

## Background

- The Puerto Rico (PR) HIV/AIDS Surveillance System has reported 50,985 cumulative HIV cases since the early 1980s.<sup>1</sup>
- Heterosexual contact has been the principal mode of HIV transmission among women and the third for men.<sup>1</sup>
- Studies have documented the association between low-risk perception with high-risk behavioral practices and low adherence to HIV preventative measures.<sup>2,3</sup>

## National HIV Behavioral Surveillance (NHBS)

- The NHBS is a Centers for Disease Control and Prevention (CDC) surveillance system dedicated to documenting HIV-related behavioral practices among populations at increased risk of HIV infection.

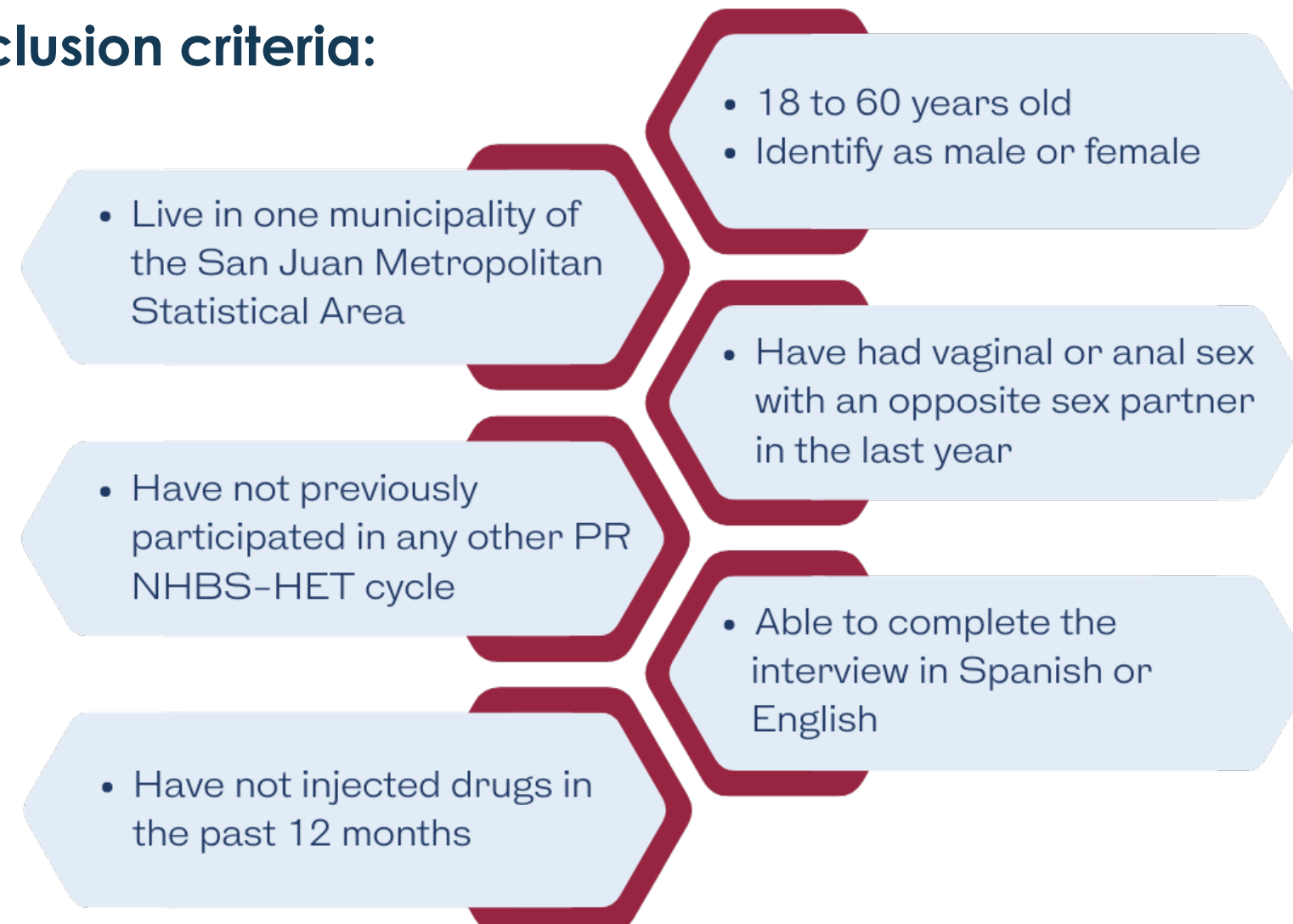
## Objective

- Evaluate sociodemographic characteristics, sexual behavioral practices, and HIV risk perception among Puerto Rican heterosexuals at risk of HIV infection (HET).

## Methods

- Data used in this analysis correspond to the PR-NHBS HET Cycle 5, conducted in 2019.
- Respondent-driven sampling (RDS) was used for recruitment in two selected field sites.
- Participants completed a face-to-face interview using a standardized questionnaire and a local module related to HIV risk behaviors (N = 387).

### NHBS inclusion criteria:



### Statistical Analysis:

- Descriptive analysis, Pearson's chi-square test, and multivariate logistic regression model with prevalence odds ratios and 95% confidence intervals were performed.

