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Original Research Article

Socioeconomic burden and management practices among lymphatic filariasis patients in three endemic villages of Kano State, Nigeria

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The socio-economic and management practices of acute and chronic symptoms of lymphatic filariasis were determined among twenty five randomly selected persons with such symptoms for a year in three endemic villages in Kano State, Nigeria. The instrument used was a questionnaire designed and validated by a medical sociologist. Out of the sixteen respondents with Adenolymphangitis (ADL), 4 (25%) sought traditional medicine, 6(37.5%) modern medicine while 6(37.5%) sought both traditional and modern medications. The treatment costs of the 16 respondents for traditional medicine to cure ADL only 2(12.5%) have spent between N1:00 to N500:00 during the last one year. Treatment costs for modern medicine for 7(28%) ranged from N1:00 to N500:00 while for 1(9.1%) it was about N1000:00. Eleven of the respondents with ADL claimed that it prevented or curtailed them from performing their daily activities within the last one year. The management practices among fourteen of the respondents with chronic symptoms revealed that 8(57.1%) sought traditional medicine, 3(21.4%) modern medicine and 3(21.4%) both traditional and modern medicine. The treatment costs for each of the two persons with hydrocoele that underwent surgery was about N5200:00. Only three persons with chronic symptoms claimed that prevented them from performing activities. The most common treatment seeking behaviour among the respondents was traditional medicine but a sizeable percentage also sought modern medicine. The socioeconomic burden was mainly associated with ADL may because those with chronic symptoms have developed coping mechanisms. Since Nigeria has launched its lymphatic filariasis control project, it is recommended that the management practices which varies from one endemic community to another be taking into consideration in order to succeed in morbidity control which is a key component of the programme.

Key words: Lymphatic filariasis, socioeconomic, management practices, traditional medicine, modern medicine, hydrocoele, elephantiasis, adenolymphangitis

INTRODUCTION

Lymphatic filariasis is a tropical disease caused by parasitic filaroid nematode worms *Wuchereria bancrofti, Brugia malayi and B.timori* (Anosike et al., 2005). Of the 73 countries where lymphatic filariasis is known to occur, 38 are in Africa and in this region infections are exclusively caused by *W. bancrofti* (Mbah and Njoku, 2000). The third most endemic country for this disease (after India and Indonesia) is Nigeria, where bancroftian filariasis is 22.1% (Micheal et al., 1996). Available literature on the disease in Nigeria shows that it is prevalent and widespread in north

central, north east, south east and Niger Delta areas (Eigege et al., 2002, Anosike et al., 2005, Akogun, 1992, Braide, Mbah and njoku, 2002, Srividya et al., 2000, Udonsi, 1986 and Omudu and Okafor, 2007).

Lymphatic filariasis is one of the most prevalent of the tropical diseases, but is also the most neglected (WHO, 2000). The spectrum of the disease ranges from periodic, recurring attacks of localized inflammation, tenderness and pain, often accompanied by fever, nausea and vomiting, elephantiasis and hydrocoele (Gyapong et al., 1996). In 1998, the World Health Report ranked lymphatic filariasis as the 4th leading cause of permanent disability (WHO, 2000).

At present, remarkable advances have been made in understanding the disease and there are now new tools for combating it. This led to the establishment of global programme to eliminate the disease by 2020 mainly through mass drug administration (MDA) which is a combination of albendazole and ivermectin, and alleviating the suffering of those with chronic symptoms of the disease. The success of this programme depends largely on the use of simple, non-invasive procedures to identify endemic communities and ensuring that they receive the MDA. The most commonly use procedure in obtaining baseline data for lymphatic filariasis is immunochromatographic test (ICT) card that rapidly detect infection in a population that assist in identifying communities that qualify for MDA. The global programme for the elimination of lymphatic filariasis guideline provides that any community with a prevalence of ≥ 1% qualifies for MDA.

In the process of collecting baseline data an inventory of those with chronic symptoms of lymphatic filariasis is done. This stage provides the opportunity to carry out morbidity control component of the eradication programme to those with chronic symptoms of the disease. The success of this aspect also depends of knowing the existing management practices as well the socioeconomic burden resulting from the disease in endemic communities. The present study which is part of a larger work determined the socioeconomic burden and management practices among infected persons in three endemic communities in Kano state, Nigeria with a combined lymphatic filariasis prevalence of 1.6%. The aim is to provide baseline information upon which morbidity control component of the eradication programme could be planned and executed in the future.

MATERIALS AND METHODS

The study area

Kano State is located in the North western Nigeria. The State is situated between latitudes and longitudes North of the Equator and East of Greenwich respectively which is determined as follows : North 100° 37', North 100° 33', East 70° 34' and 90° 29' respectively. The state is bordered in the east by Jigawa State, on the west by Katsina State, to the south by Kaduna and Bauchi States. It covers a total area of 20,760SqKm with 1,754,200 hectares of arable land and 75,000 hectares of forest vegetation and grazing lands. The topography is generally flat. The main river is the Kano River on which the second largest dam, Tiga was built. Minor rivers include Challawa, Watari Tomas and Kafin-Chiri. It has an estimated population of about 9,383,322 million people (11).

