

Evaluating overlap between condomless sex and prevention-effective oral pre-exposure prophylaxis (PrEP) use throughout pregnancy and postpartum in Cape Town, South Africa

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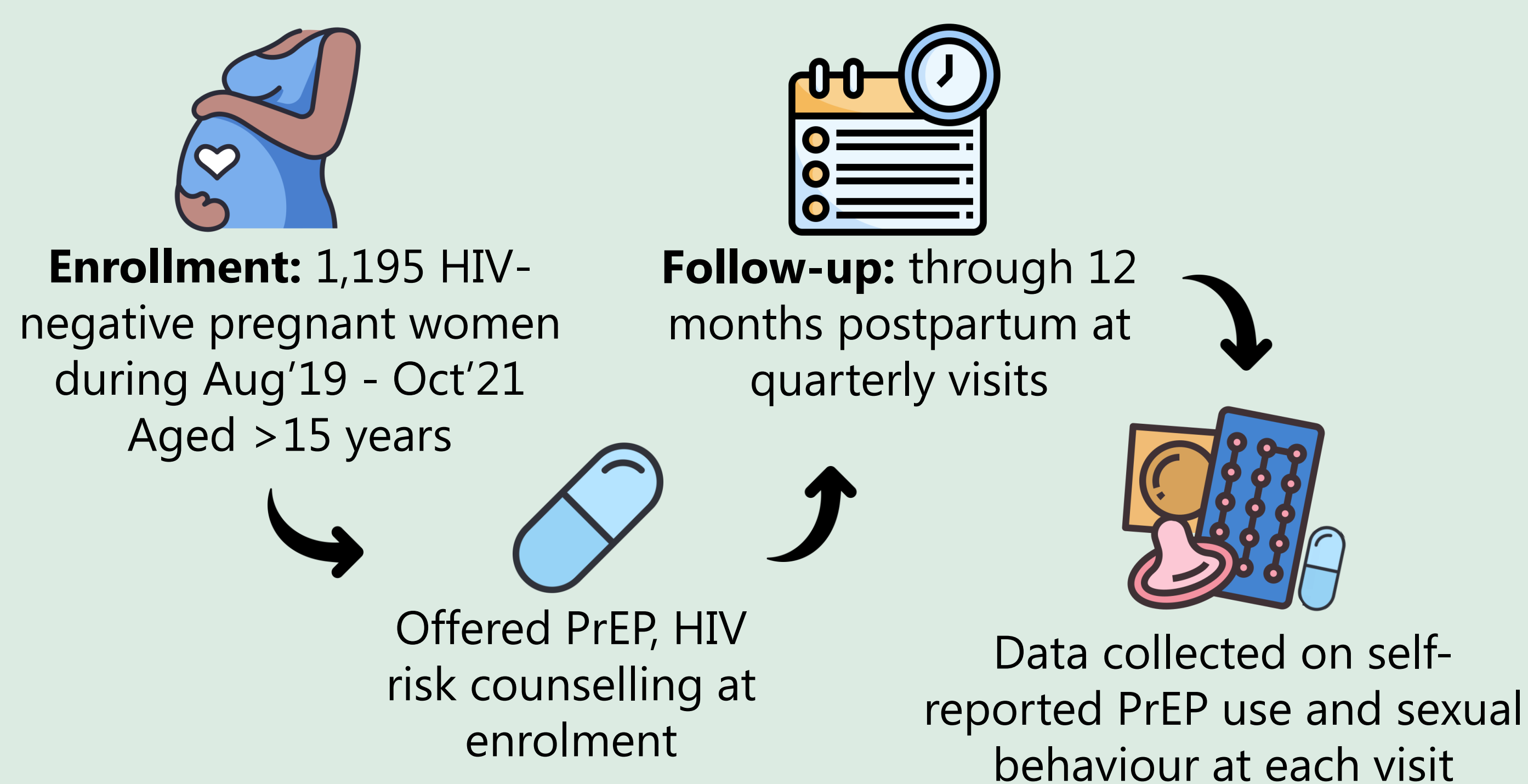
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In pregnancy, there is an alignment between condomless sex and effective oral PrEP (prevention effective use high); however, this alignment decreases rapidly from birth through the postpartum period (through 12 months, prevention effective use low), when HIV risk remains high.

