**Antibiotics poisoning Yamuna water**

Researchers say drugs may be behind spike in diabetes, cancer

**DANGER ELEMENTS IN RIVER**

<table>
<thead>
<tr>
<th>Places from where the water samples were taken</th>
<th>Photo of the river</th>
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<tbody>
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<td>Yamuna Vihar, Jasola, Kalindi Kunj, Indraprastha station, Noida bridge and Wazirpur border</td>
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**The compounds they were tested for**

- Antibiotics such as norfloxacin, ofloxacin, gentamicin, amoxicillin and azithromycin, among others
- High-volume chemicals: Paraquat (weed killer used in farming), Tetraethylammonium (industrial waste) and Benzalkonium chloride (chemicals found in floor cleaners)
- Pralidoxime, a rare drug used as antidote in poisoning cases

**Findings**

The presence of antibiotics was confirmed through test of the samples; significantly high levels of chemical used in floor cleaning was also found in the water.

**The way out**

- The fluid waste being drained into Yamuna must be treated.
- Disposal of medical waste, particularly the antibiotics used at home, should be proper. It shouldn’t be thrown into the drain.
- Strong policy measures, such as ban on over-the-counter sale of high-end antibiotics must be enforced.

**Impact**

- The researchers grew chickpea in normal water and those contaminated with antibiotics to assess the impact. While the former grew well, the latter was found to have retarded growth.
- On human beings, doctors say, further research is needed to assess the possible link between presence of antibiotic in the environment and increased incidence of diabetes and cancer.

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**The river is awash with antibiotics and chemicals used in household floor cleaners.**

Most of the antibiotics detected in the water samples are for cold and flu, respiratory tract infections, pneumonia and tuberculosis.

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Velpandian, who is an ocular pharmacologist at AIIMS, said, adding that household disinfectants are also adding to the river’s burden of harmful chemicals.

The study also showed that water polluted with antibiotics retards plant growth. The researchers grew a batch of chickpeas (chhole) in clean water and another in water containing antibiotics. The second batch of plants was stunted.

“The impact in humans could be worse,” said a researcher.

Doctors say wastewater should be treated before it flows from the drains into the river and people should be educated about safe disposal of unused drugs and industrial waste.

Dr M C Misra, director, AIIMS, said there is rampant misuse, abuse and overuse of antibiotics in India.

“If urgent action is not taken to check this, we might be staring at a health crisis. In the last decade no new antibiotics have come up while the existing ones are proving ineffective in treating many patients,” he said.

To highlight the issue of widespread misunderstanding about antibiotic resistance, World Health Organisation recently conducted a survey.

About 75% of the respondents in India, the survey revealed, believed cold and flu can be treated with antibiotics, which is incorrect.

The survey, conducted in 12 countries and released in Geneva on Monday, also said that in India, only 58% of the respondents know that they should stop taking antibiotics only when they finish the prescribed course. Dr Misra said antibiotic resistance is a global health crisis but countries like India are more at risk due to the higher burden of infection necessitating antibiotic usage.