## Results

**Table 1.** Sociodemographic characteristics and sexual behavior practices (N = 387)

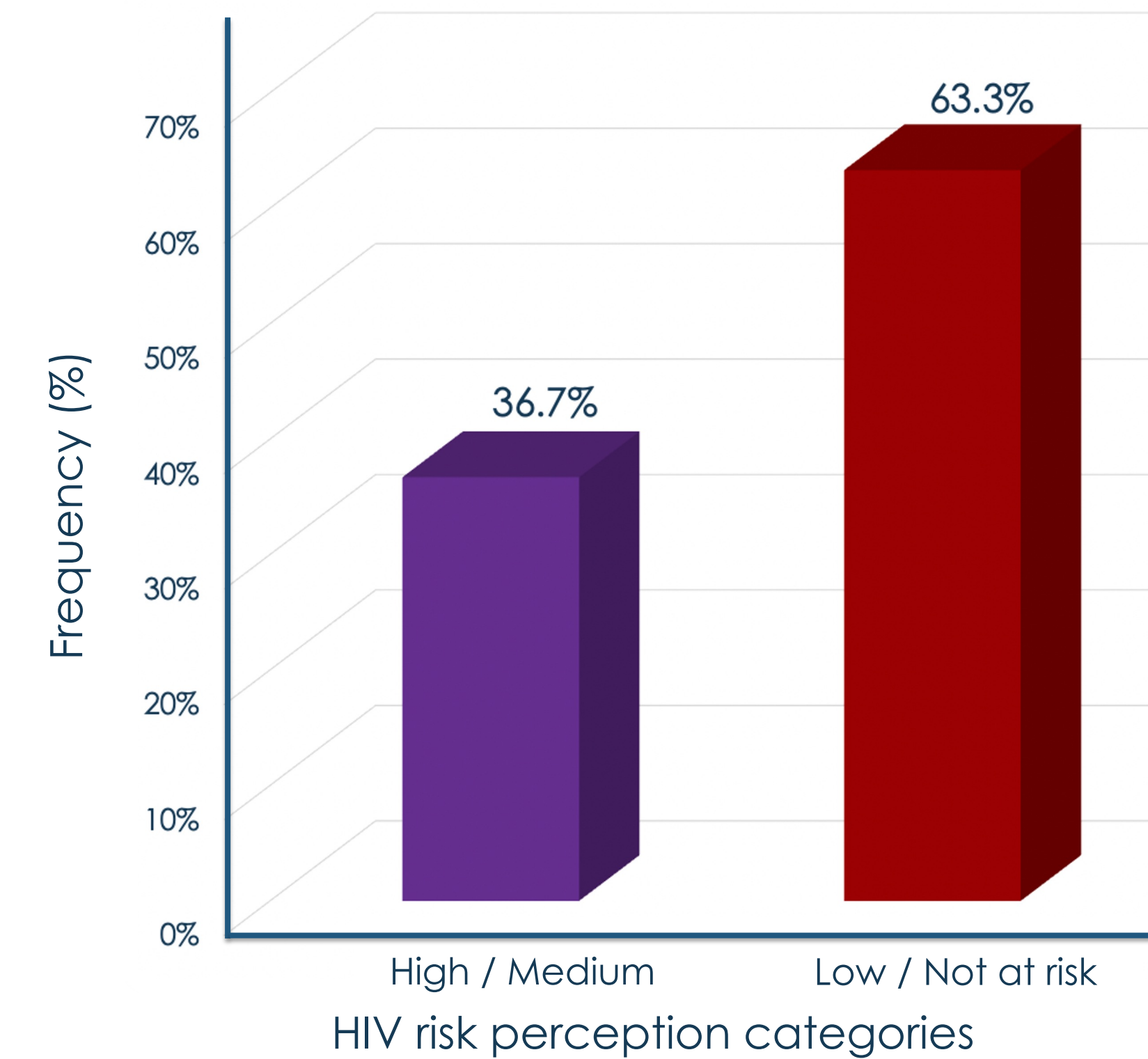
| Characteristics   | N (%) <sup>a</sup> | HIV Risk Perception               |                                       |
|---|--------------------|-----------------------------------|---------------------------------------|
|   |                    | High or Medium n (%) <sup>a</sup> | Low or Not at risk n (%) <sup>a</sup> |
| <b>Gender</b>   |                    |                                   |                                       |
| Male  | 133 (34.4)         | 51 (35.9)                         | 82 (33.5)                             |
| Female  | 254 (65.6)         | 91 (64.1)                         | 163 (66.5)                            |
| <b>Age</b>  |                    |                                   |                                       |
| 18-29 years   | 132 (34.1)         | 43 (30.3)                         | 89 (36.3)                             |
| 30-60 years   | 255 (65.9)         | 99 (69.7)                         | 156 (63.7)                            |
| <b>Education<sup>b</sup></b>  |                    |                                   |                                       |
| High school or less   | 250 (64.6)         | 102 (71.8)                        | 148 (60.4)                            |
| Some college or more  | 137 (35.4)         | 40 (28.2)                         | 97 (39.6)                             |
| <b>Marital Status<sup>b</sup></b>                                   |                    |                                   |                                       |
| Married or living together  | 138 (35.7)         | 35 (24.7)                         | 103 (42.0)                            |
| Other   | 249 (64.3)         | 107 (75.3)                        | 142 (58.0)                            |
| <b>Employed<sup>c</sup></b>   |                    |                                   |                                       |
| No  | 213 (55.9)         | 80 (57.6)                         | 133 (55.0)                            |
| Yes   | 168 (44.1)         | 59 (42.4)                         | 109 (45.0)                            |
