



Associations between Depression and HIV Testing / Risk Behaviors in the United States

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References

Introduction

- A previous study from a nationally representative survey demonstrated that around 50% of people with HIV screened positive for psychiatric disorders, including minor and major depression.^{1,2}
- Given the high correlation between depression and HIV infection rates, it is important to encourage the uptake of routine HIV testing among these high-risk populations.
- The objective of the study was to assess differences in HIV testing and HIV risk behaviors by depression status among a nationally representative sample of U.S. adults.

Methods

Design and data source

A cross-sectional study using data from the 2018-2020 Behavioral Risk Factor Surveillance System (BRFSS) survey.³

Population

We included respondents aged 18 years old and above with self-reported depression status.

Outcome measures

The outcomes included dichotomous measures of HIV testing and HIV risk behaviors (e.g., non-prescription injection drug use, and treatment for the sexually transmitted disease, see **Table 1**).

Table 1. List of HIV Risk Behaviors from the BRFSS³

HIV risk behavior*	Response options
"You have injected any drug other than those prescribed for you in the past year."	
"You have been treated for a sexually transmitted disease or STD in the past year."	"Yes"
"You have given or received money or drugs in exchange for sex in the past year."	"No"
"You had anal sex without a condom in the past year."	"Don't know / Not sure" "Refused"***
"You had four or more sex partners in the past year."	
*The BRFSS asks about HIV risk behaviors using the following question: "I am going to read you a list. When I am done, please tell me if any of the situations apply to you. You do not need to tell me which one." **For this study, respondents who answered "Don't know / Not sure" or skipped/refused to answer were coded as missing data and excluded from the data analysis.	

Statistical analysis

Using multiple logistic regression to analyze the associations between depression and HIV testing or risk behaviors. For respondents with prior HIV testing experience, we further assessed the duration since the last HIV test.

People with depression showed higher odds of engaging in HIV-risk behaviors and receiving HIV testing. However, the long interval between HIV tests still fails to meet the CDC's HIV testing goal for the high-risk group.

Results

Figure 1. Characteristics among U.S. adults with depression

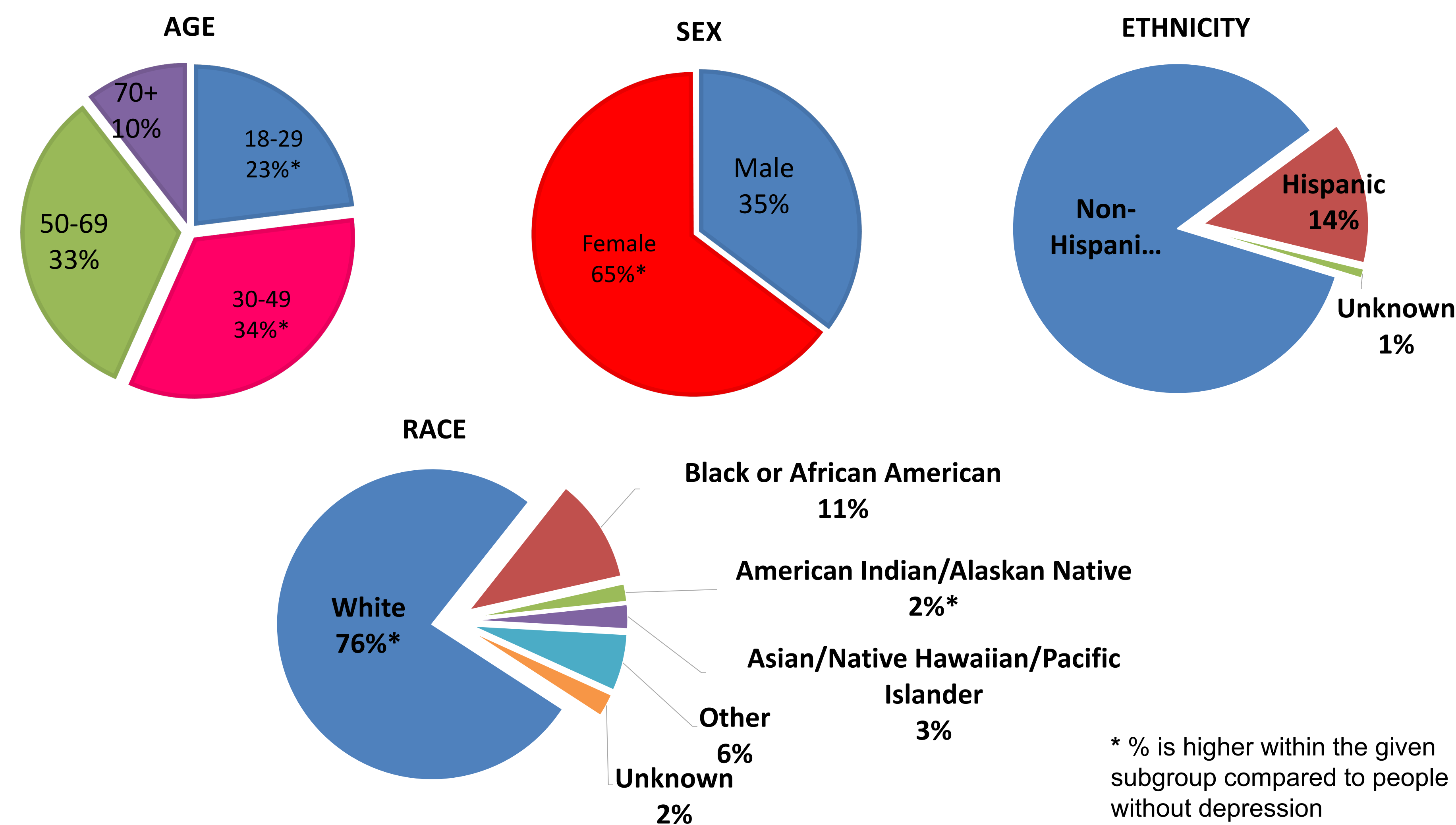
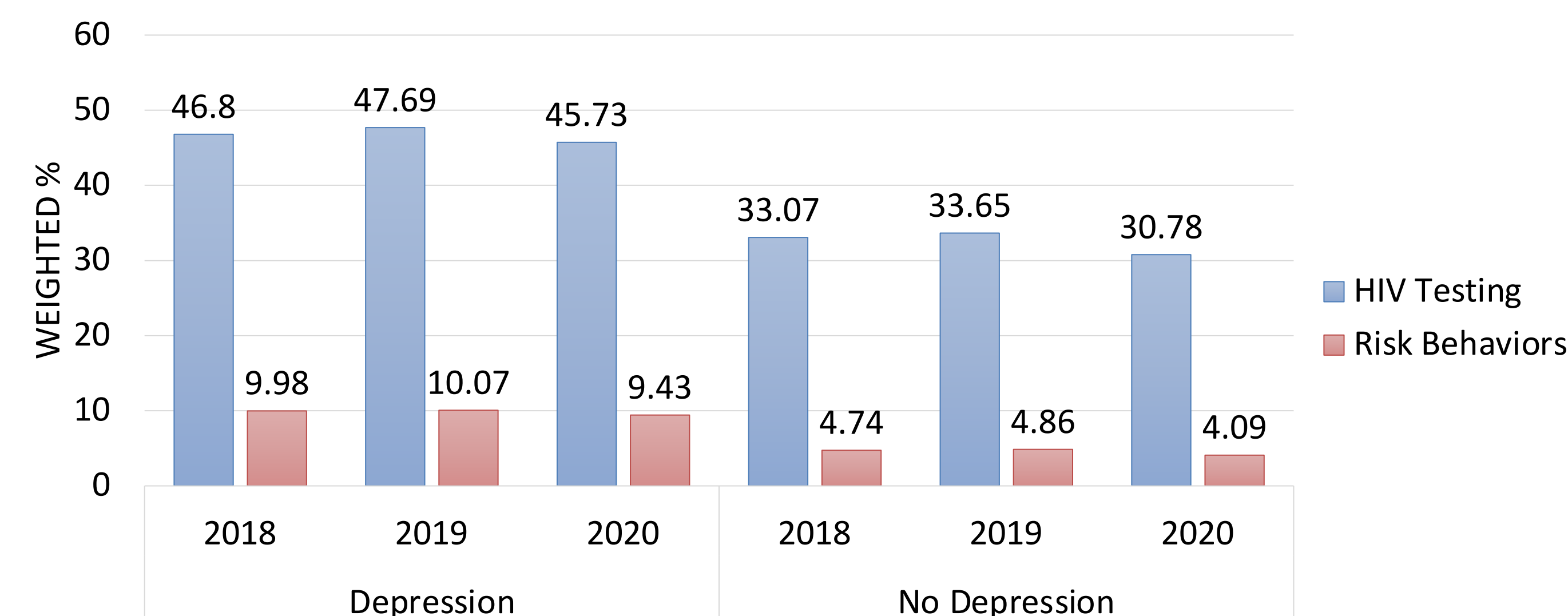


