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Noteworthy

Wash your hands off messy notes

Rashmi Menon

BANGALORE: Next time you buy vegetables from a street vendor or purchase meat from a butcher shop, make sure you wash your hands thoroughly. The reason: A study has found that the currency notes given by street vendors and butchers have a high concentration of bacteria!

The study conducted on the microbial contamination of Indian currency notes circulated in Bangalore was conducted by the Department of Microbiology, GenoHelix Biolabs, Jain University. It showed that the pathogenic count was the highest in rupee notes given by butchers, street-food vendors and vegetable sellers and bus conductors. The notes given by

banks reported the lowest growth of bacterial colonies.

According to the study conducted over a period of three months notes were collected in sterile zip-lock covers. The samples were taken from butchers, beggars, vegetable sellers, bus conductors, banks from areas like City market, M G Road, Majestic bus stand and near colleges in JP Nagar 1st Phase. Currency notes of denominations - Rs 5, Rs 10, Rs 100 and Rs 500 - were chosen for the study. It was found that contamination of pathogens, both bacterial and fungal, were less in higher units of denominations and higher in lower units of denominations.

Some of the bacterial pathogens that were identified were *Staphylococcus aureus*,



Bacillus cereus, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Proteus mirabilis* and *Streptococcus faecalis*. Fungal forms included *Aspergillus* sp., *Trichoderma* sp and *Penicillium* sp. "The lower denomination notes get soiled easily. The notes are treated to sweat and saliva of people. In a butcher's shop, the notes are stored in

places that have extensive scope for bacteria to breed," said Sourav Bhattacharya, one of the three members, who conducted the study. Arijit Das and Nagananda G S are the other two members on the panel.

Colonies of bacteria

With each note undergoing tests three times, notes from a butcher's shop on an average showed over 50 colonies of bacteria breeding on it. A note from the bank showed around 3-4 colonies.

Sourav said that currency papers are bigger in surface and therefore conducive for bacteria and fungi to be persistent on it even more than coins. The contamination was the result of lack of hygienic practice

among meat, food and vegetable vendors, faecal contamination, coughing and sneezing on the notes, etc.

So, what's the solution? Sourav felt that people should wash their hands after exchange of money, especially people who are constantly engaged in monetary transactions.

"It would be wise to use hand sanitisers or washing of hand before touching food as the bacteria could cause various infections and illnesses," felt Sourav.

He added that Reserve Bank of India should repeatedly conduct decontamination of notes through UV treatment. Usage of plastic currency is another solution.

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Plate of panipuri = Dish of bacteria

Pics: TOI

Study Reveals Dirty Water Makes Street Food Unhygienic

Senthalir S | TNN

Bangalore: Think twice before venturing out to eat panipuri or bhelpuri at your favourite neighbourhood joint. A study by the department of microbiology, Genohelix Biolabs, Jain University, reveals that panipuri and bhelpuri sold on Bangalore streets have a high level of bacterial pathogens. It's largely due to the water used and unhygienic surroundings.

In the study, Analysis of Micro-

biological Quality of Street-Vended Panipuri and Bhelpuri Sold in Bangalore', done this summer, eight different samples of chaats were collected from different locations.

"The samples were from Jayanagar, Basavanagudi, Chamarajpet and analyzed within an hour of collection. Isolation, enumeration and identification of the bacteria and fungi were carried out using standard procedures. Analysis revealed high content of bacterial pathogens such as streptococcus faecalis, escherichia coli, staphylococcus aureus, bacillus sp, klebsiella sp and pseudomonas sp," said

Nagananda G S, in-charge of plant biotechnology, department of microbiology, Jain University.

He added that the pres-



The study states that aciduric yeasts like saccharomyces and filamentous fungi like mucor and rhizopus were found in the samples

ence of faecal streptococci and coliforms indicated contamination of water as well as unhygienic conditions where these stalls were located. Along with Nagananda, Arijit Das and Sourav Bhatlacharya from the department of microbiology in Genohelix Biolabs carried out the study.

The study stated that aciduric yeasts like saccharomyces and

filamentous fungi like mucor and rhizopus were found in the samples. "It's unsafe to eat at such joints. There should be regular monitoring of quality of street food. This will prevent food-borne pathogenic outbreaks," he said.

Stating that the presence of high levels of bacterial pathogens leads to gastroenteritis, Dr Poorn-



ima Parthasarathy, consultant in infectious diseases at Apollo Hospital, said: "Consumption of food that contains bacterial pathogens beyond a certain level leads to faecal and oral contamination. It is very dangerous especially in the rainy season. We suggest that people boil and cool drinking water," she said.

Nagananda stated another study was in progress to check the levels of bacterial pathogens in these chaats during the monsoons. "We plan to submit this report to the health department soon," he added.

