



Published in final edited form as:

Int J Behav Med. 2022 February ; 29(1): 69–77. doi:10.1007/s12529-021-09998-6.

Examining Factors Associated with Gender Identity Among Individuals Disengaged from HIV Care in Argentina

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Abstract

Background—Transgender women (TGW) consistently show lower adherence to antiretroviral treatment (ART), than cisgender people (CP) living with HIV. This study examined sociodemographic and psychosocial factors associated with gender identity among individuals disengaged from HIV care in Argentina.

Methods—Data for this study was obtained at baseline from the Conexiones y Opciones Positivas en la Argentina 2 (COPA2) study. Forty-one TGW and 360 CP (177 male, 183 female) disengaged from HIV care completed questionnaires assessing sociodemographic information, severity of depressive symptoms, substance and alcohol use, patient-provider relationship quality, self-efficacy, ART adherence motivation, self-reported adherence, and treatment-related factors. Analyses included chi-square tests exploring the association between categorical variables and gender identity, and ANCOVAs comparing groups controlling for age.

Results—Being a TGW was associated with having only public health insurance; substance use, particularly cocaine; substance-related problems; and hazardous drinking. TGW showed

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Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors declare no competing interests.

more negative consequences related to substance use, more hazardous alcohol use, lower patient-provider relationship quality, and lower self-reported adherence, than CP.

Conclusions—Harm reduction should be a key component in HIV care for TGW to address substance use. Health care teams should receive formal training in patient-provider communication skills and trans-specific competencies to enhance TGW's adherence and retention. Public policies to address structural factors that negatively affect TGW's adherence to ART are also needed.

Keywords

Adherence; Retention; HIV care; Transgender women; Argentina

Introduction

Adherence to antiretroviral treatment (ART) and retention in HIV care are vital to achieve viral suppression and optimize health and quality of life of people living with HIV (PLWH), reducing transmission to others. Of the approximately 129,000 PLWH in Argentina in 2018, an estimated 80.2% had been diagnosed; of these, 83.5% were on ART, and only 67.8% of those on ART had a suppressed viral load of < 50 copies/mL, despite universal access to HIV care at no cost [1]. Clearly, increased efforts are needed to optimize both treatment uptake and retention in HIV care among PLWH from Argentina.

Socially marginalized groups, such as transgender women (TGW), may have challenges to adhere to ART that are specific to their circumstances. Several studies have found an association between engagement and retention in HIV care and gender identity. TGW are less adherent to ART and are at increased odds of not achieving durable viral suppression, compared to cisgender people [2–4]. This is likely the result of multiple interacting individual (e.g., mental health outcomes, substance use) and sociostructural factors (e.g., stigma and discrimination, context of vulnerability, barriers to access to health care) [5, 6].

Research suggests that some factors are common to cisgender PLWH and others are unique to TGW. Among cisgender PLWH, mental health problems, specifically depression, and substance use may be the most prominent [7–9], including among Argentine PLWH [10, 11]. However, exposure to gender identity stigma increases prevalence of depressive symptoms and substance use in TGW [12, 13]. Depression is a highly prevalent mental health problem among TGW worldwide [14], including Argentina [15], with rates that significantly exceed those of cisgender people [16]. Substance and alcohol use is also high among Argentine TGW [15], as it is a frequent strategy to cope with stigma, violence, and social exclusion [17]. Given this, it is possible that the negative impact of these two factors (depression and substance use) on engagement in HIV care may be significantly stronger in TGW, compared to cisgender PLWH. In addition, other individual factors that are common to TGW and cisgender PLWH can also affect adherence to ART, such as self-efficacy, a sense of personal competence, and the ability to integrate ART into the daily life [18–20].

Other factors unique to TGW may negatively impact their retention in HIV care, as well. Gender identity stigma and discrimination from health care workers have been associated with avoidance of seeking health care among TGW in Argentina [21]. Similarly, research

suggests that TGW report fewer positive patient-provider interactions in comparison with cisgender patients [19]. Overall, transphobic experiences are negatively associated with adherence to ART [6, 22], as well as concerns about adverse interactions between ART and hormone therapy when TGW prioritize gender affirmation [6, 23, 24]. Gender affirmation is the interpersonal process through which a person's gender identity and expression are socially recognized and supported [25]. Medical, psychological, and social gender affirmation are significantly associated with psychological well-being and better quality of life among TGW [26]. This may contribute to explain why gender-affirming health care and hormone therapy were identified as primary health concerns in this population, over ART [27].

Reduced levels of retention in HIV care among TGW are particularly concerning as this population has the highest HIV prevalence among all key populations in Argentina (34%) [1]. Additionally, barriers to access formal employment result in economic hardship and engagement in survival sex work, usually in street-based settings [28, 29]. In that context, TGW are exposed to high levels of violence and abuse that undermine the implementation of safer sex behaviors [30]. This, in combination with depression and substance use, increases HIV transmission risk behaviors [31]. Studies have shown that TGW who engage in such behaviors are more likely to exhibit high levels of depression and to report having used substances before or during sexual intercourse [32]. Optimizing TGW's retention and engagement in HIV care to reach viral suppression is fundamental, both to improve the health of this population and, at a public health level, to achieve the 90-90-90 targets (i.e., 90% of all PLWH knowing their status, 90% of those diagnosed receiving ART, and 90% of those treated achieving viral suppression) [33, 34].

