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Shaken Baby Syndrome Education Program:

Nurses Making a Difference

Abstract
This article describes the nursing role in the Upstate New York Shaken Baby Syndrome (SBS) Education Program, an effort to educate parents of all hospital-born infants in the eight-county region of Western New York about the dangers of violent infant shaking. This program has now been expanded to include hospitals in 17 counties in Upstate New York. The major intervention is an educational program administered by nurses. These nurses describe the challenges and opportunities they faced in implementing a large community health program.
Key Words: Baby; Education; Nurse; Shaken Baby Syndrome.

Among infants, abusive head injuries represent one of the most serious forms of child abuse. Newton and Vandeven (2004) estimated that 1,200 to 1,400 children are subjected to violent shaking every year, with 25% to 30% of these children dying from their injuries. What is commonly referred to as "shaken baby syndrome" (SBS) is also called "inflicted brain trauma" and was first described in 1972 by Caffey, who described a set of symptoms associated with "whiplash-shaking and jerking" an infant as whiplash shaken infant syndrome (Caffey, 1972; Newton & Vandeven, 2004). SBS is often a consequence of caregiver frustration and/or reaction to persistent infant crying (Carbaugh & Gracey, 2004; Purdy, 2000). Research by Starling, Patel, Burke, Sirotnak, Stronks, and Rosquist (2004) has shown in a sample of 171 cases that the father was the perpetrator in 56% of cases, boyfriends in 16% of cases, the mother in 15% of cases, and babysitters or other providers of care in 14% of cases. In 91% of the cases they studied, symptoms appeared immediately after the abuse.

Because infants have weak neck muscles and disproportionately large heads, serious injuries can occur when an infant or young child is violently shaken. The underdeveloped brain rocks back and forth within the skull, and several possible injuries can occur including blindness or eye damage, developmental delay, seizures, spinal cord damage, brain injury, or even death. The majority of victims reported are under 1 year of age (Dias et al., 2005). According to The National Center on Shaken Baby Syndrome (NCSBS), symptoms of SBS that might be seen in children include the following:

- Lethargy
- Decreased muscle tone
- Poor feeding
- Vomiting
- Lack of smiling or vocalizing
- Rigid posture
- Dyspnea
- Seizures
- Bulging fontanels
- Unequal pupils
- Lack of ability to focus eyes
- Inability to lift head (www.dontshake.com)

SBS Prevention Programs

Because this problem is so devastating to the health of infants and young children, efforts have been made at prevention of SBS. One of the first SBS prevention initiatives originated in 1989 (Walls, 2006). That campaign reached 15,708 parents in one Ohio County and was called *Don't Shake the Baby* (Showers, 1992). It was conducted in six maternity units during a 12-month period, and parents were given printed material on how to cope with crying infants and information about the dangers of shaking. When the program was evaluated, more than three fourths of the respondents said that the information was helpful and should be provided to other parents. In addition, 98% of the respondents selected the correct response, *"Shaking can cause brain damage or kill a baby"* (Gutierrez, Clements, & Averill, 2004).

In the 1990s, the Junior League of St. Paul and the Midwest Children's Resource Center at Children's Health Care formed a program called *Awareness, Advice and Advocacy: The Child Abuse Project*. The goal of this initiative was to reduce the incidence of SBS through increased public awareness and community education. The public awareness component was accomplished through the use of public service announcements, brochures, transit stop posters, restroom advertisements, and other creative approaches targeting the general public. The community education component consisted of a curriculum that included parenting classes for high school students, teen parents, inmates, daycare providers, and other community organizations. There was also a sixth-grade curriculum called *Fragile: Handle With Care* that taught school age children and potential babysitters about child development and the responsibilities of caring for infants. A prime focus of the Minnesota project was that all caregivers hear the message of SBS prevention (Swenson & Levitt, 1997).

This comprehensive, regional, hospital-based program was designed to educate parents of all newborns before discharge from the hospital about the dangers of violent infant shaking.

In addition to these local or regional programs, The NCSBS has developed several education programs that target new and future parents. One example of these programs is *Dads 101,* and it is aimed at men in the military,

prisons, and halfway houses and also at fathers in hospital prenatal courses, reflecting the fact that some research had shown that men are often the perpetrators in SBS (Gutierrez et al., 2004). The educational material used in this program was aimed at increasing mens' skills and confidence as nurturing parents. The NCSBS programs for junior high and high school students are designed to educate them about the medical aspects of SBS and the injuries seen in its victims. It also teaches child care and anger management skills and offers the video, *Elijah's Story,* a documentary about a child who was shaken to death by his father. NCSBS' program called *The Period of PURPLE Crying* describes normal infant behavioral characteristics that can induce frustration on the part of parents and caregivers, including crying peaks, unexpected crying that resists soothing effects by caregivers, and crying that lasts for 30 minutes or longer. This program seeks to decrease parents' frustration and stress that can lead to shaking an infant (Walls, 2006).

