

Coverage & Compliance of Mass Drug Administration Program against Filariasis in Bijapur District, Karnataka

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Abstract

Lymphatic filariasis is a major problem in India and primarily a disease of the poor as it occurs mostly in rural areas and urban slums. The disease has significant economic impact as it causes physical incapacitation and exerts a heavy social burden. Although 80 countries are at risk of suffering from the disease, India contributes to one third of the total case burden. The Mass Drug Administration (MDA) is a strategy of the global Programme to eliminate lymphatic Filariasis and consists of once yearly administration of Albendazole and Diethylcarbamazine (DEC).

Aims: To study the coverage and compliance rate of MDA in Bijapur district of Karnataka, to study the reasons for non-compliance, to study the side effects if any and to study the knowledge about the MDA Programme

Methods and Material:

A cross sectional community based study was conducted in Bijapur district of Karnataka. A total of four clusters in three Talukas distributed in Bijapur district were studied. In all, data from three rural areas and one urban area were collected by administration of interviewer based pre designed and pre tested questionnaire.

Results:

The Study included 223 families having 1071 individuals of which 1003 were eligible 849 (84.6%) individuals received DEC and Albendazole. Among the persons who received the drug 788 (92.8%) were adequately given the drug and 567(66.8%) swallowed the medicines. The persons reporting side effects on consumption was 1.1%. Out of 826 aged >14 years, only 400 (48.4%) had knowledge about MDA Programme.

Conclusion:

The coverage rate was 84.6% of the eligible population with a compliance of 56.5%. The most common reasons for non-compliance was out of home on the day of drug distribution, inadequately given and fear of side effects.

Key-words: Mass drug administration, coverage, compliance, Lymphatic Filariasis

Introduction:

Lymphatic Filariasis is one of the eradicable diseases affecting more than 1.3 billion people in 81 countries. Over 120 million are already affected and 40 million people are disfigured and incapacitated.¹

Currently, the Global Programme to Eliminate Lymphatic Filariasis (GPELF) depends largely on mass drug administration (MDA) to interrupt the transmission of *W. Bancrofti*. This strategy is based

on the evidence that single annual doses of anti-filarial drug DEC with or without Ivermectin or Albendazole can suppress microfilaraemia for prolonged periods and the cumulative effect is expected to lead towards the elimination of lymphatic filariasis.^{2,3}

The benefit of elimination of lymphatic filariasis eight years after its launch has been encouraging. As a result,

Medicines had been administered to a cumulative targeted population of 845 million individuals in 53/81 endemic countries! Indeed, of these 53 countries, 29 have achieved full geographic coverage

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and 20 have already completed five or more rounds of MDA in all endemic areas and this Programme has been one of the most rapidly expanding global health programs in the history of public health.¹

About 64% or two - third of global population who are at risk of LF infection are living in Southeast Asia region. It is estimated that 554.2 million people are at risk of LF infection in 243 /250 districts across 20 states and union territories in India⁴. In order to achieve the National Health Policy goal of eliminating Lymphatic Filariasis by 2015, Government of India has launched the MDA Programme since 2004. Eight districts in Karnataka state have been identified as endemic for lymphatic filariasis based on line-listing of cases and microfilarial surveys and Mass drug administration is initiated since then.

Studies done previously have shown that both coverage and compliance was lesser than the expected in various districts of Karnataka.^{5,7-9,12} and in India^{10,11,13,14}. Hence, the study was done with the primary objective of assessing the actual coverage and compliance to mass drug administration of DEC in a district of Karnataka.

Subjects and Methods:

A community based cross-sectional study was conducted as per the direction of National Vector Borne Disease Control Programme (NVBDCP) .The objective was to study the coverage and compliance, reasons for non-compliance and drug related side effects in Bijapur district, Karnataka. This evaluation

survey was conducted one month after the MDA campaign over a period of three days independently by the authors. The district comprises of five Taluks, of which four are endemic for lymphatic filariasis. The evaluation was conducted in three rural and one urban cluster selected randomly in different Taluks.

The house for beginning point was selected randomly and moved in a particular direction. All the subjects in the house were included except the children less than two years and pregnant women. Once the detail of a particular family was collected we moved on to the next household. Details were collected as per the proforma designed by NVBDC Programme for the country wide survey. Faculty member, post graduates and Medico Social workers of Department of Community Medicine, Kasturba Medical College, Manipal conducted the data collection by house to house visits. A total of 223 households were included at the end of three days. The data obtained was entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 11.5 for windows.Results:

The eligible population in the four endemic taluks is 1, 41,373 and the MDA Coverage rate was 90.68% according to the District Malaria Office reports.

Our evaluation comprised a total of 223 household of which 162 were in rural areas and 61 in urban areas. In all information was collected from 1071 subjects; 561(52.3%) were males and 510 (47.7 %) female subjects. The eligible population was 1003. Among the 68(6.3%) who were excluded from the study as they were known to be very old and with serious medical and surgical problems.

tOn analysis of the DEC distribution it was observed that 849(84.6%) received, of which 788(92.8%) adequately received and of the individuals who received adequately only 567(71.9%) consumed the medication. The coverage

And compliance rate according to our study were 84.6% And 56.5%. There is a considerable difference in the Coverage and compliance rate as revealed by the District Malaria Office reports and our evaluation Only adequate consumption for that particular age group is considered for compliance. Therefore, in our evaluation study, out of 1003 eligible subjects 567 (56.5%) have taken

Required treatment. Among the subjects who received the drugs 282 (33.2%) either consumed inadequately or did not consume the medication.

