

EPIDEMIOLOGICAL PROFILE OF INTESTINAL PARASITOSIS IN THE PARASITOLOGY MYCOLOGY LABORATORY AT THE MOHAMMED V MILITARY HOSPITAL IN RABAT, MOROCCO

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ABSTRACT

In order to determine the epidemiological and clinical profile of intestinal parasites in the population of Rabat, a retrospective study over a period of 5 years was conducted from July 2017 to July 2022 in parasitology mycology laboratory at Mohammed V Military Instruction Hospital, 8007 parasitological stool examination (PSE) practiced, 2040 were positive the parasite rate is 25,47 % . The average age of our patients was between 5 months - 60 years. Each patient underwent a PSE: study with fresh, Lugol staining and after concentration by the technique of Willis and Ritchie. It appears that the intestinal parasitism in our study was dominated by protozoa which represent 91.27% of the total parasites isolated (1862 cases), while the helminths represent only 8.73% of the total of cases.

Blastocystis hominis comes first and represents the most common parasite in the study population, with an overall prevalence of 67.45% (n= 1376) of infected patients, followed by amoebae 16.76% (n=342) and flagellates 7.25% (n=148). A single case of Cryptosporidium sp coccidia was found. The clinical symptomatology was marked by abdominal pain, chronic diarrhea with weight staturo delay especially in children.

The different results obtained are substantially similar to the data reported by similar studies. The present work shows a relatively low prevalence of intestinal parasites, this is due to regular inspections of hygiene.

Keywords: Intestinal parasitosis, Prevalence, Parasite, hygiene, Morocco

INTRODUCTION

Intestinal parasitism is a frequent phenomenon that occupies an important place in the whole of the pathology especially infantile in particular in the countries of the third world. In the tropics, it is a public health problem mainly due to favorable climatic conditions, the absence of inadequacy of hygiene and sanitation measures most often linked to poverty. These factors which contribute to the perpetuation of the transmission of intestinal parasitoses remain very diverse and complex. Our study aims to determine the prevalence of intestinal parasites is

from the results of parasitic coprology and to identify the risk factors associated with it. This study aims to enrich the spectrum of studies carried out in Rabat and which can be compared with other studies carried out in different regions of Morocco that knows several types of climates compared to Western countries and those of Africa [1].

MATERIALS AND METHOD

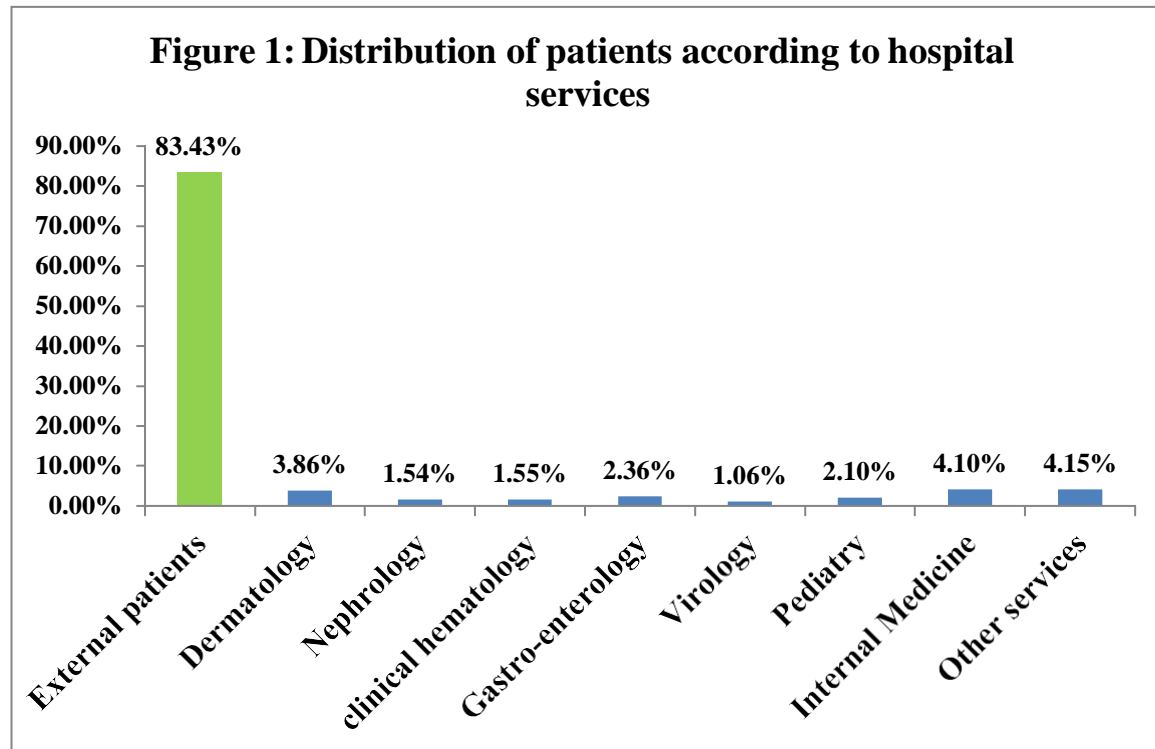
This is a retrospective analytical descriptive study, analyzed within the mycology Parasitology department at HMIMV over a period of 5 years from