The state is situated on the Sahel savannah region of West Africa and its climatic condition is tropical having rainy and dry seasons. The length of the wet season is about 100-150 days or five months (from mid-May to mid-October of each year). Rainfall pattern is unimodel with an average rainfall of 600mm. The dry season lasts for about seven months (from mid-October to mid-May of each year). However, there is the dominance of North Easterly winds, the Harmattan which is cold and dry that extends from November to February of each year. The average maximum and minimum temperatures fluctuate throughout the year. The annual mean ranges from 30°C to 35° C. High temperatures are recorded during March to May annually while the lowest 13° C (sometimes it goes down as low as 10°C) is from December to January.

Methods of data collection

The socio-economic and management practices of acute and chronic symptoms of lymphatic filariasis were determined among twenty five randomly selected individuals that have acute/chronic symptoms of the disease in the three endemic villages of Marke, Buda and Gunduwa, Kano State, Nigeria. The instrument used was a questionnaire validated by a medical sociologist. The investigation involved the determination of treatment costs and time loss due to either the acute or chronic stages of LF during the last one year. The questionnaire consisted of two sections; the first have questions that addressed the demographic information of the respondent.

The second part determined the socio-economic burden as well as the management practices of the acute and chronic symptoms of the disease. The questions sought to know the treatment seeking behaviour of the respondents (whether traditional or modern medicines or both), the treatment cost which included cost of medicine (drugs and herbs), consultation fee, travels and maintaining accompanying person (escort) (Babu et al., 2002). Traditional medicine include the use herbs and any other unorthodox practices in the community while modern medicine refers to use of drugs and other practices prescribed by health experts. Others include the loss of time of productive work (whether or not the aliment curtailed or prevented productive activities such as working on farmland, rearing of animals, domestic activities such as sweeping and attendance of social activities such as wedding and naming ceremonies) and the psychological problems the patient was experiencing due to disease during the last one year. The questionnaire was administered by the researcher on the respondents in

Table 1. Number of days ADL prevented or curtailed an Individuals from performing activities in the last one year

Activity	Number of days	Number of respondents	Percentage
Working on farmland	1-2 days	3	12
	3-4 days	2	8
	5-6 days	1	4
	7-8 days	1	4
	Nil	9	36
Rearing of animals	1-2 days	3	2
	3-4 days	1	4
	5-6 days	1	4
	7-8 days	2	8
	Nil	9	36
Cutting of grass	3-4 days	1	4
	5-6 days	1	4
	Nil	14	56
Cooking	3-4 days	1	4
	7-8 days	1	4
	Nil	14	56
Eating	7-8 days	1	4
	Nil	15	60
Collecting firewood	7-8 days	1	4
	7-9 Nil	15	60
Attending market	1-2 days	1	4
	3-4 days	2	8
	7-8 days	2	8
	Nil	11	44

the local language of the villages, which is Hausa.

Data Analysis

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

Ethical Clearance

Permission to undertake the work was obtained from the Kano State Ministry for Local Government through a letter dated 14th April, 2007. The purpose of the research work was clearly explained to the local government officials, village and ward heads in the forty four LGAs. Informed consent of each selected infected person was obtained before the data was collected.

RESULTS

The questionnaire was administered on a total of twenty five individuals with acute/chronic symptoms of lymphatic filariasis. Nine (9) were administered in Gunduwa, four (4) in Buda and twelve (12) in Marke. Out of this number, twenty two (22) were males and three females. All the male respondents were farmers while the three females claimed to be full time housewives. The ages of the respondents ranged between 35-70 years.

Out of the 16 respondents with Adenolymphangitis (ADL), 4 (25%) sought traditional medicine, 6(37.5%) modern medicine while 6(37.5%) sought both traditional and modern medications as shown in Table, 1. Among those who treated ADL through traditional medicine, they made use of herbs 6(37.5%), drink the herbs 1 (6.25%) and 2 (12.5%) drink as well as rub the herbs.

Of the 16 respondents that sought traditional medicine to cure ADL only 2(12.5%) claimed to have spent between N1:00 to N500:00 during the last one year. Among the eleven respondents that sought modern medicine; 9(81.5%) used oral drugs while 2(18.8%) combined oral drugs and injection. Treatment costs for 7(28%) ranged from N1:00 to N500:00 while for 1(9.1%) it was between N500:00 to N1000:00. The modern management practices encountered in the study area is restricted to the use of drugs in case of elephantiasis and surgery for hydrocoele. Eleven respondents with ADL claimed that it prevented or curtailed them from performing their daily activities. The number of days of incapacitation from performing activities varied according to the type of activity which is shown in Table 2. ADL prevented or curtailed those afflicted from performing major activities such as farming, rearing of animals and attending market days for between 1-2 days and 7-8 days within the last one year.