Table No. 1: Socio-demographic details of the population surveyed (n=1071):

Particulars	Number	Percentage
Gender distribution		
Male	561	52.3
Female	510	47.7
Age distribution (in yrs)		
2-5	80	7.5
6-14	206	19.2
15-60	658	61.4
60 and above	127	11.9
Geographical distribution		
Urban	271	25.3
Rural	800	74.7

Fig No. 1: Overall observation of coverage and compliance of the MDA Programme

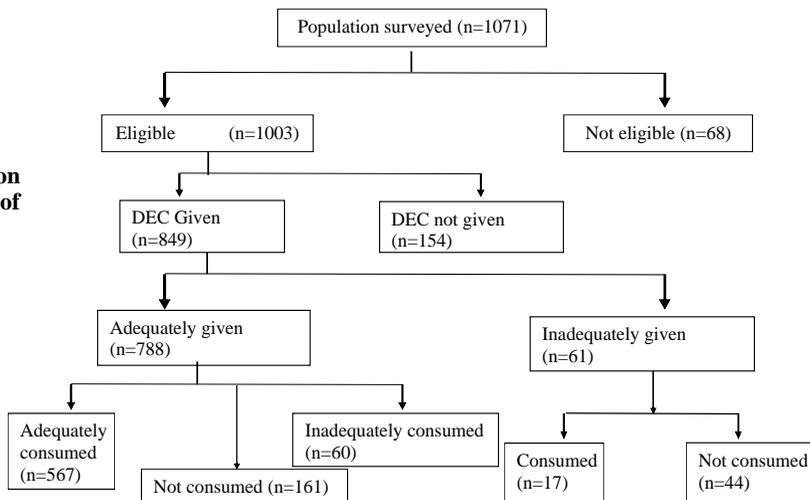


Table No. 2: The reason for non-compliance (n=282)

Reason	Number	Per-cent (%)
Fear of side effects	51	18.1
Too Young	11	3.9
Previous side effects	20	7.1
Too many tablets	09	3.2
Elders not at home	82	29.1
Other reasons	48	17.0
Inadequately given	61	21.6
Total	282	100.0

Table No: 3 Distribution of study subjects (>=14 years) based on their knowledge about the MDA programme (n=785)

Knowledge about MDA	Number	Percent (%)
Yes	393	50.1
No	392	49.9
Total	785	100

The various reasons for non-compliance and inadequate consumption indicate that the people of the areas surveyed did not have clear knowledge about the MDA programme, its utility and goal. This is shown in the findings about the knowledge about the MDA programme as depicted in the table below. The other reasons includes “Forgot to take”, Not a prevalent problem and Not aware. The reasons for inadequate distribution of the tablets were because of mis-classification of the eligible subjects and lack of clarity among the drug distributors.

Discussion:

Of the 223 households with a population of 1071 visited, the eligible population was 1003. DEC was distributed to about 84.6% of the eligible population with a compliance of 56.5%. In a study conducted in Dakshina Kannada district in 2009, coverage rate was 83% with a compliance rate of 76.8%.⁵ The coverage in Bijapur district is less when compared to the coverage rate in Karnataka which is 89.3% in 2009, 91.4% in 2010 and 91.8% in 2011. The reason

for non- distribution of drugs in our study areas were locked houses, mis-classification of eligible subjects and refusal to accept the medications. The drug distribution was during day time when the members of the households were been to work. Revisits of the houses were not done in most of the places due to lack of human resources. Few household members thought that the disease prevalence is very low and they refused to take the medications. In a study conducted by Ray Karmakar at Kolkata in 2010, about 9.56% of population had refused the drug or the distributor did not give the drug as they were suffering from various diseases.⁶

Among the households who received the medications in Bijapur district, only 79.0% had received adequately. Adequate quantity means appropriate number of DEC tablets for age along with one Albendazole tablet. The details regarding the coverage, adequacy and compliance is depicted in Fig no. 1. Compliance rate (proportion of subjects who had consumed the given drugs) was 56.7% in Bijapur district. Dakshina Kannada district in the last

two Years were 76.8% & 39.6%⁵. The programme aims to achieve an Effective coverage Rate of 85% and above. The previous study done in Bijapur district revealed a much lower compliance rate of 45.9%.⁷ Although there is an improvement in the compliance rate, it's not satisfactory.

Only 49% of subjects had proper knowledge about the disease. Knowledge was assessed using the questions like have they ever heard about the disease, seen any photograph or patient affected with the disease, what are treatment available and about MDA program. A similar study conducted in the year 2008 in Bijapur district revealed that the awareness was 41.4%⁷. Although our study showed a higher awareness, it reflects a lack of basic knowledge about the programme. In a comparative study done in Northern Karnataka, it has been observed that the Knowledge about the MDA was low at 33.8% and 24.3%.⁸ In the present study, side effects were reported by 1.1% of the subjects who consumed the appropriate dose of the medication. The side effects noted were nausea and vomiting in three subjects, gastritis in 2 subjects and fever in 1 subject. The study conducted in Udupi district revealed that 0.72% of the subjects had side effects.⁹

Out of home on the day of drug distribution (29.6%), inadequately given (21.6%) and Fear of side effects (18.1%), were the common reasons reported for non-compliance. In a comparative study done in two districts of Karnataka, the reasons for not consuming the medications were similar to that found in our study⁸.

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