



Karolinska  
Institutet

# Clinical characteristics and laboratory results associated with poor outcomes in pediatric central nervous system (CNS) infections: A cohort study using data from the PI-POC trial in Southwestern Uganda

Research Group Meeting 7 May 2025

Afra Hatim

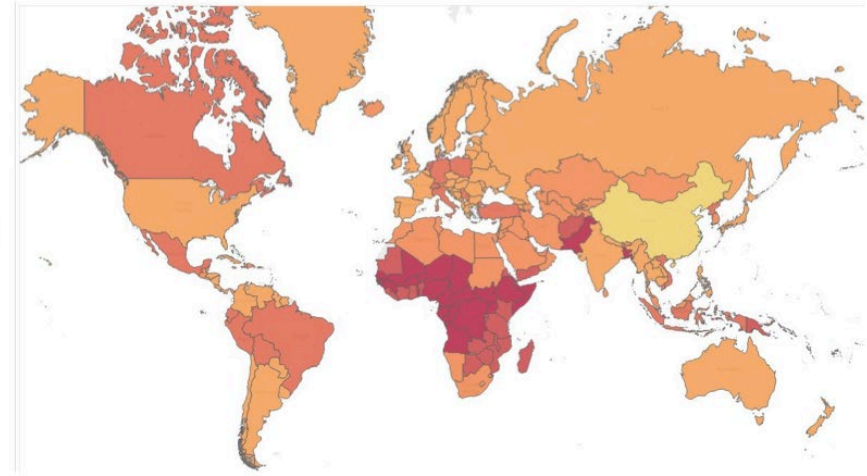
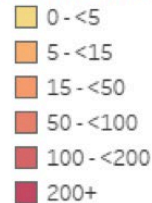
Main Supervisor: Giulia Gaudenzi

Co-Supervisor: Phuthumani Mlotshwa

# High poor outcomes due to CNS infections in Sub-Saharan Africa



Incidence (cases per 100,000)



*Global map of incidence rates of all-cause meningitis per 100 000 population*

# Methods

- Study participants: children aged 0–12 years (N=212)
- Inclusion criteria: fever and had one of the signs or symptoms of CNS infections
- Statistical analysis: bivariate analysis on each variable to identify which clinical signs were associated with poor outcomes, then followed by logistic regression.

# Results

Clinical signs, laboratory results and their association with poor outcomes

CSF AND	CLINICAL SIGNS ON ADMISSION/INCLUSION				
	NT reduced level of consciousness, n (%)	173 (82%)	106 (77%)	67 (90%)	0.023
	Focal neurological signs, n (%)	8 (4%)	1 (0,7%)	7 (9%)	0.003
CSF AND BLOOD TEST RESULTS					
	Positive malaria rapid test result, n (%)	42 (20%)	34 (25%)	8 (11%)	0.028

Karolinska

# Logistic regression model results:

## All the tested variables remained significant predictors of poor outcomes

Predictor	Adjusted odds ratio (aOR)	95% Confidence Interval	p-value
Age	0.90	0.666-1.229	0.533
Positive malaria test result	0.38	0.148-0.933	0.041
Reduced level of consciousness	3.89	1.584-11.132	0.005
Focal neurological sign	14.85	2.212-301.646	0.018

# Conclusion

- Clinical signs alone have limited predictive value for poor outcomes in suspected CNS infections
- The high prevalence of poor outcomes underscores the critical importance of early recognition, prompt diagnosis, and treatment

## Strength&Limitation

- Include a broad range of CNS infections
- Only explores the clinical signs at admission

Thank you for your attention!



**Karolinska  
Institutet**