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PERCEPTION OF SCHISTOSOMIASIS BY THE PARENTS OF CHILDREN IN THE PEDIATRIC WARD IN THE UNIVERSITY HOSPITAL OF FIANARANTSOA

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SUMMARY

Introduction: Bilharzia is an endemic and chronic parasitosis with slow progression, high mortality due to severe or even fatal complications. **Methods:** We carried out a prospective, descriptive, cross-sectional study, using a pre-tested questionnaire, over a period of 1 month, including parents who had stayed in the Fianarantsoa pediatric ward. **Results:** This survey was carried out on 161 parents. The main sign of intestinal bilharzia was known by 65% of the parents. The mode of contamination of bilharzia was poorly known, as only 50% of parents identified contact with water or the river as the source of bilharzia contamination. The urinary form was known by 24% of the parents. The most commonly reported preventive measure (50%) was eviction from contact with water or the river. When glairo-sanguinolent diarrhea occurs, 25% of parents did not consult a doctor. **Conclusion:** These results show that bilharzia was poorly known to parents in the study area.

KEYWORDS: Bilharzia; conduct-attitudes-practices; Fianarantsoa; parents.

I. INTRODUCTION

Bilharzia is an endemic and chronic parasitic infection with slow progression, high mortality due to severe or even fatal complications (portal hypertension, repeated genitourinary infections, sterility, renal failure.). It is linked to water and poor hygiene conditions. It is found in tropical and subtropical countries where molluscs, which are the intermediate hosts of infection, develop. Five species are pathogenic to humans and 2 of them are present in Madagascar: Schistosoma (S.) haematobium agent of urogenital schistosomiasis, S. mansoni agent of intestinal and hepato-spleenic schistosomiasis.[1,2] The intestinal form is the form found in the Eastern and South-Eastern regions of Madagascar, which is our study area.[1] In 2000, the WHO estimated that 600 million people are at risk of contracting the disease and more than 200 million people were infected and in 2006 at least 206.5 million people needed preventive treatment against schistosomiasis.[3,4] It has been estimated that 85% of schistosomiasis cases (S. haematobium, mansoni) worldwide are spread over 76 African countries including Madagascar and most serious cases.[5] It thus causes more than 800,000 deaths per year.[6]

The aim of this study was to assess the knowledge, attitudes and practices of parents of transient and hospitalized children in the pediatric ward with schistosomiasis.

METHODS

It was a prospective, descriptive, cross-sectional study using a pre-tested questionnaire and whose survey form was completed by the investigator. The investigation took place in the pediatric ward of the Tambohobe Fianarantsoa University Hospital. Parents who stayed in the pediatric ward and agreed to participate freely in the study were interviewed. We qualified as parents any accompanying person over the age of 18 with at least one child, whether a parent or not. The inclusion lasted 1 month from May 1 to 31, 2015.

RESULTS

One hundred and sixty-one (161) parents agreed to participate in the survey.

Half of the included parents were young and aged between 20 and 35 years; the average age was 32 years (Table I).

The majority of parents surveyed had a secondary level (Table II).

Most of the parents included have more than two dependent children.

More than a third (35%) of the children of the parents included have already had glairo-sanguinolent diarrhea. The majority of parents consulted a doctor during episodes of glairo-sanguinolent diarrhea (Table III).

Thirty-five percent of parents linked the transmission of bilharzia to contact with water or rivers (Table IV).

Concerning parents' knowledge of the manifestations of bilharzia; 65% of parents responded with glairo-sanguinolent diarrhea as a sign of intestinal bilharzia (Table V).

The majority of parents (88%) were not aware of any other form of schistosomiasis in Madagascar and of those who reported knowing the other form of schistosomiasis, 42% reported hematuria as a clinical manifestation.

The evaluation of the preventive attitudes of these parents revealed 81 parents (50.31%) who cited eviction from contact with water or the river (Table VI).

We also asked parents about their source of information; 55 (34.16%) cited health centers, 47 (29.19%) lessons learned during their childhood; 33 (20.49%) the media; and the rest said they never had any information about bilharzia.

LIST OF TABLES

Table I: Age of included parents.

Age Group	Number	Percentage
Under 20 years old	12	7,45%
Between 20 and 35	81	50,31%
Over 35 years old	68	42,23%
Total	161	100%

Table II: Parental Education Level.

Educational level	Number	Percentage
Illetered	27	16,77%
Primary	47	29,19%
Secondary / High school student	58	36,02%
University	29	18,08%
TOTAL	161	100%

Table III: Conduct of Parents When Glairo-Sanguinolent Diarrhea Occurs.

