

Editorial

A Challenge: Drug Resistance

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Editor

WHO's new Global Antimicrobial Surveillance System (GLASS) reported the presence of antibiotic resistance in 500,000 patients across 52 enrolled countries, both the developed and under developed ones.

The report confirms a serious and challenging situation for this resistant pattern worldwide. WHO report also confirmed a serious situation regarding the deficiency for the development of new and effective antibiotics to win this warfare for antimicrobial resistance trend.

Even some of the newly available antibiotics are just the structural modifications of already existing ones. Therefore, they are providing a temporary solution. These circumstances are posing high morbidity and mortality rate.

The antibiotic resistance has now arose to the extent of global health emergency, which has ultimately threatened the progress in modern medicine e.g. the drug resistant tuberculosis can be attributed to the death of 250,000 people annually worldwide. Similar high mortality rate was seen with many other resistant bacterial infections as well and it is alarming that without the identification of permanent solution, even with minor surgeries, a fatal outcome can be seen.

Once, Penicillin was considered as a magic bullet to treat any sort of serious infection but now the situation has drastically changed. A reported resistance to penicillin ranges between 51 to 82 per cent for less severe infections like urinary tract infection, diarrheal illnesses, pneumonia to complicated systemic infections.

Furthermore, the lack of treatment options for multidrug resistant and extremely drug resistant tuberculosis, *Acinetobacter* species, *Escherichia coli* and *Klebsiella pneumoniae* are adding up to great health burdens and losses. "The miseries of patients on life saving ventilator support go on increasing by super added extremely drug resistant infections."

Moreover, availability of suitable drugs in black and on high costs adds up to worsen the situation, she said.

Due to less treatment options, the resultant outcome in most cases becomes fatal and hence there is a dire need of discovery of new and safer antibiotics.

The pharmaceutical companies and researchers should come forward to identify the solution for this burning global issue and the quality of available antibiotics should be frequently checked by the national drug regulatory authorities to ensure their efficacy.

It is genuine opinion that till the availability of new options, the steps needed to combat this situation should be avoidance of frequent antibiotic usage for minor infections, early case recognition with the help of culture and sensitivity while in hospital settings, active involvement of infection control committees should be ensured to set infection control and isolation protocols for the management of such cases.

However sterilization/disinfection protocols, along with hand washing techniques, all will help checking transmission of resistant infections among the patients in hospitals.

It is required that the government should focus on training the healthcare staff for effective practice of sterilization/disinfection procedures and provision of hand disinfectants and sanitizers should be ensured with each bed in hospitals.

Also, the hospital staff associated with cleaning of washrooms should ensure usage of disinfectant to avoid spread of resistant bugs and the beddings of patients with resistant infections should be handled vigilantly. "Finally the hospital waste segregation should be done carefully for final disposal."

The malpractices of excessive use of high potency antibiotics to treat self limited infections should be checked by authorities and must be discouraged. The culture of excessive, unnecessary, high potency and multiple combinations of antibiotics should be discouraged and doctors, nursing staff, attendants and patients should work together vigilantly to combat this battle against the drug resistance.