A & B was 80.42 and 95.01 respectively, while the compliance rate was 84.50 and 85.55 respectively. As far as role of drug distributor is concerned in district B, 95% houses were visited while 78% were visited in district A. But only 37 (30.83%) members swallowed in presence of drug distributor in district B while 15.83% in district A.

It was seen in the present study that not even a single household collected drugs from booth and all preferred house to house approach for drug receiving by drug distributor. The families from where the tablets were recovered at the time of survey was 14.17% and 23.33% from District A and District B respectively, which gave a negative impact that either the tablet not consumed purposely or forgotten or not consumed in front of drug distributor or because of fear of side effects.

In District A, 113 (94.16%) had not seen any filariasis patient in the neighboring area while 7 (5.84%) had seen filariasis patient in neighborhood. In District B, none of the family had seen any patient suffering from filariasis.

Discussion

The concept of MDA is to approach every eligible individual in the target community and administer annual single dose of antifilarial drugs (DEC+ Albendazole). This annual dose is to be repeated every year for a period of 5 years or more aiming at minimum 85% actual drug compliance. A high coverage (>85%) is essential to achieve the interruption of transmission and elimination of

disease in India [7]. In the present evaluation the coverage rate in District A is 80.42% and compliance rate is 84.5% and in District B the coverage rate is 95.01% and compliance rate is 85.55%. But improved coverage with poor compliance will be of little use. Preparation of good quality village/ward level micro plan and ensuring that each drug distributor will not cover more 50 families a day will help to improve the coverage. Also supportive supervision of the work of drug distributors by Supervisors (MO, PHC/Health Assistants) and independent external monitors during the drug distribution activity should be undertaken [8]. There is an urgent need for more effective drug delivery strategies tailor as per local needs in consultation with community leaders, School Teachers and under close supervision by Medical Officer of concerned PHC.

The filarial activities in those districts were done by the staff involved in the control of malaria. This staff often felt it as an extra burden. There was very limited dedicated staff for filaria. Therefore MDA and other related efforts were not been given due priority at district level, and were done on ad-hoc basis. In both the districts there was no night clinic for blood collection. These observations underscore that a lot needs to be done, to effectively implement MDA Programme in these districts.

Finally LF is an area where limited research is being done in India and other endemic countries. There is an urgent need for operational research to find out the solutions for existing problems in the effort towards the elimination of LF.

Fig. 1: Pie Chart Showing Source of Information Regarding MDA in District 'A'

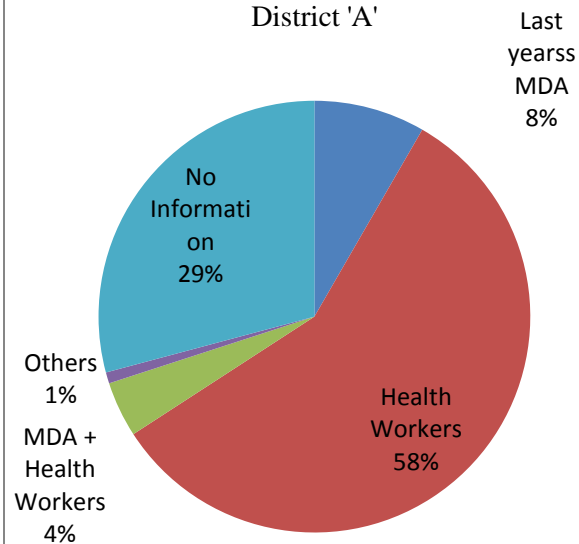


Fig.3: Pie Chart Showing Side Effects of DEC in District 'A'

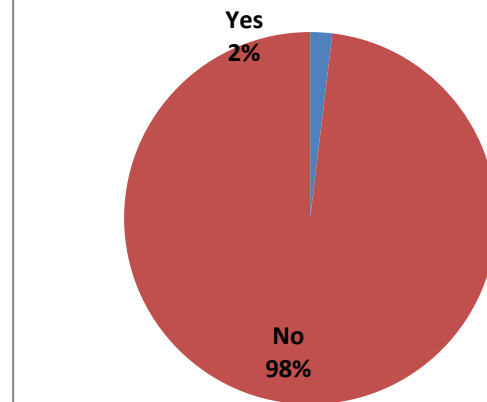


Fig.4: Pie Chart Showing Side Effects of DEC in District 'B'

