

Title: SMILE- Sickle Cell Morbidity by Department of Internal Medicine of AFMC with a focus on Evaluation

Institution:

Department of Internal Medicine, Armed Forces Medical College (AFMC), Pune

Study Location:

Shahada, Nandurbar district, Maharashtra – a predominantly tribal region

Background:

Sickle Cell Disease (SCD) is a significant public health issue in India, especially in tribal communities. With India bearing the second highest global burden, over 20 million people are affected, often lacking access to diagnosis and treatment. In tribal areas, socioeconomic challenges, limited awareness, and consanguineous marriages exacerbate the condition. Children with SCD in tribal regions face a mortality rate as high as 30% before adulthood.

Objective:

To assess the extent of SCD-related morbidities in tribal populations and contribute pilot data aligned with the **National Sickle Cell Elimination Mission**.

Methodology:

- **Design:** Descriptive cross-sectional pilot study
- **Participants:** 159 diagnosed SCD patients aged ≥ 12 years
- **Team Composition:** Faculty, residents, interns, medical cadets, and paramedical staff
- **Assessments:**
 - Clinical examination
 - Laboratory investigations
 - Cognitive and endocrine evaluations

- Urine analysis
- Nailfold capillaroscopy (NFC)
- Retinal photography

Conclusion:

The SMILE study sheds critical light on underreported complications of SCD in tribal India—especially **central hypothyroidism, cognitive impairment, and persistent splenomegaly**. These findings call for continued research, long-term follow-up, and systemic reforms in awareness, diagnosis, and care delivery.