

Timing of HIV diagnosis in HIV-positive pregnant women giving birth in a high prevalence Russian region

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BACKGROUND

The HIV epidemic in the Russian Federation (Russia) has entered the general population, and women of reproductive age account for an increasing proportion of new HIV diagnoses.

The eastern Siberian region of Irkutsk had the second-highest HIV prevalence in Russia in 2018, with estimated 1.8% of the population registered as HIV-positive.

Timely diagnosis and treatment with antiretroviral therapy (ART) are essential for optimal management of HIV in pregnancy and prevention of vertical transmission. Antenatal HIV testing is a key pathway to diagnosis, and repeat testing in the third trimester is national policy in Russia.

AIMS

- To describe the characteristics of HIV-positive pregnant women giving birth in Irkutsk
- To explore factors associated with timing of HIV diagnosis in relation to pregnancy and delivery in Irkutsk

METHODS



Clinical records data were collected by the Irkutsk Regional Center on Prevention and Control of HIV/AIDS and Infection as part of the European Pregnancy and Paediatric Infections Cohort Collaboration (EPPICC), a large collaboration of observational studies in pregnant women and infants.



All HIV-positive women registered to receive care at the Center who gave birth to a live-born infant between May 2013 and April 2015 and had an HIV diagnosis established before/at delivery or within seven days post-partum were included.



Diagnosis in pregnancy was defined as HIV diagnosis dated after the estimated conception date. 'Late' diagnosis in pregnancy was defined as HIV diagnosis at ≥ 27 completed gestational weeks (third trimester), including those diagnosed post-partum.



Univariable and multivariable logistic regression were used to identify maternal factors associated with diagnosis in pregnancy, and 'late' diagnosis among those diagnosed in pregnancy. Factors investigated were age at delivery, mode of HIV acquisition, gravidity, and current illegal drug use.

RESULTS

There were 1018 live-birth pregnancies, all among women born in Russia.

MATERNAL CHARACTERISTICS OF PREGNANCIES

29 (IQR 25-32) median age (years) at delivery were primigravida
 87.5% had acquired HIV through heterosexual contact
 86.2% were primigravida
 9.4% had documented illegal drug use during pregnancy

TIMING OF HIV DIAGNOSIS IN RELATION TO PREGNANCY

Maternal HIV diagnosis occurred in pregnancy in half (504/1018, 49.5%) of pregnancies. Of those diagnosed in pregnancy, 204 (40.5%) women were diagnosed late (at ≥ 27 completed gestational weeks).

