Effectiveness of the TOGO OHP Military HIV Prevention Program

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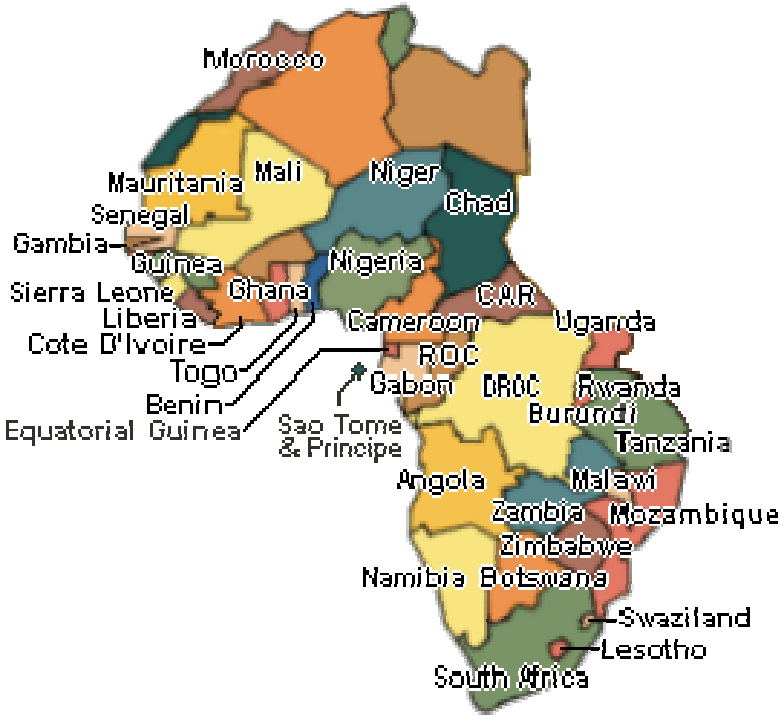
Introduction:

- Armed forces are 2-5 times more at risk of HIV infection than the civilian population (UNAIDS, 1998).
- AIDS may be the leading cause of death in the military & police forces in some countries (Nwosu & Fidas, cited by Nwokoji & Ajuwon, 2004).
- Several HIV prevention programs have been developed in Africa by the United States Department of Defense (DoD) (See Map)
- Despite the large number of countries with HIV prevention programs in the military, information about program effectiveness is lacking.

Figure 1: African countries with HIV prevention program among the military
(Source: www.nhrc.navy.mil/programs/dhapp/maps/africa.html accessed 28.08.2007)



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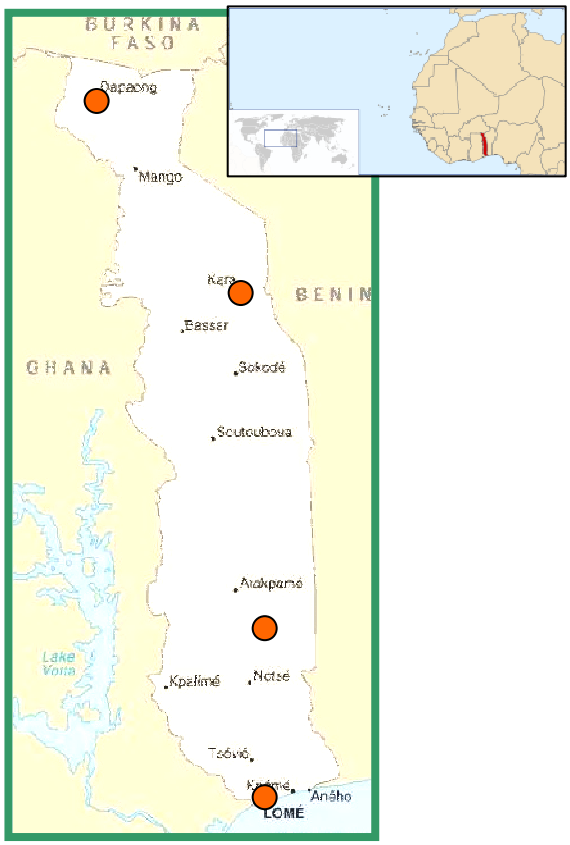
Study Objectives:

- Review results of 3-year HIV intervention among military in Togo, West Africa.
- Monitor trends in risk, condom use, & determinants of condom use
- Evaluate the effectiveness of OHP intervention on risk, condom use, & determinants of condom use

Background: Togo

- Small West African country bordered by Republic of Benin (East), Ghana (West), Burkina Faso (North) & Atlantic Ocean (South).
- Total land area = 56,600 km²
- Population = ~ 5.3 million
- 18% of Togolese aged 15-24 (DGSCN, 2006)
- Life expectancy = 55 years (UNDP, 2006)
- Ranked 147 in Human Development Index (United Nations, 2006)
- HIV prevalence ~ 3.2% among general population (UNAIDS 2006)
- HIV prevalence between 12% & 16% among military (DCSSA, 2002)
- HIV-related deaths represented ~63% of all deaths among armed forces in 2001-2002 (DCSSA, 2002)



