

## **Editorial**

### **Antibiotic Use, Antibiotic Resistance, and Antibiotic Stewardship – A Global Public Consequences** *Mainul Haque*

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Antibiotic consumption one recent study revealed that had been increased around 39% in 76 countries of this planet from 15 years' time (2000-2015). This increase was especially observed in low and middle-income countries where such high consumption of antibiotic was statistically correlated with these nations' improvement in their gross domestic product per capita (GDPPC).<sup>1</sup> The higher antibiotic consumption always correlated with the higher rate of resistance among microbes towards antimicrobials.<sup>2</sup> Any use of antibiotics for human, or animal, whether rational or irrational will cause microbial resistance.<sup>3</sup> Antimicrobial resistance has been described as an intuitive event in which microbes expand their ability to survive against any threat including antimicrobial.<sup>4</sup> Moreover, unnecessary use of antibiotics both self-prescribed, or prescribed for in-patients or out-patients or for patient satisfaction are often observed throughout the globe.<sup>5-7</sup> Thereafter, the urgent call for rational and prudent use of antimicrobials were called by Sir Alexander Fleming since the Penicillin was first introduced.<sup>8</sup> Currently, globally antimicrobial resistance (AMR) is identified as the one of the top public health threats for treating infectious diseases.<sup>9</sup> One US study revealed that methicillin-resistant *Staphylococcus aureus* (MRSA) alone is more powerful to increase mortality level among peoples of the USA than emphysema, HIV/AIDS, Parkinson's disease and

homicide combined.<sup>10,11</sup> Another one recent study revealed that not much time is remaining to observe *Escherichia coli*, and *Klebsiella pneumoniae* will be resistant throughout the planet against third-generation cephalosporins and carbapenems.<sup>9</sup> As a reason it is often blamed the development of resistant microorganisms especially multi-drug-resistant were due to imprudent and excessive use of antimicrobials.<sup>12</sup> Thereafter, AMR has been found in all areas of flora and fauna and evolved as a grave issue and global public health threat for mankind.<sup>13</sup> Probably antibiotic stewardship program, regulatory measures, and promotion of prudent use of antimicrobials among health professionals and undergraduate medical and health science students through educational intervention are the only way to prevent such microbial atrocity.<sup>14-19</sup>

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Data gathering and idea owner of this study: *Mainul Haque*

Study design: *Mainul Haque*

Data gathering: *Mainul Haque*

Writing and submitting manuscript: *Mainul Haque*

Editing and approval of final draft: *Mainul Haque*

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