PREVALENCE OF COMMON PARASITIC INFESTATIONS AMONG SUEZ SCHOOL CHILDREN

Thesis

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By

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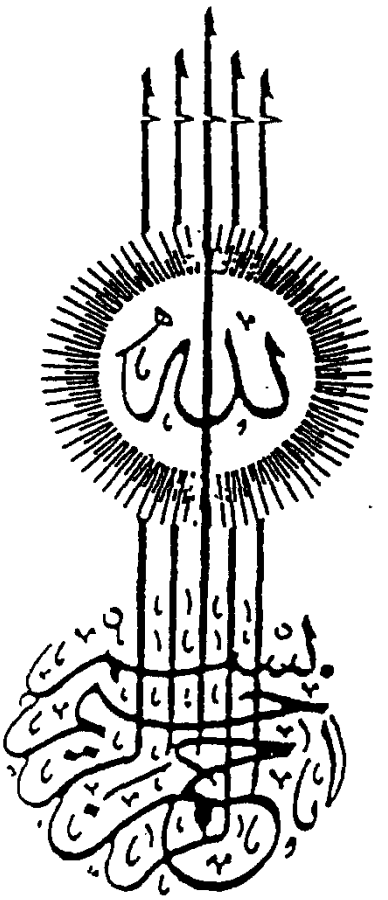
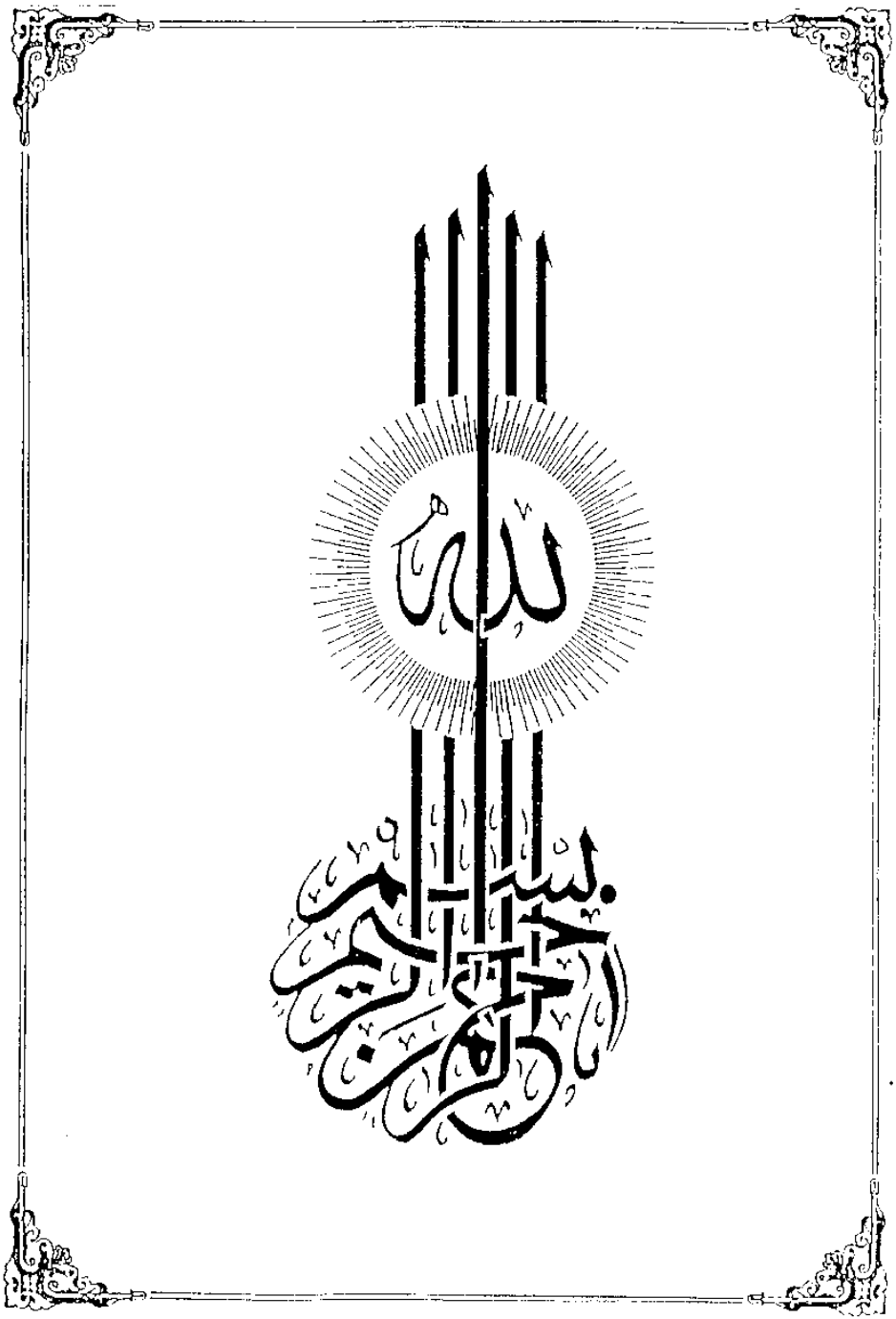


