



PROFILE OF PROTOZOA ISOLATED FROM STOOL SAMPLES IN YAOUNDE, CAMEROON



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BACKGROUND

METHODOLOGY

RESULTS

Intestinal parasitic infestations are among the most common communicable diseases in the world with a higher prevalence in developing countries. They are caused by protozoa which have long been associated with foodborne and waterborne disease outbreaks. The aim of our study was to present the profile of protozoa isolated from stool samples in Yaounde from 2010-2020 and to analyse the association of intestinal parasitic diseases with age and gender during the same period

This retrospective and observational study was carried out from January 04, 2010 to January 10, 2020 in Yaounde, capital of the Center region, at Centre Pasteur of Cameroon. After collecting the stool samples, the intestinal protozoa were identified using the Baillenger concentration technique and staining with Kop-Color II. Microscopic observation between slide and coverglass was focused on trophozoites and cysts of protozoa

A total of 106.846 stool samples were analyzed during the study period and the overall infestation rate of intestinal protozoa was 8.4% (8958 samples positive for the presence of a protozoan) The distribution of identified protozoa was: 3.3% for *Entamoeba hartmanni*, 1.9% for *Entamoeba coli*, 1.8% for *Entamoeba histolytica*, 0.4% for *Trichomonas intestinalis*, 0.4% for *Entamoeba histolytica minima*, 0.3% for *Gardia duodenalis*, 0.2% for *Chilomatix mesnili*, 0.1% for *Endolimax nana*, 0.04% for *Isospora belli*, 0.02% for *Balantidium coli*, 0.006% for *Cyclospora cayetanensis* and 0.003% for *Pseudolimax butschlii*. A statistically significant association of age groups ($p<0.0001$) and sex ($p<0.0001$) with the identified protozoa was obtained in our study with a higher risk of infestation in women and those of the 21–40 years age group were the most vulnerable.

CONCLUSION

KEYWORDS

intestinal parasitic infestations, communicable diseases, protozoa, technique of Baillenger, Kop-Color II

Age class (years)							
Isolated protozoa	<21 (n=23,453) No. (%)	21-40 (n=37,497) No. (%)	41-60 (n=28,912) No. (%)	61-80 (n=13,383) No. (%)	≥81 (n=2586) No. (%)	Total (n=106,846) No. (%)	P-value
<i>Balantidium coli</i>	2 (0.0)	11 (0.0)	5 (0.0)	2 (0.0)	0 (0.0)	20 (0.0)	0.8453*
<i>Chilomatix mesnili</i>	23 (0.1)	56 (0.1)	53 (0.2)	26 (0.2)	5 (0.2)	163 (0.2)	0.5084
<i>Cyclospora cayetanensis</i>	0 (0.0)	3 (0.0)	2 (0.0)	1 (0.0)	0 (0.0)	6 (0.0)	1.000*
<i>Endolimax nana</i>	2 (0.0)	22 (0.1)	13 (0.0)	9 (0.1)	1 (0.0)	47 (0.0)	0.4742*
<i>Entamoeba coli</i>	192 (0.8)	834 (2.2)	568 (2.1)	296 (2.2)	83 (3.2)	1973 (1.9)	0.0028
<i>Entamoeba hartmanni</i>	271 (1.2)	1469 (3.9)	1010 (3.8)	570 (4.3)	135 (5.2)	3455 (3.3)	<0.0001
<i>Entamoeba histolytica histolytica</i>	269 (1.1)	727 (1.9)	528 (2.0)	279 (2.1)	52 (2.0)	1855 (1.8)	<0.001
<i>Entamoeba histolytica minima</i>	103 (0.4)	148 (0.4)	110 (0.4)	65 (0.5)	13 (0.5)	439 (0.4)	<0.0001
<i>Gardia duodenalis</i>	142 (0.6)	92 (0.2)	34 (0.1)	11 (0.1)	3 (0.1)	282 (0.3)	<0.0001
<i>Isospora belli</i>	2 (0.0)	15 (0.0)	22 (0.1)	7 (0.1)	0 (0.0)	46 (0.0)	0.04766*
<i>Pseudolimax butschlii</i>	0 (0.0)	2 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	3 (0.0)	0.5721*
<i>Trichomonas intestinalis</i>	34 (0.1)	151 (0.4)	159 (0.6)	78 (0.6)	27 (1.0)	449 (0.4)	<0.0001
Overall prevalence	1040 (4.4)	3530 (9.4)	2504 (9.3)	1345 (10.1)	319 (12.3)	8958 (8.4)	<0.0001

cameroonian context