EVIDENCE FOR HEALTH PROMOTION

MEDICAL COLLEGE OF GEORGIA
DEPARTMENT OF FAMILY MEDICINE

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Welcome to Evidence for Health Promotion Newsletter.

The Evidence-Based Health Promotion Newsletter is an initiative of the Department of Family Medicine at the Medical College of Georgia to advance Health Promotion. This publication is being produced by the Faculty Development Group to provide evidence-based reviews of current literature regarding practices in health promotion and disease prevention as well as other useful health promotion tips. This newsletter is our effort to provide clinically relevant information to practicing family physicians in Georgia. Please respond to us with any suggestions or questions at (706) 721-2204.

IMMUNIZATION NEWS

MENINGOCOCCAL DISEASE

(By David M. Jester, MD)

Immunization of College Students Against Meningococcal Disease. *The Medical Letter*, 2000;42.

Neisseria meningitis causes between 2,400 and 3,000 meningitis cases annually in the USA. College students account for 3% of these cases and the rate is 4.6/100,000 among freshmen who live in dormitories. The fatality rate is 10%. The vaccine produces effective antibody levels. Although no controlled clinical trials have been done, immunization appears to be effective based upon experience with US military recruits. There are no serious reactions, but local irritation (swelling, tenderness, erythema) is common. The cost is $75 for the recommended single 0.5 ml dose.

Recommendation: The use of the meningococcal vaccine should be recommended for freshmen who plan to live in college dormitories.

WHY DID THE CHICKENPOX CROSS THE ROAD?

(By Rayvelle Stallings, MD)

Wise RP, Salive ME, Braun MM and Mootrey GT et al. Post licensure Safety Surveillance for Varicella Vaccine. *JAMA*, 2000;284:1271-9.

Clinical Question: Is the Varicella Vaccine safe?

Background: In March 1995, the live-virus varicella vaccine was licensed to prevent chickenpox and the morbidity and mortality associated with varicella. The Food and Drug Administration (FDA) approved this vaccine based on the safety profile from studies involving almost 9500 healthy children and more than 1500 adolescents and adults. Adverse reactions before licensure included local injection-site pain, erythema and a varicella-like rash in 4-6% of vaccines. Three years after licensure, some 9.7 million doses have been sold (as of July 1998).

Population Studied: 6574 case reports from recipients of the varicella vaccine to the US Vaccine Adverse Event Reporting Systems (VAERS) from March 17, 1995 through July 25, 1998. This is a rate of 67.5 reports per 100,000 doses sold.

Study Design & Validity: This is a post licensure case-series study of suspected vaccine adverse events that were voluntarily reported to the VAERS.

Outcomes Measured: The purpose of this study is to detect potential serious adverse effects associated with the varicella vaccine for clinical and epidemiological implication.

Results: Approximately 4% of reports described serious adverse events including ataxia, aplastic anemia, encephalopathy, seizures, thrombocytopenia and 14 deaths. Twelve percent of these patients had also received measles, mumps and rubella vaccine (MMR) and other vaccine combinations without MMR. From March 1995 to July 1998, there was an overall adverse events report rate of 67.5 per 100,000 doses distributed. This study showed that there were 0.1 deaths, 2.8 other serious adverse events, and 64.5 other nonserious adverse events per 100,000 doses.

Recommendations for Clinical Practice: Since most reported reactions to the varicella vaccine are minor and the serious reactions appear to be rare and possibly associated with other variables, the varicella vaccine appears safe.

VIOLENCE PERPETRATION IN AFRICAN-AMERICAN URBAN YOUTH (By Julie Hendrich, MD)

Feigelman S, Howard DE, Xiaoming L, and Cross SI. Psychosocial and Environmental Correlates of Violence Perpetration among African-American Urban Youth. *Journal of Adolescent Health*, 2000;27(3):202-9.

Clinical Question: What proportion of urban youth are involved in acts of violence and what is the relationship between factors associated with perpetration and victimization and/or witnessing violence?

Background: National statistics reveal a decrease in crime overall, however, the amount of crime involving older children and young adolescents has not decreased commensurately. High prevalence rates for adolescent exposure to violence as victims and witnesses is well-documented. The relationship between personal exposure to violence and subsequent perpetration is not well understood. Increases in drug trafficking and use, in weapon availability and use, and gang membership likely contribute to the explosion in adolescent exposure to violence. Contrastingly absence of drug and alcohol use, age-appropriate social development, problem solving strategies, and community involvement, have been documented to reduce adolescent violence.