Therefore, identifying factors associated with lower retention in HIV care among TGW, compared to cisgender PLWH, is especially relevant in Argentina. Despite this, to our knowledge, local studies on TGW disengaged from HIV care are scarce. The present study sought to examine sociodemographic and psychosocial factors associated with gender identity among individuals disengaged from HIV care in Argentina.

Methods

Participants

Participants were 360 CP and 41 TGW living with HIV disengaged from HIV care recruited from seven clinics in four Argentine urban centers: three public hospitals' Infectious Diseases Units, and four private clinics. The urban centers were located in four different provinces in Argentina and were among those with highest HIV prevalence. Inclusion criteria for both groups were (1) to be 18 years of age or older, (2) to have been diagnosed with HIV for more than six months, (3) to have a recent viral load of > 500 copies/mL after 6 months of ART prescription, and (4) to be lost to care (i.e., 3 missed pharmacy pickups in the last 6 months, or had not attended a physician visit in the last 12 months).

Materials and Measures

Adherence to ART—A Visual Analog Scale (VAS), ranging from 0 (0%) to 10 (100%), was used to assess self-reported adherence to ART [35]. Participants were requested to indicate what proportion of their medication they had taken over the past 4 weeks. Participants who take more than one pill per day responded about each pill individually (for up to 3 pills). Then, an average VAS adherence score was calculated from the VAS responses for each medication. For this sample, internal consistency was good ($\alpha = 0.87$).

Depressive Symptoms—The Beck Depression Inventory-II (BDI-II) [36], which has been validated in Argentina [37], was used to measure the severity of depressive symptoms. A cutoff score of ≥ 20 indicates moderate to severe depressive symptoms. The BDI-II total score had good internal consistency ($\alpha = 0.88$). *Suicidal thoughts* were evaluated with the corresponding item from the BDI-II. Scores different from 0 in this item were considered as indicators of presence of suicidal thoughts in the last 2 weeks.

Substance Use—The 10-item Drug Abuse Screening Test (DAST-10) [38, 39] was administered to assess substance use (excluding alcohol and tobacco) and substance-related problems in the past 12 months, using dichotomic responses (yes/no). Each item answered “yes” receives one point, except for item 3 (“Are you always able to stop using drugs when you want to?”), which is reverse scored. Point values are added to obtain a total score. A cutoff score of ≥ 3 was used as indicator of possible substance abuse or dependence, or of substance-related problems. Internal consistency for the current sample was acceptable ($\alpha = 0.70$). Participants responded the questionnaire only once for all the types of substances that they may have used in the last 12 months. Additional questions gathered information about type of substance used.

Alcohol Use—The 10-item Alcohol Use Disorders Identification Test (AUDIT) [40] was used to assess alcohol use and alcohol-related problems. A cutoff score of ≥ 8 was used as indicator of hazardous alcohol use. Data indicated good reliability for this measure ($\alpha = 0.81$).

Patient-Provider Communication—The Prerana Interview [41] is a 10-item questionnaire that was used to assess the participants’ feelings toward and experiences with their health care provider (e.g., “Do you feel that your doctor really listens to your concerns?”). Each question is responded with a 4-point scale, ranging from 0 (“Never”) to 3 (“Every time”). Higher scores indicate higher patient-provider relationship quality. Internal consistency for this sample was good ($\alpha = 0.80$).

Self-Efficacy—The HIV Treatment Adherence Self-Efficacy Scale (HIV-ASES) was used to evaluate adherence self-efficacy [42]. Participants responded to its 12 items (e.g., “In the past month, how confident have you been that you can integrate your treatment into your daily routine”) using a scale of 0 (“cannot do at all”) to 10 (“completely certain can do”). Higher scores represent higher self-efficacy. The HIV-ASES total score had excellent reliability for the current sample ($\alpha = 0.92$).

ART Adherence Motivation—The motivation section of the LifeWindows Information–Motivation–Behavioral Skills Adherence Assessment Questionnaire (LW-IMB-AAQ) [43] was administered to measure motivation to adhere to ART. It comprises 10 items (e.g., “I get frustrated taking my HIV medications because I have to plan my life around them”) that are responded using a 5-point scale ranging from 1 “strongly disagree” to 5 “strongly agree.” Higher scores are interpreted as higher ART adherence motivation. Data showed that reliability for this scale was acceptable ($\alpha = 0.72$).

Sociodemographic Characteristics and Additional Information on Mental Health and Adherence—A questionnaire was designed to collect sociodemographic characteristics, and information on mental health history, engagement in and adherence to HIV care. Sociodemographic characteristics included age, educational level, occupational status, gender identity, and type of health insurance. A set of questions explored mental health history (i.e., lifetime history of severe depression, severe anxiety, and suicide attempts), by self-report. Participants were asked to report whether they had ever experienced what they would describe as severe depression or severe anxiety. To collect information on engagement in and adherence to HIV care, participants were requested to indicate the number of times they stopped taking ART for more than 3 months, stopped visiting the health care provider for more than 12 months, and did not attend the health care service when supposed to in the last 12 months.