July 2017 to July 2022.

This study included parasitological examinations of stools received, either from military structures (barracks, garrison infirmary, military schools and royal gendarmerie schools), or civilian patients entitled to military family (spouse

and child) and other address from the private sector.

The vast majority of the samples came from outpatients who represented more than 83% of the cases; the rest of the cases went to the hospital departments of the HMIMV(Figure1).



Data collection is done from the computerized database of the HMIMV parasitologylaboratory.

The parasitological study of the stool is based on:

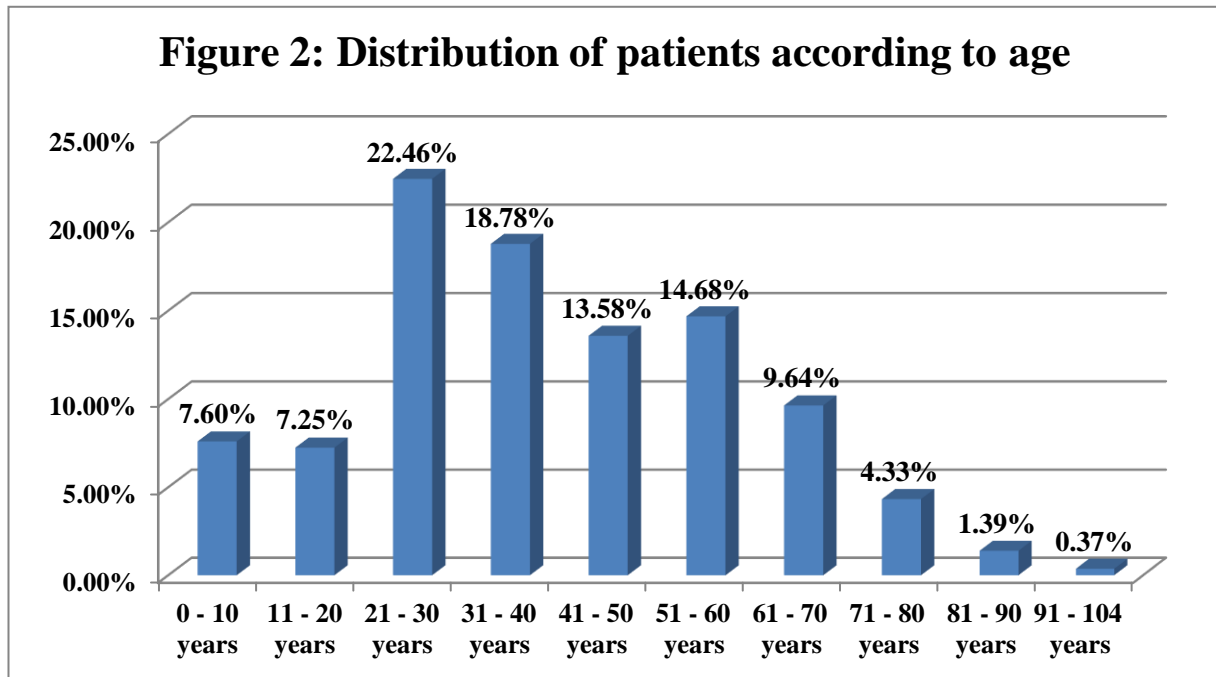
- Macroscopic study: note the appearance, consistency, color and the possible presence of blood, mucus and adult forms of parasites.
- Microscopic study in the fresh state (0.9% saline solution), after staining (Lugol 2%, Merthiolate Iodine Formol, M.I.F, modified Ziehl Nelson), and after concentration (physico-chemical technique of Bailenger and physical

technique of Willis).