Conduct	Number	Percentage
Consult a doctor	42	75%
Self-medication	4	7,14%
Natural decoction	08	14,28%
Simple observation	02	3,57%

Table IV: Contamination mode.

Contamination Mode	Number	Percentage
Contact with water / river	82	50,93%
Consumption of dirty food / dirty water	57	35,40%
Contact with the patients	08	4,96%
Others	14	8,69%
TOTAL	161	100%

Table V: Clinical Manifestation of Bilharzia.

Clinical signs	Number	Percentage
Glairo-sanguinolent diarrhea	105	65,21%
Abdominal pain	44	27,32%
Others	12	7,45%
TOTAL	161	100%

Table VI: Preventive Attitude of Bilharzia.

Prevention Mode	Number	Percentage
Avoid contact with rivers / waters	81	50,31%
Avoid dirty food / dirty drink	50	31,05%
Don’t know	27	16,77%
Others	03	18,6%
TOTAL	161	100%

DISCUSSION

Our study took place from May 1 to 31, 2015. It covered a sample of 161 parents, 50% of whom were between 20 and 35 years of age; 36% have a secondary level and the majority have more than 2 dependent children.

During this survey, more than a quarter of the included parents have already had at least one child with diarrhea caused by glairo-sanguinolent stools. Although no parasitic sampling or research was carried out during this study, glairo-sanguinolent diarrhea is the main sign of intestinal bilharziasis. A study carried out in Côte d'Ivoire pointed out that glairo-sanguinolent stools or the presence of blood in the stool are very good signs of collective diagnosis of schistosomiasis in S. mansoni in schools.[7] A Malian survey also highlighted abdominal pain and diarrhea as warning signs of intestinal bilharzia.[8] These symptoms have

been found by other authors.[9] The presence of these signs in an endemic bilharzian area should alert parents and caregivers.

A quarter of parents (25%) did not consult a doctor when they experienced glairo-sanguinolent diarrhea. A survey conducted in Mali in 2005 showed that 41.8% of parents informed by their children of the occurrence of a schistosomiasis symptom would not have consulted.[10] The parents in this study were less likely to trivialize glairo-sanguinolent diarrhea and many of their behaviors were not adequate.

Regarding knowledge of the manifestations of bilharzia, the majority (65%) mentioned glairo-sanguinolent diarrhea and abdominal pain. More than 90% of children in one region of Mali were aware of the clinical signs of urinary bilharzia in a survey conducted in 2010.[11] The knowledge of the parents included in this survey is insufficient; this could be a source of delay in consultation, and therefore in care, thus exposing children to the complications of schistosomiasis.[2,12]

The most frequently cited mode of contamination by parents was being in contact with rivers (51%) and more than a quarter of parents mentioned consuming unsafe food or beverages (35.4%); a CAP survey conducted in Mali among high school students found 94.6% of cases that linked the mode of contamination to this practice.[7] On the other hand, a survey carried out in Mauritania in 2012 among the elderly revealed that the majority were completely unaware of the mode of transmission.[13] It can be said that, as for Mauritanians, the mode of transmission was largely unknown to the parents in our study. Parents' knowledge of the mode of transmission is important in the education of children since bilharzia mainly affects school-age children.[14]

Only 12% of parents knew the urinary form of schistosomiasis. Hematuria was the main sign associated with this form according to 42% of those who answered yes. This knowledge of the other form of bilharzia is superimposed on that of the parents surveyed in Mali in 2005, where 46% of parents experienced the sign of the other form.[7]

According to 50% of the parents surveyed, eviction from contact with the river was the personal attitude to prevent bilharzia, while 31% of parents reported consuming dirty food or drinks. Other parents (18%) said they were unaware of any prophylaxis against this disease. On the other hand, the literature reports that children who regularly frequent watercourses are

the most exposed to bilharzia.[15] The attitude to be adopted to limit the occurrence of schistosomiasis was not well known by the parents in our study.

There are still 16 households that are not informed about the existence of this disease. The sources of information on the disease for our participants were health centers for 34%, schools for 29% and the media for 20%; the rest did not receive any information. Efforts are still needed at all levels to inform, educate, manage and prevent this disease.

CONCLUSION

At the end of this survey, which covers 161 parents, the clinical manifestations of bilharzia were not known by all parents; the consumption of unhealthy foods was the mode of contamination cited by more than a quarter of parents and the attitude of more than a quarter of parents towards glairo-sanguinolent diarrhea was not adequate. The results obtained showed that this disease remains poorly known. Information and education of populations about the disease is essential to reduce the onset of this disease.

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