

A study to assess the effectiveness of structured teaching program on knowledge regarding filariasis among adults in selected villages of Dakshina Kannada district

Abstract

Background: Lymphatic filariasis, commonly known as elephantiasis is the second cause of permanent, long-term disability in the world. It is one of the world's most disabling and disfiguring disease. It prevents the afflicted from experiencing a normal working and social life, resulting in matrimonial handicap, inferiority of self and furthering the cycle of poverty. Currently, more than 1.4 billion people in 73 countries are at risk. It affects 750 million every year and in India, 450 million people are at risk. **Materials and Methods:** A pre-experimental one-group pre-test and post-test design was conducted on March 2013 by interviewing 30 adults of selected Villages, Dakshina Kannada, Karnataka, India. A pre-designed and pre-tested questionnaire was used to collect the pre-test and post-test data. Questions were based on the knowledge regarding filariasis. Results were analyzed statistically using percentage, proportions and Chi-square test. **Results:** In this study, 63.33% had average knowledge regarding filariasis in pre-test, while in post-test, 60% had good knowledge. The mean post-test knowledge score (17.53) was found to be significantly higher than mean pre-test knowledge score (12.9) at 0.05 level of significance ($t_{29} = 2.045, P < 0.05$). **Conclusion:** Structured teaching program increase the knowledge of filariasis among the adults. Health education should be a part of regular activity of community health services.

Key words: Adults, filariasis, knowledge, structured teaching program

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INTRODUCTION

Lymphatic filariasis (LF) is a mosquito-borne parasitic disease that affects an estimated 120 million people world-wide with over 1 billion at risk for infection. LF is considered to be a leading cause of permanent disability world-wide due to the clinical manifestations of the disease.^[1] LF has been identified as one of the only six diseases, which could be targeted for elimination/eradication based on the considerations that human beings are the only reservoir of infection. A global effort was established to eliminate LF by 2020 through interruption of transmission by annual mass administrations of anti-parasitic drugs. India is the largest LF endemic country and has targeted elimination by 2015.^[2] Transmission control and disability/morbidity management/control are the two pillars of the global elimination strategy, recognizing that episodic acute adeno-lymphangitis attacks are associated with the progression of lymph edema through stages and these are caused by secondary bacterial infections. Information, Education and Communication are an integral and important strategy of the program to create awareness among public, health care providers and policy makers. Since India is the largest filariasis endemic country in the world, the prospects of global elimination of filariasis will depend on mass drug administration (MDA) and awareness program.^[3] Hence, the present study was conducted to assess the impact of structured teaching program on knowledge regarding filariasis among adults.

MATERIALS AND METHODS

A pre-experimental one group pre- and post-test study was conducted on March 2013. A total 30 adults at Makki, Moodbidri, Karnataka, India who were willing to participate in the study were

included. A pre-designed and pre-structured questionnaire was used to collect the pre-test and post-test data. The questionnaire was pre-tested on subsample of 5 adults and modified and necessary changes were made accordingly. The language of the questionnaire was in English and later translated to Kannada and it contained 24 questions, which were based on the knowledge regarding filariasis. The questions covered knowledge of adults about causes, signs and symptoms, management and prevention of filariasis. The ethics committee of the institute approved the study. Prior to data collection the investigator familiarized with the subjects and explained the purpose of study to them. Confidentiality was assured to all subjects and informed consent was taken from the subjects. Pre-test was conducted using knowledge questionnaire followed by teaching program was administered by using flash cards and discussion with them. After a week post-test data was collected. Results were analyzed statistically using percentage, proportions and Chi-square test was applied. Statistical significance was set at $P \leq 0.05$ [Questionnaire 1].

RESULTS

Description of sample characteristics

As you can be seen in Tables 1 and 2, Figure 1, there was a significant improvement in knowledge about filariasis among adults after structured teaching program ($P < 0.0001$). In the pre-test majority of participants 63.33% had average knowledge and 30% participants had poor knowledge and only 6.67% had good knowledge respectively. Although in the post-test 60% participants had good knowledge and 40% participants had average knowledge.

The data presented in Table 3 shows that the mean post-test knowledge scores of subjects were significantly higher than their mean pre-test knowledge scores and calculated value is $t = 8.396$, $P < 0.05$. Hence the research hypothesis was accepted indicating that the planned teaching program had been the effective method in increasing the knowledge of the subjects.

The data presented in Table 4 shows that the maximum number of subjects had poor knowledge in the area of causes (83.33), 50% had average knowledge in the area of signs and symptoms, 66.67% had average knowledge in the area of prevention and 50% had poor knowledge in the area of management of filariasis respectively.

The data presented in Table 5 shows that 26.67% of subjects had poor knowledge in the area of causes, 60% had average knowledge in the area of signs and symptoms, 63.33% had average knowledge in the area of prevention and 50% had good knowledge in the area of management of filariasis.

