

Study examines mono, chronic fatigue syndrome in college students

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Many college students fully recover from infectious mononucleosis (which is almost always caused by Epstein-Barr virus) within 1-6 weeks, but some go on to develop chronic fatigue syndrome, also called myalgic

encephalomyelitis (ME/CFS). A longitudinal study from DePaul University and Northwestern University followed 4,501 college students to examine risk factors that may trigger longer illness. The research appears in the journal *Clinical Infectious Diseases* and was funded by the National Institute of Allergy and Infectious Diseases.

Previous retrospective studies found that [risk factors](#) for developing ME/CFS after catching mono included preexisting [physical symptoms](#) and the number of days spent in bed, according to co-principal investigators Leonard A. Jason, professor of psychology at DePaul University; and Dr. Ben Z. Katz, a professor of pediatrics at Northwestern University Feinberg School of Medicine and a pediatric infectious disease specialist at Ann & Robert H. Lurie Children's Hospital of Chicago.

"We are the only study to collect comprehensive biological and behavioral data prior to illness onset, which for the first time allowed us to identify some of the predisposing circumstances or conditions that make certain individuals more likely to get ill due to mono and stay ill," says Jason, director of the Center for Community Research at DePaul.

Of the 4,501 [college students](#) in the study, 238 or 5.3% developed mononucleosis; and 55 of those (23%) met criteria for ME/CFS six months later, 20 of whom (8%) met criteria for severe ME/CFS. Researchers found that those who developed ME/CFS had more physical symptoms and immune irregularities at baseline, but they did not start out with statistically significantly more psychological symptoms such as stress, depression, anxiety or abnormal coping.

"Some people who are attacked by a virus stay sick. What we've found is that their emotional functioning and psychological states are not statistically different from those who get attacked by the same virus and recover. This becomes important validating information for those people

who have this illness," says Jason.

Participants in the study each completed seven different surveys to assess potential symptoms of ME/CFS. They also received a comprehensive psychiatric exam, and provided samples of serum, plasma and white blood cells. In future publications, researchers aim to analyze cytokine networks in participants' blood and other risk factors. Deficiencies in certain cytokines "might suggest predisposing irregularities in immune response," write the researchers. Vicky Whittemore, the Program Director at the National Institute of Neurological Disorders and Stroke (NINDS), stated that NINDS is supporting follow-up research to continue to study this cohort, and to examine possible predictors of COVID-19 as well.

"Since we have baseline data on nearly all of the 4500 students, we can use our same database to tease out risk factors for COVID infection as well as prolonged recovery from that illness," says Katz.

More information: Leonard A Jason et al, Risks for Developing ME/CFS in College Students Following Infectious Mononucleosis: A Prospective Cohort Study, *Clinical Infectious Diseases* (2020). [DOI: 10.1093/cid/ciaa1886](https://doi.org/10.1093/cid/ciaa1886)

Provided by Ann & Robert H. Lurie Children's Hospital of Chicago

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