

# Effectiveness of Community-based Health Education Onfilarial Control and Preventive Measures among Grassroot Level Workers

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## Abstract

**Background:** Though it can occur anywhere in the world, filaria is most common in underdeveloped nations and warm, humid climates. Controlling mosquito breeding grounds, preventing mosquito bites, and eliminating adult mosquitoes that transmit filaria are all part of the prevention of filaria. Health professionals, particularly those at the grassroots level, are essential in raising public awareness of filarial management strategies. Objectives are to assess the pretest knowledge on filarial control and preventive measures among grassroot level workers in selected areas of Deoria, to assess the effectiveness of community-based health education on knowledge regarding filarial control and preventive measures among grassroot level workers, to associate the knowledge with selected socio demographic variables. Methods: The Quantitative study was conducted utilising pre-experimental one group pretest post-test design. 60 grassroot level workers were selected by purposive sampling technique. Data was collected and analysed with descriptive and inferential statistics. Results: The findings of the study indicated that, the post-test mean knowledge score was found higher than the pretest mean. Calculated 't' test value was 16.33 was more than the tabulated value. Conclusion: This study revealed that health education was effective in improving knowledge regarding filarial control measures among grassroot level workers.

**Keywords:** Community based health education, Filarial control, Preventive measures, Grassroot level workers.

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## INTRODUCTION

The World Health Organization lists lymphatic filariasis (LF), often known as elephantiasis, as the second most prevalent and crippling disease spread by mosquitoes that is brought on by filarial parasites. A significant contributor to long-term impairment in many tropical and sub-tropical nations worldwide is lymphatic filariasis (LF). There are more than 120 million cases of lymphatic filariasis in 72 countries. The majority of cases of this illness occur in tropical regions, especially in Asia, Africa, and South America.<sup>1</sup> A persistent parasite infection spread by mosquitoes is the source of the disease filariasis. Long-term infection can cause testicular tumours, hydroceles, and extremity swelling.

This study looked into the population's knowledge of LF and the MDA program in an endemic region of the nation. In the LF endemic villages of Terengganu state, Peninsular Malaysia, 230 respondents ( $\geq 15$  years old) participated in a descriptive cross-sectional survey. Using pre-tested questionnaires, the respondents' demographic, socioeconomic, and knowledge, attitudes, and practices (KAP) data were gathered. SPSS software version 13.0 was then used to analyze the data. Over 80% of the participants were informed about LF and its typical symptoms. Furthermore, around 70% of responders who knew about LF said they thought it was a troublesome illness. His findings from this research showed that there was no significant association between LF awareness and with gender, age group, educational status, occupation, or socio-economic status of the respondents ( $P > 0.05$ ).<sup>2</sup>

In 2000, the World Health Organization (WHO) initiated the Global Programme to Eliminate Lymphatic Filariasis (GPELF) in recognition of the disease's significance. The aim of the program is to eradicate lymphatic filariasis as a public health issue by 2020 (WHO, 2010). Elephantiasis of the legs was identified in the Republic of Guinea's capital during the research period in late 2012/early 2013. Even though those who suffered from elephantiasis were largely accepted and taken care of, there remained a significant stigma associated with the condition because of its unappealing characteristics as well as the possibility of contamination and misconceptions about its cause.<sup>3</sup>

### Need for the study

India recorded 1.26 lakh instances of hydrocele related to filariasis and 6.19 lakh cases of

lymphedema as of 2023. About 40% of cases worldwide are found in India, where filariasis is a serious public health concern. Approximately 95% of the burden in India is borne by states like Andhra Pradesh, Bihar, Gujarat, Kerala, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh, and West Bengal. Primary prevention for lymphatic filariasis involves controlling the vectors, which calls for a comprehensive plan that incorporates secondary and tertiary prevention. Since the program's inception, the Mass Drug Administration (MDA) of about 9 billion doses of filariasis (GPELF) has been carried out, resulting in a decrease in the number of infected individuals from 199 million in 2000 to 51 million in 2018.<sup>4</sup> An assessment of adult population knowledge regarding lymphatic filariasis prevention was conducted. A convenience sample of fifty persons residing in Dakkilivaripalem Village at Nellore was chosen. In terms of knowledge on the prevention of lymphatic filariasis, 1 (2%), 9 (18%), 8 (16%), 6 (12%), and 26 (52%) received A, B, and C grades, respectively.<sup>5</sup>

In the intervention zones of the LF Elimination Program in the city of Olinda, Brazil, four years after the start of mass medicine administration, a cross-sectional study was conducted with people who reported filarial illness in 2010. 338 patients had reports of filarial morbidity. The most commonly described clinical type was dermatolymphangio adenitis, with a frequency of 50.9%. With 296 cases (87.6%), mosquito bites were the most frequently reported mode of transmission. Of those surveyed, 266 or about 80% confirmed the use of preventative measures. According to the participants, medicine was given as part of the treatment. Of the subjects, 212 (62.7%) reported that there was a cure for parasitosis. People who have been documented to have filarial morbidity have differing beliefs, understandings, and behaviours around the illness, even though they live in an endemic region and frequently see family health teams. In order to reduce inequities and allow health education to successfully contribute to illness control and elimination in the municipality, health services must recognize the weaknesses in this strategy.<sup>6</sup>

