**Community Migration and HIV Testing among Left-Behind Armenian Mothers**

**Extended abstract**

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**Significance**

The causes of the global spread of the HIV infection are complex. Yet, it is clear that the AIDS pandemic and its impact have made international migrant workers and their families a vulnerable population (Alvarez-Del Arco et al., 2017; Urmi et al., 2015). A report from the United Nations shows that recently there has been a dramatic increase in international migrants, from 173 million in 2000 to 244 million in 2015, and that a large proportion of these migrants were from Asian countries (UN, 2016). Although migration may be seen as an empowering experience that leads to a better quality of life for these migrants and their families, it may also be a time of hardship, which in turns may often be associated with a harmful impact on health; such impacts include a vulnerability to certain infection diseases, including HIV (Alvarez-Del Arco et al., 2017). It is worth noting that left-behind spouses with a low socioeconomic status (SES) are also at higher risk of HIV infection. After returning to their home country, migrant workers might serve as a bridge population that transmits HIV to their spouses (Urmi et al., 2015). This situation is aggravated in patriarchal societies where women have a reduced ability to negotiate safe sex. In migration contexts, this gender power imbalance is further strengthened by the increased dependence on husbands' earnings that reinforces the husband's control on women, particularly when they belong to low SES and have children (Agadjanian & Markosyan, 2016).

HIV testing offers several advantages when it comes to HIV prevention and treatment that are particularly beneficial for mothers who have been left-behind. The counselling provided with HIV testing contributes to the prevention of HIV infection among these mothers and their families. Testing also reveals their HIV status, making it possible for timely access to treatment and improving their quality of life (Blondell, Kitter, Griffin, & Durham, 2015).

There are several studies have addressed the barriers and facilitators of HIV testing among migrants in high-income countries (Alvarez-del Arco et al., 2013; Blondell et al., 2015). However, there have been few studies that have explored these barriers in their left-behind families, (Agadjanian, Markosyan, & CRRC., 2013; Mitra, Jacobsen, O'Connor, Pottie, & Tugwell, 2006; Montealegre, Risser, Selwyn, Sabin, & McCurdy, 2012), and even fewer targeted low SES families.

In Armenia, the barriers to HIV testing among left-behind mothers are understudied, therefore more studies in this field are warranted (Saadat, 2015). As described in the prior literature (Andersen, 1995), in addition to the influence of individual-level factors, community factors also play important roles in health services utilization. Armenia is not an exception, and several studies have pointed out the important influences of contextual factors, such as migration and patriarchal social norms, in regards to HIV risk and health seeking behaviors among Armenian women (Agadjanian & Markosyan, 2016; Menjivar & Agadjanian, 2007; Sevoyan & Agadjanian, 2015). However, as yet, no study has assessed the influence of these factors at a community-level in Armenia. The present study attempts to explain variations in HIV testing by assessing community influences as suggested by the social ecological model (Bronfenbrenner, 1979; McLeroy, Bibeau, Steckler, & Glanz, 1988). Accordingly, we hypothesize that community factors, as community vulnerability, serve as a foundation to, and are in turn thus associated with, left-behind mother's HIV testing behavior.

**Methods**

**Data**

The present study used a nationally-representative household survey, Armenia Demographic and Health Survey (ADHS) in 2010. The survey provided a wide range of information, including predisposing factors, such as age, education, employment or HIV/AIDS knowledge; enabling factors, such as family resources and community resources including urban residency; and need for healthcare factors, such as history of sexual transmitted infections' symptoms or need to go to the hospital. The ADHS data was collected using a two-stage sampling strategy and was obtained for this study from the publicly available MEASURE DHS website: www.measuredhs.com.

**Measures**

HIV testing as the outcome variable was assessed based on the ADHS women's reports, namely whether or not they had ever been tested for HIV. Responses were categorized into two categories (yes/no). The study assessed community vulnerability by including community migration, community poverty, and the community prevalence of teen sex. These indicators are integral community variables and were created by averaging all individual responses within each tract. Community migration was assessed as the proportion of households that had a migrant household member within a given community. Community poverty was derived from the

household wealth index, which consists of five quintiles of asset-based measurements (Rutstein & Johnson, 2004). A community was coded as being in poverty if there were 25% of households in the community within the lowest wealth quintile. Community prevalence of teen sex was computed by averaging all surveyed women aged 15-49 and measuring the proportion of teen sex that had occurred at an age 17 years or younger among these women within each community. The community prevalence was divided into tertiles: <0. 29, 0.29-0.61, and >0.61. In addition, the analyses also adjusted for intimate partner violence (IPV) and individual characteristics.

**Statistical analyses**

Data analysis was performed using Stata 14 (StataCorp, 2015) and all analyses were weighted to adjust for sample design. Given that the aim of the present research was to gain a better understanding of the relationship between HIV testing and community context, we assessed the random effect at the community cluster level and found a significant community variation in HIV testing across Armenian communities. The random effect at the community/cluster level were significant at 0.05 level, and the intra-class correlation coefficient was 0.21. Left-behind mothers were at level 1, which nested within level-2, namely communities; therefore a two-level multilevel regression was employed in the present study (Goldstein, 1999).

**Preliminary Results**

Preliminary analyses show that community vulnerability (community migration, community poverty, and community teen sex) is significantly associated with HIV testing among left-behind mothers. These mothers were less likely to have undergone HIV testing when they lived in a community with a high rate of migration (aOR=0.05, $p$<0.05) and in a community with high level of poverty (OR=0.21, $p < 0.01$). Furthermore, these mothers with IPV experience are less likely to report having taken an HIV test (aOR=0.18, $p$<0.05).

Preliminary results suggest that community vulnerability, particularly community migration and community poverty, have a significant effect on HIV testing. These findings warrant further investigation and models extensively incorporating other community variables. We expect this study will give a better understanding about the gaps in previous HIV prevention campaigns in Armenia and will suggest new approaches for future interventions.

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