WWJMRD 2017; 3(10): 222-225
www.wwjmrd.com
International Journal
Peer Reviewed Journal
Refereed Journal
Indexed Journal
UGC Approved Journal
Impact Factor MJIF: 4.25
e-ISSN: 2454-6615

Sa'adatu Hayatuddeen
Department of Biological Science, Nigeria Defence Academy, Kaduna, Nigeria

Umar Yahaya Abdullahi
Department of Biological Science, Nigeria Defence Academy, Kaduna, Nigeria

Mukhtar Mohammed Dauda
Department of Microbiology, Bayero University Kano, Nigeria

Correspondence:
Sa'adatu Hayatuddeen
Department of Biological Science, Nigeria Defence Academy, Kaduna, Nigeria

Survey of knowledge, Attitudes and practices of the inhabitants of Danbatta and Kumbotso LGAs of Kano State, Nigeria.

Sa'adatu Hayatuddeen, Umar Yahaya Abdullahi, Mukhtar Mohammed Dauda

Abstract
Lymphatic filariasis is a major cause of permanent disability in many tropical and subtropical Countries of the World including Nigeria. Machineries have been put in place globally to eliminate LF by the year 2020 through MDA, vector control and morbidity control. This study investigated the level of awareness of LF, control strategies and educational status of the inhabitants of two Local Government Areas of Kano State, Nigeria. Questionnaires were administered to116 individuals in the two LGAs. Demographic. Socio – economic and knowledge, attitudes and practices (KAP) data of the individuals were obtained. Analysis of data from questionnaire administered and retrieved from Danbatta and Kumbotso LGAs showed that 44.9% and 80.6% of the participants do not have knowledge about LF. In Danbatta LGA, 87.1% uses mosquito treated nets to prevent mosquito bites, 3.4% uses neem leaves and 9.5% uses repellent. However, more than 65% uses net in Kumbotso LGA. 59.5% of the participants in Danbatta have no formal education. For greater understanding of LF, there's need for an enhancement in the delivery of health education and information as well as mass campaigns in endemic communities.

Keywords: Lymphatic filariasis; Danbatta; Kumbotso; participants; endemic community

1. Introduction

Lymphatic filariasis (LF) is a neglected tropical disease caused by species of filariod nematodes of the genus Wuchereria and Brugia and transmitted to humans by night biting culex and anopheles species [1]. It is estimated that over 20 million people are infected worldwide with about 40 million disfigured or incapacitated by the disease and more than 1.4 million people living in 73 countries are at risk of being infected [2]. Although Lymphatic filariasis does not directly cause death, its chronic manifestations are an important cause of disability and reduced quality of life [3, 4].

Some of the night-biting mosquito species reported to transmit LF includes C. quinquefasciatus, A. gambiae and A. funestus [5], while the etiological agents are Wuchereria bancrofti which accounts for 90% of human infection while Brugia malayi and Brugia timori accounts for the remaining 10%, and are found in India, South Korea and Indonesia [6].

Due to the chronic nature of LF, severe infections may manifests hydrocele and lymphoedema which are as result of the long life span of the worms and accumulation of worm- induced damage in the lymphatic system over time [7]. Hydrocele is an enlargement of the scrotum in males, caused by accumulation of serous fluid inside the scrotal sac, around the testicles. Lymphoedema on the other hand is a swelling of the extremities, breasts or vulva, caused by accumulation of fluid in the subcutaneous tissue due to impaired lymph drainage. Lymphoedema sometimes progresses into elephantiasis in which the skin of the enlarged body part becomes thickened, rough and hard like elephant-skin [9].

Authors in [10] reported that lymphoedema and hydrocele leads to permanent, long term disability. They also cause disfigurement with serious psychosocial and economic consequences. The economic cost of managing acute and chronic manifestations of LF is a

burden on patients. Disability and disfigurement due to chronic manifestation has led patients of the disease to stop working or change to less productive jobs [11].

Based on global estimates, 12.5% of LF infections are estimated to result in lymphoedema and 20.8% in hydrocele. In sub-Saharan Africa, there are approximately 5 million cases of lymphoedema and 8 million cases of hydrocele [12].

