

NITAS PROUKEAW : DRUG RESISTANCE PATTERNS AND RESISTANCE PLASMID
TRANSFER OF *Escherichia coli* ISOLATED FROM MAN, CHICKEN AND
ENVIRONMENT. THESIS ADVISOR : ASSO.PROF. SAREE VIRUNHAPHOL, M.Sc.
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The *in vitro* drug susceptibility, resistance patterns and R plasmid transfer of *Escherichia coli* 30, 50, 50, 119 and 30 isolates from healthy men, patients, normal chicken, diseased chicken and natural source water, respectively, were determined. The drug tested were Ampicillin (ABP), Chloramphenicol (CP), Cotrimoxazole (CT), Doxycycline (DC), Gentamycin (GM), Kanamycin (KM), Neomycin (NM), Nalidixic acid (NA), Oxolinic acid (OA), Sulfadiazine (SLD), Sulfamethoxazole (SLX), Streptomycin (SM), Tetracycline (TC), Trimethoprim (TMP), and Thiamphenicol (TP). It was found that the percentages of *E. coli* isolates from healthy men, patients, normal chicken, diseased chicken and natural source water, which were resistant to the tested drugs were 46.7, 100.0, 86.0, 99.2 and 43.3 %, respectively and those isolates were resist mostly to ABP, SLD and SLX ; SLD, SLX and ABP ; SLD, SLX and TC ; SLD, SLX and TC; TC, DC, SLD and SLX, respectively.

In respect to the resistance patterns, most of the isolates from natural source water (26.7 %) were single resistance. Most of the isolates from the healthy men were single to double resistance and those from patients and diseased chicken were multiple resistance, > 9 drugs. In normal chicken, 42.0 % of isolates were single to triple resistance and 38.0 % of isolates were multiple resistance, > 5 drugs.

In addition, the rate of R plasmid transfer of *E. coli* isolated from healthy men, patients, normal chicken and diseased chicken were 7.7, 36.4 42.9 and 42.9, respectively. Moreover, R plasmid transfer could not be found in the isolates from natural source water. Those isolates resisting to the high drug concentration could transfer the resistance plasmid more frequently than those resisting to the low concentration.