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Universal Infant Hepatitis B Immunization Program Success Continues

Alaska initiated a Universal Infant Hepatitis B (HB) Immunization Program in the spring of 1993. A recent hospital survey estimated that the percentage of newborns who received dose 1 of HB vaccine in the hospital was 94%.¹ The Section of Epidemiology recently assessed HB vaccine series initiation and completion.

Methodology:

A convenience sample of 40 infants was drawn from an Anchorage hospital's newborn nursery log by randomly selecting every 20th infant in the log, born between August 1, 1993 and November 30, 1993, for inclusion in the study. The following information was gathered for each infant: name, date of birth, date of HB vaccine dose 1, infant's primary provider, and any vaccination refusals. The provider was then contacted in writing and asked to provide dates (if available) of the infant's second and third doses of hepatitis B vaccine. If the provider reported not seeing the infant, municipal (and in some cases state) public health nurses were contacted for vaccination information. Infants were followed through July 1994.

Age appropriateness of HB immunization was assessed in the following manner: infants were considered to be on-time if they received doses 2 and 3 by the time they turned 2 months (60 days) and 7 months (210 days) old, respectively. Age appropriateness of dose 1 could not be assessed because hours of birth and vaccine administration were not available.

Results:

All 40 infants in the sample received dose 1 of HB vaccine. **Of these 40 infants, 27 (67.5%) completed the 3-dose HB vaccine series.** Nine (22.5%) infants were lost to follow-up; seven (17.5%) after discharge from the hospital (i.e. the primary provider listed on the newborn nursery log had not seen the infant since birth), and two (5%) after receiving dose 2 of the HB vaccine series. Four (10%) infants did not complete the series.

Of the 40 infants who received dose 1 of HB vaccine, 29 (72.5%) received it within 1 day of birth. Thirty-three of 40 (82.5%) infants completed 2 doses of HB vaccine; ten (25%) received dose 2 on time (60 days old). Twenty-seven of the 40 (67.5%) infants completed the full series of HB vaccine; 22 (55%) received the third dose on time.

Discussion:

This pilot study was the first evaluation of HB vaccine series completion since the inception of the Universal Infant HB Immunization Program. This small study documented a 67.5% completion rate for HB vaccine among infants born at one Anchorage hospital. This percentage represents a minimal estimate of completion. Results indicate Alaska has far surpassed the 1994 National Childhood Immunization Initiative goal of 30% coverage for HB. Hospitals, physicians, and other health care providers have done an excellent job of implementing universal immunization of infants against HB.

Although most infants in the study completed the HB vaccine series, only 25% completed dose 2 on time, and 55% completed dose 3 on schedule. The Alaska recommended schedule for HB vaccine is within 12 hours of birth, at 1 month, and at 6 months of age.

Nine newborns included in the sample were lost to follow-up. It is possible that they were not receiving care, may have transferred to another physician, or returned to their hometown outside of Anchorage where they received the rest of the series.

One infant received dose 2 too early. There must be a minimum of 1 month (28 days) between doses 1 and 2. Doses given too close together should be repeated. A number of infants were late for scheduled doses. If this happens, do not restart the series, simply continue with the next dose.

Recommendations:

1. Hospitals and health care providers should continue to collaborate to ensure that infants who receive the first dose of HB vaccine in the hospital complete the 3-dose series.
2. Hospitals, physicians and other health care providers should consider instituting a reminder system to ensure that infants start and complete the HB vaccine series on time. A telephone call or reminder postcard have been shown to be effective in raising immunization levels.²

References:

1. Section of Epidemiology. Universal infant hepatitis B immunization: Hospitals succeed in disease prevention. *Epidemiology Bulletin* No. 27; December 12, 1994.
2. Brimberry, R. Vaccination of high-risk patients for influenza: A comparison of telephone and mail reminder methods. *Journal of Family Practice* 1988; 26: 397-400.

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