



**OPERATIONAL
RESEARCH
SNAPSHOT**

Assessing the correlation between seasonality and noma disease in Northwest Nigeria

Noma is a rapidly progressing orofacial gangrene that primarily affects malnourished children, causing severe destruction of facial tissues within days.

In Northwest Nigeria, the advent of the Harmattan or dry season exacerbates the existing challenges associated with noma.

However, very little is known about this correlation.

This study aimed to examine the association between noma, malnutrition, and climatic patterns using a mixed-methods sequential approach.





Noma incidence is strongly seasonal, peaking during the Harmattan. Noma is a predictable, cyclical condition.



Noma risk is shaped by delayed environmental stress. Rainfall (lagged 7 months) and minimum temperature (lagged 6 months) are significant predictors of later noma incidence.



Community knowledge explanatory models recognise Harmattan (cold, wind, dust) but not hunger as a direct cause. This disconnect helps explain delayed care-seeking. Prevention strategies must bridge with the communities.



Key takeaways

Noma incidence in Northwest Nigeria is strongly seasonal, peaking during dry, dusty Harmattan months (September/October to March) and following climatic and nutritional stress.

Seasonal-aligned surveillance, nutritional support, outreach and referral strategies could prevent fatal outcomes, particularly targeting children aged 2–6 years.

Ongoing publication: Michael Olaleye et al. "Assessing the impact of climate variability on Noma disease incidence according to seasonality (harmattan and non-harmattan seasons) in Northwest Nigeria (Sokoto and Zamfara states)."



operationalresearch@brussels.msf.org

Pictures: Eugene Osidiana/MSF, Alexandre Marcou/MSF, Claire Jeantet – Fabrice Caterini



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