THE EUROPEAN SOCIETY OF MEDICINE
Medical Research Archives, Volume 14 Issue 5

LETTER TO EDITOR

Sickle Cell Disease in Basra: Prospects and Highlights on Evidence-Based Care

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OPEN ACCESS

PUBLISHED
31 May 2026

CITATION
Abdulhassan AlHijaj, BA., Jaber, RZ., et al., 2026. Sickle Cell Disease in Basra: Prospects and Highlights on Evidence-Based Care. Medical Research Archives, [online] 14(5).

ISSN
2375-1924

ABSTRACT

LETTER TO EDITOR

Dear Mr. Editor,

Sickle cell disease (SCD) should be framed at the outset as the major hemoglobinopathy burden in Basra. A large epidemiological analysis from southern Iraq showed that SCD constituted 68.58% of registered hemoglobinopathy cases in Basrah, with a reported general prevalence of 238 per 100,000 population and a sickle cell trait frequency reaching 6.5%. The same study described Basrah as hosting the largest cohort of hemoglobinopathy patients in Iraq, underscoring the need to approach SCD as a sustained public health priority rather than a sporadic specialist problem [1].

Sickle cell disease (SCD) is the most important hemoglobinopathy in Basra and should be approached as a regional public health priority. Registry data from Basrah Governorate indicate that sickle cell categories represent 68.26% of all recorded hemoglobinopathy cases, while pediatric data from Basra's hereditary blood disease center confirm that SCD is the commonest inherited blood disorder among registered patients [2,3]. These findings establish SCD as the dominant inherited hematologic burden in the region and provide a strong rationale for prioritizing it in service planning, prevention, and long-term disease management.

Recent local epidemiological work also shows that the burden of hemoglobinopathy in Basra is driven predominantly by sickle-related disorders and is closely linked to preventable social determinants. In one Basra series, sickle β-thalassemia and sickle cell anemia accounted for 34.8% and 31.3% of cases respectively; consanguineous marriage was reported in 62.2% of families, and 70.67% of patients came from peripheral areas. Familial clustering remained prominent, with 40.75% of new registrants belonging to families that already had at least one affected sibling, suggesting that prevention and counseling pathways still require strengthening [4].

A second epidemiological source from the same regional context highlights how early and socially patterned this burden is. It showed that 32.28% of affected patients were diagnosed before the age of one year, while illiteracy represented the commonest educational category and only a small minority had college-level education. These observations suggest that SCD in Basra is not only common, but also concentrated in families with greater structural vulnerability, making early detection, family counseling, and outreach beyond urban centers essential [5].

The available literature from Basra shows that the burden of SCD is evident in both hospital utilization and chronic morbidity. Pediatric admission data demonstrated that sickle cell-related complications accounted for 64.48% of hereditary blood disease admissions, with vaso-occlusive crisis being the leading isolated cause of hospitalization [6]. Moreover, dissatisfaction with access to care was reported by 42.9% of families attending the hereditary blood disease center, particularly those living in peripheral and rural areas [3]. This suggests that the disease burden in Basra is shaped not only by clinical severity but also by unequal access to specialized services.

Basra-based studies also reveal that SCD produces important chronic complications requiring earlier recognition and more structured surveillance. In symptomatic patients with shoulder pain, avascular necrosis of the humeral head was found in 20.6% and was associated with chronic pain, severe disability, deformity, and limited movement [7]. A large transcranial Doppler screening study also identified conditional cerebral flow velocities in 1.91% of patients, especially among younger individuals, males, and those with lower hemoglobin or homozygous disease, supporting the role of TCD in stroke-risk monitoring [8]. These findings support broader adoption of anticipatory care models rather than exclusive reliance on crisis-based treatment.

The TCD data become more informative when interpreted through timed average mean maximum velocity (TAMMV). In a Basra study of children and adolescents with SCD, no abnormal TAMMV readings were recorded, but conditional velocities were associated with younger age, male sex, homozygous disease, lower mean hemoglobin, higher HbS, and lower HbF. The conditional group had a mean hemoglobin of 7.6±1.03 g/dL compared with 8.23±1.3 g/dL in the normal group, while mean HbF was lower in the conditional category (17.33% versus 21.22%), supporting the value of TAMMV-informed follow-up within local TCD screening programs [9].

Another practical area that deserves structured attention is abdominal pain, which remains a frequent clinical dilemma in SCD. Basra authors emphasized that abdominal pain in sickle cell patients should be approached systematically, with differentiation between acute and chronic pain, recognition that major sequestration may be associated with a hemoglobin drop of at least 2 g/dL from baseline, and awareness that rare but dangerous causes such as mesenteric vascular occlusion must be suspected when severe pain is accompanied by absent bowel sounds. Incorporating such structured assessment into local practice may reduce delayed recognition of serious complications and unnecessary diagnostic confusion [10].

The strongest therapeutic evidence currently available supports hydroxyurea as the cornerstone of disease modification. In Iraqi patients with sickle cell anemia, hydroxyurea therapy significantly improved hemoglobin and fetal hemoglobin levels and reduced both the frequency and severity of painful crises, with mostly mild adverse effects [11]. For severe disease, erythrocytapheresis in Basra has demonstrated substantial HbS reduction and has been used for important clinical indications such as central nervous system disease, intractable pain, acute chest syndrome, and bone infarction [12]. Splenectomy remains beneficial in selected pediatric patients, particularly those with recurrent splenic sequestration, and has been associated with hematologic improvement and reduced transfusion burden [13].

Psychological morbidity should also be recognized as part of the total disease burden. Basra-based data documented high rates of sadness, hopelessness, and anxiety among hereditary blood disease patients, with SCD forming the largest subgroup and with psychological burden correlating with disease complications and repeated admissions [14]. The locally produced Sickler's Guide adds practical value as a culturally relevant educational resource, although it should be used as supportive guidance rather than as high-level evidence because of its preprint status [15].

In conclusion, the literature from Basra supports a more preventive and multidisciplinary model of SCD care centered on epidemiologic surveillance, premarital and family counseling, equitable access to specialized services, organized TCD screening with TAMMV-based interpretation, earlier recognition of chronic orthopedic and abdominal complications, wider hydroxyurea use, selective erythrocytapheresis for high-risk disease, and routine psychosocial support. Although much of the evidence remains descriptive, it is sufficiently coherent to inform regional policy and clinical practice in Basra [1-15].

Sincerely,

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