

# Prevalence of parasitic infestation among primary school children in Thi-Qar governorate

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## ABSTRACT :

Prevalence of intestinal parasites was determined for 252 children(primary schools for boys and girls ) in Alemarat and Al zaitoon areas in nassirryia city.

The age of children ranged from 6-11 years 180 females (71.5%) and 72 males (28.5%) .

For stool sample inspection and direct smear microscopy the general prevalence of intestinal parasite was 46.4%.different types of intestinal parasites were detected during this survey .Giardial Lamblia seemed to be the most common parasite (21.2 %) whereas Entameba Histolytica (14%),Enterobious vermicularis (11%)& Hymenolespis nana (0.7%)

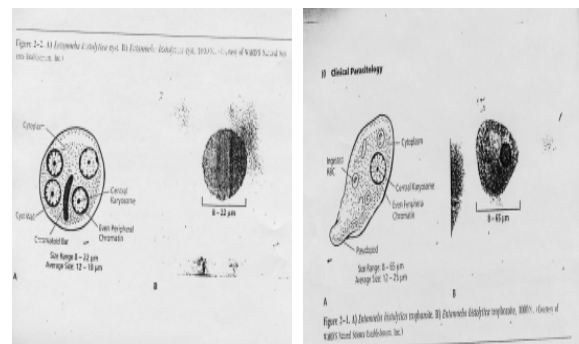
## INTRODUCTION:

In a prospective study extended from December 2004 to may 2005and covered a sample of 72 males&180 females drawn from ( Al- Qassasina & Al-Fayhaa primary schools for boys and girls in Al Emarat & Al-Zaitoon areas) in Nassiriya city ( Thi-Qar province ) to study prevalence of parasitic infestation among primary school children .

## BACKGROUND :

Parasitic infestation is so common disease in Iraq & all age group included but primary school children are more vulnerable for such infestation and most common parasites in Iraq in this period are: Entameba histolytica, Giardia lambelia and Enterobius vermicularis(1).

## Entamoeba histolytica

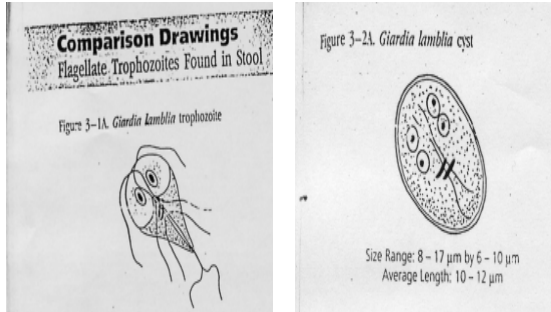


Is an enteric protozoon that exists in two forms, cyst and trophozoite, the cyst ranges in size from 5-20micron and contain one to four nuclei while trophozoite is 12-60 micrometer and contain single nucleus. Its estimated that 10% of the world infected with entameoba histolytica with50,000-100,000E.histolytica death per a year (2).

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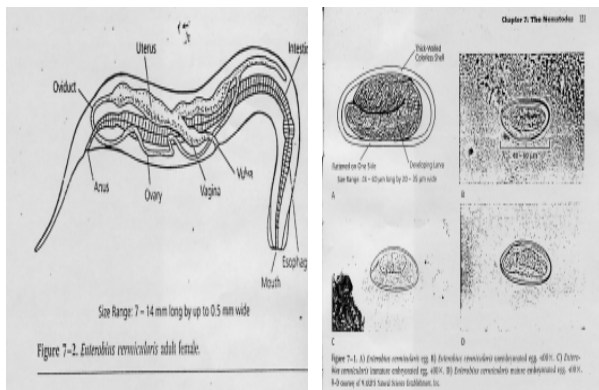
## *Giardia Lamblia:*



It is a flagellate intestinal parasite and exists also in two forms cyst and trophozoite and both can be detected in stool examination . Infectious cyst is transmitted through contaminated water and food and 10 organism can initiate human disease.

## *Enterobius vermicularis*

It is a nematode or roundworm and its visible to the naked eye . The infection is most common in school children , day care centre and institutions .Over 500 million cases occur worldwide(2) , humans are only reservoir and infection occur via person to person .Also infection occurs from inhalation of the eggs contained in the infested dust .



## **AIM OF STUDY:**

Despite the widespread of infection and the significant health effect of the parasite , studies in Thi\_Qar are scanty (3)

1-To estimate prevalence of parasitic infestation among primary school children.

2.to treat any positive cases

3- to initiate long term research on school children health.

## **SUBJECT AND METHOD**

Primary school children in AL Qassasina school in AL Emarat area & Al-Fayhaa primary school in Al-Zaitoon were selected . 252 pupils were studied 180 pupil girls and 72 boys and those pupils were studied .

The data were obtained through:

1-direct interview including the following variable

A-history of itching (index & other family members)

B-itching in the family members

C-abdominal pain

D-source of water supply

E-diarrhoea (index and other family members )

2-stool examination for each pupil(stool collection and inspection & immediate examination by direct smear microscopical examination .