BACKGROUND

- Understanding the patterns of sexual behaviour and effective use of oral pre-exposure prophylaxis (PrEP) among pregnant and postpartum women is crucial for identifying high-risk periods, which can improve daily oral PrEP use before and during periods of condomless sex.
- Aim:** To evaluate the alignment of condomless sex and oral PrEP use ("prevention-effective use") among pregnant and postpartum women to inform targeted interventions for improving PrEP adherence during vulnerable phases.

METHODS



Statistical methods

- Proportions of participants who reported condomless sex at quarterly study visits aligned with prevention-effective PrEP use (oral PrEP use during periods of condomless sex).
- Logistic regression to evaluate the relationship between condomless sex and PrEP use adjusted for *a priori* confounders: age, educational level, gestational age in pregnancy and postpartum time.

RESULTS

- Among 1195 participants (median age 26y, IQR: 23-31, median gestational age 21w, IQR: 15-31) at baseline, **72% (n=864) participants reported recent condomless sex in the past 3-months**, with 84% (n = 731) initiating PrEP at first antenatal care visit.
- In the third trimester of pregnancy, fewer participants reported recent condomless sex (25%, n=203/814), and **those reporting condomless sex were 83% less likely to use PrEP compared to those who did not report condomless sex** (aOR=0.17, 0.12-0.24).
- During early postpartum (9-22 weeks) **participants reporting condomless sex were 91% less likely to use PrEP** (aOR=0.09, 0.05-0.16) compared to those not reporting condomless sex.

RESULTS CONTINUED

Table 1. Risk and PrEP use across study visits during periods of pregnancy and postpartum among pregnant women offered PrEP in antenatal care in Cape Town, South Africa (August 2019-October 2021; N = 1195)

	Baseline n (%)	3-month visit n (%)	6-month visit n (%)	9-month visit n (%)	12-month visit n (%)	15-month visit n (%)	18-month visit n (%)
PREGNANCY	n = 1195	n = 814	n = 328				
GA at visit (median, IQR) weeks	21 (15-31)	31 (26-36)	38 (35-40)				
PrEP risk vs use ¹							
No risk	331 (28%)	234 (29%)	89 (27%)				
Risk, PrEP	731 (61%)	203 (25%)	73 (22%)				
Risk, No PrEP	133 (11%)	377 (46%)	166 (51%)				
Overall condomless sex	864 (72%)	580 (71%)	239 (73%)				
Overall PrEP use	1009 (84%)	380 (47%)	136 (41%)				
POSTPARTUM		n = 336	n = 807	n = 1 129	n = 1 119	n = 1 115	n = 1 109
Time postpartum (median, IQR) weeks		9 (7-11)	14 (8-22)	22 (15-32)	35 (28-45)	48 (41-58)	60 (53-70)
PrEP risk vs use ¹							
No risk		124 (37%)	230 (29%)	294 (26%)	258 (23%)	181 (16%)	90 (8%)
Risk, PrEP		30 (9%)	91 (11%)	131 (12%)	110 (10%)	93 (8%)	54 (5%)
Risk, No PrEP		185 (55%)	486 (60%)	704 (62%)	751 (67%)	841 (75%)	965 (87%)
Overall condomless sex		215 (63%)	577 (71%)	835 (74%)	861 (77%)	934 (84%)	1019 (92%)
Overall PrEP use		105 (31%)	256 (32%)	319 (28%)	278 (25%)	198 (18%)	110 (10%)

¹No risk, participants who are not sexually active, or participants who self-report PrEP use while being sexually active. Risk, condomless sex. PrEP use, as initiation at baseline and self-reported in the last 30 days at follow-up. GA, gestational age; PrEP, pre-exposure prophylaxis