DISCUSSION

In the present study, despite of MDA program for the elimination of filariasis, there was inadequate public awareness about filariasis among adults. The study revealed that in the pre-

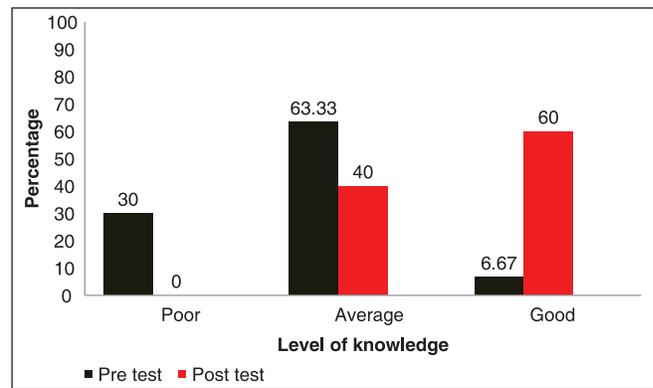


Figure 1: Cone diagram showing the percentage distribution of the subjects according to their knowledge level

Table 1: Frequency and percentage of respondents by personal characteristics

Characteristics	Category	Respondents	
		Frequency	Percentage
Age group (years)	<25	2	6.67
	26-35	8	26.67
	36-45	14	46.66
	Above 46	6	20
Gender	Male	0	0.0
	Female	30	100.0
Religion	Hindu	27	90
	Muslim	0	0
	Christian	2	6.67
	Others	1	3.33
Occupation	Agriculture	3	10
	Business	1	3.33
	Daily wages	10	33.33
	Others	16	53.33
Educational status	Illiterate	3	10
	Primary or high school	18	60
	PUC or diploma	7	23.33
	Degree and above	2	6.66
Family income/month	<1000	10	33.33
	1001-3000	9	30
	3001-5000	10	33.33
	5001 and above	1	3.33
Previous knowledge regarding filariasis	Yes	15	50
	No	15	50
If yes source	Health personal	13	43.33
	Mass media	1	3.33
	Family and friends	1	3.33
	Any others	0	0

test, majority of participants 63.33% had average knowledge and 30% participants had poor knowledge and only 6.67% had good knowledge. Following the administration of structured teaching program there was an improvement in knowledge of adults (60% participants had good knowledge and 40% participants had average knowledge) in the area of causes, signs

and symptoms, management and prevention of filariasis. Our findings are also similar to those of several other investigators who have conducted surveys among adults. Though the assessment tool used may be different in different studies, the key core knowledge components might be same in all. A study done by Dorle *et al.*,^[4] assessed the knowledge and perception of people about LF in one of the endemic taluks of rural north Karnataka found that Most of the study population (68.99%) was not aware about the mode of spread of LF. Only 31.01% knew that LF spread by mosquito bites. Similarly, Alva *et al.*,^[5] administered a survey to adults in Udupi District of Karnataka identified that majority of 63.2% of the participants have average knowledge, 5.8% good knowledge and 31% have poor knowledge regarding filariasis and MDA.

A study done by Nandha and Krishnamoorthy,^[6] assessed impact of an intensive education campaign and evaluated using pre- and post-educational surveys in an intervention and comparison village in Tamil Nadu, South India. Environmental and entomological indicators for breeding sites and mosquito density were examined before and after the intervention. Significant ($P < 0.05$) increase in knowledge was observed

in intervention area with regard to transmission and control of LF. Relative change between intervention and comparison villages before and after intervention was also significant ($z_5 > 1.96$). Multiple mosquito control and personal protection methods were in use during the post-intervention assessment and was evident from the significantly ($P < 0.05$) higher average score. The findings of the study have implications for nursing practice, nursing education, nursing administration and nursing research.

Limitations

- Adults' attitude and practices were not evaluated.
- The study was confined to specific geographical area which imposes a limit on generalization.
- The study did not use control group. Hence the results of the study must be generalized with caution as there is threat to internal validity due to history.

Recommendations

- A similar study can be replicated with control group.
- A survey can be conducted to find the incidence and prevalence of filariasis.
- A comparative study can be conducted between urban and rural areas.

CONCLUSION

In view of the magnitude of the problem, the prevalence of filariasis in developing country is consistently high. The present study revealed inadequacies in the knowledge of filariasis amongst adults. This indicates that there is need for health education campaign for the

Table 2: Over all pre-test and post-test knowledge score of respondents (n = 30)

Level of knowledge	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Poor	9	30	0	0
Average	19	63.33	12	40
Good	2	6.67	18	60
Total	30	100.0	30	100.0

Table 3: Mean, mean difference, SE_D and t value of pre-test and post-test knowledge scores of subjects (n = 30)

	Maximum possible score	Range	Mean	Mean difference	SE _D	df	t value	Remarks
Pre-test	25	18-5	12.9	4.63	0.03	29	8.396	$P < 0.05$ HS
Post-test	25	23-13	17.53					

