Antibiotic resistance: Persistence and pervasion.

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Abstract

With antibiotic resistance becoming more prevalent in the world, it is imperative actions are taken by as many people as possible. Every person, whether it be a teenager in high school or members of the scientific community, such as doctors, researchers, public health policymakers. While COVID-19 and Antibiotic resistance are two very different global health obstacles, both can be tackled with persistence and pervasion.

Keywords: Antibiotic resistance, COVID-19, Public health policymaker.

Accepted on 15 July, 2021

Description

Before antibiotics were discovered, something as small as the cut would have killed someone. In today's day and age, we depend on antibiotics for the prolonged longevity of our livelihoods. As the world learns to combat a global pandemic like COVID-19, many factors in overcoming this obstacle must be brought to light [1]. Back in 2009, with the Influenza A (H1N1) pandemic, the United States' center for disease control and prevention had reported incidences of secondary bacterial lung infections. A decade later, secondary infections are apparent in a significant number of deceased COVID-19 patients. Because immune systems are weak while fighting severe respiratory infections, they are more susceptible to resistant pathogens, like Methicillin-Resistant Staphylococcus Aureus (MRSA). While antimicrobial resistance is the cause of death for about 700,000 annually worldwide, studies suggest that the number will go up to 10 million deaths per year by 2050, exceeding cancer, the leading cause of death currently [2].

However, with the complications and increase in antimicrobial resistance with the coronavirus pandemic, the number can be much higher than anticipated. With the current pandemic, the economy, our lifestyles, and the understanding of how something starts as a small issue can grow to an unimaginable magnitude has completely changed from before [3]. For that reason, there are lessons to be learned right now that can prevent antibiotic resistance's growth to an extremely detrimental level. One lesson that can be learned from COVID-19 is the importance of propelling research fields. Antibiotic Resistance, while an emerging issue that can be truly catastrophic, is significantly underfunded in comparison, cardiovascular research, cancer, or numerous other biomedical fields [4]. By propelling research in developing new antibiotics, phage therapy, and other options to strengthen a fight against the rapid growth in antibiotic resistance. Much of the coronavirus is being fought by speedy discoveries with vaccines and testing kits that were developed with funding given immediately [5]. If done now, Antibiotic Resistance can be handled at a much more manageable level with fewer fatalities. Additionally, some countries took the coronavirus lightly until it grew to a level where thousands were dying daily. By raising awareness, preventative measures like avoiding overuse or misuse of antibiotics for things like a common cold can maintain a healthy and diverse microbiome. Within teenagers, through the use of technology and education in school, awareness can be raised in how to use antibiotics responsibly and only when needed [6].

Conclusion

In many developing countries, selling antibiotics is sometimes done without regulating prescriptions. Technology like blockchain can be used to track the distribution of antibiotics at a wholesale level, and then to individuals and ensure that antibiotics are used as prescribed. While there are actions adults can take now, a significant portion of the global health crisis can be combated with more participation from teenagers and young adults. For instance, the Small World Initiative, formulated by Yale University, collects soil samples to identify microbes, since around ⅔ of the world's antibiotics have been identified from soil bacteria and fungi. Small World fatalities related to antibiotic resistance. With different initiatives and alliances formed, a global effort can prevent the growth of antibiotic resistance to an unimaginable level, taking society back to a point where infections were consistently fatal.

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