A non-specialist depression care pathway for adolescents living with HIV and transitioning into adult care in Peru: a nested pilot study

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Abstract
Adolescents living with HIV (ALWH) are disproportionately impacted by depression and experience worse HIV outcomes compared to other age groups. Integrating depression care with HIV care for ALWH during transition to adult care—an especially crucial time when adolescents frequently disengage from HIV care—holds promise as a strategy for supporting antiretroviral adherence among ALWH, particularly in low- and middle-income countries where >90% of people with HIV live.

In this brief article, we describe a small pilot study of a simple depression care pathway with psychological first aid delivered by non-mental health specialists for Peruvian ALWH transitioning to adult care. Though small, this is the first study to report on depression symptom prevalence among adolescents living with HIV in Peru and pilot test a depression care pathway that could inform future integration of mental health services with HIV care in Peru.

Introduction
AIDS is the second leading cause of death among adolescents globally (WHO, 2020), and in 2019 alone an estimated 34,000 youth aged 10-19 succumbed to the disease (UNAIDS, 2020). Lower adherence to antiretroviral therapy (ART) is the primary culprit of AIDS mortality among people living with HIV across the lifespan. However, relative to children and adults, adolescents living with HIV (ALWH) are the least likely to achieve viral suppression, a precursor to HIV treatment failure (Adejumo et al., 2015, Nachega et al., 2009). While many factors negatively affect ART adherence, depression both disproportionately affects ALWH compared to other age groups (Elkington et al., 2011, Mellins et al., 2009, Benton et al., 2019) and in turn is associated with worse HIV treatment outcomes (Agwu and Fairlie, 2013, Murphy et al., 2001, Naar-King et al., 2006).

Left untreated, ALWH with depression progressing to adulthood can face mounting problems, including poorer quality of life, more rapid progression of HIV, and higher mortality rates (Haines et al., 2019). Moreover, untreated depression can complicate the transition period from pediatric to adult HIV care in which ALWH already face reduced retention in care, ART adherence, CD4 cell counts and HIV viral load suppression (Adejumo et al., 2015, Agwu and Fairlie, 2013).

Accordingly, increasing research demonstrates the benefit of treating comorbid depression and HIV (Sikkema et al., 2015, Van Luenen et al., 2018), especially among adolescents (Vreeman et al., 2017). And, increasingly prominent, are calls for integrated care models (i.e. care pathways) that treat both HIV and depression to achieve improved outcomes for both morbidities (Chibanda, 2017, Remien et al., 2019, Echenique et al., 2019). The integration of mental health services into common priority health care platforms, including HIV, is part of a larger movement to increase access to mental health services for all people (Patel et al., 2013). However, for youth, the literature on mental health care pathways is especially
scant except for serious mental illnesses (Macdonald et al., 2018). For ALWH, given the importance of a successful transition to adult HIV care on long term health outcomes, emphasis has been on the development of comprehensive transition interventions that not only directly address ART adherence but psychosocial needs, as well (Righetti et al., 2015, Machado et al., 2010, Westling et al., 2016).

As part of an ongoing study of a community-based intervention to support ALWH transitioning to adult HIV care in Lima, Peru, we parallely pilot-tested an HIV and depression care pathway to screen, educate, and link ALWH with depression care services. Despite the role that depression plays in ART adherence for all people living with HIV, depression screening and linkage to care are not currently part of the Peruvian National Guidelines for HIV prevention and treatment (MINSA, 2018). The main objective of the present study was to pilot test for proof of concept the implementation of a basic depression care pathway for ALWH to inform future depression service integration with HIV services in Peru.

Methods

Participants and procedures

The present study was conducted at the Peruvian branch of the international nonprofit organization Partners In Health (locally, Socios En Salud or SES) among ALWH participating in the main transition to adult care study called project PASEO. To be included in PASEO, participants were required to be between 15-21 years of age, living with HIV, enrolled in HIV care at a participating public sector clinic, receiving or eligible to receive ART and transitioning from pediatric to adult care (either from a pediatric provider or following a new HIV diagnosis). We aimed to include a diverse sample of adolescents in PASEO, including both males and females and adolescents who had acquired HIV at birth and those who had recently acquired HIV. Working with the Peruvian Ministry of Health providers at high-burden public sector clinics, adolescents meeting the inclusion criteria and who, in the opinion of the health care provider, were at risk for non-ART adherence, were referred to the PASEO study team.

The PASEO intervention comprised community-based activities directly targeting ART adherence (i.e., ART directly observed therapy as-needed, home visits to assess adherence and barriers to care and provide social support, and health system navigation support) and monthly social support groups. The social support groups were included in the PASEO intervention because of their impact on improving mental health and HIV-related treatment outcomes (Funck-Brentano et al., 2005, Walstrom et al., 2013) and were led by bachelors-level psychologists, but were not intended nor designed to treat depression.

The depression care pathway

We developed a depression care pathway that was external to but operated in close coordination with PASEO to identify participants’ depressive symptoms and provide additional screening, enhanced non-specialist support (using Psychological First Aid or PFA), or linkage to free, specialized mental health services provided by the Peruvian Ministry of Health (Figure 1).