- Risk factors for HIV include young age, multiple partnerships, risk-taking norms of military life, & living away from home

Operation High Protection (OPH) Program:

- Implemented by Population Services International (PSI) & Togo Ministry of Defense
- Started in 2002 with DoD funds, 5-year project
- Designed to improve health of military & police forces & their families by reducing HIV incidence
- Used a social marketing approach to:

- Raise awareness about HIV
- Improve availability & accessibility of condoms
- Promote condom use
- Provide VCT & STI treatment services

- Implemented in four garrisons of the armed forces (See red dots on Togo country map):
  - Lomé, capital city in south
  - Temedja, in Plateau region (Centre south)
  - Lama Kara, in Kara region (Centre North)
  - Niourkpourma, in Savanes region (North)

- Trained 550 peer educators & 50 supervisors in military

- Activities:
  - Peer–to–peer discussions
  - Group discussions
  - Condom distribution & sales
  - Campaigns during peace-keeping missions
  - Provision of free condoms to soldiers leaving Togo
  - VCT centre in each garrison
  - Rapid HIV testing provided by 20 counsellors, 8 laboratory technicians & 4 receptionists

Data & Methods:

- Cross-sectional surveys conducted in 2002, 2003, & 2005 among Togolese military
- Baseline study (2002) conducted prior to implementation of OHP program
- Simple random sampling used in each military garrison

- Structured questionnaire collected data on: individual characteristics, sexual behavior, types of sexual partners, condom use, determinants of condom use, & exposure to OHP program
- Data analyzed using ANOVA tests, presented as adjusted proportions

Results:

Table 1: Trends in Risk, Condom Use, & Determinants of Condom Use among Military Personnel in Togo (2002-2005)

Indicators[3]	Round			Sig[2]
	1 (2002)	2 (2003)	3 (2005)	
Risk	(N=700)	(N=710)	(N=1572)	
- Had regular[1] sexual partners during last 12 months	43.0[a]	32.8[b]	36.7[b]	***
- Had occasional sexual partners during last 12 months	7.1[a]	6.9[a]	8.0[a]	ns
- Had sex with sex workers during last 12 months	0.2[a]	0.2[a]	0.5[a]	ns
Behavior with Regular Partners	(n=215)	(n=229)	(n=592)	
- Used condoms at last sex with regular partner	41.1[a]	68.1[b]	79.6[c]	***
- Consistent condom use with regular sexual partners	9.2[a]	60.2[b]	71.3[c]	***
Behavior with Occasional Partners	(n=44)	(n=4)	(n=134)	
- Used condoms at last sex with occasional partner	80.4[a]	94.0[b]	98.8[b]	***
- Consistent condom use with occasional partners	75.9[a]	89.7[ab]	94.2[b]	*
Behavioral Determinants	(N=700)	(N=710)	(N=1592)	
- Perceives condoms to be available less than 15 minutes away	74.1[a]	78.9[b]	74.4[ab]	*
- Believes AIDS is deadly	92.6[a]	96.3[b]	95.0[b]	**
- Cites condom use as a means of HIV prevention	90.7[a]	91.4[a]	90.8[a]	ns
- Cites partner reduction as a means of HIV prevention	15.8[a]	24.2[b]	13.8[a]	***
- Cites fidelity as a means of HIV prevention	35.4[a]	60.4[b]	50.9[c]	***
- Cites abstinence a means of HIV prevention	51.2[a]	51.2[a]	32.2[b]	***
- Knows that an HIV–positive person can look healthy	27.3[a]	39.8[b]	76.7[c]	***
- Knows HIV not transmitted through mosquito bites	77.2[a]	83.2[b]	87.3[c]	***
- Knows HIV not transmitted through witchcraft	74.0[a]	76.7[a]	76.4[a]	ns
- Knows there is no cure for HIV	91.4[a]	91.4[a]	90.8[a]	ns
- Knows HIV not acquired by sharing meals with an HIV-positive person	85.6[a]	89.0[b]	91.3[b]	***

* < .05 p-value, ** < .01 p-value, *** < .001 p-value

[1] Regular sexual partners = partners other than spouses or fiancées with whom one has had regular sexual contact for more than three months

[2] Proportions with the same letter in their superscripts do not differ significantly from one another according to the least significance difference (LSD) test. The stars in the last column represent the overall effect of exposure on the measured item.

[3] Percentages or means are adjusted for demographic characteristics (i.e., province, age, education, occupation, average monthly income, and living situation).

