

BRIEF COMMUNICATION

ENTERIC PARASITES AND COMMENSALS IN PREGNANT WOMEN SEEN AT THE UNIVERSITY HOSPITAL, FEDERAL UNIVERSITY OF UBERLÂNDIA, STATE OF MINAS GERAIS, BRAZIL

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The prevalence of enteric parasite infections poses a serious public health problem in developing countries. The proportion of these infections decreases with the improvement of living standards of the involved communities and is considered to be indicative of the degree of local development. Despite the scarcity of available information about the socioeconomic factors whose joint effects result in the transmission of enteric parasite infections, it is an established fact that the improvement of living standards and of basic sanitation leads to a conspicuous decrease in the incidence of these infections¹¹.

Infections by enteric parasites constitute the group of diseases most commonly associated with pregnancy. Although this statement may appear to be unjustified *a priori*, it arises from the fact that these infections are of high prevalence in the human species¹.

Millions of pregnant women around the world harbor chronic enteric infections, which in underdeveloped countries¹⁷ may affect 90% of all women during their gravid puerperal cycle⁷. Fortunately enteric parasite infections seldom interfere with the reproductive capacity of human hosts¹¹, but in countries with low socio cultural and economic standards their interaction with other prevalent infections, added to maternal malnutrition, may considerably contribute to an unfavorable prognosis for the mother or the child¹⁷. Enteric parasite infections may cause delayed fetal growth, premature delivery, and infection in the fetus, in the placenta or in the newborn baby^{10, 15, 17}.

The study of enteric infections is particularly important during pregnancy because, at this stage, the obstetrician can properly

advise his patient about the risks of the disease, preventive measures and the choice of the most appropriate therapeutic conduct¹.

The objective of the present study was to identify the enteric parasites and commensals occurring in pregnant women at the University Hospital, Federal University of Uberlândia, State of Minas Gerais.

A retrospective study was carried out on 503 pregnant women seen at the Normal Prenatal Outpatient Clinic of the Department of Gynecology and Obstetrics from January to December 1994. As part of the routine prenatal examination, on the occasion of the first interview each patient was asked to provide a fecal sample, which was analyzed by the MIFC method for a parasitologic survey.

Patient age ranged from 13 to 42 years and the duration of pregnancy at the time of fecal sample collection ranged from 2 to 41 weeks.

As a result of this survey, 163 (32.4%) pregnant women were found to harbor parasites and/or commensals: 93 (57.1%) harbored a single parasite, 53 (32.5%) harbored two, and 17 (10.4%) harbored several. The occurrence of enteric parasites or commensals in the population studied is presented in Table 1. The three more frequent combinations of two parasites were: *Entamoeba histolytica* + *Entamoeba coli* (37 cases); *Giardia lamblia* + *Strongyloides stercoralis* (3 cases), and hookworm + *E. coli* (2 cases). The three more frequent multiple combinations found in two cases each were: *E. histolytica* + hookworm + *E. coli*; *E. histolytica* + *E. coli* + *Entamoeba hartmanni* and *E. histolytica* + *E. coli* + *Endolimax nana*.

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TABLE 1

Enteric parasites and commensals in 503 pregnant women seen at the University Hospital, Federal University of Uberlândia, State of Minas Gerais, Brazil.

Enteric parasites and commensals	No. positive	%
<i>Entamoeba coli</i>	94	18.7
<i>Entamoeba histolytica</i>	50	9.9
Hookworm	31	6.2
<i>Entamoeba hartmanni</i>	15	3.0
<i>Ascaris lumbricoides</i>	14	2.8
<i>Giardia lamblia</i>	12	2.4
<i>Strongyloides stercoralis</i>	12	2.4
<i>Endolimax nana</i>	10	2.0
<i>Trichuris trichiura</i>	8	1.6
<i>Hymenolepis nana</i>	5	1.0
<i>Schistosoma mansoni</i>	3	0.6
<i>Taenia</i> sp	1	0.2

The occurrence of enteric parasites and commensals in this study (32.4%) was similar to that report by SANTOS et al.¹⁴ in a retrospective study also conducted in Uberlândia from January to April 1993, in which the positivity of fecal parasitologic examinations of samples from pregnant women was 35.2%. These rates were higher than that detected in the general population seen at 23 Uberlândia Health Centers, i.e., 26% of 8158 fecal samples analyzed¹³. Higher frequencies of enteric parasitism were observed in the States of Goiás¹⁶ and São Paulo⁵ compared to those detected in Uberlândia, while in the USA the rate of enteric infection in pregnant women is estimated at 22/10000 pregnancies⁸.

Of the 163 infected pregnant women, 57.1% hosted only one parasite species and the remaining ones (42.9%) hosted more than one. In a study including eight Health Centers in the neighboring State of São Paulo⁵, the rate of combinations of two enteric parasites in pregnant women was 44.4%, while in Southeast Thailand³ it was 12% and in Guatemala City¹⁷ 10%. The low sociocultural level of the community covered by this study may possibly have contributed to the high occurrence of enteric parasite combinations.

Among the enteric parasite and commensal species there was a higher occurrence of *E. coli* (18.7%), *E. histolytica* (9.9%) and hookworms (6.2%).

The detection of *E. coli* and *E. hartmanni* does not provide a criterion to judge the morbidity in a given community but its occurrence is an index of inadequate basic sanitation⁵. *E. histolytica*

affected 5% to 10 % of the general population¹ and 1.9% to 5.3% of pregnant patients^{5,17}. The high occurrence of *E. histolytica* found in the present study may have been possibly related to the poor hygienic conditions and its transmission may have been through the ingestion of contaminated food and water¹⁷. Not only *E. histolytica* but also *G. lamblia* when infecting pregnant patients, may interfere with their nutritional status and their general health through morbid processes such as colitis, diarrhea, lactose intolerance, malabsorption and dehydration^{2,9}. Episodes of this type reduce the nutrients available to the fetus, with consequent reduced intrauterine development⁶.

The rate of hookworm infection was lower than mentioned by other authors^{5,17}, and the rate of *A. lumbricoides* infection was about 7 times lower than observed by GUERRA et al.⁵. A study of 14914 pregnant patients conducted in Guatemala¹⁷, showed that 20% of them presented helminthic infections, 14.5% of which were due to *A. lumbricoides*. However, in other populations^{3,12} hookworms have been cited as the most prevalent helminths among pregnant women. This parasitosis when severe may result in abortion, premature delivery and intrauterine fetal death, and when the fetus survives it is subject to a considerable risk of delayed intrauterine growth and low birth weight¹⁵. As is the case for *A. lumbricoides*, hookworm infections usually cause no symptoms in pregnant women^{4,17}.

We conclude that systematic examination of the feces as a routine for prenatal diagnosis should be emphasized and encouraged because this is the appropriate time to diagnose and start treatment of enteric parasitism, with the consequent reduction of one of the public health problems of Brazil.

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