

A Cluster of Salmonella Cases in School Kids, Tsandi District Omusati Region, Namibia, November 2023

P3-B16

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A Cluster of 22 cases reported. *Goat meat* and *potato salad* consumption were significant risk factors for salmonella infection at Amaupa Primary School, RR = 21.5.

BACKGROUND

- Salmonella infection, a bacterial disease that affects the gastrointestinal tract
- One of the most common foodborne infections
- Humans become infected most frequently via contaminated plant or animal food products and water
- Globally, 20 million salmonella cases are reported annually resulting in 200,000 deaths
- Namibia reports salmonella related foodborne infections
 - poor documentation limits data availability to clearly define risk factors
- On November 7, 2023, 11 pupils reported sick at Tsandi District Hospital from Amaupa Primary School
- Investigation aimed to:**
 - Assess school environmental hygiene
 - Assess the magnitude of the cases
 - Determine risk factors

METHODS

- Retrospective cohort study**
- Amaupa Primary School in Tsandi Health District, 127 learners and 63 in the hostel
 - Made of shacks; initiative by members of the community in the village
- Inclusion criteria: all hostel learners with watery diarrhea, vomiting, fever, and abdominal pain from 6-10 November 2023
- School environmental hygiene assessment
- Stool and leftover food samples were collected for laboratory analysis
- Interviewer-administered questionnaires were used for evaluation of risk factors
- Data was captured using Microsoft Excel 365 and analyzed using Epi Info 7.2.5.0
 - Inferential statistics at 95% CI, p-value < 0.05 to determine the risk factors
- Ethical clearance obtained

RESULTS

- No potable water point, poor kitchen hygiene and sanitation, and overcrowded hostel shacks
- A total of 22 hotel learners reported sick
- Mean age of 10.2 (SD ± 2.8) years
- Salmonella enterica isolated in all 16 stools samples
- Bacteriological analysis isolated Salmonella spp in the goat and potato salad leftover food
- No mortality was reported

RESULTS CONTINUED

Table 1. Distribution of Salmonella cases by sex, age, and hospitalization at Amaupa Primary School, Tsandi District, November 2023

Characteristic	Frequency (n=22)	Percent
Sex		
Male	20	91
Female	2	9
Age group (in years)		
≤ 5	0	0
6-9	11	50
10-14	9	41
≥ 15	1	4.5
Unknown	1	4.5
Hospitalization status		
Hospitalized	17	77
Not Hospitalized	5	23

Table 2. Goat meat by illness status, Amaupa Primary School, Tsandi District, November 2023

Exposure (Goat Meat)	ill	Not ill	Total	R
Ate	20	0	20	1
Did Not Eat	2	41	43	0.047
Total	22	41	63	21.5

• RR 21.5, 95%CI (5.56-83.21), p < 0.001

Table 3. Potato salad by illness status, Amaupa Primary School, Tsandi District, November 2023

Exposure (Potato salad)	ill	Not ill	Total	R
Ate	20	0	20	1
Did Not Eat	2	41	43	0.047
Total	22	41	63	21.5

• RR 21.5, 95%CI (5.56-83.21), P<0.001

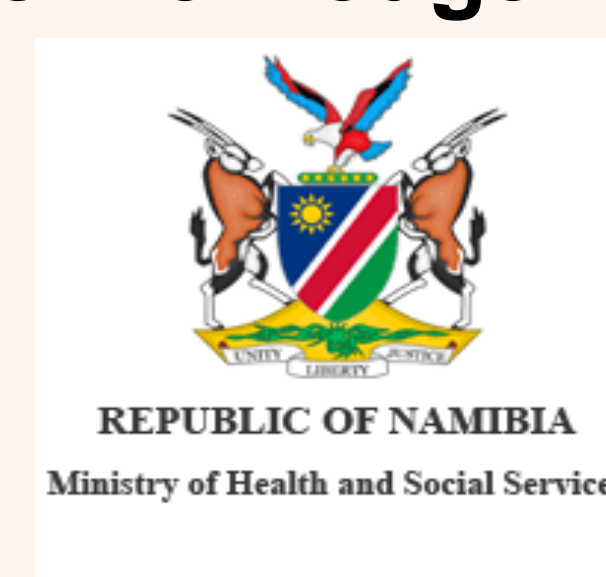


Figure 1: Illustrates Amaupa Primary School kitchen

CONCLUSIONS

- An outbreak of Salmonella infection was confirmed
 - Goat meat and potato salad were risk factors identified
- Health education was given to:
 - 48 learners, 8 teachers, and 5 guardians, highlighting the significance of overall food preparation, storage temperatures, hygiene, and sanitation
- Environmental Health Department to conduct regular inspections of the school kitchen and food storage areas:
 - ensure compliance with food safety standards
- Directorate Omusati region, Ministry of Education to evaluate the school for eligibility of boarding criteria
- School management to install adequate handwashing stations with soap and water e.g. tippy taps

Acknowledgements:



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