ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

Prevalence and Awareness of Lymphatic Filariasis in Wula Communities of Boki Local Government Area of Cross River State: A Cross Sectional Study

Akpanke Fredaline Ashebe[1]; Ikade, Etunlube-Martins Ochim[2]; Elejire Martina Ekor[3]; Odey Patience Agbo[4]; Ojie, Owen Isa[5]; Ama Simon Igung[6]

[1]Cross River State College of Nursing Sciences Ogoja
[2]Cross River State College of Nursing Sciences Ogoja
[3]Cross River State College of Nursing Sciences Ogoja
[4]Cross River State College of Nursing Sciences Ogoja
[5]Cross River State College of Nursing Sciences Ogoja.
[6]Cross River State College of Nursing Sciences, Ogoja

Publication Date: 2026/08/06

Abstract:

- ***Background:***

Lymphatic filariasis is a neglected tropical disease caused by thread-like parasitic worms mainly *Wuchereria bancrofti*, *Brugia malayi* and *Brugia timori*. The disease is transmitted through the bites of female *Anopheles* mosquitos and can lead to visible physical disfigurements resulting to severe social stigma, mental health challenges, and economic hardship. Transmission of the disease is higher in places with dense vegetation, high humidity and rainfall, all of which are abundant in Wula Communities of Boki Local Government Area. This study therefore aims to assess the prevalence as well as awareness of Lymphatic filariasis in Wula communities of Boki Local Government Area of Cross River State, Nigeria.

- ***Methods:***

A descriptive cross sectional study design was used to assess the prevalence and awareness of lymphatic filariasis in Wula Communities of Boki Local Government Area between April to June, 2024. Stratified sampling was used to select respondents for the study, thin and thick blood films were used to collect blood samples to test for microfilaria. A structured questionnaire was also administered to 266 respondents who participated in the study to elicit information on awareness of the disease.

- ***Results:***

The result of this study showed that most respondents 64 (24.1%) were within the age group of 20 – 24 years. Out of 266 persons that were tested for microfilaria using both thick and thin blood films, 74 (27.8%) tested positive while 192 (72.2%) tested negative. In the study, prevalence rates increased gradually with age. The highest prevalence rates were recorded at age 40-49 years (7.1%). Wareness of the disease in the area was high and mosquito bites were the most implicated perceived cause 71 (26.7%) for lymphatic filariasis. However, respondents mentioned dirty water 33 (12.4%), genetics 20 (7.5%) and witches/wizards 12 (4.5%) as the cause of the disease, indicating a significant knowledge gap in the disease's etiology.

- ***Conclusion/ Recommendation:***

This study reveals that the prevalence of lymphatic filariasis in the area is high and requires chemotherapeutic intervention. In addition, the knowledge gap on cause and prevention methods underscores the need for community health education intervention.

Keywords: *Awareness, Lymphatic Filariasis, Prevalence, Wula Communities.*

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

How to Cite: Akpanke Fredaline Ashebe; Ikade, Etunlube-Martins Ochim; Elejire Martina Ekor; Odey Patience Agbo; Ojie, Owen Isa; Ama Simon Igung (2026) Prevalence and Awareness of Lymphatic Filariasis in Wula Communities of Boki Local Government Area of Cross River State: A Cross Sectional Study. *International Journal of Innovative Science and Research Technology*, 11(7), 3009-3018. https://doi.org/10.38124/ijisrt/26jul991

I. INTRODUCTION

Lymphatic Filariasis is a parasitic disease. It is an infectious tropical disease that is caused by thread-like nematodes (roundworms) belonging to the super family Filarioidea also known as "filariae" (Obiefoka et al, 2023). These are transmitted from host to host by blood-feeding Arthropods, mainly black flies and mosquitoes. Lymphatic filariasis is caused by *Wuchereria bancrofti*, *Brugia malayi*, and *Brugia timori*. These worms occupy the lymphatic system including lymph nodes and in chronic cases lead to the condition elephantiasis (Centers for Disease Control and Prevention. 2024).

Over 120 million people in at least elephantiasis 81 countries of the world are infected with lymphatic filariasis and it is estimated that 1.2 billion (20% of the world population) are at risk of acquiring the infection (WHO, 2023). The third endemic country in the world after India and Indonesia is Nigeria and 22.1% of the population is said to be infected (Waje et al, 2024).

The economic burden of lymphatic filariasis is tremendous. Individuals who are heavily infected with filarial worms have a high risk of developing chronic symptoms such as, lymphoedema and elephantiasis. Such symptoms can result in a decreased productivity and life-threatening infections if not properly cared for (Turner et al, 2020). As at 2018, the global baseline estimate of people affected by lymphatic filariasis was 25 million men with hydrocele and over 15 million people with lymphoedema. At least 36 million people remain with these chronic disease manifestations (WHO, 2023).

