

Background

- Antiretroviral therapy and population based interventions has led to the increased survival of people living with HIV.
- Therefore prevalence of age related chronic conditions including non-AIDS related malignancies are in rise among aging HIV population.
- Healthy behaviors such as smoking cessation, adherence to recommended alcohol consumption limits, normal body mass index, physical activity and adherence to recommended cancer screening are known to reduce cancer risk.
- Evidence on the prevalence of these behaviors among HIV-infected individuals is extremely limited.

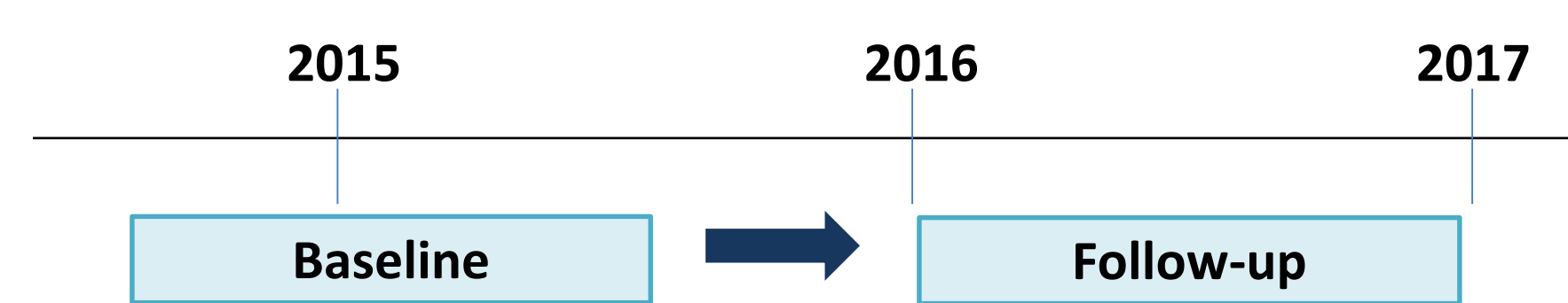
Objectives

To investigate the prevalence of healthy behaviors and gender-specific cancer screening in a cohort of HIV-infected individuals in Florida, by gender and time since HIV diagnosis.

Methods

Study design:

- Total of N= 517 HIV positive individuals from Florida Cohort Study
- Recruited through county health departments and community clinics



- Marital status
- Hepatitis C test status
- Current antiretroviral use
- Ever smoked tobacco
- Demographics (Age, years since HIV diagnosis, education, employment status, Insurance status)
- Healthy behaviors (alcohol consumption, current tobacco smoking, tobacco smoking frequency, physical activity)
- Cancer screening questions

Figure 1. Florida cohort study flow diagram

Data:

- Baseline and Follow-up questionnaire from Florida cohort study
- Electronic medical records
- Enhanced HIV/AIDS Reporting System (eHARS)

Methods (continued)

Statistical analysis:

- Prevalence described overall as well as by biological gender and years since HIV diagnosis (≤ 13 years vs. >13 years).
- Healthy behaviors
 - Body Mass Index (BMI)
 - Compliance to recommended alcohol Consumption limits
 - Tobacco smoking status
 - Physical activity
- Cancer screening for individuals at the recommended age of screening

- | | |
|-----------------------------|------------------|
| Male | Female |
| • Anal pap-smear | • Anal pap-smear |
| • Colonoscopy | • Colonoscopy |
| • Prostate cancer screening | • Pap-smear |
| | • Mammogram |

- Prevalence across strata was compared using chi-square test and Fisher's exact test.

Results

Table 1. Characteristics of study participants, by gender (Number [%])

| Characteristic | Male (n=312) | Female (n=199) |
|--------------------------------|--------------|----------------|
| Age | | |
| <50 years | 144 (46 %) | 87 (44 %) |
| ≥ 50 years | 168 (54 %) | 112 (56 %) |
| Race** | | |
| Hispanic | 65 (21 %) | 21 (11 %) |
| Non-Hispanic, White | 64 (21 %) | 34 (17 %) |
| Non-Hispanic, Black | 172 (55 %) | 136 (68 %) |
| Non-Hispanic, Other | 12 (4 %) | 8 (4 %) |
| Education*** | | |
| Less than High-school | 85 (27 %) | 85 (43 %) |
| High-school or equivalent | 99 (32 %) | 65 (33 %) |
| More than High-school | 129 (41 %) | 48 (24 %) |
| Employment Status* | | |
| Unemployed | 87 (29 %) | 43 (22 %) |
| Unable to work/ Disabled | 140 (46 %) | 112 (58 %) |
| Employed | 78 (26 %) | 37 (19 %) |
| Sexual Orientation*** | | |
| Heterosexual | 111 (36 %) | 174 (93 %) |
| Homosexual | 152 (50 %) | 5 (3 %) |
| Other | 42 (14 %) | 9 (5 %) |
| CD4 T-Cell Categories** | | |
| 0-199 cells/ml | 28 (9 %) | 13 (7 %) |
| 200-349 cells/ml | 60 (20 %) | 21 (11 %) |
| 350+ cells/ml | 212 (71 %) | 159 (82 %) |

