

Magnitude of sickle cell disease in Pemba Island: a cross-sectional study among children aged zero to ten years attending Wete and Abdullah Mzee hospitals

Salim, Suleiman H. (2022)

Background:

Tanzania has the fourth highest number of SCD births in Africa and fifth worldwide. The Eastern coast and Northern region in Tanzania have high prevalence of SCD due to increased number of individuals with Sickle Cell Trait (SCT). Malarial endemicity, population movement such as slave trade and consanguineous marriages has been reported to be among the contributing factors for the distribution and high prevalence of SCD. Zanzibar (Unguja and Pemba) has been well known historically for slave trade, consanguinity, and was the area for malaria endemicity; however, the magnitude of SCD in this part is not well understood.

Objectives:

The broad objective of this study was to determine the magnitude of SCD in Pemba Island with specific objectives of determining the prevalence of SCT (HbAS), SCD (HbSS/SC), common clinical manifestations and ascertaining association between social demographic characteristics and common clinical manifestations. Study design and methods: A cross-sectional hospital-based study design was used. Children aged 0 to 10 years with an estimated sample size of 260 were recruited from Wete and Abdullah Mzee hospitals at paediatric outpatient clinics. Patient's particulars and clinical information were collected using questionnaires. Participants were screened for sickle haemoglobinopathies using HemotypeSC test. Data analysis was done using SPSS version 20.

Results:

A total of 260 children were enrolled; many were under-five years with equal number of male and female. Among 260 children, 52 (20%) had SCD (HbSS) and 39 (15%) had SCT. Painful crisis was the most common clinical presentation reported, in 46 participants (88.5%), followed by haemolytic crisis, 23 (44.2%) and infections, 6 (11.5%). There is no statistically significant association observed between social demographic characteristics and the most common clinical manifestations.

Conclusions:

Prevalence of SCD was found to be very high in Pemba Island. Genetic counseling, health education, and early diagnosis and subsequent management should be emphasized to reduce the burden of complications and improve the quality of life of children with SCD.
