Knowledge, attitude and practices on lymphatic filariasis among the residents of Argungu local government area, Kebbi state, Nigeria

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Received 18 Dec 2023; Accepted 24 Jan 2024; Published 2 Feb 2024

Abstract

This study was conducted in Argungu L.G.A which was endemic for lymphatic filariasis. It reports the knowledge, attitude and practices of the inhabitants regarding the cause, transmission, treatment and prevention as well as economic consequences of lymphatic filariasis. The study was conducted between January and April 2018. It is descriptive, cross – sectional and both quantitative and qualitative methods were adopted. The results obtained revealed that knowledge about the cause, transmission and prevention of the disease among the respondents was poor. Some attributed the cause to act of God (50.3%) some (16.29%) to witchcraft while 12.0%, 9.3%, 10.7% and 1.3% blames stepping on charm, contaminated water, lack of personal hygiene and guinea worm respectively. Many who were interviewed believed that prevention should be linked to spiritual and supernatural concepts. However, they demonstrated high awareness of its Socio-Economic implications and agreed it has negative consequences on marriage. Majority of the sufferers (18(69.2%)) patronize both traditional medicine dealers and orthodox and few (3(11.5%)) use orthodox drug89t It was concluded that knowledge about the cause, transmission and prevention of the disease among the resident was poor and the financial and psychological burden was deep. Health education on the overall cake and consequences of the disease is recommended.

Keywords: lymphatic filariasis knowledge, Attitude, practices, Argungu LGA

Introduction

Lymphatic filariasis, also known as elephantiasis, is a common mosquito borne parasitic infection caused by microscopic, thread – like nematodes belonging to the family filariodea. Three main parasites *Wuchereria bancrofti*, *Brugia malayi and Brugia timori* are responsible for the infection with *W. bancrofti* being the commonest in Africa [1].

The disease is transmitted from human to human by the infective bite of certain species of mosquitoes. An inflection occurs when the filarial parasiltes are transmitted to humans through mosquito bites. When a mosquito harboring infective stage larvae bites a person, the parasites are injected directly into the blood circulation through the skin. The larvae (Microfilaria) migrate to the lymphatic vessels where they develop into adult worms forming 'nests' in the human lymphatic system [2]. These worms live for 4-6 years and produce millions of immature microfilariae that circulate in the blood [3]. The adults block the normal flow of lymphatic fluid thereby damaging the lymphatic system. This blockage produces tremendous enlargement of the arms, legs or genitals. The worms also invade the kidneys causing damage to this organ [4].

Infection with lymphatic filariasis can be asymptomatic, acute or chronic. The majority of infections are asymptomatic, showing no external sign of infection but still cause damage to lymphatic system, kidneys as well as alter the body's immune system [5]. Acute manifestations commonly include local symptoms such as swelling, warmth, redness and pain of the affected area [6]. The patient characteristically complains of fever, chills, headache and skin lesions [7]. When it develops into a chronic condition, it leads to lymphoedema (tissue swelling) or elephantiasis (skin/tissue thickening) of limbs and hydrocele [8]. The disease is rarely fatal but characteristically disfiguring and resulting in stigmatization. In addition it is closely associated with conditions of extreme poverty and considerable psycho-social burden [6].

Lymphatic filariasis is a major public health problem in endemic areas. Before the year 2000, over 120 million people were infected worldwide and more than 1.3 billion people in 81 countries were at risk of infection [9]. Currently, eight hundred and fifty six (856) million people in 52 countries worldwide are threatened, 36 million are living with morbidity [10]. Nigeria is currently the 2nd most endemic country globally after India and still the most endemic in Africa [11].

The 5th world Health Assembly [5] decided in 1997 that the disease should be eliminated as a public health problem. WHO's strategy of elimination requires two components:

- Interrupting the transmission of the parasites through mass drug administration (MDA) once a year for at least five years or until the transmission has been interrupted.
- Care for those who already have the disease.

Recently it has been recognized that community involvement and effective health education play important role in the elimination of lymphatic filariasis. Again it is important to have good knowledge, attitude and practices (KAP) of the people towards the disease. These help in improving compliance to

MDA.

Materials and methods

Study area

The study was conducted in Argungu LGA, which is endemic for lymphatic filariasis and was declared for MDA since 2010.

Fig 1: Map of Kebbi State showing the study area

Study population/design

The study population are males and females aged fifteen years (Ramaiah 1996 *et al*) [12] and above resident in Argungu LGA. The study was a descriptive, cross – sectional one.

Sampling technique

Random sampling technique was used. Six villages were selected out of about 42 in the LGA. All the villages were listed and the six were selected by balloting. Infected and non-infected individuals who volunteered or gave their consent were included in the study.

