

Original Research Article

Programmatic evaluation of mass drug administration for elimination of lymphatic filariasis and reasons for non-compliance in Gulbarga district, Karnataka in 2015

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ABSTRACT

Background: Mass drug administration (MDA) to eliminate lymphatic filariasis (LF) is conducted once annually in the identified endemic districts of the country. MDA implementation is assessed by appointed independent teams within 2-3 weeks of the activity to suggest mid-term corrections and strengthen the on-going programme. This study was undertaken to assess the process of MDA implementation, drug coverage and compliance and to identify the reasons for non-compliance.

Methods: A survey of four clusters comprising of three rural and one urban area was conducted in Gulbarga, during the third week following the MDA campaign in the district. Information pertaining to the MDA beneficiaries of the 124 evaluated households was collected over a period of three days using a structured proforma. The process of MDA implementation was evaluated at the district, taluk and primary health centre (PHC) levels.

Results: From the information collected on 673 inmates of the households surveyed, the coverage and compliance rates of 87.5 and 60.9% respectively was found for diethylcarbamazine citrate and albendazole distribution and consumption. The important reasons for non-compliance to swallow the drugs identified were the beneficiaries being out of station during the campaign, was not aware of it, the drug distributor did not visit the beneficiaries house and fear of side effects of the drugs.

Conclusions: Efforts to improve the compliance to consumption of the anti-filarial drugs at Gulbarga district is required for elimination of LF.

Keywords: Lymphatic filariasis, Coverage, Compliance, Mass drug administration

INTRODUCTION

Lymphatic filariasis (LF) is one of the important leading cause of permanent and long-term disability with an estimated 5.1 million disability adjusted life years (DALYs) lost due to the disease globally.¹ A total of 250 districts are found to be endemic for LF in India.² Annually a single dose of diethylcarbamazine citrate and albendazole is being distributed to the eligible population in these endemic districts as one of the LF elimination strategy to control transmission. The other strategies

being implemented is disability prevention and clinical management of those affected by the disease.³

Evaluation carried out following mass drug administration (MDA) campaigns in many of the LF endemic districts show poor drug administration coverage and compliance in Karnataka state and elsewhere in the country.⁴⁻¹⁵ However few districts have been declared to have eliminated LF through these strategies. Independent appraisals of the annual MDA campaigns are being carried out to assess the programme inputs, activities and

stakeholders' reactions. Consecutive evaluation/independent appraisal are carried out by independent institutions and are different from the concurrent evaluations which are performed through observers from state or central levels. This report presents the results of the consecutive evaluation conducted by independent evaluators at Gulbarga district following the twelfth round of annual MDA campaign in the month of December 2015.

The objectives of the evaluation survey were to assess the progress of activities of administration of diethyl-carbamazine citrate and albendazole in the selected district, to assess the programme implementation with respect to process and outcome indicators and to recommend mid-course corrections and suggest necessary steps for further course of action.

METHODS

The request for the assessment was issued by the ministry of health and family welfare, Government of India. The MDA activity in Gulbarga district was conducted for a period of seven days in the third week of December 2015. Since the coverage of drug distribution was found to be poor a mop up activity was carried out for four more days in the last week of the same month. This evaluation survey was carried out for three days in third week of January 2016 by assessors from the department of community medicine of a rural based medical college.

The estimated population in Gulbarga district in 2015 was around 27, 90,206 of whom about 25, 66,280 of them were eligible for MDA. Of the seven talukas in Gulbarga district excluding Gulbarga urban taluka, three were selected randomly for the evaluation survey namely Sedam, Afzalpur and Chittapur based on the reported coverage levels of low (86.1%), medium (89.8%) and high (97.9%) in the twelfth round of MDA. One PHC each were selected randomly from these talukas. One sub centre each was selected from these three PHCs and then one village each was selected from the sub centre areas randomly. Of the eleven health wards in Gulbarga city corporation limits, Heerapur (urban ward) was selected randomly.