## **RESULT:**

Prevalence of parasitic infestation among studied population for giardiasis, amebiasis, entrobiosis & infection with H. Nana respectively were 21.1%, 14%, 11% & 0.7%. in that order.Most of the positive cases of Giardia Lambelai,Entameba Histolytica were of the cyst type . Percentage of the positive sign & symptom (itching, family history of itching, Abdominal pain &discomfort,

Diarrhoea, Diarrhoea in the family) among studied population respectively as follow: 26%, 12%, 19%, 7% & 14 .Only one used boiled water & infected with amoeba (cyst). Source of water supply: tap water for all the studied population. Most of the cases were suffering from itching & abdominal pain as shown in table 3. At the same time most of those with negative stool examination were with history of itching. But presence of any of these symptoms and signs does not mean definitely that a person is infected as shown in table 4. when we see that between 6.8-34% had not parasitic infection despite their complain of some sort of illness . Parasitic infection :the most frequent symptoms reported was itching(26%) followed by abdominal pain & discomfort (19%) , and diarrhea among family members (14%) then family history of itching and diarrhea (12% & 7% respectively ). History of diarrhea in family and itching was very predictive of infection with *Enterobius vermicularis* but were not so for infection with *Entameba histolytica* & *Giardia Lamblia* .

### ***DISCUSSION :***

About one half of studied children were infected with intestinal parasite , and this result consider very high if compared with studies in neighbouring countries in Palestine & Turkey ,in study done in Alibaba city in turkey(4 ) similar to our age group of our study the result was 37.2%infected child, *Giardia Lamblia* & *Enterobius vermicularis* were the most frequently .isolated species while in study done in Khan Younis in Gaza strip in Palestine the general prevalence of intestinal parasite was 34.2%, *Giardia Lamblia* & *Entameba histolytica* were the most common

intestinal parasite (8% & 7% respectively) after *ascaris lumbricoides*(12.8%).(5) Intestinal parasites generally cause asymptomatic , atypical and non specific symptom in the host (6). People infected with such parasites can only be determined through population survey , so 27.3% of children in this study had *Giardia Lamblia* & *Entameba Histolytica* without symptoms .so school health should play crucial role in surveying children to inform them about parasitic disease and collect stool sample for study. Experience from our visit to these schools showed that both pupils and schools administration had the desire to cooperate with us to educate the pupils about sanitation and the treatment of such parasite . The high prevalence of intestinal parasites in any population is related to parasitic contamination of the soil and water sources in addition to deficient sanitary and socio cultural conditions (7). The implementation of programmes on health education ,personal hygiene ,communal sanitation and eventual treatment of infected children would contribute to the control of this health problem .

### ***RECOMMENDATION***

From this study the following are recommended:

- 1- to activate school health to carry out scale study & put a program for treatment
- 2- health education through local T.V & radio
- 3- health education through school teachers by boiling the drinking water.
- 4- provision of the treatment of these diseases to school children freely.

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**Table (1) Distribution of cases according to aetiology**

Parasite	Total no. of studied cases	Active infection protozoa (%)	Chronic infection(cyst) %	Total %
Giardia Lamblia	252	3.9	17.3	21.2
Entameba histolytica	252	4	10	14
Enterbious Vermicularis	252	11	-	11
H. nana	252	0.7	-	0.7

**Table(2) This table show frequency distribution of reported signs and symptoms among all children examined .**

Signs &symptoms	Percentage
Itching	26%
Family history of itching	12%
Abdominal pain &discomfort	19%
Diarrhea	7%
Diarrhea in family	14%

**Table( 3) Distribution of the cases according to history:**

variables	Enterobious	amebiasis	giardiasis
History of diarrhoea	10%	7%	9.4%
Itching	40%	14.2%	14.1%
family hist. of diarrhoea	40%	14.2%	14.1%
family hist. of itching	10%	7.1%	14.1%
Abd .pain &discomfort	30%	7.1%	18.8%

**Table 4 Distribution of cases according to negative stool examination:**

History variables	Percentages
History of diarrhoea	6.8%
Itching	34%
Family history of diarrhoea	11.3%
Family history of itching	13.6%
Abdominal pain &discomfort	15.9%

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دراسة مستوى انتشار الطفيليات المعوية لدى اطفال المدارس  
الابتدائية في محافظة ذي قار ٢٠٠٥

الدكتور رزاق جميل الربيعي  
قسم الاطفال كلية الطب جامعة ذي قار

### الخلاصة

تم تحديد مستوى انتشار الطفيليات المعوية في محافظة ذي قار في دراسة امتدت من كانون الاول ٢٠٠٤ الى مايس ٢٠٠٥ وقد شملت هذه الدراسة ٢٥٢ طالب وطالبة في مدرستي الغساسنة الابتدائية في منطقة العمارات السكنية و مدرسة الفيحاء الابتدائية في منطقة الزيتون في مركز محافظة ذي قار. وكان عمر الطلاب يتراوح بين ٦-١١ سنة. ١٨٠ طالبة (٧١,٥%) و ٧٢ طالب (٢٨,٥%). وبعد مقابلة الطلاب واستجوابهم حول علامات وإعراض الطفيليات المعوية واخذ عينات البراز لهؤلاء الطلاب وفحصها مختبريا تبين ان المستوى العام لانتشار الطفيليات المعوية كان ٤٦,٤% وتم الكشف عن انواع مختلفة من هذه الطفيليات خلال هذه الدراسة. حيث كان مستوى انتشار طفيلي الجيارديا اللامبلية هو الاكثر (٢١,٢%) ويليه الزحار الاميبي (١٤%) ثم الديدان الدبوسية (١١%) واخيرا الهامينولبس نانا (٠,٧%).