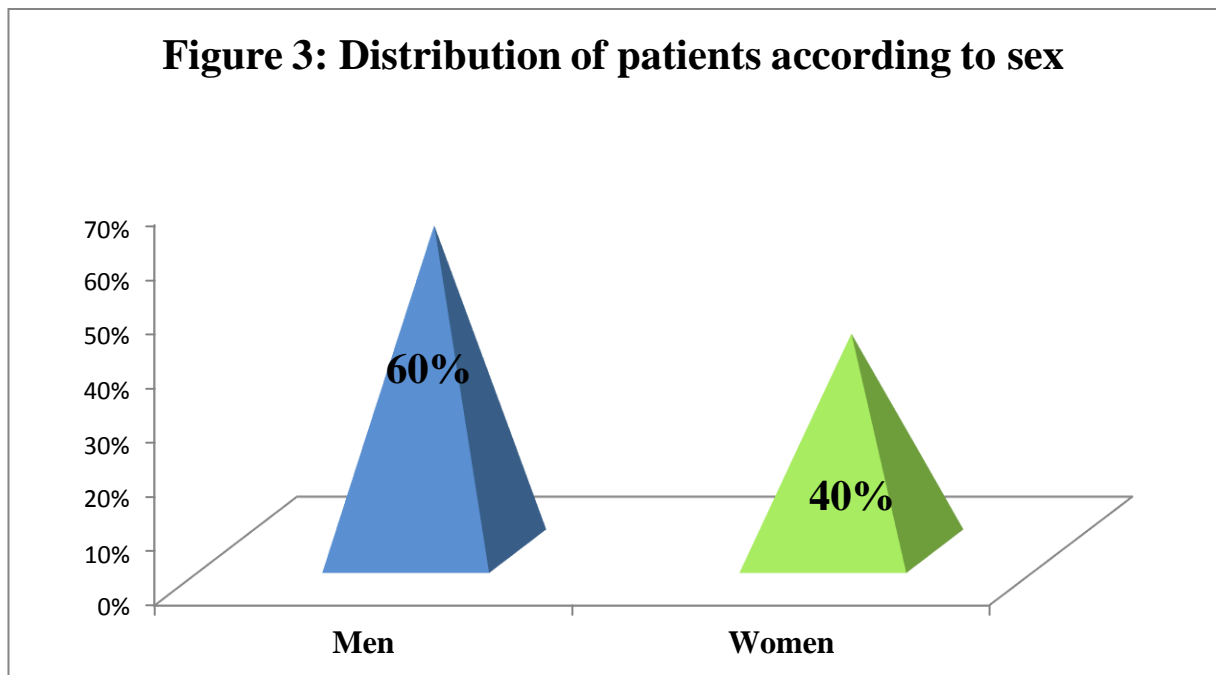
To better highlight the eggs, larvae and trophozooids, enrichment or concentration techniques have been adopted.

RESULTS

The descriptive analysis of the study population showed that according to 8007 Parasitological Stool Examination (PSE) treated 1537 patients are aged between 21-30 years (22.46%), 1309 patients between 31-40 years (18.78%), 947 patients between 41-50 years (13.58%), and 1023 patients between 51-60 years old i.e. 14.68% (Figure 2).