Although not specifically related to SBS, there are several programs that both assess high-risk families and educate them. A study conducted in New York showed that home care visits by a healthcare provider resulted in improved parent–child relationships and fewer mandated reports to child protective services (Leventhal, 2001). Similarly, a home visitation program in Memphis noted a decrease in health problems associated with children's injuries when family homes were visited by a healthcare professional (Nagler, 2002).

Our program in Western New York was evaluated formally, and the results, which demonstrated a dramatic decrease in the incidence of SBS, were previously published (Dias et al., 2005). The purpose of this article is to inform the reader about the educational interventions we used and to underscore the importance of the nurses' role in the success of the program.

The Western New York Shaken Baby Syndrome Education Program

Our program was founded in 1998 by Mark S. Dias, a pediatric neurosurgeon who had witnessed the devastating effects of SBS on children and their families. The program was funded by the William B. Hoyt Memorial Children & Family Trust Fund, a program of the New York State Office of Children & Family Services.

He enlisted an interdisciplinary team to develop and implement a comprehensive, regional, hospital-based parent education program to educate parents of all infants born in hospitals in the eight-county region of Western New York (before discharge to home) about the dangers of violent infant shaking. The premise was that parents who were taught about SBS upon the birth of a child could be effective advocates in disseminating this information to all those who might be in the position of caring for their child (Coles & Kemp, 2003).

Figure 1. Key Elements of the Shaken Baby Syndrome (SBS) Prevention Program

American Academy of Pediatrics information brochure on SBS
SBS prevention poster
Portrait of Promise video
Commitment statement

Nurses were designated as the professionals who would provide all the education to the parents about this important new program. The perinatal nurse is in an ideal position to provide parents with this information (Cole, 2005; Reid, 2003), for it has long been known that new parents are eager to learn as much as possible about the care of their baby and that nurses are the most trusted, honest, and ethical professionals (Gallup.com, 2007).

The Program Begins

Once the program components were developed, it was initiated as a pilot study at all the 16 hospitals that provide maternity care in the eight counties of the region. Dr. Dias initially began by educating all the nurse managers of these hospitals at a regional perinatal outreach conference. The nurse managers, in turn, were then responsible for training the nursing staff to educate all families of newborns about the dangers of infant shaking. Written and video components of the program were provided to all the nurse managers, and included an informational brochure about abusive head injuries (*Prevent Shaken Baby Syndrome*) published by the American Academy of Pediatrics, which discussed the dangers of violent infant shaking and gave alternative behavioral responses to infant crying. In addition, an 11-minute video, *Portrait of Promise: Preventing Shaken Baby Syndrome* (Midwest Children's Resource Center, St. Paul, MN), was provided; it featured three families whose lives have been devastated by SBS. Educational posters (*Never, Never, Never, Never Shake a Baby* developed by SBS Prevention Plus, Pueblo, CO) were also given to each hospital for display in the hallways of the maternity units (Figure 1). The nurse managers were encouraged to ask staff nurses to provide this SBS education to parents before

Keeping a large program of parent education operational over a period of years requires specific skills in open communication and encouraging change.

hospital discharge, and at a separate time from other postpartum teaching in order to emphasize its importance.

The program entailed a nurse providing educational materials to the parents, discussing SBS with them, and showing the video (after the pilot period was completed, additional grant funding was obtained to purchase TV/VCR units and rolling carts for each participating hospital so that nurses could show the video to the parents). Finally, nurses asked parents to voluntarily sign a commitment statement that acknowledged their receipt and understanding of this information. These commitment statements were returned and tracked for evaluation of the program (Figure 1).

Nurse Coordinators Expand the Program

After a period of pilot testing, the program was awarded a 4-year grant from the same foundation to allow for continuation of the initial program in Western New York and expansion into the nine additional counties. Two nurse coordinators (the authors of this article) were hired to manage the existing program and to expand the program throughout the region.

Our first priority was to contact all the nurse managers of the perinatal units, review the status of the program in each hospital, and begin the essential development of personal working relationships with each manager. We found that face-to-face meetings and then continual contact with the nurse managers of the maternity units was most effective in keeping the program moving forward, because we could be the resource nurses for the nurse managers and provide them with updated information monthly. Our ongoing meetings with the managers determined how well the program was being implemented. In a few hospitals where program components seemed to be missing, we spent time teaching the staff nurses about the program and SBS, which was a very valuable strategy.

The importance of the nurse managers' role in the success of this nurse-driven program cannot be overemphasized, for they assumed the day-to-day oversight for the delivery of the program components for all new parents. It is clear that without their support, this program could never have achieved such success. Of the 16 regional hospitals providing maternity care, 13 participated fully during the entire 66-month study period.

As the program moved into new hospitals in the extended geographical region, the same pattern of personal contact with nurse managers and staff nurses was implemented, following the framework described by Curtis and White (2002) for implementing change in organizations. In-service education about the program was offered to all new staff when required, and the combined work of the nurse coordinators and nurse managers provided the energy and drive necessary to keep the program on track. Staff nurses were constantly encouraged to provide the necessary education to their patients, and were cooperative and motivated to do so, despite the fact that they were often overworked and stressed (Kirkley & Stein, 2004). Some of the most effective methods we used to ensure implementation of this successful program are shown in Figure 2.

