Coverage And Compliance Of Mass Drug Administration For Elimination Of Lymphatic Filariasis In Endemic Areas Of Bagalkot District, Karnataka

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Abstracts: Backround:Mass d-rug administration (MDA), for control of filariasis was launched by government of India in 1996. Under this programme, all the beneficiaries in the age group of 2 to 60 years (excluding pregnant mothers, people above 60 and having other illness), will be administered. Filariasis being endemic in the District Methodology: The MDA was carried out in the district in the month of May 2014. This study was conducted To assess the coverage and compliance of MDA in Bagalkot district in the year 2014. After visiting the selected cluster (3 rural and 1 urban) the information was collected from the 30 houses in each cluster randomly.Results : Out of 720 population surveyed 353 (49.02%) were males and 367 (50.98%) were female ,3.1% of geriatric population were given the drugs . 406 (56.4%) had taken full course, 58 (8.1%) had partially taken the drugs while 256 (35.5%) had either not received the drugs or had not taken the tablet. Though the coverage was high, the compliance was only 56.4 %, which is much below the target of 85%. Main reason for noncompliance was lack of adequate information .Conclusion :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.[Angadi M. NJIRM 2015; 6(2): 50-53]

Key Words: Mass Drug Administration, Filariasis, Compliance,Diethyl carbamazine, Coverage, Coverage

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Introduction: Lymphatic filariasis (LF) is one of the oldest and most debilitating of the neglected tropical diseases. Lymphatic filariasis (LF), is a parasite infection caused by the bite of infected mosquito.[1] It is the second leading cause of disability worldwide, affecting millions of people in 80 countries. It is a major cause of physical psychological, as well as economical loss. The three species of nematode worm that cause LF are Wuchereriabancrofti, Brugiamalayi and Brugiatimori. Bancroftianfilariasis accounts for 90% of cases worldwide, including all cases of LF in the Pacific.[2]

The WHO has estimated that around 600 million people are at risk of infection in south east Asia and 60 million are actually infected in these region .An estimated 120 million people in 73 countries are currently infected, and an estimated 1.393 billion live in areas where filariasis is endemic and Mass Drug Administration (MDA) is required around the globe. Of the 73 countries where LF is currently considered endemic, 53 countries have implemented MDA to interrupt transmission, of which 12 countries have moved to a post-MDA surveillance phase.[3]

In India itself 553 million people are at risk of infection with 48 million infected with parasite. LF is prevalent in 250 districts in 20 states and union territories in India. Bancroftianfilariasis is widely distributed while Brugiafilariasis is restricted to few pockets in the states of Uttar Pradesh, Bihar , Andhra Pradesh, Orissa, Tamil Nadu, Kerala and Gujarat. The microfilaria survey reports received from 205 districts revealed that 867487 persons were examined recording an average Microfilarial rate of 1.07 % . In 2012, mf rate in Karnataka was 0.65% and in 2013 reduced to 0.60.%.[4]

Recent research studies showed that annual single-dose MDA with DiethylCarbamazine(DEC) is an effective tool for the control of LF and 5–10 rounds of treatment with 75–80% coverage could possibly eradicate it by reducing the transmission to very low levels.The Government of India (GOI) in 2004 began a nationwide MDA campaign in all the known LF endemic districts with an annual single dose of DEC with the aim of eliminating it as a public health problem by the year 2015 according to National Health Policy 2002.[4]

All the beneficiaries in the age group of 2 to 60 years (excluding pregnant mothers, people above

60 and having other illness), will be administered single dose of tablet Diethylcarbamazine (100mg) (2-5yrs=1 TABLET, 6-14yrs= 2 TABLETS,15-60yrs= 3 TABLETS) and one tablet of Albendazole (400mg), once a year.[4]

The present study was conducted to assess the programme in terms of actual coverage, compliance rate for mass drug administration against filariasis in the Bagalkotdistrict .

