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Cluster of Measles Cases
Among Malnourished Maasai Children,
Monduli District, Arusha, Tanzania, 2011

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BACKGROUND: On 12 August 2011, the Tanzania Ministry of Health and Social Welfare received a report of a cluster of suspected measles patients from Monduli district. A total of 104 measles cases with 5 deaths (CFR= 4.8%) were reported. Case patients presented with fever, body rashes, diarrhoea and cough. An investigation was initiated on 18 August 2011 to confirm the outbreak, determine risk factors, and plan control measures.

METHODS: We conducted case-control study of suspected measles cases. A suspected measles case was defined as any child residing in Monduli presenting with fever and maculopapular rash and cough or conjunctivitis or coryza between 1 June and 1 July 2011. Neighbourhood controls were selected. We used growth cards to assess the nutrition status of children. Seven blood samples from selected cases were collected for laboratory confirmation.

RESULTS: We interviewed 83 patients and 125 controls. Seven blood samples were positive for measles specific IgM antigen. The mean age of cases was 4.5 years (SD of 4.89). Male and female children were equally affected, 47.3% and 52.7% respectively. Being vaccinated with one dose verified on vaccination card and knowledge of how measles is being prevented were found to be protective (OR=0.26, 95% CI [0.14-0.47] and OR=0.35, 95% CI [0.167-0.733] respectively). Contact with measles patients and being malnourished were risk factors. (OR=12.7, 95% CI [5.63-28.7] and OR=13.9, 95% CI [6.9-27.97] respectively).

CONCLUSION: A measles outbreak was confirmed and risk factors included lack of vaccination, contact with measles cases, malnutrition and lack of knowledge on measles prevention. We instituted a mass vaccination campaign and also provided health promotion information in the Maasai language with messages emphasizing nutrition, vaccination and measles prevention.

KEYWORDS: Maasai, measles, malnutrition, maculopapular rash