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## C. Difficile And Antibiotics Not Necessarily Linked, Study Finds

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The finding, published in the October 6 issue of the Canadian Medical Association Journal (CMAJ), could have a major impact on how patients with diarrhea are evaluated upon their admission to the hospital.

The researchers analyzed only *C. difficile* infections acquired outside the hospital by patients aged 65 or older, and serious enough to require a hospitalization. Patients with hospital-acquired *C. difficile* infections were excluded because of the increased risk of infection and antibiotic use in the hospital environment.

Their results show that 53% of the patients studied had not been exposed to antibiotics during the 45 days preceding their *C. difficile*-related hospitalisation. A rate that decreased to 46% when the pre-hospitalization timeframe analysed was extended to 90 days. "These figures show that approximately 50% of community-acquired *C. difficile* infections are not related to antibiotic use," explained Dr. Dial. "While antibiotic use indeed plays an important role, other factors are likely to also be important. But we still need to determine what these other risk factors are."

More precisely, this study demonstrates that the highest risk of *C. difficile* infection due to antibiotic use occurs during the 30 days following treatment. According to Dr. Dial, "Beyond the 45-day period following treatment, the risk declines significantly".

"We believe that all patients suffering from diarrhea, particularly if severe enough to require a hospital visit, should be tested for *C. difficile* at their arrival in the hospital. Right now, testing is mainly done on patients who have taken antibiotics, which probably means that not everyone is receiving a correct diagnosis," warned Dr. Dial.

Dr Sandra Dial is the Director of Critical care medicine at the Montreal Chest Institute of the McGill University Health Centre (MUHC), and a researcher within the "cardiovascular diseases and critical care" and the "respiratory health" axis of the Research Institute of the MUHC. She is also an assistant professor at the Faculty of medicine at McGill University.

Journal reference:

Sandra Dial, Abbas Kezouh, Andre Dascal, Alan Barkun, and Samy Suissa. Patterns of antibiotic use and risk of hospital admission because of *Clostridium difficile* infection. CMAJ, 2008; 179: 767-772 DOI: 10.1503/cmaj.071812

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