Original Article Community Medicine

Evaluation of Mass Drug Administration for Elimination of Lymphatic Filariasis In Panna District of Madhya Pradesh

Amarnath Gupta | Assistant Professor, Department of Community Medicine, Bundelkhand Medical College, Sagar (MP).

ABSTRACT

BACKGROUND: Lymphatic filariasis is the second leading cause of disability worldwide accounting for more than 5 million disability adjusted life years (DALYs) annually. It has been a major public health problem in India next to Malaria. The National Health Policy 2002 aims at Elimination of Lymphatic Filariasis by 2015 through Annual Mass Drug Administration (MDA) of single dose of DEC.

OBJECTIVE: To find out coverage and compliance of MDA program and awareness about lymphatic filariasis in Panna district of Madhya Pradesh.

METHODOLOGY: Cross-Sectional Study was conducted. Total 120 households was surveyed in four selected clusters of Panna district of MP.

RESULT: Out of total 640 persons only 91.56% persons were eligible for MDA. Coverage rate was 77.47% and compliance rate was 76.21%. The main reason for non-compliance was fear of side effect (37.96%). Only 60% respondents had knowledge about lymphatic filariasis and its symptoms.

CONCLUSION: For elimination of lymphatic filariasis active community participation is highly essential. It can be made possible by imparting health education. More intra and inter sectoral co-ordination is needed at all the levels.

KEYWORDS | MDA, Coverage, compliance

INTRODUCTION: Lymphatic filariasis, an infection caused by a mosquito borne parasite and is the second leading cause of disability worldwide, affecting more than 120 million people in 80 countries. About 64% of global populations who are at risk of LF infection are living in Southeast Asia region. **(1)** It is one of the leading causes of long term permanent disability, accounting for more than 5 million disability adjusted life years (DALYs) annually. **(2)** Estimated annual economic loss due to filariasis is about rupees 5000 crores. **(3)** It is estimated that 600 million people are at risk of LF infection in 250 districts across 20 states and union territories in India. **(4)** Madhya Pradesh is one of the worst affected states in the country. **(5)**

International task force on disease eradication has identified lymphatic filariasis as one of the seven diseases that can be eradicated. **(6)** India is committed to eliminate lymphatic filariasis by 2015. In order to achieve the goal of elimination of lymphatic filariasis annual mass drug administration of anti-filarial drug was launched by govt. of India in 2004. **(7)**

Di-Ethyl Carbamazine (DEC) is given to almost everyone in the community irrespective of whether they have microfilaraemia or not, disease manifestations or no signs of infection in the area of high endemicity except children less than 2 years, pregnant women and very sick patients. **(8)** The drugs are to be consumed by the eligible population in the presence of drug administrator. Present study was conducted with the objective of finding out the coverage, compliance and awareness about MDA in Panna district of MP.

Mass Drug Administration of DEC was undertaken on I6th June 2013 in 11 districts of Madhya Pradesh

METHODOLOGY: Cross-Sectional Study was conducted for evaluation of MDA by Household Survey in four selected clusters (three rural and one urban) of Panna district as per National vector borne disease control program guidelines. For selection of rural clusters, one village was selected from PHC with low coverage i.e. below 50%, one village was selected from PHC with medium coverage i.e. between 50%-80% and one village was selected from PHC with high coverage i.e. above 80%. For urban cluster one ward of was selected randomly. Selected PHCs and their representative village were- In rural area were–Ajaygarh: Vishramganj village, Devendra Nagar: Dhalan Chowki village and Amanganj: Dwari village. In Urban area – Ward no. 3 of Panna municipality was selected. House to house survey was done. In each of the selected clusters 30 households were surveyed. Thus a total 120 households were surveyed. **(9)** The predesigned questionnaire (Provided by Director Health Services, State Health Committee, NVBDCP) was used to collect information regarding consumption of DEC and other relevant information.

Study Area: Panna District of M.P. **Study Design**: Cross-Sectional Study. **Study Period** 1 month

Inclusion criteria: All the sampled eligible population in the study area.

Exclusion Criteria: Pregnant and lactating mother, children below 2 years, seriously ill persons, severely debilitated patient and people of extreme age.

