TRAVEL MEDICINE FOR SICKLE CELL DISEASE

MAPPING THE RESEARCH LANDSCAPE

Abdulrahman Nasiri [1], Manal Alshammri [2], Mostafa Saleh [3], Reem Alkharras [4]

1 College of Medicine, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia. 2 Department of Hematology, Oncology center, King Salman Specialist Hospital, Hail, Saudi Arabia. 3 King Faisal Specialist Hospital & Research Centre, Hematology department, Riyadh, Saudi Arabia. 4 Department of Internal Medicine, Security Forces Hospital, Riyadh, Saudi Arabia.

BACKGROUND

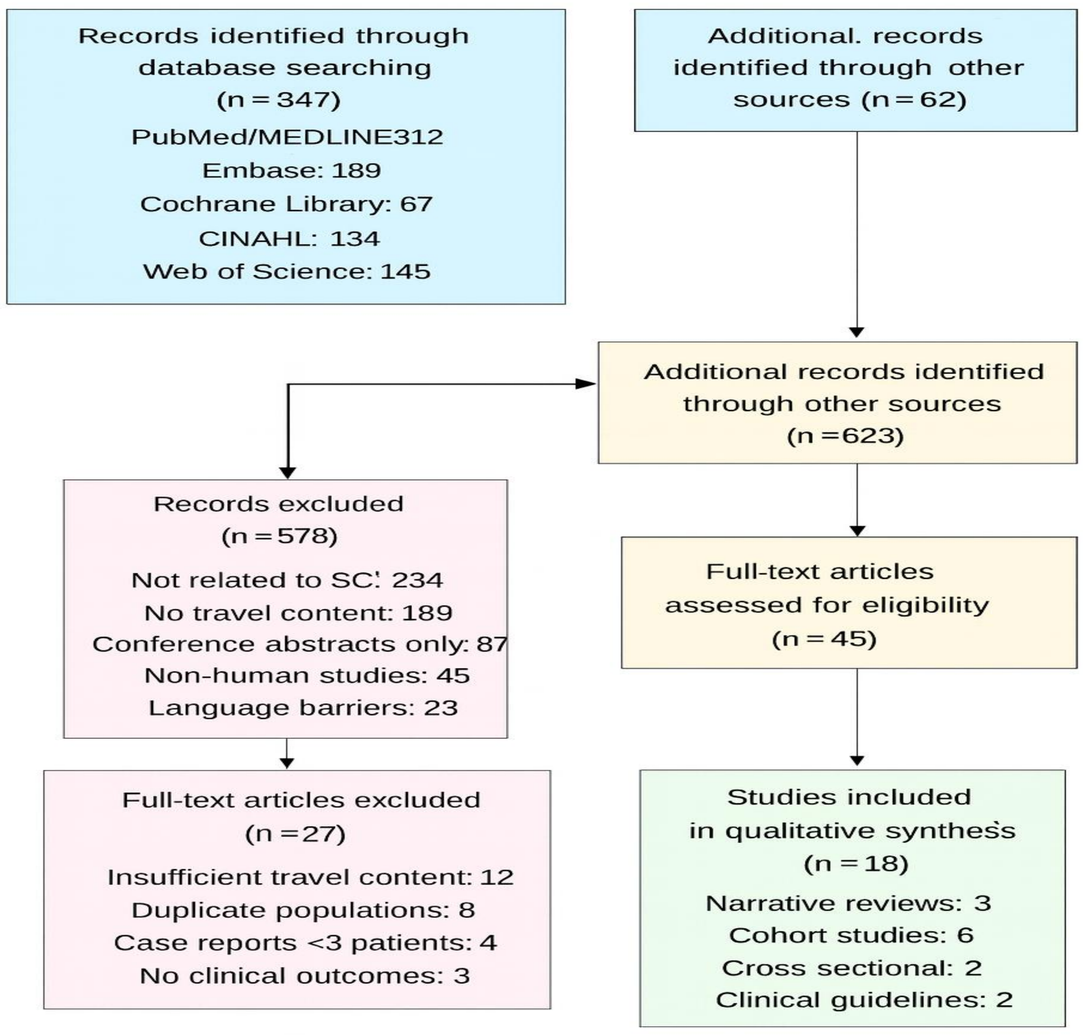
Sickle cell disease affects over 20 million people worldwide, yet travel related health considerations for this population remain poorly understood. With increasing global mobility, clinicians need evidence-based guidance for managing travel risks in sickle cell patients.

AIM

To systematically review existing research on travel medicine considerations for individuals with sickle cell disease.