| <b>Income</b>   |                    |                                   |                                       |
| \$0 – \$19,999  | 351 (90.7)         | 133 (93.7)                        | 218 (89.0)                            |
| \$20,000 or more  | 36 (9.3)           | 9 (6.3)                           | 27 (11.0)                             |
| <b>Currently insured</b>  |                    |                                   |                                       |
| No  | 47 (12.1)          | 20 (14.1)                         | 27 (11.0)                             |
| Yes   | 340 (87.9)         | 122 (85.9)                        | 218 (89.0)                            |
| <b>Age at sexual debut<sup>b</sup></b>                              |                    |                                   |                                       |
| ≥ 18 years  | 76 (19.6)          | 31 (21.8)                         | 45 (18.4)                             |
| 13 - 17 years   | 285 (73.7)         | 96 (67.6)                         | 189 (77.1)                            |
| <13 years   | 26 (6.7)           | 15 (10.6)                         | 11 (4.5)                              |
| <b>Number of sexual partners in the last 12 months<sup>b</sup></b>  |                    |                                   |                                       |
| One sexual partner  | 144 (37.2)         | 21 (14.8)                         | 123 (50.2)                            |
| ≥ 2 sexual partners   | 243 (62.8)         | 121 (85.2)                        | 122 (49.8)                            |
| <b>Knew partner HIV status at last sexual encounter<sup>b</sup></b> |                    |                                   |                                       |
| No  | 266 (68.7)         | 116 (81.7)                        | 150 (61.2)                            |
| Yes   | 121 (31.3)         | 26 (18.3)                         | 95 (38.8)                             |
| <b>Condomless sex in the last 12 months<sup>c</sup></b>             |                    |                                   |                                       |
| No  | 25 (8.2)           | 7 (7.1)                           | 18 (8.7)                              |
| Yes   | 280 (91.8)         | 92 (92.9)                         | 188 (91.3)                            |