Procedure

This study analyzes baseline data drawn from the Conexiones y Opciones Positivas en la Argentina 2 (COPA2) study, a longitudinal cluster-randomized clinical trial of physician-delivered motivational interviewing to improve adherence and retention in HIV care among patients who were re-engaging in it [44]. Thus, as previously mentioned among the inclusion criteria, all participants were lost to care at the moment of these assessments (i.e., baseline), which were conducted before re-engagement in HIV care and any intervention. Approval was obtained from the affiliated US Institutional Review Board (IRB) and ethics committees at all participating Argentine sites. All participants signed informed consent prior to enrollment and study-related assessments. Before consenting to participate, information on study procedures was provided and the confidentiality of study records was assured. Participants were recruited between August 2017 and June 2019.

An audio computer-assisted self-interview (ACASI) system was used to administer the sociodemographic and psychosocial questionnaires to enhance disclosure, reduce social desirability bias, and accommodate all literacy levels. The process of translation and adaptation of materials to the local context has been described in Sued et al. [44]. If a participant reported current suicidal ideation and/or had a BDI total score of ≥ 20 , the ACASI system alerted study staff at the end of the interview. These identified participants were assessed for suicide risk by a health care provider, and referral to mental health services was facilitated to those who required it.

Statistical Analyses

Statistical analyses were assisted by the Statistical Package for the Social Sciences v24. Frequencies, percentages, means, and standard deviations were used to describe participants' characteristics. Associations between categorical variables and gender identity were explored using chi-square tests. One-way ANCOVA was run to analyze the difference between TGW and CP on adherence to ART, depressive symptoms, substance and alcohol use, self-efficacy, patient-provider communication, and ART adherence motivation, controlling for age. This was the only relevant sociodemographic variable in which both groups showed a significant difference. For depressive symptoms, substance and alcohol use, dichotomized scores (using cut-offs) were used for the chi-square tests, whereas continuous total scores were introduced in the ANCOVA. $P < 0.05$ were considered statistically significant.

Results

Descriptive Statistics and Variables Associated with Gender Identity

Sociodemographic characteristics, stratified by gender identity, are shown in Table 1. Regarding the level of educational attainment, a considerable proportion of each group (34.7% for CP, 41.5% for TGW) had not completed high school or secondary education. Around only half of the CP (55.8%) reported to be employed, though that proportion decreased to 43.9% for TGW. However, differences between groups in these two variables were not significant. Almost all TGW had only public health insurance (95.1%, public hospital or health care center). Being a TGW was significantly associated with having only public health insurance ($p < 0.001$) (Table 1). TGW were significantly younger ($t(399) = 3.215, p < 0.001$). TGW's mean age was 33.43 ($SD = 8.84$), vs. 39.14 years ($SD = 10.96$) for CP. Among CP, 50.8% ($n = 183$) were female and 49.2% ($n = 177$) were male.

For mental health indicators, almost one-quarter of the participants in each group met criteria for moderate to severe depressive symptoms. Around half of the participants in each group reported lifetime history of severe depression (42.2% for CP, 51.2% for TGW) and anxiety (50% for CP, 51.2% for TGW). More than one-quarter of TGW had attempted suicide at least once in their lifetime (26.8%). The proportion of participants reporting suicidal thoughts in the previous 2 weeks was similar for both groups (21.4% for CP, 22% for TGW). No mental health indicator was found to be associated with gender identity (Table 1).

Regarding substance use, TGW reported higher use of substances, in general (24.2% for CP, 73.2% for TGW), and of cocaine, in particular (47.1% for CP, 76.7% for TGW) in the last 6 months. More than one-third of TGW (39%) met criteria for substance-related problems and almost one half met criteria for hazardous alcohol use (46.3%). Being a TGW was significantly associated with use of substances ($p < 0.001$), particularly cocaine ($p = 0.005$), in the last 6 months. Furthermore, TGW were more likely to meet criteria for the presence of substance-related problems ($p < 0.001$) and for hazardous drinking ($p = 0.001$).

ANCOVAs Comparing Transgender and Cisgender Participants

When controlling for age, TGW showed more substance use and substance-related problems ($F(1,398) = 26.999, p < 0.001$), more hazardous alcohol use ($F(1,398) = 14.198, p < 0.001$), lower patient-provider relationship quality ($F(1,398) = 7.805, p = 0.005$), and lower self-reported adherence to ART ($F(1,398) = 5.725, p = 0.017$), than CP. On the other hand, the number of times that CP stopped taking ART for more than 3 months since they started was significantly higher ($F(1,398) = 7.435, p = 0.007$). No significant differences were found by gender identity in other adherence indicators, depressive symptoms, self-efficacy, and ART adherence motivation (Table 2).