- Positive trend in reduction of regular partnerships
- Sexual relations with occasional partners remain low

- Condom use at last sex with regular partners increased two-fold
- Consistent condom use with regular partners increased seven-fold
- Significant upward trend for condom use with occasional partners
- Knowledge at already high levels did not increase significantly
- Some misconceptions improved over time, others did not
- ABC knowledge items significantly increased in 2004, but fell in 2005

Effectiveness of OHP Interventions on Risk, Condom Use & Determinants of Condom Use (2002-2005)

Table 2: Risk, condom use and condom use determinants by level of exposure to OHP intervention activities

Indicator	Level of exposure				Sig
	Ref (N=700)	Low (N=378)	Medium (N=725)	High (N=469)	
Risk					
- Had regular[1] sexual partners during last 12 months	44.0	35.3	36.9	37.0	ns
Behavior with Regular Partners					
- Used condoms at last sex with regular partner	41.5[a]	81.0[b]	80.9[b]	74.7[b]	***
- Consistent condom use with regular sexual partners	9.3[a]	76.1[b]	71.6[b]	67.2[c]	***
Behavior with Occasional Partners					
- Used condoms at last sex with occasional partner	81.3[a]	99.8[b]	96.8[b]	99.7[b]	**
- Consistent condom use with occasional partners	80.1[a]	92.4[ab]	95.7[b]	92.3[ab]	*
Behavioral Determinants					
- Perceives condoms available less than 15 minutes away	74.0[a]	68.8[b]	74.7[a]	78.1[a]	*
- Believes HIV is deadly disease	92.6[a]	93.7[a]	95.5[b]	95.5[b]	*
- Cites partner reduction as a means of HIV prevention	15.8[a]	20.6[b]	12.4[a]	10.1[ac]	*
- Cites fidelity as a means of HIV prevention	35.6[a]	45.8[b]	53.7[c]	50.8[bc]	**
- Cites abstinence a means of HIV prevention	51.4[a]	27.0[b]	31.8[b]	37.1[c]	**
- Knows that an HIV–positive person can look healthy	27.5[a]	76.4[b]	76.1[b]	78.2[b]	***
- Knows HIV not transmitted through mosquito bites	77.2[a]	85.6[b]	87.5[b]	89.2[b]	**
- Knows HIV not acquired by sharing meals with an HIV-positive person	85.8[a]	91.3[b]	92.4[b]	89.9[b]	*

* < .05 p-value, ** < .01 p-value, *** < .001 p-value, ns= not significant

[1] Regular sexual partners = partners other than spouses or fiancées with whom one has had regular sexual contact for more than three months

[2] Proportions with the same letter in their superscripts do not differ significantly from one another according to the least significance difference (LSD) test. The stars in the last column represent the overall effect of exposure on the measured item.

[3] Percentages or means are adjusted for demographic characteristics (i.e., province, age, education, occupation, average monthly income, and living situation).

- Only indicators that demonstrated significant change over time were included in evaluation analyses.

- Exposure to OHP was extremely high. By 2005, 98% of all conscripts reported that they had received at least one intervention. The inability to create a "no exposure" category prevents PSI from measuring the effects of time or factors external to the program.

Risk

- Exposure to program activities did not decrease military personnel's risk of having regular sexual partners outside of marriage

Behavior

- Low, medium & high exposure had a positive effect on condom use with regular partners at last sex.

- Low, medium, & high exposure had a positive effect on consistent condom use with regular partners; results for low & medium exposure were better than for high exposure.

- Low, medium, & high exposure had a positive effect on condom use at last sex with occasional partners

- Exposure did not affect consistent condom use with occasional partners

Behavioral Determinants

- Low, medium, & high exposure had a positive effect on:
  - Knowledge about the asymptomatic nature of HIV
  - Misconceptions about HIV being spread by mosquitoes or sharing meals with infected individuals

- Medium and high exposure had a positive effect on:
  - Knowledge about HIV being deadly

- Medium exposure was best for improving:
  - Knowledge about fidelity as a means of HIV risk reduction

- Low exposure had a positive effect on:
  - Knowledge about partner reduction

- Exposure did not affect perceived availability of condoms.

- Exposure appears to have had a negative effect on knowledge about abstinence

Conclusions:

- The OHP intervention was successful in changing three key behaviors: condom use at last sex with regular partners outside of marriage, consistent condom use with those regular partners, & condom use at last sex with occasional partners.

- Additional work is required for reducing military personnel's number of regular sexual partners outside of marriage & increasing their awareness of abstinence & partner reduction as means for combating HIV risk.

- Levels of consistent condom use with occasional partners & some knowledge indicators, and perceived availability of condoms were high prior to the OHP intervention. This suggests that additional activities or more exposure to intensive activities may be needed to see improvement.

- Study findings demonstrate the utility of a comprehensive approach for effectively targeting high risk groups.