ABSTRACT

Background: Filariasis leads to irreversible chronic manifestations, which are responsible for social stigma besides causing considerable economic loss and severe physical disability to the affected individuals. Mass drug administration (MDA) against filariasis means administration of DEC tablets to all people (excluding children < 2 years, pregnant women, seriously ill persons) in endemic areas once-in-a-year. It aims at cessation of transmission of lymphatic filariasis.

Objective: To assess the coverage and compliance of MDA in Bijapur district during the campaign November 2008.

Results: Twelve clusters including 4 urban & 8 rural clusters surveyed, among which 1830 eligible population were interviewed. The coverage rate was 86% with variation across different areas. The compliance with drug consumption was only 46%. Only 41.4% of study population was aware of MDA activity.

Conclusion: Though the coverage was 86%, the compliance was only 46%, which is much below the target of 85%. Main reason for non compliance was lack of adequate information. Effective drug delivery strategies such as proper area demarcation, repeat house visits have to be done to improve coverage. Training of drug distributors to improve interpersonal communication & effective IEC activities are to be emphasized to improve compliance & achieve elimination of filariasis.

Keywords: Mass drug administration, Lymphatic filariasis, DEC, Coverage, compliance.

INTRODUCTION

Filariasis has been a major public health problem in India, and identified as a potentially eradicable disease by the International Task Force for Disease Eradication. The National Filaria Control Programme (NFCP) was launched in 1955 for the control of bancroftian filarial and now National Health Policy Goal is to eliminate lymphatic Filariasis from India by the year 2015.

In 1998, the WHO had targeted the elimination of this disease and formulated a Global Programme on Elimination of Lymphatic Filariasis (GPELF). The basic features of this Programme are Mass Drug Administration (MDA) with appropriate anti filarial drug and morbidity management. Under this programme, A National Filaria Day (NFD) is being observed once a year since 2004, in the month of November, on a Particular day. A single dose of antifilarial drug diethylcarbamazine (DEC) is distributed to inhabitants of all age and sex in filarial endemic areas, excluding children below 2 years of age, pregnant women and severely ill patients. It aims at cessation of transmission of filariasis in the community. MDA in combination with other techniques has already eliminated Filarisis from Japan & South Korea & markedly reduced the transmission in China.

Lymphatic Filariasis, the second most important mosquito born disease is prevalent in Karnataka. Based on microfilaria surveys and line listing of lymphedema cases, currently eight districts of Karnataka are considered endemic for the disease, and accordingly they were included for observing MDA since 2004. The present study was conducted to asses the programme in terms of actual coverage, compliance rates for mass drug administration against filariasis in the Bijapur district & to identify reasons for non compliance.

MATERIALS AND METHODS

MDA activity was carried on 15th -18th November 2008. Evaluation was done 2 weeks after MDA activity is over. The specific objective of this evaluation is to find out the actual coverage,
compliance rates of DEC tablets and reasons for non compliance. 

Study location: Bijapur district
Study design: Cross sectional
Study population: Eligible population
Inclusion criteria: All the people >2yrs
Exclusion criteria: < 2yrs children, pregnant women, lactating mothers, seriously ill patients.

**SELECTION OF THE SURVEY AREA**

Out of five taluks of Bijapur district, four were known for Filariasis. Hence MDA activity was carried out in these four talukas. Among each taluka 1 urban ward (urban cluster) & 2 PHCs were selected for evaluation. PHCs were selected based on coverage ie, one with good coverage another with low coverage. In each selected PHC, one village (Rural cluster) was selected randomly. So totally 12 clusters were surveyed which included 4 urban & 8 rural clusters from four urban wards and four PHCs. Baseline details such as no. of PHCs, total eligible population, coverage rates of MDA activity done in Bijapur district were collected from District malaria office.

In each identified cluster a house was selected randomly from a midpoint and the survey continued till minimum of 150 individuals were interviewed. A total of 1830 individuals were interviewed from all the 12 clusters.

Information was collected from household members by interview method with the help of a pretested and structured questionnaire. The following information such as whether the members received DEC tablets, whether they consumed it, reasons for not consuming, any adverse reactions noticed, their awareness about MDA activity and source of information were elicited.

**Results and Discussion**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>932</td>
<td>50.9</td>
</tr>
<tr>
<td>Male</td>
<td>898</td>
<td>49.1</td>
</tr>
<tr>
<td>Total</td>
<td>1830</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 1: Distribution of study population sex wise**

In the study population sex distribution was almost equal.

