Abstract

A Systematic Review on the Prevalence of Antibiotic Resistant *Staphylococcus aureus* in Human Source in Bangladesh [†]

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Abstract: Antibiotic resistance is growing health concerning issue in the present world. Misuse and overuse of antibiotics and lack of proper monitoring in the healthcare sector has caused a tremendous growth of antibiotic resistance (ABR) worldwide, especially in developing countries like Bangladesh. *Staphylococcus aureus* is still the prevalent cause of nosocomial infections, and it is becoming more of a community issue as more patients are treated outside of the hospital environment. Therefore, this systematic review was conducted to delineate the prevalence of ABR in *S. aureus* isolates in patients of various categories in Bangladesh. Bangladesh Journal Online, Scopus, PubMed and EBSCO databases were searched for studies conducted in the last 20 years following PRISMA guidelines. The literature search revealed 160 potentially relevant records were obtained from the database search. Through the screening process, 33 relevant studies investigated the resistance pattern of *S. aureus* from human isolates were included. The reported data produced a pooled prevalence of ABR (top ten resistant antibiotics) in *S. aureus* in Bangladesh from human sample: Penicillin (84.75%, interquartile range, IQR, 44.75), Ampicillin (83.75%, IQR 14.475), Oxacillin (77.5%, IQR 44.675), Cefoxitin (72%, IQR 24.55), Tetracycline (68%, IQR 34.3), Amoxicillin (67.375%, IQR 40.95), Ceftazidime (67%, IQR 16.125), Netilmicin (60.625%, IQR 20.625), Cefixime (60%, IQR 13.725), Cefuroxime (60%, IQR 9). A total of 64.52% of studies were conducted in the Dhaka district. The reported studies demonstrated the evidence of the high prevalence of ABR *S. aureus* in patients in Bangladesh. Even though this is limited data, this study's findings might help the policymakers developing the policy to contain the spread of ABR in Bangladesh to support the world One Health goal. Implementing nationwide surveillance and strict monitoring of antibiotic usage is highly recommended.

Keywords: antibiotic resistance; Bangladesh; human sample; prevalence

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