Data collection technique

Both quantitative and qualitative techniques were used. Community members aged fifteen (15) years and above were included. This is due to the fact that the disease chronic stage manifests later in life.

Quantitative method

Collection of data was done using semi-structured pre-tested questionnaires that contain mostly closed – ended questions.
The questionnaire consists of three sections.
First section sought information on the respondents demographic data. The second and third sections sought information on KAP and Socio Economic and psycho social impact. Section A and B were for all participants while Section C was for sufferers only.

Qualitative method

Qualitative data was collected for only those will visible signs of lymphatic filariasis. They were interviewed on psychological, psychosocial, economic and matrimonial aspects of the disease.

Data analysis

Data cleaning for errors, completeness and consistency checks were done. Information collected were fed into statistical package for social sciences (SPSS version 21) for analysis and was presented using frequency tables, pie charts and percentages.

Ethical considerations

Permission was obtained from Kebbi State Ministry of Health before the administration of questionnaire. Permission was also sought from the Local Government Authorities and village heads. Informed verbal consent was also sought and obtained from each individual concerned. All information obtained was treated with utmost confidentiality.

Results

Knowledge of lymphatic filariasis majority of the respondent were not knowledgeable about lymphatic filariasis. The knowledge of the cause of lymphatic filariasis revealed that both infected and uninfected respondents were completely ignorant of the cause of the disease. None identified mosquito bites as a cause. Majority (61.5% and 49.3%) comprising 16 infected and 135 uninfected thought it was the act of God. Forty-nine (49) (16.3%) attributed it to witchcraft while 12%, 3.7%, 0.3%, 10.7% and 1.3% blamed stepping on charm, contaminated water, lack of personal hygiene and guinea worm respectively.

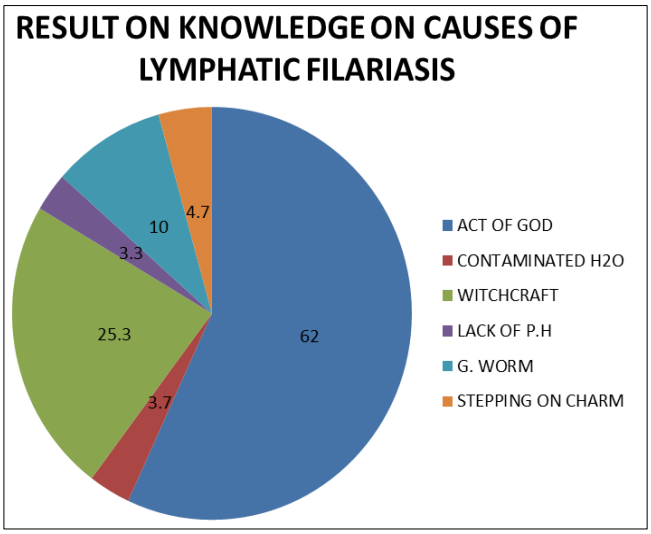

Fig 2: Knowledge on causes of lymphatic filariasis

Table 1 shows information on the knowledge of the respondents regarding the mode of transmission and preventive measures of lymphatic filariasis.

They demonstrated complete ignorance of the mode of transmission of the disease. A total of 116 (38.7%) believe it is transmitted from person to person by body contact with infected person. 36(12%) though it is by inheritance. Similarly 89(29.7%) thought it is through sexual intercourse with infected person and 59(12)% believe it is by witchcraft power. Many linked prevention of the disease to cultural and traditional interpretation and beliefs and emphasize prevention to spiritual and supernatural concepts. A total of 94(31.3%), comprising of 4 infected and 90 uninfected believe that praying to God for derive protection is the solution 26(8.7%) were of the opinion that avoiding body contact with infected person is the solution 44(14.7) thought that good personal hygiene can prevent disease transmission and 27(9.0%) believed that avoiding sexual intercourse with infected person can prevent it. 12(4.0%) who happened to be health assistants thought that avoiding infection by guinea worm can prevent it while to 97(32.3%) respondents' charms and local herbs are the remedies.

As shown on table 2, the respondents demonstrated relatively high awareness of the socio-economic implications of the disease. A total of 139(46.3%) out of the total respondents that included infected ones, believed that the disease decreases the income of the sufferers, while 108(39.4%) all uninfected, believed that it rather increases then income due is the gifts and money they receive from sympathizers. 50(16.7%) were of the opinion that it doesn't have any effect on income.

On proposing marriage to someone with the disease 290(96.7) of the respondents (both infected and uninfected) would not propose marriage to someone with visible physical sign of the disease. However, 7 (2.3%) were not sure. However, if the marriage partner contacts the disease while already married to them, majority 163(54.3%) were of the spouse while 107(35.7) would opt for divorce. However, 30 (10%) were undecided. 224(74.7%) respondents said they will associate with the sufferers while 40(13.3%) said they will not be not sure whether they will abacate or not.

