

A Study on Intestinal Parasites Amongst Auxiliary Health Workers' Students in Kathmandu

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Introduction

Intestinal infestation is common especially in children. Such infestations are more so common in tropics. This remains one of the causes of ill health. Such infestations, in fact cause vague symptoms, ill health, abdominal discomfort, irregularities of bowels which may be looseness or constipation. Such symptoms and ill health are responsible for hampering day to day work. This intestinal infestation includes amoeba, protozoa and helminthes.

Materials and Methods

In this study a general health survey of students of Auxiliary Health Workers school is carried out. 80 students are selected for study.

A general health survey including symptomatology, clinical and also laboratory examination of stool and haemoglobin estimation of blood is carried out. Thus incidence of infestation of gastrointestinal tract by common parasites is observed and its relation to haemoglobin value is studied.

This study showed common intestinal infestations among students of Auxiliary Health Workers school in Kathmandu and also some methods of management.

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First of all a study of the history of all the candidates was carried out. While doing relevant questions like pain abdomen, nausea, vomiting, fullness, fever, lack of appetite, weakness, ill health were interrogated. Any past history of illness and operation was interrogated. The general clinical examination was then carried out.

Examination of stool

First of all naked examination of stool was done. The microscopic examination of stool was carried out. The stool slide was prepared on normal saline drop and examined under low power 1×10 as well as high power 1×45 in the microscope. Iodine staining was done if necessary. Bacteriological examination and culture of stool was not carried out in this study.

Estimation of blood haemoglobin

Blood examination for haemoglobin was carried out in all the students. A needle prick was carried out in left ring finger by a sharp needle after sterilising the skin with rectified spirit swab. After the escape of first drop of blood, haemoglobin estimation was carried out by Sahli's method. In this the drop of blood was sucked by pipette and mixed with N/10 Hydrochloric acid drops in haematocrit tube and estimation of haemoglobin was done by colour matching.

Total leucocyte and differential leucocyte count was carried out in two candidates having cough and this showed leucocytosis and eosinophilia.

Observation

All the candidates examined were healthy clinically. Two candidates complained of general weakness and had history of occasional pain abdomen not related to food and vomiting. Two persons had angular stomatitis and gave history of occasional diarrhoea without mucous and blood. Fullness of abdomen was complained by four. There was no history of severe illness and operation in the past in all the candidates examined.

Out of 30 stool specimens examined 78 specimens showed the stools yellow coloured, semisolid, moderately foul smelling, without mucous and blood. Two stool specimens were loose, watery and without mucous and blood. Only 10 specimens did not show intestations. The rest 70 stool specimens showed.

1. Round worm (*Ascaris lumbricoides*) 33

2. Hook worm (<i>Ankylstoma duodenale</i>)	22
3. <i>Trichuris trichiura</i>	8
4. <i>Entamoeba histolytica</i>	4
5. <i>Giardia Lamblia</i>	3

Most of the stool specimens had single infestation but 7 specimens had also mixed infestation.

The mixed infestation was as follows :

1. Round worm, Whip worm	2
2. Round worm, Hook worm	2
3. Hook worm, Whip worm	1
4. Round worm, Hook worm, Whip worm	1
Total cases	7

Blood estimation

The estimation of haemoglobin on blood examination was as follows :

17 Gm. is considered as 100% haemoglobin by Adam-Sabli Haemoglobinometer.

Number of cases	Haemoglobin in Grams in 100 ml of blood	Per cent Age 100
0	17	
12	16.5	95
32	15.5	90%
12	14.5	85%
24	13.5	80%
Total cases 80		

It is to be mentioned here that there was nobody with 100 haemoglobin. There were only 12 cases with 95% haemoglobin, 32 cases with 90% haemoglobin which is quite significant. 24 cases had only 80% haemoglobin which may be due to intestinal infestations.

Management

Besides taking preventive measures to avoid intestinal infestations it is found essential to recommend medicines regularly to kill the worms. Emphasis was laid down on personal habits like bathing, wearing clean clothes & shoes and hand washing and other habits of taking food, fruits and raw vegetables. Importance of safe drinking water and sanitary latrines not to be forgotten.

Antehelminthics were used as a remedy of intestinal infestations. Alcopar (Bephenium naphthoate 5 Gm.) was given for *Ancylostoma duodenale* and *Trichuris trichura* infestations on empty stomach in the morning with sugar-water. It was also used for round worm infestations. Bitter pills (Santonin, Calomel, Phenolphthæin) was given eg. santonin 1gr. for *Ascarissis lumbricoides* infestations. Chloroquin (150 mg.) 1 tablet 3 times a day was given for 7 days for amoebiasis and giardiasis.

Discussion

This study shows that although the students in the school have no complaints, they suffer from different infestations- protozoa, helminths and amoebic infections. 10 candidates only did not show any infestation. Rest of 70 subjects were suffering from different types of infestations. Only 2 students gave history of general complaints like pain abdomen and occasional diarrhoea in the past. On general examination the general health of 80 candidates otherwise was satisfactory and nothing abnormal was detected. Only 1 student had palpable sigmoid colon and was found to be having *Entamoeba histolytica* infection.

The commonest infestation found was round worm (*Ascarissis lumbricoides*). The second common infestation found was hookworm (*Ancylostoma duodenale*). Other infestation seen were *Entamoeba histolytica*, *Trichuris trichura* and *Giardia lamblia*. Thread worm (*Enterobius vermicularis*) was found in only one case. Tape worm was not detected in this study. Most of the stool specimens had single infestations but 7 out of 80 specimens had mixed infestations. The common combination of mixed infestation was of round worm and hook worm.

This study clearly shows that although one is apparently healthy and having no complaints one is liable to suffer from one or other intestinal infestations. The common infestating worm was hook worm.

Although the candidates examined come from different parts Nepal, these students are residing in Kathmandu for more than 4 months. The high incidence of intestinal infestations in tropical country like Nepal can be explained by reasons like uncleanness, food habits and bad sanitary facilities. It may be mentioned here that the candidates were very fond of taking raw vegetables and fruits.

Such high incidence of intestinal infestations can be responsible for ill health and nutritional deficiencies. This can be responsible for such low haemoglobin estimation in this survey.

The findings of glossitis and angular stomatitis can be explained as vitamin deficiency syndromes.

Regarding treatment it was found that alcopar was quite good for hook worm and also mixed infestations of round worm, hook worm and trichuris trichura. Chloroquin was an effective drug for amoebiasis and giareiasis.

Summary

A survey of 80 candidates studying in Auxiliary Health Workers' school was carried out. It was found that 87.4% of persons were infestated by different parasites viz. protozoa, metazoa and helminthes. Round worm was found to be commonest, others being hook worm, whip worm, giardia and thread worm. Their management was discussed.

References

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