
Abstract

OBJECTIVE:
Family processes have a substantial impact on children's social and emotional well-being, but little is known about the effects of family stress on children's physical health. To begin to identify potential links between family stress and health in children, we examined associations between specific aspects of family psychosocial stress and the frequency of illnesses in children, measures of innate and adaptive immune function, and human herpesvirus 6 (HHV-6) reactivation.

STUDY DESIGN:
Prospective study of 169 ambulatory school-age children and parents. Parents completed multiple assessments of stress at 7 sequential six-month visits and maintained weekly illness diaries for their children over three years using a thermometer to record fever. Children had blood obtained for HHV-6 and immune function studies at each visit including natural killer (NK) cell function and the percentage of CD4 and CD8 cells associated with immune control of cytomegalovirus (CMV).

RESULTS:
Parental psychiatric symptoms were associated with a higher frequency of illnesses: for each 1 U increase in symptom score children had an increased 1-year rate of total illnesses of 40% (rate ratio, 1.40; 95% CI, 1.06-1.85) and febrile illnesses of 77% (rate ratio, 1.77, 95% CI, 1.00-3.13). Parental psychiatric symptom scores were also associated with enhanced NK cell function (estimate, 0.15; 95% CI, 0.05-0.26) and increased percentages of CD8+CD28-CD57+ cells in the blood of CMV seropositive children (estimate, 2.57; 95% CI, 0.36-4.79). HHV-6 reactivation was not detected.

CONCLUSIONS:
There is an association between specific psychosocial stress exposure and rates of illness and immune function in normally developing children.