International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319 – 6505, Impact Factor: SJIF: 5.995
Available Online at www.journalijcar.org
Volume 6; Issue 5; May 2017; Page No. 3601-3603
DOI: http://dx.doi.org/10.24327/ijcar.2017.3603.0327

Research Article

COVERAGE AND COMPLIANCE OF MASS DRUG ADMINISTRATION FOR ELIMINATION OF LYMPHATIC FILARIASIS IN ENDEMIC AREAS OF BIDAR DISTRICT, KARNATAKA

Rohith M* and M.M. Angadi

Department of Community Medicine

Article History: Received 8th February, 2017, Received in revised form 19th March, 2017 Accepted 2nd April, 2017, Published online 28th May, 2017

Key words: Ultrasonography, B scan, Ophthalmology.

INTRODUCTION

Lymphatic filariasis (LF) is the world's second leading cause of long-term disability. Caused by wucheriabrancrofti, the infection is endemic in more than 80 countries, with more than 1.3 billion people at risk and 120 million already infected globally[1]. Two-thirds of the endemic population resides in South-East Asia and one-third lives in India. Considering the human suffering, social stigma and costs associated with LF morbidity, and in response to the specific resolution by the World Health Assembly, the Global Program to Eliminate Lymphatic Filariasis (GPELF) was launched by the World Health Organization (WHO) in 2000 with the goal of eliminating LF as a public health problem by the year 2020.
In 2002, India set an ambitious national health goal to eliminate LF by 2015. In order to achieve this goal, a "two-pillar" strategy of interrupting transmission through mass drug administration (MDA) with diethylcarbamazine (DEC) and providing care for those with the disease was adopted[2]. India's filarial control program has scaled up MDA over the past several years and recently added albendazole (ABZ) to the treatment of the 590 million Indians living at risk of infection. The principle behind MDA is that a single dose of DEC administered annually continued for four to six years will interrupt the transmission of filariasis. Micro-simulation models showing the effect of MDA on LF elimination demonstrate that the number of MDA rounds necessary to achieve elimination depends, to a large extent, on coverage, drug efficacy, and the endemicity level[3].

In India, the coverage levels varied from 55% to 90%. When a proportion of the population fails to comply with MDA, a potential reservoir for the parasite is left untreated, opening the door to recrudescence of the microfilaraemia (mf) and thus reducing the probability of the program's success.

Corresponding author:* **Rohith M
Department of Community Medicine

It is estimated that in order to interrupt transmission, MDA compliance must exceed 65-75%, with five to six rounds of treatment, however, compliance is relatively low in the majority of the endemic areas[5].

Recent studies done in India, showed than an estimated 554.2 million people are at risk of LF infection in 243 districts[4]. In order to achieve the goal of ELF in India by 2015, National Filaria Day was proposed to be observed every year starting from 2004 in the endemic districts. Many studies have been done to find out the reasons from the community perspective, but very few made attempts to understand the operational issues from the distributor's perspective. The roles of the drug distributors and other health workers cannot be ignored in order to achieve success in MDA coverage and compliance. Keeping this in mind, this cross-sectional survey was carried out in the Bidar district of Karnataka state in India

MATERIALS AND METHODS

A community based cross-sectional study was conducted as per the direction ofRegional Office for Health and Family Welfare, Bengaluru. The objective was to study the coverage and compliance, and drug related side effects in Bidar district, Karnataka. This evaluation survey was conducted one month after the MDA campaign from 30th January to 1st February 2015 over a period of three days independently by the authors. The district comprises of four Taluks. The evaluation was conducted in three rural and one urban cluster selected randomly in different Taluks

1. Bidari Colony (BIDAR TOWN);
2. Aloor and Beloor village (Aurad Taluk);
3. KadakChincholi (BhalkiTaluk);
4. Warawatagi K (Humanabad Taluk).