There is now a Global Programme organized by WHO with the aim of eliminating LF as a public health crisis by the year 2020, through mass treatment of affected populations with a combination of albendazole and ivermectin for those living in endemic communities, vector control and morbidity control. The vector control component is aimed towards reducing transmission of the insect vector in the endemic communities. The morbidity control aspect is to alleviate the suffering of already diseased persons particularly those with chronic symptoms of hydrocele and elephantiasis through hydrocelectomy and hygienic practices respectively.

The effectiveness of the Lymphatic filariasis elimination depends on the knowledge, attitudes and perceptions of the affected populations about the disease. Therefore, this study was aimed at assessing the knowledge, attitude and perception of the study population with respect to LF in some selected communities of Danbatta and Kumbotso LGAs in Kano State, Nigeria. The results of this study will aid in the design and implementation of educational strategies, as well as in the development of disease control and interventional methodologies that require active community participation.

2. Materials and Methods

2.1 The Study Area

Kano state is found in the Sahel Savannah region of west Africa, It is located in the North Western zone of Nigeria, between longitude 100^{o} 37^{l} N & 100^{o} 33^{l}N and 70^{o} 34^{l}E & 90^{o} 29^{l} E respectively [12]. Kano State is bordered to Katsina State to the North-West, Jigawa State to the North-East and Bauchi State to the South-East. The main river is the Kano River on which the second largest dam, Tiga is built. Minor rivers include Challawa, Watari, Tomas and Kafin – chin. Kano State has an estimated population of about 9, 383, 332 million people who are either traders, civil servants, artisans, business men and women, farmers among other occupations.

2.2 Method of Data Collection

Questionnaires were administered to volunteers' that have donated blood samples and have been examined for overt clinical signs of lymphatic filariasis in earlier detailed epidemiological study from selected wards in Danbatta and Kumbotso LGAs of Kano State. The questionnaires were administered with the help of medical personnel, focal persons and the ward heads of the selected study area that were indigenous to the research area. The participants were interviewed, using the local language, to determine the extent of each participants knowledge of LF, including prevention, treatment, symptoms, and transmission, as well as the attitude of the participants towards the disease. Additional questions included those about the MDA program, such as participation in the MDA program and the source of information about the MDA program. Some questions were open ended and allowed the respondents the chance to give greater details while others were restricted to a yes or no answer. Each completed questionnaire was assigned an identification number corresponding to the subject's assigned blood sample number. The questionnaire used in the survey was written in English, the national language of Nigeria.

2.2.1 Data Analysis

The data generated was analyzed using simple frequencies and percentages, and then presented in tabular forms.

2.2.2 Ethical Clearance

Ethical clearance was obtained from Kano State Ministry of Health (Ref: MOH/S/MED/51/11) on the 13th October, 2014. Consent was also seeked from the Local Government health officers, ward heads and elders of the selected wards where the studies were conducted.

3. Result

A total of 116 individuals participated in the survey in Danbatta LGA, while in Kumbotso LGA 72 individuals participated in the survey. Most of the participants in Danbatta LGA (56.0%) had heard about LF and reported that the source of LF information was mass media (59.5%), village head (32.8%), others had heard about LF from other people around (6.9%). Almost all the participants had poor knowledge of drug used on the treatment of LF. (84.4%) of the participants indicated having no knowledge of the drug used for treatment of LF and 3% of the participants mentioned the use of herbs while 12.9% admitted using Albendazole. Moreover, when the participants were asked about participation in MDA program, (66.4%) admitted having participated in an MDA program previously, 27.6% were not aware of existence of the MDA program and only 6.03% did not respond.

To prevent transmission of LF, 87.1% of the participants reported sleeping under bed nets to protect themselves from mosquito bites, 9.5% reported using repellants while 3.45 burns dried neem leaves. Most participants were aware that proper sanitation, good hygiene are correct methods to control the mosquito population. However, 35.3% did not indicate specific way of controlling mosquitoes.

However, 35.3% of the participants perceived LF to be a problem, 56.0% of the survey participants perceived LF not to be a problematic disease in Danbatta LGA while the remaining 8.6% of survey participants did not specify the kind of problem they perceived LF to be, 40.5% had received formal education, and 59.5% had not received any formal education.

