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A Program of Data Analysis on the Possible State of the Antibiotic Resistance in Bangladesh Environment in 2019

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Abstract : Background: Antibiotics have always been at the centrum of the revolution of modern microbiology. Micro-organisms and its pathogenicity, resistant organisms, inappropriate or over usage of various types of antibiotic agents are fuelled multidrug-resistant pathogenic organisms. Our present time review report mainly focuses on the therapeutic condition of antibiotic resistance and the possible roots behind the development of antibiotic resistance in Bangladesh in 2019. Methodology: The systemic review has progressed through a series of research analyses on various manuscripts published on Google Scholar, PubMed, Research Gate, and collected relevant information from established popular healthcare and diagnostic center and its subdivisions all over Bangladesh. Our research analysis on the possible assurance of antibiotic resistance been ensured by the selective medical reports and on random assay on the extent of individual antibiotic in 2019. Results: 5 research articles, 50 medical report summary, and around 5 patients have been interviewed while going through the estimation process. We have prioritized research articles where the research analysis been performed by the appropriate use of the Kirby-Bauer method. Kirby-Bauer technique is preferred as it provides greater efficiency, ensures lower performance expenditure, and supplies greater convenience and simplification in the application. In most of the reviews, clinical and laboratory standards institute guidelines were strictly followed. Most of our reports indicate significant resistance shown by the Beta-lactam drugs. Specifically by the derivatives of Penicillin's, Cephalosporin's (rare use of the first generation Cephalosporin and overuse of the second and third generation of Cephalosporin and misuse of the fourth generation of Cephalosporin), which are responsible for almost 67 percent of the bacterial resistance. Moreover, approximately 20 percent of the resistance was due to the fact of drug pumping from the bacterial cell by tetracycline and sulphonamides and their derivatives. Conclusion: 90 percent of the approximate antibiotic resistance is due to the usage of relative and true broad-spectrum antibiotics. The environment has been created by the following circumstances where; the excessive usage of broad-spectrum antibiotics had led to a condition where the disruption of native bacteria and a series of anti-microbial resistance causing a disturbance of the surrounding environments in medium, leading to a state of super-infection.

Keywords : antibiotics, antibiotic resistance, Kirby Bauer method, microbiology
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