

Project Report on Common Cold

A runny nose, scratchy throat, and non-stop sneezing - you can't miss the signs of a cold. But mystery shrouds a lot of other things about it. Why do you seem to get them so often while your best friend stays well? And more importantly, how can you stay healthy this year? Get the low down on the all too common cold.

What Is Common Cold ?

It's an illness caused by a tiny, living thing called a virus. More than 200 types lead to your misery, but the most common one is the rhinovirus, which brings on 10% to 40% of colds. The corona-virus is responsible for about 20% of cases, while the respiratory syncytial virus (RSV) and par influenza virus cause 10% of colds.

Colds cause a lot of people to stay home. The CDC says 22 million school days are lost each year in the U.S. because of them. Some estimates say that Americans have 1 billion colds a year.

Common cold, also known simply as a cold, is a viral infectious disease of the upper respiratory tract that primarily affects the nose. Signs and symptoms may begin less than two days following exposure. They include coughing, sore throat, runny nose, sneezing, headache, and fever. People usually recover in seven to ten days.[4] Some symptoms may last up to three weeks. In those with other health problems, pneumonia may occasionally develop.

Over 200 virus strains are implicated in the cause of the common cold; the rhinoviruses are the most common. They spread through the air during close contact with infected people and indirectly through contact with objects in the environment followed by transfer to the mouth or nose. Risk factors include going to daycare, not sleeping well, and psychological stress. Symptoms are mostly due to the body's immune response to the infection rather than to tissue destruction by the viruses themselves. People with influenza often show similar symptoms as people with a cold, though symptoms are usually more severe in the former.

There is no vaccine for the common cold. The primary methods of prevention are hand washing; not touching the eyes, nose or mouth with unwashed hands; and staying away from sick people. Some evidence supports the use of face masks. No cure for the common cold exists, but the symptoms can be treated. Non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen may help with pain. Antibiotics should not be used. Evidence does not support a benefit from cough medicines.

The common cold is the most frequent infectious disease in humans. The average adult gets two to four colds a year, while the average child may get six to eight. They occur more commonly during the winter. These infections have been with humanity since ancient times.

How a Common Cold Starts

A cold usually begins with fatigue, a feeling of being chilled, sneezing, and a headache, followed in a couple of days by a runny nose and cough. Symptoms may begin within sixteen hours of exposure and typically peak two to four days after onset. They usually resolve in seven to ten days, but some can last for up to three weeks. The average duration of cough is eighteen days and in some cases people develop a post-viral cough which can linger after the infection is gone. In children, the cough lasts for more than ten days in 35%–40% of the cases and continues for more than 25 days in 10%.

You can catch it from another person who is infected with the virus. This usually happens if you touch a surface that has germs on it - a computer keyboard, doorknob, or spoon, for example - and then touch your nose or mouth. You can also catch it if you're near someone who is sick and sneezes into the air.

A cold begins when a virus attaches to the lining of your nose or throat. Your immune system - the body's defense against germs - sends out white blood cells to attack this invader. Unless you've had a run-in with that exact strain of the virus before, the initial attack fails and your body sends in reinforcements. Your nose and throat get inflamed and make a lot of mucus. With so much of your energy directed at fighting the cold virus, you're left feeling tired and miserable.

One myth that needs to get busted: Getting chilly or wet doesn't cause you to get sick. But there are things that make you prone to come down with a cold. For example, you're more likely to catch one if you're extremely tired, under emotional distress, or have allergies with nose and throat symptoms.

Common Cold Symptoms

When a cold strikes, you may have symptoms like:

- Scratchy or sore throat
- Sneezing
- Stuffy nose
- Watery eyes
- Mucus draining from your nose into your throat

More severe symptoms, such as high fever or muscle aches, may be a sign that you have the flu rather than a virus.

Kids and Colds

Children have about 5-7 colds per year. A big part of the reason: They spend time at school or in day care centers where they're in close contact with other kids most of the day. And to top it off, their young immune systems aren't yet strong enough to fight off colds.

Causes of Common Cold :

Viruses

Corona viruses are a group of viruses known for causing the common cold. They have a halo or crown-like (corona) appearance when viewed under an electron microscope.