$t_{(tab_{29=2,0.05})}$, $P < 0.05$. HS = Highly significant, SE_D = Standard error of difference

Table 4: Area wise knowledge level of subjects in pre-test (n = 30)

Area wise level of knowledge	Poor knowledge No. (%)	Average knowledge No. (%)	Good knowledge No. (%)	Total No (%)
Causes of filariasis	25 (83.33)	5 (16.67)	0 (0)	30 (100)
Signs and symptoms of filariasis	12 (40)	15 (50)	3 (10)	30 (100)
Prevention of filariasis	10 (33.33)	19 (66.67)	1 (3.33)	30 (100)
Management of filariasis	15 (50)	14 (46.67)	1 (3.33)	30 (100)

Table 5: Area wise knowledge level of subjects in post-test (n = 30)

Area wise level of knowledge	Poor knowledge No. (%)	Average knowledge No. (%)	Good knowledge No. (%)	Total No (%)
Causes of filariasis	8 (26.67)	15 (50)	7 (23.33)	30 (100)
Signs and symptoms of filariasis	0 (0)	18 (60)	12 (40)	30 (100)
Prevention of filariasis	1 (3.33)	19 (63.33)	10 (33.33)	30 (100)
Management of filariasis	1 (3.33)	14 (46.67)	15 (50)	30 (100)

improvement of knowledge, life-style practices and prevention regarding filariasis to the community.

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Questionnaire 1

Structured knowledge questionnaire

Instructions: Please read the following statement carefully and put a tick { } mark against the correct answer.

- Filariasis is a
 - Viral disease:
 - Parasitic disease:
 - Bacterial disease:
 - Protozoal disease:
- The incidence rate of filariasis in
 - Women:
 - Men:
 - Children:
 - None of this:
- Filariasis can be commonly seen in
 - Endemic area:
 - Epidemic area:
 - Both (a and b):
 - None of the above:
- Filariasis is transmitted through
 - Black flies:
 - Mosquito:
 - Arthropods:
 - All above:
- The susceptible age group for filariasis
 - Old age:
 - Children:
 - Adults:
 - All age group:
- The incubation period of lymphatic filariasis (LF) is
 - 4-6 months:
 - 6-8 months:
 - 8-10 months:
 - 10 months to 1 year:
- The common environmental factors that leads to filariasis is
 - Climate (temperature between 22 °c and 38 °c):
 - Improper drainage:
 - Inadequate sewage disposal:
 - All the above:
- The system of the human body mainly affected by filariasis is
 - Gastrointestinal system:
 - Respiratory system:
 - Nervous system:
 - Lymphatic system:
- The chronic stage of LF usually develops
 - Immediately:
 - 5-10 years:
 - 10-15 years:
 - 15-20 years:
- The following are the clinical symptoms except
 - Swollen limbs:
 - Hydrocele:
 - Fever:
 - Diarrhea:
- Filariasis is diagnosed by examination of
 - Blood:
 - Stool:
 - Urine:
 - Skin:
- The preventive measures of filariasis include the following except
 - Using DEC tablets:
 - Using bed nets:
 - Proper drainage:
 - Spraying:
- A serious obstacles to control the filarial disease by the medication is due to
 - Person not taking tablet at correct time:
 - Lack of awareness:
 - Long life of adult parasite:
 - Inadequate knowledge:
- The most effective prevention that can be done at home
 - Daily bathing:
 - Proper sanitation:
 - Using the mosquito net:
 - Water purification:
- The current strategy of filariasis control is based on
 - Chemotheraph:
 - Radiationtheraph:
 - Vector control:
 - Both (a and c):
- Filarial control can be done through
 - Source reduction:
 - Detection and treatment of carrier:
 - Anti-larval measures:
 - All the above:
- The medicine given for filariasis is
 - Penicillin:
 - D E C:
 - Diclofenac:
 - Amoxicillin:
- The preventive medicine should be taken by
 - All the people:
 - Only affected people:
 - Only risky people:
 - Only adults:
- The amount of D E C medicated salt to control filariasis is
 - 1-4 g/kg:
 - 5-6 g/kg:
 - 6-8 g/kg:
 - 2-4 g/kg:
- D E C tablets should be taken
 - ½ h the meals:
 - 1 h before the meals:
 - After the meals:
 - At any time:
- The medicine should be taken
 - Once in a year:
 - Once in a month:
 - Twice in a year:
 - Once in life time:
- Side effects of tablets are
 - Fever:
 - Abdominal pain:
 - Rash or itching:
 - All the above:
- The medicine is contraindicated for
 - Pregnant and lactating mother:
 - Severely risk person:
 - Old age people:
 - All the above:
- In children medicine should not be given to one of following age groups.
 - Above 5 years:
 - 3-5 years:
 - 2-3 years:
 - Below 2 years:
- During sickness the medicine can be
 - Given:
 - Not given:
 - Occasionally:
 - Forceful:

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