

PARENTAL REASONS FOR DELAYED IMMUNIZATIONS IN CHILDREN HOSPITALIZED IN A WASHINGTON, DC, PUBLIC HOSPITAL

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This prospective study reports the immunization status of uninsured or Medicaid-funded, high-risk urban preschool-aged children hospitalized at the District of Columbia General Hospital in Washington, DC, and the reasons for delays as identified by their parents or guardians. There were 602 consecutive admissions of preschool-aged children over a 29-month period. One hundred seventy-five questionnaires were adequately completed for analysis. Thirty-four percent of parents cited problems that have social implications as the main reasons for their children's lack of immunizations. It is important to note that missed opportunities by health-care providers also contributed to the immunization delay in this patient population. Based on these results, it is important that each patient encounter be used to ensure parent education so that each child is appropriately immunized. (*J Natl Med Assoc.* 1996;88:433-436.)

Key words • vaccinations • immunizations
• preschool-aged children

It is estimated that less than 40% to 50% of children in the United States have appropriate immunizations, with

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the lowest concentrated levels being found among lower socioeconomic groups.¹ At the same time, state school immunization laws and requirements have led to immunization rates greater than 95% in school-aged children.²

In the United States, reported cases of measles decreased by 95% within 5 years of vaccine approval for general use in 1963.³ However, 27,672 cases were reported in 1990; children younger than age 5 accounted for 48.1% of these cases.⁴ Since 1985 when the first vaccine against *Hemophilus influenzae* type b was licensed in the United States, the incidence of disease caused by *H influenzae* has shown initial declines in incidence in children younger than age 2, the highest risk group.⁵

This study was undertaken to determine from parents why their children's immunizations are delayed and how health-care providers can overcome the barriers of childhood immunizations. These observations support the need for more information relative to the crucial importance of immunizations at the appropriate ages.

METHODS

Setting

The District of Columbia General Hospital in Washington, DC, an affiliate of Howard University College of Medicine and Georgetown University School of Medicine, is a public hospital. Fifty-six percent of the patients are classified as non-third party payers, uninsured, while 20% have Medicaid.

Study Participants

All patients admitted to DC General Hospital from November 1, 1991 through March 31, 1994 who were

TABLE 1. PARENTAL REASONS FOR IMMUNIZATION DELAY IN THEIR CHILDREN*

Responses	No. (%)
Other (please explain)*	60 (34.3)
Child always has a "cold" when he/she goes for baby shots	42 (24.0)
I do not have any reason	39 (22.3)
I am too busy	15 (8.6)
Hard to get a clinic appointment	10 (5.7)
Cannot pay for immunizations	5 (2.8)
I did not know that my child needed immunizations	3 (1.7)
Transportation problem	1 (0.6)
Clinic hours not convenient because I work	0 (0)
Total	175 (100)

*See Table 2.

between 4 and 26 months old were included in this survey. There were 602 consecutive medical and surgical patients studied. One hundred percent of the patients were either self-pay or Medicaid recipients.

Immunization Status

It was required that parents or guardians of all the patients in the identified population provide written documentation of their child's immunization status. Clinic records in which immunizations were documented were considered valid proof. In 30 cases, immunizations were confirmed by phoning community health clinics and private physicians. When immunizations could not be confirmed, it was noted in the medical record that immunization status could not be documented. Immunizations were not validated by parents saying "up-to-date," etc. For example, immunizations were considered delayed if they were ≥ 60 days past due as recommended by the 1991 *Red Book* of the American Academy of Pediatrics.⁶ Hepatitis vaccination survey was not included because it was not a standard recommendation at the time the survey began.

Questionnaire

When a patient was found to be delayed or completely without immunizations, the parents/guardians were encouraged to complete a questionnaire to explain why the child had not been immunized as recommended. The questionnaire was in a checklist format and was derived from previous reasons given by parents/guardians who had not complied with the immunization schedule.

TABLE 2. OTHER PARENTAL REASONS FOR IMMUNIZATION DELAY

Reason	No.
I missed the appointment	22
I have a drug problem	16
I move around a lot	7
I am scared of the shots	3
Shots not a priority in my life	2
I am having marital problems	2
Clinic did not have vaccine	2
The clinic said my baby had to weigh 10 pounds to get shots	2
Child's mother was murdered	2
None of your business	2
Total	60

Parents completed the questionnaire without assistance except for a few illiterate parents who had questions read to them and whose answers were recorded by a single observer. A concerted effort was made to determine whether the parents/guardians thought immunizations to be important.

RESULTS

Attempts were made to establish immunization status during the admission history and physical process. A total of 602 children were reviewed at the time of admission. Of these, 276 (45.8%) patients were appropriately immunized; 171 (28.4%), partially immunized; 42 (7%), without any immunizations; and 113 (18.8%), immunizations not documented.

One hundred thirty-one patients including patients appropriately immunized, partially immunized, and without any immunizations were identified as having chronic diagnoses while 358 patients had acute illnesses. One hundred thirteen patients whose records could not be verified were excluded. Forty-eight percent of chronically ill patients were appropriately immunized. However, patients with acute illnesses had a higher immunization rate (60%). Chronic illnesses included conditions such as asthma, acquired immunodeficiency, human immunodeficiency virus seropositivity, cerebral palsy, congenital heart disease, seizure disorders, and chromosomal anomalies. Acute conditions included acute abdomen, trauma, pneumonia, sepsis, meningitis, cellulitis, gastroenteritis, anaphylaxis, toxic ingestions, and complications of acute conditions.

