

Antibiotics resistance of *Vibrio* spp. isolated from diseased seabass and tilapia in cage culture

ABSTRACT

Vibriosis has become one of the most important bacterial diseases in marine cultured organisms in recent years. This study was focusing on isolation and identification of *Vibrio* spp. isolated from diseased seabass (*Lates calcarifer*), tilapia (*Oreochromis niloticus*) and seawater from Sri Tujuh lagoon in East Coast of Malaysia; also determination of antibiotic resistance patterns among *Vibrio* spp. *Vibrio* species isolated from diseased seabass in Pantai Sri Tujuh, Tumpat, Kelantan were screened for their antibiotic sensitivity patterns by Kirby-Bauer method. A total of 47 isolates belonging to three different species were identified which are *V. parahaemolyticus*, *V. vulnificus*, and *V. alginolyticus*. In this study, high incidence of erythromycin, chloramphenicol and sulfamethoxazole resistance was observed among the *Vibrio* isolates, whereas all isolates were susceptible to oxytetracycline. *Vibrio* isolates were 96% resistant to one or more different classes of antibiotic, and 17 different resistance patterns were identified. The MAR index of 0.4 indicating the *Vibrio* spp. in these farmed fish might have been indiscriminately and continuously exposed to those antibiotics during culturing stages of the fish. This study showed that multidrug-resistant *Vibrio* spp. were common in diseased seabass and tilapia cultured at Sri Tujuh lagoon. These essential findings suggested involvement of seafood in transmission of these pathogen to human. In addition, oxytetracycline can be used as a treatment to combat vibriosis in diseased seabass and tilapia.

Keyword: *Vibrio* spp.; *Lates calcarifer*; *Oreochromis niloticus*; Antibiotic resistance