Note: percentages are calculated from non-missing data. P-value: * ≤ 0.05 ; ** ≤ 0.01 ; *** < 0.001

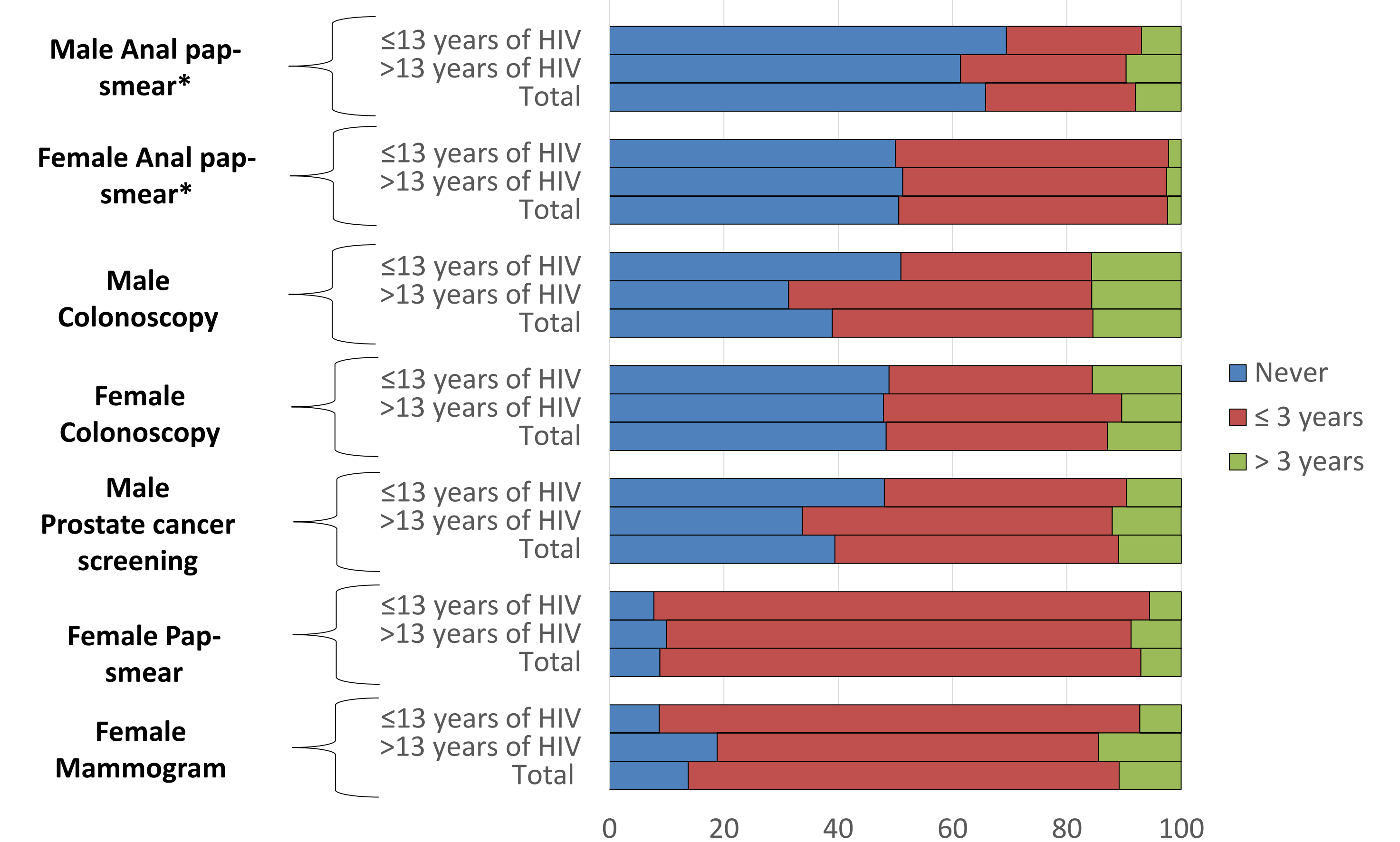


Figure 6. Prevalence of cancer screening, by gender and years since HIV diagnosis [%]

