EPIDEMIOLOGICAL MAPPING OF LYMPHATIC FILARIASIS IN SOUTHERN NIGERIA PRELIMINARY SURVEY OF AKINYELE LOCAL GOVERNMENT AREA

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Lymphatic filariasis caused by *Wuchereria bancrofti* is a major public health problem in tropical and subtropical countries including Nigeria. The real burden of the disease in most endemic regions remains unknown. The nocturnal periodicity of the parasites requires parasitological examination to be done at night and this is quite cumbersome. The World Health Organisation recently recommended two rapid methods for the assessment of lymphatic filariasis (RAGFIL). These RAGFILS methods i.e. using community health workers and key informants were used to rapidly map lymphatic filariasis in Akinyele Local Government area of Oyo State Nigeria. The prevalence of hydrocele and elephantiasis was highly sensitive in identifying this community as endemic for filariasis. The degree of association between finding by health workers and information obtained from the community key informants was high for the two major clinical manifestation of the disease used. Community key informants and health workers did provide useful information on the prevalence of clinical filariasis. These observations suggest that the mean number of cases obtained in the village through key informants and the examination of health workers for the clinical signs of the disease may be considered at an initial level to identify endemic areas. The need to extend this method to rapidly map lymphatic filariasis in Nigeria is discussed.

Key words: Lymphatic, Filariasis, Rapid, Mapping, Assessment and Health workers.

INTRODUCTION

Lymphatic filariasis is a major public health problem in tropical countries. Recent estimates suggest that 120 million persons are infected worldwide (1). The number of people with physical disabilities due either to lymphoedema and hydrocele or the new recognized sub clinical abnormalities of lymphatic and renal function are currently estimated at 4 million (1).

International task force on disease eradication identified lymphatic filariasis as one of the six potentially eradicable diseases since there are now good enough tools to combat the disease (1). Global efforts towards the control of lymphatic filariasis is now based on annual, single dose treatment of all eligible members of high risk communities with ivermectin and albendazole to prevent severe morbidity and ultimately interrupt transmission. In order to initiate any disease control programme based on mass distribution, one needs to understand the geographical distribution of the disease in the affected countries in order to know where to target mass treatment. Unfortunately, data on the distribution of the disease are not widely available primarily because the standard procedures for determining which countries are affected are cumbersome, time consuming, expensive and very intrusive. In areas (almost all) where the parasite exhibits a nocturnal periodicity, parasitological estimations need to be done at night. This becomes logically cumbersome to organize and communities often refuse to co-operate.

Throughout the tropical belt of Africa including Nigeria, very little is known about the prevalence or distribution of lymphatic filariasis such that the expert committee on filariasis in their 1992 (2) meeting suggested that efforts should be made to collect more information on the distribution and prevalence of disease and

the vectors especially from the African region. Thus one of the identified operation needs is the precise estimate of regional and national burden of illness caused by lymphatic filariasis in order to document the public health impact of the disease and formulate control strategies. There is also the need to have specific knowledge on distribution to ensure effective and lasting control particularly now that Merck and Co. Inc., the manufacturer of the drug ivermectin, are ready to donate the drugs free to needy countries.

METHODOLOGY

This study was carried out in Akinyele Local Government Area (LGA) of Oyo State Nigeria. Akinyele LGA is made up of 15 districts with 2 Primary Health Care (PHC) facilities. Two Rapid Geographical Assessment (RAGFIL) methods developed by WHO was used for the study; i. A method where a large sample of villages will be surveyed indirectly using questionnaires directed at key informants and health workers and ii. A method based on surveys using rapid assessment techniques viz, health workers examination for hydrocele and lymphoedema.