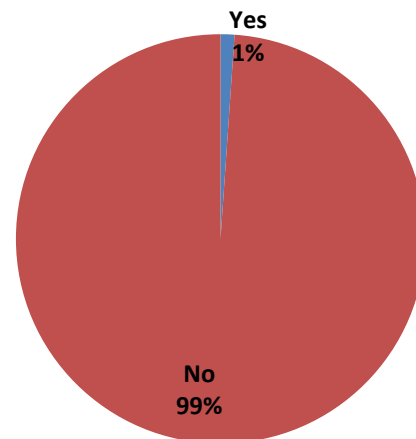
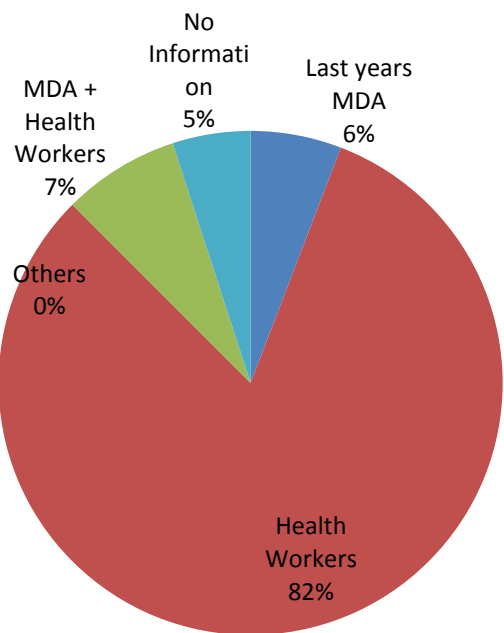


Fig. 2: Pie Chart Showing Source of Information Regarding MDA in District 'B'



Compliance

The compliance rate was 84.5% in District A and 85.55% in District B which can be said satisfactory. There is a need to emphasize the importance of co-administration of Albendazole with DEC and highlight the perceived benefits of deworming to improve the community compliance as suggested by ICMR [11]. The side effects with the drug in the present study were very few and minor however none of the participants had experienced or reported any adverse drug reaction. K S Ravish et al reported lack of adequate information as main reason for non-compliance which is also seen in this study [12]. Other causes of non-compliance were trivial as away from home, not eaten anything or forgot to take, or went to the work place. It seems that LF is not perceived as serious public health problem and people think they will not be affected by this disease. Reasons such as forgot to take emphasizes need to ensure “on the spot consumption of DEC”. Kumar P et al reported that the drug distributors hardly insisted on supervise “on the spot administration of drug” [13]. S Sabesan et al after review of lymphatic filariasis in India suggested that the programme managers should be encouraged to adopt the principles of “Directly Observed Treatment” [14]. Compliance to MDA largely depends on the approach of the drug distributors in implementation of MDA as per guidelines [7]. Half time review of Lymphatic Filariasis Elimination in the 6th Meeting of the Global Alliance to Eliminate Lymphatic Filariasis, 2010 emphasized the need for an integrated approach to the three key areas preventive chemotherapy, disability management and vector control [9].

Information Education and Communication:-

Information Education and Communication activity helps to bridge the knowledge gap and it is an important and very cost effective tool to improve both coverage and compliance of MDA. Intensive IEC activities need to be planned in advance to address the challenges in effective coverage and compliance to DEC [8]. In the present study it was observed that in District A and District B 70.83% and 95% population were aware of the MDA while 29.17% and 5% were not aware of MDA respectively. In the study done by K S Ravish et al it was observed that 41.4% population was aware and 58.6% were unaware of MDA activity. In our study it is dissimilar. The major source of information was health worker in the present study i.e. 58% and 82% respectively in District A and District B. Number of

studies highlighted the need for an intense Information Education Communication and Advocacy activities for improved coverage and compliance of Mass Drug Administration with DEC and Albendazole [9,10,13,14].

For elimination of Lymphatic Filariasis and MDA Programme inter-personnel communication was found to be the best method. Mukhopadhyay et al quoted 77.87% respondents about MDA from health personnel only [5,6,7]. In the present study it was 58% and 82% in District A and District B respectively.

Adverse Reactions:-

“No disease, so not necessary” (42.5%) and “Fear of side reactions” (25.2%) were the two major reasons for non-compliance, as quoted by Regu K. et al [15]. In the present study, the side reactions were also minimal.

Conclusion

There appears an urgent need for social mobilization and supervision to strengthen the MDA planning and implementation in these Districts. This evaluation is a starcking example showing that even a well thought, well funded and well planned programme may not succeed, if the implementation is poor. The efforts to eliminate LF in India need strengthening in terms of logistics, health education efforts and its side effects.

Recommendations

1. At least three mandatory field visits by the health workers could be done during MDA Programme. First visit to create complete awareness among the public about the MDA Programme. Second visit for the drug distribution to be done on the spot and third visit i.e. Post MDA follow up for redistribution of drug to missing persons on the spot and to attend adverse effects, if any [16].
2. Monitoring and Supportive Supervision by Medical Officer of concerned PHC/CHC and Male and Female Health Assistants of MDA activities should be done to ensure complete coverage
3. Involvement of Local Community leaders, School Teachers, Local Mahila Mandals to ensure effective Information Education and Communication activities by all possible means should be undertaken.
4. Adequate training to the drug distributors should also be undertaken in which the communication skills of Drug Distributors should be enhanced and stress should be given to solve all the problems if any

to the beneficiaries at the time of giving the drug of and also giving time to swallow in front of them.

5. The field staff especially the drug distributors may perhaps be paid better for their motivated and difficult field jobs.

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Source of Conflicts:- None

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