Discussion

The present study sought to examine sociodemographic and psychosocial factors associated with gender identity among individuals disengaged from HIV care in Argentina. Being a transgender woman was associated with having only public health insurance, substance use, particularly cocaine, in the last 6 months, and hazardous drinking. Furthermore, transgender women disengaged from HIV care reported lower adherence to ART, experienced more negative consequences related to substance use, more hazardous alcohol use, and a poorer patient-provider relationship than cisgender participants disengaged from HIV care.

Consistent with research conducted elsewhere, Argentine TGW disengaged from HIV care reported lower adherence to ART than their cisgender counterparts [2, 4, 19]. However, CP reported having stopped taking ART for more than 3 months significantly more times than TGW. This possibly indicates that CP tend to be less consistent and interrupt HIV care more frequently than TGW. On the contrary, TGW who engage in HIV care may tend to persist in it with less interruptions. One possible explanation could be that due to its high prevalence among TGW, HIV may be more present and visible for them, who probably know more than one peer living with it. Thus, they may be more aware of and exposed to the negative consequences of non-adherence and more prone to stay engaged once they start treatment.

As observed in similar studies [19], TGW disengaged from HIV care were significantly younger than CP with the same status regarding HIV care. Lacombe-Duncan et al. [6] found that TGW who were not using ART were younger and living with HIV for a shorter period of time, than those who were on HIV treatment. Additionally, TGW are frequently expelled from their homes and school early in life and many engage in sex work at a young age [29, 30], which increases exposure to HIV. On that line, research suggests that HIV acquisition often occurs early among TGW, during adolescence or shortly after [45]. Considered together, these pieces of evidence may contribute to explaining the difference of average age between TGW and CP disengaged from HIV care. They may also possibly explain the difference in the average number of times that participants of each group stopped taking ART for more than 3 months. These results could suggest that CP may have been on ART longer, and therefore, they may have switched treatment more often within that period of time.

In the present study, TGW disengaged from HIV care were more likely to have only public health insurance and less likely to have additional private or employer-provided

health insurance. This situation may be associated with the self-reported low level of adherence in this group, compared to their cisgender counterparts. Having only public health insurance may actually be an indicator of socioeconomic vulnerability and economic instability, as private or employer-provided health insurance is usually received through formal employment in Argentina. Structural factors, such as socioeconomic problems resulting from a context of stigma and discrimination, have been previously identified as barriers to engagement and retention in HIV care among TGW [6]. On the other hand, Argentina provides free public health insurance coverage to all its citizens regardless of income and, therefore, grants universal access to ART and HIV care through the public health system. Lack of private or employer-provided health insurance should not be a barrier to access. However, despite being at no cost, public health care is not always easily accessible to TGW in Argentina. Zalazar et al. [46] explored barriers to access to an Infectious Diseases Service in a public hospital in Buenos Aires. They identified structural (e.g., overcrowded service, difficulties to get an appointment with the provider, long waiting lists) and social (e.g., stigma and discrimination from health care staff) barriers to access. Thus, barriers to access include both private and public health care when access to the public system is challenging and economic hardship impedes paying for private insurance.

In relation to the social barriers to access health care, previously mentioned, TGW in this study exhibited poorer patient-provider relationship quality than CP disengaged from HIV care. This may also have a differential negative impact on TGW's adherence to ART. Previous studies have found that TGW reported significantly fewer positive interactions with their health care providers [19]. As mentioned before, stigma and discrimination from health care workers have also been associated with avoidance of seeking health care and noted as a barrier to access among Argentine TGW [21, 46].

Hazardous alcohol use and problems related to substance use were associated with gender identity, being higher among TGW disengaged from HIV care. High rates of substance use have been observed among TGW both in international [47] and local settings [15]. According to researchers, substance use may be a frequent strategy to cope with the stigma, violence, and socioeconomic hardship that TGW experience [17]. Substance use has been linked to lower adherence to ART among Argentine PLWH, regardless of gender identity [10]. However, higher rates of substance use among TGW, in comparison with CP, may interfere with adherence to ART and engagement in HIV care even more.

Mental health indicators (severity of depressive symptoms, suicidal thoughts, and lifetime history of severe depression, anxiety, or suicide attempts) were not associated with gender identity. In contrast with previous research [16], no difference was found in levels of depressive symptoms between TGW and CP disengaged from HIV care. However, unlike these earlier studies, cisgender participants were all living with HIV and disengaged from HIV care. Depression and suboptimal adherence to ART have been consistently associated [8]. As all participants were disengaged from care, the CP participating in this study may have had higher levels of depressive symptoms than those found in general cisgender population and more similar to those found among TGW. Another possible interpretation of this result is that depressive symptoms negatively affect adherence and engagement in HIV care for most PLWH, regardless of their gender identity.

