GAPS IN ADHERENCE TO PERINATAL HEPATITIS B DETECTION AND PREVENTION GUIDELINES IN FLORIDA AMONG HEALTHCARE PROFESSIONALS

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HEPATITIS B VIRUS: ETIOLOGY

- Small, double-shelled virus belonging to the family Hepadnaviridae.
- Humans are the only reservoir for Hepatitis B.
- The virus can survive up to 7 days outside of the body.
- Incubation period range between 45-180 days (average: 60-90 days).
- Modes of transmission:
  - Blood, semen, bodily fluids, and vertically from mother to fetus
**RISK OF HEPATITIS B INFECTION**

- Hepatitis B can cause chronic infection, leading to liver cirrhosis and liver cancer.
The Centers for Disease Control and Prevention (CDC):

- Between 450 and 750 hepatitis B surface antigen (HBsAg)-positive Florida women give birth each year
- Without prophylaxis, 45 to 100 infants would become infected with HBV.
- Ninety to 95% of these potential infections may be avoided through appropriate maternal screening and infant post-exposure prophylaxis.
PREVENTION OF PERINATAL HEPATITIS B INFECTION

- Perinatal HBV transmission can be prevented by identifying HBV-infected (i.e., HBsAg-positive and/or DNA positive) pregnant women.

- Providing Hepatitis B immunoglobulin and Hepatitis B vaccine to infants within 12 hours of birth.

- Continue vaccination and Post vaccine serology testing (PVST).
Perinatal HBV Prevention

Identification of HBV-positive mother
- OBGYN/PCP

Continue vaccination + PVST
- Pediatricians

Administration of HBV vaccine + immunoglobulin
- Delivery hospitals
HBV VACCINE

- First introduced in the United States in 1981.
- Efficacy of 95% (range, 80%-100%).
- Duration of immunity is 20 years or more.
- Schedule 3 doses:
  - at birth
  - within 4 weeks after first dose
  - at 6 months of age
HEPATITIS B POST EXPOSURE PROPHYLAXIS (PEP)

- Post-exposure prophylaxis (PEP) for HBV-exposed infants is initiated within 12 hours of birth, it prevents 95% of HBV infections via Mother-To-Child-Transmission.

- Maternal antiviral therapy to reduce perinatal transmission is suggested for HBsAg-positive pregnant women whose HBV DNA level is >200,000 IU/mL.
Infants born to HBsAg-positive mothers shall receive Hepatitis B immune globulin and hepatitis B vaccine once physiologically stable, preferably within 12 hours of birth, and complete the Hepatitis B vaccine series according to the recommended vaccine schedule.

Testing infants for HBsAg and antibody to Hepatitis B surface antigen (anti-HBs) six (6) months after the completion of the Hepatitis B vaccine series is recommended to monitor the success or failure of therapy. (The Florida Department of Health, Perinatal Hepatitis B Prevention Program (PHBPP), recommends Post-Vaccination Serology testing 3 to 12 months after completion of at least 3 doses of the hepatitis B vaccine series, but no earlier than 9 months of age)
FLORIDA ADMINISTRATIVE CODE (F.A.C) CHAPTER 64D-3.040 AND 64D-3.042

- Practitioners attending a woman for prenatal care shall cause the woman to be tested for Hepatitis B at initial examination related to her current pregnancy; and again at 28 to 32 weeks gestation.

- Women who appear at delivery or within 30 days postpartum with: (a) No record of prenatal care; or (b) Prenatal care with no record of testing; or (c) Prenatal care with no record of testing after the 27th week of gestation, shall be considered at a high risk for sexually transmissible diseases and shall be tested for hepatitis B surface antigen (HBsAg), HIV and syphilis prior to discharge.
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METHODOLOGY

▪ Descriptive data analysis of deidentified data from the Communicable Disease Reporting System (Merlin).

▪ **Sample selection:** The target population includes all Hepatitis B surface antigen (HbsAg) and/or Hepatitis B DNA positive women in the reproductive age group (15-44 years) in the State of Florida between the years 2012 to 2017.

▪ Children born to Hepatitis B surface antigen (HbsAg) and/or Hepatitis B DNA positive mothers in the State of Florida between the years 2012-2017.

▪ **Data Collection:** Data will be collected and reviewed from the Florida Department of Health Communicable Disease Reporting System (Merlin) data and Florida Shots System (FL Shots).
MEASURES

(1) Perinatal testing of pregnant women for Hepatitis B at initial examination related to current pregnancy and again at 28 to 32 weeks gestation.

(2) Administration of PEP (immunoglobulin + vaccine) for infants born to HBsAg positive mothers at the delivery hospital.

(3) Administration of Hepatitis B vaccine to infants born to HBsAg positive women.

(4) Post Vaccine Serology Testing of infants born to HBsAg positive mothers.
CHALLENGES

- IRB approval/ Merlin Data agreement form
- Data availability
  - HBsAg Vs. DNA testing
  - Negative + Positive labs
  - Positive results Vs. pregnancy status
  - Merlin Lab- case linkage
- Change research plan
REFERENCE

- Perinatal hepatitis B, Disease and conditions, Florida department of Health

- Hepatitis B, Perinatal, FLHealthCHARTS Data Viewer
  http://www.flhealthcharts.com/charts/OtherIndicators/NonVitalIndNoGrpCountsTenYrRpt.aspx?q=O1pd1Ap41ErOeFEoJGzuHxU1JczDOkIE2EvaucCdlGfAbY7XupvMOLOd4m3dIUBY


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