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Coverage and compliance MDA programme for lymphatic filariasis in Bidar district, Karnataka, India

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ABSTRACT

Objective: To describe the socio demographic characteristics of beneficiaries of the Mass Drug Administration (MDA) programme, to assess the coverage, compliance and causes for noncompliance towards MDA in the district, to assess the awareness regarding elephantiasis among beneficiaries and to assess the knowledge of drug distributors towards the filariasis and MDA programme. **Methods:** This cross sectional study was conducted in 3 rural and 1 urban clusters in Bidar district for the period of 1 week. 50 houses were selected in each cluster by systematic random sampling method and data was collected in a structured proforma by interview technique. **Results:** Majority of beneficiaries were at the age group of 15–60 years (72.3%) and male (53%). The overall coverage of MDA in Bidar district was 62.3%. Compliance among those who had received the tablets was 60.4%. Coverage and compliance was more in rural areas compared to urban. The most common reason quoted for not consuming drugs was fear of adverse effects (72.2%) The incidence of adverse events was 0.2%. Even though 75% of them were aware of the disease elephantiasis, only 45.4% had knowledge regarding MDA programme. The knowledge of drug distributors towards MDA and filariasis was found to be adequate. **Conclusions:** Coverage and compliance towards MDA in Bidar district was poor. The coverage and compliance in rural areas was higher compared to the urban areas.

1. Introduction

Lymphatic filariasis (LF) or elephantiasis is the most debilitating and disfiguring scourge among all diseases. Although filariasis does not kill, it causes debility and imposes severe social and economic burden to the affected individuals, their families and communities[1]. Filariasis has been a major public health problem in India next only to malaria. 250 districts in 20 states/Union Territories are endemic for the disease. Over 600 million people live in filariasis endemic areas in India. Three fourth of those are at risk live in rural areas. An estimated 49 million individuals in India are infected with LF of these, over 23 million people suffer from chronic forms of Filariasis. National Health Policy (2002) has set the goal of elimination of lymphatic filariasis in India by 2015. The concept of Mass Drug Administration (MDA) is to approach every individual in the target community and administer annual single

dose of anti-filarial drugs Diethyl Carbamazine (DEC) or (DEC + Albendazole)[2]. With this background following the instructions given by Regional office, Ministry of health and family welfare, Government of India this study was conducted in Bidar district, Karnataka with the The study was conducted with the objective to describe the socio demographic characteristics of beneficiaries of the MDA programme, to assess the coverage, compliance and causes for noncompliance towards MDA in the district, to assess the awareness regarding elephantiasis among beneficiaries and to assess the knowledge of Drug distributors towards the filariasis and MDA programme.

2. Subjects and methods

This cross sectional study was conducted in the Bidar district Karnataka, India during February 2011 for a period of one month. The line listing of lymphodema cases for the year 2010 was collected from the District Filaria Office and the Talukas except Bidar urban were arranged in the ascending order of the incidence of lymphodema cases. One Taluka in each of low medium and high incidence

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were selected. One primary health centre was selected by each of the Talukas and one subcentre from each of the Primary Health Centre (PHCs) was selected randomly. One village from each of these subcentres was selected for the household survey. After listing all the wards in Bidar town one ward was selected randomly for the household survey. Thus 3 rural and 1 urban clusters were selected as per the instructions given by the Regional office, Ministry of health and family welfare, Government of India. Data regarding knowledge of drug distributors regarding filariasis was collected at subcentre and the village level in a structured proforma by interview technique.

For the collection of data regarding sociodemographic characteristics, coverage and compliance towards MDA and awareness regarding filariasis among beneficiaries, Center of the village was identified by taking the help of a resident of the village; from there the four directions were identified and numbered. One direction was chosen randomly and a walkthrough survey was done to note the average number of houses in the street. Investigators randomly selected the 1st house in the road and subsequently every 5th house was selected by simple random sampling technique. The data was collected on a pre tested structured proforma by interviewing the adult responsible respondent aged between 18–60 years after explaining the purpose of the survey and showing a flashcard containing a picture of elephantiasis case, DEC and albendazole tablets. Totally 208 houses were covered with minimum of 50 houses in each cluster.

3. Results

3.1. Sociodemographic characteristics

Among 208 households comprising of 951 beneficiaries surveyed, majority 688 (72.3%) were in the age group of 15–60 years, 504 (53%) were males and 447 (47%) were females, 688 (65.9%) were literates, 602 (64.2%) were employed and 93 (45%) of the households were belonging to upper lower socioeconomic class by B. G.Prasad classification.

3.2. Coverage and compliance of MDA

Among 951 beneficiaries MDA (DEC+Albendazole) was distributed to 593 (62.3%) individuals of whom 313 (52.7%) were males and 280 (47.3%) were females. Thus coverage of MDA in Bidar district was 62.3%. Among the beneficiaries who had received the tablets 358 (60.4%) had consumed them. Thus compliance among the beneficiaries who had received the tablets was 60.4%. The coverage of MDA was higher in the rural areas 487 (68.8%) compared to urban areas 106

(43.6%) the difference was found to be statistically significant (Chi: 48.8, $P=0.001$). The compliance among those who had received the tablet was also higher in rural areas 313 (64.2%) compared to urban areas 45 (42.4%) and the difference was found to be statistically significant (Chi: 48.8, $P=0.001$). The most common reason quoted by the beneficiaries for not consuming the tablets was fear of adverse drug reaction 171 (72.2%), followed by doubtful benefit on consumption 42 (17.8%), lack of information 38 (16%) and fear of death 36 (15.2%). Among those who had consumed tablets only 149 (41.6%) had consumed them in front of drug distributors. The most common reason quoted for not consuming the tablets in front of drug distributors was they had not taken food at the time of distribution 99 (47.4%) followed by lack of information 89 (24.9%) and not present at home at the time of drug distribution 50 (23.9%). Among those who have consumed tablets only 1(0.2%) had developed adverse effect (fever) for 1 day which had subsided with antipyretic (Paracetamol).

