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**Background:** The COVID-19 pandemic disrupted air travel due to the need for public health measures to contain the spread of the virus, which resulted in dramatic decreases in international arrivals to Thailand. Several areas of medical service, especially travel medicine practice, have been impacted, with a shift to a COVID-19-related focus rather than traditional travel clinic services. The arrival of the new normal is a good time to reevaluate challenges to travel medicine nursing, and roles and responsibilities for the next pandemic.

**Objectives:** To describe challenges to travel-medicine nursing practice during the COVID-19 pandemic and to propose the role of the travel medicine nurse with the resumption of tourism.

**Methods:** The researchers interviewed travel medicine nurses at the Thai Travel Clinic and analyzed challenges in their careers.

**Results:** Before the COVID-19 pandemic, nurses in the Thai Travel Clinic provided nursing care, including administering vaccines as prescribed, educating travelers with specific information, e.g. vaccine side effects and travel health risks. Nurses in the Travel Clinic were involved in administrative work, managing online appointments, and acting as an information center via phone or email. Nurses also play co-investigator and research-site coordinator roles in research studies conducted in the Clinic.

With the COVID-19 pandemic, Travel Clinic services changed rapidly from traditional travel-medicine services to COVID-19-related procedures. Nurses, with other stakeholders, played important roles in designing, determining, and organizing new services during the pandemic; for example, COVID-19 testing before international travel was initiated in May 2020. People traveling under these circumstances were provided with additional counseling in person or via tele-consultation. Our travel-medicine nurses have also been involved in the COVID-19 vaccine roll-out, provided COVID-19 vaccination certificates for international travel, and initiated tele-consultations in travel medicine.

**Conclusions:** Travel medicine practitioners, including physicians and nurses, have learnt from the COVID-19 pandemic that we must be resilient when dealing with such a challenging situation. Travel-medicine practitioners should prepare and adapt for the next pandemic now.

**Conflict of Interest:** No conflict of interest to be declared

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### **A Systematic Review of Scorpion Envenomation Therapeutics and Antivenom Accessibility**

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**Background:** Scorpions (Scorpiones) are eight-legged arthropods of the class Arachnida. With increased human migration and transcontinental shipment of produce from the tropics, the incidence of scorpion envenomation may increase in non-endemic areas.

**Objectives:** We aim to synthesize existing evidence around prevention and treatment of scorpion envenomation into a clinical resource including provision of information on access to, and indications for, antivenom usage.

**Methods:** PubMed (NCBI), MEDLINE (OVID), EMBASE (OVID), Cochrane Database of Systematic Reviews (CIDR) and TOXLINE (TOXNET) were searched from inception to March 2022 using combinations of the search terms "scorpion" and "envenomation". Iterative inclusion and exclusion of search terms was employed to maximize article extraction. The GRADE approach was used to assess quality of studies reporting therapeutic interventions. Evidence will be summarized using descriptive measures for each intervention type as well as a qualitative synthesis. Meta-analysis will be planned if sufficient efficacy measures exist.

**Results:** 961 MEDLINE articles, 1053 PubMed, 1486 EMBASE, 0 CIDR and 149 TOXLINE records were retrieved for title and abstract screening; after a multi-step deduplication pipeline 1928 remained. After title and abstract screening, 422 studies were eligible for inclusion, of which 87 were ultimately included and GRADE classified. 55 studies were classified as low quality, 20 as very low, 10 as moderate and 2 as high. Clinically relevant data from 529,469 scorpion envenomation encounters were captured. Most data were acquired from high-volume hospital and poison control centres located

in endemic locations for stings.

Children are at a higher risk of experiencing severe manifestations of scorpion envenomation. Antivenom is widely used in envenomed patients, although controversy exists as to when patients should receive it. Antivenin access varies across geographical regions, with a noted disparity between rural and urban centres. Prazosin is more effective than other supportive treatments, helping to alleviate cardiovascular manifestations.

**Conclusions:** Our analysis suggests that antivenom is effective in accelerating the recovery process and reducing mortality in moderate and severely envenomed patients. Synthesizing current evidence around therapeutic strategies for envenomation can inform the development of appropriate treatment and prevention protocols in non-endemic regions where clinicians lack familiarity with envenomation syndromes and appropriate therapeutics.

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### **Influence of Host Nutriome on Immunological Control of *Trypanosoma cruzi* Infection**

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**Background:** Host nutritional status may impact humoral and cellular mechanisms, modulating the immunologic control of parasitic infections. Insufficient or surplus micronutrients can weaken the immune systems' function, resulting in poor immunologic control of protozoal infections.

**Objectives:** To further understand this, we intend to study the relationship between *Trypanosoma cruzi* infection and host micronutrient status. This will be done by analyzing how the immune response and defense mechanisms are impacted by nutrient deficiencies and perturbations in Chagas disease. The severity of Chagas disease is heavily influenced by the host's immune response to infection, while the current landscape of literature suggests that the host's nutritional status plays an integral role in this relationship.

**Methods:** Combinations of search terms from database inception to March 2022 were searched in five electronic databases. A total of 9,814 articles were retrieved; after deduplication 7,828 articles remained. Screening remains ongoing and has been performed independently by two reviewers with discrepancies arbitrated by a tertiary reviewer. Presently, 206 articles have been full-text screened, leaving 5 eligible for inclusion. A thorough bias assessment will be carried out using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach following screening.

**Results:** Interim findings suggest that poor micronutrient status is associated with greater Chagas disease severity. Deficiencies reported to impact Chagas disease clinically and parasitologically include vitamin D (n=2), selenium (n=2), vitamin A (n=1), vitamin E (n=1), magnesium (n=1), and omega-3 polyunsaturated fatty acids (n=1).

**Conclusions:** The data collected will be concisely reported to illustrate the findings of published literature regarding the various ways that the function of the immune system in people with Chagas disease alters and deteriorates due to nutrient deficiencies or irregular micronutrient status. This combined body of information will potentially improve the prognosis of patients with Chagas disease, by informing the development of possible adjunctive therapies include nutrient repletion.

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### **The Treatment of Multibacillary Leprosy Utilizing Rifampin-Ofloxacin-Minocycline (ROM): A Systematic Review**

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**Background:** From a diagnostic and management perspective, leprosy is a complex tropical infection. Patients who are affected by leprosy are at risk of several complications associated with the disease