

Asymptomatic rhinovirus infection outnumbers symptomatic infection 4 to 1 among university students

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The common cold virus may be more common than previously thought in university students not reporting any symptoms. Rhinovirus, the virus responsible for the common cold was found at some point during an 8-week study period in an estimated 60% of university students that were asymptomatic. Researchers from Canada report their findings at the 2012 General Meeting of the American Society for Microbiology.

"A high occurrence of asymptomatic infections indicates that [university students](#) can spread infections to [classmates](#), or individuals in the community without knowing they are infected," says Andrea Granados of McMaster University in Hamilton, Ontario, a researcher on the study. The study was conducted at McMaster University and St. Joseph's Healthcare in Hamilton, Ontario, Canada as part of the McFlu2 COLD3 clinical trial by Granados and colleagues Emma Goodall, Marek Smieja and James Mahony.

Rhinovirus, best known for causing the common cold can also cause bronchitis and trigger [asthma attacks](#).

Granados and her colleagues recruited 545 McMaster University undergraduates over two years (September-October 2010, and September-October 2011) when cold activity usually peaks and asked them to collect a nasal swab once weekly regardless of symptom occurrence. If cold-like symptoms were reported by the students, they

were asked to provide daily nasal swabs for a period of seven days. One hundred and sixty-seven cold-like illnesses were reported over two years. Using DNA-based [polymerase chain reaction](#) (PCR) they detected rhinovirus in 54% of students reporting symptoms.

To determine how many students had rhinovirus but did not have any cold-like symptoms they selected a 10% sampling of all [nasal swabs](#) collected during the 8 study weeks each year from students that did not report feeling sick. Twenty-five swabs were randomly selected each week for a total of 400 swabs (200 in 2010 and 200 in 2011). Of the 400 swabs, 33 (8.25%) were found to have rhinovirus.

Based on these findings, the researchers estimate that as many as 60.5% of the asymptomatic student population was infected at some time with rhinovirus over an eight week study period.

They also used PCR to determine the viral load in symptomatic and asymptomatic students. Students with asymptomatic rhinovirus infections had significantly less virus than symptomatic infections. Decreased amounts of the virus may be responsible for the lack of symptoms, says Granados, however, larger studies are necessary to confirm this finding.

"In this study, we found that university students with rhinovirus infections who lacked symptoms outnumbered by a factor of 4 the number of infected students with symptoms. The virus particles can be spread by aerosols or direct contact with an asymptomatic individual. There is no treatment for the common cold; therefore, frequent hand-washing is important to prevent the spread of the common cold particularly in early fall," says Granados.

Provided by American Society for Microbiology

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