PREVALENCE OF FILARIAL INFECTION AND ITS RELATION TO ENVIRONMENTAL CONDITION IN RURAL AREAS

Thesis

Submitted for Fulfilment of Master Degree in Environmental Medical Science

By

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M.B. B.ch

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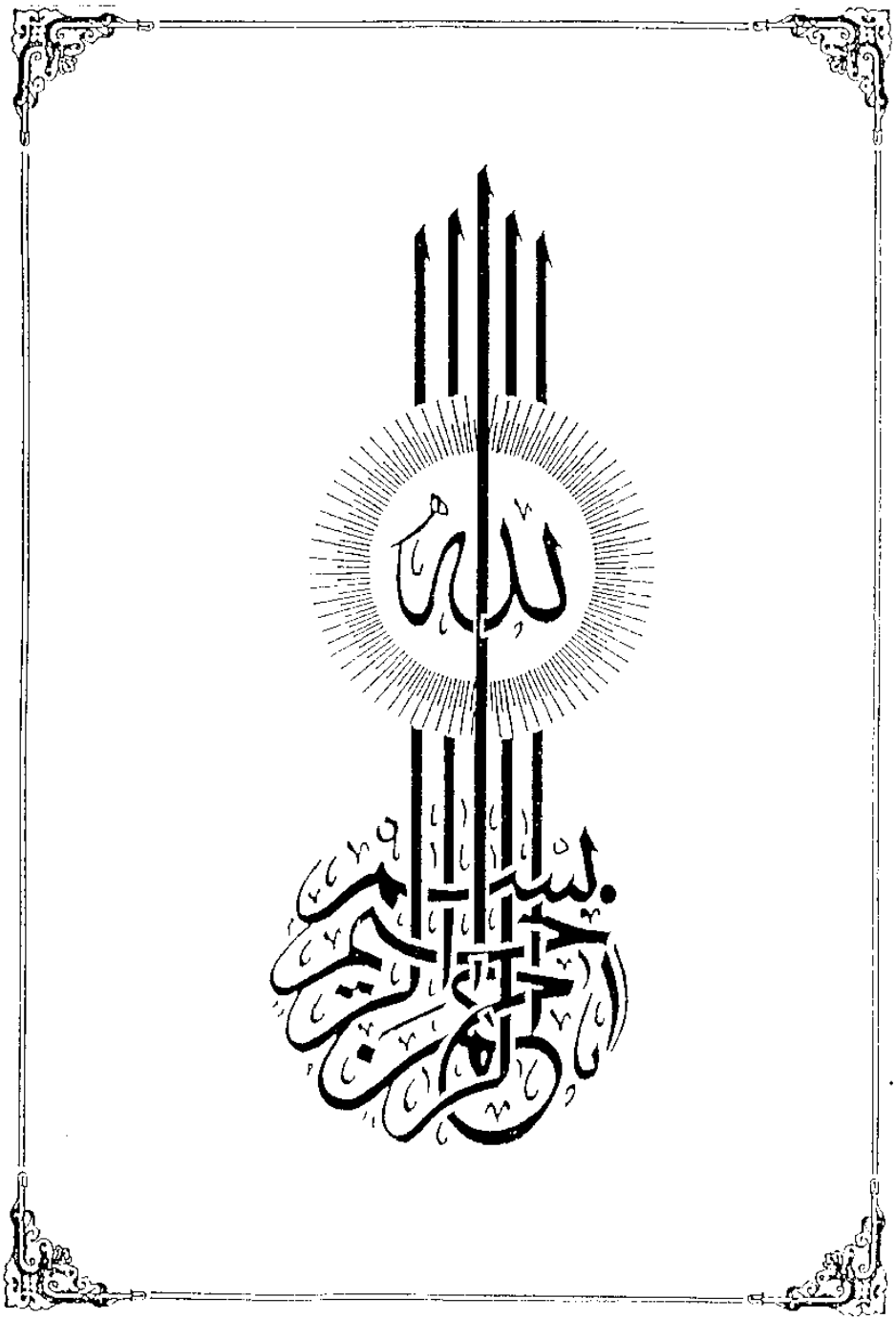

