Impacting Congenital Abnormalities and Infectious Complications During Pre-Conception Through Pregnancy

The Zika Prevention Program (ZPP) ©

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ZIKA: Is spread to people primarily by the bite of an infected Aedes species mosquito.

- Can be passed through sex from a person who has Zika to his or her sex partners. (vaginal, anal, and oral). Male and female condoms can reduce the risk of contracting the Zika Virus from sex. Other modes of transmission such as blood transfusion are being investigated.

- Most people infected with Zika virus do not get sick. The illness is usually mild, lasting from several days to a week (2-7 days). Symptoms include mild fever, skin rash, joint pain, and red eyes (conjunctivitis, muscle and joint pain, malaise or headache).

- It is not safe for pregnant women to visit areas with current Zika transmission. Pregnant women should delay travels to areas with Zika. A pregnant woman can pass Zika virus to her fetus during pregnancy or around the time of birth.

- Blood safety interventions are needed for both unaffected and affected areas because of the risk of transmission of Zika virus infection through blood transfusions.

- Outreach to physicians to encourage Zika virus testing among pregnant women and among patients with clinically compatible illness in areas where Aedes aegypti and Aedes albopictus mosquitoes are likely to be abundant and where travel-associated cases have been identified.

- Causes microcephaly and Guillian-Barre syndrome, and other neurological complications; seizures, congenital brain abnormalities; and spastic or frozen arms and legs.

- RNA in the serum of a pregnant woman at 4 weeks and 10 weeks after the clinical onset of ZIKV infection but not after delivery. Fetus showed abnormal development of the corpus callosum and decreased brain parenchymal volume. Images between 16 and 20 weeks of gestation the head circumference decreased from the 47th percentile to the 24th percentile. (Driggers, R.W., 2015).

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- Clinical Question: Does Herd Immunity promote long-term immunity in women of childbearing age?

- PICOT
  - Population: Adolescent females
  - Intervention: Zika Virus Protection Program (ZPP) ©
  - Comparison: ZPP Program compared to current guidelines
  - Outcome: Decrease in the rate of congenital abnormalities and infectious complications related to the Zika Virus during pre-conception through pregnancy
  - Time: Pre-pregnancy thru pregnancy

- Clinical Question: Does abstinence for 6 months after ZIKV exposure result in long-term immunity in women of childbearing age?

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Evidence

“Temporal relationship between maternal Zika virus infection during pregnancy and congenital microcephaly inBahia State and the possible gestational time when risk is highest” (Reefhuis, J., et al, 2016).

“Can be transmitted through sex without a condom. Men: wait to conceive least 6 months after onset of symptoms or exposure. Women: Wait at least 8 weeks after onset of symptoms or exposure” (Petersen, E. L., 2016).

“CHOICE study in St. Louis using LARC decreased unintentional pregnancy by 75% between 2007-2011. Similar results in Iowa and Colorado. 2008 survey in Puerto Rico 65% of postpartum women reported this pregnancy was unintentional” (Tepper, N. K., et al., 2016).

“Fetus infected with ZIKV during the 1st gestational week and between 16 and 20 weeks of gestation the head circumference decreased from the 47th percentile to the 24th percentile” (Driggers, R.W., 2015).

“Among 117 live births born to 116 ZIKV-positive women, 42% were found to have grossly abnormal clinical or brain imaging findings or both, including 4 fetuses with microcephaly; 55% of pregnancies had adverse outcomes after maternal infection in the first trimester. 52% after infection in the second trimester. 29% after infection in the third trimester” (Brasil, P., 2016).

“Current sexual prevention guidelines recommend that men use condoms or abstain from sex for 6 months after ZIKV exposure: in 95% of the men in this study, Zika virus RNA was cleared from semen after 6 months. The minimal time that persons who have potential exposure to ZIKV should avoid donating blood is 120 days. Detectable viral RNA in urine for 6 weeks” (Paz-Bailly, 2017).

- Implication Nursing Research & Education

- Research: Does Herd Immunity promote long-term immunity in women of childbearing age?

- Research: What health policies and public health programs are needed with a focus on prevention, and surveillance in countries with high confirmed Zika virus population?

ABSTRACT

Purpose: On February 1, 2016 the World Health Organization (WHO) declared a public health emergency of international concern related to the number of babies with microcephaly and other neurological disorders affected by the Zika virus (Centers for Disease Control and Prevention (CDC), 2016). The infected mosquito (Aedes aegypti) transmits the Zika virus as a primary infection; secondary transmission occurs among unprotected vaginal intercourse, unprotected anal intercourse, and breastfeeding (CDC, 2016). CDC resources indicated that men traveling to or residing in areas with active Zika virus have been found to carry the virus in their semen up to 62 days after symptoms subside. Notably, the virus will continue to spread over time, and it will be difficult to determine the effects of the virus to 80-90% of persons infected may have no knowledge of suffering the virus or demonstrate only symptoms of infection (Olson et al., 2016; Hubbard, 2016). Also, the Zika virus can be passed from a pregnant woman to her fetus during pregnancy (Martinez 2016). Therefore, the purpose of this evidence-based practice project is to investigate the Zika Prevention Program (ZPP) compared to current guidelines in decreasing the rate of congenital abnormalities and infectious complications during pre-conception through pregnancy.

Methodology: Current an extensive health issue exists during critical fetal development in an affected mother; intervention. The Zika Prevention Program (ZPP) seeks to educate the public, and set up health policies for public awareness to decrease the number of birth defects. Health education and prevention can significantly decrease the transmission of the Zika virus. More interventions need to take place in order to decrease birth defects related to Zika virus. Comparison: Current educational programming.

Results: Outcome: Decreased rates of congenital abnormalities and infectious complications during pre-conception through pregnancy related to the Zika Virus. Conclusion: The Zika virus is a nationally notifiable disease and prevention procedures are directed to report cases to their local health department for reportable diseases. On-going research continues to determine the outcomes for maternal Zika virus infection, as there is no treatment or vaccine for Zika virus disease at this time.