**Antimicrobial Resistance of Non Typhoidal *Salmonella* Isolated from Chicken Farms of Kaski District Gandaki Province Nepal**

Ganesh K.C.1\*, Duangporn Pichpol2

\*lead presenter

1ganeshkc.vet@gmail.com, Faculty of Veterinary Medicine, Chiang Mai University, Chiang Mai, Thailand

2 Department of Veterinary Biosciences and Veterinary Public Health, Faculty of Veterinary Medicine, Chiang Mai University, Chiang Mai, Thailand

**Abstract:**

**Background/Objective:** Salmonellosis is one of major problem of poultry industry in Nepal with significant public health concern. A cross sectional study was carried out in Chicken farms of Kaski district Gandaki Province Nepal with an aim to generate baseline data on prevalence and anti-microbial resistance patterns of non-typhoidal *Salmonella*.

**Methods:** Isolation and identification of *Salmonella* was carried out from total of 540 samples including 270 cloacal and 270 drag samples collected from randomly selected 229 Chicken farms according to ISO 6579 Annex D protocol. Kirby Baur disk diffusion method and CLSI 2020 guidelines were followed for antimicrobial susceptibility testing. Multiplex PCR was used for *Salmonella* serotyping. Microsoft Excel and epi info were used for descriptive analysis of Anti-microbial resistance and Prevalence.

**Results:**

The study shows 27.07% (n=144) farm level prevalence of *Salmonella*. Prevalence was high in Backyard chickens (54 %) followed by dual purpose chicken (40%) and least in Broiler (19%). All 144 isolates were examined for antimicrobial susceptibility to seven antibiotics. *Salmonella* isolates were highly resistant to Ampicillin (81.94%), Cotrimoxazole (74.30%), Ceftriaxone (68.05%) and Tetracycline (66.66%). However, isolates were sensitive to Gentamicin (71.34%), chloramphenicol (43.75%) and Ciprofloxacin (40.9%).32.63 % of isolates were multi drug resistant. In the study *Salmonella* Enteritidis (50.69%) serotype was predominant, followed by *Salmonella* Gallinarum (20.13%), *Salmonella* Pullorum (12.5%), *Salmonella* Kentucky (9.72%)and *Salmonella* Heidelgberg (6.94%).

**Conclusion:** Backyard chickens are the major source of *Salmonella* in Poultry chain. Except Gentamicin *Salmonella* isolates are highly resistant to common antibiotics used in Poultry, thus limiting efficacy of antibiotics. Higher resistance against Ciprofloxacin and Ceftriaxone is a serious public health threat. This study highlights the need of effective *Salmonella* control program in poultry value chain of Nepal.

**Keywords:** *Salmonella,* Antimicrobial resistance, Chicken, Kaski