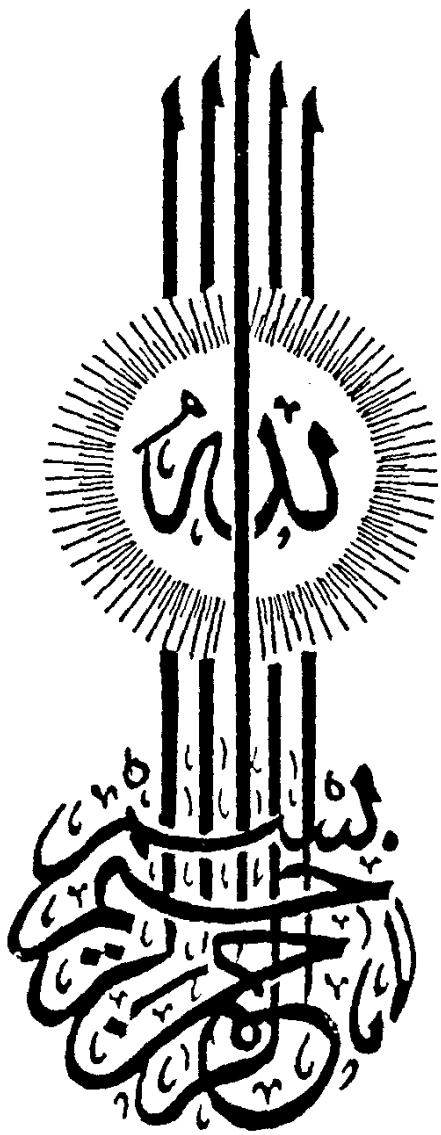

قالوا سبحانك

لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم

سورة البقرة آية ٣٢ صدق الله العظيم

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ARABIC SUMMARY

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OBJECTIVE OF THE STUDY

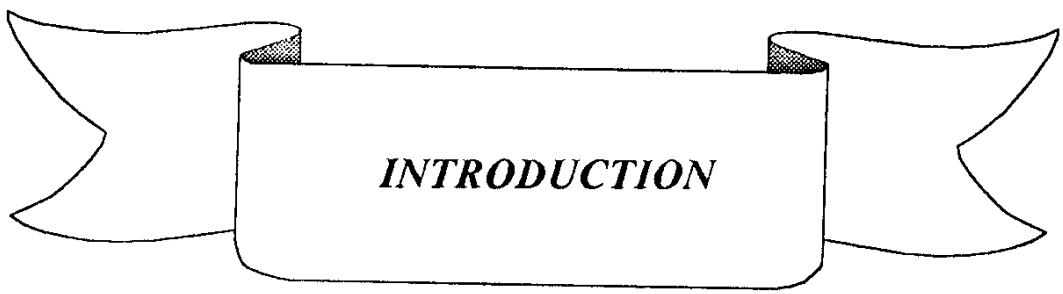
1- To determine the epidemiologic feature of Wuchereria bancrofti infection in twovillages, one of them endemic and the other village devoid of infection in the same area.

2- To assess the parasitological, serological and clinical feature of bancroftian filariasis in the two villages.

3- To conduct an entomological survey of mosquitoes tranmitting the disease.

4- To conduct an environmental conditions that may affect transmission of the disease and its focal distribution.

5- To utelize these environmental important data in recommendations of suggested programme of control of filariasis in this focal endemic villages.



INTRODUCTION

Lymphatic filariasis is a mosquito borne parasitic disease caused by the intravascular nematode *Wuchereria (W.) bancrofti, Brugia (B.)malayi and B. timori*. The adult worms inhabit host lymphatic vessels, releasing larval microfilariae which live in the blood stream. The adult parasite can live for many years, probably up to 10 years but a 40 years life span has been reported. The life span of microfilariae is about a year at the most. Lymphatic filariasis in its various forms remain a public health problem in many tropical countries. It is a disease affecting people in rural areas as well as an increasing number of those living in urban areas with poor sanitation. Worldwide, there are about 905 millions at risk of aquiring the parasite with filarial worm and about 90 millions are currently infected, more than 81 millions with bancroftian and approximately 8 millions with brugian filariasis (Partono 1988).. Approximately 65% of those infected live in China, India and Indonesia.

In Egypt human filariasis caused by nocturnally periodic *W., bancrofti* has been known sine pharaonic times "Laurence., 1967". however, before the discovery of its life cycle all evidence of its occurrence is anecdotal and based on sporadic observations of the clinical manifestations i.e elephantiasis of limbs and genitals (Khalil 1939). While clinical, pathological and parasitological research of filariasis was carried out in Egypt during the earlier part of this century, significant epidemiological studies did not start before 1930 (Khalil *et al,* 1932 and Baz., 1946). These investigations led to the identification of *Culex pipiens* as the main vector of the parasite. They also revealed that the distribution

of filariasis in Egypt was highly focal (Khalil, 1936 and Khalil., 1939). Subsequent surveys for filariasis combining measurements of the microfilaria rate and of the frequency of clinical manifestation were conducted in many communities of Egypt. The results of these studies provided a sketchy panorama of the distribution of filariasis in Egypt (Shawarby *et al*, 1965, and Southgate., 1979). Moreover these findings indicated that villages with high prevalence are interspread with others, with no apparent differences in ecology where the disease is virtually absent. This striking focal distribution of filariasis has remained an unsolved puzzle, although one can speculate on numerous factors which may influence this phenomenon. However, to our knowledges, confirmation of these focality associated factors and further investigations to identify risk factors responsible for aquiring filarial infection have not been conducted.

Accordingly, the present study was carried out in a filarious endemic village and in another village devoid of infection in an attempt to identify risk factors responsible for the focal distribution of filarial infection.