

The *Burkholderia cepacia* complex (Bcc) includes 30 species of opportunistic gram-negative, non-fermenting bacteria with inherent antibiotic resistance and frequently implicated in occurrence of difficult-to-treat nosocomial infections. Bacteriophages show promising potential as alternative therapeutic means. However, the information on phages effective against Bcc is limited, highlighting the necessity for their isolation and study. This study aimed to evaluate the susceptibility of Bcc strains, isolated from clinical and environmental samples, to both antibiotics and newly isolated bacteriophages for potential therapeutic use. The susceptibility of 27 Bcc strains (16 clinical and 11 environmental isolates) was assessed against 7 commonly used antibiotics (Ceftazidime, Chloramphenicol, Meropenem, Minocycline, Levofloxacin, Ticarcillin-Clavulanate, Trimethoprim-Sulfamethoxazole) according to CLSI guidelines, using Kirby-Bauer disc diffusion method and MIC determination. Standard phage research methods were employed to isolate and characterize bacteriophages, and to evaluate their lytic activity against Bcc strains. Most Bcc strains exhibited resistance to tested antibiotics, with slightly lower resistance in environmental isolates. Two new bacteriophages vB_Bm - S567 and vB_BoMT1, isolated from soil and water samples on clinical strains *B. multivorans* LMG 13010 and *B. orbicola* Meg 77, showed Myoviridae morphotype. The phage vB_BoMT1 exhibited characteristics of a jumbo phage. Phages demonstrated lytic activity against 64% and 50% of tested Bcc strains, respectively. Notably, a combination of both phages demonstrated enhanced effectiveness, lysing 79% of Bcc strains. The selected Bcc phages will be used in the further model studies to prove the potential of bacteriophage-based therapies in treatment of infections caused by antibiotic-resistant Bcc strains.