

Assessment of coverage and compliance of mass drug administration for lymphatic filariasis in Medak District-2021

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ABSTRACT

In India Mass Drug Administration (MDA) drive is undertaken every year. In mass drug administration DEC and Albendazole combination is used. For the strategy to be effective, more than 85% of those living in endemic areas must be covered by MDA. Methods: This is a cross-sectional study in which family clusters were selected from rural and urban areas. Information about coverage, compliance with MDA and knowledge of filariasis was obtained using a questionnaire. Data were analysed using percentages and proportions. Results: In this study, about 92.51% of the study participants received DEC and ABZ tablets during MDA, of which 95.14 % of participants consumed the drugs. The most common cause of noncompliance was fear of side effects. Conclusion: Coverage of the population with DEC and albendazole combination was good but compliance needs to be improved. IEC activities should be intensified. Local leaders should be involved in the programme to increase compliance.

KEYWORDS: MDA, DEC, Coverage, Compliance, Filaria

INTRODUCTION

Lymphatic filariasis is characterised by manifestations ranging from asymptomatic to acute and chronic features like fever, lymphangitis, lymphadenitis and elephantiasis of the affected part. India contributes to more than one-third of the global filaria problem.^[1] Globally lymphatic filariasis is a high-burden neglected tropical disease which is most commonly prevalent. Filariasis is widely distributed in several regions of the world which include Southeast Asia, Africa, the South Pacific region, the Eastern Mediterranean and South America. LF was a major public health problem and one of the leading causes of disability in several countries of the world.^[2] Filariasis is a public health problem in 8 states of India. Heavily infested areas are found in Uttar Pradesh, Bihar, Jharkhand, Andhra, Odisha, Telangana, Maharashtra and West Bengal.^[3] The concept of MDA is to approach every individual in the target community

and administer an annual single dose of anti-filarial drugs (DEC+Albendazole). This annual dose is to be repeated every year for a period of 5 years or more aiming at a minimum of 85 % actual drug compliance.^[4] Globally LF is the second major cause of disability. LF is a disfiguring and debilitating disease. Filariasis leads to social stigma, shame, psychological problems and social and economic deprivation. The persons suffering from this disease will lose employment opportunities and there are huge treatment costs. It was estimated that the annual economic loss due to LF in India was close to US \$1.0 billion.^[5]

The government of India launched MDA throughout the country in 2004 and also started home-based morbidity management. Initially, during the year 2004, only 202 districts were covered. The coverage rate during 2004 was 72.6%. During 2007, number of districts covered with MDA increased to 250 known filarial endemic districts. The national task force on filarial elimination approved the combination of DEC and albendazole under the chairmanship of DGHS.^[6] Worldwide Preventive chemotherapy is required for 863 million people in 47 countries who remain threatened by lymphatic filariasis. In the world, 25 million men are affected with lymphatic filariasis which also has hydrocele and over 15 million people are having lymphoedema. These chronic disease manifestations are present in at least 36 million people.^[7] WHO introduced the global programme to eliminate lymphatic filariasis in 2000. This programme provided an opportunity for India and other countries to effectively tackle the disease. The global programme to eliminate lymphatic filariasis is based on two strategies (i) Annual mass drug administration (MDA) to interrupt transmission of the disease and (ii) morbidity management and disability prevention measures to decrease suffering among people affected with this chronic disease.^[5] The global programme to eliminate lymphatic filariasis was launched by WHO in the year 2000 with the goal of eliminating of lymphatic filariasis by the year 2020, now this goal is extended to 2030.^[8] The goal of the National health policy was to eliminate filaria by 2015. Later this goal was extended to 2021.^[5]

This study was undertaken to estimate the population coverage, compliance, and reasons for non-compliance with the MDA of the Medak district.

MATERIALS AND METHODS

The cross-sectional study was conducted in the Filaria endemic district (Medak) in Telangana state in December 2021 after the completion of the mass drug administration (MDA) drive for 2021. **Study population:** All the sampled eligible population residing in MDA campaign area. **Exclusion criteria:** The eligible population did not include pregnant and lactating women, children below two years of age, seriously ill persons and people who didn't give consent.

SAMPLING TECHNIQUE: In this study, multistage sampling was used. In first stage three PHC's were selected from rural area. In second stage one subcentre was selected randomly from each PHC. From each selected subcentre one village as randomly selected. From each village 40 family clusters were selected. A list of all the wards in each urban administrative unit was prepared and one ward was selected randomly from each block for the selection of the study respondents. The Urban cluster is Narsapur and 3 rural clusters i.e. Alladurg, Toopran, and Shivampet villages were selected for the evaluation. From each urban and rural area 40 family clusters were selected, and all the members of the family were included in the survey.