In communities endemic for this disease, as many as 10% of women can be affected with swollen limbs, and 50% of men can suffer from mutilating disease of the legs and genitals (WHO, 2023). These conditions have a devastating effect on the quality of life of victims, impacting them not only physically, but also emotionally and socially as many victims are stigmatized within their communities (Aniaku et al, 2021). In Africa, the disease tends to affect the most productive age of 21-60 years. This calls for great concern because over 60%of the rural populace is involved in agriculture (Obiefoka et al, 2023). Lymphatic filariasia has an estimated $4.9x10^6$ Disability Adjusted Life Years (DALYS). This is only exceeded by malaria (which has an estimated DALY of $4.5\ x10^7$) alone among all the known infectious diseases (Amaechi et al, 2024). Thus, eliminating lymphatic filariasis can prevent unnecessary suffering and contribute to the reduction of poverty.

Awareness plays a vital role in reducing the prevalence of lymphatic filariasis by increasing community knowledge, encouraging preventive behaviors, and increasing participation in control programs (Musrin, 2025). When people understand how the disease is transmitted through mosquito bites and recognize its early signs and symptoms, they are more likely to adopt preventive measures such as sleeping under insecticide-treated nets, eliminating mosquito-breeding sites, and seeking prompt medical care (Mohammed et al, 2025). Increased awareness also enhances community acceptance and participation in mass drug administration (MDA) campaigns, which are the cornerstone of the WHO's strategy for interrupting transmission (Jabir & Rahi, 2025). Furthermore, health education helps reduce misconceptions and stigma associated with chronic manifestations such as lymphoedema and hydrocele, encouraging affected individuals to seek appropriate care and practice proper hygiene to prevent disease progression and secondary infections (Mwesigye et al, 2025). Collectively, these measures contribute to decreased transmission, reduced disease burden, and progress toward the elimination of lymphatic filariasis.

Boki Local Government Area of Cross River State as a whole has abundant vegetation, high annual rainfall and relative humidity. These factors are known to provide optimum breeding conditions for the vectors of Lymphatic filariasis (Aniaku et al, 2021). Besides these, routine epidemiological reports have indicated the presence of conditions such as elephantiasis and hydrocoel, which are associated with chronic infections of *Wuchereria bancrofti*. This study therefore seeks to establish the prevalence and awareness of lymphatic filariasis in Wula Communities of Boki Local Government Area of Cross River State.

➢ *Aim and Objectives*

The aim of this study is to determine the prevalence rate and level of awareness of lymphatic filariasis in Wula Communities of Boki Local Government Area of Cross River State.

- *The Specific Objectives:*

✓ To determine the prevalence rate of Lymphatic filariasis in Wula Communities of Boki Local Government Area of Cross River State.
✓ To assess the level of awareness of lymphatic filariasis in Wula communities of Boki Local Government Area of Cross River State.

II. METHODOLOGY

The study area was Wula Communities of Boki Local Government Area. It is situated in the Central Senatorial District of Cross River State. A descriptive cross sectional study was used to assess the prevalence and awareness of lymphatic filariasis in the area between April to June 2024. The sample size for this study was determined using Lutz's formula, (1982).The sample size for this survey was 264. However, to make room for non-response and attrition bias,

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

the calculated sample size was increased by 10%. Hence, a sample size of 291 was used for this study.

Sample size for this study was determined using Lutz's formula, (1982) which is given as

$$n=\frac{Z^2pq}{d^2}$$

Where;

n = sample size

Z= 1.96(i.e. 95% confidence interval)

d=0.05 (acceptable margin of error)

P=0.221 (probability of event occurring equivalent to the national prevalence rate)

Q=1-P=1-0.221= 0.779 (probability of event not occurring)

$$\text{Therefore, } N=\frac{(1.96)^2 \times 0.221 \times 0.779}{(0.05)^2} = 264.56$$

Thus, the sample size for this survey was 264. However, to make room for non-response and attrition bias, the desired sample size was increased by 10%. Hence, a sample size of 291 was used for this study

Multistage and simple random sampling methods were applied in the study. The procedures applied are follows:

