

Epidemiological Investigation of a Food Poisoning Outbreak at SI !Gobs Secondary School, Omaruru District, February 2023

P2-
S16

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The food poisoning could be attributed to consumption of the food mixture consumed by the learners. Knowledge gap amongst food handlers & unhygienic kitchen environment were also attributed with the outbreak.

Background

- Food poisoning is an intestinal disease resulting from consumption of toxins agents in contaminated food or drinks
- According to WHO 1 in 10 people fall ill & 420 000 people dies annually as a results of food poisoning
- Highest burden in the African region
- Prevalence in Namibia is not clearly defined due to limited surveillance data
- On 15 February 2023, district surveillance office was notified of learners from SI !Gobs secondary school presenting at the clinic with gastro-intestinal illness
- The District rapid response team investigated, to establish the existence of an outbreak, identify the source of infection & determine the risk factors

Methods

- A 1:2 matched case control study conducted
- SI !Gob's S.S. is a boarding school in Omaruru district, the school have a total of 922 learners, 290 learners in the hostel
- Case:** Any learner from SI !Gobs S.S. with diarrhoea, vomiting and abdominal pain on the 14 and 15 February 2023
- Control:** Any learner from SI !Gobs S.S. without diarrhoea, vomiting & abdominal pain on 14 to 15 February 2023
- Environmental assessment & food handlers interviews was conducted
- Data captured in Microsoft excel & analysed using Epi info 7.2
- Odd ratios were calculated at 95% CI, P <0.05 significant level
- Ethical principles were considered
- Food samples were collected for lab analysis
- Knowledge assessment scores <80% was considered good