The purpose of this study is to determine the level of knowledge that healthcare professionals working in PHCs have about preventive and curative measures to take when managing patients with filariasis. It also aims to determine the efficacy of an educational intervention on this knowledge and to correlate this level of knowledge with specific demographic variables of healthcare professionals. The researcher and sixty medical

professionals who worked in particular PHCs in Kanpur used the pre and post-tests of four group designs. To gather information, a structured knowledge questionnaire was employed. Pre-test knowledge results are broken down by level of knowledge, with 12 (20%) representing inadequate knowledge, 43 (71.67%) representing moderate knowledge, and 5 (8.33%) representing adequate information. Level 9 (15.40%) Inadequate knowledge, level 16 (26.27%) Moderate knowledge, and level 35 (58.33%) make up the post-test knowledge results. An increase in the percentage of knowledge indicates that healthcare professionals now know more about lymphatic filariasis.<sup>7</sup> Health workers at the grassroots level, such as ASHA, bear a great deal of responsibility for identifying filarial cases and providing DEC and albendazole tablets to positive cases. On National Filaria Day, ASHA and the team will go home to house educating people about filaria management techniques.

The older age group is the target of the chronic instances of filariasis that you are currently seeing. Therefore, Dr. Jha told Financial Express.com, awareness is crucial. From August 10 to August 28, ASHA personnel performed MDA rounds in the Deoria district, going door-to-door to administer dual therapy—diethylcarbamazine citrate (DEC) and albendazole—and explain to patients how these medications might fend off illness. ASHA personnel frequently encounter a number of difficulties during these rounds, such as patients who refuse to take their medications.<sup>8</sup> ASHA would also show patients how to properly cleanse the afflicted area(s) of their disease using regular soap and water at room temperature on a daily basis. Therefore, it's critical to gauge their awareness of and work to increase their knowledge of filarial prevention methods.

### Statement of the problemd

Effectiveness of community-based health education on knowledge regarding filarial control and preventive measures among grassroot level health workers in selected areas of Deoria.

## OBJECTIVES

1. To assess the pretest knowledge on filarial control and preventive measures among grassroot level workers in selected areas of Deoria.
2. To assess the effectiveness of community-based health education on knowledge

regarding filarial control and preventive measures among grassroot level workers in selected areas of Deoria.

3. To associate the knowledge with selected socio demographic variables.

## HYPOTHESIS

H<sub>1</sub>: There is a significant difference between knowledge score on filarial control and preventive measures among grassroot level workers after community-based education.

H<sub>2</sub>: There is a significant association between the pre-test knowledge scores with selected socio demographic variables.

### Assumption

- Grassroot level workers may have inadequate knowledge about filarial control and preventive measures.
- community-based education may improve the knowledge on filarial control and preventive measures.

### Delimitations

1. The study is delimited to only the grassroot levelhealth workers of selected areas at Deoria.
2. A sample of 60 grassroot level health workers selected.
3. The study is delimited to the information obtained through structured questionnaire developed by the investigator.

### Sample selection criteria

#### Inclusion Criteria

1. ASHA workers who are available at the time of data collection.
2. Those who belong to Rudrapur area of Deoria district.

#### Exclusion Criteria

1. ASHA workers who cannot follow the instructions.
2. Who are not willing to participate in this study

## METHODOLOGY

The research approach used in study was quantitative approach. The investigator adopted a pre-experimental one group pretest post-test

design. 60 ASHA workers were selected from Rudrapur areas in Deoria district. Samples were selected through non probability purposive sampling technique. To assess the Knowledge on filarial control and preventive measures structured questionnaire was used. Before conducting study written consent was obtained by the participants.

Data collected with questionnaire for 15-20 minutes, after seven days, post-test was done with same questionnaire. The collected data was organized and tabulated for analysis.

## RESULTS

**Table 1:** Effectiveness of community-based health education programme on knowledge regarding filarial control measures among grassroot level health workers.

N=60

	Mean	Knowledge		t' value
		S. D	Mean difference	
Pretest	17.45	4.87		
Post-test	25.33	3.29	7.88	16.339

The above table 1 depicted that post-test mean knowledge score was found higher than (25.33) when compared with pretest knowledge man score

(17.45). This indicated that community-based health education programme was effective in improving knowledge among grassroot level health workers.