*Anal pap-smear was significantly different by gender (p-value < 0.0001)

- | | |
|--|---|
| Male | Female |
| • 66% never had anal pap-smear | • 51% never had anal pap-smear* |
| • 39% never had colonoscopy | • 48% never had colonoscopy |
| • 39% never had prostate cancer screening | • 9% never had pap-smear |
| • Never having colonoscopy was marginally higher in those who had HIV for ≤ 13 years (51% vs. 31%, $p = 0.05$) | • 14% never had mammogram |
| | • Never having mammogram was marginally higher among those who have had HIV for >13 years (19% vs. 9%, $p = 0.06$) |

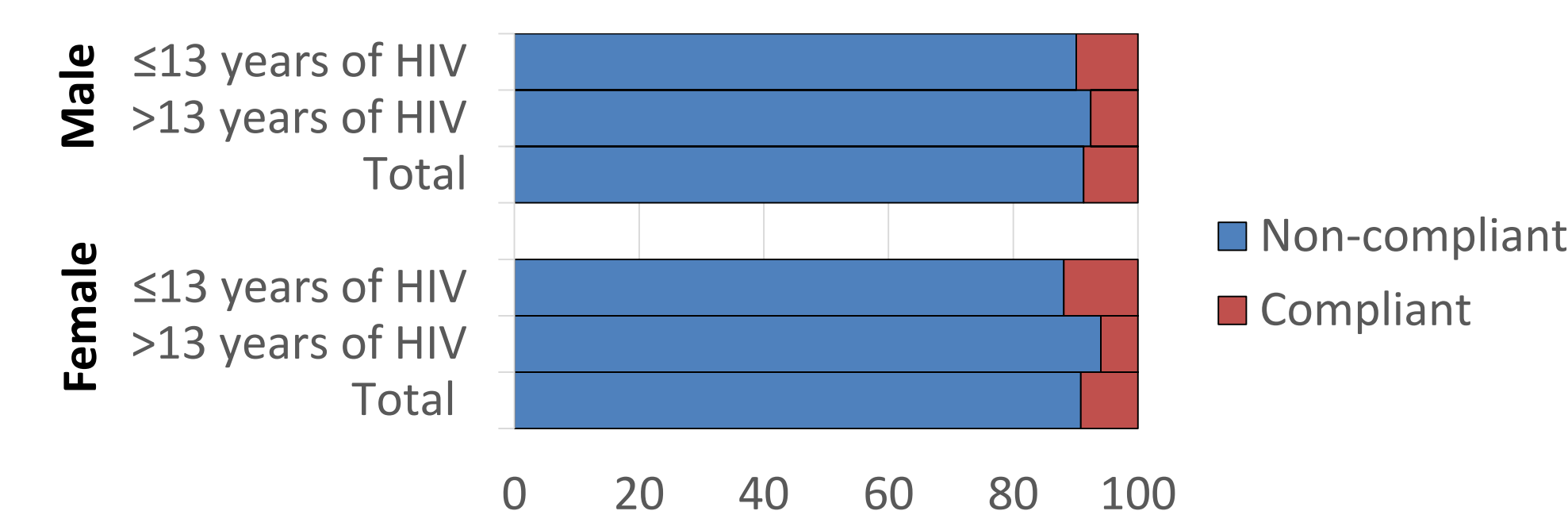


Figure 2. Prevalence of the compliance to alcohol consumption limits [%]

The prevalence of alcohol consumption above the recommended limit was similar in both males and females and also by years since HIV diagnosis.