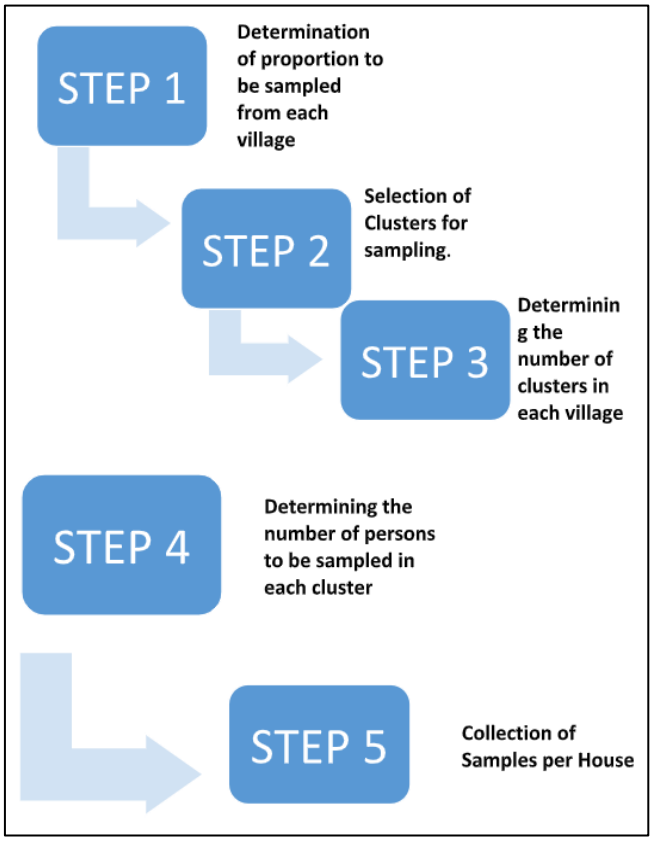

Fig 1 Multistage and Simple Random Sampling Methods

➢ *Instrumentation/ Data Collection*

- *Questionnaires:*

The instrument for data collection was a structured questionnaire containing both open and closed –ended questions that was self-administered to literate subjects and interviewer administered by a trained research assistant to the non-literate subjects. The questionnaire was also translated verbatim into the native language (Boki) for the benefit of the non- literate respondents.

➢ *Blood Sample Collection*

Standard procedures were adopted in the collection of finger prick blood samples by swabbing the area to be pricked with 70% alcohol and allowed to dry before collection of blood sample.

Thick and thin films were prepared for all samples and stained with Giemsa Stain and examined under the light microscope for microfilaria. All samples were collected between 10:00pm and 2:00am when microfilariae for LF appear most in peripheral blood circulation.

➢ *Pre-Test of Instrument*

The questionnaire was pre-tested among 26 respondents (ie.10percentage of the total sample size) in Awi, Akamkpa L.G.A Cross River State. This was done to ascertain its reliability and validity, determine the relevance of questions and variables under measurement, eliminate ambiguity, train field assistants and possibly predict problems that may arise in the process of data collection. Thereafter, appropriate adjustments were made. The internal consistency of the items was assessed using Cronbach's alpha test. A Cronbach's alpha value of 0.70 was considered acceptable, indicating that the items within each section of the questionnaire were consistently measuring the same underlying construct. In addition, staining reagents for microfilaria were also tested on thick and thin blood films to establish effectiveness.

➢ *Method of Data Analysis*

Data analysis was done using the Statistical Package for Social Sciences Software (SPSS22.0 version). Returned questionnaires were sorted, coded and then entered into data analysis soft wares. Results were expressed as percentages and presented in tables.

➢ *Ethical Considerations*

A letter of introduction was obtained from the Department of Public Health, University of Calabar, to the respective village heads. Ethical approval was also obtained from the Cross River State Research Ethic Committee, Ministry of Health Calabar. Written informed consent was dully sought and obtained from the respondents before data collection. Participation was strictly voluntary and participants were assured of strict confidentiality of information provided. They also reserved the right to withdraw from the study anytime they wished without any consequences. All reference materials used for the study were duly cited.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

➢ *Training of Field Assistants*

The research team consisted of the researcher, a registered nurse, and a certified medical laboratory technician who resided in the study area. They were trained on how to capture sensitive data and interact well with members of the community.

III. RESULTS

➢ *Socio-Demographic Characteristics of Respondents*

Table 1 Distribution of Respondents by Age, Religion, Marital Status and Level of Education (n=266)

Variable	Number	Percentage
Age:		
10-19	47	17.7
20-29`	95	35.7
30-39	62	23.3
40-49	32	12.0
50- Above	30	11.3
Religion:		
Christianity	249	93.6
Islam	11	4.1
Traditional	6	2.3
Level of education:		
Primary	52	19.5
Secondary	124	46.6
Tertiary	74	27.8
No formal education	16	6.1

Out of the 291 questionnaires that were administered, only 266 completed questionnaires were returned and analyzed giving a response rate of 91.4 percent. The result of this study showed that most respondents 64 (24.1%) were within the age group of 20 – 24 years. This was followed by 15 – 19 years and 30 – 34 years 37(13.9%) and 35 (13.2%) respectively. The ages least represented were 45 – 49 years 12 (4.5%). The study also revealed that Christianity was the dominant religion in the area 249 (93.6%). The religion with the lowest representation was traditional African religion 6 (2.3%). Most respondents were married 109 (41.0%), also 101 (38.0%) were single. However, there were few separated 9 (3.4%) in the study. Most of the respondents had a secondary education 124 (46.6%). 74 (27.8%) had tertiary education. However, a minute proportion 16 (6.0%) had no formal education.

