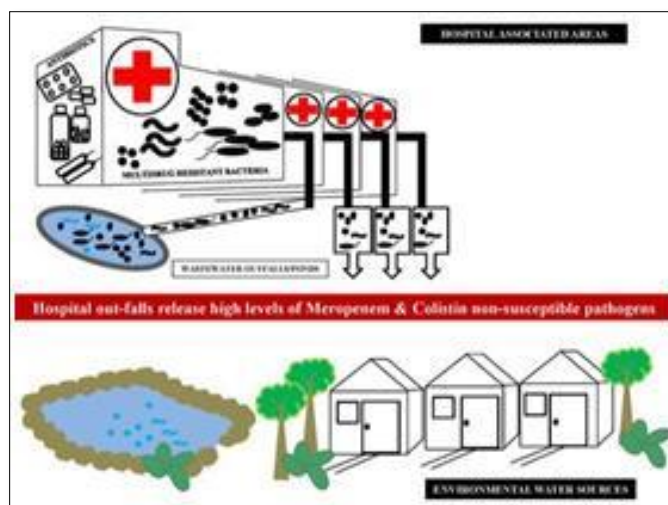


NIBMG scientist found hospital water acts as safe sanctuary to drug resistant bacteria

By Dr. Bilqeesa Bhat

Scientists from National Institute of Biomedical Genomics (NIBMG), Kalyani detected the presence of drug resistant bacteria in water samples collected from hospital and hospital-associated areas (HAA) of West Bengal. Scientists found that HAA bacteria were resistant to drugs like Colistin, Meropenem and Amikacin to different extent.



Hospital- and hospital associated areas waters as a reservoir of drug resistant bacteria

Indiscriminate use of antibiotics has resulted in a catastrophic increase in the levels of antibiotic resistance in India. Hospitals providing critical care to patients with bacterial infections have become reservoir of multidrug resistant (MDR) bacteria. MDR bacteria are challenging the global health care systems.

The NIBMG scientists collected water samples from 11 hospitals and 4 environmental sources belonging to 5 most-densely populated districts of West Bengal. Team isolated about 84 bacterial strains which were characterized and the predominant species included disease causing Gram negative bacteria *Escherichia coli*, *Klebsiella pneumonia* and *Acinetobacter baumannii*.

India has a high burden of bacterial diseases, and figures among top countries where misguided overuse of antibiotics is rampant. The usage of broad-spectrum penicillins has emerged as a major challenge to resource constrained health-setting of country. Medical practitioners still use antibiotics like carbapenems and polymyxins as last resort antibiotics in treatment of most human infections. Drugs are also indiscriminately used in animal production industry as growth promoters. Emergence of drug resistant bacteria has huge impact on human health in developing nations.

Thus, understanding of the bacterial population distribution and the relative role of hospitals in spreading drug resistant is essential for policy interventions to be put in place in hospitals, and is imperative for designing better treatment strategies.

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