



Seroprevalence of sexually transmitted and blood-borne infections among Afghan National Security Forces recruits

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Background

- Security force recruits are nationally-representative populations of healthy able-bodied individuals, providing general population prevalence data and informing vaccination policy.¹
- Military and police populations identified as risk groups for HIV and sexually-transmitted infections, requiring contextually-appropriate risk reduction interventions.²
- Afghanistan receives substantial foreign assistance to recruit, train, and build competent national security forces, with largest bodies being the Afghan National Army (ANA) and Afghan National Police (ANP).
- Little information is available regarding prevalence of HIV and other communicable diseases among groups representative of the general population in Afghanistan.

Objective

- To measure prevalence and correlates of HIV-1, syphilis, herpes simplex virus II (HSV-2), and hepatitis C virus (HCV) among a nationally-representative sample of Afghan National Security Force (inclusive of ANA and ANP) recruits and trainees.

Methods

- Cross-sectional study with randomly-selected participants from medical screening and training facilities across Afghanistan between February 2010 and July 2012.
- Eligible participants were adult males (age ≥ 18 years) volunteers desiring ANA conscription or training in ANP facilities who spoke Dari or Pashto and were able to provide informed consent.
- Participants completed interviewer-administered questionnaires and phlebotomy to procure serum samples. Antibody screening for HIV, HCV, and syphilis was performed with rapid diagnostic tests (SD Bioline[®], Standard Diagnostics) and HSV-2 ELISA (Herpesselect 2[®], Focus Diagnostics).
- Positive samples were confirmed with Western Blot for HIV, TPPA and RPR for syphilis, PCR/RIBA for HCV Ab, and ELISA tests repeated in duplicate for HSV-2.
- Descriptive statistics and infection prevalence were calculated with Stata 8.0 (Stata Corporation, College Station, TX).
- Correlates of HSV-2 were assessed with logistic regression analysis.

Results

- Of 7264 trainees offered enrollment between February 2010 and January 2012, 6849 (94.3%) consented.
- Generally, participants were young, were born in Afghanistan, and had little formal education (Table 1).
- Prior intoxicant use was uncommon; 16.5% (N=1128) and 3.5% (N=242) reported prior marijuana and opiate use, respectively.

Table 1. Demographic characteristics of Afghan National Security Force recruits, February 2010 – January 2012 (N=6849).

Descriptor	Mean	Standard Deviation, (Interquartile Range)
Age (years)	22.2	4.0, (19 – 24)
Years formal education	5.8	4.7, (0 – 10)
Duration lived outside Afghanistan (months) (N=1181)	86.1	80.8, (18 – 144)
	Number	Percentage
Ever married	2788	40.7
Born in Afghanistan	5722	83.5
Ever lived outside Afghanistan	4291	62.7
Afghan National Army recruits	4750	69.4
Afghan National Police trainees	2099	30.6

- Nearly one-fifth (16.4%) had been incarcerated for a mean period of 3.5 months.
- Of those previously sexual active (60.7%, N=4158), 25.5% (N=1059) reported engaging female sex worker services, 23.8% (N=990) reported sex with other males, while only 13.5% (N=561) reported previous condom use.

Table 2. Seroprevalence of HIV, syphilis, HSV-2, and hepatitis B and C among Afghan National Security Force recruits, February 2010 – January 2012.

Pathogen	Number Tested	Number Infected	Prevalence	95% Confidence Interval
HIV	6849	3	0.044%	0.009 – 0.12
Herpes Simplex Virus 2	6849	191	2.79%	2.40 – 3.21
Hepatitis C Antibody	6849	50	0.73%	0.54 – 0.96
Syphilis	6849	33	0.48%	0.33 – 0.68

- In multiple logistic regression analysis stratified by service branch, HSV-2 infection was independently associated with prior incarceration (Adjusted Odds Ratio (AOR)=1.96, 95% CI: 1.02 – 3.76) and, marginally, marijuana use (AOR=1.89, 95% CI: 0.99 – 3.63) for ANP trainees and with having a television (AOR=1.46, 95% CI: 1.03 – 2.05), age (AOR=1.04, 95% CI: 1.00 – 1.09), and, marginally, alcohol use (AOR=1.69, 95% CI: 0.95 – 3.01) with ANA recruits.

Conclusions

- Though prevalence of HIV, syphilis, HCV, and HSV-2 are low, risk behaviors are relatively common and potential for transmission concerning given association between HSV-2 and intoxicant use.
- ANA policy denying entry to HIV-positive conscripts cannot be enforced without testing or disclosure. However, very low prevalence argues against cost of compulsory screening.
- Behavioral intervention to effect risk reduction integrated into Afghan National Security Forces training is urgently needed

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