



## NINR Focus: Infant and Pediatric Care

*one in a series of focus papers on research directions  
and NINR-funded research advances*

*Nursing plays a vital role in the care of infants and children. Overcoming health and developmental problems, improving healthy habits, and assisting family adjustment can bring lifelong benefits. Nursing research has contributed new knowledge in the areas of preterm and newborn infant concerns, childhood development, dealing with chronic conditions, and sexuality and teen pregnancy.*

### Preterm and Newborn Infant Concerns

**Long-term outcomes of NICU survivors.** For Newborn Intensive Care Unit (NICU) survivors, most full term and healthy preterm infants showed normal development over an 8-year follow-up. However, preterm infants with early medical problems or neurological impairment displayed more cognitive deficits and required more academic resources as they entered school age. (McGrath, 2000)

**Improving Behavioral Outcomes for Drug-Exposed Infants.** A developmental intervention for families with drug-exposed infants involved home visits by nurse specialists to establish a caring relationship, model positive parent-child interactions, monitor the infant's health, and teach parenting skills. The infants showed fewer emotional or behavioral problems, and parents reported lower distress. (Butz, 2001)

**Assessing Environments of Medically Fragile Infants.** The Home Observation for Measurement of the Environment (HOME) scale, widely used with healthy infants to assess home environment and mother-child interactions, was tested with medically fragile infants. The

HOME score correlated well with observations of mother-infant behaviors, especially with neurologically intact infants. (Holditch-Davis, 2000)

**Play Behaviors and Failure to Thrive.** For infants who show poor growth with no underlying physical cause, a condition called nonorganic failure to thrive (NOFTT), poor weight gain may result from suspected environmental or social factors. During mother-infant play, these infants displayed a negative affect, gaze aversion, and poor vocalization and responsiveness. Observing play behaviors can help in planning developmental interventions. (Steward, 2001)

**Helping Mothers of Preterm Infants.** An educational intervention, Creating Opportunities for Parent Empowerment (COPE), helped mothers of preterm infants to decrease their stress and gain understanding of the behavior of their infants. In addition, infants of COPE mothers showed higher mental development scores during follow-up evaluations. (Melnyk, 2001)

### Childhood Development

**Aerobic Exercise and Health Education for Adolescents.** Children who received an aerobic exercise program along with education on nutrition, smoking, and exercise, showed lower age-related increases in body fat and blood pressure than children in a normal physical education program. (Harrell, 2002)

**Reducing Childhood Lead Exposure.** In a community-based program for low-income neighborhoods, children received lead awareness education, along with t-shirts and other items printed with slogans on lead prevention. Adults attended informational parties and were given lead-sensitive brushes to test for areas of exposure. Lead

levels of children in the targeted areas showed a significant decline. (Rothman, 2002)

**Adolescent Suicide Prevention Programs.** Two school-based programs, Counselors CARE, a one-time assessment and coping session, and Coping and Support Training (CAST), a 12-week intervention, reduced adolescent suicide risk behaviors by enhancing self-esteem, family integration, and problem-solving, and decreasing depression. (Eggert, 2001).

**Mothers of Hospitalized Children.** Mothers who received behavioral information on common behavioral and emotional responses of hospitalized children showed lower anxiety and greater participation in their child's

care. These mothers also reported less negative behavioral change in their children after discharge. (*Melnyk, 2001*)

## Dealing with Chronic Conditions

**Coping Skills Training for Adolescents with Diabetes.** A self-management program for teens with type 1 diabetes, involving coping skills, social problem solving, social training, cognitive behavior modification, and conflict resolution, helped improve both metabolic control and quality of life. In addition, the program enhanced the self-efficacy of the teens in other areas of their life. (*Grey, 2000*)

**Inadequate Health Care for Children with Asthma.** Although 85% of children with asthma tracked over a 12-week period required use of relief inhalers at least once, less than half had any health care contact or received preventive treatment. Even among those children with almost daily attacks, few visited a health care provider or took maintenance medications. (*Yoo, 2001*)

**Helping Asthmatic Children Manage Their Symptoms.** Asthmatic children given education about symptom evaluation, triggers, and treatments, and using a peak flow meter to monitor asthma severity, showed lower

asthma score severity, fewer symptom days, and fewer health care visits. African American and low-income children showed the greatest improvement. (*Yoo, 2002*)

**Pain in Children with Sickle Cell Disease.** Two coping education interventions for children with sickle cell disease (SCD), one involving cognitive-behavioral techniques to manage pain, the other involving an art therapy program to help develop social skills with other SCD sufferers, increased the use of preventive strategies, and decreased ER visits and hospitalizations. (*Broome, 2001*)

**Camp for Children with Epilepsy.** By providing social interaction through a typical childhood experience, a one-week camp for epileptic youths helped those with a history of frequent seizures develop a more positive life attitude. (*Sawin, 2001*)

## Sexuality and Teen Pregnancy

**HIV Knowledge among Adolescent Girls.** A survey of sexually active adolescent girls revealed several areas of gaps in their HIV knowledge, including lack of awareness of transmission through unprotected oral or anal sexual contact, misconceptions about condom usage, and beliefs that douching, withdrawal during intercourse, or taking vitamins or antibiotics helped prevent HIV transmission. Those identified as highest risk for HIV infection were older and White, with good knowledge about HIV but little motivation to change. (*Morrison-Beedy, 2002*)

**Sexual Behaviors Among Latino Youths.** In a survey on sexual activity, Latino youths reported a range of sexual behaviors: on quarter had engaged in no forms of intimate contact, over half had kissed or held hands, one third had engaged in heavy petting, and one quarter had engaged in sexual intercourse. Second and third generation youths reported more sexual activity than those who were first generation immigrants. (*Villarruel, 2002*)

**Peer groups for pregnant teens.** Nurses taught peer-group sessions of pregnant teens about diet and exercise, signs of labor, newborn care, and the importance of postpartum and well-baby check-ups. Teens in the intervention delivered fewer low birth weight infants, and more continued their education than teen receiving usual prenatal care. (*Hoyer, 2002*).

**Early Intervention Benefits Infants of Teen Mothers.** An early intervention program for low-income, minority adolescent mothers consisting of parent education and home visits by public health nurses resulted in fewer days of hospitalization and higher rates of immunization for their infants. However, maternal outcomes, including depression, educational attainment, return to drug use, and repeat pregnancies, were not affected. (*Koniak-Griffin, 2002*)

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The National Institute of Nursing Research (NINR) supports clinical and basic research to establish a scientific basis for the care of individuals across the life span. NINR-supported research seeks to improve the management of patients during illness and recovery, reduce the risks for disease and disability, promote healthy lifestyles, and improve the clinical settings in which care is provided, including problems encountered by families and caregivers. To accomplish its mission, NINR provides grants to intramural research and research training at laboratories and Health. These efforts foster multidisciplinary collaborations to disabling conditions. NINR emphasizes the special needs of at-risk to reduce health disparities is an ongoing goal.