Table 2 Distribution of Respondents by Occupation and Level of Income (n=266)

Variable	Number of Respondents	Percentage
Occupation:		
Farmer	77	28.9
Trader	51	19.2
Civil Servant	54	20.3
Student	69	25.9
Housewife	3	1.1
Artisan	8	3.1
Transporter	4	1.5
Level of income (N) per month:		
Less than 50000	110	41.4
51000-100000	110	41.4
Above 100000	46	17.2
Type of residence:		
Thatch house/ mud walls	35	13.2
Zinc roof/mud walls	128	48.1
Zinc roof/cement walls	97	36.4
Story building	6	2.3

In table 2, farming was the highest occupation with 77 (28.9%) respondents. This was closely followed by 69 (25.9%) who were students. Artisans and transporters had the least representation 8 (3.0%) and 4 (1.5%) respectively. The study also revealed that majority of respondents earns less than N100000 as monthly income 220 (82.8%). Only 46 (17.2%) earn above N100000 per month. As shown in table 2, houses in the area are mostly built with mud and roofed

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

with either thatch or zinc sheets. 35 (13.2%) of respondents live in houses with mud walls and thatch roofing while 128 (48.1%) live in houses with mud walls and zinc roofing. Only 6 (2.3%) respondents lived in storey building.

➢ *Prevalence of Lymphatic Filariasis Among Respondents*

Table 3 Prevalence of Lymphatic Filariasis (n=266)

Test result	Number	Percentage
Positive	74	27.8%
Negative	192	72.2%

Table Out of 266 persons that were tested for microfilaria using both thick and thin blood films, 74 (27.8%) tested positive while 192 (72.2%) tested negative indicating that the prevalence rate of LF in the study area is 27.8%..

Table 4 Prevalence of Lymphatic Filariasis Among Respondents by Age, Sex, Marital Status and Level of Education (n= 266)

Variables	Number of respondents	Percentage
10-19	5	6.8
20-29	9	12.2
30-39	16	21.6
40-49	25	33.8
50-above	19	25.7
Prevalence by Gender:		
Male	33	44.6
Female	41	55.4
By Marital Status:		
Married	44	59.5
Single	16	21.6
Separated	4	5.4
Widowed	10	13.5
Cohabiting	-	-
By level of education:		
Primary	26	35.1
Secondary	27	36.5
Tertiary	13	17.6
No formal education	8	10.8

In the study, prevalence rates increased gradually with age as shown in table 4. Highest prevalence rates were seen at age 40-49 years (7.1%). This was followed closely by prevalence rates of 19(25.7%) and 16(21.8%) for 40 – 49 years and 30 -39 age brackets respectively. The lowest prevalence was discovered among respondents of ages 10-19.

Female respondents showed slightly higher prevalence rates than their male counter parts (55.4% and 44.6% respectively). Also, married people showed higher positive tests for microfilariae values in the study. 44 (59.5%) tested positive as compared to 66 (21.6%) of single and 10 (13.5%) of widows. Respondents with secondary and primary education showed higher prevalence rates 27 (36.1%) and 26 (35.1%) respectively (Table 4). There was no significant difference in prevalence rates between male and female respondents in the study ($p<0.05$).

Table 5 Prevalence Rate of Respondents by Occupation, Type of House, Monthly Income and Village of Residence (n=266).

Variables	Number of Respondents	Percentage (%)
By occupation:		
Farmer	37	50
Trader	16	21.6
Civil servant	10	13.5
Student	10	13.5
House wife	0	0
Artisan	0	0
Transporter	1	1.4
By type of house:		
Thatch house/mud walls	8	10.8
Zinc roof /mud walls	46	62.2
Zinc roof/ cement walls	20	27.0

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

Storey building	0	0
By monthly income (N)		
Less than 5000	32	44.4
6000-10000	22	30.6
11000 – 15000	5	6.9
16000 – 20000	4	5.6
21000 – above	7	9.7
Don't know	2	2.8
By village of residence		
Wula Ekumpong	45	60.8
Wula Mgbabisong	29	39.2

In table 5, the highest prevalence rates were discovered among farmers. 37 (50%) of respondents who tested positive were farmers. No microfilariae were discovered among artisans and house wives. The transporters accounted for the least prevalence of 1 (1.4%) of positive cases. People living in houses with zinc roof and mud walls showed highest prevalence rates 66 (89.2%). Prevalence rates were also influenced by occupation. People earning less than N5000 were seen to have higher positive cases 32 (44.4%) than those with slightly higher monthly income. Summarily, prevalence rates as shown in table 5 decreased gradually with increasing income.

