RESEARCH ARTICLE

Assessing Coverage and Compliance of Mass Drug Administration Under Elimination of Lymphatic Filariasis Program in Yadgir District, Karnataka

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ABSTRACT

Background: Evaluation of mass drug administration (MDA) is done internally by the health authorities and externally by independent agencies. This paper reports the findings of evaluation of MDA conducted independently for Government of India in Yadgir district of Karnataka state in February 2011 by the authors.

Objective: To assess the Coverage & Compliance rates of MDA against lymphatic filariasis and to study the factors influencing non-coverage and non-compliance in Yadgir district.

Materials and Methods: A Community based cross-sectional study was conducted in three randomly selected villages and one urban ward. The data was collected in a pre-designed semi-structured proforma from 200 households. Pregnant women, children <2 years and severely ill were excluded from the study.

Results: 1026 eligible population were studied and 51.07% of them were males. The Diethylcarbamazine citrate plus Albendazole coverage rate was 97.36% and the compliance rate was 77.77%. The major reason for non–compliance was due to fear of side effects amounting to 58%. Only 4 persons reported adverse effects after drug consumption.

Conclusion: A high level of motivation and commitment from the drug distributors with adequate training is required for ensuring a high coverage and compliance rates.

Key Words: Lymphatic Filariasis; Coverage; Compliance; Side-effects; Mass Drug Administration

INTRODUCTION

Lymphatic filariasis is mainly a disease of the tropical countries and can be a debilitating disease to all those who get affected. Worldwide an estimated 120 million people in 72 countries were infected in 2010 and 1.39 billion live in areas where filariasis is endemic. Approximately 40 million people suffer from the stigmatizing and disabling clinical manifestations of the disease, including 15 million who have lymphoedema (elephantiasis) and 25 million men who have urogenital swelling, principally scrotal hydrocele.[1] These clinical manifestations account for a burden of 5.9 million disability-adjusted life years.[2] In India, filariasis is endemic in 20 states/union territories covering 250 districts with about 600 million people at risk of infection.[3]

Global Programme to Eliminate Lymphatic Filariasis (GPELF) is a rapidly growing worldwide public health programme launched in 2000 with the goal of eliminating the disease as a public health problem by 2020. As of 2010, in South East Asia region 88,36,85,208 required chemotherapy against lymphatic filariasis and 38,04,02,738 received the treatment.[4] The Government of India in 2004 has accorded a high priority for elimination of Lymphatic Filariasis through mass chemotherapy

programme (annual single dose of Diethylcarbamazine citrate (DEC) 6 mg/kg of bodyweight plus Albendazole 400mg). During the year 2004, 202 filarial endemic districts with a population of about 468 million were targeted under Mass Drug Administration (MDA) for the elimination of lymphatic filariasis. This campaign has become a part of the National Vector-Borne Disease Control Programme under the National Health Policy 2002 and aims to eliminate filariasis by 2015.[3] Approximately 50% of the total number of integrated preventive chemotherapy interventions delivered worldwide were delivered in India; this was accomplished largely by programmes aimed at eliminating lymphatic filariasis.[4] Evaluation of MDA is done internally by the health authorities and externally by independent agencies. This paper reports the findings of evaluation of MDA conducted independently for Government of India in Yadgir district in February 2011 by the authors. The objectives of this study were to find out the coverage & compliance rates of MDA and the factors influencing non-coverage and non-compliance.

METHODS

A Community based Cross-sectional study was conducted independently for Government of India in Yadgir district in February 2011. Multistage sampling was employed to select the study population. In the first stage three Primary Health Centres (PHC) from each taluk and one urban ward were selected randomly. In the second stage one subcentre from each PHC was randomly selected and in the third stage one village from each subcentre was randomly selected for the study. Fifty households from each selected villages and from one urban ward were randomly chosen as the study population as per the guidelines. Pregnant women, children <2 years and severely ill people were excluded from the study. The head of the household and other members present in the household were interviewed and the data was recorded in a predesigned semi-structured questionnaire. The compiled data was analysed and expressed as proportions.

