**Antimicrobial Resistance Pattern of Hospital and Slaughterhouse Effluents**

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# A CLINICAL REPORT SUBMITTED

# BY

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Intern ID: D-41

Roll No: 07/45

Registration No: 332

***Report Presented In Partial Fulfillment for the Degree of Veterinary Medicine (DVM).***

**Chittagong Veterinary and Animal Sciences University**

**Khulshi, Chittagong-4202**

**June, 2013**

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***Approved as to style and content by***

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**LIST OF ABBREVIATION AND SYMBOL USED**

|  |  |
| --- | --- |
| Abbreviation and symbol | Elaboration |
| % | Percent |
| / | per |
| +ve | Positive |
| ± | plus-minus |
| 0C | Degree Celsius |
| BGA | Brilliant Green Agar |
| CDDEP | Center for Disease Dynamics, Economics & Policy |
| CLSI | Clinical and Laboratory Standards Institute |
| cm | centimeter |
| CS | Culture Sensitivity |
| *E. coli* | *Escherichia coli* |
| EMB | Eosin Methylene Blue |
| FAO | Food and Agriculture Organization |
| Fig. | Figure |
| hrs | Hours |
| Ltd. | Limited |
| mcg | microgram |
| mg | milligram |
| ml | milliliter |
| mm | millimeter |
| NIAD | National Institute of Allergy and Infectious Diseases |
| NO. | Number |
| PRTC | Poultry Research and Training Center |
| SL | Serial |
| TSI | Triple Sugar Iron |
| -Ve | Negative |
| WHO  WWTP | World Health Organization  Waste Water Treatment Plant |
| www | World Wide Web |
| XLD | Xylose Lysine Deoxycholate |
| μg | microgram |

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**ABSTRACT**

Hospitals (medical & veterinary) and slaughterhouse effluent were the most contaminating effluents and need to be paid more attention due to pathogenic bacteria related to animal and public health concern. Three bacterial isolates such as *E.coli, Salmonella* and *Staphylococcus* from six medical hospitals, five veterinary hospitals and five slaughter houses were isolated to find out the antibiotic resistance pattern by disc diffusion method. The antibiotic resistance patterns of identified isolates showed that Ampicillin, Ciprofloxacin, Enrofloxacin, Pefloxacin, Colistin, Erythromycin, Oxytetracycline were 100%, Doxycycline was 83%, Gentamycin was 50% and Neomycin was 33% resistance to medical isolates and Ampicillin, Enrofloxacin, Pefloxacin and Erythromycin were 100%, Ciprofloxacin was 40%, Colistin was 60%, Doxycycline was 80%, Gentamycin was 20%; Neomycin and Oxytetracycline 80% resistance to veterinary hospital isolates and Ampicillin, Enrofloxacin, Ciprofloxacin, Pefloxacin, Colistin, Oxytetracycline, Gentamycin, Doxycycline and Erythromycin were 100% and Neomycin was 40% resistance to slaughter houses isolates of *E.coli*. The level of resistance of *Salmonella* positive isolates was found Ampicillin, Enrofloxacin, Pefloxacin, Gentamycin and Erythromycin to 100%, Ciprofloxacin was 67%, Oxytetracycline was 33% but Colistin and Neomycin was found sensitive to the isolates from both medical and veterinary hospital. However, the resistance of Ampicillin, Cefradin, Colistin, Cefalexin, Pefloxacin, and Oxytetracycline were 100%, Enrofloxacin was 80%, Gentamycin was 40%, Kanamycin and Neomycin were 40% resistance to medical hospitals isolates, 100% resistance was found against Ampicillin, Cefradin, Colistin, Cefalexin, Oxytetracycline and Peafloxacin, and 50% resistance was found against Enrofloxacin, Gentamycin, Kanamycin and Neomycin to veterinary hospital isolates and Ampicillin, Cefradin, Cefalexin, Peafloxacin and Oxytetracycline was 100%, Colistin, Kanamycin and Enrofloxacin was 75%, Gentamycin was 50% and Neomycin 25% resistance to slaughter houses isolates of *Staphylococcus*. Results indicated that hospitals and slaughter houses waste effluent has multiple-antibiotic resistance among *E. coli*, *Salmonella* and *Staphylococcus*.

**Key words:** Antimicrobial, resistance, effluents, hospital, slaughterhouse, *E. coli, Salmonella, Staphylococcus*

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