Similarly, no differences were found in self-efficacy between TGW and CP disengaged from HIV care, in contrast with findings from Sevelius et al. [19]. Sweeney and Venable have proposed that reduced adherence self-efficacy is a consequence of HIV-related stigma that undermines PLWH's confidence in taking the medication [20]. It is possible that both transgender and cisgender participants may have experienced or anticipated HIV-related stigma in a similar level, thereby reducing their adherence self-efficacy. Analogous results were observed in ART adherence motivation. As noted, one of the inclusion criteria for this study was to be disengaged from HIV care. Therefore, it is possible that both TGW and CP may have been similarly motivated to re-engage and adhere to ART. However, considered in combination with findings regarding depressive symptoms, these pieces of evidence may suggest that certain variables may not be significantly related to gender identity, and thus, they may be equally affected for most PLWH disengaged from HIV care. From an intersectional approach, the HIV status may be more salient than the gender identity regarding certain variables such as self-efficacy or ART adherence motivation, among TGW; thus, leading to similar outcomes as those of CP living with HIV. For example, as mentioned before, self-efficacy may be more negatively affected by HIV-related stigma than by gender identity stigma.

This study is limited by the use of cross-sectional data which precluded causal interpretations. In addition, adherence measurement relied only on self-report, which may have been inflated by participant bias. Data on depressive symptoms and substance use was also collected by self-report, and categories were defined using a cutoff score. Future studies will benefit by having clinical assessments of these variables. A non-probability sample, consisting exclusively of participants disengaged from HIV care, was selected. Consequently, it may not be representative of the general population of CP and TGW, both living with HIV or not, impeding generalization of results. Furthermore, there was substantial heterogeneity among CP with regard to sex and sexual minority status. As this study sought to explore the role of gender identity, comparisons were conducted between CP and TGW. Future studies should examine differences between cisgender women, sexual minority men, and transgender women, and could inform interventions to optimize the HIV care continuum in gender and sexual minority populations. Additionally, comparisons that incorporate the distinction between male and female CP may also contribute to understand the role of sex assigned at birth or being female in adherence to ART, in future analyses. By comparing non-adherent TGW to TGW engaged in HIV care, it would be possible to examine if the factors associated with transgender identity in the present study are indeed contributing to lower adherence in this population. Finally, this was an exploratory study, and as such, may not have been powered to find significance for all aspects of these analyses. The statistical analyses that were conducted did not allow to examine the role of mediational variables to find more indirect or complex associations. Studies in the future should explore, for example, the role of gender affirmation (medical, psychological, social, and legal) and gender affirmative health care as mediational variables between mental health indicators, substance use, and adherence to ART among TGW. Additionally, differing sample sizes were compared; future research should expand comparisons to include comparable numbers and enroll larger samples as appropriate. Nonetheless, this study provides important, new information on adherence and engagement in ART among TGW,

especially in the Argentine and South American context, where evidence is frequently scarce. These results may also contribute to future studies that seek to identify predictors of adherence and retention in HIV care among TGW in Argentina.

In conclusion, TGW shared most of the factors that negatively affect optimal uptake of ART in CP. However, they also face unique challenges in adhering to ART and staying engaged in HIV care, related to patient-provider relationship, substance use, and structural barriers to access health care. To increase TGW's adherence to ART and retention in HIV care, interventions and public policies should incorporate components of harm reduction, to address substance use, and formal trainings in patient-provider communication skills and trans-specific competencies for health care providers. Trans-affirming HIV care, in which providers and staff are encouraged to be welcoming and accepting of transgender identities and aware of their specific needs, may contribute to reductions in gender identity stigma and substance use [15], strengthening TGW's adherence and retention in HIV treatment. Moreover, these findings suggest that public policies and interventions to address the structural factors that underlie TGW's context of exclusion and vulnerability (e.g., discrimination and stigma, low access to formal employment) are also needed.

Acknowledgements

The authors would like to thank all the participants and collaborators: Asociación de Travestis, Transexuales y Transgéneros de Argentina (A.T.T.T.A) and Asociación Civil Hotel Gondolín, without whom this study would not have been possible.

Funding

This study was funded by a grant from the National Institute of Mental Health (NIH/NIMH), R01MH110242 / R01MH110242-S.

References

1. Ministerio de Salud de la Nación. Boletín sobre el VIH, sida e ITS en la Argentina [Internet]. 2019. Available from: https://www.msal.gov.ar/images/stories/bes/graficos/0000001754cnt-boletin-epidemiologico-2019_vih-sida-its.pdf. Accessed July 10, 2020.
2. Mizuno Y, Frazier EL, Huang P, Skarbinski J. Characteristics of transgender women living with HIV receiving medical care in the United States. *LGBT Heal*. 2015;2(3):228–34.
3. Wiewel EW, Torian LV, Merchant P, Braunstein SL, Shepard CW. HIV diagnoses and care among transgender persons and comparison with men who have sex with men: New York City, 2006–2011. *Am J Public Health*. 2016;106(3):497–502. [PubMed: 26691124]
4. Baguso GN, Gay CL, Lee KA. Medication adherence among transgender women living with HIV. *AIDS Care*. 2016;28(8):976–81. [PubMed: 26908228]
5. Bocking W, MacCrate C, Israel H, Mantell JE, Remien RH. Engagement and retention in HIV care for transgender women: perspectives of medical and social service providers in New York City. *AIDS Patient Care STDS*. 2020;34(1):16–26. [PubMed: 31846348]
6. Lacombe-Duncan A, Bauer GR, Logie CH, et al. The HIV care cascade among transgender women with HIV in Canada: a mixed-methods study. *AIDS Patient Care STDS*. 2019;33(7):308–22. [PubMed: 31260342]
7. Socias ME, Milloy MJ. Substance use and adherence to antiretroviral therapy: what is known and what is unknown. *Curr Infect Dis Rep*. 2018;20(9):36. [PubMed: 30066113]
8. Tao J, Vermund SH, Qian HZ. Association between depression and antiretroviral therapy use among people living with HIV: a meta-analysis. *AIDS Behav*. 2018;22:1542–50. [PubMed: 28439754]

