

Research Article

**Problems against Filaria Health Workers in Filaria Endemic Region:
A Practical Study**

D. H. Dudhmal and S. P. Chavan

Vector Borne Diseases and Epidemiology Research Laboratory,
Department of Zoology, School of Life Sciences,
Swami Ramanand Teerth Marathwada University,
Nanded (MS), India.

[Received: 05/04/2021; Accepted: 21/05/2021; Published: 26/06/2021] DOI: 10.5281/zenodo.5595132

ABSTRACT:

Filaria, known to be the second most disabling disease in the world, is a mosquito borne disease caused by *Wuchereria bancrofti*. Its symptoms include abnormal swellings in the legs, arms and breasts i.e. elephantiasis while accumulation of fluid in the scrotum leads to the formation of Hydrocoele. This disease is found in the tropics and subtropics with over 120 million people affected and 1.34 billion are at risk of Lymphatic Filariasis (LF). The World Health Organization (WHO) has planned LF elimination from the world by the year 2020. For this the endemic countries are implementing various strategies laid down by the WHO. In India, the state governments are working in collaboration with WHO to limit the disability. But, unless the concerned authorities come to know the problems faced by the Filaria workers in endemic regions, it seems a difficult task to identify and limit the filarial transmission. Though the number of filarial cases has declined drastically in the recent past, like Polio, we are near to the elimination of LF from our country. But, there are some loop holes observed in the strategies of the Filaria Control Units. The timing of night clinics is not so useful to collect blood samples having filarial nematodes as the time of their abundance in the blood stream is in between 10pm to 02am. In the initial blood sampling visits with the Filaria workers working under this scheme, it was found that they were facing number of problems which may be the reason for its slow rate of elimination as new cases are still found. So, the current study is an attempt to know these problems in details.

Keywords: *Wuchereria bancrofti*, Hydrocoele, Filaria, WHO

INTRODUCTION:

Lymphatic filariasis (LF) is one of the oldest and most debilitating neglected tropical diseases (NTDs). LF is caused by parasitic worms that are transmitted to humans by mosquitoes. An estimated 120 million people in 83 countries [1] are infected currently, and an estimated 1.34 billion live in areas where filariasis is endemic and are at risk of infection. Approximately 40 million people suffer from the stigmatizing and disabling

clinical manifestations of the disease, including 15 million who have lymphoedema (elephantiasis) and 25 million men who have urogenital swelling, principally scrotal hydrocele [7-9]. Among all the three lymphatic filarial parasites – namely *W. bancrofti*, *Brugia malayi*, and *Brugia timori*, *W. bancrofti* causes 95% of infections. *Culex quinquefasciatus* is the major vector of bancroftian filariasis in the region, and *Aedes* and *Anopheles* species

mosquitoes are present in a few foci. LF is endemic in 250 districts in 20 states in India; the at-risk population is 600 million. In 2009, MDA with DEC and Albendazole were delivered in all endemic districts. On average, 85% of the endemic population was covered by MDA. Compliance with MDA (the percentage of the population that actually takes the medicine) was lower, but this figure is improving day by day. The overall prevalence of microfilaraemia decreased from 1.24% in 2004 to 0.53% in the current scenario. LF represents a major vector-borne public health problem to India's population. The disease has been known in the country for millennia, the earliest-known description of symptoms dating back to 600 BC. The largest at-risk population is situated in Uttar Pradesh, followed by Bihar and Andhra Pradesh. The number of LF clinical manifestations is estimated at more than 20.8 million cases (WHO, 2005).

The WHO has planned complete elimination of LF through Global Program to Eliminate LF (GPELF) by the year 2020. The WHO has also planned Filarial elimination from India by the year 2015 in collaboration with Government of India.

Filaria workers are the ones who work at the root level to draw blood samples, to distribute the drugs through MDA, to conduct Hydrocoelectomy camps and also to conduct night clinics for blood sampling. Filaria workers include the Filaria Supervisors (FS), Insect (mosquito) Collectors (IC) and also the Accredited Social Health Activist (ASHA) workers.