Materials and methods: MDA activity was carried in the month of May 2014 in Bagalkot District. On first day the drug distributors, distributed the drug and the next 2 days supervisors supervised the activities. The independent evaluation survey of MDA was carried out from 21st August to 23rd August 2014 in Bagalkot.As per the guidelines , the survey team selected 4 field clusters comprising of 1 urban and 3 rural areaswhich are as follows,
In Bagalkot District,1) Zandagalli, Old Bagalkot Town, Behind railway station (Bagalkot urban) 2) Shirur village (BagalkotTaluk) 3) Sulibhavi village (HungundTaluk) 4) Nandikshewar village (BadamiTaluk) were selected for the study randomly.

After visiting the selected cluster, important landmark (temple, school, Panchayat Office etc.) was identified .A lane was randomly selected from that landmark and house to house survey was conducted. After introducing ourselves and explaining the purpose of our visit all the houses willingly participated in the study . This process was continued till we could cover about 30 houses.[5]

Information was collected from elderly household member by interview method with the help of a pretested and structured questionnaire. The following information regarding the number of DEC tablets received, consumption, reason for not consuming and any adverse reaction and their awareness about MDA activity and source of information were also elicited.

Results : A total of 720 eligible population surveyed , 353 (49.1%) male and 367(50.9%) females were present . 52(7.2%) constituted the age group of 2-5 years , 104 (14.5%) constituted the age group of 6-14 years , 518(71.9%) were between the age group of 15-60 years and 46 (6.4%) were above 60 years of age .

Table 1 : Distribution of study population Age and sex in Bagalkot district

Age group(yrs)	Frequency		Total	Percentage (%)
	Male	Female		
2-5	23	29	52	7.2
6-14	43	61	104	14.5
15-60	257	261	518	71.9
60 & above	30	16	46	6.4
Total	**353**	**367**	**720**	**100**

Table 2: Distribution of population on consumption of tablets

Tablet consumed	Frequency	Percentage (%)
DEC + Albendazole (complete)	406	56.4
DEC Inadequate (incomplete)	58	8.1
No tablets	256	35.5
Total	**720**	**100**

Table 3: Distribution of study population age / sex wise based on consumption of tablets

Age group (yrs)	Male		Female		Total	%
	Freq - uency	%	Freq - uency	%		
2 – 5	14	6.1	15	6.4	29	6.2
6 – 14	32	13.8	39	16.7	71	15.3
15 – 60	174	75.3	175	75.1	349	75.2
60 & above	11	4.8	4	1.8	15	3.1
Total	231	100	233	100	464	100

406 (56.4%) had taken full course, 58 (8.1%) had partially taken the drugs while 256 (35.5%) had either not received the drugs or had not taken the tablet. Maximum number of people in the age group of 15 to 60 have consumed the tablets .only 9 (1.2%) people have reported minor side effects like vomiting and dizziness. Only one person reported severe skin reaction like itching all over the body, which subsided after taking treatment.

Reasons cited by the respondents for not consuming the tablets were Not essential (35%),

Fear of side effects(40%) , Post natal period(3%), Minor medical problems(12%) and No confidence in government supply drugs(15%) . 568 people (78.8 %) of eligible population (>14 Years) knew that the drugs were distributed to prevent elephantiasis. The main source of information was Drug distributors.

Discussion: A high coverage (>85%) in endemic areas, to adherence of drugs for 5 years, is required to achieve theinterruption of transmission and elimination of disease in India.

In our study the 56.4% of the population had received proper dosage of medication , which was much lesser than the study done by Patel (78.6%) in the Bagalkot district (2010) and higher in the Gulbarga District (38.8%) in the year 2010[6]. Ravish K S[7] et al Conducted the MDA survey in the neighboring Bijapur District in 2008 showed that though the coverage of MDA was 85.9% ,the compliance was 45.9% .In the year 2012 MDA evaluation done by Muralidhara et al [8] in Bijapur District the coverage of MDA was 84.6% with 56.5% of compliance among the people. The 2011 MDA coverage evaluated in the Bidar district also showed 60.4% compliance among the respondents.[9] In the present MDA evaluation also though the percentage of distribution of drugs was high the percentage of people who have consumed the drug has remained almost unchanged (45.9% to 60%)