RESULTS

A total of 1026 constituted the study population and 51.07% were males. Majority of them i.e., 74.4% belonged to 15-60 years age group. [Table-1]

Table-1: Age and Sex wise Distribution of Study Population

Age Group (yrs)	Male	Female	Total
2-5	25 (4.77)	23 (4.58)	48 (4.67)
6-14	74 (14.12)	102 (20.31)	176 (17.15)
15-60	409 (78.05)	362 (72.11)	771 (74.4)
≥ 60	16 (3.05)	15 (2.98)	31 (3)
Total	524 (100.00)	502 (100.00)	1026 (100.00)

Values in parenthesis are percentages

The coverage rate for DEC plus albendazole was 97.36% [Table-2] & the compliance rate was 77.77% [Table-3]. Compliance refers to actual consumption of the drug by the community.

Table-2: Drug Distribution to Study Population

Drugs	No.
DEC + Albendazole	999 (97.36)
No drugs received	27 (2.63)
Total	1026 (100.00)

Values in parenthesis are percentages

Table-3: Consumption of Drugs by the Study Population

Drugs Consumed	No.
DEC + Albendazole (Proper dosage)	796 (77.77)
DEC + Albendazole (Improper dosage)	128 (12.47)
Albendazole only	2 (0.19)
Did not consume the drugs	100 (9.74)
Total	1026 (100.00)

Values in parenthesis are percentages

The reasons quoted by the individuals for non consumption of drugs were the fear of side effects (58%) followed by lack of information about the distribution of drugs either beforehand by the health workers or by the family members who had received the drugs on their behalf (26%), old age (15%) & sickness (1%). [Table-4]

Table-4: Reasons for Non-consumption of Drugs

Reasons	No.
Lack of Information about distribution of drugs	26 (26)
Old age	15 (15)
Sickness	1 (1)
Fear of Side effects	58 (58)
Total	100 (100.00)

Values in parenthesis are percentages

Only 4 people had reported adverse affects like diarrhoea, vomiting and itching after drug consumption.

DISCUSSION

Mankind is plagued by many diseases, old and emerging ones. If any of them creates a major public health concern, elimination of it becomes a priority even at the international level. Lymphatic filariasis is one of those. Lot of time and money has been spent over years to reduce the burden of filariasis. The key strategy to eliminate filariasis is to achieve a coverage rate of 85% for at least 5 years along with good compliance and active community participation. In our study the coverage rate for DEC plus albendazole was 97.36%. In studies conducted by Pattanshetty S et al and Ranganath BG the coverage rates were 83% and 85% respectively.[3,5,6] The motivated health officials and field workers might be the reason for good coverage obtained in our study.

The compliance rate reported in our study was 77.77%. Compliance rates of 74% and 69% were reported by Mukhyopadhay and Karmakar in their studies.[7,8] As the awareness about the MDA program was poor, earning persons in the households were not available at home during the distribution of drugs. Alternatively, other member at home or their neighbours had collected the drugs on their behalf and had forgotten to inform the same to the absentees. Drug consumption infront of the drug distributors was not ensured for those who received the drugs directly from the drug distributors, as the members of the households quoted reasons like lack of proper food intake, fear of taking all the drugs at once and consuming drugs in divided doses over few days. All these hindered direct observed treatment which is essential for ensuring a good compliance.

The report of side effects after consumption of DEC in the past had created a fear among people regarding the consumption of drugs. A good Information, Education and Communication (IEC) and reassurance against side effect from drug consumption would have improved the compliance rate. The failure of community awareness and lack of rapid response team to tackle the side-effects resulted in fear of side effects becoming the main reason for non compliance in this study (58%) and similar findings have been noted in studies by Karmakar PR et al, Kumar A et al and Kumar P et al.[8,9,11]

The success of any national health programme directly depends on active community participation. The path to achieve it is through community awareness about the disease and its complications. Only 22 people were aware about the hydrocoele cases in the village. Only 21.63% people were aware about the MDA through interpersonal communication, similar to the findings of study conducted by Lahariya & Mishra and also of Karmakar et al where the awareness was only 21.08%.[8,10]

CONCLUSION

The major challenge of MDA programme is to sustain a high level of coverage (>85%) for a period of atleast five years. Our study reported coverage rate of 97.36% and compliance of 77.77% depicting the limitation of the program to be poor compliance and lack of community awareness. Even though very few and minor side effects were reported in our study, they need to be addressed as they may constitute cause for future non-compliance. This shows that there is a need to strengthen the programme in terms of creating awareness through appropriate media in the community with efficient microplan, improved supervision, intersectoral co-ordination, teaching and training of health work

force to make filariasis to enter the oblivion like many other diseases in the past.

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