

## ABSTRACT

Due to various microbial diseases, aquatic organisms experience a lot of challenges. In the form of biofilm, microbes prevent themselves in unfavourable conditions. Biofilm increases the resistance of microorganisms against antibiotics. The aim of this study is to check the antibiofilm potential and dispersal potential of commercially available antibiotics and probiotics against pathogenic strains labelled as (GDA,GDB,GDC,GDD,GDE,GDF) of Ctenopharyngodon idella. Probiotics labelled as (GDA,GDB) were isolated from the gut of healthy fish C. idella. By antibacterial activity ampicillin showed highest zone of inhibition (ZI) (35-40mm) against pathogens (GDB,GDD,GDE), levofloxacin showed maximum ZI (35mm) against pathogens (GDE,GDF), kanamycin showed higher ZI (28-33mm) and oxytetracycline showed highest ZI( 33mm) against pathogens (GDB,GDC). The minimum inhibitory concentration (MIC) of the four antibiotics was ranged of 5 to 80µgml<sup>-1</sup> and minimum bactericidal concentration (MBC) of the four antibiotics was ranged of 8 to 94 µgml<sup>-1</sup> against the pathogens. The highest biofilm forming ability of pathogens (GDA,GDC,GDD) was observed at day 3 and of pathogens (B,E,F) at day 5. By antibiofilm and biofilm dispersal activity, efficient results showed by probiotic (GHA) against pathogens (GDA,GDB,GDD,GDE), probiotic (GDD) against pathogens (GDA,GDB,GDC,GDD,GDE) and in combination probiotics(GHA,GHB) against pathogens (GDB,GDE). Ampicillin, levofloxacin, oxytetracycline and kanamycin showed maximum antibiofilm and biofilm dispersal activity against pathogens (GDB,GDC,GDD,GDE,GDF). Proficient antibacterial and biofilm dispersal activity of ampicillin and levofloxacin was observed in combination with probiotics (GHA,GHB). There was concentration dependent increase in the antibiofilm and biofilm dispersal activity against pathogens. The results showed that probiotics produce inhibitory compounds against the disease causing microbes in the fish that can be for the production of drugs against resistant microbial pathogens of fish.

**Keywords:** Probiotics, kanamycin, levofloxacin, oxytetracycline, ampicillin, antibiofilm.