

timely management of chronic complications of *S. mansoni* in the adult population.

Track 2: Infectious diseases and (neglected) tropical diseases
3.3: Infectious diseases, incl HIV/AIDS, tuberculosis and NTDs
SDG 6: Clean water and sanitation

650 | Giardiasis imported to the Czech Republic: Response to the treatment

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Giardiasis is one of the most common imported enteric infections from tropical countries to the Europe. Resistance to metronidazole (MTZ) represents an increasing problem, especially in cases imported from Indian Subcontinent.

We are presenting a retrospective analysis of epidemiological and clinical characteristics of patients with laboratory confirmed giardiasis (using light microscopy and/or PCR), treated at the University Hospital Bulovka in Prague during 1/2004 and 12/2022.

Giardiasis was diagnosed in 334 persons (female: male ratio 0.67). The majority of infections were imported from Indian Subcontinent (214 cases; 64.1%). The response to treatment with MTZ was evaluated in two periods. Out of 155 patients treated with MTZ (250-500 mg tid for 7-14 days) 45 (29.0%) responded, 50 (32.3%) failed and 60 (38.7%) did not come for the follow up during 2004 and 2014. Ornidazole (500 mg bid) plus albendazole (400 mg bid) for 14 days was used as second line treatment successfully. Out of 85 patients treated with MTZ (500 mg tid for 10-14 days) 33 (38.8%) responded, 31 (36.5%) failed during 2015 and 2022. As the second-line treatment we used combination of tinidazole (500 mg bid) plus albendazole (400 mg bid) for 14 days. Out of 28 patients only 5 (16.1%) failed and they were treated with paromomycine (1000 mg tid for 10 days) successfully.

Our study revealed a low effectiveness of MTZ in travellers returning from tropics. Tinidazole/ornidazole plus albendazole or paromomycine in higher dose could be recommended as the second-line treatment strategy for patients with metronidazole-refractory giardiasis.

Track 2: Infectious diseases and (neglected) tropical diseases
3.3: Infectious diseases, incl HIV/AIDS, tuberculosis and NTDs

654 | External validation of the world health organization integrated management of childhood illness (IMCI) protocol for malaria testing in low malaria risk areas

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In low malaria risk areas, the WHO Integrated Management of Childhood Illness (IMCI) chart booklet recommends testing for malaria only in febrile sick children with no obvious cause of fever. The safety of this approach is unclear.

We performed an external validation study to assess the predictive performance of identifying malaria in febrile children using the IMCI protocol in low malaria risk areas. Febrile children without IMCI danger signs, aged 2-59 months, presenting to a health facility located in a low malaria risk area were included. Primary outcome was a positive malaria rapid diagnostic test or the detection of *Plasmodium* spp by microscopy. Two diagnostic strategies were evaluated: (1) malaria test only in patients with no obvious cause of fever, (2) malaria test in patients with no obvious cause of fever or with recent travel history.

Between December 2021 and January 2023, 7209 patients from 11 Tanzanian and 15 Rwandan health facilities tested for malaria were included. 126 (1.8%) cases had a positive test. The first strategy had a sensitivity of 24.6% and a specificity of 87.0%. Adding travel history did not significantly improve performance (sensitivity 27.0%, specificity 86.3%).

The IMCI strategy to only test children with no obvious cause of fever or recent travel history had low sensitivity to identify malaria cases and would have missed 92/126 children with malaria. Considering the trade-off between the need to detect malaria cases and the avoidance of wasted tests, alternatives to the IMCI approach should be explored.

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3.3: Infectious diseases, incl HIV/AIDS, tuberculosis and NTDs
SDG 3: Good health and well-being

656 | Malaria transmission dynamic on border areas in very low transmission phase: What role do mobilities play?

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Despite the important reduction of malaria cases in the last decade, the last kilometre to elimination is often the hardest, notably in border area. This study aims to understand the impact of the mobilities on Plasmodium carriage of people living in a very low transmission border area.

A longitudinal study was implemented in a French Guiana/Brazil border city, with two transversal surveys in October 2017 and October 2018. Data on mobility (peripheral mobility for food-producing activities and cross border trip in Amerindian Brazilian area) were collected. Participants were tested by PCR to detect Plasmodium carriage, and treated if positive. Vector density around houses location was estimated using a published model based on remote sensing and meteorological data. Association between Plasmodium spp. carriage and mobilities was analysed using a generalized additive mixed model.

A total of 1192 inhabitants were followed. The median age was 18 years (IQR [8; 35]). 7% of the participants carried Plasmodium spp. in 2017 ($n = 89$) and 3% in 2018 ($n = 35$). Plasmodium spp. carriage was associated with a trip in Amerindian Brazilian area (OR = 1.76, $p = 0.023$), the estimated vectorial density at participants house (High versus Low risk OR = 4.11, $p < 0.001$), farming (OR = 1.96, $p = 0.013$) and age ($p = 0.032$), by considering the factors independently. Plasmodium spp. carriage was associated with estimated vector density around participant house, but also with short range mobility for farming or longer-range trips in Amerindian Brazilian area to visit family. A specific surveillance system and targeted interventions considering mobility diversity are needed in those areas to reach and maintain elimination.

Track 2: Infectious diseases and (neglected) tropical diseases
3.9: Environmental exposures 3.D: Global health risks
SDG 3: Good health and well-being SDG 10: Reduced inequalities

657 | Conducting snakebite surveys in nomadic populations: A methodological paper

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Research on snakebites has mostly been conducted on sedentary populations. There is limited epidemiological data on mobile and nomadic populations, who may have a higher risk of snakebite, and this delays the design of snakebite prevention interventions adapted to the nomadic way of life. We conducted a systematic search of the PubMed database to gather evidence on survey methods used in nomadic populations and compared them with contemporary survey methods used for snakebite research. This informed the use of geospatial techniques and open-source high-resolution satellite images to create a digital sampling frame of 50,707 households and a multistage sampling strategy to survey nomadic and semi-nomadic populations in Samburu County, Kenya.

Only 16 (10.5%) of 154 articles reportedly conducted on pastoralist nomadic populations actually involved mobile pastoralists. All 18 articles on snakebite used multi-stage cluster designs on population census sampling frames, which would not be appropriate for nomadic populations. Our methods geospatially sampled and located 573 (65.4%) households, of which 409 (46.7%) were in their original locations and 164 (18.7%) had moved within 5 km of their original locations. We randomly sampled 302 (34.6%) households to replace completely abandoned households.

Highly mobile populations require specific considerations in selecting or creating sampling frames and sampling units for epidemiological research. Snakebite risk has a strong spatial component and using census-based sampling frames would be inappropriate in nomadic populations. We propose using open-source satellite imaging and geographic information systems to improve the conduct of epidemiological research in these populations.

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3.3: Infectious diseases, incl HIV/AIDS, tuberculosis and NTDs
SDG 3: Good health and well-being

662 | Fludora co-max EW space spray shows improved efficacy against wild insecticide-resistance populations of *Aedes aegypti*, *Anopheles gambiae* and *Culex quinquefasciatus* mosquito in Côte d'Ivoire

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