

Note: This is Online Supplementary Document 1 of Obeng-Nkrumah N, Tawiah-Abrokwa GD, Owusu E, et al. Role of CTX-M-15 gene in spread of extended-spectrum beta-lactamases among immunocompetent patients in Ghana. Afr J Lab Med. 2023;12(1), a2135. <https://doi.org/10.4102/ajlm.v12i1.2135>

Supplementary data 1: Data collection tool (Accra, Ghana, 2023)

Data Collection Tool

Towards the determination of risk factors for ESBL faecal carriage

INTESTINAL CARRIAGE WITH EXTENDED-SPECTRUM BETA-LACTAMASE PRODUCING ENTEROBACTERIA IN IMMUNOCOMPETENT PATIENTS

Participant Data Collection Instrument

Date:...../...../.....

Site

We want to ask you a few questions, your participation is voluntary and you may stop at any time while answering the questions. Many questions will assess your knowledge, behaviors, and the environment you live.

Patient code:

Q 1. Personal information:

Q1.1	Name:	
Q1.2	Date of birth:	Date of admission:
Q1.3	Gender:	Female:___ Male:___
Q1.4	Ward name:	
	Number of beds:
	Number of patients in ward:
	Number of healthcare staff:
	Flush toilet in ward:
		Yes <input type="checkbox"/> No <input type="checkbox"/> : if 'No' indicate type.....
	Indicate number

	Source of water:	Running tap <input type="checkbox"/> ; Veronica buckets <input type="checkbox"/> ; Others (specify).....
Q1.5	Admitted from home <input type="checkbox"/> current hospital <input type="checkbox"/> another healthcare facility <input type="checkbox"/>	
Q1.6	Where do you live currently? _____ GPS Address _____ How long? _____	

Q2. Questions of underlying diseases:

Do you suffer from any of the following diseases?

Admitting diagnosis:		Yes:	No:	I do not know:
Q2.1	Haematological disorders:			
Q2.2	Respiratory infections:			
Q2.3	Diarrhoea:			
Q2.4	Diabetes:			
Q2.5	Cancer:			
Q2.6	HIV/AIDS:			
Q2.7	Liver cirrhosis:			
Q2.8	Alcoholism:			
Q2.9	Infections since admission			
Q2.10	Surgery since admission			
Q2.11	Functional status: Need help of any sort			
Q2.12	Immunosuppression (of any type) Steroids Chemotherapy in past 3 months Radiation in past 3 months Others (specify):.....			
Q2.13	Gastro-oesophageal disease.....			

Q3. Questions of underlying patient's lifestyle:

Q3.1	Alcohol hand rubs/sanitizer	Yes	No
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	If yes, indicate how often you use this in a day: Once <input type="checkbox"/> ; Twice <input type="checkbox"/> ; Thrice <input type="checkbox"/> ; > Thrice <input type="checkbox"/> ; as often as possible <input type="checkbox"/>		
Q3.2	Do you wash your hands? How often do you wash your hands. Once <input type="checkbox"/> ; Twice <input type="checkbox"/> ; Thrice <input type="checkbox"/> ; > Thrice <input type="checkbox"/> ; as often as possible <input type="checkbox"/>	Yes	No
Q3.3	Employment	Yes	No
Q3.4	Current smoking	Yes	No
Q3.5	Alcoholism	Yes	No
Q3.6	Education Indicate status: Primary <input type="checkbox"/> ; Secondary <input type="checkbox"/> ; Tertiary <input type="checkbox"/> None <input type="checkbox"/>	Yes	No
Q3.6	Profession/Occupation:		
Q3.6	Have travel overnight outside your home in past one year.....		
Q3.7	Have travel outside Ghana in the past year.....		
Q3.8	Number of person in the household.....		
Q3.9	Toilet facility in household.....		
3.10	Pipe borne water in household.....		
Q3.11 Do you have pets? <input type="checkbox"/> Yes <input type="checkbox"/> No Q3.12 If yes, which pets? <input type="checkbox"/> Cat <input type="checkbox"/> Dog <input type="checkbox"/> Birds <input type="checkbox"/> Fish <input type="checkbox"/> Other _____ Q3.13 How many? _____			
Q3.14 Do you have any other animals' aside pets? <input type="checkbox"/> Yes <input type="checkbox"/> No Q3.15 If yes, which animals? <input type="checkbox"/> Goat <input type="checkbox"/> Sheep <input type="checkbox"/> Cow <input type="checkbox"/> Chicken <input type="checkbox"/> Other _____ Q3.16 How many? _____			