The MDA coverage in Bagalkotdistrictas per the NVBCP website is 89.3% in 2009, 91.4% in 2010 and 91.8% in 2011, 93.8% in 2012 and 92.7% in 2013 which is lesser than the average coverage percentage of Karnataka.[4]

Only 1.2% of the population had suffered from the side effects of medication which is much lesser than the side effects reported in the 2010 surveys by Patel[6] (8% in bagalkot and 2.3% in Gulbarga) but similar to the other studies done in Karnataka.[7,8]

Majority 78.9 % of subjects had proper knowledge about the disease. The finding in our study is much higher than the study done by Muralidharan Et al (49 %) and Ravish K S (41.4%) in Bijapur district. Although our study showed a higher awareness, it reflects a lack of basic knowledge regarding the dosage and treatment schedule of the drugs in the programme among the population. Drug distributors being the main source of information to the population they needed to be well trained and educated regarding these aspects and to propagate the same during the field visits . Hence 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. Mass media such as TV, radio, news papers, miking, local cable network and local folk media has to been used effectively to sensitize the people.

Conclusion: In spite of meticulous planning with regards to man power ,procurement of drugs and utilization of funds by the health department from the state to the subcenter level , only 56.4% of population had consumed all the tablets. On the visit the drug distributors after distributing the number of drugs based on the number of people in the house have to ensure the consumption of the drugs at the spot or verification of consumption of drugs later. Inspite of such recommendation by the various studies in the previous years of MDA Survey the Health Department still lagging behind
It is important to impart proper training for those who are involved in distributing the drug regarding importance and method of consumption of the drug and dosage of the drugs to prevent the side effects and to increase the compliance rate of the MDA.Improving interpersonal communication & effective IEC activities are to be emphasized to improve compliance & achieve elimination of filariasisDistribution of tablets must be done preferably on Sunday so that maximum number of people can be reached by the health workers. Houses which have been distributed tablets must be marked similar to the one done during pulse polio so that in the follow up, missed houses can be covered , compliance regarding drug intake can be achieved.

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References:

1. Park K.. Textbook of preventive and Social Medicine. 22nd edition. Bhannot Publication, Jabalpur. India.
2. Lessons from the Pacific programme to eliminate lymphatic filariasis: a case study of 5 countries.[Internet].2014[cited 2014 Dec 12]. Available from URL:http://www.biomedcentral.com/content/pdf/1471-2334-9-92.pdf
3. Filariasis. World Health Organization..[Internet].2014[updated 2014 Dec 15; cited 2014 Dec 12].Avialable from http://www.who.int/topics/filariasis/en/.
4. National Vector Borne Disease Control Programme. Directorate General of Health Services. Ministry Of Health and Family welfare. India..[Internet].2014[cited 2014 Dec 12]. Available fromhttp://nvbdcp.gov.in/filariasis-new.html.
5. Filariasis Control in India & Its Elimination. National Vector Borne Disease Control Programme.[Internet].2014[cited 2014 Dec 17]. Avilable from http://nvbdcp.gov.in/doc/guidelines-filariasis-elimination-india.pdf.
6. Patel P R. Mass Drug Administration Coverage Evaluation Survey for Lymphatic Filariasis in Bagalkot and Gulbarga Districts. Indian Journal of Community Medicine.2010;37(2):101-106.
7. Ravish K S, Ranganath T S ,RiyazBasha S. Coverage And Compliance Of Mass Drug Administration For Elimination Of Lymphatic Filariasis In Endemic Areas Of Bijapur District, Karnataka. International Journal of Basic Medical Science.2011;2(2):88-89.
8. Muralidhar M K et al . Coverage & Compliance of Mass Drug Administration Program againstFilariasis in Bijapur District, Karnataka.J Pub Health Med Res 2013;1(1):9-12
9. Mallayya D et al . Coverage and compliance MDA programme for lymphatic filariasis in Bidar district, Karnataka, India. Asian Pac J Trop Dis 2012; 2(4): 290-292.

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