Original article

MID –TERM ASSESSMENT OF MASS DRUG ADMINISTRATION OF DEC FOR FILARIASIS IN REWA AND CHHINDWARA DISTRICTS OF MADHYA PRADESH

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ABSTRACT

Background: Filariasis has been a major public health problem in India which leads to irreversible chronic manifestations, which are responsible for social stigma besides causing considerable economic loss and severe physical disability to the affected individuals.

Objective: Mid –Term Assessment of Mass Drug Administration of DEC was carried out with objectives to review the progress of activities of single dose DEC mass administration with respect to process and outcome indicators and to recommend mid-course correction measures.

Methods: The present study was a Cross-Sectional Study which was carried out in 2 of the Filaria Endemic district of M.P. i.e. Rewa and Chhindwara which was carried out in 1 month between November and December 2010. In each district 120 households were surveyed, four clusters (three rural and one urban) of 30 households in each district. From each clusters, one village was selected randomly for household survey. In each village 30 households were covered (randomly).

Results: Coverage rate of DEC tablets, was 100% in both the districts and on other hand Consumption rate was 94.23% in Chhindwara district as compared to mere 70.89% in Rewa. Tablet recovery rate from the houses was more in Rewa (40.83%) as compared to Chhindwara (8.33%).

Conclusion: Every effort should be made to increase Compliance Rate and lower the Tablet Recovery Rate in above districts through efficient micro planning, inter-sectoral co-ordination and motivating the community to participate in the MDA program.

Key Words: Mass Drug Administration, Di-Ethyl-Carbamazine, Mid –Term Assessment.

INTRODUCTION

Lymphatic filariasis (LF), an infection caused by a mosquito borne parasite is the second leading cause of disability worldwide, affecting more than 120 million people in 80 countries.[1] In India also, it has been a major public health problem next to Malaria. It is estimated that 600 million people are at risk of LF infection in 250 districts across 20 states and union territories in India. [2]

India launched National Filariasis Control Program (NFCP) in 1955 and it became a part of the National Vector Borne Disease Control Program (NVBDCP) in 2003.[3] National Health Policy 2002,

envisages elimination of lymphatic filariasis by 2015.[4]

The International Task Force (WHO) has recommended that in mass treatment, Di-Ethyl Carbamazine (DEC) is given to almost everyone in the community irrespective of whether they have microfilaraemia or not, disease manifestations or no signs of infection in the area of high endemicity except children less than 2 years, pregnant women and very sick patients.[5]

The unofficial reports from field suggested that actual drug consumption was much lower than the reported coverage by district malaria/filaria offices.[3] Therefore, the state government proposed Mid-Term Evaluation of MDA activities to review the progress of activities of single dose of DEC mass administration in Madhya Pradesh. Hence present survey was conducted for 14th November 2010 MDA campaign with the objective to review the progress of MDA program by assessing coverage, compliance and role of Drug Distributor in DEC distribution and to recommend measures for effective implementation of the Program.

METHODOLOGY

For Mid-Term Assessment of Mass Drug Admission of single dose of DEC coverage in Rewa and Chhindwara districts of Madhya Pradesh, House to House Survey was carried out.

Study design, setting and period: This was a Cross-Sectional Study which was carried out in Rewa and Chhindwara districts of M.P. for duration of 1 month i.e. between November and December 2010.

Study Subject: All the sampled eligible population in our study area. **Exclusion Criteria:** The eligible population did not include Pregnant and lactating mother, children below 2 years, seriously ill persons, severely debilitated patient and people of extreme age.

