ANNEX A: STUDY QUESTIONNAIRE

Prevalence of Meningoencephalitis among Pediatric Patients at Dongola Specialized Hospital, Northern State, Sudan, July–November 2026

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Specific Objectives

SO1: To determine the hospital-based prevalence of meningoencephalitis among pediatric admissions at Dongola Specialized Hospital during the study period.

SO2: To describe the demographic and clinical characteristics of pediatric patients diagnosed with meningoencephalitis.

SO3: To describe the documented vaccination status and available laboratory findings, including CBC, CSF analysis, Gram stain, blood culture, and CSF culture, among diagnosed patients.

SO4: To identify and describe microorganisms isolated from blood and cerebrospinal fluid cultures among culture-positive cases.

Instructions: Complete Section 1 for every eligible pediatric admission. Complete the detailed clinical, vaccination, and laboratory sections for patients diagnosed with meningoencephalitis according to the approved case definition. Use a unique study ID; do not record patient names.

Section 1: Identification and Admission Screening

Purpose: Identify eligible admissions and establish the denominator for prevalence calculation.

No.	Question	Answer / Response category	Objective
1.1	Study identification code	_____	SO1
1.2	Date of data collection	____ / ____ / _____	SO1
1.3	Date of hospital admission	____ / ____ / _____	SO1
1.4	Date of discharge or end of hospital stay	____ / ____ / _____ ☐ Not documented	SO1
1.5	Source of information	☐ Medical record ☐ Admission register ☐ Laboratory record ☐ Multiple sources ☐ Other: ____	SO1
1.6	Is this admission eligible for inclusion in the study?	☐ Yes ☐ No ☐ Uncertain—requires review	SO1
1.7	If not eligible or uncertain, state the reason	_____	SO1
1.8	Age at admission	_____ years / months ☐ Not documented	SO1, SO2
1.9	Sex	☐ Male ☐ Female ☐ Not documented	SO2
1.10	Place of residence	_____	SO2
1.11	Was the patient diagnosed with meningoencephalitis according to the approved case definition?	☐ Yes ☐ No ☐ Uncertain—requires review	SO1
1.12	Final diagnosis recorded in the medical record	_____	SO1, SO2

Section 2: Demographic and Clinical Characteristics

Purpose: Describe the demographic and clinical characteristics of diagnosed patients.

No.	Question	Answer / Response category	Objective
2.1	Date of symptom onset	____ / ____ / _____ ☐ Not documented	SO2
2.2	Presenting symptoms	☐ Fever ☐ Seizures ☐ Altered consciousness ☐ Headache ☐ Vomiting ☐ Neck stiffness ☐ Irritability ☐ Poor feeding ☐ Lethargy ☐ Focal neurological symptoms/signs ☐ Other: ____ ☐ Not documented	SO2
2.3	If other symptoms were documented, specify	_____	SO2
2.4	Clinical signs documented on examination	☐ Fever ☐ Neck stiffness ☐ Altered consciousness ☐ Seizures ☐ Focal neurological signs ☐ Other: ____ ☐ No relevant signs documented ☐ Not documented	SO2
2.5	If other clinical signs were documented, specify	_____	SO2
2.6	Final clinical diagnosis	☐ Meningitis ☐ Encephalitis ☐ Meningoencephalitis ☐ Other: ____ ☐ Not clearly specified	SO2
2.7	If another diagnosis was recorded, specify	_____	SO2
2.8	Outcome of hospital admission	☐ Discharged alive ☐ Died during admission ☐ Referred ☐ Left against medical advice ☐ Other: ____ ☐ Not documented	SO2
2.9	If another outcome was recorded, specify	_____	SO2

Section 3: Vaccination Status

Purpose: Describe documented vaccination status among diagnosed patients.

No.	Question	Answer / Response category	Objective
3.1	Is vaccination information available for this patient?	☐ Yes ☐ No ☐ Unclear	SO3
3.2	Source of vaccination information	☐ Child health/vaccination card ☐ Hospital record ☐ Immunization register ☐ Caregiver report ☐ Other: ____ ☐ Source not specified	SO3
3.3	Documented routine immunization status for the child's age	☐ Fully immunized for age ☐ Partially immunized ☐ Not immunized ☐ Unknown ☐ Not documented	SO3
3.4	Vaccines and doses documented in available records	Names, doses, or dates: _____	SO3
3.5	Were any missed or delayed vaccine doses documented?	☐ Yes ☐ No ☐ Unknown ☐ Not documented ☐ Not applicable	SO3
3.6	If yes, specify the vaccine and dose	_____	SO3

Section 4: Laboratory Investigations and Findings

Purpose: Describe available laboratory investigations and documented results.

