

Measles outbreak investigation in Kasempa District, North Western Zambia, October 2022

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Introduction

Zambia continues to experience measles outbreaks regardless of efforts made towards its control. On 4th October 2022, Kasempa district reported four cases of acute non-vesicular rash and conjunctivitis from three members of the same family and one child of a different family within the same area. The investigation was done to confirm the existence of an outbreak, determine risk factors & establish control measures.

Methods

We conducted a descriptive retrospective study. Our sample size was calculated at 55 participants whom we randomly selected from the community. A case was defined as anyone who presented with acute non-vesicular rash and conjunctivitis in October 2022. Additionally, we collected 21 serum samples from suspected cases for lab analysis. We collected data on religious practices, knowledge, and immunization status using a structured questionnaire. Eight health Centers were assessed for vaccine stock availability. We calculated attack rates using the facility population as the denominator, and the cases as the numerator multiplied by 1000. The risk ratio was calculated using cases as the numerator and population at risk as the denominator. We implemented control and preventive measures.

Results

Of the fifty-five participants, only ten 10% (n=5) were fully vaccinated against measles. Three of the twenty-one samples tested positive for measles IgM (14.2% positivity rate). Overall Attack Rate and Risk Ratio were 1.8 and 0.5 of <5 to >5 respectively. Religious, and cultural beliefs, and being unvaccinated individuals were major causes for the measles infection. Availability of vaccine stocks was at 50%. People aged five years and above were 0.3 times more likely to get the disease as compared to those below five.

Conclusion

The study found high rates of measles due to low vaccination rates and limited vaccine availability. Religious and cultural beliefs were identified as barriers to vaccination. To address these issues, the study suggests conducting longitudinal studies to establish a stronger causal relationship between risk factors and measles infection. Evaluating the economic impact of measles, and involving community leaders in vaccine promotion efforts is key.