In respect of hydrocoeles and elephantiasis showed that fourteen of the respondents with chronic symptoms sought treatment; 8(57.1%) traditional medicine, 3(21.4%) modern medicine and 3(21.4%) both traditional and modern medicine (Table 2). Of those that depended on traditional medicine, 9(90%) did so by drinking herbs and 1(10%) by rubbing the herbs. Only one person with the

Table 2. Number of days chronic symptoms prevented or curtailed individuals from performing activities in the last one year

Activity	No. of days	No. of respondents	Percentage (%)
Working on farmland	1-2 days	1	4
	Nil	24	96
Rearing of animals	1-2 days	1	4
	Nil	24	96
Cooking	7-8 days	1	4
	Nil	24	96
Attending prayer s	1-2 days	1	4
	7-8 days	1	4
	Nil	23	92

limb elephantiasis claimed to have expended N1501+ on seeking traditional medicine. Nine respondents sought modern medicine; 2(22.2%) through surgery, 6(66.6%) using oral drugs and only 1(11.1%) sought oral drugs initially followed by surgery. Two persons with hydrocoele that went for surgery claimed to have spent over N3000:00 on surgery and its medication; about N200:00 on consultation fee, over N1500:00 on stay and food; and about N500:00 on traveling to and from the hospital. Only three people claimed that hydrocoele or elephantiasis prevented them from performing activities (Table, 2).

DISCUSSION

The management of ADL, hydrocoele and elephantiasis is done through traditional or modern medicine and combination of both. Traditional medication appeared to be the most sought medication usually through drinking of herbs. Among those with elephantiasis, the practice did not improve the situation of their disease condition. This could be explained by the fact that traditional medication is the most easily accessible and affordable means of treatment. In addition, the patronage of modern medication especially among those with elephantiasis did not improve the situation of their disease condition. This is in agreement with the works of Badaki and Akogun (2001) practiced among people with severe morbidity due to lymphatic filariasis in Taraba State, Nigeria. And that the management of ADL associated with either hydrocoele or elephantiasis by traditional medication among majority of the respondents does not attract financial expenses. In the case of those who manage ADL through modern medication, the cost is minimal for a year as they purchase pain relievers from chemists or drug hawkers or sometimes they are provided with drugs freely from the village health centre. This is at variance with findings of Babu et al., (2002) where 43 out of 58 patients with chronic disease incurred treatment cost per year ranging from USD 0.11 to 189.2. It is only those afflicted with hydrocoeles that went for surgery that expended reasonable amount of money on the surgery and medication.

ADL is major cause of incapacitation among the respondents and whenever it occurred, it prevented or curtailed them from performing vital social and economic activities for a few or more days. On the other hand, the chronic symptoms – hydrocoeles and elephantiasis do not cause incapacitation among most of the respondents. This is because those with chronic disease according to Gyapong et al, (1996) have adopted coping mechanisms. For example most of those with elephantiasis worked in short bursts on their farms with interval of rests while others take up sedentary jobs, such as basket weaving, when elephantiasis or hydrocoeles totally impeded their farming activities or made them house bound. In this study those with advanced hydrocoeles it was noted depended on either their children or relatives to assist them in carrying out farming activities.

It is of interest that none of the respondents took loan or sold personal belongings to seek for treatment. This would have further worsen their economic standing and push them more into poverty. The financial assistance offered to some of the respondents by government and relatives to defray the cost of treatment is a welcome development, which needed to be encouraged. Only two persons, one with hydrocoele and the other elephantiasis claimed that it affected their sexual and married lives respectively. This perhaps explains the fact that the respondents do not face stigmatization from other members of the community without such ailments which differs from previous studies where stigmatization has been reported among patients with chronic symptoms especially hydrocoele in India by Ramaiah et al, (1996) in Haiti and Philippines (WHO, 1997).

Conclusion

The most frequent management practice commonly sought by twenty five infected individuals was traditional medicine particularly for the Adenolymphangitis (ADL). It was done either through the drinking or rubbing or bathing or inhaling of herbs. The socioeconomic effects in terms of treatment costs incurred by the infected persons for both traditional and modern medicines were generally minimal. ADL was found to curtail individuals from performing activities such as farming and rearing of animals for between 1-2 and 7-8 days while only three persons with chronic symptoms were curtailed from performing

activities for the same period.

Competing Interest

The authors have no conflicts of interest.

Authors' Contributions

MMD, HIN, RISA and ISN conceived and design the work. MMD drafted the manuscript while HIN, RISA and ISN proof read the manuscript. MMD conducted the data collection. All the authors read and approved the final manuscript.

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