Q3.17	Do you swim?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Q3.18	If yes, which waterbodies do you swim in?		
Q3.19	How often do you come into contact with that waterbody in a week?		
	a. Once b. Twice c. Thrice d. More than three times		
Q3.20.	Do you handle raw meat?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Q3.21	If yes, how often do you handle meat weekly?		
	a. Once b. Twice c. Thrice d. More than three times		
Q3.22	Do you handle raw fish?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Q3.23	If yes, how often do you handle fish weekly?		
	a. Once b. Twice c. Thrice d. More than three times		
Q3.24	What are your sources of drinking water?		
	<input type="checkbox"/> Tap water <input type="checkbox"/> Sachet water <input type="checkbox"/> Bottled water <input type="checkbox"/> Bore hole <input type="checkbox"/> Other _____		
Q3.25	How do you store your drinking water?		
	<input type="checkbox"/> Freezing <input type="checkbox"/> Barrel <input type="checkbox"/> Bucket <input type="checkbox"/> Poly tank <input type="checkbox"/> Other_____		
Q3.26	How do you store your bathing water?		
	<input type="checkbox"/> Barrel <input type="checkbox"/> Bucket <input type="checkbox"/> Poly tank <input type="checkbox"/> Other_____		
Q3.27.	Do you have any relative or close relation working in the health sector?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Q.4.3	Presence of central vascular catheter	Yes	No
Q.4.4	Presence of peripheral vascular catheter Presence of urinary catheter Presence of intubation	Yes	No
Q.4.5	Use of medications that affect intestinal flora Drugs that neutralize stomach acids Proton pump inhibitors H2 blockers	Yes	No
Q.4.6	Used antibiotics in last 3 months	Yes	No
Q.4.7	Used antibiotics without prescription		
Q4.8	Indicate type of antibiotics used in last 3 months.....		
	Current antibiotics used.....		
	Specify antibiotics.....		
	Animal contact in the past 6 months.....		

Comments:

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Supplementary data 2. PCR primers and thermocycling conditions (Accra, Ghana, 2023)

Primer (target)	Primer sequences (5'-3')	T °C ^a	PCR cycles
TEM (918 bp)	FP: GTATCCGCTCATGAGACAATAACCCTG RP: CCAATGCTTAATCAGTGAGGCACC Internal FP CCGGAGCTGAATGAAGCCAT Internal RPCGTTGTTGCCATTGCTGCAG	63°C at 90 seconds	30
SHV (842 bp)	FP: CGC CTG TGT ATT ATC TCC CTG TTAGCC RP: TTG CCA GTG CTC GAT CAG CG Internal FP : ACCATGAGCGATAACAGCGC Internal RP: AAGCGCCTCATTTCAGTTCCG	63°C at 90 seconds	30
OXA-2 (330 bp)	FP: GTTAACAGGGGCTTTGCAGG RP: TGCACGCAGTATCCAGTTGC	63°C at 90 seconds	30
OXA-10 (655 bp)	FP: ATGAAAACATTTGCCGCATATGTA RP: ACACCAGGATTTGACTCAGTTCC	63°C at 90 seconds	30
CTX-M-1(940 bp)	FP: GACAGACTATTCATGTTGTTGTTAWTTC G RP: CCGTTTCCSCTATTACAAA Internal FP: GGACGATGTCACTGGCTGAG Internal RP: TTTCGTCTCCCAGCTGTCGGG	50 °C at 90 seconds	30
CTX-M-2 (253 bp)	FP: ACAGTTGGTGACGTGGCTTAAGG RP: TCAGAAACCGTGGGTTACGA	50 °C for 90 seconds	30
CTX-M-8/25/26 (690/346bp)	FP1: ACATCGCGTTAAGCGGAT FP2: GCACGATGACATTCGGG RP: AACCACGATGTGGGTAGC	50 °C for 90 seconds	30
CTX-M-9 (860bp)	FP: ATGGTGACAAAGAGAGTGCAACG RP: ATGATTCTCGCCGCTGAAGC Internal FP: CAAATTGATTGCCAGCTCG Internal RP: AAACGTCTCATCGCCGATCG	50 °C for 90 seconds	30

^aT, Annealing temperature; °C, degree celsius.