The common cold is a viral infection of the upper respiratory tract. The most commonly implicated virus is a rhinovirus (30%–80%), a type of picorna-virus with 99 known serotypes. Other commonly implicated viruses include human corona-virus ($\approx 15\%$), influenza viruses (10%–15%), adenoviruses (5%), human respiratory syncytial virus, entero-viruses other than rhinoviruses, and metapneumovirus. Frequently more than one virus is present.[31] In total over 200 different viral types are associated with colds.

Transmission

The common cold virus is typically transmitted via airborne droplets (aerosols), direct contact with infected nasal secretions, or fomites (contaminated objects). Which of these routes is of primary importance has not been determined; however, hand-to-hand and hand-to-surface-to-hand contact seems of more importance than transmission via aerosols. The viruses may survive for prolonged periods in the environment (over 18 hours for rhinoviruses) and can be picked up by people's hands and subsequently carried to their eyes or nose where infection occurs. Transmission is common in daycare and at school due to the proximity of many children with little immunity and frequently poor hygiene. These infections are then brought home to other members of

the family. There is no evidence that recirculated air during commercial flight is a method of transmission. People sitting in close proximity appear to be at greater risk of infection.

Rhinovirus-caused colds are most infectious during the first three days of symptoms; they are much less infectious afterwards.

Preparing for Cold Season

The only useful ways to reduce the spread of cold viruses are physical measures such as hand washing and face masks; in the healthcare environment, gowns and disposable gloves are also used. Isolation or quarantine is not used as the disease is so widespread and symptoms are non-specific. Vaccination has proved difficult as there are many viruses involved and they mutate rapidly. Creation of a broadly effective vaccine is, thus, highly improbable.

Regular hand washing appears to be effective in reducing the transmission of cold viruses, especially among children. Whether the addition of antivirals or antibacterials to normal hand washing provides greater benefit is unknown. Wearing face masks when around people who are infected may be beneficial; however, there is insufficient evidence for maintaining a greater social distance.

Zinc supplements may help to reduce the prevalence of colds. Routine vitamin C supplements do not reduce the risk or severity of the common cold, though they may reduce its duration. Gargling with water was found useful in one small trial.

Changes in humidity in different seasons may also affect how often people get sick. The most common cold viruses survive better when it's low. Also, cold weather may make the lining of your nose drier and more vulnerable to an infection by a virus.

When to Call the Doctor About a Cold

Most colds last about 7 to 10 days, but if your symptoms linger, you may need to call the doctor. Sometimes, colds lead to an infection by bacteria in your lungs, sinuses, or ears. If that happens, your doctor may prescribe antibiotics, which work against bacteria but not against viruses.

Antibiotics and Antivirals

Antibiotics have no effect against viral infections or against the viruses that cause the common cold. Due to their side effects, antibiotics cause overall harm but are still frequently prescribed. Some of the reasons that antibiotics are so commonly prescribed include people's expectations for them, physicians' desire to help, and the difficulty in excluding complications that may be amenable to antibiotics. There are no effective antiviral drugs for the common cold even though some preliminary research has shown benefits.

Alternative medicine

While there are many alternative treatments used for the common cold, there is insufficient scientific evidence to support the use of most. [As of 2014 there is insufficient evidence to recommend for or against honey. As of 2015 there is tentative evidence to support nasal irrigation. Zinc has been used to treat symptoms, with studies suggesting that zinc, if taken within 24 hours of the onset of symptoms, reduces the duration and severity of the common cold in otherwise healthy people. Due to wide differences between the studies, further research may be needed to determine how and when zinc may be effective. Whereas zinc lozenges may produce side effects, there is only a weak rationale for physicians to recommend zinc for the treatment of the common cold. Some zinc remedies directly applied to the inside of the nose have led to the loss of the sense of smell.

Vitamin C's effect on the common cold, while extensively researched, is disappointing, except in limited circumstances: specifically, individuals exercising vigorously in cold environments. There is no firm evidence that Echinacea products provide any meaningful benefit in treating or preventing colds. It is unknown if garlic is effective. A single trial of vitamin D did not find benefit.

Bibliography

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www.biologychamp.co.in