9. Zhang Y, Wilson TE, Adedimeji A, et al. The impact of substance use on adherence to antiretroviral therapy among HIV-infected women in the United States. *AIDS Behav.* 2018;22(3):896–908. [PubMed: 28560499]
10. De Boni RB, Shepherd BE, Grinsztejn B, et al. Substance use and adherence among people living with HIV/AIDS receiving cART in Latin America. *AIDS Behav.* 2016;20(11):2692–9. [PubMed: 27091028]
11. Jones DL, Sued O, Cecchini D, et al. Improving adherence to care among “hard to reach” HIV-infected patients in Argentina. *AIDS Behav.* 2016;20(5):987–97. [PubMed: 26152608]
12. Reisner SL, Nemoto T, Gamarel KE, Operario D. Dyadic effects of gender minority stressors in substance use behaviors among transgender women and their non-transgender male partners. *Psychol Sex Orientat Gend Divers.* 2014;1(1):63–71. [PubMed: 25642440]
13. Yang MF, Manning D, Van Den Berg JJ, Operario D. Stigmatization and mental health in a diverse sample of transgender women. *LGBT Heal.* 2015;2(4):306–12.
14. Reisner SL, Poteat T, Keatley JA, et al. Global health burden and needs of transgender populations: a review. *Lancet.* 2016;388(10042):412–36. [PubMed: 27323919]
15. Radusky PD, Zalazar V, Cardozo N, et al. Reduction of gender identity stigma and improvements in mental health among transgender women initiating HIV treatment in a trans-sensitive clinic in Argentina. *Transgender Heal.* 2020;00(00):1–9.
16. Su D, Irwin JA, Fisher C, et al. Mental health disparities within the LGBT population: a comparison between transgender and nontransgender individuals. *Transgender Heal.* 2016;1(1):12–20.
17. Hotton AL, Garofalo R, Kuhns LM, Johnson AK. Substance use as a mediator of the relationship between life stress and sexual risk among young transgender women. *AIDS Educ Prev.* 2013;25(1):62–71. [PubMed: 23387952]
18. Crosby RA, Salazar LF, Hill BJ. Correlates of not using antiretroviral therapy among transwomen living with HIV: the unique role of personal competence. *Transgender Heal.* 2018;3(1):141–6.
19. Sevelius JM, Carrico A, Johnson MO. Antiretroviral therapy adherence among transgender women living with HIV. *J Assoc Nurses AIDS Care.* 2010;21(3):256–64. [PubMed: 20347342]
20. Sweeney SM, Vanable PA. The association of HIV-related stigma to HIV medication adherence: a systematic review and synthesis of the literature. *AIDS Behav.* 2016;20(1):29–50. [PubMed: 26303196]
21. Socías ME, Marshall BDL, Arístegui I, et al. Factors associated with healthcare avoidance among transgender women in Argentina. *Int J Equity Health.* 2014;13(1):81. [PubMed: 25261275]
22. Sevelius JM, Saberi P, Johnson MO. Correlates of antiretroviral adherence and viral load among transgender women living with HIV. *AIDS Care.* 2014;26(8):976–82. [PubMed: 24646419]
23. Braun HM, Candelario J, Hanlon CL, et al. Transgender women living with HIV frequently take antiretroviral therapy and/or feminizing hormone therapy differently than prescribed due to drug-drug interaction concerns. *LGBT Heal.* 2017;4(5):371–5.
24. Sevelius JM, Patouhas E, Keatley JG, Johnson MO. Barriers and facilitators to engagement and retention in care among transgender women living with human immunodeficiency virus. *Ann Behav Med.* 2014;47(1):5–16. [PubMed: 24317955]
25. Sevelius JM. Gender affirmation: a framework for conceptualizing risk behavior among transgender women of color. *Sex Roles.* 2013;68(11–12):675–89. [PubMed: 23729971]
26. Glynn TR, Gamarel KE, Kahler CW, Operario D, Iwamoto M, Nemoto T. The role of gender affirmation in psychological well-being among transgender women. *Psychol Sex Orientat Gend Divers.* 2016;3(3):336–44. [PubMed: 27747257]
27. Chung C, Kalra A, Sprague L, Campbell B. Positively trans: initial report of a national needs assessment of transgender and gender non-conforming people living with HIV [Internet]. 2019. Available from: <http://transgenderlawcenter.org/wp-content/uploads/2016/02/PositivelyTrans-2015-7-border-FINAL.pdf>. Accessed 6 Jan 2021.
28. Fundación Huésped. Gender identity law and transgender people access to health care in Argentina [Internet]. 2014. Available from: <https://www.huesped.org.ar/wp-content/uploads/2018/03/Ley-de-Identidad-de-Genero-y-acceso-a-la-salud-de-personas-trans-ING.pdf>. Accessed 10 July 2020.