The house for beginning point was selected randomlyand moved in a particular direction. All the subjectsin the house were included except the children less than two years, pregnant women and people over 60 years of age. After introducing ourselves and explaining the purpose of our visit,

the detailof a particular family was collected we moved on tothe next household.This process was continued till we could cover about 30 houses. Details were collected by interview method as per 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 were asked for.

RESULTS

Out of 653 eligible population surveyed 592 (90.7%) had received the tablet and 61 (9.3%) had not received the tablet. KadakChincholli of Bhalki taluk had the highest rate of not receiving the tablets.

Table 1 Distribution of the respondents according to the tablets received

Cluster	Tablets Received		Total
	Yes	No	
Bidari colony (Bidar URBAN)	163 (94.8%)	9 (5.2%)	172 (26.3%)
Aloor / Beloor (Aurad TALUK)	137 (89%)	17 (11%)	154 (23.6%)
KadakChincholi (Bhalki TALUK)	157 (88.2%)	21 (11.8%)	178 (27.3%)
Warawatagi k (Humnabad TALUK)	135 (90.6%)	14 (9.4%)	149 (22.8%)
Total	592 (90.7 %)	61 (9.3%)	653

Out of 592 who had received the tablet. 314(53%) had taken full course, 77(13%) had partially taken the drugs and 201 (34%) had not taken the tablets at all. 9(2.3%) had reported minor side effects like vomiting and dizziness. 3 (0.76%) people reported gastro-enteritis and abdominal discomfort, which subsided after taking the treatment.

Table 2 Distribution of the respondents according to status of consuming the tablets

Cluster	Total number of people to whom tablets have been distributed	Number of people taken partial dose	Number of people with complete dose	Number of people who haven't taken
Bidari colony (Bidar URBAN)	163	15 (9.2%)	46 (28.2%)	102 (62.6%)
Aloor / Beloor (Aurad TALUK)	137	11 (8 %)	57 (41.6 %)	69 (50.4 %)
KadakChincholi (Bhalki TALUK)	157	33 (21%)	121 (77%)	3 (1.9%)
Warawatagi k (Humnabad TALUK)	135	18 (13.33%)	90 (66.7%)	27 (20%)
Total	592	77 (13%)	314 (53 %)	201 (34%)

Reasons given by the respondents for not consuming the tablet were not essential (58.6%), not suffering from disease (30.6%), fear of side effects (13.3%).

Table 3 Reasons for not taking the complete dose

(Total of 278 people have not consumed tablets)

Reasons*	Frequency	Percentage (%)
Fear of Side effects	37	13
Not suffering from disease	85	29.8
Not necessary	163	57.2
Total	285	100

* Multiple answers possible

DISCUSSION

The present study indicated that even though the coverage of the MDA in Bidar was 90.7%, compliance was relatively low with 53% when compared to a study conducted in Dakshina Kannada district in 2009, coverage rate was 83% with a compliance rate of 76.8%[8]. A high coverage (>85%) in endemic areas, which is sustained for 5 years, is required to achieve the interruption of transmission and elimination of disease in India.

The compliance of MDA is a 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 53%; this was similar to the observations made by B. G. Ranganath in Gulburga, where the compliance was 42.7% and Patel 52.1% in Bagalkot district (60.4%)[6]. On the other hand, the compliance was as high as 85.6% in an independent external evaluation of MDA in Udupi district. Similar observations were made by Pradeep Kumar in Gujarat state and by T. Mahalakshmy at Puducherry, where compliance was 89%[9] and 88.7%[10], respectively. It is clear from the above results that even though the coverage in Bidar district was good, compliance was below standard. These findings can be attributed to the fact that there is no seriousness about the disease as well as the strategy among beneficiaries. It is evident from the fact that the majority of the beneficiaries who did not consume the tablets quoted the reasons for non-consumption as "don't want to consume", "fear of adverse drug reactions", and "doubtful benefit on consumption," all of which are pure misconceptions.

