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# Superbug spreads to communities: Study

Durgesh Nandan Jha | TNN

New Delhi: Methicillin-resistant Staphylococcus aureus (MRSA), a superbug generally associated with hospitalized patients, has spread to communities as well. This was shown in a recent study by a network of microbiology laboratories at the country's premier medical colleges and hospitals.

The study, which analyses how patients' response to antibiotics at select hospitals in 2008 and 2009, found the overall prevalence of MRSA to be 41%, which is very high. Among outpatients, ward inpatients and those in the ICU, the isolation rates of the drug-resistant bacteria were 28%, 42% and 43% respectively in 2008, and 27%, 49% and 47% in 2009. MRSA causes dangerous infections of the skin, soft tissue, bones, the bloodstream and lungs.

"We used cefoxitin (10 microgram) and oxacillin (1 microgram) for methicillin resistance. The other antibiotics that were tested included penicillin (10 units), gentamicin (10 microgram) and ciprofloxacin (5 microgram). They did not work. Only vancomycin (30 microgram) and linezolid (30 microgram) were effective," said Dr Raman Sardana, microbiologist at Apollo Hospital in Delhi, who participated in the study supported by WHO. Other participants in the investigations to assess antibiotic resistance were AIIMS and Chacha Nehru Bal Chikitsalaya in Delhi; Hinduja national hospital and MRC in Mumbai;

## THE BIG BUG

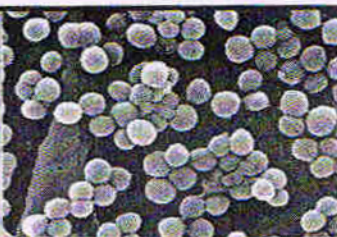
**WHAT'S MRSA**  
Methicillin-resistant Staphylococcus aureus

### WHAT'S STAPH

- > Staph's full name: Staphylococcus aureus
- > A common bacteria, usually harmless, but sometimes cause illness
- > Some strains resistant to methicillin, other antibiotics

### ITS DAMAGE

- > Causes infections on surface of skin such as boils
- > Impetigo infections under skin that can be tender and can increase in size: abscesses and cellulitis
- > Can trigger infections in any body part and in blood



### ITS SPREAD

- > Gets into body through broken skin or sores
- > Results in redness, pimples, swelling, tenderness or boils
- > Can turn serious, leading to blood infections or pneumonia
- > Cuts or abrasions, contact with contaminated items, infrequent washing increase risk of infection
- > Diabetics, those with weak immune system or who have broken skin due to wounds or dermatitis vulnerable

Overall prevalence of drug-resistant strains in 2008 | 41% of patients at 15 hospitals all over India (Insar study)

Outpatients | 28%  
Ward patients | 42%  
Admitted in ICUs | 43%

PGIMER Chandigarh; and CMC Vellore.

"The emergence of Staphylococcus aureus, a drug-resistant bacteria, in outpatients is worrying. It necessitates widespread use of high-end antibiotics, which are limited," said a senior doctor. He added that MRSA causes infections mostly in the armpits, genital area and nasal mucous membranes. It is transmitted through the skin, towels, clothing or direct body contact. All it needs is a small abrasion to

enter the patient's bloodstream.

Methicillin resistance was first reported in England in 1961, and surfaced in the US a few years later. "Its prevalence in developing nations like ours, with a high burden of infectious diseases and low healthcare spending, is a concern," said Dr Sanjeev Bagai, a paediatric nephrologist.

"Judicious use of antibiotics and antifungal is imperative," said Dr Chand Wattal, head of the microbiology department at Sir Ganga Ram.