



FREQUENCY RATE OF LYMPHATICs FILARIASIS IN BRAMHAPURI TEHSIL IN DISTRICTCHANDRAPUR (M.S.)

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ABSTRACT: Human lymphatic filariasis (LF), commonly called as elephantiasis because of swelling in lower limb, causative agent is *W. bancrofti*, *B.malayi*, and *B. timori*, a lymph dumping nematode parasite (roundworm) belongs to order spirurida. Mosquitoes bite can transmit parasite *Culex quinquefasciatus*, *Aedes* and *Mansoniaca* transmit the infection in Asia. Many countries (more than 50) conducting programme with aim of eliminate and reduce parasite transmission and permanently lower risk of infection in endemic countries. Filariasis is endemic in 17 state and six union territories, with about 553 million people at risk of infection, besides 44 million people suffering from symptomatically with lymphedema, hydrocele and elephantiasis. Survey was tackle to find out the frequency of disease due to lymphatic filariasis in Bramhapuri tehsil of Chandrapur District Maharashtra, India. In Chandrapur district very little information on lymphatic filariasis. Present study focused in tehsil Bramhapuri from Chandrapur district to study incidence rate of lymphatic filariasis. Examination of 20ul night blood sample by finger pricks and clinically examined for filarial disease of 14161 peoples were done by random sampling. *Wuchereria bancrofti* was identified as the causative parasite of filariasis. In the Bramhapuri tehsil frequency rate of lymphatic filariasis overall was 0.41%. Overall frequency rate was higher in age group of above 40 years. Males were more affected than females by the filarial problem.

Key words: - Lymphatic filariasis; frequency rate; epidemiology.

INTRODUCTION :

Lymphatic filariasis is a human disorder resulting from parasitic worms referred to as filarial worms. Most instances of the disorder haven't any symptoms. Some people, however, increase a syndrome known as elephantiasis that is marked through excessive swelling withinside the arms, legs, breasts, or genitals. During 6th century B.C. in India description of disease that similar filariasis was found in "sushrutasamhita" (Sabessan S. *et al.*, 2000.) Lymphatic filarisis, more commonly known as elephantiasis which is vector borne parasite disease, causative agents are *W. bancrofti*, *B. malayi* and *B. timori* (Paniet *al.*, 1994; WHO 1992.) In tropical and sub-tropical countries lymphatic filarisis remain biggest reason of permanent disability (Benjamin F.R. Dickson *et al.*, 2018.) In India, *W. bancrofti* is best impart

via way of means of the vector *Culex quinquefasciatus* mosquitoes and *B. malayi* is transmitted via way of means of vector *Mansonia* (DAS *et al.*, 2002.)

Globaly, estimated people affected by disease due to lymphatic filarisis were 2.2 crore men having hydrocele and 1.5 crore people having lyphoedema. At the minimum 3.6 crore people remain with this chronic disease manifestation. Lymphatic filarisis is endemic in 17 state and 6 union territories having about 552 million people at risk infection (WHO 2004.) In India, native lymphatic filarisis cases were reported from 20 state having population near about 600 million at risk. Total 250 districts have been identified to be endemic for filarisis (Programme NVBD 2014.)

In the Maharashtra 17 district endemic for disease lymphatic filarisis (Gadchiroli,

Chandrapur, Gondia, Bhandara, Wardha, Nagpur, Amravati, Akola, Yawatmal, Jalgoan, Nandurbar, Nanded, Latur, Osmanabad, Solapur, Sindudurg, Thane. Specially, out of these 17 districts 9 districts solely lies in the vidharbha region of Maharashtra (A.L.Mahakalkar *et al.*, 2017.)

Indian government has been working for elimination of this infection by employing mass drugs administration (MDA) which include uses Albendazole, DEC or Ivermectin age wise dosage of a single dose of Ivermectin 100mg tab. single dose of albendazole 400 mg tab. is giving orally to control filarial worm infestation (NVBDCP Programme 2017.) In Maharashtra, The National Filariasis Control Programme launched since 1957, based on the finding of one man commission report which is executed through 06 Filarial Survey Units, 16 Filaria Control Units, 10 Filaria Night Clinics, and 01 Filaria Training Centre.

Besides the chronic disability abide even after transmission has been eliminated in some region (Dolo H. *et al.*, 2020.) In India, due to difficulty of infection, patient with chronic filariasis loose approximately twenty-nine days of work per year, spotlighting the sizeable burden of the disease stand on individual as on the community. Lymphoedema, which is filarial etiologies are common socio- economic problem in all countries which need harmonious approach of management. (S.Sabessan *et al.*, 2010.)

The middle of epidemiology is to look at the taking place and determinants of ailment. Measuring the frequency of ailment in a populace and factor out how the ailment frequency might also additionally vary through the years or amongst subgroup are considerable steps in locating viable purpose of ailment and figuring out powerful technique for prevention and care. In Maharashtra, India, information about filarial epidemiology from different area is

available (Chaudhary SM *et al.*, 2017; Parande MA *et al.*, 2015.) but Chandrapur district is untouched. This present study focused in Bramhapuri tehsil to carry out epidemiological information such as frequency rate of microfilaria disease.. In the Bramhapuri tehsil frequency rate of lymphatic filariasis overall was 0.41%. Overall frequency rate was higher in age group of above 40 years. Males were more affected than females by the filarial problem.