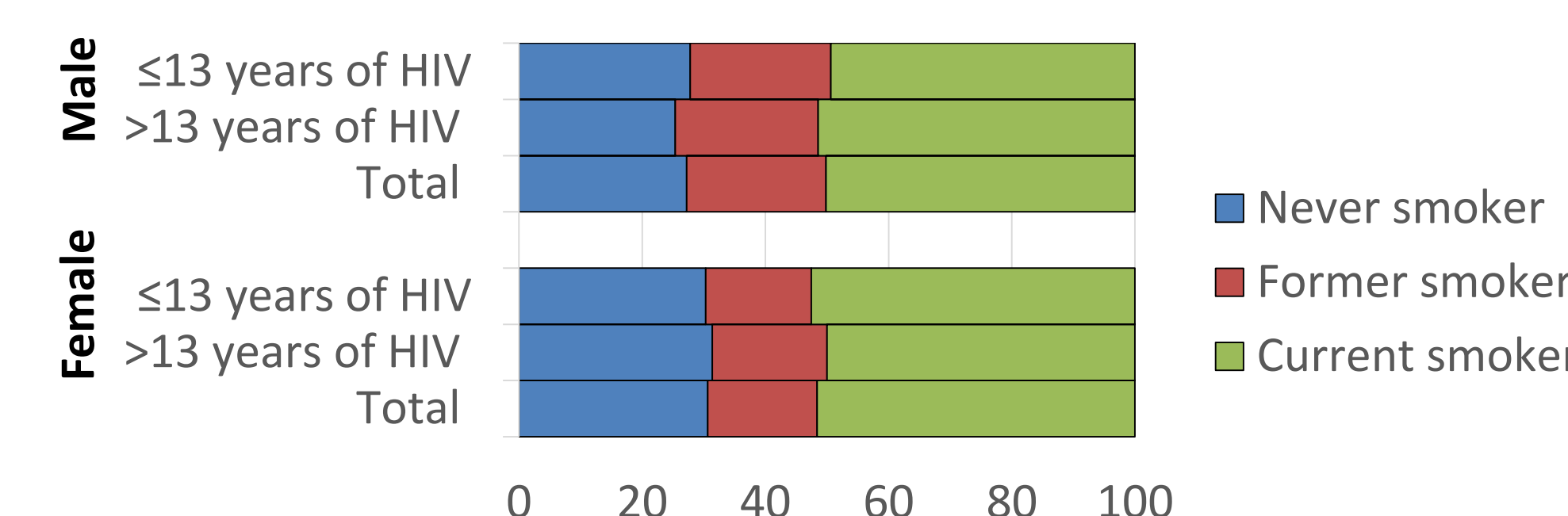


Figure 4. Prevalence of tobacco smoking categories [%]

No differences were noted for prevalence of smoking by gender and by years since HIV diagnosis.

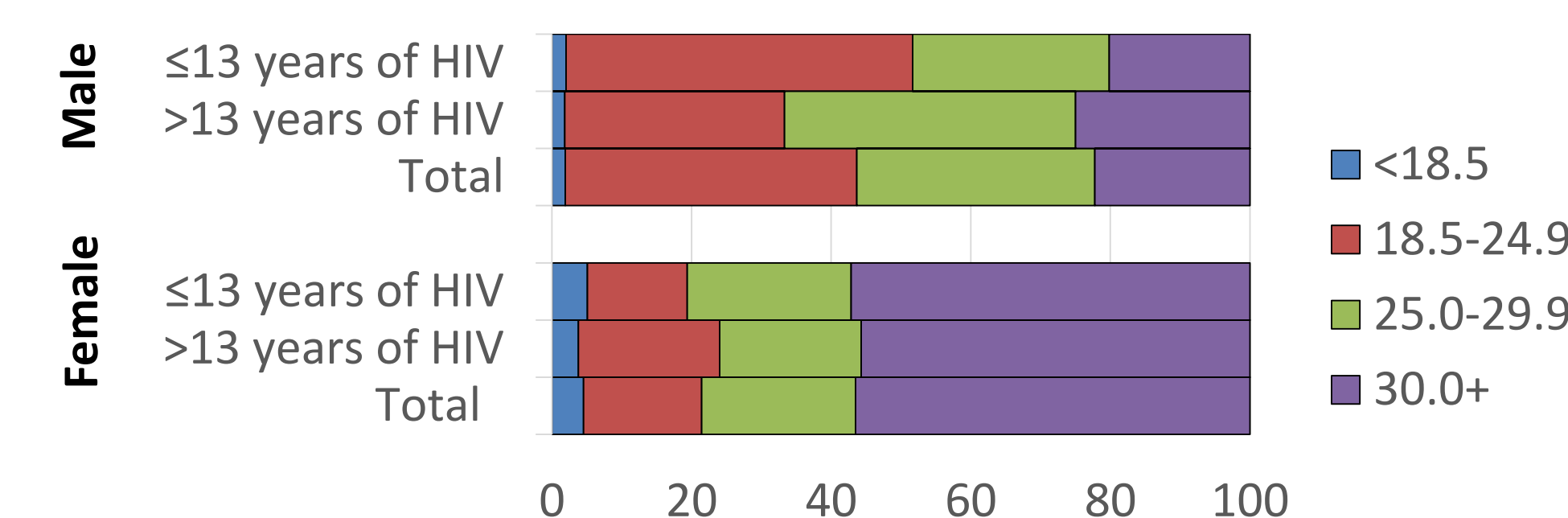


Figure 3. Prevalence of BMI (kg/m²) [%]

- Females were more likely to be obese than males (57% vs. 22%, $p < 0.0001$).

