



SARS-CoV-2 Detected in 39% of Hospital Air Samples

Description

COVID-19 genetic material was often found in hospital air during outbreaks. This happened in a large hospital in Sydney, Australia.

Researchers from Kirby Institute tested the air and surfaces in the emergency department (ED) and intensive care unit (ICU) during two COVID-19 waves from November 2023 to July 2024. They found 39% of air samples had SARS-CoV-2 RNA, which is a sign of the virus.

Most of the positive samples came from the ED. Eighty percent were from the ED, while the ICU had only 20%. The highest risk areas in the ED included the acute-care area and the public waiting room.

The researchers found that four positive samples were taken before the hospital reported a larger outbreak. This shows that air testing may help spot outbreaks early.

The researchers also noted that good air changes in the hospital were not enough to protect staff and patients. They recommended using better air filters and providing staff with masks to help reduce the spread of the virus.

Vocabulary List:

1. **Outbreak** /'aʊt.breɪk/ (noun): A sudden increase in the occurrence of a disease in a particular time and place.
2. **Researchers** /rɪ'sɜːr.tʃərz/ (noun): Individuals who conduct investigations to discover or revise facts theories or applications.
3. **Samples** /'sæm.plz/ (noun): A small part or quantity intended to show what the whole is like.
4. **Protect** /prə'tekt/ (verb): To keep safe from harm or injury.
5. **Recommended** /,rɛkə'mendəd/ (verb): To endorse or suggest as being good or suitable for a particular purpose.
6. **Intensive** /ɪn'tensɪv/ (adjective): Involving a lot of activity effort or careful attention.

Comprehension Questions

Multiple Choice

1. What percentage of air samples contained SARS-CoV-2 RNA?



- Option: 29%
- Option: 39%
- Option: 49%
- Option: 59%

2. In which department were most positive samples found?

- Option: Intensive Care Unit (ICU)
- Option: Emergency Department (ED)
- Option: Surgical Department
- Option: Pediatric Department

3. During which months did the research take place?

- Option: January to March 2023
- Option: April to June 2023
- Option: November 2023 to July 2024
- Option: August to October 2024

4. What area in the ED had the highest risk of positive samples?

- Option: Operating room
- Option: Public waiting room
- Option: Patient recovery area
- Option: Nurse station

5. What did the researchers recommend for better air quality?

- Option: Using regular fans
- Option: Using better air filters
- Option: Conducting more tests
- Option: Reducing patient intake

6. What was found in four samples before the larger outbreak?

- Option: Bacterial contamination
- Option: SARS-CoV-2 RNA
- Option: Flu virus
- Option: Fungal spores

True-False

7. The research involved testing only the surfaces in the hospital.



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8. The ICU had a higher percentage of positive air samples than the ED.
 9. Good air changes in the hospital were deemed sufficient to protect staff and patients.
 10. Air testing may help identify outbreaks early.
 11. The researchers conducted their study during one wave of COVID-19.
 12. The study took place in a hospital located in Sydney, Australia.

Gap-Fill

13. Researchers tested the air and surfaces in the _____ department and intensive care unit (ICU).
14. Eighty percent of the positive samples were collected from the _____.
15. The researchers observed a total of _____ waves of COVID-19 during the study.
16. The highest risk areas identified in the ED included the acute-care area and the _____ waiting room.
17. The researchers found that _____ positive samples were taken before the hospital reported a larger outbreak.
18. The researchers recommended providing staff with _____ to help reduce the spread of the virus.

