

# Epidemiological Survey of Cutaneous Leishmaniasis in Jos East L.G.A. Of Plateau State Nigeria.

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## Citation

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## Abstract

A house-to-house survey of the prevalence of leishmaniasis infection was carried out in Jos East Local Government Area of Plateau State, Nigeria. Cutaneous leishmaniasis was diagnosed in 2.6% of a population of 703 inhabitants of the area. 18 inhabitants had the infection, which was considered to be native. 10 were males and 8 were females with age varying between 10 and 55. This area is a new focus of cutaneous leishmaniasis in Nigeria.

## INTRODUCTION

Cutaneous leishmaniasis occurs mainly in tropical and subtropical Regions in various parts of the world. In the African continent, Cutaneous leishmaniasis due to *Leishmania major*, *L. tropica*, *L. aethiopica* is unevenly distributed from the northern to the southern areas of the continent. Northern Nigeria is one of the West African endemic Cutaneous leishmaniasis foci, especially in Sokoto, Gusau, Katsina, Maiduguri and Azare (Jelliffe<sup>6</sup>). From this and from publications of French Workers in neighboring countries the author concluded that the endemic belt of Cutaneous leishmaniasis would appear to extend from Northern Nigeria to the north between 100 and 170 and probably much further.

The first case of Cutaneous leishmaniasis in Nigeria were reported in 1944 by Elmes and Hall<sup>4</sup>. They referred to the annual report of the medical and health services of Nigeria recording 131 cases of Cutaneous leishmaniasis and 5 case of visceral leishmaniasis, during 1924-1941, but there was no indication that these cases were parasitologically confirmed. And the authors explained that after reported attempts to confirm clinically suspected cases of cutaneous leishmaniasis, success was achieved in 1942 when *Leishmania* could be seen in smears from cutaneous sores of 14 patients in Kano, but the records were lost. In 1943, the authors detected 10 parasitologically confirmed cases of Cutaneous leishmaniasis, also in Kano, for which records were maintained. A further report was given by Jelliffe<sup>(6)</sup> nothing that Cutaneous leishmaniasis cases of the dry type with multiple ulcers were increasing among male patients

coming to the out-patient department of Kano Hospital. Earlier on in 1977 Dedet et al,<sup>(3)</sup> referred to Owen (1930) reported a case of visceral leishmaniasis discovered in Nigeria, but the patient was a missionary continuously moving between Niger and Nigeria during six months preceding his illness.

In recent study undertaken among school children with Cutaneous leishmaniasis from Keana in the Jos Plateau, *Leishmania* parasite were demonstrated in 63 out of 1120 Patients examined (Agwale et al<sup>1,2</sup>). In another studies in Kaena, 197 (3.9%) of 5,046 inhabitants had Cutaneous leishmaniasis (Ike et al<sup>5</sup>). Jos East L.G.A of Plateau State, Nigeria is being reported as a new focus of leishmaniasis

## MATERIALS AND METHODS

### FIELD STUDY AREA

The study area lies in the Jos Plateau in Jos East LGA of Plateau state, Nigeria, and is close to the Shere Hills. The area is in Northern Nigeria, and lies north of the Niger – Benue trough. It is more of the North Central Plateau, and it is formed on basement complex Rocks, which have produced a characteristic inselberg landscape. Angware, the area of study lies around 9°N., 10°E and it is situated 50Km North East of Jos, the Capital of Plateau state. Its vegetation is generally Guinea Savanna, which consists of tall grasses and some trees. The annual rainfall of this zone is about 150cm and lasts between 6-8 months. Clinico-parasitological screening for Cutaneous leishmaniasis was conducted between the month of March – June, 1999. All the patients were interviewed and information on sex, age, residential

area and traveling history was recorded, the clinical diagnosis of the disease was confirmed by the presence of parasites in smears after May-Grunwald-Giemsa (MGG) staining.

## RESULTS

The proportions of people with active lesions were 2.6 (18/703) i.e. 18 individuals presented active lesions at the time of the survey. The proportion of people found to have scars was 2.0 (14/703). The lesions were ulcerative, volcano sign types and wet in appearance. The number of lesions varied between 1 and 5 (average =2). Of the 18 inhabitant with infections considered to be native. 10 were male and 8 were females with age varying between 10 and 55 (average = 22.7 years). There were 11 cases in children/adolescent (10-17years) and 7 cases in adults (19 – 55 years). 4 were housewives, 7 were pupils, 3 were students, 1 civil servant and 1 businessman. Of the 18 natives cases, all 18 presented lesions on the lower limb, and duration of symptoms varied between 2 – 24 months (average = 7 months). They have lived in this locality since birth with the exception of the civil servant who has lived there for only 7 months. The majority of patients were between 6 – 22 years.

## DISCUSSION

Since the cases of leishmaniasis were high in this class of individuals, this indicates that the infection is endemic in this community (Lysenko et al7). Before now, there has been little or no information concerning Cutaneous leishmaniasis in this area. Angware village has a similar characteristic to various village centers in Nigeria. Throughout the neighbourhood there is a complete absence of basic services such as paved streets, sewage and refuses collections. Analysis of professional activities showed a preponderance of low skilled manual labour and consequently a low income. The age profile revealed a predominance of young people in the 6 – 22 years age groups. The disease occurs in all age groups. Despite the finding of infected children, a good number of adult were infected which raises the possibility of transmission occurring in the extradomicilliar areas due to occupation activities. However, the absence of activities related to forest areas shows that not possibly the Cutaneous leishmaniasis in the area are not characterized as an occupational risk of individuals who undertake work in the forest.

The occurrence of the infection in both sexes, and without any nearby forest areas is epidemiological characteristics that suggest the occurrence of infection in the peridomiciliar or domiciliary environment.

Until the present study there has been little of no information concerning Cutaneous leishmaniasis in Agware, the data derived from this survey not only suggests the existence of Cutaneous leishmaniasis in the village but were also important for the characterization of the epidemiological behaviour of the disease in the area. The distribution by probable date of the native cases demonstrated that Cutaneous leishmaniasis had started to manifest itself in the area at least 20 years ago, always in the form of sporadic cases.

Further studies required to determine the eco-epidemiology, including biotic factors (Flora, reservoir host, humans, parasite) and abiotic factors (geology, pedology, climatology). From these, it will be possible to define more fully the transmission cycle of leishmaniasis and the factors involved. Such information is a basis requirement for the design of a successful control programme

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