The coverage rate in Bidar district is less when compared to the coverage rate in Karnataka which is, 91.4% in 2010 and 91.8% in 2011. The 2011 MDA coverage evaluated in the Bidar district showed 60.4% compliance among the respondents which was better than the present study conducted in 2014[7]. A better compliance rate observed in our study in Bidar district is comparable to studies conducted in Pondicherry and Madhya Pradesh.

In the present study, side effects were reported by 3.06% of the subjects who consumed the appropriate dose of the medication. The side effects noted were nausea and vomiting in 9 subjects, gastritis in 3 subjects. The study conducted in Udupi district and Bagalkot revealed that 0.72% and 1.2% of the subjects had side effects.

Similar to other studies, the coverage and compliance were slightly better in rural areas when compared to urban areas in our study. This can be attributed to the fact that local primary care workers such as ASHAs and Anganwadi workers played a major role in community sensitization in rural areas, and such efforts were lacking in the urban areas. Hence, there is a need special attention in urban areas during the MDA in Bidar district.

CONCLUSION

In spite of meticulous planning with regards to man power, procurement of drugs and utilization of funds, only 53% of population have consumed all the tablets. Response on the booth day was better. Good numbers of people have consumed the drugs in front of the drug distributors. During

house to house visit drugs have been distributed based on the number of beneficiaries. However consumption of drugs was very much disappointing in urban area. Parameters like distribution of drugs, consumption of all the drugs in front of the drug distributor was better in rural areas while in urban areas it was very poor. During house to house visit, it should be ensured that available eligible population consume thee drugs in front of them only. If any member is absent or not available next day re-visit and ensure that the drugs are distributed and consumed. Involvement of community leaders, elected representatives, religious leaders is very much essential to spread knowledge about the programme, co-operation in educating the reluctant families or individuals.

References

1. Park K.. Textbook of preventive and Social Medicine. 22nd edition. Bhannot Publication, Jabalpur. India.
2. Mass drug administration coverage evaluation for elimination of lymphatic filariasis in Chhatarpur district of Madhya Pradesh. [Internet].2016[cited 2016 April 20]. Available from URL: http:// www. scopemed.org/fulltextpdf.php? mno=181856
3. Filariasis. World Health Organization.. [Internet].2014 [updated 2014 April 16; cited 2016 April 20]. 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 2016 April 20]. Available fromhttp://nvbdcp.gov.in/ filariasis-new.html.
5. Filariasis Control in India & Its Elimination. National Vector Borne Disease Control Programme. [Internet]. 2014 [cited 2016 April 20]. Avilable from http://nvbdcp.gov.in/doc/guidelines-filariasiselimination-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. 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.
8. Kulkarni MM, Kamath VG, Sujatha K, Darshan B B, Varun N, Asha. *J Pub Health Med Res* 2013;1(1):1-4 Coverage and compliance of mass drug administration programme against filariasis in Bijapur District, Karnataka
9. Kumar P, et al. An Evaluation of Coverage and Compliance of Mass Drug Administration 2006 for Elimination of Lymphatic Filariasis in Endemic Areas of Gujarat. *Indian Journal of Community Medicine* Vol. 33, No. 1, January 2008
10. T. Mahalakshmy, G. Kalaiselvan, Jeram Parmar & Amol Dongre. Coverage and compliance to diethylcarbamazine in relation to Filaria Prevention Assistants in rural Puducherry, India. *J Vector Borne Dis* 47, June 2010, pp. 113-115

How to cite this article:

Rohith M and M.M. Angadi (2017) ' Coverage And Compliance Of Mass Drug Administration For Elimination Of Lymphatic Filariasis In Endemic Areas Of Bidar District, Karnataka', *International Journal of Current Advanced Research,* 06(05), pp. 3601-0603.DOI: http://dx.doi.org/10.24327/ijcar.2017.3603.0327

****