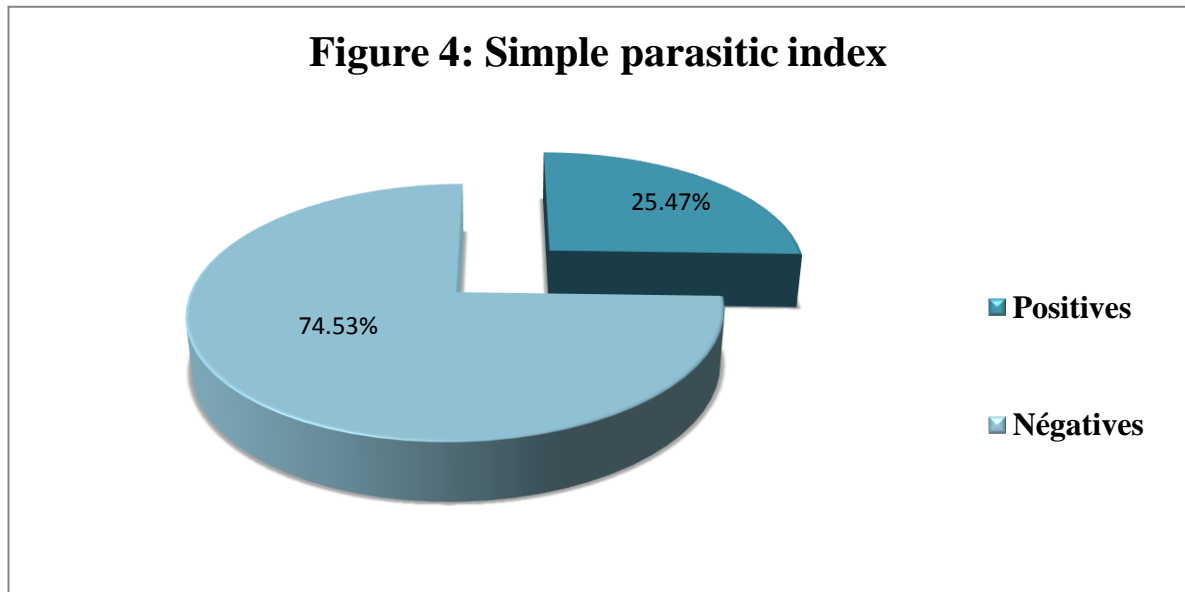


The study included 4815 men (60%) and 3192 women (40%), divided between civilian and military consultant, with a sex ratio (M/F) of 1,5 (Figure 3).



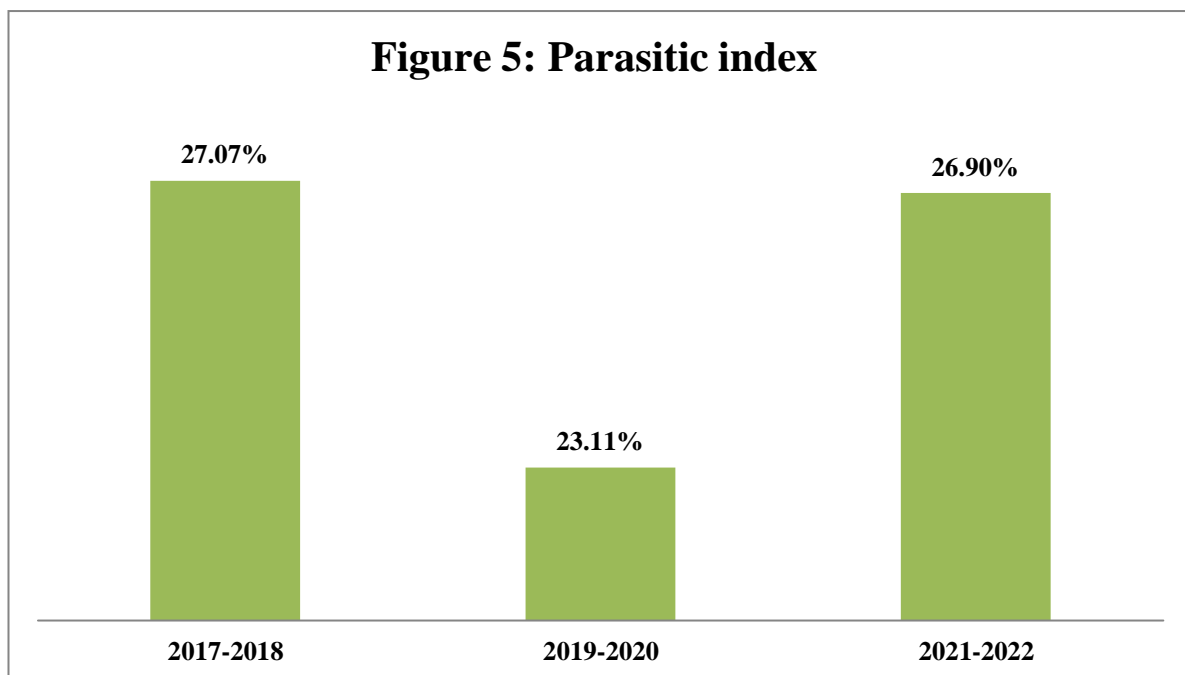
• **Study of the population harboring parasites (Figure 4)**

The simple parasite index (SPI) is the percentage of parasitized subjects compared to the total number of subjects examined. We found 2040 infected patients in the study population, which corresponds to an overall infection rate of 25.47%.



