Research Article

Coverage and compliance of mass drug administration for elimination of lymphatic filariasis: A survey from Medak district of Telangana, INDIA

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Abstract

Introduction: Lymphatic filariasis is the world's second leading cause of long-term disability An important tool for elimination of Lymphatic filariasis is mass drug administration (MDA) with albendazole combined with either ivermectin or diethylcarbamazine citrate (DEC). India's National Vector Borne Disease Control Programme indicates coverage of MDA (DEC + albendazole) of between 82 and 88%, for the years 2006–2013. **Aims and Objective**: To assess coverage and compliance of MDA programme and awareness of the community regarding the disease and MDA program. **Material and Methodology:** The study was conducted by Department of Community Medicine MNR Medical College and Hospital, Sangareddy Dist. Medak. The multistage cluster sampling was adopted for estimation of sample size for the survey. A total of 4 clusters, 3 clusters from rural PHC areas and one from urban town were selected out for the survey on coverage with MDA. A pretested questioner was used to collect data with details of family members, demographic characteristics and information regarding distribution of MDA with dosage, whether consumed or not and if not consumed reasons for non consumption. Data were compiled and analyzed using the SPSS 19.0. **Results:** A total number of 160 families surveyed with population of 802. The total number of the eligible population surveyed was 749 (93.39%) out of which 53.7% were men and 46.3% were women. The percentage of coverage rate was 75.24% in rural cluster and 68.96% in urban cluster. The overall drug compliance rate was 75.05%. The main reasons for non-compliance were fear of side-effects (54.01%). **Conclusion:** Hence, it was concluded that MDA program revealed that the major areas of concern were satisfactory coverage and compliance, widespread rural urban variation in performance status, poor social mobilization activities, lack of supervised dosing and lack of knowledge of the community about the disease.

Keywords: drug administration, lymphatic filariasis.

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INTRODUCTION

Lymphatic filariasis is the world's second leading cause of long-term disability. The current estimate reveals that 120 million people in 83 countries of the world are infected with LF parasites and more than 20% of the world's population is at risk of acquiring infection.[1] An important tool for elimination of Lymphatic filariasis is mass drug administration (MDA) with albendazole combined with either ivermectin or diethylcarbamazine citrate (DEC), for which the minimum effective coverage of the total population is considered to be 65%.[2] MDA in combination with the other techniques has already eliminated LF from Japan, Taiwan, South Korea and Solomon Islands and markedly reduced the transmission in China.[3,4] The recommended approach is annual supervised MDA through a door-to-door visit by co administration of a single dose of Diethylcarbamazine (DEC) and Albendazole preferably on a single day with

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two-day mopping up operations. Children below 2 years, pregnant women and seriously ill patients are not eligible for MDA.[5] The recent review by Babu and Babu of 36 studies of MDA for lymphatic filariasis in India highlights the divergence of some reported coverage information from the 'effective coverage' specified by the Global Programme to Eliminate Lymphatic Filariasis (GPELF).[6] Combining urban and rural areas within each study, coverage ranged from 48.8 to 98.8%. India's National Vector Borne Disease Control Programme indicates coverage of MDA (DEC + albendazole) of between 82 and 88%, for the years 2006–2013. Provisional GPELF data from India in 2013 showed coverage of 71.4% of the target population.[7] In 2014, MDA was completed in Medak district of Telangana State from 14.12.2014 to 16.12.2012. The post-MDA assessment survey was conducted after MDA in the district of Medak in the month of February 2015.

AIMS AND OBJECTIVE

To assess coverage and compliance of MDA programme and awareness of the community regarding the disease and MDA program.

MATERIAL AND METHODOLOGY

The study was a cross sectional study conducted by Department of Community Medicine MNR Medical College and Hospital, Sangareddy Dist. Medak. The multistage cluster sampling was adopted for estimation of sample size for the survey. There are 46 mandals in Medak district. A total of 4 clusters, 3 clusters from rural PHC areas and one from urban town was selected out for the survey on coverage with MDA. The 4 clusters were included in the coverage evaluation survey for the year 2014 was Munipalley, Papannapet, Banur and Narsapur urban slum. A pretested questioner is used to collect data with details of family members, demographic characteristics and information regarding distribution of MDA with dosage, whether consumed or not and if not consumed reasons for non consumption. The purpose of the drugs, community participation, and medium of health information, drug reaction and treatment facilities were also recorded. The head of the family or other responsible adult member present at the time of the survey was interviewed with taking written informed consent. Data were compiled and analyzed using the SPSS 19.0.

RESULTS

Background characteristics

The total number of families surveyed was 160, and total surveyed population was 802. Total number of the eligible population surveyed was 749 (93.39%) out of which 53.7% were men and 46.3% were women.