As per the District malaria office reports, total eligible population of 4 taluks of Bijapur District selected for MDA activity including Towns & Villages were 12, 59,303. Coverage rate was 93.6%. Whereas the survey coverage rate was 85.9% in the study population. The difference of 14% could be attributed to people not having received tablets either because they were not at home when distributors visited or distributors having not visited their houses at all. Distributors have not visited few houses because of confusion in area demarcation.

<table>
<thead>
<tr>
<th>Tablet Consumed</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>841</td>
<td>45.9</td>
</tr>
<tr>
<td>No</td>
<td>989</td>
<td>54.1</td>
</tr>
<tr>
<td>Total</td>
<td>1830</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 3: Distribution of study population based on consumption of DEC tablets**

In the study population, out of 1830 only 841 people consumed tablets. So compliance rate was 45.9%. The required target of 85% compliance rate for elimination of Filariasis was not achieved. There was hardly any stress on supervised “on the spot” consumption of tablets. Compliance rate was bit better where health staff was deputed for drug distribution. In similar studies by Kumar et.al the coverage was 85.2% and compliance was 60% and in B.V. Babu Study in Orissa it was seen that coverage was 67% and compliance was 42%. 

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(1) Kumar et al  
(2) Babu et al
Reason for Non Consumption | Frequency | %  
--- | --- | ---  
Inadequate Information | 512 | 51.8  
Fear of reaction | 150 | 15.2  
Not at home | 155 | 15.7  
Not visited by team | 102 | 10.3  
Others (Sickness, I am healthy) | 70 | 7  
Total | 989 | 100  

Table 4: Distribution of study population according to reasons for not taking DEC tablets

Among the 989 people who did not consume tablets – 512 i.e. 51.8% people said that they have not been informed properly about why and how much they should consume. 15% of people did not consume tablets for the fear of reaction. 7% of the people did not consume tablets because either they feel they are healthy or sick. So almost 74% people did not consume because of inadequate information from drug distributors. 15.7% of people were not at home during the activity. Drug distributors have not made repeat visit to enhance coverage as well as compliance.10.3% people have not received tablets though they were at home. Drug distributors not visited their homes, because of confusion in area demarcation.

Adverse Reactions | Frequency | Percentage  
--- | --- | ---  
No | 1819 | 99.4  
Yes | 11 | 0.6  
Total | 1830 | 100  

Table 5: Distribution of study population who developed adverse reactions

Adverse reactions among study population were only 0.6%, which is negligible. The following adverse reactions noted were giddiness, vomiting, gastric irritation etc which were mild. Even though adverse reactions were negligible, people should be made aware of it through IEC, because only sustained high compliance can lead to elimination of Filariasis.

Awareness about MDA Programme | Frequency | %  
--- | --- | ---  
Yes | 757 | 41.4  
No | 1073 | 58.6  
Total | 1830 | 100.0%  

Table 6: Distribution of study population regarding knowledge about MDA

In the study population 41.4% were aware & 58.6% were unaware of MDA activity. Major source of information was either Health staff or Anganawadi worker. Mass media such as TV, radio, newspapers, miking, local cable network and local folk media has not been used effectively in this process. This shows that there is an urgent need for effective IEC strategy to be adopted .

CONCLUSION:

A high coverage (>85%) is required to achieve the interruption of transmission and elimination of disease in India. The 86% coverage in the study population observed by us was unsatisfactory because under the MDA, the target was to ensure effective coverage of 85% – a product of coverage as well as compliance. Compliance rate was only 46% in the study population, considering this the effective coverage turns out to be only 53% (i.e. 46% compliance of the 86% coverage). So even though the 85% target coverage seems to be achieved, the effective coverage is very low which may not be in lines with the programme goals. Remaining 14% who have not received tablets could have been covered by re-visit to houses, proper area demarcation allocation to drug distributor and proper supervision. So there is a need for more effective drug delivery strategies that are adapted to regional differences and variations in health sector development.

Out of 54% of study population who were non compliant, 74% of these did not consume tablets either because of lack or inadequate information. Compliance can be improved by better inter personal communication from the drug distributors at the
time of distribution & effective IEC activities. So emphasis should be laid on training drug distributors to improve inter personal communication so as to impart adequate information such as why they are distributing the tablets, how to consume (all tablets at a time), how much to consume and also to educate about adverse reactions. Drug distributors to be informed about the importance of supervised “on the spot” consumption of tablets.

The awareness about MDA activity was only 41%, in that major source of information was health staff itself. So there is a need for effective IEC strategy to be adapted to regional difference and variation. Better co-ordination with other sectors, involvement of NGOs, local leaders and self help groups need to be emphasized.

The required target of >85% compliance for elimination of Filariasis can be achieved with effective IEC strategy, training of drug distributors to improve interpersonal communications and effective drug delivery strategies with improvised supervision of MDA activity.

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