3.3. Awareness regarding filariasis and MDA among beneficiaries

Majority of the respondents 156 (75%) had heard of a disease called filariasis and 155 (74.5%) had seen a case of elephantiasis in their vicinity. 61 (29.5%) of respondents had prior information regarding date and time of MDA programme of the year 2011. Most common source of information was miking (51.0%) in urban areas and Anganwadi /Accredited Social Health Activist (ASHA) (63.2%) in rural areas.

3.4. Awareness regarding filariasis and MDA among Drug Distributors

Among 15 drug distributors surveyed from 4 clusters all of them were aware of filariasis and 14 (93.3%) had seen a case of lymphatic filariasis in their vicinity. Only 11 (73.3%) were aware of the MDA programme, 12 (80%) were aware of the possible adverse effects of MDA. Only 9 (60%) of the drug distributors opined that training for MDA was adequate.

Table 1
Coverage and compliance of MDA.

Coverage (%)	Male	Female	Total
Yes	313 (52.8)	280 (47.2)	593 (62.3)
No	191 (53.4)	167 (46.6)	358 (37.6)
Total	504 (53.0)	447 (47.0)	951 (100)
Compliance (%)			
Yes	192 (53.6)	166 (46.4)	358 (60.4)
No	121 (51.5)	114 (48.5)	235 (39.6)
Total	313 (52.8)	280 (47.2)	593 (100)

Table 2
Comparison of coverage and compliance of MDA in rural and urban settings.

Setting	Coverage (%)			Chi	P	Compliance (%)			Chi	P
	Yes	No	Total			Yes	No	Total		
Rural	487 (68.8)	221 (31.2)	708 (74.4)			313 (64.3)	174 (35.7)	487 (82.1)		
Urban	106 (43.6)	137 (56.4)	243 (25.6)	48.80	0.001	45 (42.5)	61 (57.5)	106 (17.9)	17.32	0.001
Total	593 (62.4)	358 (37.6)	951 (100)			358 (60.4)	235 (39.6)	593 (100)		

4. Discussion

The present study conducted in one of the endemic district for lymphatic filariasis has given an idea regarding coverage and compliance of MDA at both rural and urban settings. The coverage of MDA observed in the present study (62.3%) was much below the expected national standards. The sustained high level of coverage (85%) for a minimum of 5 years is essential to achieve the interruption of transmission and elimination of disease^[2,3]. The coverage observed in the present study was much lower than the results of the study conducted by B G Ranganath in the neighboring district Gulbarga where the coverage was 85%^[5–7], observations made by Pradeep Kumar *et al.* in Gujrat state where the coverage was as high as 85.2%^[3]. In another study conducted by T Mahalakshmy *et al.* at Puduchery the coverage was 76.2%^[8]. The compliance of MDA is more sensitive indicator than the coverage because this indicates the actual consumption of tablets by the beneficiaries. In the present study the compliance among those who had received the tablets was 60.4%. This is in contrast to the observations made by B G Ranganath in Gulbarga where the compliance was 32.7%^[5]. On the other hand the compliance was as high as 85.6% in an independent external evaluation of MDA in Udupi district^[8]. Similar observations were made by Pradeep Kumar *et al.* in Gujrat state and T. Mahalakshmy *et al.* at Puduchery, where compliance was 89% and 88.7% respectively^[4,5]. This comparison clearly emphasizes that both coverage and compliance of MDA were poor in the Bidar district. This can be attributed to the fact that majority of the beneficiaries who had not consumed the tablets quoted the reasons for non consumption such as fear of adverse drug reactions, doubtful benefit on consumption, fear of death which were purely misconceptions. One of the best strategies to improve the compliance which has failed in the present district was to consumption of the tablets in front of drug distributors. Many beneficiaries had attributed this to most avoidable reasons like not consumed food at the time of drug distribution, they were not present at home when the drugs were distributed which showed the lack of information among the people regarding day and timings of drug distribution. This can be effectively addressed by proper advocacy and Behavior Change Communication (BCC) activities.

In the present study there was significantly higher coverage and compliance towards MDA in rural areas compared to the urban areas this can be attributed to the fact that local level primary care workers like ASHAs and Anganwadi workers played a major role in community sensitization in rural areas and such efforts were lacking in the urban areas. Similar observations were made by Pradeep Kumar *et al.* at Gujrat state^[3], B G Ranganath at Gulbarga district^[4]. In the present study the awareness regarding filariasis among the beneficiaries was 75%. This is in contrast to the observations made by Dorle A S in Northern Talukas of Karnataka where only 31% of the respondents were aware of the disease^[9] and A.K. Mukhopadhyay *et al.* at Andhra Pradesh where 65% of the respondents were aware of the disease^[10]. The reason for the high level of awareness in the present study could be

the endemicity and the visible disfiguration and deformities caused by the disease. In fact 74% of the respondents had seen a case of filariasis in their vicinity.

Another important issue which has been raised by the present study is that even though the level of awareness regarding filariasis among the drug distributors was excellent (100%) awareness regarding MDA was only 73%. The probable reason as revealed by the drug distributors themselves was inadequacy in training which has to be addressed with utmost priority.

Thus, it is concluded that the coverage and compliance towards MDA in Bidar district was poor. And in rural areas the coverage and compliance was higher compared to the urban areas.

Conflict of interest statement

We declare that we have no conflict of interest.

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