

## **Additional file 1**

### **BMC Research Notes**

#### **Multi-drug resistance and extended spectrum beta lactamase producing Gram negative bacteria from chicken meat in Bharatpur Metropolitan, Nepal**

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**Contents category:** Research note

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**Additional Table S1: Questionnaire during sample collection. R, regular; Ir, irregular; C, covered; UC, uncovered; F, flies observed.**

Sample	Washing of slaughter house		Washing of apron		Use of Handsanitizer	Washing chopping board			Showcased condition meat		Sanitation type
	R	Ir	R	Ir		R	I	C	UC	F	
B-1	√		√		No	√		√		No	Good
B-2	√		√		Yes	√		√		No	Good
B-3		√		√	No		√		√	Yes	Poor
B-4		√		√	No		√		√	Yes	Poor
B-5	√			√	No	√		√		No	Good
B-6		√		√	No		√		√	Yes	Poor
B-7	√			√	Yes	√		√		No	Good
B-8		√		√	No		√		√	Yes	Poor
B-9		√		√	No		√		√	Yes	Poor
B-10		√	√		No	√		√		No	Good
B-11		√		√	No	√			√	Yes	Poor
B-12	√			√	No	√		√		No	Good
B-13		√		√	No		√		√	Yes	Poor
B-14		√		√	No		√		√	Yes	Poor
B-15		√		√	No		√		√	Yes	Poor
B-16		√		√	No	√			√	Yes	Poor
B-17		√		√	No		√		√	Yes	Poor
B-18		√	√		No	√		√		No	Good
B-19		√		√	No		√		√	Yes	Poor
B-20		√		√	No		√		√	Yes	Poor
B-21	√			√	No	√		√		No	Good
B-22		√		√	No	√			√	Yes	Poor
B-23	√			√	Yes	√		√		No	Good

B-24	√	√	No	√	√	Yes	Poor
B-25	√	√	No	√	√	Yes	Poor
B-26	√	√	No	√	√	Yes	Poor
B-27	√	√	No	√	√	No	Good
B-28	√	√	No	√	√	Yes	Poor
B-29	√	√	No	√	√	No	Good
B-30	√	√	No	√	√	Yes	Poor
B-31	√	√	No	√	√	Yes	Poor
B-32	√	√	No	√	√	Yes	Poor
B-33	√	√	No	√	√	Yes	Poor
B-34	√	√	No	√	√	No	Good
B-35	√	√		√	√		Poor
B-36	√	√	Yes	√	√	No	Good
B-27	√	√	No	√	√	No	Good
B-38	√	√		√	√		Poor

**Additional Table S2: Number of bacterial isolates in different chicken meat samples.**

Sample type	No. of bacterial isolates per sample	No. of sample	Total no. of bacterial isolates
Good Sanitation	1	1	1
	2	13	26
Poor sanitation	3	20	60
	4	4	16
Total		38	103

**Additional Table S3: Antibiotic resistivity pattern of major isolated bacteria.**

Antibiotic Group	Antibiotic Used	<i>Citrobacter</i> species (%)	<i>Salmonella</i> species (%)	<i>Proteus</i> species (%)
Cephalosporin	Cefotaxime	19.5	5.9	5.8
	Ceftazidime	18.7	12.5	0
Aminoglycoside	Gentamicin	5.1	2.5	0
Carbapenems	Imipenem	32.6	33.3	29.4
Fluoroquinolones	Ciprofloxacin	19.5	46.1	11.7
Tetracycline	Doxycycline Hydrochloride	2.5	84.0	5.8
Nitrofurans	Nitofurantoin	15.2	84.6	11.1
Polymyxin	Polymyxin B	0	31.8	0
	Colistin	0	26.9	0
Penicillin	Ampicillin	0	100.0	0

**Additional Table S4: Pattern of MDR isolates in different chicken meat samples.**

Sample Type	MDR isolates	Non-MDR isolates	Total isolates	Chi-square (P-value)
Good Sanitation	19	8	27	1.92 (0.16)
Poor Sanitation	63	13	76	
Total	82	21	103	

**Additional Table S5: Pattern of ESBL producer isolates in different chicken meat samples.**

Sample Type	ESBL producer	Non-ESBL producer	Total isolates	Chi-square (P-value)
Good Sanitation	10	17	27	0.04 (0.82)
Poor Sanitation	30	46	76	
Total	40	63	103	

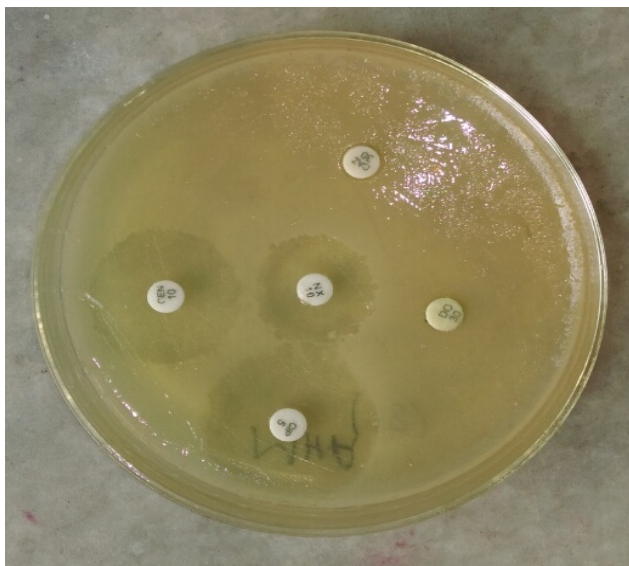
**Additional Figure A1: Isolation of *E. coli* from chicken meat (Sample no. B-32)**



**Fig. A1**

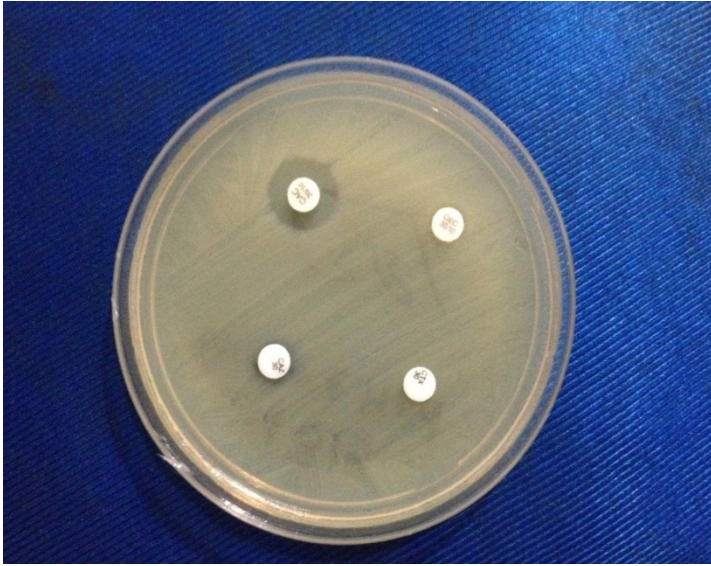
**Additional Figure A2: Antibiotic susceptibility test of *E. coli* (Sample no. B-32)**

(Resistant: Doxycycline Hydrochloride, Ceftazidime; Sensitive: Gentamicin, Ciprofloxacin, Nalidixic acid)



**Fig. A2**

**Additional Figure A3: Detection of ESBL producing *Citrobacter* spp. by Combination disk method (Sample no: B-18)**



**Fig. A3**