<sup>a</sup> Column percentage

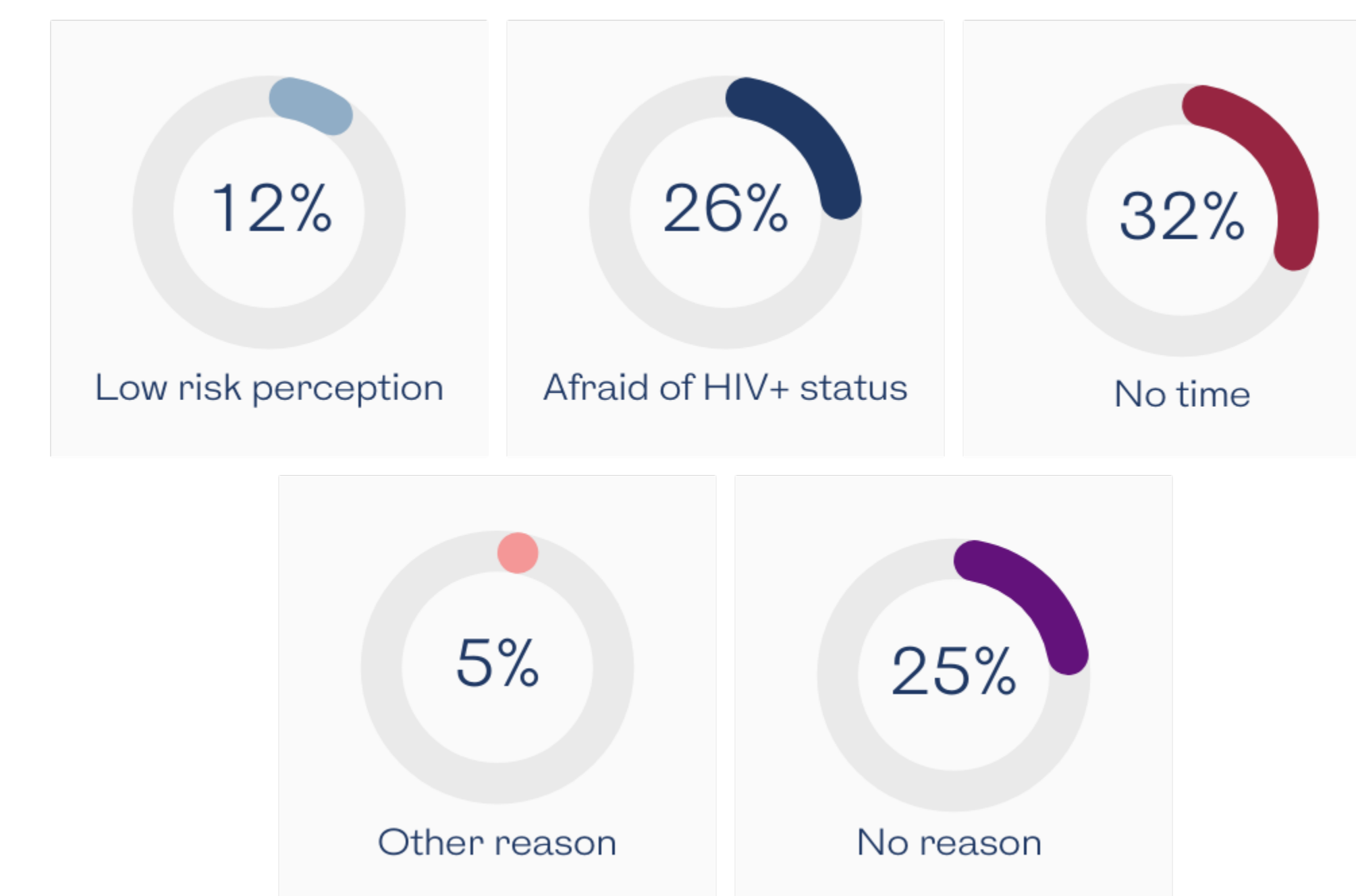
<sup>b</sup> p < 0.05 (Chi-square test-reported p-value)