At the beginning of PASEO, baseline data were collected, which included self-administered, tablet-based PHQ-9 depressive symptom screening. Participants scoring $\geq 10$ on the Patient Health Questionnaire-9 (PHQ-9) or with any suicidal ideation were referred to SES’ in-house mental health program staffed by bachelors-level psychologists (i.e., persons trained in psychology who have received general rather than specialized mental health training). Staff re-assessed depressive symptoms (PHQ-9) and provided Psychological First Aid (PFA). PFA is a World Health Organization (WHO)-disseminated intervention designed to provide front-line social and psychological support for people in distress, especially in low- and middle-income countries, and can be delivered by laypersons and other non-mental health specialist personnel (WHO, 2011). PFA was selected because it is highly adaptable, and permitted staff to focus on immediate emotional support and identification of risk factors for mental health conditions such as suicidal ideation and violence (expressed at different levels: domestic, sexual, gender, psychological, physical). After PFA delivery, which usually occurred in a single session, participants were linked to additional social services or, for those with suicidal ideation, immediate risks (i.e., evaluation of the presence of self-harm plan and means) were evalu-
ated, and linkage and accompaniment to specialist care at the public community mental health center was provided.

The PASEO study protocol and research materials were reviewed and approved by Institutional review boards in Lima, Peru and Boston, USA and all study participants provided written, informed consent.

Measures

Participant level data used in this analysis: descriptive data (age, sex, gender, sexual orientation, HIV acquisition route); social determinants of health (housing stability, family support); and depressive symptoms using the PHQ-9. Depressive symptom severity was computed by summing the overall PHQ-9 score (range 0-27) and reported following the standard cut-offs: 0-4 none/minimal; 5-9 mild; 10-14 moderate; 15-19 moderately-severe; and 20-27 severe (Kroenke et al., 2001). Suicidal Ideation was captured by PHQ-9 item 9 (How often have you been bothered by the following over the past 2 weeks: Thoughts that you would be better off dead, or thoughts of hurting yourself in some way?) Further, we recorded the number of participants receiving each component of the Depression Care Pathway.

Results

Between October 2019 and January 2020, we enrolled 30 ALWH comprised of 12 females and 18 males, with a mean age of 18.2 years (range 15-21). Most study participants acquired HIV at birth and identified as heterosexual (Table 1).

Baseline Depressive symptoms: frequency and distribution of severity

Baseline PHQ-9 data were available for 28/30 participants. Frequency of depressive symptoms at baseline by PHQ-9 cut-offs were: PHQ-9 = 0-4 (none/minimal), n=3 (11%); PHQ-9 = 5-9 (mild), n = 9 (32%); PHQ-9 = 10-14 (moderate), n = 10 (36%); PHQ-9 = 15-19 (moderately severe), n=4 (14%); and, PHQ-9 = 20-27 (severe), n= 2 (7%). Eleven (40%) of participants endorsed having suicidal thoughts more than half of the days in the preceding 2 weeks (PHQ-9 item 9). Among participants with a baseline PHQ-9 score >4 (n=25, 89%), 92% (23/25) clustered in the mild- to moderately severe range (Figure 2).

Distribution of participants along the depression care pathway

Twenty-one (75%) participants were referred to the SES’ mental health team, comprising participants with a PHQ-9 score of [?]10 or with any suicidal ideation. Among the n=21 participants referred, all received PFA and were re-assessed with the PHQ-9, after which n=9 (43%) were referred to specialized mental health services.

Discussion

We pilot-tested a depression care pathway for ALWH in parallel with a community-based research study supporting ALWH transitioning from pediatric to adult care, finding that while depressive symptoms were common among study participants, most did not require specialized mental health services. Though small, our study is the first to report depressive symptomology among a diverse sample of Peruvian ALWH. Our data complement findings from previous studies of depression among adult Peruvian populations living with HIV (Maldonado Ruiz et al., 2015, Ferro et al., 2015, Defechereux et al., 2016), in which similarly high rates of depression were found.

Despite the high prevalence of depressive symptoms, our finding that near 90% were not severe, according to the PHQ-9, is especially relevant in the context of integrated HIV and depression care service models. Because most of the ALWH with depressive symptoms in our study did not require linkage to specialized care, in theory, the non-specialist PFA provided by SES could be delivered by similar non-specialist personnel within the HIV care delivery system as a first step towards integrated HIV care. This finding is important for two reasons. First, in the larger context of mental health service access in general, there is a global shortage of mental health professionals to deliver care, especially in low- and middle-income countries (LMIC) where >90% of people with HIV live (UNAIDS, 2018). Thus, integrated HIV and depression care
pathways relying on specialized therapies delivered by mental health professionals are unlikely to achieve increased rates of depression care for ALWH, particularly in LMIC due to a lack of specialized personnel. Second, non-specialists already provide a critical role in the HIV treatment cascade worldwide, including HIV adherence counseling (Bemelmans et al., 2016). These non-specialists constitute a ready workforce that could minimally provide depression screening and basic counseling, like the PFA used in the present study, as part of their current role in delivering HIV care.

In Peru, non-mental health specialists delivering mental health services are part of a larger national strategy to increase access to care for all people (Toyama et al., 2017), and non-specialist depression interventions have been successfully implemented outside of the HIV-service setting (Scorza et al., 2018, Eappen et al., 2018). In the future, basic depression care pathways like ours could be expanded beyond screening and brief supportive care to include existing, evidence-based depression interventions, such as those disseminated by the World Health Organization’s (WHO) Mental Health Gap Programme (WHO, 2010) that can be delivered by non-specialists. This approach could be of special interest to the >90 countries that already use these so-called “low-intensity” WHO psychological interventions (Keynejad et al., 2018) as a pragmatic way to expand depression care services to particularly vulnerable populations like ALWH (Galea et al., 2020).

Conclusions
ALWH are disproportionately affected comorbid depression, which adversely affects their HIV treatment outcomes due to lower ART adherence, especially during the transition from pediatric to adult care. Depression care pathways that operationalize depression screening and provide basic non-specialist delivered emotional support and referral to specialized care represent a first step towards future integrated care models.

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Conflict of Interest
None.

Ethical Standards
The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

References


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