

company provides ~5000 travel consultations per year and the tools are saving ~2500 working hours/year, both health professionals and travelers. In 2023 there were 61k travelers, 17% going to risk locations, and 2% needed additional medical assistance during travel.

**Conclusion:** Technology for measuring disease risk is relevant to meet demands of an outbreak. Technologies available on the market that display the risks, have been demonstrated to be effective to help health professionals but may need business customization to be user centric. To achieve desired results on customer journey it is recommended to evaluate interface and define indicators to ensure you promote and protect worker health.

**Keywords:** Travel health, Infectious disease, Technology.

**Conflicts of interest:** There was no conflicts of interest.

**Ethics and financing:** No financial support.

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## DOENÇAS CAUSADAS POR PROTOZOÁRIOS E HELMINTOS

### CAN THE RS2234246 POLYMORPHISM IN THE TREM-1 GENE BE RELATED TO THE CLINICAL COURSE IN INDIVIDUALS INFECTED WITH PLASMODIUM VIVAX IN AN ENDEMIC AREA OF THE BRAZILIAN AMAZON?

Marcelo Cerilo-Filho<sup>a</sup>,  
Myrela Conceição Santos de Jesus<sup>a</sup>,  
Rubens A.O. Menezes<sup>b</sup>,  
Marrara Pereira Sampaio<sup>a</sup>,  
José Rodrigo S. Silva<sup>b</sup>, Tatiana R. Moura<sup>b</sup>,  
Luciane M. Storti-Melo<sup>b</sup>,  
Ricardo Luiz Dantas Machado<sup>a</sup>

<sup>a</sup> Universidade Federal Fluminense (UFF), Niterói, RJ, Brazil

<sup>b</sup> Universidade Federal do Amapá (UNIFAP), Macapá, AP, Brazil

**Introduction:** Plasmodium vivax is the most widely distributed species of malaria in the world. In Brazil, this parasite is responsible for around 90% of cases. Infections caused by P. vivax can generate a variety of symptoms, such as fever, chills, headache, nausea, vomiting and anemia. The immune response directly influences the individual's clinical evolution. The TREM-1 receptor is an important molecule that acts by recognizing the pathogen and amplifying inflammation. Polymorphisms in the gene encoding this protein have been linked to the severity of malaria.

**Objective:** We investigated the association between the SNP rs2234246 (C>T) in the TREM-1 gene and the development of nausea and vomiting in individuals infected with P. vivax in an area of the Brazilian Amazon.

**Methodology:** We analyzed 76 patients with a microscopic and molecular diagnosis of P. vivax and 114 controls from the municipality of Oiapoque in Amapá state, Brazil, on the border with French Guiana. The clinical signs of the individuals were assessed by a nurse. Genomic DNA was extracted from blood samples and the SNP rs2234246 was genotyped by

qPCR. The occurrence of nausea and vomiting symptoms was adjusted for the SNP using Logistic Regression. Variables such as: occurrence of anemia, gender, age, length of residence in the study area, number of previous episodes of malaria and period of the last malaria were inserted as adjustment variables for the logistic regression. All analysis was carried out with a 5% significance level.

**Results:** Among the 76 patients, 44.7% reported experiencing nausea and vomiting. As for SNP rs2234246 genotyping, CC = 15, CT = 42 and TT = 19. In the association between the SNP and symptoms, it was observed that infected individuals with the TT mutant genotype for the TREM-1 rs2234246 C>T SNP were 90% less likely (OR = 0.1; 95% CI = 0.0 - 0.6; p = 0.013) to develop nausea and vomiting than wild-type CC individuals. The reduced risk of developing these symptoms may provide relevant insight into the human parasite-host relationship in the population studied, which may suggest a possible protective role for the homozygous mutant allele (TT). Case highlighting characteristics malaria vivax infection, necessitating close clinical and laboratory correlation.

**Conclusion:** Our results aim to help the global public develop a comprehensive understanding of malaria in Brazilian-French Guiana, thereby contributing to malaria control and elimination.

**Keywords:** Immunological Factors, Malaria, Polymorphism, Genetic, Signs and Symptoms.

**Conflicts of interest:** There was no conflicts of interest.

**Ethics and financing:** Declarations of interest: None.

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### INTERVENÇÃO EDUCATIVA E AÇÕES EM SAÚDE PARA A PREVENÇÃO DAS PARASITÓSES INTESTINAIS ENTRE CRIANÇAS CARENTES

Vínnia Beatriz Mascarenhas Barreto da Silva,  
Valéria Bittencourt Ferreira Santos,  
Carlos Danilo Cardoso Matos Silva

UNEX, Feira de Santana, BA, Brasil

**Introdução:** As enteropatias parasitárias são doenças comuns em indivíduos de todo o mundo, mas principalmente aqueles expostos a condições de vida precárias e em vulnerabilidade social, sendo, portanto, mais prevalentes em países subdesenvolvidos, a exemplo do Brasil. Crianças em idade escolar estão entre as mais suscetíveis, já que possuem um sistema imune menos desenvolvido, uma higiene pessoal deficiente e o hábito de brincar em terra poluída. Logo, localidades com déficit de salubridade propagam a contaminação principalmente entre os menores. Dessa maneira, compreende-se a relevância desse tema. Posto isto, este projeto de intervenção teve como objetivos transmitir educação em saúde em relação às parasitoses intestinais nas crianças, analisar em laboratório os parasitológicos de fezes e verificar a prevalência das parasitoses, iniciar práticas educativas, prevenir e educar a comunidade.

**Materiais e métodos:** As práticas de educação em saúde foram realizadas com crianças de 2 a 14 anos de idade,