Each of these selected villages and the urban ward was further divided into two manageable areas with approximately the same number of households and then one of them was selected at random. Then from the approximate centre of the subunit a random direction of travel was selected. The number of houses between the centre and the limit of the subunit was counted and the starting house for the survey was selected randomly.⁸ Once the data of all the individuals eligible for MDA in the selected households was collected, the next nearest household was visited to collect the information. According to the MDA programme eligible population means all persons aged more than two years excluding pregnant women and seriously ill patients. Parents or care

givers answered for young children. The questions administered included whether the person received the dose or not and the reasons for not having received it and for not consuming it, if they had received it. The coverage survey captured data on a sample consisting of a minimum of 150 individuals from each of these clusters. The structured questionnaire was applied to one adult member of the selected household to collect demographic information of the household members, receipt of drugs from the drug distributors, compliance to the drugs, reasons for non-consumption of the drugs, source of information regarding MDA, side effects of drugs and awareness about lymphatic filariasis. The informant was asked to show any leftover drugs from those distributed in the MDA campaign.

Necessary information related to preparatory activities for MDA implementation was collected from the district health office and the selected health centers for the survey. Information on formation of district level coordination committee, behavioural change communication (BCC) activities, district level training of health officers, logistics and supply of drugs was obtained from vector borne disease control officer of Gulbarga district. Preparation of micro plan for drug administration at the selected PHCs and the corporation ward, training of paramedical staff at PHC and urban wards was also assessed by the survey team. Microfilaria (Mf) survey, line listing of LF and hydrocele cases, report on lymphedema morbidity management and hydrocele camps, serious adverse events and MDA coverage was obtained from the district health office and the selected health centres. The collected survey information from the questionnaire was compiled manually and summarized as frequencies and proportions for each cluster. The coverage rate, compliance rate, effective compliance rate and coverage compliance gap for the drugs distributed in the surveyed clusters was calculated.

RESULTS

Our evaluation comprised a total of 124 household of which Ninety four households were surveyed in the selected three villages and another thirty in the selected urban ward of Gulbarga district. Information was obtained of 673 MDA beneficiaries of whom 390(57.9%) were females subjects and majority of them belonged to Age group 15 to 60 years (Table 1).

The drug distribution coverage rate was comparatively better (95.8%) in the surveyed urban ward compared to the three villages (83.6-85.9%). On analysis of the DEC distribution it was observed that 589 (87.5%) received, of which only 520 (88.2%) of whom had received tablets consumed the medication. The overall compliance rate in the sampled areas is 60.9% which ranged from 35.2% in Bilwad (K) village of Afzalpur taluk to 91.9% in the Heerapur urban ward. The coverage compliance gap which is the difference between the drug coverage rate and the compliance rate was found to be more in the

surveyed villages (26.1-30.7%) compared to the urban ward (3.9%). The effective compliance defined as the percentage of the beneficiaries completely consuming the

distributed drug in appropriate dose was found to be 53.3% (Table 2).

Table 1: Age and sex distribution of study population.

Age group (in years)	Sex		Total
	Male	Female	
2-5	8	5	13
6-14	43	38	81
15-60	220	324	544
61 and above	12	23	35
Total	283	390	673

Table 2: Cluster wise coverage, compliance and CCG in the MDA campaign at Gulbarga in 2015.

Cluster	Eligible population (n)	Coverage rate (%)	Compliance rate (%)	Effective compliance (%)	CCG (%)
Heerapur (urban)	169	95.8	91.9	88.1	03.9
Munakanapally	173	84.3	58.2	49.1	26.1
Petasiroor	153	83.6	55.4	46.1	28.2
Bilwad (K)	178	85.9	35.2	30.3	30.7
Total/Average	673	87.5	60.9	53.3	34.2

CCG = Coverage compliance gap.

Table 3: Reasons quoted for non-consumption of drugs distributed in MDA campaign at Gulbarga in 2015 (n=153).

Reasons for non-consumption of anti-filarial drugs	N (%)
Was out of station	49 (32)
Not aware of MDA campaign	33 (21)
Drug distributors did not visit the house	24 (16)
Fear of side reactions	23 (15)
No disease	15 (10)
Others	09 (06)

The important reasons given by the household respondents for the MDA beneficiaries for not consuming the distributed drugs were either being out of station during MDA campaign, not aware about MDA at all, drug distributors have not visited their houses, fear of side effects of the drugs and not necessary to consume the drugs as they felt they did not have any disease Adverse effects following drug consumption was not reported by any of the respondents (Table 3).