There was a significant relationship between prevalence rates and occupation of respondents at $p < 0.05$. Respondents residing in Wula Ekumpong had higher prevalence rates 45 (60.8%) than those in Wula Mgbabisong 29 (39.2%).

- *Awareness of Lymphatic Filariasis*

Table 6 Source of Information and Recognition of Signs and Symptoms of Lymphatic Filariasis (n=266)

Variables	Number of Respondents	Percentage (%)
Knowledge of LF:		
Have heard	236	88.7
Have not heard	30	11.7
Source of information:		
Parent	22	8.3
Radio/TV	79	29.7
Friend/seen on someone	114	42.8
Health worker	47	17.7
Recognition of symptoms:		
Fever	30	11.3
Joint pain	25	2.6
Weakness	4	1.5
General body pain	30	11.3
Swollen leg/scrotum	46	17.3
Itching (*Ilikpang*)	93	35.0
Don't know	31	11.7

As shown in table 6, 236 (88.7%) of the respondents are aware of LF. Only 30 (11.7%) claim ignorance of the disease. The major source of information about the disease is friend/seen on someone 114 (42.8%). Other sources of information include Radio/TV 79 (29.7%) and health workers 47 (17.7%). Symptoms identified by respondents are quite associated to the disease. Itching accounts for 93 (35.0%) of responses leg/scrotum 46(17.3). Others include general body pain 30 (17.3%) as well as fever and joint pain (11.3%) each.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

Table 7 Knowledge of Cause, Effect, Treatment and Prevention of Lymphatic Filariasis Among Respondent (n=266).

Variables	Number of Respondents	Percentage (%)
Knowledge of cause of LF:		
Witches/wizard	12	4.5
Working in the sun	8	3.0
Eating palm oil	13	4.9
Dirty water	33	12.4
Disobeying taboos	3	1.1
Mosquito bites	71	26.7
Inherited	20	7.5
Stepping on charms	3	1.1
Don't know	72	27.5
Others	30	11.3
Knowledge of effect of LF:		
Fever	30	11.3
Headache	25	9.4
Joint pain	16	6.0
Weakness	28	10.5
General pain	29	10.9
Swollen legs/scrotum	70	26.3
Itching	68	25.6

In table 7, knowledge of the cause of the disease was however less accurate. Although mosquito bites were the most implicated known cause 71 (26.7%). Other mentioned causes ranged from dirty water 33 (12.4%), inherited 20 (7.5%) and witches/wizards 12 (4.5%). A few numbers of respondents also mentioned stepping on charms, working in the sun and disobeying taboos. While, a greater number of respondents stated that they do not know the cause 72 (27.5%).

Respondents could surprisingly associate lymphatic filariasis with swollen legs and scrotum 70 (26.3%). Itching 68 (25.6%) and fever 30 (11.3%) were also mentioned as the effects of the disease. Majority 221 (83.4%) of respondents agreed that the disease can be treated. Others were not sure 39 (14.7%). Only 6 (2.3%) maintained that the disease is not treatable. While 135 (50.8%) believed that the disease cannot be transmitted 68 (33.5%) said they do not know, when asked specific method of treatment, 193 (78.1%) preferred using drugs while taking of herbs 57 (21.4%) as well as incision and draining of affected parts 13 (4.9%) was suggested by some respondents.

Table 8 Knowledge of Transmission, Treatment Prevention and Treatment

Variables	Number of Respondents	Percentage (%)
Whether it can be transmitted:		
Can be transmitted	135	50.8
Can't be transmitted	63	23.7
Don't know	68	33.5
Whether it can be treated:		
Can be treated	221	83.4
Can't be treated	6	2.3
Don't know	39	14.7
Knowledge of specific treatment for LF:		
Taking drugs	193	78.1
Taking herbs	57	21.4
Incision and draining of affected parts	13	4.9
Don't know	3	1.1

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

As shown in table 8, avoiding marriage from families was the most upheld means of prevention 68 (25.6%) second to this was avoidance of dirty water 54 (20.3%). Other means of prevention mentioned by respondents include obeying taboos, avoiding excess palm oil etc. The study also revealed that insecticide treated bed nets 185 (69.5%) was the most popular method of preventing mosquito bites. Doors and widow nets 35 (13.2%) as well as flitting with insecticides and coils 32 (12.0%) are also used to prevent mosquito bites; the least practiced method was wearing of special clothing and body lotion fourteen (5.3%).