Answer

Multiple Choice: 1. 39% 2. Emergency Department (ED) 3. November 2023 to July 2024 4. Public waiting room 5. Using better air filters 6. SARS-CoV-2 RNA

True-False: 7. False 8. False 9. False 10. True 11. False 12. True

Gap-Fill: 13. emergency 14. emergency department 15. two 16. public 17. four 18. masks



Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. What is the primary purpose of immunotherapy?
Option: To kill bacteria directly
Option: To enhance the body's immune response
Option: To provide immediate relief from symptoms
Option: To replace traditional medicines
2. What is a common concern regarding new findings in medical research?
Option: They are always trustworthy
Option: They often require more testing
Option: They guarantee a cure
Option: They eliminate the need for education
3. What does transmission in the context of infections refer to?
Option: The spread of infections
Option: The treatment of infections
Option: The prevention of diseases
Option: The diagnosis of illnesses
4. Why is education recommended in preventing infections?
Option: It increases anxiety
Option: It helps in understanding preventive measures
Option: It is unnecessary
Option: It promotes misinformation
5. Which benefit is commonly attributed to probiotics?
Option: Curing chronic diseases
Option: Improving digestion
Option: Reversing aging
Option: Suppressing immunity
6. Symptoms of infections often include which of the following?
Option: Increased energy
Option: Fever and discomfort
Option: Enhanced mood
Option: Decreased immunity
7. What is often prescribed to prevent sickness?



- Option: Education sessions
- Option: Antibiotics
- Option: Probiotics only
- Option: Stress management techniques

8. What does the microbiome primarily relate to?

- Option: Bone health
- Option: Bacterial diversity in the body
- Option: Muscle growth
- Option: Heart function

9. What should be used to protect against the transmission of infections?

- Option: Education only
- Option: Condoms and medications
- Option: Isolation
- Option: A lack of awareness

10. What type of care is often necessary for severe infections?

- Option: Minimal care
- Option: Preventive care
- Option: Intensive care
- Option: Home remedies

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Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

- 11. _____ can be a crucial treatment for managing certain types of cancer.
- 12. Healthcare providers often _____ regular check-ups for early detection of diseases.
- 13. Researchers often collect _____ from various subjects to study disease transmission.
- 14. Vaccination can help _____ against specific infectious diseases.
- 15. Antiviral _____ can be effective in treating viral infections.
- 16. Regular exercise can help _____ many chronic illnesses.
- 17. Proper hygiene practices reduce the _____ of infectious diseases.
- 18. Public health _____ campaigns aim to inform citizens about health risks.



19. _____ may arise from various pathogens including viruses and bacteria.
20. Common _____ of allergies include sneezing and itching.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

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| 21. Research findings must be verified through peer review to be considered trustworthy. |
| 22. Researchers published their findings in a leading medical journal. |
| 23. Diet and lifestyle choices can influence a person's mood significantly. |
| 24. Many patients report discomfort as a side effect of medications. |
| 25. Consuming probiotics can enhance digestion and improve gut health. |
| 26. Frequent handwashing can reduce the likelihood of sickness during cold seasons. |
| 27. Acid reflux can cause significant discomfort after meals. |
| 28. Intensive therapy is often required for patients suffering from severe infections. |
| 29. The microbiome plays a crucial role in maintaining a healthy digestive system. |
| 30. Probiotics can be beneficial for restoring gut health after antibiotic treatment. |

Answer

Multiple Choice: 1. To enhance the body's immune response 2. They often require more testing 3. The spread of infections 4. It helps in understanding preventive measures 5. Improving digestion 6. Fever and discomfort 7. Antibiotics 8. Bacterial diversity in the body 9. Condoms and medications 10. Intensive care

Gap-Fill: 11. Immunotherapy 12. recommend 13. samples 14. protect 15. medications 16. prevent 17. transmission 18. education 19. Infections 20. symptoms

Matching sentence: 1. trustworthy 2. findings 3. mood 4. discomfort 5. digestion 6. sickness 7. reflux 8. intensive 9. microbiome 10. probiotics

CATEGORY

1. Health - LEVEL1

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1. A1
2. ESL learning
3. esl news
4. good ventilation
5. hospital air
6. L1
7. Level 1
8. outbreaks
9. sars-cov-2

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