MATERIALS AND METHODS:

The current study was done in 05 pre-selected filaria endemic villages of Nanded district of Maharashtra state for 18 months. It includes extensive blood sampling visits to the endemic regions in the night hours to record the actual problems of the filaria workers. Filaria Supervisors, Insect Collectors and ASHA workers were interviewed separately to collect the data. All these workers were informed about the purpose of the study and their

consent was obtained. To conduct this study, permission was taken from the District Filaria Officer (DFO) and District Malaria Officer (DMO) and the questionnaire required for the study was prepared by the instructions of DFO and DMO [2-4].

RESULTS:

Through the interviews and the field visits to the endemic regions with Filaria Supervisors, Insect Collectors and ASHA workers, the results were recorded from the study area of 05 villages i.e. Jaldhara, Karanji, Pethwadaj, Hottal and Manjram from Nanded district.

Filaria Supervisors:

Their work is to take the blood samples from the at risk population from endemic areas. But, this blood sampling should be done at a proper time. This is because of the micro-filarial periodicity inside human body. They remain active in the peripheral blood in between 10 pm to 2 am. But the patients in the endemic area do not respond to the blood sampling at this particular time as almost all such population resides in the villages. They do extensive hard work in their fields due to which they get tired and hence avoid any disturbance in their sleep. To facilitate the blood sampling, the Filaria Control Units were instructed to conduct Night clinics in such regions wherein blood sampling of the patients will be carried out to isolate filarial nematodes. But, it should strictly be carried in the stipulated time period when the micro-filariae are abundant in the blood stream i.e. in between 10pm to 02am. On the contrary, the night clinics are generally start around 7pm and end upto 10.30pm in the endemic regions. Blood sampling camps were organized in the study area by the Filaria Control Unit of Nanded which included all the FS's of the district. When Filaria Supervisors approached for blood sampling to the endemic population, they faced problems as under:

- 1) Beating by villagers
- 2) Dog Attacks
- 3) Abuse by drunk villagers
- 4) Lack of electricity

It was observed that when blood sampling was done in the night clinics, it decreases the chances of facing the above said problems by FS's.

It also becomes difficult to find out the exact number of filarial hydrocoele patients for the FS's because many of the patients hide this disability from the society, family members also. They often avoid taking any medical help. For screening such patients, FS's have to spent too much of their efforts.

Table 1: Table Showing the response of endemic villages to Filaria Workers

Villages	Filaria Supervisors	Insect Collectors	ASHA Workers
Jaldhara	Yes	No	Yes
Hottal	Yes	Yes	No
Pethwadaj	Yes	Yes	Yes
Karanji	Yes	No	No
Manjram	Yes	Yes	No

Insect Collectors:

They are assigned by the work of collecting mosquitoes from the identified asymptomatic filarial patients from the endemic areas. Endemic population due to lack of awareness, prevent the entry of Insect Collectors to collect mosquitoes from their houses even if they were already informed about this. The mosquitoes are to be collected early in the morning before 06 am but at this particular time many of the families are deep asleep. Many times, when an IC reaches to such houses, they get irritated and often prevent the IC's from mosquito sampling. A very few families respond to the early morning mosquito sampling.

ASHA Workers:

Mass Drug Administration (MDA) is the scheme wherein the at risk population is supplied with the anti-filarial drugs as Diethylcarbamazine citrate (DEC) and Albendazole tablets one time dose once in a year. ASHA workers are helpful in MDA. But, they also have faced annoyance as the recipient families avoid receiving the anti-filarial drugs. They reported that the people avoid tablets because of the fact that it causes vomiting and

other side effects. People also believed that the drugs should only be taken by the

DISCUSSION:

The current work emphasizes on the point that workers working under the National Filaria Control Program, should be given such facilities which will help them to do their work more easily. It also marks the importance of proper timing of the night clinics in the endemic areas to find out the patients more correctly without wasting time and money of the government. Agrawal and Shashindran (2006) [6] also came to a similar conclusion that there is an urgent need for effective drug delivery strategies that are adapted to regional differences. This requires powerful advocacy tools and strategies as well as procedures for monitoring and evaluating the impact of elimination program. The current research work of 18 months in the endemic regions also documents the reason for the delay of complete elimination of LF. The endemic population, due to lack of awareness about the disease, do not pay much attention to the efforts made by the Government Health agencies to limit the transmission of LF. NFCP was assessed in 1960 which revealed the failure of mass DEC administration due to community non-cooperation and ineffectiveness of insecticidal indoor spray due to high resistance in the vector. The program was withdrawn from rural areas while in urban areas, anti-larval measures continued to be the main control method.

Sabesan et al. in 2010[5] stated that program managers at the state and district level should be encouraged to adopt the principle of 'directly-observed treatment' through community-based approaches, which would substantially enhance the compliance. This could be done by involving well-trained drug distributors, planning the MDA activities well on time, arranging prompt side-reaction management, organizing appropriate social mobilization and advocacy tied with morbidity management.

The study made by Sabesan et al. Further postulates the important of redefining the The present MDA, though in the long run may

ultimately lead to 'disease' prevention, its immediate objective could only be the interruption in transmission. And, this alone is possible to achieve by the year 2015. Therefore, the strategy and the objectives need to be redefined, so as to make it straightforward and achievable [10-12].

CONCLUSION:

It can be concluded that the endemic population should be made aware about the role of health workers or Filaria workers in the elimination of this particular disease. They have to realize the importance of their response to the Filaria workers. Their co-operation will speed up the identification of filarial patients and also to supply of the anti-filarial drugs. The concerned health department should also conduct night clinics in between 10pm to 02am so as to identify micro-filaria carriers more correctly. All these problems of the filaria workers are not just their own problems rather these are the actual reasons for the delay of the complete elimination of the LF from our country. The concerned department should take positive steps so as to make program more productive.

REFERENCES:

1. Ann Varghese , 2012. <http://aif.org/2012/10/hope-for-lymphatic-filariasis-patients-in-india/>.
2. Dudhmal Dilip, Chavan Shivaji and Deepak Chichole, 2015a: Mosquito diversity from a Filaria Endemic Village of Nanded district, Proceedings National Conference at Washi, Osmanabad, 2015.83-88.
3. Dudhmal et al, 2015b: Filaria and its vector management practices from a filaria endemic village of Maharashtra state, India. *Int J Curr Res Aca Rev* 3(6):179-185.
4. Dudhmal Dilip, Chavan Shivaji and Pawar Dinkar 2015c: Diversity of mosquito larvae from a filaria endemic region of Nanded district, Proceedings of National Conference at Parbhani,2015.18-19.
5. Sabesan S, Vanamail P, Raju KHK, Jambulingam P 2010: Lymphatic Filariasis in India: Epidemiology and Control Measures, *Journal of Postgrad Med* ;56:232-8.
6. Lt Col VK Agrawal, Wg Cdr VK Sashindran, 2006. Lymphatic Filariasis in India : Problems, Challenges and New Initiatives.
7. WHO, 2000, Preparing and Implementing a National Plan to Eliminate Lymphatic Filariasis: A guideline for Program Managers.
8. WHO, 2003. Global Program to Eliminate Lymphatic Filariasis: Annual Report 2002.
9. WHO, 2005. Global Program to Eliminate Lymphatic Filariasis: Annual Report 2003.19-22.
10. WHO, 2010. Global Program to Eliminate Lymphatic Filariasis: half way towards Lymphatic Filariasis Elimination: Progress Report 2000-2009 and Strategic Plan 2010-2020.
11. WHO, 2010. Global Program to Eliminate Lymphatic Filariasis: Training in Monitoring and Epidemiological Assessment of Mass Drug Administration for Eliminating Lymphatic Filariasis
12. Lepra- Thematic report on Filariasis- leprasociety.org/pdf/LF.pdf