

CARRIAGE OF *Salmonella Typhi* AMONG VENDORS IN TWO KAMPALA MARKET

Bumano Mark¹, Najjuka Christine¹, Stephen Aisu², Kajumbula Henry¹

1 Makerere University College of Health Science, Department of Medical Microbiology, 2 Uganda National Health Laboratory Services

Background

- Typhoid fever effect nearly 27 million people with 200,000 deaths globally every year.
- Chronic gall bladder carriage of *S. Typhi* could initiate sporadic cases and major typhoid outbreaks.

Background...

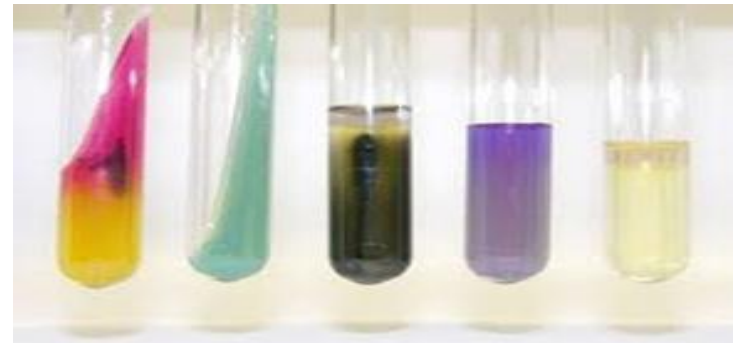
- Kampala city suffered a large typhoid outbreak involving 10,230 cases during 2015. many cases were vendors at Nakasero Market found in the city center. We therefore set out to estimate the prevalence of *S. Typhi* carriage among Vendors in 2 markets.

Methodology

- ❑ A descriptive cross-sectional study in 2 markets in Kampala July to September 2016.
- ❑ Demographic data and hygiene practice were evaluated
- ❑ A single stool samples was collected from participant and cultured for Salmonella

Methodology...

- ❑ Isolates were identified using biochemical test and serotyped by agglutination.



- ❑ Antimicrobial susceptibilities were performed using disc diffusion using CLSI guideline or phoenix BD to determine susceptibility to ciprofloxacin

Results

□ 7(0.90 %) of *S. Typhi* was isolated:

➤ 4(1.1%) of the 351 from Kalerwe Market

➤ 3(0.7 %) of the 427 from Nakasero Market

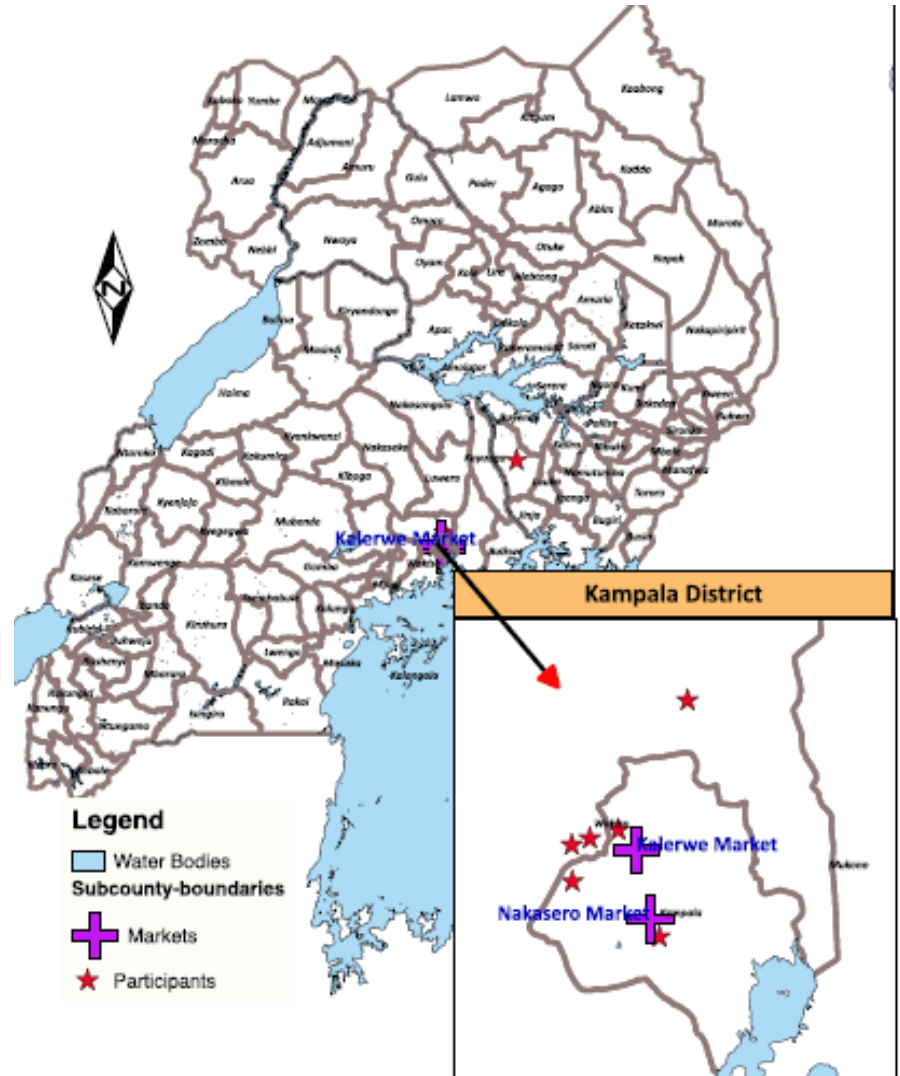


Table 1: participant characteristics

Characteristics	Total	N(%) carrying <i>S.Typhi</i>	P- values
sex			
Male	354	3(0.85)	0.89
Female	424	4(0.94)	
Age			
18-24	169	0(0.0)	0.424
25-40	409	4(0.98)	
41-59	180	3(1.6)	
60 and above	13	0(0.0)	
Uses of antibiotics (past 2 weeks)			
Yes	433	2(0.46)	0.143
No	338	5(1.48)	
Drinking water at work			
Unboiled/ untreated	163	3(1.84)	0.167
Locally packaged	164	1(0.69)	1.00
Chemically treated	450	3(0.67)	0.167
Regularly washed hands with soap			
Yes	658	5(0.76)	0.38
No	114	2(1.75)	

Table 2: Antibiotic susceptibility profile

Susceptibility pattern								
	Amp	Azithro	Ceftriaxone	Chloram	Cipro	Meropen	Nalidixic	SXT
No. Resistant/ No. Tested	7/7	0/7	0/7	7/7	0/7	0/7	6/7	7/7

Table 3: Comparison of susceptibility pattern carriage and outbreak strains

Susceptibility pattern						Number of isolates	
Amp	Ceftriaxone	Chloram	Cipro	Nalidixic	SXT	Outbreak	Carrier
S	S	S	S	S	S	0	0
S	S	S	S	R	S	38	0
R	S	S	S	R	S	1	0
R	S	S	S	R	R	0	0
R	S	R	S	R	R	11	6
R	S	R	S	S	R	0	1
Total						49	7

Discussion

- The study demonstrated that the carriage occur among market vendors at a prevalence of 0.9%. It is possible that multiple of the participants could have increased on sensitivity of detection. However this precluded by the mobility of the vendors.

Discussion...

- 11 of the outbreak strains shared susceptibility patterns with the carrier strains, indicating a possible relationship between the carriage and outbreak strains. However more discriminative molecular techniques are required to demonstrate relatedness.

Conclusion

S.Typhi carriage occur among vendors in Kampala, forming an important reservoir for transmission and potential outbreaks

Recommendations

- Reinforce health education on personal and improved access to potable water
- Molecular studies to establish the epidemiological relation between the carriage strains and the strains from the other setting to inform control measures.

Acknowledgment

We would to thank the participants, market authorities and Kampala capital city Authority, for the consent to conduct the study. Thanks to the EAPHLNP and UNHLS for sponsoring the study.



THE EAST
AFRICA
PUBLIC
HEALTH
LABORATORY
NETWORKING



THE REPUBLIC OF UGANDA
Ministry of Health



MAKERERE UNIVERSITY

Question and Comment

