MAR Pediatrics (2026) 7:1

Research Article

Severe Malaria in Children in Mauritania: A Five-Year Retrospective Study at the Mother-Child Hospital Center of Nouakchott

Abdel Malick Abdel Malick [1]*, Fatimetou Yacoub [2], Soutan Souad [3], Y. Khalef [4]

1. *Faculty of Medicine of Nouakchott, Military Hospital of Nouakchott*
2. *Medical Biologist at the Atar Regional Hospital*
3. *Practicing Physician at the Akjoujt Regional Hospital*
4. *Faculty of Medicine of Nouakchott, Mother and Child Hospital of Nouakchott.*

***Correspondence to**: **Abdel Malick Abdel Malick**, Faculty of Medicine of Nouakchott, Military Hospital of Nouakchott

Received: 05 December 2025

Published: 01 February 2026

DOI: https://doi.org/10.5281/zenodo.18386350

Abstract

Introduction

Malaria is a potentially fatal parasitic infectious disease that poses a major public health problem. Our objective was to study the epidemiological, clinical, paraclinical, therapeutic, and evolutionary profile of severe malaria in children in Mauritania.

Patients and methods

Retrospective study of the records of children hospitalized in the pediatric department of the Mother-Child Hospital Center of Nouakchott from January 1, 2015 to December 31, 2016.

Results

Males were predominant (55%) (sex ratio = 1.2). The most affected age group was 1 month to 5 years (58%), with a peak in admissions in October.

Fever was the most frequent reason for hospitalization (62.74%). Prostration was the most frequently observed criterion of severity (56%).

Severe anemia was present in 17% of cases, and thrombocytopenia was observed in two-thirds of cases.

The outcome was favorable in 98% of cases.

Conclusion: *Severe malaria manifests itself in several clinical forms depending on the transmission area.*

Keywords: *Severe malaria – Plasmodium falciparum – child – Nouakchott*

Introduction

Malaria remains a major public health problem in sub-Saharan Africa [1]. In Mauritania, despite progress in prevention, severe forms persist, particularly among children [2–4].

According to the WHO, severe malaria is defined as a life-threatening parasitic infection in the absence of any other obvious cause. Few national studies have explored its clinical and evolutionary characteristics in children in Mauritania.

The objective was to describe the epidemiological, clinical, paraclinical, therapeutic and evolutionary profile of children hospitalized for severe malaria at the CHME in Nouakchott.

Methodology

Type of study

Retrospective descriptive study conducted from January 1, 2015 to December 31, 2016.

Study population

Children aged 1 month to 16 years hospitalized for severe malaria in the general pediatrics department of CHME.

Inclusion criteria

- Rapid diagnostic test (RDT) or positive blood smear
- Presence of at least one WHO severity criterion

Exclusion criteria

- Incomplete or unused files

Data collected

Age, sex, medical history, clinical signs, laboratory results, treatment administered, evolution.

Statistical analysis performed using Excel and SPSS 20.

Results

Epidemiology

- Total hospitalizations: 4,280
- Cases of severe malaria: 51 (1.19%)
- Average age: 4.8 years
- Children under 5 years old: 58%
- Sex ratio: 1.2 (predominantly males)
- Seasonal peak: October

Clinical and biological aspects

- Fever: 62.7%
- Prostration: 56%
- Altered consciousness: 92%
- Anemia: 57%
- Jaundice: 17.6%
- Respiratory distress: 9.8%
- Thrombocytopenia: 66% (of which 27% < 50,000/mm³)
- Positive TDR: 98%
- Positive smear: 1.97%

Treatment

- Quinine IV: 50 patients
- IV artesunate: 1 patient
- Antibiotic therapy: 100%
- Transfusions: 15 patients

Evolution

- Favorable: 98%
- Death: 1 patient (1.97%)
- Average length of hospital stay: 4.6 days (3 to 21 days)

Discussion

The observed male predominance is consistent with studies conducted in Senegal, Congo-Brazzaville, Mali, Nigeria and Mauritania [5–9].

The majority of cases involve children under 5 years old, consistent with African literature [7–13].

Fever remains the primary reason for hospitalization, as observed in Senegal [14], although other studies report higher frequencies [15].

