

## Assessing the Prevalence of HIV among Afghan Immigrants in Iran through Rapid HIV Testing in the Field

Hossain Jabbari<sup>1</sup>, Amir Houshang Sharifi<sup>1</sup>, SeyedAhmad SeyedAlinaghi<sup>1</sup>, Parastoo Kheirandish<sup>1</sup>,  
Abbas Sedaghat<sup>2</sup>, Maryam Sargolzaei<sup>2</sup>, Gholamreza Esmaeeli Djavid<sup>1</sup>, Ahmad Khanbabae<sup>1</sup>,  
Mehrnaz Rasoolinejad<sup>1</sup>, Minoo Mohraz<sup>1</sup>, and Willi McFarland<sup>3</sup>

<sup>1</sup> Iranian Research Center for HIV/AIDS (IRCHA), Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran

<sup>2</sup> Ministry of Health and Medical Education, Tehran, Iran

<sup>3</sup> CAPS and the Institute for Global Health, University of California, San Francisco, USA

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**Abstract-** Throughout the world, many migrant and mobile populations are at elevated risk for HIV. Iran has a large immigrant population from neighboring Afghanistan; however, few data exist on the prevalence of HIV in this community. In 2008, we conducted a study to assess the presence of HIV infection among 477 immigrants in a town to the northeast of Tehran using a rapid test in the field. HIV prevalence was 0.2% (95% CI 0.005-1.2) with one person HIV-positive. We recommend periodic HIV sero-surveillance with detailed behavioral measures for this population in the future.

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### Introduction

The Iranian epidemiologic studies have been concentrated among injection drug users (IDU), who account for over 69% of known cases (1). The high efficiency of transmission through sharing injection equipment coupled with the world's highest per capita rate of opioid users and increasing amount of injection drug use (2) partly account for this epidemiological profile. Another driving factor may be that the country bordering Iran to the east is Afghanistan, the world's largest source of opium and ultimately heroin (2).

In many areas of the world, migrant and mobile populations have been shown to have higher prevalence of HIV than the surrounding communities in which they live (3). HIV prevalence in immigrant worker populations in other countries of Asia have been shown to be high, measured, for example, at 8.9% of foreign workers in a study in India (4), at 3.2% in Thailand (5), and 2.3% in Nepal (4). Iran is host to a large number of immigrants from Afghanistan seeking work. While the size of this population is not known precisely, estimates place the numbers in the range of two to three millions (6). To date, however, there has been no sero-survey to

assess the prevalence of HIV among Afghan immigrants.

### Materials and Methods

As a surveillance activity, we conducted a rapid HIV sero-survey in the immigrant Afghan population of a town to the northeast of Tehran, in 2008. The overall population of the town varies depending on agricultural seasons, but is approximately 13000 people (7). The town is host to a large mobile Afghan immigrant population that also varies over the year. The local Afghan chief estimated that there were approximate 4,000 Afghan immigrants at the time of the survey. The participants were from the whole town of Lavasan. We went house by house along with Afghan chief. The participants were eligible who were 11 or older. If determined to be eligible, the person was invited to participate. Participation consisted of blood draw for HIV testing only. HIV status was screened by a single rapid test (KHB, Inc., Shanghai, China) drawn and read in the household. Persons whose tests were initially screened as positive were referred to the Imam Khomeini Hospital (the national referral center for HIV/AIDS) in Tehran for confirmation and further care.

**Corresponding Author:** SeyedAhmad SeyedAlinaghi

Iranian Research Center for HIV/AIDS (IRCHA), Imam Khomeini Hospital, Keshavarz Blvd., Tehran, Iran  
Tel/Fax: +98 21 669479 84; E-mail: s\_a\_alinaghi@yahoo.com

Participants provided verbal informed consent. The study protocol was reviewed and approved by Institutional Review Board of Tehran University of Medical Sciences.

## Results

During the one month in the field, 491 Afghan immigrants were invited to participate. Of these, 477 (97.1%) consented and provided a specimen for rapid testing. Among the 477 participants, the mean age was 29 years (range of 11-93 years), 403 (84.5%) were male and 74 (15.5%) were female, 3 of whom were pregnant. Two hundred ninety (60.8%) were married, 183 (38.4%) were single, 1 (0.2%) was divorced and 3 (0.6%) were widows. Upon initial rapid test screening, 5 had indeterminate results and 1 had a positive result (0.2%; 95% CI 0.005-1.2) which was confirmed as HIV-positive repeating the same test in household. Upon medical history, the single HIV-infected case was a male who reported multiple unprotected sexual contacts with sex workers in Iran.

## Discussion

Fortunately for the present, the current study showed a low HIV seroprevalence in this Afghan immigrant population in Iran. While encouraging, we recognize limitations in the sampling methods and low sample size. On the other hand, our survey did document that HIV is present in this population for the first time with a suggestion of sexual transmission. Future surveys will need to collect more detailed behavioral data to gauge the real potential for the spread of HIV in this population. We recommend periodic bio-behavioral surveys as part of a national surveillance system to sustain an appropriate level of vigilance to capture any changes in the HIV epidemic and to prevent any further expansion of transmission within this population.

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