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ANTIMICROBIAL RESISTANCE AND MISUSE OF ANTIBIOTICS

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ABSTRACT

Antimicrobial resistance refers to ability of microbe to resist effect of medication that will help in treatment of microbes. Microbial resistance and its misuse is currently a global challenge as there are several stains are rapidly increasing which are resistance to variousbacteria. The main cause for antibiotic resistance is their misuse. irrational and indiscriminate misuse of antibiotic created a challenge for human population which cause antibiotic resistance. Due to which the clinically available potential treatment is not effective on resistance created by various bacteria. The main objective of this study to investigate the cause of antibiotic resistance and misuse of antibiotic among population.

KEYWORDS: Antimicrobial, Resistance, Microbes.

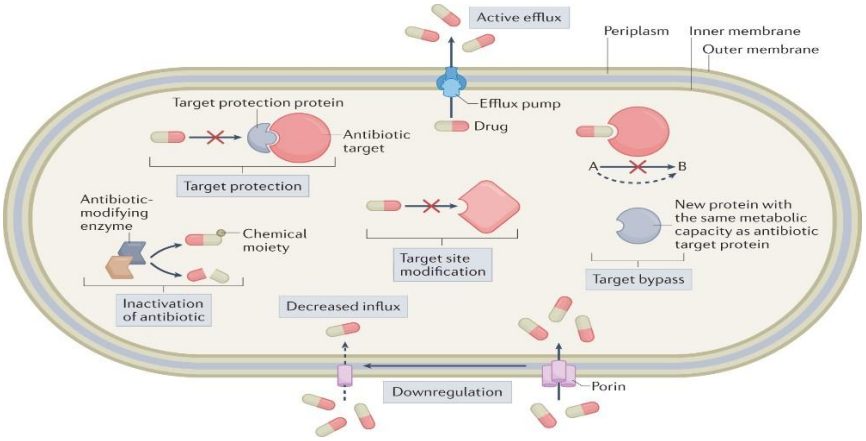
INTRODUCTION

Widespread resistance and misuse of antibiotic causing death of thousands of people every year. The major problem occurring due to the resistance increase in commonly used drugs which cause the increase in the growing of infection such as tuberculosis, gonorrhea, foodborne disease etc. in environment which become sometime impossible to treat infection.

There are some microbial activities resisting agents in the environment which are divided into different groups based on antimicrobial activity. Such groups can be that inhibit nucleic acid synthesizes, depolarize cell membrane, inhibit protein synthesis, inhibit metabolic pathway in bacteria.

Natural and acquired resistances to antibiotics are the two main forms of antibiotic resistance. Normal resistance may be innate or mediated. On the other side, acquired resistance may be the result of the bacteria acquiring genetic material by translation, conjugation, or

transposition or mutations in its own chromosomal DNA. AMR mechanisms may be divided into four categories: drug uptake limitation, drug target modification, drug inactivation and drug efflux. Owing to the structural differences and others, Gram-negative bacteria can use all four mechanisms, while Gram-positive bacteria are less likely to use limiting the uptake of a drug and drug efflux mechanisms.



some complication occurs due to the increase in antimicrobial resistance which include- increased risk of illness, some medication side effect, longer hospital stays, increased medical cost. There are some data revealed that antimicrobial resistance itself caused 1.27 million deaths in 2019. This is greater than the number of people died from HIV/AIDS and malaria combined this year.

Misuse of Antibiotic

the main cause for the antibiotic resistance their over use. Injustice use of antibiotic lead to antibiotic resistance and become the global health problem. Doctors prescribe antibiotics for different reasons. Sometimes they prescribe them when they are not sure if an illness is caused by bacteria or a virus or are waiting for test results. So, some patients might expect a prescription for an antibiotic and even ask their doctor for it. This is the biggest problem in underdeveloped or developing countries.

Misuse can occur due to following reasons.

Inadequate dosing, limited knowledge of old (but effective) antibiotics, limited access to outpatient parenteral antibiotic therapy (OPAT), unnecessary long antibiotic therapy duration etc.

CONCLUSION

The study showed good knowledge, attitude, and practice of pharmacy students regarding antibiotic usage. Antibiotic are the life saving dugs, but it can be used in limitation otherwiseit will become unaffected for our body. Rapidly emerging resistant bacteria threaten the extraordinary health benefits that have been achieved with antibiotics.

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