29. Ministerio Público de la Defensa La Revolución de las Mariposas. A diez años de La Gesta del Nombre Propio [Internet]. 2017. Available from: <https://www.mpdefensa.gov.ar/publicaciones/la-revolucion-las-mariposas-a-diez-anos-la-gesta-del-nombre-propio>. Accessed 10 July 2020.
30. Poteat T, Wirtz AL, Radix A, et al. HIV risk and preventive interventions in transgender women sex workers. *Lancet*. 2015;385(9964):274–86. [PubMed: 25059941]
31. Chakrapani V, Willie TC, Shunmugam M, Kershaw TS. Syndemic classes, stigma, and sexual risk among transgender women in India. *AIDS Behav*. 2019;23(6):1518–29. [PubMed: 30565093]
32. Garofalo R, Osmer E, Sullivan C, Doll M, Harper G. Environmental, psychosocial, and individual correlates of HIV risk in ethnic minority male-to-female transgender youth. *J HIV/AIDS Prev Child Youth*. 2007;7(2):89–104.
33. Baral SD, Poteat T, Strömdahl S, Wirtz AL, Guadamuz TE, Beyrer C. Worldwide burden of HIV in transgender women: a systematic review and meta-analysis. *Lancet Infect Dis*. 2013;13(3):214–22. [PubMed: 23260128]
34. Patterson TL, Volkman T, Gallardo M, et al. Identifying the HIV transmission bridge: which men are having unsafe sex with female sex workers and with their own wives or steady partners? *J Acquir Immune Defic Syndr*. 2012;60(4):414–20. [PubMed: 22481603]
35. Giordano TP, Guzman D, Clark R, Charlebois ED, Bangsberg DR. Measuring adherence to antiretroviral therapy in a diverse population using a visual analogue scale. *HIV Clin Trials*. 2004;5(2):74–9. [PubMed: 15116282]
36. Beck A, Steer R. *Manual for the Beck Depression Inventory*. San Antonio, TX: Psychological Corporation; 1993.
37. Bonicatto S, Dew AM, Soria JJ. Analysis of the psychometric properties of the Spanish version of the Beck Depression Inventory in Argentina. *Psychiatry Res*. 1998;79(3):277–85. [PubMed: 9704874]
38. Skinner HA. The Drug Abuse Screening Test. *Addict Behav*. 1982;7(4):363–71. [PubMed: 7183189]
39. Yudko E, Lozhkina O, Fouts A. A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *J Subst Abuse Treat*. 2007;32(2):189–98. [PubMed: 17306727]
40. Saunders JB, Aasland OG, Babor TF, De La Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*. 1993;88(6):791–804. [PubMed: 8329970]
41. Ekstrand ML, Chandy S, Heylen E, Steward W, Singh G. Developing useful highly active antiretroviral therapy adherence measures for India: the Prerana Study. *J Acquir Immune Defic Syndr*. 2010;53:415–7. [PubMed: 20190588]
42. Johnson MO, Neilands TB, Dilworth SE, Morin SF, Remien RH, Chesney MA. The role of self-efficacy in HIV treatment adherence: Validation of the HIV Treatment Adherence Self-Efficacy Scale (HIV-ASES). *J Behav Med*. 2007;30(5):359–70. [PubMed: 17588200]
43. The LifeWindows Project Team. *The LifeWindows Information Motivation Behavioral Skills ART Adherence Questionnaire (LW-IMB-AAQ)*. Storrs, Connecticut: Center for Health, Intervention, and Prevention, University of Connecticut; 2006.
44. Sued O, Cassetti I, Cecchini D, et al. Physician-delivered motivational interviewing to improve adherence and retention in care among challenging HIV-infected patients in Argentina (COPA2): Study protocol for a cluster randomized controlled trial. *Trials*. 2018;19(1):396. [PubMed: 30041703]
45. Poteat T, Ackerman B, Diouf D, et al. HIV prevalence and behavioral and psychosocial factors among transgender women and cisgender men who have sex with men in 8 African countries: a cross-sectional analysis. *PLoS Med*. 2017;14(11):1–17.
46. Zalazar V, Arístegui I, Cardozo N, et al. Factores contextuales, sociales e individuales como barreras y facilitadores para el acceso a la salud de mujeres trans: desde la perspectiva de la comunidad [Contextual, social and individual factors as barriers and facilitators of access to healthcare among trans women: from the perspective of the community]. *Actual en Sida e Infectología*. 2018;26(98):1–14.