RESULTS: In 120 families; out of total 640 persons only 586 (91.56%) persons were eligible and 54 (8.43%) were not eligible for MDA. Only 454 (77.47%) persons received the tablets. (**Table-1**) Out of 454 persons who received the tablets only 346 (76.21%) persons consumed it. Compliance rate was highest (80.43%) in 15 years and above age group and lowest (65.13%) in 6-14 years age group. Higher Compliance rate was observed among males (79.65%) as compare to females (72.64%) (**Table-2**).The main reason for non-compliance was fear of side effect (37.96%). 22.22% persons forget to take tablets, 18.51% were not at home when drug distributor visited their home and 11.11% did not have faith in the drugs (**Table-3**).

Only 60% respondents knew about lymphatic filariasis and its symptoms, 17.5% had knowledge about its transmission, 46.66% had knowledge about available treatment (i.e. DEC) and 55.83% had knowledge about MDA program. **(Table-4)**.

Table-1
Age and gender wise coverage rate

Age (year)	COVERAGE RATE (%)		
	ELIGIBLE POPn	TAB. RECEIVED	%
2-5 yr	28	23	82.14
6-14 yr	130	109	83.84
> 15 yr	428	322	75.23
Total	586	454	77.47
Male	305	231	75.73
Female	281	223	79.35
Total	586	454	77.47

Table-2
Age and gender wise compliance rate

Age (year)	COMPLIANCE RATE		
	TAB. RECEIVED	TAB. CONSUMED	%
2-5 yr	23	16	69.56
6-14 yr	109	71	65.13
> 15 yr	322	259	80.43
Total	454	346	76.21
Male	231	184	79.65
Female	223	162	72.64
Total	454	346	76.21

Table-3
Distribution of study population according to reason for non compliance

Reasons	No. of person	Percentage
Not at home	20	18.51
Forget to take tablet	24	22.22
Had no faith on drug	12	11.11
Fear of Side effects	41	37.96
Others	11	10.18
Total	108	100.0

Table-4
Distribution of respondents according to knowledge about Lymphatic filariasis and MDA programme (n=120)

AWARENESS AREA	No. of RESPONDENTS	%
Heard about Lymphatic Filariasis	72	60.00
Know at least one symptom of lymphatic filariasis	72	60.00
Mode of Transmission of Filariasis	21	17.5
Know about availability of treatment	56	46.66
Know about MDA programme	67	55.83

DISCUSSION: A high coverage of more than 85% which is sustained for 5 years is required to achieve the interruption of transmission and elimination of disease in India. **(10)**. Coverage rate of 77.47% and compliance rate of 76.21% was observed in the study which was well below the target of 85%. Babu et al in a similar study reported that in East Godavari district of A.P. 77% population received the DEC and only 64% consumed it. **(11)** Nirgude Abhay S. et al in a similar study reported coverage rate of 79.7% and lower compliance rate of 43.04% **(12)**. Godale Lata B. et al reported lower compliance rate of 73.1%. **(13)** Mehta Shreyash et al reported higher coverage and compliance rate of more than 90% and above 82% respectively. **(14)**

The main reason for non compliance was fear of side effect (37.96%) followed by forget to take the tablets (22.22%), (18.81%) people were not at home when drug distributor visited their home. 11.11% respondents had no faith on the drugs and 10.18% persons did not consumed the tablets due to some other reasons.

Nirgude Abhay S et al in their study also reported similar findings that fear of side effects (47.51%) was the most common reason given for non compliance followed by forget to take the tablets (17.65%) and only (7.69%) respondents were not at home when drug distributor visited their house **(12)**.

Godale lata B et al also reported fear of side effects of drugs (45.38%) as the most common reason for non compliance**(13).**

The awareness about the LF in the study population was limited. Only 60% respondents had heard about lymphatic filariasis and 60% had knowledge about at least one symptoms of disease. Only 17.5% had knowledge about transmission of disease, 46.66% had knowledge about availability of treatment and 55.83% had knowledge about MDA programme.

Karmakar P Ray et al in their study also reported that only 55.42% respondents heard about lymphatic filariasis, 24.09% knew about symptoms, 10.84% knew about availability of treatment and only 13.86% had knowledge about disease transmission **(15)**.