MATERIALS AND METHOD:

The present study conducted in tehsil Bramhapuri during September 2020 to September 2021. Bramhapuri is tehsil of Chandrapur district having altitude 222 meters. Bramhapuri tehsil consist of 136 villages and 76 panchayats. Total population of Bramhapuri tehsil is 153486. Male are 77564 and females are 75922. Total 31207 people live in town and 122279 people lives in rural. In metropolis region home animals and flowers is much less as examine to rural region that is wealthy in home animals (along with cow, buffalo, goat, dog, chicken birds.) Modern sanitary centers like drains, septic tanks etc. are scanty in rural region. Collection of blood sample (20µl) turned into accomplished through prickling finger throughout 1900 to 2300 hrs. following the approach of Gubler. (Gubler *et al.* 1973) the human beings decided on through random sampling (Zar JH 2010) protecting regional most 10-15 % of the populace of the chosen observer region. Collected blood samples have been smeared on glass slide after which added to the laboratory. Blood smeared slides have been dehaemoglobinized through maintaining in distilled water after which stained with Leishmann's stain, then they have been tested below the microscope for the presence of microfilaria, if, any. filarial parasite (microfilaria) have been identified (Simonsen PE 2003) counted and stated in opposition to every

microfilaria person. Age, gender, medical records and socio-financial states of every challenge have been stated. The general surveyed divided in to age group, which includes 0-4 years, 5-14 years, 15-39 years and all above 40 years.

RESULT:

In the study area 14161 people (6803 males and 7358 females) peoples were brought into study and overall Incidence rate is 0.41%. 361 people brought into study of age group 0-4 years and overall incident rate is 0%. Likewise 2325 people were brought into study of age group 5-14 years and overall incident rate is 0%. 6227 people brought into study of age group 15-39 years and overall incident rate is 0.36%. 5248 people brought into study of age group above 40 years and overall incident rate is 0.66%. Total incidence rate in male is 0.47% and in female it is 0.36%. Overall incidence rate was higher in age group of above 40 years (0.66%) than other age group. In this study area out of 59 people (32 Males and 27 Females) found with filarial disease. In this study area all the parameters were higher in males than females.

Age group (years)	No. Person examined			Frequency Rate		
	M	F	T	M	F	O
0-4	185	176	361	0	0	0
5-14	1110	1215	2325	0	0	0
14-39	2973	3254	6227	0.43	0.30	0.36
Above 40	2535	2713	5248	0.74	0.62	0.66
Total	6803	7358	14161	0.47	0.36	0.41

M = male, F = female, T = total, O = overall

Elephantiasis is more in age group of 40 years above. In this study were found 22 villages are positive, 14 villages having more than 1.0% incidence rate, 5 villages having more than 2.0 % frequency rate and 1682 people with pre-existing disease include hydrocele and elephantiasis.

DISCUSSION:

The present study revealed that overall frequency rate of lymphatic filariasis was (0.41%), which is very lower frequency rate compare to another study conducted by Lunge VR(2019) in tribal area of Maharashtra got the frequency rate 14.4%. In another study done by Bhattacharya *et al.*, (1964) in Calcutta and Howarth got frequency rate 13.6% and 7.8% respectively. While similar study carried by Mishra *et al.*, (1979) in Reva found that frequency rate 7.1%. In our study the overall significantly lower frequency rate, but compare to the another study conducted by G. Chandra *et al.*, (2000) show the higher frequency rate of 3.24% and 1.23% respectively. Thus the frequency rate in present study was not consistence with other studies as mentioned above.

In our study gender wise distribution shows that overall frequency rate higher among male (0.47%) than female. Compare with studies given by Lunge VR (2019) in tribal area Maharashtra which was 18.22% male and 9.8% female. Also reported in some studies Gautam Chandra *et al.*, (2000) at west Bengal data was given 3.63% male and 2.78% female among the urban population and 1.33% male and 1.11% female among rural population. Similarly, Bhattacharya *et al.*, (1964) in Howarth survey provided data frequency rate was 15.9% in male and 9.8% in female. Similarly gender wise distribution also reported in some other studies Rudra *et al.*, (1998) at west Bengal and Mishra *et al.*, (1979) in District Daria M.P.

This can be explaining by the fact that; female was not more exposed to the mosquito bite than male. Higher rate in male may be not wearing clothes and their outdoor habits providing body site for mosquito bites.

In our study age wise distribution show that frequency rate is higher around the people have more than 40 years (0.66%) and (0.36%) among

the people have 15-39 years. Gautam Chandra (2000) at west Bengal got frequency rate 2.5% among the people of urban having age group 40 years above and 5.0% among the people having age group 15-39 years. In urban area it was 0.75% among the people having age group 40 years above and 2.0% frequency rate was among the people having 15-39 years.

Also the elephantiasis is most common clinical presentation 70% similar finding were observed by Gautam Chandra *et al.*, (2000) in west Bengal. Maltola *et al.*, (1985) noted in Tanzania that prevalence rate of elephantiasis was 0.4%. These difference may be due distribution of geographical areas.

Thus, present study indicates that incidence rate lower than 1% i.e. (0.41%) is assumed that microfilarial endemicity is reducing, but some villages having more than 1% incidence rate. To be part of Global Programs to Eliminate Lymphatic Filariasis (GPELF), India has released a MDA programme, however its right implementation is regularly neglected. From the existing have a look at it seems that control of filarial troubles isn't running well in a few places of Bramhapuri tehsil. MDA application have to be reinforced on this place with a right implementation to attain the purpose of GPELF.

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