One hundred seventy-five caretakers completed the research questionnaire designed for this study. Thirty-eight adults declined to participate. Parent/guardian responses to the questionnaire suggest that social

issues take precedent over childhood immunizations (Tables 1 and 2). The second major barrier cited by the caretakers was the medical care delivery system. Twenty-two percent of the respondents did not have any reason for their children being delinquent. Moreover, this urban, economically deprived population did not perceive inability to pay nor transportation as major barriers. Clinic hours conflicting with work schedules was not cited even though 28 guardians were employed. The majority (95%) of caretakers believed that immunizations are important in protecting their children from diseases (Table 3).

Prior to discharge from the hospital, 100 patients with delayed immunization records were immunized. Twenty-two parents refused to consent to immunizations.

DISCUSSION

In the patients reviewed, the barriers identified by this consumer population were attributable to three factors:

- parental social problems,
- lack of health professionals' awareness of relative and absolute contraindications for immunizations of children, and
- lack of parental education about preventive health care.

It is mandatory that health-care providers remain up to date on absolute and relative contraindications for immunizations.

In this population of socioeconomically deprived single-parent households, daily survival is a real priority. Preventive health care is not an urgent need even when the child has a chronic illness. Also, because their parents do not work, the children do not attend day-care centers. Therefore, immunizations are not mandated as they are by day-care providers.⁷ It is suspected that the numbers in this review for incomplete immunizations are higher when those without documentation are considered. Studies of various clinical settings in Rochester, New York, demonstrated that missed opportunities during patient visits frequently occur.⁸ The missed opportunities were more prevalent in children with Medicaid or no insurance.

In 1988, a Utah survey revealed that 18% of parents whose children had delayed immunizations believed that immunizations would cause problems or did not consider immunizations to be important.⁹ Moreover, in 1976, Markland and Durand¹⁰ suggested that low perception of disease seriousness and risk may be barriers to childhood immunization. The same barriers seem to exist to the patients in the public hospital in Washington, DC, although the percentages show improvement in attitudes

TABLE 3. PARENTAL ATTITUDES TOWARD IMMUNIZATIONS

	No. (%)
Do you feel that immunizations are important in protecting your child from diseases?	
Yes	166 (95)
No	5 (3)
Don't know	4 (2)

toward immunizations. The findings of this study strongly support other studies that have related socioeconomic status to immunization barriers.

CONCLUSION

This study provides information to health-care providers and policy makers about the perception and attitudes of the consumers, the parents of children, toward immunizations for their preschool-aged children. For providers to reach this group, barriers must be overcome. Many of the barriers are not related to health care; however, they do impede access. The costs of providing immunizations to certain populations is much greater than may be recognized. Health-care providers must be cognizant of the social problems that often compromise delivery of preventive health care, especially to high-risk populations.

To reach high-risk urban populations, existing and new programs must be enhanced, including education of health-care providers about using every encounter to immunize, development of effective and continuous parental education methods, and development of tracking systems for patients who have entered the immunization process.

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Childhood AIDS Nephropathy: A 10-Year Experience

D. Rajpoot, MD, C.J. Kaupke, MD, N.D. Vaziri, MD, T.K.S. Rao, MD, A. Pomrantz, MD, and S. Fikrig, MD

The objective of this study was to define the demographic, immunologic, and clinical characteristics of children with acquired immunodeficiency syndrome (AIDS) and AIDS nephropathy, and contrast this with the existing adult data. Data from 62 pediatric patients with AIDS followed at SUNY Health Science Center, Brooklyn, New York, during the 1983-1993 period were analyzed. Human Immunodeficiency Virus infection was acquired during the neonatal period, by vertical transmission (N=60), or blood transfusion (N=2). All 16 AIDS children exhibiting clinical nephropathy died (mean survival: 55.3 months.) In contrast, 32 of 56 AIDS patients (70%) not manifesting nephropathy were alive at the end of the study period. Patients with nephropathy were noted to have significantly lower CD4+ lymphocyte counts than those without nephropathy ($P<.001$).

Our observations suggest that the predominant renal lesion in pediatric patients who acquired HIV infection during the perinatal period is focal segmental glomerulosclerosis, although a variety of other histological lesions were present. As in adults, the survival in children is dismal following the onset of clinical renal disease. In contrast to the adult population in whom multiple risk factors can potentially contribute to AIDS-associated nephropathy, occurrence of nephropathy in children with vertical HIV transmission provides convincing evidence for the pathogenetic role of HIV infection.

Geographic and Temporal Patterns of Recurrent Intentional Injury in South-Central Los Angeles

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To better understand geographic and temporal patterns of recurrent intentional injury, 285 consecutive trauma patients were prospectively evaluated. Fifteen were excluded because of immediate death or severe brain injury. The remaining 270 were interviewed. Of these, 59 (22%) had been treated in a hospital for a total of 75 previous episodes of intentional trauma (mean 1.3 episodes/patient). In 66 of the 75 episodes, the patient recalled where he had been treated. Twenty-eight (42%) of the 66 episodes had been treated at King/Drew Medical Center (KDMC), 36 (55%) had been treated at a hospital within a 3-mile radius of KDMC, 48 (73%) within an 8-mile radius, and 63 (95%) within a 10-mile radius.