IV. DISCUSSION OF FINDINGS

- *Prevalence of Lymphatic Filariasis in Wula Communities of Boki Local Government Area*

The result of this study showed that the prevalence rate of lymphatic filaniasis in the communities was 27.8%. This data exceeds results obtained by Waje et al (2024) who recorded an overall prevalence of 11.18% in Nigeria through a systematic review of available secondary data. Regional specific prevalence data are also lower data than that obtained in this study. Waje et al (2024) also recorded far lower prevalence rates in Northwest (1.59%), North Central and North East,(4.52%), South West (1.26%), and South-South with South East (3.81%) Nigeria. The findings also seem lower than results in other places. For instance, Aniaku et al (2021) recorded an overall antigenemia prevalence of 8.8% with the disease showing variation among villages in Ethiopia with Shonga having the highest (16.7%) and Tada (1.6%) the least infected. On the other hand, this prevalence appear reasonably lower when compared to Aniaku et al (2021) who recorded an overall prevalence for LF of 84 (41.8%) in residents in Igbo-Eze north Nigeria. Furthermore, their study indicated that LF prevalence was significantly higher in all the studied communities (61.5% in Umuogbuagu, 48.1% in Aguibege, 32.7% in Umuagama and 21.7% in Umuopu).

The high prevalence rate of lymphatic filariasis recorded in this study may be attributed to climatic factors including high rainfall, long duration of rainy season, dense vegetation and stagnant water bodies which provide long breeding seasons for mosquitos. Behavioral patterns such as inconsistent use of ITN farming activities and inappropriate dressing may also play a significant role in exposing occupants to mosquito bites, thereby enhancing transmission.

This study also shows that the prevalence rates for microfilaria rose continuously with age of respondents reaching peak values at 50 years and above. This totally alligns with earlier findings by Pani et al. (1991) who recorded that prevalence rates of lymphatic filariasis rises continuously with age. More so, Studies by Aniaku et al (2021) showed peak values at ages 41-45 in Oguta Imo state. This pattern has been previously said to occur due to accumulation of the micro filaria in endemic areas from childhood, often reaching maximum values in mid adulthood (Simonsen et al, 2014; Witt & Ottesen, 2001). In relation to age group, 40-49years had the highest (49.3%) while 0–9 years did not record any infection. This pattern of prevalence is believed to be due to the fact that infections tend to occur earlier in life and accumulate progressively as one advanced in age (WHO, 2024). Also, these age groups are the most economically productive and tend to be more predisposed to the vector.

In this present study, female respondents showed slightly higher prevalence rates than males in the study although there was no significant difference between prevalence rates among male and female respondents in the area ($p<0.05$). This also agrees with Simonsen et al (2014) who noted that the sex-related prevalence of LF was higher among females than males, with slight significant difference ($P = 0.046$). In relation to age and occupation, higher prevalence ($P < 0.0001$) were recorded among older (≥ 50 years) subjects (49, 61.2%) and traders (55, 57.9%) respectively. In this present study, this occurrence may ascribed to the fact that the demographics show that women in the area are more involved in agricultural activities than their male counterparts. Additionally, women in this community are observed to stay longer at night doing domestic chores and equally rise up very early to get water and handle other domestic chores. This may increase their exposure to mosquito bites. On the contrary, this study's findings disagrees with findings by Anna et al (2011) and Utta (2011) who recorded higher prevalence rates in males than females. This study also shows that microfilaria was rarely seen in children below 15 years.

This study also showed that prevalence rates were seen to increase with decreasing income.This might be due to the fact that lower income individuals lack basic necessities such protected houses and access to information, thus predisposing them more to the vector. Higher prevalence rates were also discovered among farmers than other professions. This is because farming activities exposes people to the mosquito vectors than other professions. Prevalence rates were significantly associated with occupation in the study at $p<0.05$. Finally, Residents of Wula Ekumpong showed higher showed higher prevalence rates than Wula -Mgbabisong.

- *Awareness of Lymphatic Filariasis.*

The study has shown that the people of the area have a high awareness of lymphatic filariasis. The vernacular as ***Ilikpa***. 236 (88.7%) respondents who affirmed to having heard of the disease show this fact. The strongest sources of information cited were from friends or seen on someone 88 (33%), Radio/TV 79 (29.7%) and health workers (17.7%). This information goes further to stress the fact that the disease is common in the community and may explain the high prevalence rate. Although, respondents exhibited a high awareness of the disease, only 71 (26.7%) of those sampled could associate mosquitoes as the vector of the disease. Other strongly held views about the cause, perhaps due to its physical manifestation "Elephantiasis and Hydrocoel" are stepping on charms 72 (27.1%) and drinking of dirty water 33 (12.4%). This findings resonate Ngmembong et al (2026) who reported that awareness of the disease was high (95.8%), yet only 39.5% of participants demonstrated good community knowledge and perceptions and self-reported preventive practices Their study however noted remarkable misconceptions regarding transmission, particularly beliefs

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

that the disease is hereditary or caused by spiritual factors, were common in their study.