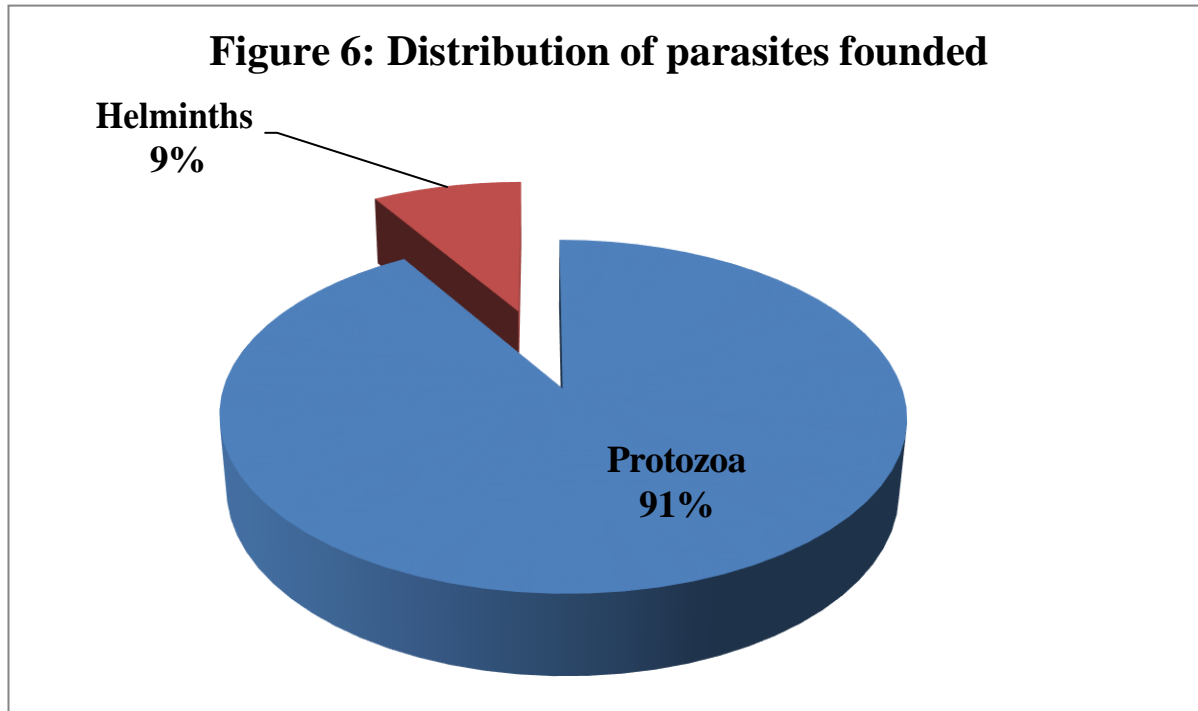
• **Prevalence of intestinal parasitism according to the study period (Figure 5)**

The years 2017 and 2018 recorded the highest SPI (27.07%) compared to the other years of the study where the parasitism rates varied. In the 2021-2022, there is a significant growth in parasitism going from 23.11% (2019-2020) to 26.90% (2021-2022).