DATA COLLECTION: An assessment of mass drug administration was done by a team of doctors from medical college. All persons involved in the survey were trained for carrying out the assessment. A pretested and pre-designed questionnaire is used to collect the data. The questionnaire consisted of information regarding the background characteristics of the study population, how many tablets of DEC and albendazole tablets were given, how many tablets were consumed by the patient, knowledge of the patient about the mode of transmission of filariasis etc. Data was collected by a house-to-house survey. In each house, one respondent was selected for providing the information contained in the questionnaire. Informal consent was obtained from the participants.

Coverage was defined as the percentage of the eligible population who received a combination of DEC and Albendazole and compliance was defined as the percentage of the population who told that they consumed the drug. Consumption of the drug is considered if the person has taken the complete dosage according to his/her age.

Data Analysis: Data was entered in MS Excel and analyzed using SPSS software. All the analyzed results are shown in the form of percentages and projected as tables.

RESULT

In the survey of evaluation of MDA 2021, 751 individuals were included. Out of these 191(22.27%) were belonging to

Narsapur which is an urban area and Shivampet a rural area which included 194 (28.75%) individuals. The other two rural clusters were Alladurg (23.85%) and Toopran (25.11%). Thus, from 160 family clusters 751 individuals were selected. In the study population, 51.39 % of respondents are male and 48.60 % of respondents are females. See Table 1.

In this study 11 individuals were below 2 years of age (1.46%) and there were 5 (0.66%) pregnancies. There were 1,2,1,1 pregnancies in selected clusters of Alladurg, Toopran, Shivampet, and Narsapur respectively. Due to the exclusion of children below two years and pregnant women total of 735 persons were eligible for receiving the combination of DEC and albendazole tablets. See Table 2.

Out of total 735 eligible persons, 680 persons told that they received the drugs. Therefore, coverage of the population with drugs was 92.51% and 7.49 % of the study population was not covered by drug distributors. The drug distributors were Anganwadi workers, ASHA and also volunteers who were not health care workers. Out of 680 persons who received the drugs 647 persons reported that they consumed the drugs. Therefore, drug compliance was 95.14% and 4.86 % non-compliance. See Table 3.

The main reason for non-compliance was fear of side effects. Other reasons were not having faith in medicines, being under treatment for some disease, patient thinking not having the disease, too many tablets, not having faith in drug distributors etc. See Table 4.

Information about knowledge of filariasis and Mass drug administration drive

It is observed that 95.7% of people consumed given drugs in the presence of a drug distributor and the drug distributor was not having time to observe all people while consuming drugs. Some of the household members were not available to be observed by Drug distributors. Some said that they will take drugs after food, some at bedtime. The majority (94.46%) of respondents were persuaded by Drug distributors to swallow drugs. Most of the respondents (82.3%) were told by the drug distributor regarding the details of transmission. The majority of (58.80%) of respondents received information from ANM, followed by 40% by ASHA. The staff has taken the help of banners, and posters to spread the information regarding the MDA drive for filariasis in the community.

DISCUSSION

Coverage

In this study coverage of the population with antiparasitic drugs was more than required. The coverage of the population with anti-parasitic drugs was found to be 92.51%. The good coverage in the Medak district may be due better drug delivery system as compared to neighbouring districts. Similar results were obtained in the study done by Patel PK^[9] in Bagalkot with a coverage of MDA of 93.9%. Bhatia

Gender	AREAS				Total (%)
	Alladurg	Toopran	Shivampet	Narsapur	
Male	92	93	103	98	386 (51.39)
Female	87	94	91	93	365 (48.60)
Total (%)	179 (23.85)	187 (25.11)	194 (28.75)	191 (22.27)	751(100)

Table 1: Distribution of study subjects according to areas selected for the survey and gender of participants

Age	AREAS				Total (%)
	Alladurg	Toopran	Shivampet	Narsapur	
0-2	4	2	2	3	11 (1.46)
2-5	3	3	1	3	10 (1.33)
5-15	25	22	34	11	92 (12.25)
>=15	147	160	157	174	638 (84.95)
Total	179	187	194	191	751 (100)

Table 2: Distribution of study population according to age

Coverage and Compliance	AREAS				Total (%)
	Alladurg	Toopran	Shivampet	Narsapur	
Total eligible for MDA	174	183	191	187	735
Eligible who were given drugs	165	175	178	162	680
Eligible who were not covered	9	8	13	25	55
Coverage with drugs	94.82 %	95.62%	93.19%	86.63%	92.51%
Consumed the drugs	156 (94.54%)	168 (96%)	170 (95.5%)	153 (94.44%)	647 (95.74)

Table 3: Coverage and Compliance of study population with Drugs.