However in Kumbotso LGA, individuals with knowledge about LF (19.4%) were found to be lower when compared with those that had knowledge about the disease (80.6%). Individuals that source their knowledge from the mass media (48.6%) had higher rate while 43.1% acquire from the village head and 8.3% from other people around. Of the 72 individuals interviewed 61.1% knows about MDA, 34.7% do not know about the MDA and 4.2% did not respond to the question. The rate at which inhabitants of Kumbotso LGA use mosquito net (66.7%) is higher when compared with the burnng of dried neem leaves (4.2%) and use of repellant (29.2%). 8.3% of the participants considered LF to be a problematic disease in Kumbotso LGA, 80.6% considered it not to be problematic while

11.1% do not know. Just like Danbatta LGA, Kumbotso LGA had lower percentage of individuals that take herbs (2.8%), 97.2% takes nothing and no single person takes Albendazole.

Unlike Danbatta LGA, Kumbotso had higher percentage of those with formal education (70.8%) while (29.2%) had no formal education. 58.3% of the participants do not seek any medical assistance, 1.4% seek medical assistance while 40.3% did not respond.

Participants Knowledge, Perception and Attitude towards Lymphatic filariasis and the Mosquitovector

Variables	Danbatta LGA No. examined N = 116	Danbatta LGA Percentage (%)	Kumbotso LGA No. examined N = 72	Kumbotso LGA Percentage (%)
Knowledge about LF				
- **Yes**	65	56.0	14	19.4
- **No**	51	44.9	58	80.6
Source of Knowledge				
- **Mass media**	69	59.5	35	48.6
- **Other people**	08	06.9	06	08.3
- **Village head**	38	32.8	31	43.1
- **No response**	01	01.0	00	00.0
Knowledge of MDA				
- **Yes**	77	66.4	44	61.1
- **No**	32	27.6	25	34.7
- **No response**	07	6.03	03	04.2
Method of preventing mosquito bites				
- **Use of bed net**	101	87.1	48	66.7
- **Burning neem leaves**	04	3.4	03	04.2
- **Use of repellant**	11	9.5	21	29.2
Do you consider LF to be a problematic disease?				
- **Yes**	41	35.3	06	08.3
- **No**	65	56.0	58	80.6
- **Don't know**	10	8.62	08	11.1
Type of medicine taken				
- **Albendazole**				
- **Herbs**	15	12.9	00	00
- **Nothing**	03	03	02	2.8
	98	84.4	70	97.2
Level of education				
- **Formal education**	47	40.5	51	70.8
- **Informal education**	69	59.5	21	29.2
Seek any medical assistance				
- **Yes**	25	21.6	01	01.4
- **No**	91	78.4	42	58.3
- **No response**	00	00	29	40.3

Discussion

This survey was conducted in some selected communities of Danbatta and Kumbotso LGAs of Kano State, Nigeria. The information gathered for the purpose of the survey was obtained from the inhabitants of the survey area. The focal persons of the Public Health Centres of the two LGAs assisted in the administration of questionnaires. This was done because the focal persons were indigenes of the survey area, they interact directly with the target population, involving them would facilitate compliance and cooperation of the participants to give honest information required. Furthermore, all aspect of the survey was conducted in close supervision by the researchers.

The findings in the two LGAs studied revealed that within the period of the study more men than women suffered from LF, which may be due to the type of their occupation that will make them be exposed to the breeding sites of the vector. As mentioned in other surveys by [12]. Some of the participants had poor knowledge or no knowledge of LF. This finding is in agreement with some studies performed in Ghana [13].

In the control or elimination of a disease, the population involved must have prior knowledge of the disease for the control measure to be successfully implemented. In this survey, it was indicated that the major sources of information were mass media, village head and from other people in a village gathering. In other to achieve greater awareness, additional information campaigns should be considered including house to house visit, authors in [14, 15] also indicated that in their survey.

In this survey, majority of the participants when asked if they seek medical assistance when they are ill, there response was "NO", indicating that there is need for creating awareness of the usefulness of medical checking or hospitals.

One of the most important preventive measures in the eradication of mosquito borne disease such as filariasis is the prevention of mosquito bites. This study indicated that the majority of the participants sleep under bed nets to protect themselves from mosquito bites. Federal Ministry of Health had mentioned that distribution of Long – lasting

insecticidal bed nets for LF is predicted to reduce the incidence of the disease more quickly. The level of bed net usage could be the reason why the risk of developing infection was significantly low.