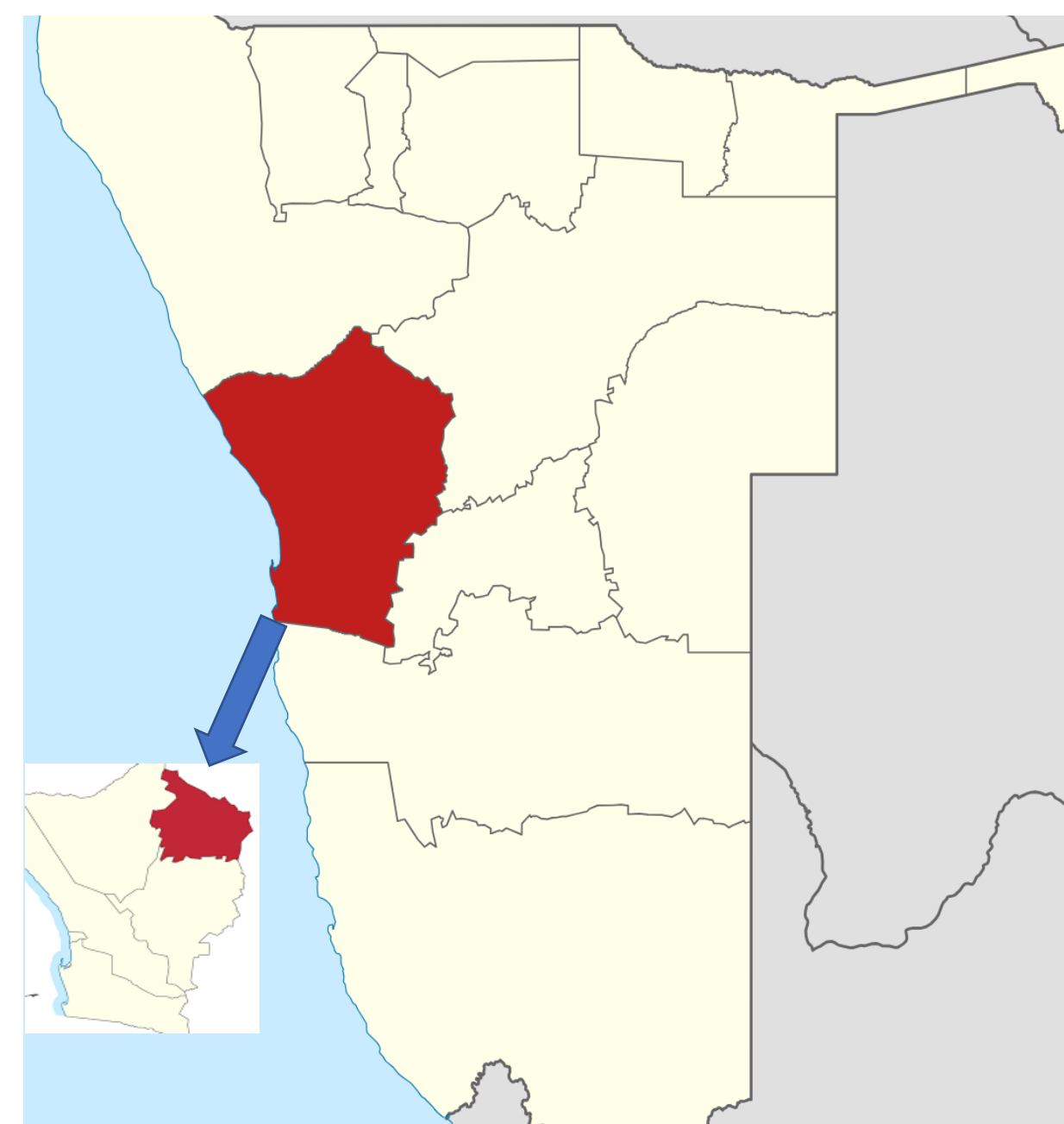


Figure 1: Map of Omaruru district in Erongo Region Namibia

Results

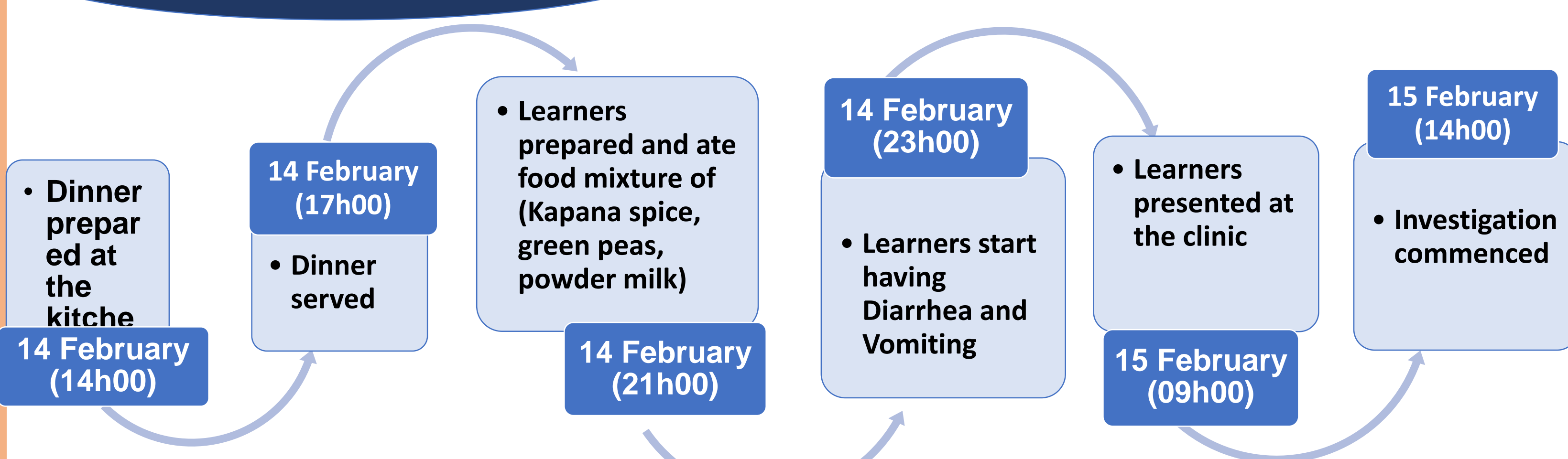


Figure 2: Timeline for food poisoning outbreak

- Twenty-two cases and 44 controls were selected (matched on age & sex)
- All cases were among the age group 14-18 years, Mean age 16 (SD ±0.88) for case & controls, 15 (68%) cases were female
- Out of 22 cases, 20 (91%) ate a food mixture. Out of the 44 controls, 7 (16%) learners ate the food mixtures
- Bacteriological analysis isolated; *E. coli*, *clostridium*, *staphylococcus*, *salmonella-species*, *klebsiella-pneumoniae* and *streptococcus*

RESULTS CONTINUED

- The kitchen was dirty, with dust and infested with flies
- Food handlers examination was not conducted
- No hospitalisation and no fatalities

Table 1: Factors associated with the food poisoning outbreak, SI !Gobs Secondary school, February 2023