DISCUSSION

The coverage rate to the twelfth MDA campaign carried out in December 2015 at Gulbarga district is 87.5%, compliance rate is 60.9% and effective coverage rate is 53.3%. The coverage rate among the eligible population as assessed by the district health team is 93.2% which is slightly higher than the assessment by the independent evaluation team. The indicators of the effectiveness of MDA campaign in Gulbarga district were better in the urban area compared to the rural areas (Table 1). The coverage for the 250 endemic districts of the country was 85.6% in 2014, whereas it was 76.7% in Karnataka state. The past evaluations have assessed the coverage rates of

the MDA in the endemic districts of Karnataka as ranging from 32.7% to 97.3%. A coverage rate of 85% and above consistently for five years is required to eliminate LF in any endemic district.¹⁶ MDA campaign in the endemic districts of Karnataka is being conducted successively since the year 2004.

The compliance to the distributed anti filarial drugs in the year 2015 in Gulbarga district was only 60.9%. Of the 153 beneficiaries who had not consumed the distributed anti filarial drugs 46% of them had not consumed as they were either not aware of the MDA campaign, had fear of side-effects or felt no need to consume the drugs as they did not have the disease. The compliance rates to the drugs distributed in the MDA campaign have generally been in the range of 46 to 93% in the endemic districts of Karnataka from the years 2007 to 2013 which may reflect on the need for strengthening of the BCC activities during MDA campaigns among the beneficiaries.⁴⁻¹¹ The MDA coverage rates in Gulbarga district has been inconsistent and reported as 32.7% in 2008, 38.8% in 2012 and 93.4% in 2014.^{8,6,10} This inconsistent performance of the drug distribution in the MDA campaigns can explain to the continued LF transmission

in this district. The microfilaria rate in Gulbarga district in 2015 is 0.7% compared to 0.45% at national level in 2014.¹⁶ Of the total 153 beneficiaries who had not consumed the distributed drug nearly 73 of them had not received the drugs as 67% of them were not at home during the period of MDA campaign and 33% of them had never met the drug distributors. The coverage in the three sampled PHC areas was around 85% and 95.8% in the urban area.

The DEC distributed in the MDA campaign are of 100 mg strength and are to be swallowed as one, two or three tablets for age groups 2-5 yrs, 6-14 yrs and those aged more than 15 yrs respectively.¹⁶ The required strength of tablets are to be swallowed together as per the programme guidelines. It was observed in this evaluation survey some of the beneficiaries had consumed tablets in divided dose in the morning, afternoon and night or one tablet on each day as the drug distributors were not clear in giving the instructions. Because of fear of side effects of the drugs as experienced by some of the beneficiaries in the previous MDA campaign in 2004 some choose to swallow drugs in divided doses. Also the drug distributors have not emphasized on the need to swallow all the drugs simultaneously.

The planning and process management of the MDA campaign at Gulbarga district namely action plan, Mf survey, line listing of lymphedema and hydrocele cases, logistics of drugs and IEC and social mobilization was assessed by going through the records maintained at district and at the sampled rural and urban health centres and were found to be systematically conducted. However the morbidity management of LF cases in the surveyed health centers was not planned and conducted as per the programme guidelines as the funds were not received at the appropriate time. In spite of proper planning and management of the pre MDA campaign activities at district and PHC levels poor operational management of disability prevention activities was observed in Gulbarga district. Failure to implement the disability prevention by lymphedema management and surgical management of hydrocele cases may lead to loss of confidence of the community on the MDA programme.

CONCLUSION

Coverage of MDA against LF in 2015 in Gulbarga district was 87.5%. Compliance among those who had received the tablets was 60.9%. Coverage and compliance rate were higher in urban area compared to the rural areas. The poor compliance among the beneficiaries to the distributed drugs can be attributed to inadequate training of drug distributors. This led to poor awareness of MDA programme and inadequate motivation to consume the distributed drugs among the beneficiaries.

Recommendations

Adequate training is to be provided to drug distributors in every round of MDA campaign. Training should focus on communication skills, importance of covering all MDA beneficiaries with adequate dose of drugs and in ensuring consumption of distributed drugs in front of them. It should be ensured that these activities should be supervised by programme managers at all levels.

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