Reasons for noncompliance	Areas				Total (%)
	Alladurg	Toopran	Shivampet	Narsapur	
Under treatment for some other disease	1	0	0	1	2 (6.06)
Fear of side effects	0	2	1	8	11 (33.33)
Not having faith in medicines	3	1	1	1	6 (18.18)
Patient thinking Not having the disease	1	1	1	0	3 (9.09)
Too many tablets	1	0	1	1	3 (9.09)
Not trusting free drugs	2	0	1	2	5 (15.15)
Not having faith in drug distributors	2	0	0	1	3 (9.09)
Total	10	4	5	14	33 (100)

Table 4: Reason for not consuming the tablets

V et al. [10] showed coverage of MDA of 91.47% which is comparable to our study. In a study done by Bikash et al. [11], overall drug coverage was 94% which is close to the coverage of drugs in the present study. On the contrary in studies done by Prasad et al. [12], Gururaj et al. [13] and Awasthi et al. [14], the coverage rates of MDA were 82.97%, 73.1%, and 77% respectively which are different findings from the current study. In a study done by Berman Sk et al., the overall effective coverage of MDA was very low (19.1%) which is different from the current study. [15]

Compliance

In our study compliance to the drugs was 95.14%. In a study done by Patel PK [9], compliance was 93.9% which is similar to our study. In a study done by Gururaj et al. [13], compliance was 75.1% which is different from our study.

Reason for noncompliance

The most common reason for noncompliance was fear of side effects. In a study done by Banerjee S et al. [16], the most common reason for noncompliance was fear of side effects which is similar to the findings in the current study. On the contrary, Husain et al. [17] found that the most common reason for not consuming the tablets was 54 (25.72%) not present at home when the tablets were distributed which is different from the present study.

Rural and urban comparison of Coverage and Compliance

In our study Coverage and compliance were more in rural areas as compared to urban areas. This may be due to the presence of primary health centres, subcenters and facilities for IEC in rural areas as compared to urban areas. In a study by Vikas Bhatia et al. [10], coverage and compliance in rural areas were better than in urban areas which is similar to the findings of the current study. Rajkumar et al. [18] found that the coverage rate was 68% in the rural population and 18% in the urban population. On the contrary in the study done by Jothua KY et al. [19] coverage in urban clusters (99.21%) is higher than in rural clusters (64.42%). In a study done by SG Perni et al. [20], coverage and compliance were found to be consistently lower in urban areas compared to rural areas which is similar to the present study. In a study done by Ram S et al. [21], coverage and compliance are higher in urban areas which is different from our study. In another study conducted in Bijapur Karnataka, the most common reason quoted by the beneficiaries for not consuming the tablet was a lack of information about the MDA programme. [22]

In a study done by Ghosh S et al. [23], major sources of information for the surveyed families were leaflets (20.3%) and posters (9.8%) which is similar to the present study. Although compliance (95%) is good in our study mode of transmission of filaria is known to only 82% of the people. Good coverage and compliance in the current study may be due to pre-MDA IEC campaigns by healthcare staff. In a

study done by Pattanshetty S et al [24], information regarding the MDA program was obtained by health workers 322 (61.3%) and media 99 (18.9%). In a study done by Husain MA et al. [25], the study participants demonstrated a good knowledge of filariasis, as well as of MDA. Ashwini Kumar et al. [26] in their study found that 77.8% of respondents came to know about MDA from health personnel and 20.8% through media whereas NGOs had very little involvement (1.2%). The majority of respondents in our study received information about MDA from anganwadi workers and ASHA similar finding was found in a study done in Assam. [27]

CONCLUSION

MDA assessment included a total of 160 family clusters. The coverage of the population with drugs was 92.51% and 7.49% of the study population was not covered by drug distributors. The drug distributors were Anganwadi workers, ASHA and also volunteers who were not health care workers. Drug compliance was found to be 95.74% and 4.26% non-compliance. The main reason for non-compliance was fear of side effects. The coverage of MDA was more than the required one. It requires a minimum of 85% coverage for the elimination of lymphatic filariasis which should be sustainable in at least 5 annual rounds. MDA coverage and compliance were more in rural clusters as compared to urban clusters. Identification of local individuals, training of drug distributors in MDA, strengthening of pre-MDA IEC campaigns, and focus on coverage of urban areas will help to achieve the goal of the national filaria program.

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