47. Keuroghlian AS, Reisner SL, White JM, Weiss RD. Substance use and treatment of substance use disorders in a community sample of transgender adults. *Drug Alcohol Depend.* 2015;152:139–46. [PubMed: 25953644]

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Table 1

Descriptive statistics and chi-square tests for studied variables among people disengaged from HIV care in Argentina, stratified by gender identity ($n = 401$)

| | Gender identity | | χ^2 | <i>p</i> |
|---|-------------------------------------|--------------------------------------|----------|----------|
| | Cisgender <i>n</i> = 360 (89.8%) | Transgender <i>n</i> = 41 (10.2%) | | |
| Sociodemographic information | | | | |
| Educational level | | | .730 | .393 |
| Incomplete high school/secondary education or less | 118 (34.7) | 17 (41.5) | | |
| Complete high school/secondary education or more | 222 (65.3) | 24 (58.5) | | |
| Occupational status | | | 2.114 | .146 |
| Working | 201 (55.8) | 18 (43.9) | | |
| Unemployed | 159 (44.2) | 23 (56.1) | | |
| Health insurance | | | 21.971 | .000 |
| Private or employer-provided | 153 (42.5) | 2 (4.9) | | |
| Public | 207 (57.5) | 39 (95.1) | | |
| Mental health | | | | |
| Current moderate to severe depressive symptoms ^a | | | .075 | .784 |
| Yes | 81 (22.5) | 10 (24.4) | | |
| No | 279 (77.5) | 31 (75.6) | | |
| Lifetime history of severe depression | | | 1.215 | .270 |
| Yes | 152 (42.2) | 21 (51.2) | | |
| No | 208 (57.8) | 20 (48.8) | | |
| Lifetime history of severe anxiety | | | .022 | .882 |
| Yes | 180 (50.0) | 21 (51.2) | | |
| No | 180 (50.0) | 20 (48.8) | | |
| Lifetime history of suicide attempt | | | 2.609 | .106 |
| Yes | 60 (16.7) | 11 (26.8) | | |
| No | 300 (83.3) | 30 (73.2) | | |
| Suicidal thoughts (last 2 weeks) | | | .007 | .934 |
| Yes | 77 (21.4) | 9 (22.0) | | |
| No | 283 (78.6) | 32 (78.0) | | |

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| | Gender identity | | χ^2 | p |
|---|------------------------------|-------------------------------|----------|------|
| | Cisgender n = 360 (89.8%) | Transgender n = 41 (10.2%) | | |
| Substance use | | | | |
| Substance-related problems ^b | | | | |
| Yes | 37 (10.3) | 16 (39.0) | 26.519 | .000 |
| No | 323 (89.7) | 25 (61.0) | | |
| Substance use (last 6 months) | | | | |
| Yes | 87 (24.2) | 30 (73.2) | 42.775 | .000 |
| No | 273 (75.8) | 11 (26.8) | | |
| Use of cocaine (last 6 months) | | | | |
| Yes | 41 (47.1) | 23 (76.7) | 7.856 | .005 |
| No | 46 (52.9) | 7 (23.3) | | |
| Hazardous alcohol use ^c | | | | |
| Yes | 83 (23.1) | 19 (46.3) | 10.523 | .001 |
| No | 277 (76.9) | 22 (53.7) | | |

^aYes when BDI = 20

^bYes when DAAS = 3

^cYes when AUDIT = 8

Means, standard deviations, and ANCOVAs for studied variables, among people disengaged from HIV care in Argentina, stratified by gender identity ($n = 401$)

Table 2

| | Cisgender M (SD) | Transgender M (SD) | F | p | η^2 |
|---|---------------------|-----------------------|--------|------|----------|
| Self-reported adherence ^a | 4.39 (4.49) | 2.44 (4.04) | 5.725 | .017 | .014 |
| Number of times that stopped taking ART for more than 3 months | 2.08 (1.67) | 1.29 (.71) | 7.435 | .007 | .018 |
| Number of times that stopped visiting the health care provider for more than 12 months | 1.56 (1.87) | 1.14 (.98) | 1.139 | .287 | .003 |
| Number of times that did not attend the health care service when supposed to, in the last 12 months | 2.28 (3.78) | 1.68 (1.49) | 1.831 | .177 | .005 |
| Depressive symptoms ^b | 12.08 (10.36) | 12.19 (9.52) | .048 | .827 | .000 |
| Substance use ^c | .66 (1.70) | 2.34 (2.61) | 26.999 | .000 | .064 |
| Alcohol use ^d | 4.89 (6.18) | 9.46 (8.74) | 14.198 | .000 | .034 |
| Self-efficacy | 7.72 (1.93) | 8.02 (1.75) | 2.895 | .090 | .007 |
| Patient-provider communication/relationship | 22.20 (6.16) | 18.85 (7.63) | 7.805 | .005 | .019 |
| ART adherence motivation | 3.43 (.79) | 3.64 (.83) | 3.100 | .079 | .008 |

^aMean of VAS adherence scores

^bBDI-II total score

^cDAST-10 total score

^dAUDIT total score