Population Studied: 349 youth between the ages of 9 and 15 years were recruited at 10 low-income public housing communities in Baltimore, Maryland between December 1995 and February 1996. 96% were African-American. Fifty-seven percent were male. School grade level was 3rd through 11th.

Study Design and Validity: The study is a cross-sectional survey using self-report questionnaires which assessed exposure to violence, distress symptomatology, psychosocial functioning, violence perpetration, family communication, and perceptions of parental monitoring. Five items from the Child Health and Illness Profile (CHIP) were used to assess violence perpetration. Exposure to violence was assessed by a modified version of the Survey of Children's Exposure to Community Violence. Individual risk factors included health risk behaviors such as drug use and sexual behavior, risk-taking, problem-solving skills, self-esteem and academic performance. Peer influences measured included number of friends who smoked, drank, used drugs, and were sexually active as well as personal gang membership. Family environment was assessed through demographic data regarding parental education, employment, household size, and presence of guns in home. Parent-adolescent communication and parental monitoring were measured using standardized instruments with previously demonstrated good reliability and validity.

Outcomes Measured: The proportion of youth involved in violence, as well as the relationship between perpetration, witnessing victimization, and other individual risk-factors were measured.

Results: Almost 50% of the youth, regardless of gender, reported at least one act of violence perpetration. Seventy-five percent of perpetrators reported at least one episode of personal victimization and one episode of youth-witnessed violence. Among nonperpetrators, 69% reported one occurrence each of victimization or witnessing. Perpetration was associated with increased individual risk behaviors and increased victimization. There was a linear relationship between acts of perpetration and victim experiences.

Clinical Recommendation: Many urban youth are exposed to chronic and high levels of community violence, including personal victimization, which contribute to individual participation in acts of violence. Physicians should use this information to enhance awareness of the need to address violence issues in cases where victimization has occurred.

EARLY POST-PARTUM DISCHARGE (By Johnathan Gore, MD)

Malkin JD. Infant Mortality and Early Post-partum Discharge. *Obstetrics and Gynecology*, 2000;96(2):183-8.

Background: From 1970 to 1993, the average length of stay for an uncomplicated vaginal delivery (VD) was reduced from 3.9 to 2.0 days, and for an uncomplicated cesarean delivery (CD) from 7.9 to 3.9 days. During the mid-1990's there was increasing concern about this reduction in length of stay adversely impacting neonatal outcomes, and this concern led to the US Congress' passing laws mandating insurance companies to cover at least 48 hours for a normal VD and 96 hours for an uncomplicated CD. Literature including randomized trials and literature reviews have failed to support this concern.

Study Design and Validity: This historical cohort study examined the records of 49,879 live births from Washington State during the period of 1989-1990. The relationship between postpartum length of stay and newborn mortality was analyzed. Children were all low-risk term neonates, and the length of stay was strictly measured. Children were placed in two groups: early (less than 30 hour stay) and late (from 30 to 72 hours)

EARLY POSTPARTUM DISCHARGE (CONT'D)

(By Johnathan Gore, MD)

discharge. This resulted in samples including 9101 infants in the early discharge group and 39,778 infants in the late discharge group.

Outcomes Measured: The endpoint measured was infant mortality from birth to 28 days and from 28 days to one year.

Results: There were 155 deaths. These included 103 (66.5%) attributable to sudden infant death syndrome, 14 (9.0%) from heart related problems and 8 (5.2%) by infection. The remaining 30 (19.3%) deaths were from accidents, injuries, and other medical causes. This study showed a significant positive association between early discharge and newborn mortality. Infants discharged early were more likely to die of heart related illness (OR 3.72, CI 1.25-11.04), infection (OR 4.72, CI 1.13-19.67), sudden infant death syndrome (OR 1.75, CI 1.15-2.68) and other causes (OR 2.27, CI 1.05-4.88). The number of infants needed to treat in order to prevent one death was 1400.

Recommendations for Clinical Practice: This is the first study to show a significant relationship between early discharge and increased infant mortality. This was a well done study that appears to be valid, but, since this data was collected, lengths of stay have increased and this issue is probably not as significant as it was in the late 1980's. This study reassures us that keeping the current stays at 48 hours for VD and 96 hours for CD is appropriate.