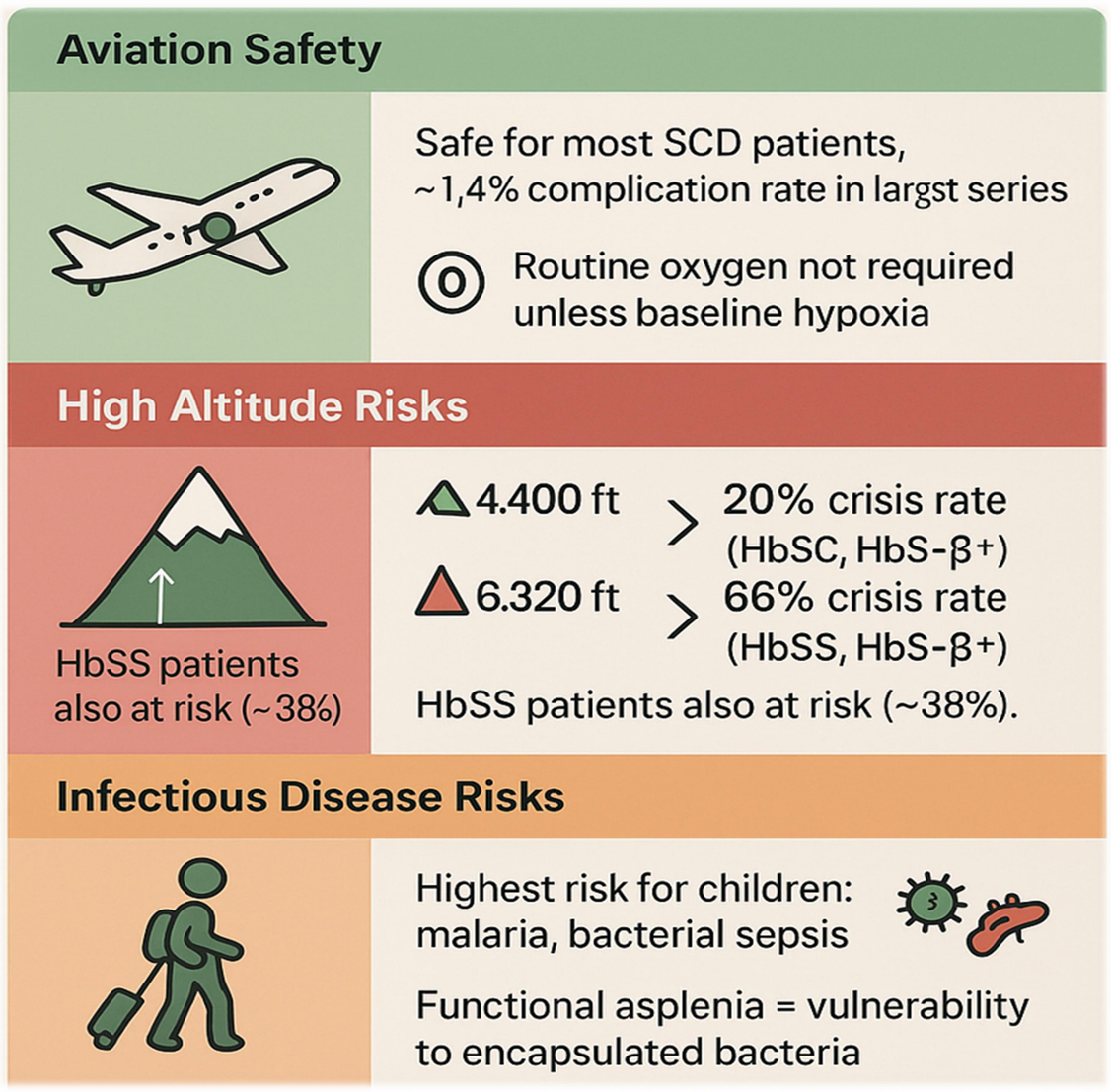
METHODS

We conducted a scoping review following PRISMA-ScR guidelines. We searched PubMed, Embase, Cochrane Library, CINAHL, and Web of Science from inception through December 2024. Studies involving human subjects with sickle cell disease and travel-related content were included. Two reviewers independently screened articles and extracted data using standardized forms.



RESULTS

From 870 records, 18 studies met inclusion criteria, published between 1955- 2024. Studies included 6 cohort studies, 5 case series, 3 narrative reviews, 2 cross-sectional studies, and 2 clinical guidelines. Commercial aviation appears relatively safe for most sickle cell patients, with complication rates of 1.4% reported in the largest series. High-altitude exposure carries substantial risks, with crisis rates ranging from 20% at 4,400 feet to 66% at 6,320 feet. Recent data suggest sickle cell trait may not be benign at high altitudes, with increased risks of kidney disease, pulmonary embolism, and pregnancy complications. Infectious diseases represent the primary concern for pediatric travelers to endemic regions.



CONCLUSION

Travel medicine for sickle cell disease has evolved from restrictive policies to individualized risk assessment. While aviation safety has improved, high altitude exposure and infectious disease risks require careful evaluation. Research gaps include standardized risk assessment tools, pediatric guidelines, and pregnancy specific recommendations.

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CONTACT

Dr. Abdulrahman Nasiri, MD - Assistant Professor of Medicine & Hematology, College of Medicine, Imam Mohammad Ibn Saud Islamic University (IMSIU). Email: **amnasiri@imamu.edu.sa**