

Psychometric Properties of the Vaccine Hesitancy Scale Adapted for COVID-19 Vaccination among People with HIV



Funding: Research reported in this publication was supported by the University of Miami Center for AIDS Research, grant P30A1073961 from the National Institutes of Health (NIH), and grant number P30MH116867 through the Center for HIV and Research in Mental Health. VJR's work was partially supported by a Ford Foundation Fellowship administered by the National Academies of Sciences, Engineering, and Medicine.

Violeta J. Rodriguez, Maria L. Alcaide, Ana S. Salazar, Emily K. Montgomerie, Marissa J. Maddalon, Deborah L. Jones
University of Miami Miller School of Medicine



Introduction

- Self-report scales to quantify people's hesitancy to vaccinate against SARS-CoV-2 (COVID-19 vaccination) are needed to guide vaccination policy and campaigns towards populations at risk, particularly among adult people with HIV (PWH).¹
- The Vaccine Hesitancy Scale (VHS) is a validated scale used to assess vaccine hesitancy but has not been evaluated in PWH.
- We investigated the psychometric properties of the VHS among PWH for COVID-19 vaccination.

Table 1	Factor 1: Confidence	Factor 2: Risks
Vaccination is important for my health*	0.89	
Getting vaccinated is important for my health and the health of my community*	0.87	
Vaccines are effective in preventing disease*	0.81	
All vaccines offered by the government program in my community are important for health*	0.81	
Getting vaccines is a good way to protect myself from disease*	0.80	
I do what my doctor or healthcare provider recommends about vaccines for my health*	0.74	
The information I receive about vaccines from the vaccine program is reliable and trustworthy*	0.61	
New vaccines carry more risks than older vaccines		0.81
I am concerned about serious adverse effects of vaccines.		0.61
I do not need vaccines for coronavirus as it will disappear soon		0.43

Methods

- The design of the study was cross-sectional in nature.
- The VHS was adapted for COVID-19 vaccination.
- Self-report data from an online questionnaire were collected from N=175 PWH using REDCap.
- Participants were surveyed in English or Spanish regarding attitudes towards COVID-19 vaccination using the adapted VHS.
- Cronbach's α was used to evaluate reliability.
- Exploratory factor analyses were used to evaluate the original factor structure of the VHS.
- Associations with related measures were used to evaluate construct validity.

Results

Participants

- Participants were on average 51.55 years of age ($SD = 13.90$); 55% were women, 41% were Hispanic; 59% of participants were Black/African American, 32% were White, and 7% were other.

Internal Consistency

- Cronbach's α was 0.72, suggesting that the reliability of the scale was acceptable.

Factor Structure of the VHS – see factor loadings presented in Table 1

Construct Validity

- Participants who reported willingness to be vaccinated and believed that a vaccine would be effective in preventing COVID-19 had significantly lower hesitancy scores.

Conclusion

- The modified VHS for COVID-19 vaccination has adequate psychometric properties in this sample of PWH.
- The replicated the original factor structure (Confidence, Risks) of the VHS. The VHS also had adequate reliability and construct validity among PWH despite modifications.
- This tool may be used by public health experts and clinicians to identify problematic beliefs towards vaccination in PWH.
- Validated tools such as this are essential to guide vaccination policy and campaigns in PWH.

References

1. Shapiro GK, Tatar O, Dube E, Amsel R, Knauper B, Naz A, et al. The vaccine hesitancy scale: Psychometric properties and validation. *Vaccine*. 2018;36(5):660-7.