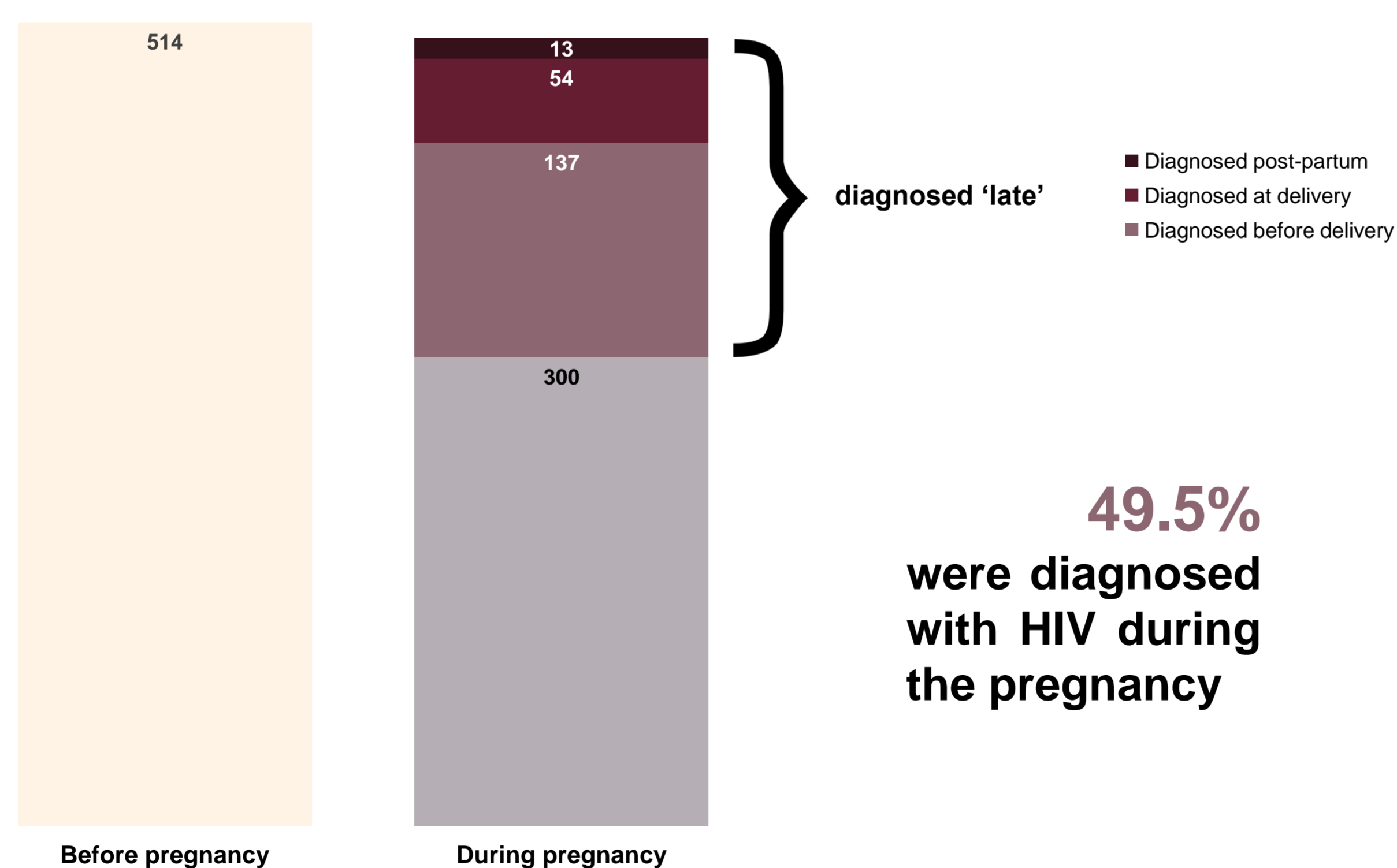


Figure 2. Number of pregnancies by timing of HIV diagnosis, n = 1018

ART IN PREGNANCY

Most (96.8%) women received antenatal ART. Of the 33 reported to have not received antenatal ART, 18 (54.6%) had been diagnosed in pregnancy (six within one month prior to delivery). Of the 514 women diagnosed before pregnancy, 110 (21.4%) conceived on ART.

CONCLUSION

Diagnosis in pregnancy was common among HIV-positive women giving birth in Irkutsk, highlighting the importance of antenatal testing as a pathway to diagnosis for women of reproductive age. Younger age, heterosexual HIV acquisition, and primigravidity were associated with increased likelihood of diagnosis in pregnancy.

Late diagnosis poses challenges for clinical management of HIV in pregnancy and has implications for risk of vertical transmission. Addressing barriers to timely access to antenatal care and screening for women with history of IDU is likely to be an important aspect of reducing frequency of late HIV diagnosis in pregnancy.

Improvements are likely to have been made since the time period of study. Future research will investigate trends over time using data on pregnancies from 2015-2018 and explore pregnancy outcomes, including vertical transmission.

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Figure 1. Location of Irkutsk, Russian Federation

HIV DIAGNOSIS IN PREGNANCY

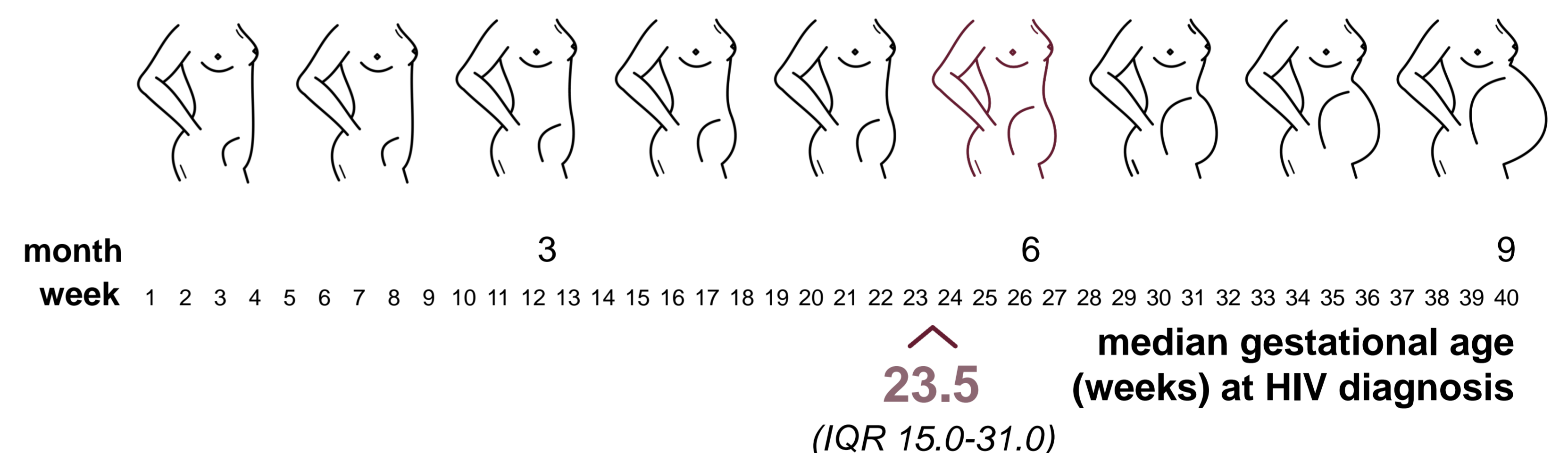


Figure 3. Median gestational age at HIV diagnosis among women diagnosed in pregnancy

MATERNAL FACTORS ASSOCIATED WITH DIAGNOSIS IN PREGNANCY

In multivariable analysis, factors associated with diagnosis in pregnancy were age, mode of HIV acquisition, and gravidity (Figure 4).