Table 1: Consumption of drugs according to clusters

Cluster	Consumed Drugs (%)	Not consumed drugs (%)	Total (%)
Munipally	147 (76.56)	45 (23.44)	192 (100)
Banoor	115 (74.19)	40 (25.81)	155 (100)
Papannapet	127 (74.71)	43 (25.29)	170 (100)
Narsapur	160 (68.96)	72 (31.04)	232 (100)
Total	**549 (73.29)**	**200 (26.71)**	**749 (100)**

In the study, about 93.39% of the population (749/802) was drug recipients. Around 73.29% (549/749) recipients consumed the drugs while 26.71% (200/749) of the recipients had not consumed drugs. (Table 1)

Table 2: Coverage rate and compliance among the population

Cluster	Rural	Urban	Total
% Coverage Rate	75.24	68.96	73.29
% Compliance	74.04	77.50	75.05

The percentage of coverage rate was maximum in rural cluster (75.24%) as compared to urban cluster (68.96%). The overall drug compliance rate was 75.05%. Drug compliance rate was low in rural cluster (74.04%) than in the urban clusters (77.50%). (Table 2)

Table 3: Distribution of Recipients according to reasons for not consuming drugs

Reasons	No. of Recepients (n=137)#	Percentage
Under treatment of other disease	42	30.65%
Fear of side effects.	74	54.01%
No counseling for MDA	08	05.84%
Forgot to take drugs	17	12.41%

(# Multiple response found)

The main reasons for non-compliance were fear of side-effects (54.01%), under other treatment (30.65%), forget to take drugs (12.41%) and "no counseling for MDA" (5.84%).

Table 4: Awareness of the surveyed families regarding MDA programme and disease

Variable	No. of Families (n=160)	Percentage
Aware about MDA programme	106	66.25
Heard about Lymphatic filariasis	112	70.00
Aware about Signs and Symptoms	124	77.50
Aware about mode of transmission	86	53.75

It was noted that 106 (66.25%) out of 160 families were not aware about MDA programme. Around 70% families not heard about lymphatic filariasis and 53.75% were not aware about the mode of disease.

DISCUSSION

The study was a cross sectional study conducted by Department of Community Medicine MNR Medical College and Hospital, Sangareddy Medak district with an objective to assess coverage and compliance of MDA. A total of 4 clusters, 3 clusters from rural PHC areas and one from urban town were selected for survey for the year 2014. In the present study a total of 160 families were surveyed and total surveyed population was 802. The total number of the eligible population surveyed was 749 (93.39%) out of which 53.7% were men and 46.3% were women. In the study, the percentage of coverage rate was maximum in rural cluster (75.24%) as compared to urban cluster (68.96%). The overall drug compliance rate was 75.05%. Drug compliance rate was low in rural cluster (74.04%) than in the urban clusters (77.50%). Similar findings were seen in Post-MDA survey conducted in 2010 in North 24 Paraganas, another endemic district in West Bengal by Karmakar[8] *et al*. reported only 55.9% coverage and 69.4% compliance making effective coverage rate 38.8%, much lower than that of the present study. The probable reasons may be inadequate and improper social mobilization by Municipality and urban health workers.. In Andhra Pradesh, Mukhopadhyay[9] *et al*. reported only 64.6% consumption among those who received drugs. Babu[10] et al in Orissa reported 83% of drug coverage and only 49.5% people actually consumed the drug. The main reasons for non-compliance were fear of side-effects (54.01%), under other treatment (30.65%), forget to take drugs (12.41%) and no counseling for MDA (5.84%). Similar reasons were elicited in the study by Mukhopadhyay[9] *et al*., were most frequent causes for non-compliance were fear of side-effects (36.8%) followed by inadequate counseling about the use of the drug (27.8%). Babu[**10**] et al reported that the fear of side effects was the predominant reason for non-consumption in Orissa which is similar to the finding of the present study. Mathieu[11] *et al*. reported that the primary reason for non-compliance was absenteeism during the distribution (17%). In spite of 75% compliance in the present study, about 66% of the families were not aware about the MDA program which implies that a considerable proportion of people were taking drugs without understanding the reason. This type of only provider initiated programs cannot be sustainable in the long run. The present study, though representative of the eligible population in Medak district, was not free of limitations. First of all, there was a possibility of recall bias as the survey was not conducted immediately after MDA. Secondly, supervised drug administration could not be observed for the same reason. The future surveys will be more informative if above mentioned issue can be properly addressed.

CONCLUSION

The MDA program as revealed by the present study remain the major areas of concern because of satisfactory coverage and compliance, widespread rural urban variation in performance status, poor social mobilization activities, lack of supervised dosing, and lack of knowledge of the community about the disease. Timely and adequate training of the drug distributors strengthening of pre-MDA motivational campaigns, and greater involvement of the local community mobilizers are the needs of the hour.

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