

## Antibiotic Resistance: Threat to Human Health

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### Short Communication

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### ABSTRACT

Mankind has been and still is constantly threatened by infectious diseases. Antimicrobials, used to treat infections, are considered one of the greatest discoveries of the 20<sup>th</sup> century because they saved millions of lives from diseases that had a high mortality rate. Mankind has been and is still constantly threatened by infectious diseases. Antimicrobials, used to treat infections, are considered one of the greatest discoveries of the 20<sup>th</sup> century because they saved millions of lives from diseases that had a high mortality rate.

## INTRODUCTION

Antibiotic resistance occurs when microbes, bacteria and fungi adopt the capacity to defeat the drugs made to kill them. Which means the drugs do not kill the microbes and the microbes continue growing. Infections caused by antibiotic tolerant germs are troublesome, and now and then incomprehensible, to treat. In most cases, Antibiotic resistant diseases require prolonged hospitalization, intensive care, and expensive and poisonous substitutions. Antibiotic resistance does not cruel the body is getting to be safe to anti-biotic; it is that microbes have gotten to be safe to the Anti-biotic planned to murder them. Human/animal body does not develop any resistance against antibiotics; this is bacteria that become tolerant to the antibiotics prepared to eliminate them <sup>[1]</sup>.

### ANTI-BIOTIC TOLERANCE UNDERMINES EVERYBODY

Antibiotic resistance has the potential to influence individuals of any age group, as well as the working class, making it one of the world's most pressing open wellbeing problems. Each year within the U.S., at slightest 2.8 million individuals are contaminated with antibiotic-resistant microscopic organisms or parasites, and more than 35,000 individuals pass on as a result. No one can totally dodge the chance of safe diseases, but a few individuals are at more noteworthy chance than others (for case, individuals with constant sicknesses). In case anti-microbials lose their adequacy, at that point we lose the capacity to treat contaminations and control open wellbeing threats. Many restorative propels are subordinate on the capacity to battle diseases utilizing anti-microbials, counting joint substitutions, organ transplants, cancer treatment, and treatment of constant maladies like diabetes, asthma, and rheumatoid joint pain <sup>[2]</sup>.

### PREVENTION AND CONTROL

Anti-biotic tolerance is augmented by overuse and/or misuse of antibiotics, as well as inadequate prevention and management of infections. Actions to decrease the effect and limit the spread of the tolerance should be taken at all levels of society; individual; policy; health care; industry; agriculture <sup>[3-7]</sup>.

### AT THE LEVEL OF INDIVIDUAL

An individual can contribute to limit anti-biotic tolerance by practicing few smaller things:

- Say no to antibiotics without doctor's prescription
- Do not force your doctor to provide antibiotics
- Follow your doctor's advice on antibiotics use
- Take only as much as prescribed by the doctor
- Washing hands regularly have hygienic food; avoid close contact to sick people; proper vaccinations
- While preparing food follow WHO five keys; keep clean, separate raw and cooked, cook thoroughly, keep food at safe temperatures, use safe water and raw materials.

### **POLICY MAKERS**

Policies for the prevention and control of the spread of antibiotic resistance should follow:

- Action plan to contain the resistance in its place of occurrence
- Proper surveillance of antibiotic-resistant infections
- Strong policies for prevention and control of infection
- Policies for proper use and disposal left over/unused antibiotics
- Make information available on the impact of antibiotic resistance

### **HEALTH PROFESSIONALS**

Health care workers are keystone in anti-biotic resistance prevention and control:

- While at work ensure cleanliness of your hands, appliances, and the environment
- Need based prescription and dispensing of antibiotics within the set guidelines
- In case of anti-biotic resistant infections immediate inform to responsible authorities
- Guide your patients about correct use of anti-biotics; anti-biotic resistance and possible threats if misused
- Proper guidance to your patients about hygiene, vaccination, safer sex, and sneezing behaviours

### **HEALTHCARE INDUSTRY**

Health industries should increase their investments in R&D of diagnostics; antibiotics; vaccines, other related tools.

### **AGRICULTURE SECTOR**

Agriculture is another major sector which contributes to antibiotic resistance. It can prevent the spread by:

- Consult to veterinary before every use of antibiotics to animals
- Antibiotics should not be used for better growth of livestock and as preventive measures
- Proper animal vaccination should be followed
- Apply good practices for production and post-harvest processing of animal feed and fodder
- Maintain proper animal hygiene.

### **CONCLUSION**

There is a need for concrete action to determine whether food is an important vector for spreading antimicrobial resistance, the role of migration, that of tourism, that of various healthcare systems and the role of agriculture. The growth of global trade and travels are factors, which are certain to favor the spread of antimicrobial resistance between countries and continents.

Knowledge on the exact role of different reservoirs in the environment (e.g. surface water, the soil, the air) in the emergence and diffusion of antimicrobial resistance needs to be deepened, to control and minimize the spread.

Understanding the biological process underlying these phenomena will generate effective preventive measures and countermeasures, provided there is a global approach to the problem, with sector-specific measures.

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