Mukhopadhyay et al in a similar study in Andhra Pradesh reported that 65.06% respondents were aware about mode of transmission of lymphatic filariasis and 72.93% had knowledge about symptoms of disease **(16)**

CONCLUSION: The coverage and compliance of MDA program in Panna district was low which is attributed to inadequate delivery and consumption of drugs due to inadequate training of drug distributors and poor awareness among eligible population. There is need for intensive health education campaigns for increasing awareness about LF by using locally appropriate media like Dhol, Nagada, Nukkad Natak and announcements by loudspeakers, etc. Awareness program will make the community more receptive and that will make the elimination goal a reality

ACKNOWLEDGEMENT: The authors acknowledge the financial support obtained from the Govt. of Madhya Pradesh.

REFERENCES

1. Pattanshetty Sanjay, Kumar Ashwani, Kumar Ravi, Rao R Chythra, Badiger Sanjeev, Rashmi R, Kamath Sneha. Mass drug administration to eliminate lymphatic filariasis in Southern India, Australasian Medical Journal. 2010; 3: 13, 847-850. | 2. First WHO report on neglected tropical diseases 2010: working to overcome the global impact of neglected tropical diseases. ISBN 97892 4 1564090 (NLM classification: WC 680), Printed by WHO/DUPWHO/HTM/NTD/2010. | 3. Suryakantha A H. Community Medicine With Recent Advances, 2nd ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd. 2010 P 407 | 4.NVBDCP, Directoral General of Health Services, MOHFW. Available on http://www.nvbdcp.gov.in/fil-map.html. Accessed on 16/10/2013 | | 5.Lahariya Chandrakant & Mishra Ashok. Strengthening of mass drug administration implementation is required to eliminate lymphatic filariasis from India: an evaluation study" J Vector Borne Disease 45, December 2008, 313–320 | | 6.International task force on disease eradication. Available on http://www.cartercenter.org/health/itfde/index.html. Accessed on 19/11/2013 | | 7. Elimination of lymphatic filariasis: training manual on mass drug administration and morbidity management. Delhi: Director of national vector borne disease control programme; Government of India 2009; P 10-12. | 8. FILARIASIS CONTROL IN INDIA AND ITS ELIMINATION, CHAPTER–1, "7. Mass Drug Administration with DEC Single Dose Annually"; P 6. | | 9. Guidelines on Elimination of Lymphatic Filariasis in India, "Chapter-7: Independent Assessment of MDA Implementaion" P 87. | | 10. Operational guidelines on elimination of lymphatic filariasis. Delhi: Directorate of national vector borne disease control programme; Government of India 2004:P 3. | 11. Babu BV, Satyanarayana K. Factors responsible for coverage and compliance in mass drug administration during the programme to eliminate LF in East Godavari district, South India. Trop Doctor 2003; 33: P 79-82. | | 12.Nirgude Abhay S, Naik Poonam R, Kondagunta Nagaraj , Reshmi Sidramappa S, Takalkar Anant A, Prasad VG. Evaluation of coverage and compliance of Mass drug administration programme 2011 for elimination of lymphatic filariasis in Nalgonda district of Andhra Pradesh, India. National Journal of Community Medicine Vol 3 issue 2 P 288-93. | | 13. Godale Lata B, Ukarande Balaji V. a study on coverage evaluation, compliance and awareness of mass drug administration for elimination of lymphatic filariasis in Osmanabad District. National Journal of Community Medicine. Vol.3 issue 3 P 391-94. | | 14. Mehta Shreyash, Shah Vinesh, Verma Anupam Patel NB, Bansal RK.Comparison of coverage and compliance of mass drug administration 2012 in Surat, India. National Journal of Community Medicine Vol 3 issue 3 P 468-72. | | 15. Karmakar P. Ray, Mitra K, Chatterjee Anirban, Jana P K, Bhattacharya S Lahiri S K Astudy on coverage, compliance and awareness about mass drug administration for elimination of lymphatic filariasis in a district of West Bengal, India. J Vector Borne Dis 48, June 2011,P.101-104. | | 16.Mukhopadhyay A K, Patnaik S K, Satya Babu P and Rao K N M B. Knowledge on lymphatic filariasis and mass drug administration programme in filaria endemic districts of Andhra Pradesh. J Vector Borne Dis 45, March 2008,P 73-75.