Clinical Implications

A nurse-implemented, hospital-based, parent education program aimed at preventing SBS of all infants born in a large geographic area of New York State was successful, demonstrating a significant reduction in the incidence of abusive head injury among children under 3 years of age (Dias et al., 2005). Throughout the 66-month study period, the program demonstrated a sustained 50% reduction in the incidence of abusive head injuries in the region (Dias et al., 2005). Nursing played an essential role in this program, because it was nurses who educated all the parents and it was nurses who traveled throughout the region to ensure that the program was being implemented at all 17 sites. Although we had challenges in implementing such a large program, because we were nurses we were able to overcome the barriers and attain a successful outcome. Barriers faced during program implementation included the following:

- Uncertainty about buy-in by nurse managers.
- Initial staff resistance to additional work.
- Difficulty in maintaining momentum to keep the program going.

Figure 2. Successful Strategies for Implementation of the SBS Prevention Program.

Establish good working relationships with nurse managers and staff through:

Initial face-to-face contact
Monthly phone/e-mail follow-up
Monitoring monthly commitment statement return rate
Notifying nurse manager of any changes and follow-up with response
Posting reminders on unit where staff will see
In-service education for new staff as needed
Keeping staff interested with frequent program updates
Quarterly newsletter
Media coverage (print, radio, and TV)

Steps to overcome these barriers centered on establishing good working relationships with the nurse managers and nursing staff through the following steps:

- Closely monitoring monthly commitment statement return rates and communicating results to nurse managers.
- Surveying nurse mangers to determine their needs to better implement the program (one example of direct response to their needs was the purchase of the TV/VCR cart units to assist staff showing the video to parents).
- Keeping staff interested in program with frequent program updates and quarterly newsletters to the hospitals demonstrating the success of the program due to the diligence of their staff.

Because of the success of this program and the strong support of regional advocates, a bill was signed in November 2004 by the Governor of the state of New York, mandating that all hospitals and birth centers offer parents the opportunity to view the video about SBS prior to discharge. The legislation serves to enhance the efforts of existing programs to educate all parents in the state of New York about the dangers of infant shaking. The next step is to build on the success in the upstate region and to implement The Upstate New York SBS Education Program in hospitals statewide. The program, delivered by nurses, has truly made a difference in the community.

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References

Caffey, J. (1972). On the theory and practice of shaking infants. *American Journal of Diseases of Childhood, 124,* 161-169.

Carbaugh, S., & Gracey, K. (2004). Understanding shaken baby syndrome. *Advances in Neonatal Care, 4,* 105-119.

Cole, M. (2005). Please don't shake the baby. *Nursing Spectrum, 17A,* 10-12.

Coles, L., & Kemp, A. (2003). Cues and clues to preventing shaken baby syndrome. *Community Practitioner, 76,* 459-463.

Curtis, E., & White, P. (2002). Resistance to change: Causes and solutions. *Nursing Management, 8,* 15-20.

Dias, M., Smith, K., deGuehery, K., Mazur, P., Li, V., & Shaffer, M. (2005). Preventing abusive head abuse among infants and young children: A hospital-based, parent education program. *Pediatrics, 115,* e470-e477.

Gallup.com. (2007). *Nurses tops for ethics and honesty.* Retrieved July 9, 2008, from www.gallup.org.

Gutierrez, F., Clements, P., & Averill, J. (2004). Shaken baby syndrome: Assessment, intervention, and prevention. *Journal of Psychosocial Nursing, 42,* 22-29.

Kirkley, D., & Stein, M. (2004). Nurses and clinical technology: Sources of resistance and strategies for acceptance. *Nursing Economics, 22,* 216-222.

Leventhal, J. M. (2001). The prevention of child abuse and neglect: successfully out of the blocks. *Child Abuse Neglect,* 25, 421-439.

Nagler, J. (2002). Child abuse and neglect. *Current Opinion in Pediatrics, 14,* 251-254.

Newton, A. W. & Vandeven, A. M. (2004). Update on child maltreatment with a special focus on shaken baby syndrome. *Current Opinion in Pediatrics, 17,* 246-251.

Purdy, I. (2000). Shaken baby syndrome: The cry for universal prevention. *Mother Baby Journal, 5,* 21-25.

Reid, C. (2003). Health visitors play key role in SBS prevention and education. *Community Practitioner, 76,* 325-326.

Showers, J. (1992). "Don't Shake the Baby": The effectiveness of a prevention program. *Child Abuse and Neglect, 16,* 11-18.

Starling, S. P., Patel, S., Burke, B. L., Sirotnak, A., Stronks, S., & Rosquist, P. (2004). Analysis of perpetrator admissions to inflicted traumatic brain injury in children. *Archives of Pediatric and Adolescent Medicine, 158,*454-458.

Swenson, J., & Levitt, C. (1997). Shaken baby syndrome: diagnosis and prevention. *Minnesota Medicine, 80,* 41-44.

Walls, C. (2006). Shaken baby syndrome education: A role for nurse practitioners working with families of small children. *Journal of Pediatric Health Care, 20,* 304-310.

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The National Center on Shaken Baby Syndrome
www.dontshake.com