Conclusion

The findings from this survey showed that there was some awareness regarding LF among the inhabitants of Danbatta LGA, although majority of the participants do not seek medical assistance when they are ill. Therefore, there is need for creating awareness of the benefit of medical checking or hospitals, thereby improving the general wellbeing of the inhabitants of the area.

Recommendation

There is need for continued research on methods of elimination of LF infection among endemic communities, through an effective education program that focuses on LF transmission and prevention via public media awareness, distribution of information leaflets and posters, house to house visit, visit to health centers and schools or by strategic advocacy on vector control.

Acknowledgement

The authors are grateful to Kano State Ministry of Health for granting the permission to carry out the research. The assistance provided by the staff of the Health Department, ward heads and the inhabitants of the communities of the two LGAs who participated in the study are well appreciated.

References

1. World Health Organization (WHO). "The World Health Fact sheet on lymphatic filariasis". Fact sheet No 102, 2004. Available: www.who.int/mediacentre/factsheets/fs102/e [Jun 31, 2015]
2. E. A. Ottesen. "Strategies and tools for the control and elimination of Lymphatic filariasis". Journal of Public Medicine, 75(6): 491 – 503, 1997.
3. K. D. Ramaiah, M. P. Radhamani, K. R. John, D. B. Evans, H. Guyatt and A. Joseph. "The impact of lymphatic filariasis on labour inputs in southern India: Results of a multi- site study". Annals of Tropical Medicine and Parasitology, 94(4): 353-364, 1997.
4. C. K. Ahorlu, S. K., Dunyo, G. Asamoah, and P. E. Simonsen. "Consequences of hydrocele and the benefits of hydrocelectomy: A qualitative study in lymphatic filariasis endemic communities on the coast of Ghana". Acta Tropica, 80: 215-221, 2001.
5. Carter Centre. "Lymphatic filariasis Elimination Program". Internet: Available: www.cartercenter.org/health/lf/index.html. 2008 [Dec. 12, 2015]
6. C. L. King and D.O. Freedman. "Filariasis": (8th edition), G.T.Stickland, W.B. Sanders Company, Texas. Hunter's Tropical Medicine and Emerging Infectious Disease, pp.740 –752, 2000.
7. G. Dreyer, D. Addiss and J. Noroes. "Direct assessment of the adulticidal efficacy of repeated high dose ivermectin in bancroftian filariasis". Tropical Medicine and International Health, 1: 323 – 427, 1999.
8. D. G. Addis and M. A. Brady. "Morbidity management in the Global programme to eliminate
   Lymphatic filariasis: A review of scientific literature". Filaria Journal, 6: 1 – 19, 2007.
9. G. Dreyer, J. Noroes and J. Silva. "New insight into the natural history and pathology of bancroftian filariasis: Implication for clinical management and filariasis control programmes". Transaction of the Royal Society of Tropical Medicine and Hygiene, 94: 594 - 596, 2000.
10. E. A. Ottesen, P. J. Hooper, M. Bradley and G. Biswas. "The Global programme to eliminate lymphatic filariasis: Health impact after 8 years". PLOS Neglected Tropica Diseases, 2(10): 317, 2008.
11. National Population Commission (NPC). "Report of the Nigeria's National Population Commission on the 2006 census". Population and Development Review. Published by National Population Council, vol. 33(1), pp. 206 – 210, 2007.
12. M. M. Dogara, I. H. Nock and R. I. S. Agbede. Limb Elephantiasis as predictor for the occurrence and spread of Lymphatic filariasis in Kano State, Nigeria. Advances in Disease Surveillance, 5:25, 2008.
13. C. K. Ahorlu, S. K. Dunyo, K. A. Koram, F. K. Nkrumah, J. Aagaard-Hansen, P.E. Simonsen. "Lymphatic filariasis related perceptions and practices on the coast of Ghana: implications for prevention and control". Acta Tropica.73(3):251–261, 1999.
14. S. Aswathy, K. Beteena and K. Leelamoni " Mass drug administration against filariasis in India: perceptions and practices in a rural community in Kerala". Annals of Tropical Medicine and Parasitology, 103(7):617–624, 2009.
15. M.P. Azzuwut, M. Sambo, I. Hadejia " Assessment of the knowledge, attitude and practices related to the treatment and prevention of lymphatic filariasis among the adult residents of Bokkos local government area of Plateau state, Nigeria". Jos Journal of Medicine. 6(3):16–18, 2013.