<sup>c</sup> Denominators differ due to missing values

**Figure 1.** HIV risk perception (N = 387)



**Figure 2.** Reasons for not getting tested for HIV (N = 332)



## Results

**Table 2.** Strength of the association of selected characteristics with HIV risk perception (N = 387)

| Characteristics   | Crude Prevalence Odds Ratios (POR) (95% CI) | Adjusted Prevalence Odds Ratios (POR <sub>a</sub> ) (95% CI) |
|---|---|--|
| <b>Age at sexual debut</b>                              |   |  |
| ≥ 18 years  | Reference                                   | Reference  |
| 13 - 17 years   | 1.36 (0.81 – 2.28)                          | 1.81 (1.004 – 3.27) <sup>a</sup>                             |
| <13 years   | 0.51 (0.20 – 1.25)                          | 0.62 (0.22 – 1.72)   |
| <b>Number of sexual partners in the last 12 months</b>  |   |  |
| One sexual partner                                      | Reference                                   | Reference  |
| ≥ 2 sexual partners                                     | 0.17 (0.10 – 0.29) <sup>a</sup>             | 0.17 (0.10 – 0.30) <sup>a</sup>                              |
| <b>Knew partner HIV status at last sexual encounter</b> |   |  |
| No  | Reference                                   | Reference  |
| Yes   | 2.83 (1.72 – 4.64) <sup>a</sup>             | 2.13 (1.23 – 3.68) <sup>a</sup>                              |

<sup>a</sup>p < 0.05

## Conclusions

- A high percentage of participants perceived themselves at low or not at risk of HIV infection, despite their reported sexual behaviors.
- Age of sexual debut during adolescence and participants who knew their partner's HIV status were associated with lower perception of HIV risk.
- Those participants that reported having multiple sexual partners were 83% less likely to perceived themselves at low/not at risk for HIV infection.
- Results confirm the need to enhance interventions that not only increase health self-awareness and safer sexual practices but also encourage the skills and use of HIV prevention strategies.

## References

- Puerto Rico Health Department. Puerto Rico HIV/AIDS Surveillance Summary: Cumulative HIV/AIDS Cases Diagnosed as of February 28, 2022 [Web site]. February 2022. Available at: [https://estadisticas.pr/en/inventario-de-estadisticas/pr\\_aids\\_surveillance\\_summary](https://estadisticas.pr/en/inventario-de-estadisticas/pr_aids_surveillance_summary). Accessed March 11, 2022.
- Clifton S, Nardone A, Field N, et al. HIV testing, risk perception, and behaviour in the British population. *AIDS* 2016; 30(6): 943-952. doi: 10.1097/QAD.0000000000001006
- Stringer EM, Sinkala M, Kumwenda R, et al. Personal Risk Perception, HIV Knowledge and Risk Avoidance Behavior, and Their Relationships to Actual HIV Serostatus in an Urban African Obstetric Population. *J Acquir Immune Defic Syndr* 2004; 35(1): 60-66.

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