- Among males, the prevalence of overweight/obesity was significantly higher in those who had been diagnosed with HIV for >13 years (overweight 42% vs. 28%; obese 25% vs. 20%, $p = 0.02$).

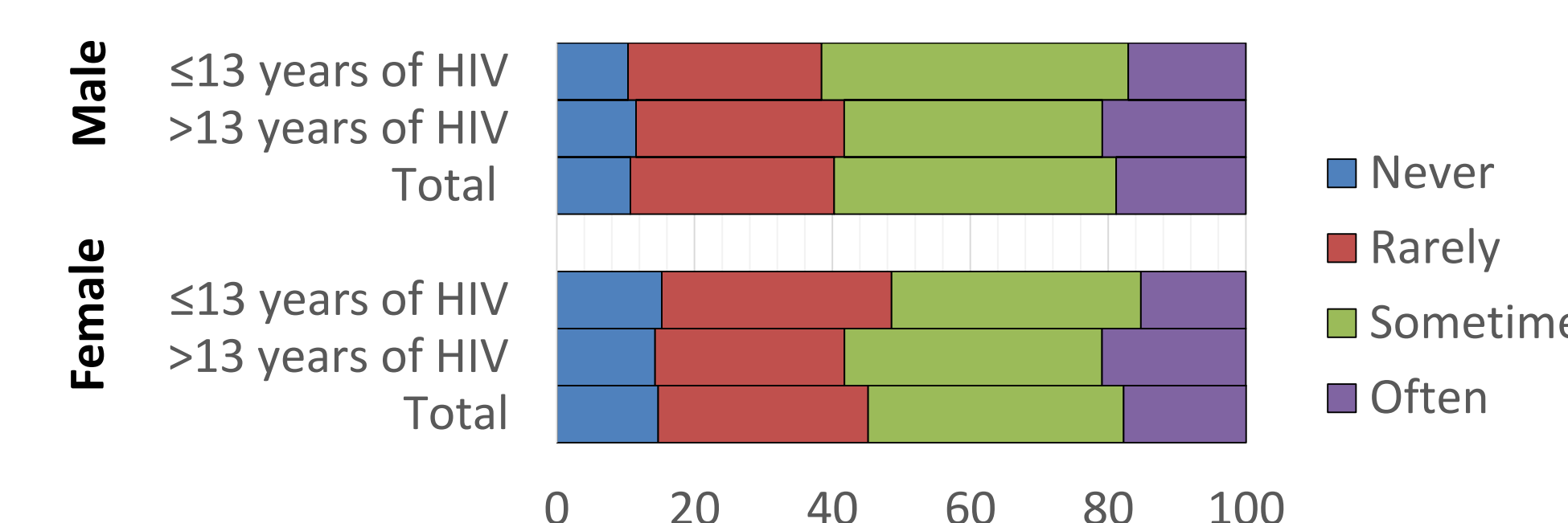


Figure 5. Prevalence of physical activity levels [%]

Although individuals who reported never having physical activity was higher in females, it did not reach statistical significance. Also no significant difference by years since HIV diagnosis.

Discussion

Strengths:

- Diagnostic confirmation for HIV.
- Our study adds to the very limited evidence of healthy behaviors and cancer screening practices on HIV infected.

Limitations:

- Possible misclassification and recall bias from self reporting.
- Questionnaire format limitations.

Conclusion

- Findings suggest gender differences in the prevalence of obesity and anal pap-smear.
- Prevalence of obesity was also different by years since HIV diagnosis.
- long-term tailored gender-specific interventions can potentially benefit individuals living with HIV.

Acknowledgements

Supported by NIAAA grant U24 AA022002, and University of Miami Miller School of Medicine Institute for AIDS and Emerging Infectious Diseases. Florida Department of Health HIV Surveillance Unit provided eHARS data