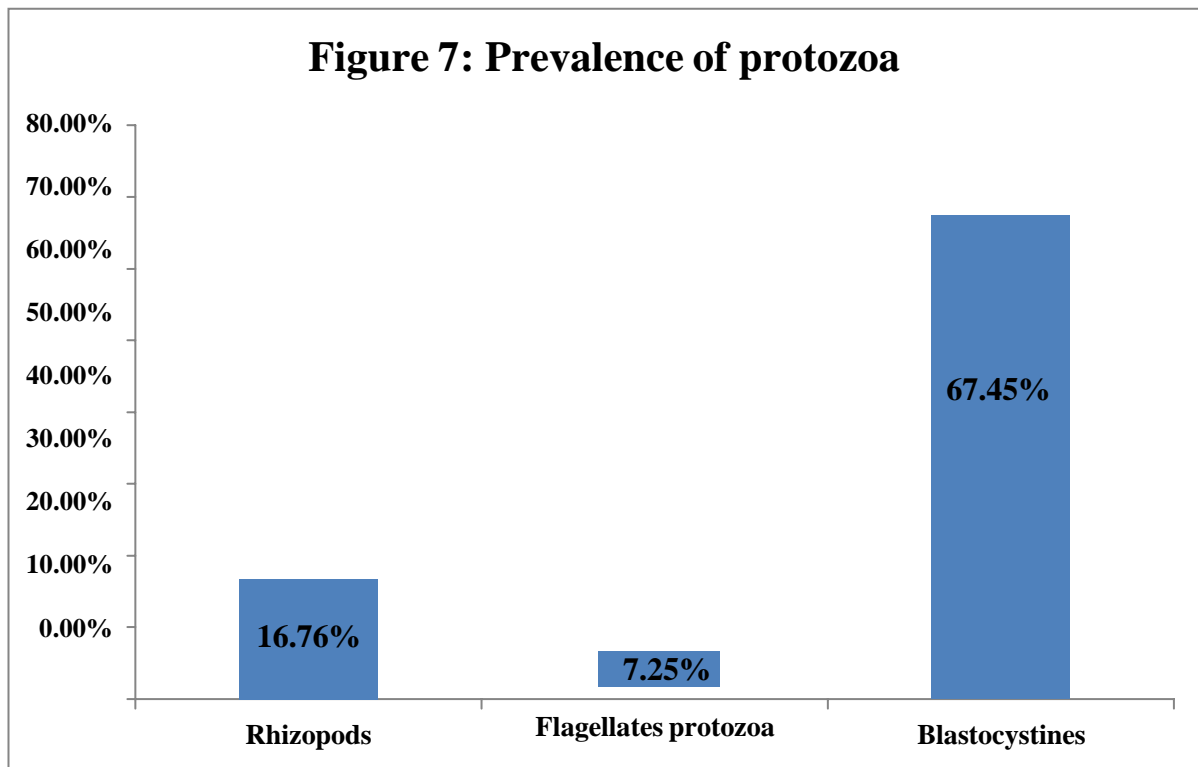


• **Study of collected parasitoses (Figure 6)**

Distribution of protozoa: It appears that the intestinal parasitism in our study was dominated by protozoa which represent 91.27% of the total parasites isolated (1862 cases), distributed between amoebae, flagellates, coccidia and Blastocystis hominis. While the helminths represent only 8.73% of the total of cases.



Blastocystis hominis comes first and represents the most common parasite in the study population, with an overall prevalence of 67.45% (n= 1376) of infected patients, followed by amoebae 16.76% (n= 342) and flagellates 7.25% (n=148). A single case of Cryptosporidium sp coccidia was found (Figure 7).



DISCUSSION

By comparing our study with other Moroccan studies but also in neighboring countries, we note that the PI of 25.47% that we found is significantly close to those reported in Kenitra [2] and in Algeria [3] and which are respectively

14.15% and 19.96%. On the other hand, even higher prevalence's were observed in Tunisia [4] with a rate of 26.6%. It should be noted above all that parasitism is dominated by protozoa and that helminths are infrequent.

| | Morocco El guamri2005 [2] | Algeria Benouis 2013 [3] | Tunisia Ayadi 2006 [4] |
|--------------------------|-----------------------------------|--------------------------------|-------------------------------|
| Amoebas | E.histolytica /E.dispar 26.4% | E.coli 18.85% | D.fragilis30.3% |
| Flagellate prozoa | Giardia intestinalis 22.7% | Giardia intestinalis 15.32% | Giardia intestinalis 17% |
| Helminths | Enterobius lumbricoides 11.87% | Enterobius vermicularis 2.82% | Enterobius vermicularis 3% |

Our series showed: An overall prevalence of 25.47% of intestinal parasite carriage, these values lower than the data of the national literature close to the international literature [5, 6, 7]. The low values given that it is an urban population, easy access to care, this can only confirm the association between intestinal parasitism, poor hygiene conditions, and low socio-economic level. Therefore, the fight against intestinal parasites is essential.

CONCLUSION

We recommend screening and treatment of asymptomatic carriers, especially kitchen staff and communities. But the success of any measure remains inherent in the prevention of reinfections. These prophylactic measures require a multidisciplinary intervention to bring together healthy living conditions with accountability and the active and serious participation of the community. This requires promotion and sensitization in terms of general and individual hygiene.

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