Qualitative interview with affected persons.

With regard to their feelings about their condition 5(19.2%) feel sad, 10(38.5%) feel abnormal, 7(26.9) feel shame, and none feel like committing suicide. 4(15.4%) simply answered that they don't know. On whether the disease makes them think less of themselves 15(57.7%) of the respondents thought less of themselves while 8(30.8%) did not. However, 3(11.5%) of the respondents did not offer any comment. 16(61.5%) believed that it did not affect their acceptance in the family community while 8(30.8%) believed it did. However, 2(7.79) did not offer any response. The study population had high level of awareness of the disease's consequences on family and marriage 12(46.2%) believed that it ruins marriage, 7(26.9%) were of the opinion that it destroys sexual relation with spouse while 7(26.9%) agreed that it leads to divorce. Majority of the sufferers 19(73.1%) agreed that it leads to difficulty in finding marriage partner 1(3.8%) believed that it hinders marriage prospect of unaffected family members. However, 6(23.1%) agreed it has no effect on marriage prospect.

Table 4 shows the effect of the disease on suffers work/productivity. Out of the 26 sufferers, 9(34.6) agreed that it causes absentees from work/school, 10(38.5) believed it hinders daily income, 3(11.5%) responded that it causes low performance at school. 2(7.7) of the sufferers patronize traditional medicine while 3(11.5%) use orthodox drugs alone. However, majority 18(69.2) combine both traditional and modern treatments. Meanwhile only 2(7.7%) use hygienic practices and 1(3.8%) out if frustration from prolonged treatment to no avail, had stopped any form of treatment. It is very interesting to know that majority of the sufferers 17(65.4%) had hope that someday they will be free from the debilitating disease on the other hand 5(19.2%) of the respondents were not sure if they will ever be cured.

Table 1: Respondents knowledge on the mode of transmission and perception on the prevention of Lymphatic filariasis

Variables	Responses	Infected (n = 26) No. (%)	Uninfected (n = 274) No. (%)	Total (n = 300) No. (%)
Perceived mode of transmission	Body contact (non-sexual)	6 (23.1)	110 (40.1)	116 (38.7)
	Mosquito bite	0(0.00)	0.00 (0)	0.00
	Sexual intercourse with infected person	10 (38.5)	79 (28.8)	89 (29.7)
	Inheritance	6(23.1)	30 (10.9)	36 (12)
	Witchcraft	4 (15.4)	55 (20.1)	59 (12)
	Total	26 (100)	274 (100)	300 (100)
Preventive Measure	Avoid body contact with infected person	6 (23)	20(7.3)	26 (8.7)
	Avoid sexual intercourse with infected person	5 (19.2)	22 (8.1)	27(8.7)
	Avoid mosquito bite	0.00 (0.0)	0.00 (0.00)	0.00 (00)
	Avoid guinea worm infestation	2 (7.7)	10 (3.6)	12 (4)
	Good personal Hygiene	4 (15.4)	40 (14.6)	44 (14.7)
	Praying to God for protection	4 (154)	90 (32.8)	94 (31.3)
	Using charms & Local herbs	5 (19.2)	2 (33.6)	97 (32.3)
	Total	26	274	300

Table 2. Respondents' beliefs on some socioeconomic and psychological consequences of lymphatic filariasis

aVariables	Responses	Infected (n = 26) No. (%)	Uninfected (n = 274) No. (%)	Total (n = 300) No. (%)
Effect on economic life	Reduces income of sufferers	10 (38.5)	129 (47.1)	139 (46.3)
	Increases income of sufferers	12 (46.2)	108(39.4)	120 (40)
	Hass no effect on income	00 (0)	30 (10.9)	50 (16.7)
	Don't know	4(15.4)	7(2.6)	7(2.3)
	Total	26(100)	274(100)	300(100)
Marriage proposal to infected persons	Yes	1(3.8)	2 (0.7)	3 (1)
	No	21 (80.8)	269 (98.2)	290 (96.7)
	Don't know	4 (15.4)	3 (1.1)	7 (2.3)
	Total	26 (100)	274 (100)	300 (100)
Divorce of infected spouse	Yes	(0) 00	107 (39.1)	107 (35.7)
	No	25 (96.2)	138 (50.4)	163 (54.3)
	Don't know	1 (3.8)	29 (10.6)	30 (10)
	Total	26 (100)	274 (100)	300 (100)
Association with infected persons	Yes	26	198 (72.3)	224 (74.7)
	No	00	40 (14.6)	40 (13.3)
	Don't know	00	36 (13.1)	36 (12)
	Total	26	274 (100)	300 (100)

Table 3: Infected persons feelings on living with lymphatic filariasis, thoughts about themselves, acceptance in the family/community and matrimonial consequences