"وَمَا أُوتِيتُم مِّنَ العِلمِ إِلَّا قَلِيلًا"

صدق الله العظيم



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AIM OF WORK

INTRODUCTION

School children are the common vulnerable group likely to be affected by several types of intestinal parasites (Manson-Bahr and Aptd, 1982).

Parasitic infestation may be manifested clinically by pallor stunted growth or/and gastrointestinal troubles (Swartzwelder , 1976), (Mcleod, 1981) and (Roche, and Layrisse, 1966).

Social classes might affect the prevalence and manifestation of intestinal parasites (Omer, 1981).

Our aim was to study the prevalence of intestinal parasites among school children aged from 6-12 years in different social classes in Suez country, and possible ways for prophylaxis and recent advances in management.

REVIEW OF LITERATURE

INTESTINAL PARASITES

They may be helminths or protozoa & they are classified into:

[A] Intestinal helminths:

Helminths parasitizing man may be categorized in several ways. They are divided taxonomically into round worms (Nematode) and flatworms (cestode and trematoda). The intestinal helminths affecting man are many from which:

I- Nematoda as Ascaris lumbricoides, Anclystoma duodenale, Necator americanus, strongyloides stercoralis Enterobius vermicularis trichuris trichiura and trichinella spiralis.

II. Cestoda as taenia saginata and solium, Hymenolepis nana and dimenuta and Diphyllobothrium latum.

III. Trematoda as Heterophyes heterophyes and schistosoma Manson Bahr and Apted (1982).

They may be monohostal parasites specific for man or polyhostal parasites for which man is either an obligatory or an accidental host. Intestinal helmenthiasis spread by person to person contact are either soil transmitted or are zoonotic in origin.

They can enter the human gut via contaminated hands e.g Enterobius **(Chandler,1956)** or via contaminated food e.g

Ascaris **(Omer, 1981)** and may also invade the human body by inhalation e.g Enterobius or skin penetration as Ancylostoma **(Khalil, and Salah, 1935) and** schistosoma **(Girges, 1929).**

Intestinal helminthiasis occur mainly in the tropics but some have a world wide distribution which is considerably influenced by population mobility. Some intestinal Helminthiasis can affect immigrants travellers or visitors.

As a rule parasitic worms do not multiply in the host therefore the number of worms in the body depends on the intensity and frequency of exposure.

In general whereas very light helminthic infections in children tend to be asymptomatic, worms of all kinds are pathogenic when present in large numbers **(Nelson, 1979).**

Rifaat and Nagaty (1958) studied the incidence of intestinal parasite among population in Cairo they found that helminthic infection was found among 26.7%.

[B] Intestinal protozoa:

Are also many as Entamoeba H, Giardia intestinalis and balantidiasis which is only an incidintal infection in the temperate areas.

E.H. Usually lives as a commensal organism in the bowel but it can invade the bowel wall producing many symptoms and complication **(Wilcocs and Manson Bahr, 1975).**

Giardia is one of the most prevalent parasitic Flagelates **(Belding, 1965)** there is no doupt that Giardia intestinalis causes malabsorption and it may affect the normal development of children.