This study noted that knowledge of signs and symptoms were similar to those clinically associated with different stages of the disease. The most identified symptoms are swollen legs/scrotum, general body pains, fever, itching etc. that represents different stages of the ailment. Preventive measures suggested by respondents tallied with the perceived cause of the disease. Avoiding dirty water, 84 (20.3%), avoiding mosquito bites and not marrying from families of victims were the strongest held opinions of prevention. Amaechi (2024) also recorded similar findings where respondents (43.3%) believed that the disease was caused by stepping on charms and had various misconceptions on the preventive measures included sacrifice to appease the gods and avoiding sexual intercourse with affected individuals.

V. CONCLUSION

The study investigated the prevalence and community awareness of lymphatic filariasis (LF) in Wula communities of Boki Local Government Area, Cross River State, Nigeria. The findings revealed a high prevalence rate of 27.8%, which was considerably higher than the national prevalence estimate reported by Waje et al. (2024) but lower than some endemic communities in Nigeria. The elevated prevalence was attributed to environmental conditions such as high rainfall, dense vegetation, stagnant water bodies, and prolonged mosquito breeding periods, alongside behavioural factors including inconsistent use of insecticide-treated nets, farming activities, and increased exposure to mosquito bites.

The study demonstrated that LF prevalence increased progressively with age, with the highest infection rates recorded among older adults, particularly those aged 40–49 years and above. This pattern was linked to the gradual accumulation of infection over time in endemic areas. Children had very low infection rates, suggesting that transmission and disease progression may require prolonged exposure. Females recorded slightly higher prevalence than males, although the difference was not statistically significant. Higher prevalence was also significantly associated with occupation and income level, with farmers, traders, and individuals with lower socioeconomic status being more affected due to increased exposure to mosquito vectors and limited access to protective measures.

The study further assessed community awareness and knowledge of lymphatic filariasis. Although awareness was high, with 88.7% of respondents reporting that they had heard of the disease, accurate knowledge about transmission was limited. Only 26.7% correctly identified mosquitoes as the disease vector. Many respondents attributed LF to misconceptions such as stepping on charms, drinking dirty water, or spiritual causes. Information about the disease was mainly obtained from friends, radio/television, and health workers. Respondents correctly recognized several clinical signs, including swollen legs, scrotal swelling, body pains, fever, and itching, but prevention practices were often influenced by misconceptions.

Overall, the study highlights that lymphatic filariasis remains a significant public health problem in Wula communities, driven by environmental risk factors, occupational exposure, socioeconomic challenges, and gaps in community understanding of disease transmission. The findings emphasize the need for strengthened health education, improved vector control strategies, increased use of preventive measures such as insecticide-treated nets, and continued implementation of LF elimination programmes in endemic communities.

RECOMMENDATIONS

Based on the findings of the study on the prevalence and awareness of lymphatic filariasis in Wula communities of Boki Local Government Area, the following recommendations are proposed:

- Strengthening health education and community awareness programmes.
- Enhancement of vector control interventions control.
- Improvement of mass drug administration (MDA) coverage and compliance.
- Targeted interventions for high-risk occupational groups.

REFERENCES

[1]. Adekunle NO, Asimiea AO (2018) Prevalence of Lymphatic Filariasis and Associated Clinical Morbidities Among Adolescents in Three Rural Communities in Ondo State, Southwest Nigeria. J Trop Med Health JTMH-120. DOI: 10.29011/JTMH-120.000120

[2]. Adekunle NO, Asimiea AO (2018) Prevalence of Lymphatic Filariasis and Associated Clinical Morbidities Among Adolescents in Three Rural Communities in Ondo State, Southwest Nigeria. J Trop Med Health JTMH-120. DOI: 10.29011/JTMH-120.000120

[3]. Amaechi, E. C., Ariyo, A. A., Aderogba, A. A., Nwachukwu, P. C., Nwadike, C. C., Ezekiel, O. O., & Oyinloye, F. O. P. (2024). Burden, knowledge and perception of lymphatic filariasis in resource-poor communities in north central Nigeria. *Journal of Parasitic Diseases*, *48*(4), 823–830. https://doi.org/10.1007/s12639-024-01711-0

[4]. Amaechi, E.C., Ariyo, A.A., Aderogba, A.A. *(2024)* Burden, knowledge and perception of lymphatic filariasis in resource - poor communities in north central Nigeria. *J Parasit Dis* 48, 823–830 (2024). https://doi.org/10.1007/s12639-024-01711-0.

[5]. Aniaku IE, Onyishi GC, Nwosu CG, Urama CC, Akobe NA, Nnawuihe OO, Obodo CS (2021) Predisposing factors to lymphatic filariasis among residents in Igbo-Eze north: an endemic area in Nigeria. Iran J Parasitol 16(4):663–671.

