

Antibiotic and plasmid profiles of *Aeromonashydrophila* isolated from clinically infected freshwater fishes (*Oreochromismossambicus*, *Puntiusgonionotus*, *Leptobarbushoevenii*, *Pangasiuspangasius*, *Anabas testudineus*, *Clariasgariepinus* and *Cichlasoma* sp.)

ABSTRACT

Aeromonashydrophila is one of the most important aquatic pathogen affecting cultured and feral fishes worldwide. Disease infection resulted in million dollar loses to aquaculture. Antibiotic resistance is increasing among pathogenic bacteria due to the extensive and indiscriminate use of antibiotics and other chemotherapeutants in fish farms. The antibiotics and chemotherapeutants are used either to prevent or cure fish diseases. Both are employed as feed additives or dissolved directly into the water. In present study, it was found that *A. hydrophila* was sensitive to peptidyltransferase and most of the aminoglycoside group, while it was resistance to β -lactams group. Present study provided an early warning of antibiotic resistance in *A. hydrophila*. Significantly, the Multiple Antibiotic Resistance (MAR) Index was 0.45. The current results indicated that the *A. hydrophila* in these farmed fish might have been indiscriminately and continuously exposed to those antibiotics during their culturing stages. The genetic determinants of antibiotic resistance are located extrachromosomally and the ability to transfer the drug resistance was used to indicate the presence of R-Plasmids. Plasmids isolation was thus carried out from *A. hydrophila*. It was found that all of the *A. hydrophila* strains harboured plasmids. Constant monitoring should be done in order to obtain more information on antibiotic sensitivity of *A. hydrophila* and other known pathogenic aquatic bacteria species in order to avoid the development of antibiotic resistant superbug.

Keyword: *Aeromonashydrophila*; Antibiotic; Plasmid profiling; Freshwater fishes