	Case	Control	Odd ratio	95% CI	P value
Green peas					
Ate	19	36	1.41	0.71 – 1.34	0.86
Did not eat	3	8			
Rice					
Ate	22	41	-	-	-
Did not eat	0	3			
Chicken					
Ate	21	42	1	0.089- 1.30	0.134
Did not eat	1	2			
Food mixture					
Ate	20	7	52.86	28.72 – 55.09	-
Did not eat	2	37			

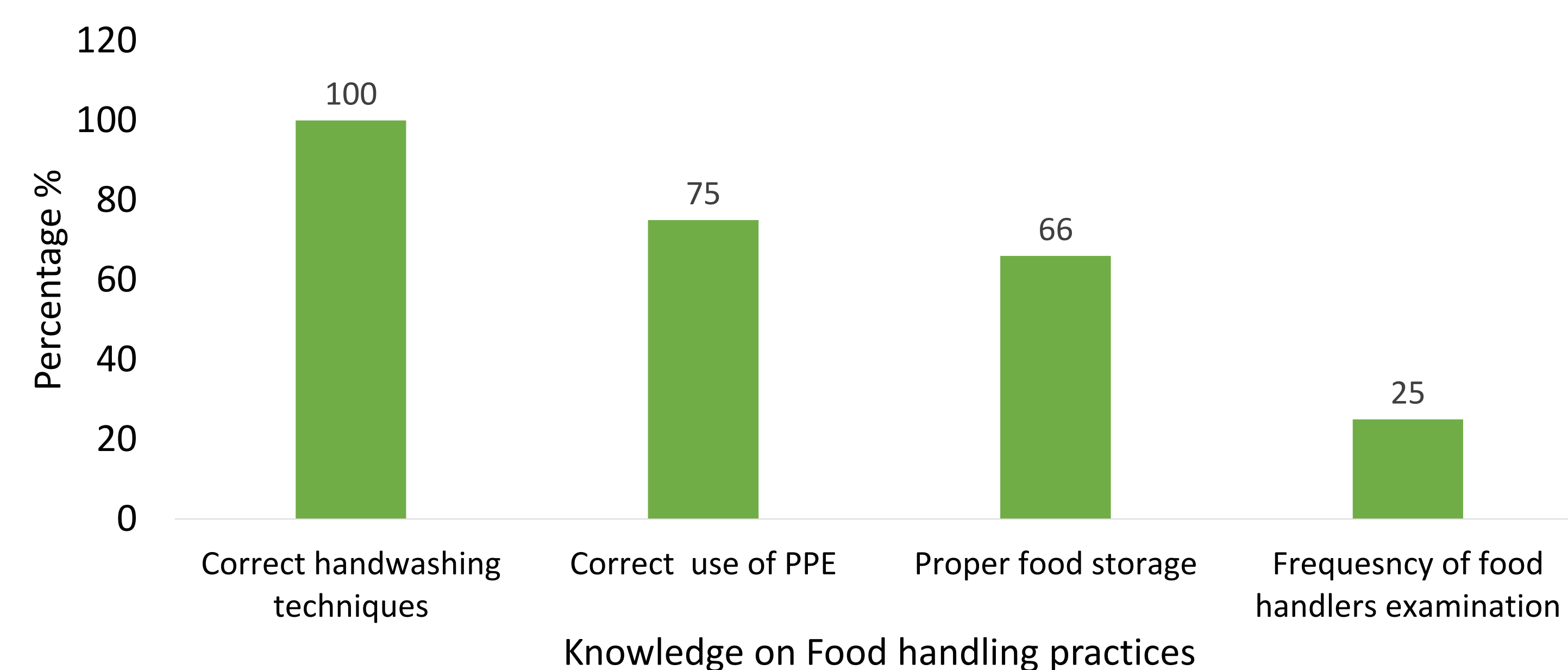


Figure 3: Knowledge of food handlers on food handling practices SI !Gobs secondary School, February 2023

Conclusions

- Learners who ate the food mixture were most likely to get ill, thus the outbreak could be attributed to the consumption of the mixture
- Investigation was limited to reliance on self reporting, prone to bias and unavailability of food mixtures for lab analysis
- Recommendations made on regular deep cleaning at the kitchen, regular food handlers examination and strict control carrying food from kitchen to the hostel
- Public Health actions
 - Health education given to 4 food handlers, over 800 learners and 16 teachers
 - Food handler's examination conducted
 - Follow up visit was conducted

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