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Frequently used abbreviation

Abbreviation and symbols	Elaboration
AMR	antimicrobial resistance
MDR	multidrug resistant
%	percent
>	greater than
<	less than
≥	greater than equal
≤	less than equal
=	equal to
°C	degree celsius
BHI	brain heart infusion
bp	base pair
BPW	buffered peptone water
CDC	center for disease control and prevention
CI	confidence interval
CLSI	clinical and laboratory standards institute
CRE	carbapenem resistant *enterobacteriaceae*
CSE	centre for science and environment
CS	culture sensitivity
CVASU	Chattogram veterinary and animal sciences university
DNA	de-oxy ribonucleic acid

µL	microliter
mA	milli ampere
MCR	plasmid-mediated colistin resistance
MFS	major facilitator superfamily
mL	milliliter
Mm	millimeter
MRSA	methicillin resistant *staphylococcus aureus*
OR	odds ratio
PCR	polymerase chain reaction
Rpm	rotation per minute
ST	heat stable toxin
Stx	shiga toxin
TAE	tris acetate edta
VTEC	verotoxigenic *E. coli*
WHO	world health organization
w/v	weight/volume
CIP	ciprofloxacin
TE	tetracycline
CRT	ceftriaxone
SXT	sulfamethoxazole & trimethoprim
CN	gentamycin

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SUMMARY

Globally, antimicrobial resistance (AMR) is a public health concern, since antibiotics are among the most prescribed classes of drugs in humans and animals. Random use of antimicrobials in the poultry industry is considered as a contributing factor for AMR that can jeopardize human health through the potential dissemination of AMR pathogens. It is noteworthy that Salmonella is one of the bacterial groups considered to be of high priority in surveillance programs in the food chain and infectious diseases in poultry. Information on the circulation of Salmonella strains at the commercial poultry farm level is limited in many parts of the world. The present study aimed to determine the prevalence and stereotyping of Salmonella strains circulating in the broiler farm environment with their detailed AMR profiling. Pooled cloacal samples were collected randomly from commercial broiler farms in Chattogram district, Bangladesh. Then the standard bacteriological procedure was followed to isolate *Salmonella* sp, and identification was confirmed by the basis of morphology, cultural characters, and genus-specific polymerase chain reaction (PCR). After phenotypic characterization of the resistance profile against commonly used antibiotics by disc diffusion technique, all strains were screened by PCR for some selected resistance genes. Out of the 105 samples, *Salmonella* sp was isolated and identified from 8 samples. In antimicrobial sensitivity testing, 100% isolates showed resistance to ampicillin and amoxicillin, and 87.5% to gentamycin followed by tetracycline, and ciprofloxacin (75%), doxycycline (50%), Trimethoprim/Sulfamethoxazole, and Ceftriaxone (25%). The results of PCR assays revealed that all the eight isolates were carrying the *tetA* gene, the *tetB* and 16.67% the *tetC* gene. The prevalence of the isolates bearing the *Sul-I* gene, *blaTEM*, *blaCTX-M* were 100%, 87.5 %, and 50 %, respectively. The present study was conducted to find out the prevalence of poultry Salmonella in broiler chickens and to find out that there is a great risk to securing healthy poultry products due to the circulation of the multi drug resistant (MDR) *Salmonella* sp.

Keywords: Prevalence, Antimicrobial resistance, *tetA, tetB, tetC, sul-1*, *blaTEM, blaCTX-M* gene,