ENTEROBIUS VERMICULARIS

According to **Wilcocks and Manson Bahre, 1975)** the systemic position of enterobius vermicularis is as follow:

Superfamily	Oxyuroidea
Genus	Enterobius

Morphology and life cycle:

They are members of oxurate called pin worm because they have sharp pointed slender tails **(Belding, 1965).** The female measures 9-12 ml with a long pointed tail the male is seldom seen and does not migrate like female 2-5 ml in length with curved posterior end, the gravid female lay egges which measure 50-60 um in length and has a characteristic shape flattened on one side with a been - shaped double contour shell which contain often a fully formed embryo **(Zaman, 1979).**

They prefer to live in terminal ilium. Until the female is fertilized then it descend to the caecum until the eggs have developed then they migrate to the perianal skin to deposit the eggs **(Rifaat et al., 1968)** which are usually mature.

The complete life cycle requires about 2 months or less.

Epidemiology:

As the enterobius vermicularis requires neither an intermediate host nor a period of incubation out side the body the infection is more prevalent in individuals of the same family or of an institutional group than it is in the population at large.

The prevalence of the disease in preschool or school children in Europ and in the U.S.A. may exceed 60%, in adult it is seldom over 20% **(Pawlowski, 1984).**

Pin worms have the widest geographic distribution of any helminthes it is common in groups with poor hygien and frequent hand to mouth activity **(Ragab, 1973).**

Transmission takes place in 4 main ways the most common one is by placing soil finger into the mouth (the worm produce severe irritation during it's crowling or deposition of eggs out side the anus and perianal region which result in scratching of this area this in turn allow the eggs to get under the finger nails and from it to mouth) also the use of contaminated bedding and towls **(Chandler, 1956)**, air born eggs that dislodge from bed linens may get into mouth. Retro infection is which infective stage eggs hatch on the anal mucosa and embryos migrate up the bowel has been also demonstrated **(Schaffner, 1944) and (Pryor, 1955).**

Pathogenesis and clinical picture:

The adult worm lives in the upper part of large intestine especially the caecum and the lower ileum, minute ulceration of the intestinal mucosa at the site of attachment may lead to mild inflamation and bacterial infection **(Mathias, 1961)** necrosis of the mucosal layer of the cecum may expose the sympathatic nerve endings and give rise to serious reflex symptoms.

It is common for the worms to wander into the vulve causing mild irritation. Cases have been reported where pin worms have wandered up the vagina, uterus and oviducts **(Schmidt and Roberts 1981)**. The worms rarely found in the ear and nose **Wilcocks and Manson Bahre, 1975)**.

The most common manifestation is pruritis ani especially at night, it varies from a mild itching to an acute pain. In young girls vaginitis and pruritis vulva may occure **(El-Gholmy et al., 1968)** such pruritis disturbs sleep.

The general symptoms are insomnia and restlessness, vague abdominal pain, diarrhoea or constipation are often related to intensive enterobiosis **(Brown, 1975)**.

Intestinal complication are rare but may occur as Appendicitis and perianal changes most commonly in a form of eczematus

dermatitis at the anal region **(Pawlowski, 1984)**. There are also non intestinal complication as local peritonitis with granulomatous lesions of the pelvic peritoneum **(DeRuiter, 1962)**. Enterobius affection of urinary trect facilitate bacterial infection and may cause enuresis and psychological problems in some adults, some infected children exhibit hyper activity or emotional instability **(Pawlowski, 1984)**.

Slight eosinophilia may be found, four cases of eosinophilic granuloma of the large bowel and omentum have been shown to be due to Enterobiasis **(Shiraki et al., 1974)**.

Diagnosis:

Is made by finding adult worm migrating out of the bowel usually at night or finding it in the stool **(Omer,1981)** and it is confirmed by the detection of ova in the faeces or on the perianal skin **(Migraith, 1976)**.

Techniques specific for enterobiasis are swabs or clear adhesive tape prints taken from the perianal area early in the morning **(Berkow and Talbott, 1977)** one examination detects over 50% of intensive infection while four anal prints taken every second day detect most of the infection.

Control:

Through specific hygienic measurs which are:-