Figure 2. Percentage of HIV testing and risk behaviors among U.S. adults with and without depression



Results (continued)

Table 2. The last time (in months) received an HIV test, from people with depression and with HIV testing experience

Data Year	Mean (S.E.)	Median
2018	69.44 (0.67)	26.32
2019	70.79 (0.95)	25.93
2020	74.14 (0.67)	29.02
2018-2020 (All)	71.35 (0.62)	27.05

- When comparing the duration from the last HIV testing, people with depression had a shorter period compared to those without depression. (Non-depression group data not shown here)

Table 3. Logistic regression model for HIV testing and risk behaviors

Factors	HIV testing Adjusted OR (95% CI)	HIV risk behaviors Adjusted OR (95% CI)
Depression	1.51 (1.48, 1.55)	1.51 (1.44, 1.58)
Male [female (ref.)]	0.90 (0.89, 0.92)	1.83 (1.76, 1.90)
Race [white (ref.)]		
Black or African American	2.88 (2.79, 2.97)	1.17 (1.10, 1.23)
American Indian/Alaskan Native	1.35 (1.25, 1.45)	0.95 (0.83, 1.08)
Asian	0.61 (0.57, 0.65)	0.77 (0.68, 0.89)
Native Hawaiian/Pacific Islander	1.13 (0.98, 1.29)	1.38 (1.09, 1.74)
Hispanic [Non-Hispanic (ref.)]	1.27 (1.22, 1.31)	1.09 (1.02, 1.16)
Without Insurance [With (ref.)]	0.90 (0.87, 0.94)	1.03 (0.97, 1.09)

* The bolded numbers represent statistical significance.

Discussion

- People with depression were 51% more likely to test for HIV and engage in HIV-risk behaviors. Men were more likely to be involved in HIV risk behaviors than women.
- The results showed a longer duration since the last HIV test in 2020 compared to 2018 and 2019, which might imply an influence of the COVID-19 pandemic due to national lockdowns.⁴

Conclusions

- Depression was associated with higher odds of HIV testing and engagement in HIV risk behaviors.
- Even though people with depression also had higher odds of HIV testing, the long time periods (median>24 months) since the last HIV test still failed to meet the annual HIV testing goal recommended by the Centers for Disease Control and Prevention (CDC).⁵