**Table 2:** Association of the level of knowledge regarding filarial control and preventive measures with selected socio demographic variables

N=60

Demographic variables	Knowledge			Chi-Square Value
	Poor Inadequate	Excellent Moderate	Adequate	
<b>Age</b>				
21-25 years	17	20	7	x2=4.388 df=6
26-30 years	4	4	2	
31-35 years	1	2	1	NS
>36 years	1	0	1	
<b>Education</b>				
10 <sup>th</sup> standard	18	19	7	x2=11.74 df=4
12 <sup>th</sup> standard	2	12	1	
Others degree	0	0	1	NS
<b>Working Experience</b>				
< 2 years	10	14	0	x2=10.008 df=6 NS
3 years	4	1	1	
4 years	2	2	1	
>5 years	4	17	4	
<b>Previous knowledge</b>				
Training materials	20	17	4	x2=18.276 df=6 NS
Media	0	1	0	
Workshop	2	13	3	
Others	0	0	0	

The above table shows that the association of level of knowledge on filarial control and preventive measures among grassroot level health workers with selected socio demographic variables

and there is no significant association between knowledge score level with demographic variables like age, education, years of experience and previous source of knowledge.

## DISCUSSION

This study showed that majority of ASHA workers 57.5% were at the age group between 21-25 years, 57.5% had educational qualification up to 10<sup>th</sup> standard, most of them had more than 5 years of working experience and majority of ASHA workers had previous knowledge through training materials. In pretest, most of them had moderate knowledge 18(45%), 15(37.5%) had inadequate knowledge, only 7(32%) had adequate knowledge on filarial control and preventive measures. While in post-test, the majority of participants 32(80%) had adequate and 5(20%) had moderate knowledge and none of them knowledge level was inadequate. A paired 't' test explained statistically difference between the pretest and post-test knowledge score regarding filarial control measures. So community based health education programme was effective in improving knowledge among grassroot level health workers. Hence Hypothesis 1 is accepted.

The chi-square test showed that sociodemographic factors like age, education, working experience and previous source of knowledge etc were not significantly associated with the tabulated value at the 0.05 level of significance ( $p < 0.05$ ). Hence, null hypotheses is accepted.

## CONCLUSION & SUMMARY

Based on this study, researcher observed that grassroot level health workers desired to learn about filarial control and measures as they are aware about this, they can save lives. ASHA workers are the first responder of health care member to identify filarial cases by door-to-door visit and notify to health authorities for further action. They also involve in distributing DEC and albendazole tablets, follow up the cases and create awareness on mosquitoes control measures. The main outcome of the study is that after community-based health education, knowledge was dramatically increased. Hence, this type of educational activities are mandatory to enhance primary health worker's knowledge.

## RECOMMENDATIONS

- ❖ A descriptive study can be done to assess the knowledge regarding filarial control and preventive measures.
- ❖ Similar study can be conducted with more

grassroot level workers to validate and generalize the findings.

- ❖ The study can be conducted as a true experimental design and as comparative study with various audio-visual aids.

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## REFERENCES

1. Newman TE, Juergens AL. Filariasis. [Updated 2023 Aug 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK556012/>
2. Al-Abd, N.M., Nor, Z.M., Ahmed, A. *et al.* Lymphatic filariasis in Peninsular Malaysia: a cross-sectional survey of the knowledge, attitudes, and practices of residents. *Parasites Vectors* 7, 545 (2014). <https://doi.org/10.1186/s13071-014-0545-z>
3. Bernard L. Kouassi *et al.* Perceptions, knowledge, attitudes and practices for the prevention and control of lymphatic filariasis in Conakry, Republic of Guinea. *Acta Tropica*. Volume 179. March 2018, Pages 109-116.
4. WHO. *Facts 7* (2023). World Health Organization. Available online at: <https://www.who.int/news-room/fact-sheets/detail/lymphatic-filariasis> (Accessed September 12, 2023).
5. G Aruna, Latha P and Dr. Indira Arumugam. A study to assess the knowledge on prevention of lymphatic Filariasis among adults living in Dakkilivaripalem village at Nellore, A.P. *International Journal of Midwifery and Nursing Practice* 2019; 2(1): 07-10.
6. Márcia Marcondes *et al.* Knowledge and practices on lymphatic filariasis in patients with filarial morbidity in an endemic area in Northeastern Brazil. *Front. Trop. Dis*, 18 June 2024. *Sec. Neglected Tropical Diseases*. Volume 5 - 2024 | <https://doi.org/10.3389/fitd.2024.1368589>
7. Jasmi Manu *et al.* A study to assess the effectiveness of STP knowledge regarding lymphatic filariasis among health care workers working in selected PHC at Kanpur, Uttar Pradesh. *Journal of Clinical Otorhinolaryngology, Head, and Neck Surgery*. Vol.: 27 Issue: 2, 2023.
8. Sushmita Panda. FE Healthcare.com. As India struggles with burden of Lymphatic Filariasis, patient support groups become a ray of hope. Patient support group conducting meeting in Deoria district's Jagdishpur village. August 31, 2023.