Study Technique: The study was conducted as per the standard guidelines prepared by the National Vector Borne Disease Control Program. In every district, four clusters (three rural and one urban) of 30 households each were selected. For selection of rural sites, depending upon MDA 2008 coverage all Primary Health Centers (PHCs) of the districts were first stratified in to 3 groups as: 1) PHC with coverage below 50% 2) PHC with coverage between 50-80% and 3) PHC with coverage above 80%. In each category of the PHC, one PHC should be selected randomly. In case there is no PHC in a particular category, two PHCs from the next category may be selected. From each of the selected PHC, list of all villages were obtained and one village was selected randomly for household survey. In each village 30 households was covered. The detailed questionnaire was used for collecting information regarding MDA. Similarly, in urban areas one ward was selected randomly for the evaluation of the program. In the selected ward 30 households should be covered. In this way in each district 120 households was surveyed for the purpose of MDA evaluation.[6]

Randomly selected PHCs in **REWA district** are: In Urban – Ward no. 35 and in Rural – Laxamanpur: Etora village, Govingarh: Amilki village and Baikuntpur: Uchatola village. **In Chhindwara district** randomly selected Ward in Urban area was Krishna Nagar, Ward No. 18 and Randomly selected PHCs in Rural area was Dhelakhari: Dhelakhari village, Parasia: Sonapeperi village and in Sausar: Sawli village.

Data Collection Technique and Tool: The predesigned questionnaire (provided by Director Health Services, State Health Committee, NVBDCP) was used for collect information regarding MDA.

Field work: House to House field Survey was carried out to collect information regarding consumption of DEC and other aspects of MDA coverage. Field work was completed in 4 days in each district and 2 faculty members carried out field work in each district.

Data Entry and Analysis: Data was compiled, entered in Microsoft Excel and simple proportions were calculated.

RESULTS

In the surveyed population 93.75% & 92.34% individuals were eligible for DEC in Rewa and Chhindwara district respectively (Table-1).

Table 1: District wise frequency distribution of eligible persons for MDA

District	Eligible persons (%)
Rewa (n=689)	646 (93.75)
Chhindwara (n=601)	555 (92.34)

Table 2: Reasons for Non-Eligibility for DEC Tablet

Non eligible	Rewa(n=43)	Chhindwara(n=46)
<2years	23	14
Pregnant	10	12
Illness	4	10
Extreme age	6	10

The main reasons for non eligibility for DEC was "children < 2 years" followed by pregnancy in both the district (Table-2).

As far as Coverage of DEC tablets is concerned it was 100% in both the districts and on other hand Consumption rate was 94.23% in Chhindwara district as compared to mere 70.89% in Rewa. In both the districts more female swallowed tablets compare to males. In both the district consumption rate was less in younger age group (Table-3).

Tablet recovery rate from the houses was more in Rewa (40.83%) as compared to Chhindwara (8.33%). Regarding consumption of DEC in presence of Drug Distributor is concerned, in Rewa, in only 22.5% family at least one member swallowed Drugs in their presence and this was higher in Chhindwara district i.e. 46.6% (Table 4).

Table 3: Sex and Age wise distribution of Coverage and Consumption of DEC Tablets

	Eligible persons	Tab Received	Persons swallowed Tablets	Compliance (%)
Rewa	**646**	**646 (100%)**	**458**	**70.89**
Sex				
Male	366	366	247	67.48
Female	280	280	211	75.36
Age (year)				
2-5 yr	61	61	42	68.85
6-14 yr	128	128	89	69.53
> 15 yr	457	457	327	71.55
Chhindwara	**555**	**555 (100%)**	**523**	**94.23**
Sex				
Male	303	303	283	93.39
Female	252	252	240	95.23
Age (year)				
2-5 yr	50	50	44	88
6-14 yr	93	93	80	86.02
> 15 yr	412	412	399	96.84

Table 4: Tablet recovery rate from the Houses and families where any member swallowed Drug in presence of drug distributor

	Rewa (n=120)	Chhindwara (n=120)
Families from where tablets recovered	49 (40.83)	10 (8.33)
Families having member swallowed drug in presence of drug distributor	27 (22.5)	56 (46.6)

Figure in parenthesis indicate percentage

As far as role of Drug Distributor is concerned, Chhindwara is a better performing district were in 98.33% families Drug Distributor explained why DEC is given, in 95.83% families told about lymphatic filariasis disease and in 52.5% families explained about mode of transmission of filariasis. In this aspect Rewa performed poorly as 76.6% families were told why DEC is given, 69.16% families were explained about lymphatic filariasis and 27.5% families were told about mode of transmission of filariasis by Drug Distributor (Table 5).