[6]. Centers for Disease Control and Prevention. (2024, May 13). *About lymphatic filariasis*. https://www.cdc.gov/filarial-worms/about/lymphatic-filariasis.html

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/26jul991

[7]. Jabir, M., & Rahi, M. (2025). Global insights can accelerate India's journey towards the elimination of lymphatic filariasis as a public health problem. *BMJ Global Health*, *10*(7).
[8]. Mohammed, A. O., Ihemanma, C. A., Mansur, M. M., Jameelah, A. M., Ibrahim, M. P., Adeniyi, K. A., ... & Jibril, M. S. (2025). Impacts of home mosquito vector control and insecticide treated nets on malaria status among pregnant women attending antenatal care at police hospital, Dutse, Jigawa State. *FUDMA Journal of Sciences*, *9*(3), 316-326.
[9]. Musrin, N. D. (2025). Strategies for Filariasis Prevention in Indonesia Based on Community Behavior and Compliance: A Review. *Journal of Health Science and Pharmacy*, *2*(2), 351-358.
[10]. Mwesigye, V., BerytahTebulwa, J., Musinguzi, B., Agaba, B. B., Muyambi, R., Asiimwe, G. K., & Mulogo, E. M. (2025). A qualitative study of knowledge, experiences, and healthcare needs of people living with lymphedema in Kamwenge District, rural Uganda. *Discover Public Health*, *22*(1), 1-19.
[11]. Ngmembong, C. N., Captain-Esoah, M., Lareef, S., Angyiereyiri, E. D., Donkor, M. N., Dassah, S. D. & Achu, D. (2026). Persistent morbidity and knowledge gaps in a near-elimination setting: A cross-sectional study of lymphatic filariasis in northern Ghana. *medRxiv*, 2026-04.
[12]. Obiefoka, S. O., Emmy-Egbe, I. O., Anyaegbunam, L. C., Uba, B. O., Anameze, C. I., Ogoamaka, I. J., Kamala, N. L., Ezeigwe, C., Akaogu, O., Odumodu, A. O., Emmy-Egbe, C. C., Ezenwata, O. S., & Chukwubude, C. (2023). *The prevalence of lymphatic filariasis infection among primary school children (5–9 years) of infected adults in Ihiala Local Government Area of Anambra State, Nigeria*. IPS Journal of Public Health, 3(2), 66–72. https://doi.org/10.54117/ijph.v3i2.21
[13]. Pani, S. P., Balakrishnan, N., Srividya, A., Bundy, D. A. P., & Grenfell, B. T. (1991). Clinical epidemiology of bancroftian filariasis: Effect of age and gender. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, *85*(2), 260–264. https://doi.org/10.1016/0035-9203(91)90048-4.
[14]. Simonsen, P. E., Fischer, P. U., Hoerauf, A., & Weil, G. J. (2014). The filariases. In G. C. Cook, A. I. Zumla, J. Farrar, N. White, & P. L. Chiodini (Eds.), *Manson's Tropical Infectious Diseases* (23rd ed.). Elsevier.
[15]. Turner, H. C. (2020). *Health economic analyses of the Global Programme to Eliminate Lymphatic Filariasis*. *International Health, 13*(Suppl. 1), S71–S74. https://doi.org/10.1093/inthealth/ihaa095
[16]. Turner, H. C., Bettis, A. A., Chu, B. K., McFarland, D. A., Hooper, P. J., Ottesen, E. A., & Bradley, M. H. (2020). Health and economic burdens of lymphatic filariasis prior to mass drug administration programs. *Clinical Infectious Diseases, 70*(12), 2561–2570. https://doi.org/10.1093/cid/ciz671.
[17]. Uttah, E. C. (2011). Prevalence of endemic Bancroftian filariasis in the high altitude region of south-eastern Nigeria. *Journal of Vector Borne Diseases*, *48*(2), 78–84.
[18]. Waje, T., Iliyasu, C., Yaki, L. M., & Auta, I. K. (2024). A review of epidemiology of lymphatic filariasis in Nigeria. *Pan African Medical Journal*, *47*, 142. https://doi.org/10.11604/pamj.2024.47.142.39746
[19]. WHO (2023) https://www.who.int/news-room/fact-sheets/detail/lymphaticfilariasis
[20]. Witt, C., & Ottesen, E. A. (2001). *Lymphatic filariasis: An infection of childhood*. *Tropical Medicine & International Health, 6*(8), 582–606. https://doi.org/10.1046/j.1365-3156.2001.00765.
[21]. World Health Organization. (2024, November 21). *Lymphatic filariasis*. https://www.who.int/news-room/fact-sheets/detail/lymphatic-filariasis.