Variables	Responses	Frequency	Percentage %
Feelings	Sad	5	19.2
	Shame	7	26.9
	Abnormal	10	38.5
	Suicidal	00	0
	Don't know	4	15.4
	Total	26	100%
Think less of themselves	Yes	15	57.7
	No	8	30.8
	Don't know	3	11.5
	Total	26	100%
Views on being accepted	Well accepted	16	61.5
	Not well accepted	8	30.8
	Not sure	2	7.7
	Total	26	100%
Opinions on matrimonial consequents	Ruins marriage destroys sexual relation with	12	46.2
	Partner Leads to divorce	7	26.9
	By spouse	7	26.9
	Total	26	100%
Consequences of disease on marriage prospects	Difficult to fine a spouse	19	73.1
	Hinder marriage prospect of family members	1	3.8
	Has no effect on marriage prospect	6	23.1
	Total	26	100%

Table 4: Average monthly income of the infected persons, income spent on treatment, effect of the diseases on their work, treatment methods used and their hope for complete cure

Variables	Responses	Frequency	Percentage %
Mean monthly income	Below N500	1	3.8
	N500 – N100	2	7.7
	N1,000 - N5,000	2	7.7
	N5,000 – N10,000	8	30.8
	Above N10,000	13	50
	Total	26	100%
Income spent on treatment monthly	Below N500	2	7.7
	N500 - N1,000	5	19.2
	N1,000 - N5,000	4	15.4
	Above N10,000	9	34.6

	Total	26	100%
Effect	Hinder daily income	10	38.5
	Absenteeism from work / school	9	34.6
	Low performance at work / school	3	11.5
	Loss of work/school dropout	4	15.4
	Total	26	100%
Treatment method	Orthodox drugs	3	11.5
	Local herbs	2	7.7
	Both drugs & herbs	18	69.2
	Hygienic practices	2	7.7
	None	1	3.8
	Total	26	100%
Level of hope	There is hope of cure	17	65.4
	No hope of cure	4	15.4
	Not sure	5	19.2
	Total	26	100%

Discussion

Many studies have reported on the community knowledge, attitude and practices on lymphatic filariasis [12-15]. In this study the community perception of filarial infection and filariasis was low. This corroborates with other reports in Nigeria [16, 11, 15, 14, 17]. However [12] reported that majority of his respondents believed that the disease is transmitted by mosquitoes [18] also reported high awareness amount respondents in Port-Harcourt metropolis.

Though they were aware of the disease through the clinical signs, which they called 'gudunguma', for elepliantiasis and 'gwaiwa (hydrocele), they are not aware of the cause, transmission mode and prevention of the infection. This may be due to low educational status as majority of the respondents had no formal education or lack attention or understanding of health education taught at school. Similar reports where the cause, transmission and prevention of the disease has been reported. To be caused by sup erstitious beliefs abound [13, 14, 19]. It seems that people are influenced by their cultural norms and ethic beliefs.

Lymphatic filariasis is a disease that mostly affect the poor [20] thus making them poorer. This study revealed up to 13(50%) sufferers earns income of about N10,000 and below monthly. Some of these people have up to three to four wives and income cases up to fifteen children, plus extended family to take care of Agam 17(65.4%) of respondents indicated that they spent between N500 – N10,000 on treatment, they leaving them with virtually nothing to take care of their personal and family needs Evans *et al* (1993) [21] pointed out that the endemicity of lymphatic filariasis in low income counties is due to inadequate social facilities like good worse disposal and sanitation facilities which increase the number of breeding sites for mosquitoes.

Lymphatic filariasis causes not only physical disabilities but also psychological disability that tend to be unrecognized. There are diminished marriage prospects but majority (both infected and uninfected) will not divorse their partners if they contact the disease while already married to them. This corroborates with the report of [14] in Kano the patients with lymphedemas and hydrocele in this study felt shame, sad and abnormal. Though they were not isolated by both community and family members, they were angry, bitter and depressed about their condition. This is likely mainly due to their reduced productivity; negative feelings have been reported in India [21]. The misconceptions and superstitions regarding the cause, transmission and prevention of lymphatic filariasis, together with cultural and ethnic beliefs militate against prevention, treatment and control of the disease. Thus the patients seek for remedy from various sources. Majority use both traditional and orthodox drugs and many use only traditional medicine. Similar reports abound in Nigeria [14] and Kenya [22].

Conclusion

Based on the results obtained in this study, it is concluded that knowledge about the cause, transmission and prevention of the disease is very poor. Stigmatization is minimal but the psychological burden among the infected persons is deep.

Recommendation

There is need for health education, to create knowledge – based awareness among the residents for effective management of the disease.

Acknowledgement

We are grateful to Argungu people for their assistance and co-operation.

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