DISCUSSION

In endemic areas, DEC coverage of more than 85% continuously for 5 years is required to achieve the interruption of transmission filariasis and elimination of this disease in India. The major challenge with the currently available drugs is to attain this high coverage. The 94.23% compliance observed by us in Chhindwara district was satisfactory but in Rewa district it was 70.89% which was well below the target of 85% to ensure effective coverage.

Eligibility Rate: Eligibility Rate in Rewa and Chhindwara district was found to be 93.75% and 92.34% respectively. Nirgude et al (2012) [7] in their study found that 96.2 % of surveyed popu-

lations were eligible for DEC. These findings are almost similar to the findings of our study.

Table 5: Role of Drug Distributor explaining families about various aspects of Filariasis and DEC

Aspects	Rewa (n=120) (%)	Chhindwara (n=120) (%)
Why DEC is administered	92 (76.66)	118 (98.33)
About lymphatic filariasis	83 (69.16)	115 (95.83)
About transmission	33 (27.5)	63 (52.5)

Coverage & Compliance: In the present study, DEC Coverage in both the district was 100% and Consumption rate was 94.23% in Chhindwara and 70.89% in Rewa. Nirgude et al (2012)[7] in their study found coverage rate was 79.7% and Consumption rate was merely 43.04% whereas Godale Lata B & Ukarande Balaji V (2012)[8] in their study found coverage rate was 89.37% and Consumption rate was merely 73.1%. Karmakar et al (2011)[9] in their study found that coverage rate was 90.44% and Consumption rate was found to be 69.43%. Coverage Rate was better in our study as compared to above mentioned studies but Consumption rate was in concordance with present study except for Rewa district where Consumption rate was minimal among all studies.

Tablet recovery rate: In our study, DEC Tablet recovery rate was merely 8.33% in Chhindwara district as compared to 40.83% in Rewa district.

Spot swallowing rate & Role of Drug Distributor: In Rewa, Drug Distributor could convince only in 22.5% of families for spot consumption so that at least one member swallowed Drugs in their presence but Chhindwara performed quite well in this aspect as Drug Distributor could convince 46.6% of families for the same. Nirgude et al[7] in their study found in only 22.91% families the drug distributor (DD) ensured on spot swallowing of tablets. These findings are consistent with Rewa district but Chhindwara out performed in this regards. In our study, as far as role of Drug Distributor is concerned, Chhindwara performed better where in 98.33% families Drug Distributor explained why DEC is given, in 95.83% families told about lymphatic filariasis disease and in 52.5% families explained about mode of transmission of filariasis. But in Rewa only 76.6% families were told why DEC is given, 69.16% families were explained about lymphatic filariasis and 27.5% families were told about mode of transmission of filariasis by Drug Distributor. Above findings clearly explains the reasons for low Spot Swallowing Rate in Rewa as compared to Chhindwara.

The following recommendations have been suggested for better compliance in near future of MDA Programs in the 2 evaluated districts based on observations by us are:

1. There should be intensive IEC activity mainly in the form of Interpersonal Communication specifically by drug distributor in his area at least 2- 3 days prior to Filaria Day as well as increase number of poster, wall paintings and by making public announcement.
2. Drug distributors should be well instructed to persuade all the family members to swallow drug in his/her presence.
3. Drug distributors should provide the information to those not present at home at the time of Drug Distribution that the drug is available at home and have to be taken by them and should not be forgotten.
4. Very specific, targetful training should be conducted for all stakeholders.

CONCLUSION

MDA program should not be restricted to tablet distribution only and due importance should be given to compliance rate also and every effort should be by Drug Distributors to convince people to consume drug in his/her presence. This can be done by explaining all about lymphatic filariasis disease and the purpose of MDA to the community people and also by efficient micro planning, inter-sectoral co-ordination, Interpersonal Communication and motivating the community to participate in the MDA program.

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