No.	Question	Answer / Response category	Objective
4.1	Was a complete blood count (CBC) performed?	☐ Yes ☐ No ☐ Not documented	SO3
4.2	Record the available CBC results	WBC: ____ Hemoglobin: ____ Platelets: ____ Differential/other: ____	SO3
4.3	Was a lumbar puncture performed and CSF obtained?	☐ Yes ☐ No ☐ Not documented	SO3
4.4	Documented appearance of CSF	☐ Clear ☐ Turbid/cloudy ☐ Bloody ☐ Other: ____ ☐ Not documented ☐ Not performed/not available	SO3
4.5	Record available CSF analysis results	WBC count: ____ Differential: ____ Protein: ____ Glucose: ____ Other: ____	SO3
4.6	Was a CSF Gram stain performed?	☐ Yes ☐ No ☐ Not documented	SO3
4.7	CSF Gram stain result	☐ Organisms seen ☐ No organisms seen ☐ Other: ____ ☐ Result not documented ☐ Not performed	SO3
4.8	If organisms were seen or another result was reported, specify	_____	SO3, SO4
4.9	Was a CSF culture performed?	☐ Yes ☐ No ☐ Not documented	SO3
4.10	CSF culture result	☐ Positive—organism isolated ☐ No growth ☐ Contaminant reported ☐ Other: ____ ☐ Not documented ☐ Not performed	SO3, SO4
4.11	Was a blood culture performed?	☐ Yes ☐ No ☐ Not documented	SO3
4.12	Blood culture result	☐ Positive—organism isolated ☐ No growth ☐ Contaminant reported ☐ Other: ____ ☐ Not documented ☐ Not performed	SO3, SO4
4.13	Were other relevant laboratory investigations performed?	☐ Yes ☐ No ☐ Not documented	SO3
4.14	If yes, specify the investigation and its result	_____	SO3

Section 5: Microorganisms Isolated from Cultures

Purpose: Identify and describe microorganisms isolated from blood and CSF cultures.

No.	Question	Answer / Response category	Objective
5.1	Was a microorganism identified in the CSF culture?	☐ Yes ☐ No ☐ Culture not performed ☐ Result not documented	SO4
5.2	Name of microorganism isolated from CSF culture	_____	SO4
5.3	Was a microorganism identified in the blood culture?	☐ Yes ☐ No ☐ Culture not performed ☐ Result not documented	SO4

5.4	Name of microorganism isolated from blood culture	_____	SO4
5.5	Was antimicrobial susceptibility testing performed?	☐ Yes ☐ No ☐ Not documented ☐ Not applicable	SO4
5.6	Record available antimicrobial susceptibility results	_____	SO4
5.7	Additional microbiological findings	_____	SO4

Section 6: Data Quality and Verification

Purpose: Verify case classification and document data completeness.

No.	Question	Answer / Response category	Objective
6.1	Was the patient's classification reviewed against the approved case definition?	☐ Yes ☐ No ☐ Pending review	SO1
6.2	Were relevant data missing or conflicting in the available records?	☐ Yes ☐ No	SO1–SO4
6.3	If yes, specify missing or conflicting information	_____	SO1–SO4
6.4	Data collector identification code	_____	SO1–SO4
6.5	Additional comments	_____	SO1–SO4

Instructions for Data Collectors

- Use a unique study identification code for each included admission. Do not record the patient's name.
- Record information from available medical records, admission registers, and laboratory reports.
- Distinguish between “Not documented” and “Not performed”; do not classify an undocumented test as negative.
- Apply the approved study case definition consistently to all admissions.
- Include all eligible pediatric admissions, including those without meningoencephalitis, in the denominator for prevalence calculation.

Hospital-based prevalence (%) = (Eligible pediatric admissions diagnosed with meningoencephalitis ÷ Total eligible pediatric admissions) × 100

Before data collection: Confirm the pediatric age range, operational case definition, and handling of repeat admissions with the study supervisor.