Questionnaires were administered to specific local key informants. The questionnaires were based on instruments developed for rapid assessment, which were evaluated at the Rap Workshop in July 1997 (3). Initial contact was made with district level authority i.e. LGA chairman, LGA medical officer. Key informants from the selected communities and means of contacting them were ascertained from the meeting with the LGA authority. Key informants include village head, teachers, health system personnel, market men and

women leaders, religious leaders and other leaders identified in the community capable of responding to the questionnaire. Questionnaires were evaluated according to the analytical framework developed at the Rap Workshop in July 1998 (Absence or presence of lymphatic filariasis, number of cases or prominence as a health problem)

Health workers were trained to screen a random sample of 50-100 adult males for hydrocele and lymphoedema (this is the standard RAGFIL method developed by WHO). Only males who have been at least 10 years resident in the community were included in the examination and only obvious lymphoedema and hydrocele greater than a tennis ball were recorded as positive. The examination used the principles of "if in doubt, leave it out".

The years of residence in the community, age and clinical findings were entered for each subject. The presence of a single adult male with filarial disease was regarded as sufficient for classifying a community as endemic (4).

RESULT

Ninety-five key informants were interviewed in Akinyele local Government Area of Oyo State. Key informants were aged between 21-80 years with a mean age of 41. Fifty six were females while 39 were males. The occupational status of the key informants is given in Table 1. Of the 95 people interviewed, 25 (26.3%) have seen people with lymphoedema in the village. Of these, 1 (4%) person knew more than 6 people with hydrocele, while 24 (96%) knew between 1-5 people. Twelve (17.1%) of the key informants knew people with hydrocele. Of these, 11 (91.7%) knew between 1-5

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people with it while only 1 (9.3%) person knew more than 5 people with hydrocele.

Tables 2 and 3 shows the records of the health workers after the screening of a random sampling of 50-100 adult males in the selected communities. They diagnosed 19 people as having lymphoedema and 7 people as having hydrocele. Agreement between findings of health workers and those of the key informants were significant (r = 0.64; p < 0.05).

The cases seen by the health workers complained of periodic fever, headache and chills particularly in the rainy season. Cases seen were between the age bracket of 28-80 years and all have resided in the communities for more than 21 years of their life. Of the 44 health workers interviewed, 10% have encountered fever that persists in patients treated with antimalarial. Twenty percent of the health workers observed that very few people in the village sleep under mosquito bed nets, while 76% observed that no one has bed nets. Majority of the health workers interviewed did not know the right cause of the disease and attributed it to witchcraft and sorcery, while 4.2% of those interviewed said mosquitoes were the source of infection.

Table 1: Occupational status of key informants

Occupation	Frequency	Percentage
Farmer	13	14
Health Worker	44	47.3
Teaching	2	2.2
Artisan	2	2.2
Trading	18	19.4
Civil Service	9	9.7
Others	5	5.4

Others- Non-working village leaders

Table 2: Clinical identification of hydrocele by trained health workers in Akinyele LGA

Age	Year of residency in the community	Clinical findings
52	42	Hydrocele
45	36	"
55	55	"
40	40	"
63	28	"
70	45	"
68	31	"

Table 3: Clinical identification of lymphoedema by trained health workers in Akinyele LGA

Age	Year of residency in community	Clinical Finding
80	44	Lymphoedema
45	45	"
55	32	"
35	35	"
80	35	"
42	21	"
22	22	"
45	26	"
28	28	"
45	33	"
54	31	"
27	27	"
46	42	"
58	25	"
37	33	"
48	48	"
79	63	"
58	36	"
48	38	"

DISCUSSION AND CONCLUSION

The use of peripheral health staff and community key informants in community level data about lymphatic filariasis has been explored in many parts of the world and has been found to be a good predictor of communities at risk of filariasis (5, 6, 7). The observation in this study, like in those mentioned above, suggest that the mean number of cases obtained through key informant technique may be considered at a

primary level to identify endemic areas, followed by clinical examination by health workers for clinical filariasis.

This study will go further to rapidly map filariasis in the whole of Southern Nigeria. The cost effectiveness of using the different RAGEIL methods will be estimated and recommendations made.

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