Severe manifestations (prostration, anemia, jaundice, convulsions, thrombocytopenia) are consistent with regional data [16–21].

The low mortality rate (1.97%) demonstrates effective management, but the dependence on quinine underlines the need for better availability of artesunate.

Conclusion

Severe malaria in children remains common at CHME, mainly affecting those under five years old.

It is mainly associated with prostration, anemia, altered consciousness and thrombocytopenia.

The overall trend is favorable, but requires:

- Early diagnosis.
- Continued availability of recommended injectable treatments.
- Strengthening prevention and awareness.

References

1. E. Pilly. Infectious and Tropical Diseases. 2012, 23rd Edition.

2. Ministry of Health. National Malaria Control Program (PNLP) 2006-2010.

3. Ministry of Health. Process of developing the National Health Development Plan (2012-2020). Situation analysis report of the health sector in Mauritania, 2011.

4. World Health Organization. World Malaria Report: 2017. Geneva; 2017.

5. Camara B, Diagne NR, Faye PM, et al. Severity criteria and prognostic factors of malaria in children in Dakar. Médecine et maladies infectieuses 41(2011) 63-67.

6. Okoko AR, Oya A, Moyen E, et al. Moyen G. Severe malaria in children at the Brazzaville University Hospital. Journal of Pediatrics and Childcare (2016) 29, 304–309.

7. Dicko M. Improvement of the management of severe malaria in the Pediatric Department of the Sikasso Regional Hospital. Medical Thesis, Bamako, 2008; 95p.

8. Ajetunmobi WA, Orimadegun AE, Brown BJ, et al. Haemoglobinuria among children with severe malaria attending tertiary care in Ibadan, Nigeria. Malar J. 2012 Oct 5; 11:336.

9. Boushab MB, Fall-Malick FZ, Savadogo M, et al. Severe malaria in Aïoun: a retrospective study of 64 cases. Malian Journal of Infectious Diseases and Microbiology 2016, Volume 7, pp. 60-63.

10. Dzeing-Ella A, Obiang PC, Tchoua R, et al. Severe falciparum malaria in Gabonese children: clinical and laboratory characteristics. Malar J. 2005 Jan 9; 4:1.

11. Tchokoteu PF, Bitchong-Ekono C, Tietche F, et al. Severe forms of childhood malaria in a general pediatrics department in Yaoundé, Cameroon. Bull Soc Pathol Exot. 1999 Jul; 92(3):153-6.

12. Gbadoé AD, Kini-Caussi M, Koffi S, et al. Evolution of severe childhood malaria in Togo from 2000 to 2002. Medicine and Infectious Diseases 36 (2006) 52-54.

13. Kabour N. Contribution to the study of severe malaria in children Dakar. These Med. Dakar 1993

14. Niang D. Study of severity criteria and prognostic factors of malaria deaths in a Dakar hospital setting. Medical thesis, Dakar 2008 112P.

15. Bobossi SG, Ndoyo J, Gaudeuille A, Longo J, et al. Current aspects of severe malaria in children in a Central African pediatric hospital setting. Med mal infect 2004 86-91.

16. Likwela JL, D'Alessandro U, Donnen P, Dramaix MW. Clinical aspects and outcome of suspected severe pediatric malaria. Med Mal Infect. 2012 Jul; 42(7):315-20.

17. Iunga-Ilunga F, Levêque A, Dramaix M. Influence of age and transmission level on the clinical and biological expression of severe malaria in children. Arch Pediatr. 2016 May; 23(5):455-60.

18. WHO. Management of severe malaria. World Health Organization practical guide. Third edition 2013.

19. Menendez C, Fleming AF, Alonso PL. Malaria-related Anaemia. ParasitolToday. 2000 Nov; 16(11):469-76.

20. WHO. Hemoglobin concentrations for diagnosing and assessing the severity of anemia. Geneva, World Health Organization, 2011 (WHO/NMH/NHD/MNM/11.1).

21. Savadogo M, Boushab MB, Kyélem N. Management of severe malaria in children under five years of age in peripheral health facilities in Burkina Faso. Médecine d'Afrique noire no. 6103 - March 2014 - pages 164-168.

Medtronic