

Immunoprophylaxis: a better alternative protective measure against shrimp vibriosis – a review

ABSTRACT

Aquaculture, especially shrimp production is the world's fastest growing food production industry, due to increased demands for seafood. Conceivably, disease outbreak is the major setback which brings about high mortality and reduction or loss of production. The conventional use of antibiotics both prophylactically and therapeutically had recently not only been ineffective but incriminated, in drug residue which pose danger to consumption by humans. Hence, a better alternative was importantly required. The use of Immunoprophylaxis has potential of being a safety measure in the prevention of outbreak of diseases or spread of already established disease in aquatic invertebrates, where the shrimps and prawns belong. Immunoprophylaxis includes the prevention of disease by production of passive immunity. The major infectious agents that are responsible for high morbidity and high mortality in shrimp industry are viruses and bacteria. Others include fungi, parasites and protozoans but less threatening than the two former. Among the referenced groups of bacteria in shrimp disease, gram negative bacteria are more virulent. *Vibrio*, a member of this gram negative groups has been implicated to be the most causative agent of bacterial infections in shrimps. This review examined the components of the cell membrane of these bacteria that have been reported to confer immunity on the host. They include outer membrane proteins, lipopolysaccharide and peptidoglycan. These components could elicit immune response and confer protection.

Keyword: Antibiotic; Aquaculture; Crustaceans; Immunoprophylaxis; Shrimp vibriosis; *Vibrio* species