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Chronic Family Stress Linked to Illness in Children

A new study found that chronic family stress was associated with increased illnesses in a group of socioeconomically and racially diverse school-aged children.



During the past few years, researchers have been gaining a better understanding of the connections between stress and the body. Cardiovascular problems like hypertension, coronary heart disease and stroke are heightened by chronic stress, and the immune system can also be affected. Wounds in people under chronic stress, for example, heal more slowly. Caregivers of people with Alzheimer's disease, who are often under great stress, are more likely to get the flu or a cold—and when they take vaccines, their bodies don't respond as well.

The effect of stress on children, however, is more poorly understood. Dr. Mary T. Caserta of the University of Rochester School of Medicine and

Dentistry led a team that set out to examine the association between stress, health and children's immune systems. Because a child's illness can increase family stress, the study recorded illnesses beginning after an initial assessment of parent and family stress. The study was supported by NIH's National Institute of Child Health and Human Development (NICHD) and National Center for Research Resources (NCRR).

The researchers recruited 169 healthy, socioeconomically and racially diverse children between five to ten years old. Their parents were given a digital thermometer and told to record their child's health weekly. Every six months, the parents took tests measuring their personal and family stress. The children's blood samples were also taken every six months to test their natural killer cell function, one aspect of their immune systems.

The researchers explained in the March 2007 issue of *Archives of Pediatrics & Adolescent Medicine* that the children of parents with higher levels of chronic stress and psychiatric symptoms at enrollment had higher rates of total illness and illnesses with fever in the subsequent year.

The researchers didn't see an association between short-term stress, measured at the 6-month intervals, and natural killer cell function. However, higher levels of family stress over the first 1½-year period of the study were associated with increased natural killer cell function in the children. That's surprising, because numerous studies in adults have shown lower natural killer cell activity during chronic stress. Natural killer cell function, however, wasn't linked to the rates of illnesses, so other factors in the immune system are also

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likely affected by stress, perhaps in different ways.

These findings suggest that chronic family stress may alter a child's developing immune system and have a detrimental effect on their health. Further studies will be needed to better understand the association. Future studies will need to more closely examine the interaction between parents and their children, and will need to use more refined measures of both immune system function and the types of illnesses among the children.

— by Harrison Wein, Ph.D.

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National Institutes of Health (NIH)
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