EFFECTS OF NURSE VISITATION AN CHILD ABUSE IN SETTINGS OF DOMESTIC VIOLENCE

(By Peggy Wagner, PHD)

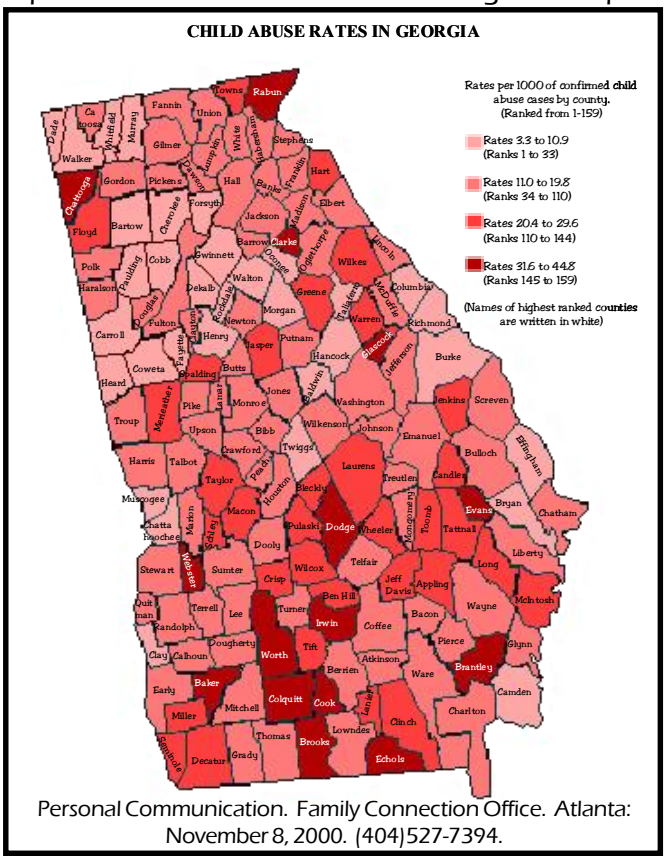
Eckenrode J, Banzel B, Henderson CR, et al. Preventing Child Abuse and Neglect With a Program of Nurse Home Visitation. *JAMA*, 2000;284:1385-91.

Clinical Question: Does domestic violence limit the impact of a nurse home visitation program in the reduction of reports of child abuse and neglect?

Background: Child abuse remains a major public health problem with about 1 million abused children annually (15 out of 1000). Enthusiasm for home visitation programs as possible prevention mechanisms has been great in spite of rather limited effectiveness data. Part of that enthusiasm is due to the results of a study conducted 20 years ago that demonstrated that nurse home visitation was effective in reducing child maltreatment for children up to the age of 2. The current study is a 15-year follow-up of those results.

Population Studied: 400 socially disadvantaged pregnant women with no previous live births were enrolled in 1978-1980. All women were recruited by the county health department in an upstate New York semi-rural community.

Study Design & Validity: This was a 15-year follow-up of a randomized controlled trial with comparisons across 3 groups: routine care; routine care plus nurse home visits during pregnancy; routine care plus nurse home visits during pregnancy and through the child's 2nd birthday. Nurses completed an average of 9 visits in the pregnancy home visit group and 23 in the 2nd year birthday group. The follow-up sample of 81% of the original sample (n=324) persons exhibited no differences in follow-up rates among the three initial groups. No data is presented as to whether there was a difference among groups in the 49 cases where either the child or mother died (n=26 and 2 respectively), the child had been adopted (n= 15), or the parents refused to participate.



Personal Communication. Family Connection Office. Atlanta: November 8, 2000. (404)527-7394.

EFFECTS OF NURSE VISITATION AN CHILD ABUSE IN SETTINGS OF DOMESTIC VIOLENCE (CONT'D)

(By Peggy Wagner, PHD)

Interviews with mothers were conducted assessing for domestic violence using the Conflict Tactics Scale. Substantiated reports of child abuse were collected from records of Child Protective Services.

Outcome Measured: The main outcome measure was substantiated reports of child abuse from state records which was analyzed by intervention group and corresponding level of domestic violence reported by the mother.

Results: Families receiving home visitation up to the child's 2nd birthday had significantly fewer child maltreatment reports involving the mother as perpetrator of abuse toward the study child as subject than control families. Home visitation only during pregnancy produced no differences from the control. In the 2nd birthday group , the strength of the treatment decreased as the level of domestic violence increased. For women who reported more than 28 incidents (over the 15 year period) of domestic violence, the visitation intervention had no impact on child abuse.

Recommendations for Clinical Practice: The intensity of the home visitation program and the limited effect may make many providers feel as if there is little they can do to address child abuse. Clearly domestic violence as a risk factor for child abuse needs to be at the forefront of our thinking when children are in the home of a battered woman we are treating. Further, the fact that this program has been replicated over 200 times in many communities may suggest that physicians need to be active in their own communities in the encouragement of such efforts. To date we have no better options.

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