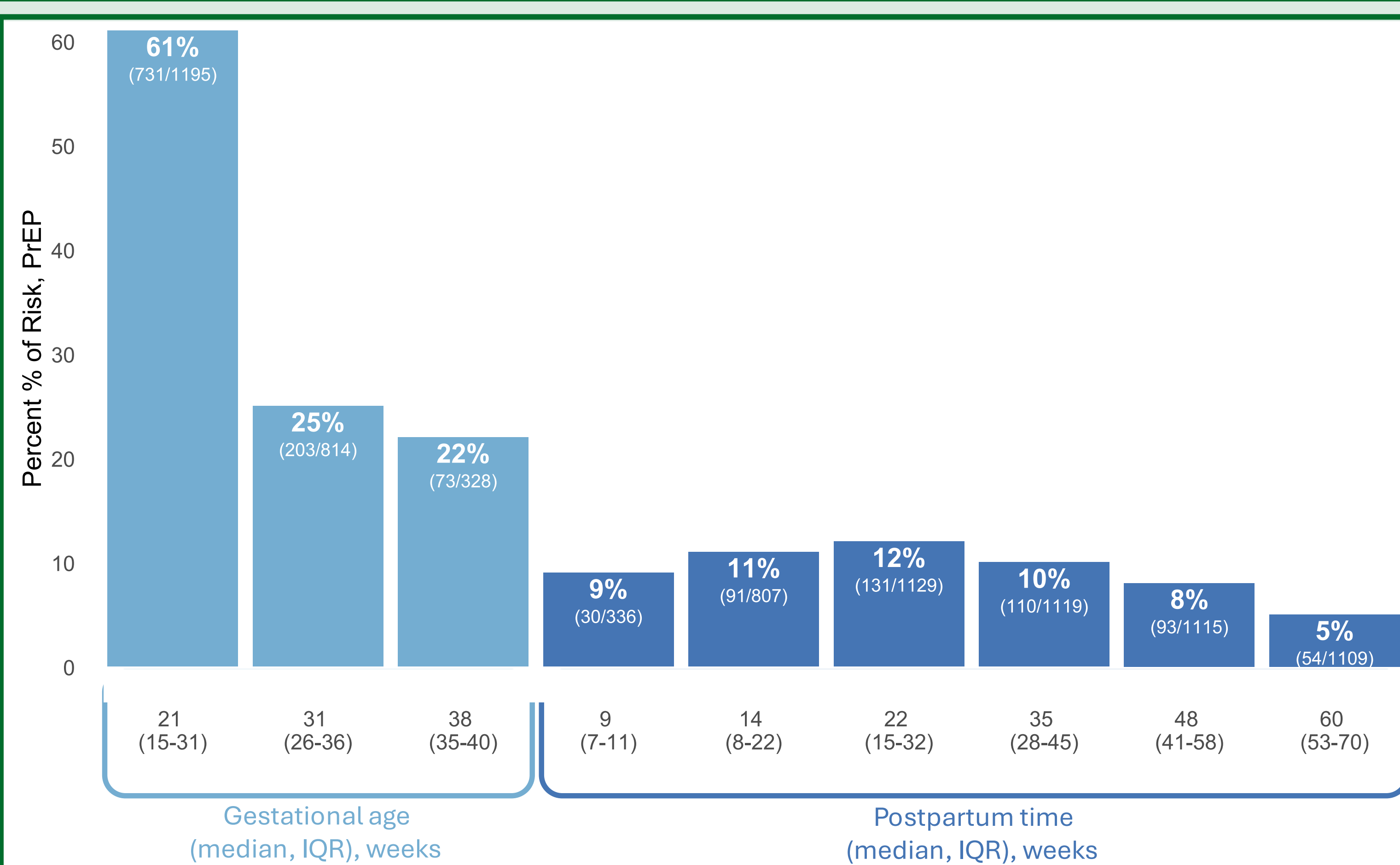


Figure 1. Risk (condomless sex) and PrEP use (self reported in the last 30 days) overlap during pregnancy and postpartum periods reported in weeks (median, IQR).

CONCLUSION

- In pregnancy there appears to be an alignment in condomless sex and effective oral PrEP use; however, this alignment decreases from birth through the postpartum period (through 12-months), when HIV risk remains high.
- Recognizing this pattern emphasizes the critical need for targeted strategies to improve effective PrEP use during periods of high risk, specifically late pregnancy and throughout the postpartum period.

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