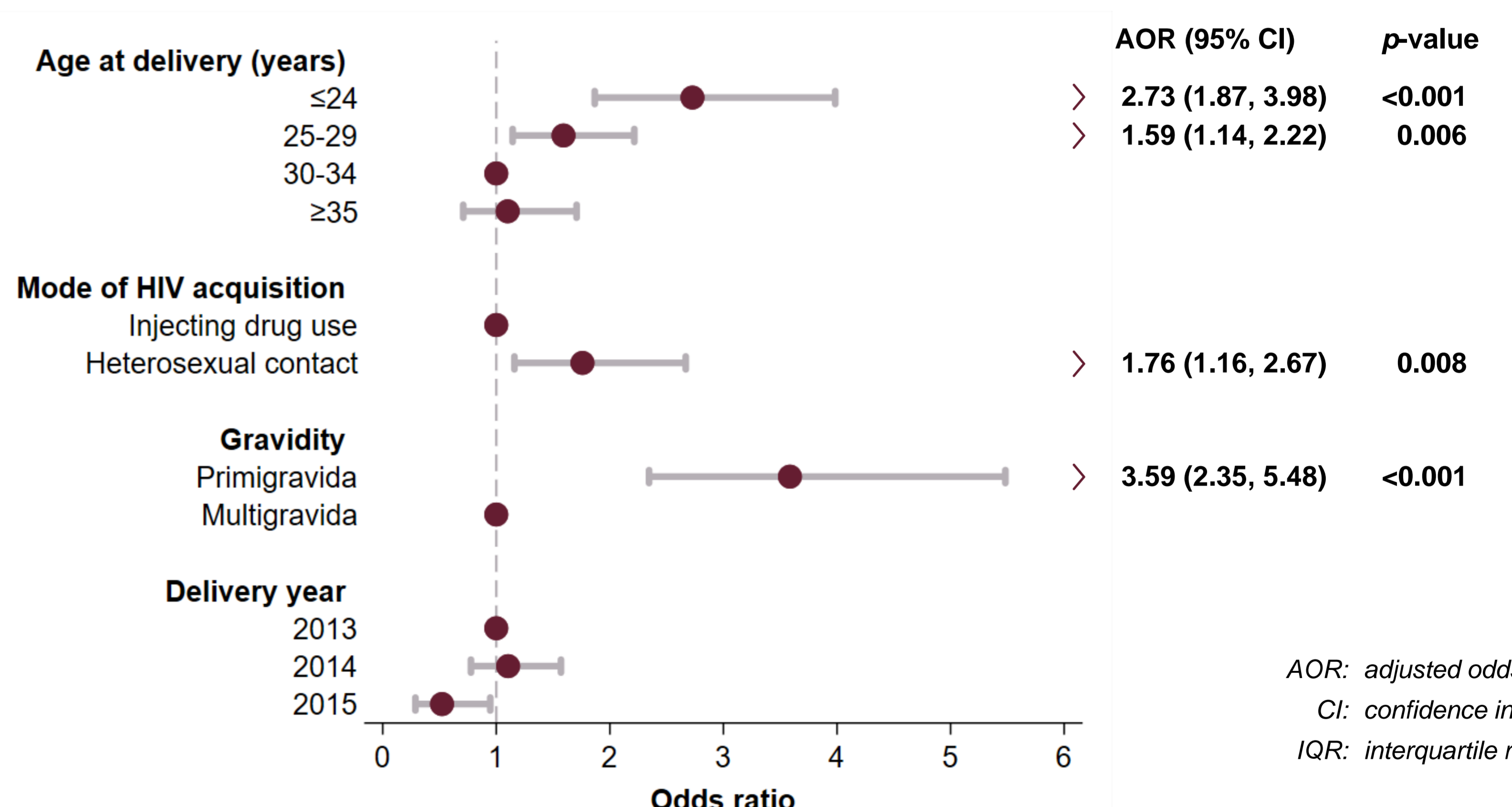


Figure 4. Adjusted odds ratio of diagnosis in pregnancy among HIV-positive pregnant women, n = 978

MATERNAL FACTORS ASSOCIATED WITH 'LATE' HIV DIAGNOSIS IN PREGNANCY

Women with history of injecting drug use (IDU) were more likely to have a 'late' diagnosis than those with heterosexual risk (AOR 2.47; 95% CI 1.26, 4.84) after adjusting for year of delivery.