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Potential Efficacy of Pregnancy Status on HIV Laboratory Reports

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Objective

Quantify the opportunities for reducing perinatal HIV transmission risk if pregnancy status was available on electronic laboratory reporting in Louisiana.

Introduction

In Louisiana, information contained on electronic laboratory reports is not able to identify the pregnancy status for the majority of HIV-infected women.[1] Laboratories have access to ICD9/ICD10 codes which could provide information about pregnancy status, but few laboratories provide these codes to Health Departments. In some areas, such as New York City, the reporting of pregnancy status, if available, is required.[2] This study quantifies the opportunities for reducing perinatal HIV transmission if pregnancy status was available on laboratory reports and determines if this information would have been useful for targeting these pregnancies for follow up from Disease Intervention Specialists (DIS). If pregnancy status is found to be useful, states should require pregnancy status in their laboratory reporting guidelines.

Methods

All HIV-infected women who gave birth in Louisiana between 2008 and 2013 were identified. The mothers were divided into three groups: 'HIV status known at/after delivery', 'HIV status known during pregnancy', 'HIV status known before pregnancy'. If a mother's HIV status was known at/after delivery, no laboratory report would be available for pregnancy identification and if a mother's HIV status was known during pregnancy, the mother would have been identified as 'newly infected' and contacted by DIS without additional identification of pregnancy status. The laboratory reports during pregnancy (between four and 36 weeks before delivery) for mothers whose HIV status was identified before pregnancy were used to further divide these mothers into two groups: 'No Viral Load Test during pregnancy' and 'Viral Load Test during pregnancy'. The viral load test is an indication of infectivity and perinatal transmission risk increases with a higher viral load. The mothers with a viral load test were divided into two groups, based on the first viral load test during their pregnancy: 'Low Viral Load' (less than 1,000 copies/mL) and 'High Viral Load' (greater than or equal to 1,000 copies/mL). The mothers with no viral load test were also divided into two groups: 'HIV test during pregnancy' and 'No HIV test during pregnancy'. If a mother had no HIV test (including Western Blot, CD4 counts, etc.) a laboratory report could not be used to identify pregnancy status. The number of perinatal HIV transmissions in each group was also determined.

Results

A total of 977 HIV-infected women gave birth in Louisiana between 2008 and 2013. The HIV status for 22 of these mothers was known at/after delivery, resulting in seven perinatal HIV transmissions. The HIV status for 265 of these mothers was known during pregnancy, resulting in five perinatal HIV transmissions. The HIV status for 690 of these mothers was known before pregnancy. Two cases of perinatal HIV transmission resulted from mothers with a high viral load (a total of 325 mothers), one case of perinatal HIV transmission resulted from mothers with a low viral load (a total of 270 mothers), and three cases of perinatal HIV transmission resulted from mothers who did have an HIV test during pregnancy but did not have a viral load test (a total of 43 mothers).

Conclusions

For mothers whose HIV status was known before pregnancy and who had an HIV test during pregnancy, the highest transmission rate occurred in those without a viral load test (7.0%) as opposed to mothers with a low viral load during pregnancy (0.4%) or mothers with a high viral load test during pregnancy (0.6%). The viral load test may be an indication of a woman's HIV care during pregnancy and the viral load of these mothers may have decreased after their initial viral load test during pregnancy (the first viral load test during pregnancy was used for this analysis). This analysis suggests pregnancy status on laboratory reports would be useful for targeting women who have an HIV test during pregnancy but no viral load test, due to the high rate of transmission and low number of cases. Health Departments should continue to work on the identification of pregnancy status on HIV laboratory reports and should require the reporting of this information in their laboratory reporting guidelines.

Keywords

Perinatal HIV; Pregnancy Identification; Electronic Laboratory Reporting

References

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